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ARTICLES

The Emerging World Order

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Abstract

It is common ground amongst almost all commentators that the world has changed radically over the past 25 years – the 25 years since the fall of the Berlin Wall heralded the ending of the Cold War, the reunification of a tragically divided Europe, and the acceleration of the process of globalisation which has its only comparable period in the decades leading up to the First World War in 1914. When analyzing the Emerging World Order it is important to cover more than Brazil economy or any other individual BRICs or other Emerging Powers. Instead, our analysis will provide a global view about the economic and political global power structures which are evolving and forming before our eyes, and then to talk about the challenges these emerging realities pose for us in Europe, and in the West in general.

Keywords: *emerging world order, global power, globalization.*

JEL Classification: *B, B25, F, F02, F5, F59.*

1. Introduction

That first wave of globalisation is a warning to us that globalisation, in all its manifestations, is not an irreversible process. Unlike some opinions expressed in the literature in the field (Hopkins, 2003), I am not one of those who think that the current wave of globalisation will come to a shuddering halt as that first wave did in 1914, as Europe plunged itself and then the whole world into war. It could have come to a halt five years ago as the Global Financial Crisis hit, but we managed to avoid the retreat into protectionism that characterised the reaction to the Great Depression in the 1930s. However, I think the past five years have also reinforced for many people the perception that, despite all our hopes, it is not inconceivable that parts of Europe could slip back into populism, authoritarianism and conflict. So a sudden end to the current wave of globalisation is not impossible, but it does look pretty unlikely.

2. Globalisation in the Emerging World Order

Some analysts (Al-Rodhan, Nayef and Stoudmann, 2006) consider that globalisation is, of course, an omnibus term for a number of features of our current world, largely on the economic side, and, to a degree, on the social and political sides. The economic side is pretty clear, I think: the emergence of economic links and structures across the globe, and of global supply chains and global trade and financial flows. Global efficiency but also global interdependence has increased

dramatically. Economic resilience has probably increased, as dependence on others has been balanced by multiple possible supply chains. However, paradoxically, financial fragility may have increased, as we saw five years ago.

By the social side of globalisation, I mean everything which affects people in their private lives: the ability to communicate instantly across the globe and hence the ability to build personal relationships across the globe; the ability to travel relentlessly as many do; and to study and work in other countries, as many do; and, for certain segments of society – usually a very privileged segment – to feel that they are increasingly citizens of the world, rather than of any particular country.

However, as showed previously in some analysis (Acocella, 2005), this economic and social globalisation has not led to anything which approaches a globalisation of political structures, or even political ideas. There was, of course, a time early on in the process when many in the West believed that the combination of liberal economics – the Washington Consensus if you like – and democratic politics had shown its prowess in winning the Cold War, and now ruled the world. There was only one route to development, just as there was one dominant economic, political and military power, the USA. We would all now live in a Brave New World of the Pax Americana.

A combination of factors shredded this concept – perhaps, for some, this hope. Firstly 9/11 and the disastrous wars in Iraq and Afghanistan. Secondly, the rise of China, and of other emerging economic powers, all of whom expected to exert political influence and power along with their increased economic leverage; and not all of whom believed that there is a necessary link between successful capitalism and democracy. I think the jury is still out on whether the Chinese, in particular, can sustain their successful capitalist economy beyond the “catching up” phase, without substantial liberalisation of their political system. However, that is certainly the intention of Chinese leaders. At the very least the West cannot be said to have yet won the battle of ideas.

Perhaps the two most important things to say about the so-called “New World Order” to emerge over the past 25 years is that it is not showing that it is particularly full of order; and that it has certainly not emerged. In fact in many ways we could say that we are living through a period of considerably less global order than in the post-War period; and that having lived through relative stability – not to say ossification – of systems for about 40 years, we are now living through a period of rapid and rather disorienting change. Whether this is just a prolonged period of transition, or will settle down into a new world order with some renewed stability is difficult to judge at this moment when we are right in the middle of that change. My best guess is that continual shifting power and structural relationships are going to be with us for some long time. So we need to adapt both to the results of change, and to the process of continual change itself.

How should we characterise this world we are now operating in? My contention is that although Governments and Nation States are losing their potency in the economic sphere, they are still important actors there, and in the political and security spheres; and they are still the identities with which most citizens identify, and to whom citizens turn to protect them from adversity and to provide the conditions in which those citizens can live successful lives. So, even when talking about economic issues, I will tend to look at things through the prism of the Nation State.

Economically it is clear that the majority of global GDP is still generated by the West – in which I include Japan – who also have the largest stocks of fixed capital. However, the Emerging Powers are already providing the majority of the annual increments in both GDP and fixed capital, so it will only be matter of a few decades, if that, before they catch up on the GDP and fixed capital. I don't have any good numbers for this, but my impression is that something similar is happening in

terms of financial assets. We know of the huge foreign exchange reserves built up by emerging nations, and can see the assets of the huge Chinese banks, so I suspect that something similar is happening to the balance of financial assets. It looks very much as if the balance of economic power is definitely shifting from the developed world to the emerging world.

On the other hand, there are no signs that I know of that the preponderance of Western economic ideas – of the foundations of the capitalist economy – are being seriously challenged by new ideas of how better to organise a productive economy. At the margins, the Japanese some years ago, and the Chinese more recently have undoubtedly introduced improvements in production and organisation. However, there is no coherent fundamental theory of a different kind of, say, Asian capitalism which is challenging the dominance of Western ideas. So talk of a Chinese century, or of Chinese dominance needs to be tempered. It will probably not be the kind of practical and intellectual dominance that the US used to have.

As a number of commentators have pointed out, the process of globalisation which is driving this shifting of economic power is having the curious effect of both reducing the inequalities in average GDP per capita between countries, while in most countries increasing the inequality of GDP per capita within countries, both developed and emerging. The one major exception to this is Brazil, where inequality of income, as measured by the Gini index, for instance, is on a steep decline, albeit from a relatively high level.

I am a firm believer in the primacy of economics, in the sense that in the long run political influence and power is determined to a large degree by economic power. It is undoubtedly true that political power can support the economic interests of the state. The Pax Britannica in the 19th Century, and the Pax Americana in the second half of the 20th Century are evidence of that. However, as Paul Kennedy notably pointed out the fall of the empires of Great Powers is almost always from imperial overstretch – when the economic power of the state cannot sustain its political ambitions. Economics eventually asserts its primacy.

However, it is usually the case that there are lags between changes in economic power and concomitant changes to political power. Incumbent powers tend to be able to hang on to their political power for some while after their economic power wanes; and, on the other side, it takes time for rising economic powers to want to turn that into political power and influence and to be able to change international power structures in their favour.

Nevertheless, we can see that this is already happening to a good degree. China is a singular case because of its size and because it already had a Permanent Seat on the UN Security Council. However, it is noticeable how China is becoming increasingly more assertive in both regional and international issues – beginning to project its hard power into the South China Sea for instance; allying with Russia to block UN action on Syria; and taking a much more assertive line in international Climate Change negotiations. India and Brazil have traditionally each exerted most of their influence through international organisations and in multilateral negotiations – for instance in the GATT/WTO and in the UNFCCC. However, once their economic power began to increase, it was noticeable that they too became more assertive. For instance, Brazil's formation of the G20 (Trade) grouping changed the whole dynamic of the negotiations in the WTO and ensured that each Brazil and India effectively have a veto power, along with the EU and the US, on any future global agreements – as we saw when the India effectively vetoed an agreement on the Doha Round in Berlin in 2007, the closest the Round has come to success.

Similarly, Brazil and India, along with China, are the core of the BASIC group of countries who stymied the Climate Change negotiations in Copenhagen in 2009. And Brazil and India are the two Emerging Powers who, along with Japan and Germany, are trying to demand Permanent Seats on the UN Security Council, not with much success as yet, not least because of Chinese resistance to Japan. However, they and others have been more successful in obtaining more voting weight in the IMF and World Bank.

Some analysts (Gjelten, 2009) believe that perhaps the clearest demonstration of the link between economic and political power was the way in which the Global Financial Crisis forced the relatively obscure G20 (Finance) grouping onto centre stage, with meetings at Head of Government level, in recognition of the weakening of Western financial muscle and their need for political and financial support from the more successful, and less affected, big Emerging Powers.

However, as these examples show, we need to qualify in another sense the manner in which we can talk of the increasing influence of the Emerging Powers as constituting a “New World Order”. Just as there are no signs of a new global economic theory or paradigm beginning to emerge from the new Powers, so on the political front, none of the Emerging Powers, certainly not India or Brazil, and, I believe, not China are truly revolutionary powers. They do not want to overthrow the structures and rule-based systems of global economic and political governance, in favour of some new structures and systems of power which they can dominate. In fact, they all value greatly the rules-based systems, and the bedrock of order this gives to the international system. This is allowing them to emerge economically, and to challenge politically. They want to reform the systems and the rules to give them more influence and advantage; but they don’t want to destroy them. This is not revolution but evolution. However, the balance of power and influence is clearly changing.

Overall, we can say that at present the dominance of the traditional, developed, Western powers in global economic and political governance has been much reduced. It is no longer possible for deals to be done between the EU and the US, say in the WTO, with the expectation that all others will fall into line. The Emerging Powers have demonstrated that they won’t. They have obtained for themselves veto power - in most instances informal, not formal.

However, there is precious little sign as yet that any of the big Emerging Powers, say Brazil, India, China for sake of definiteness, have moved to a situation of wanting to be what one might call “colluding powers”, that is members of a group, such as the EU and the US formed previously, who saw that at root their interests were very similar, even if they fought hard over detail; and who wanted to do deals, in their own interest but also because they had a sense of collective responsibility for the institution or for the defence of global public goods, be these peace and security, a trading system based on enforceable rules, or a global system to protect human rights.

This may sound very abstract. However, global public goods matter in very concrete ways. Until recently it was very clear that the US was, and would continue to be the global policeman. War weariness in the US and a weak Administration mean this is no longer so clear. This was exposed recently by Russian tactics over Syria, which successfully played on US, and British, irresolution. If, for instance, the Iranians were to threaten to block the Straits of Hormuz, as they have threatened to do in the past, it is no longer so clear that the US would act – given the American public’s lack of support for further military entanglements, especially in the Middle East, and the US’ decreasing dependence on oil from the Gulf. I suspect that if it was this year they would act; but in five or ten years’ time? Would China or Japan, the two major powers dependent on Gulf oil, have the will and the means to

intervene? And would any country without a direct interest intervene because it was the necessary thing to do to preserve global economic security?

3. Implications for the Western States

Let us finally look at the implications of this incomplete and rather messy picture for the countries of the West and the societies that we enjoy living in. The first and most obvious statement is that the rest of the world does not owe us a living. The American, European and Japanese economies are still very important pieces of the global economic jigsaw – the American economy in particular, which, combined with continued, if reduced, Chinese growth, is the motor pulling us all out of recession. However, even the US no longer has a hegemonic economic position, and it is no longer inconceivable to think of the rest of the world accommodating itself to a slow relative decline of the Japanese, European and even US economic power-houses. The Emerging Powers still need our technology, capital and expertise. However, the gap in sophistication is narrowing. They still need us as markets. However, the growth in South – South trade is dramatic. At some point, we will need them more than they need us. As I say, they do not owe us a living.

We therefore have to decide for ourselves how we are going to create the added value that will continue to support the standard of living to which we have become accustomed, and tend to see as our right. We have considerable advantages – stocks of capital, knowledge and technology, and a well educated and organised labour force. However, we also have a high cost base, and a population that is getting older, is used to high levels of social protection, and is demanding ever more extensive and expensive medical attention. We are not going to be autarkic, even at a European level. So the basic question is what is it that we can produce in sufficient quantity, and at prices that the rest of the world will want to pay, that will support our affluent lifestyles. The usual answer is that we have to build knowledge economies; that is to engage in high technology, high value-added manufacturing and sophisticated services. And that is probably right. We are already not able to compete with emerging economies in whole swathes of manufacturing and basic services provision – think of both manufacture of white goods and consumer electronics and the provision of call centre or software services.

To achieve this shift to a knowledge-based economy, we need to put huge emphasis on maintaining our leading edge in science and technology, and the application of that technology. We need to improve the knowledge and skills base of the whole population through massively improved mass education – at a time when the education system in a number of our countries is failing. And we need to have a renewed emphasis on both quality and competitiveness in everything we do – from manufacturing to provision of services to public administration and governance.

None of this is easy, and I don't think that we have begun to think through the implications of this for our societies. I have already mentioned the dramatic increase in inequality within most countries as the process of globalisation has taken hold. In developed countries this is largely because of the move to high-end, knowledge-based manufacturing and services. An increasing proportion of the aggregate value added is accruing to those with sufficient education and knowledge to hold down the top jobs; ie those who are already earning well. Lower down, many manufacturing jobs have already gone, because industries are no longer competitive; or, where they are high-tech, or are striving to remain competitive, expensive labour is being replaced by less expensive technology.

This tendency is now moving from traditional “working class” jobs on the factory floor to “middle class” desk jobs in offices – and continuing to move up the managerial chain. The older

under-skilled workers are increasingly without full-time jobs, and a whole swathe in many countries is becoming dependent on support from the State in one way or another. The younger and the middle class are feeling increasingly under pressure, and are being squeezed hard. Through sheer numbers they provide the bulk of the revenue for the State, but are not satisfied with the level of public services the State can afford to provide, and struggle to maintain the standard of living they have become used to – and their expectations remain very high. Meanwhile those at the top of the pile are earning more than they can reasonably spend, leading to an excess of savings; and at the same time, as has been stated by some analysis (Joshi, 2009) the Government is scared of taxing them too hard, for fear that they belong to a global and mobile elite, who will just leave. Similarly with many service companies who regularly threaten to move to jurisdictions with lighter corporate taxation.

This situation poses real dilemmas for Governments who don't know which way to turn, and have few levers at their disposal. They are not brave enough to tell the voting public that a society which lives on credit not for investment but for current expenditure is not sustainable; and that this is a sign that the economy is not producing sufficient value added to support the lifestyle that the population aspires to. We are not productive enough for the incomes we are demanding, and are continuing to force future generations to carry the burden of this. This is not an easy message for a politician.

Other difficult message which politicians therefore duck are that there is a tension between social provision and proper incentive structures in our economy; that middle class expectations of increasing affluence and higher social provision are not affordable without people working harder for less; and that the remuneration structures in firms engaged in many internationally traded goods and services are out of kilter, serving the interests of the managers not the shareholders or the wider economy.

However, there is no way back to the more hair-shirted economic liberalism of the 19th Century. Partly for the good reason that we now acknowledge that there are important public goods within a polity that the market will not provide, so need to be provided collectively by the state. However, partly also because having allowed the welfare state to expand beyond the public good of a safety net, and politicians having used welfare state mechanisms to make their economic management look better, and to buy votes – eg allowing millions of people to claim disability benefit so that they did not appear on the unemployment register – there is no way back. Or rather, the reform of the welfare state which is now overdue is very tough administratively and politically.

This whole issue – how do we reform our whole economy and social system in order to maintain ourselves in this new Emerging World - is a problem which is bigger than Governments. One which requires a political dialogue in our countries which I am not aware has started anywhere. Perhaps in the Scandinavian countries, where the income disparities are not so great, and there is an expectation that wealthy individuals and firms will be taxed heavily in order to fund the social welfare system which ordinary citizens expect. It is this kind of renewed social contract which is needed in all our societies. However, we also need to go beyond this, to build societies in which there is not a permanent underclass, however well-provided for, who are dependent on the State; which in turn is dependent on a wealthy elite for a willingness to pay high taxes to finance the State. That way lies social tension and division.

We need instead a renewed emphasis on social mobility, and not just rotation between the top and bottom over time, but a determination by our societies to lift their game, through education, training and entrepreneurship, and by becoming more self-reliant. Government needs to take the lead

in this. However, it will require courage, realism and a degree of humility on the part of politicians and other leaders. And it will need the engagement of all elements of civil society, and of individuals. It will be far from easy, but I do not see any alternative. The sooner we have the vision and the courage to begin this process, the sooner we can hope to come up with a way forward, which preserves both our economic prosperity but also the open and free societies in which we wish to live.

4. Conclusion

To sum up, we live in a New World, for sure. However, it is a New World which has not yet emerged – it is still in the process of evolving from the world which we knew before. And it may not ever really stop evolving. Continual change and instability could be the way of the future. In some ways this continually evolving world will not seem very different – we are not going through revolutionary change. However, it may well feel very different. And it will be a considerable challenge to us in Europe. We have come to the end of several centuries of European, and then Atlantic, economic and political domination of the globe. So we need to adapt ourselves to the New World, and rapidly. This will require all the skills and ingenuity we can muster, and all the social cohesion that has been built up. And the sooner we start this process, the easier it will be for us. Delay will be costly, and could be seriously so.

It is our opinion that in the globalization era, world economic powers are materially so much better off than any previous generation and innovation in every areas seems set to continue. So we are equal to the challenge. We just need to recognise the challenge, and to meet it head on. Just doing that might do us all a lot of good – in terms of social cohesion, and being positive about the future.

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Natural Gas Boom in the Middle East

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Abstract

The article tries to present the place and role played by the Middle East region on the international market of natural gas due to its high potential of production and export. Important gas reserves are not extracted due to poor infrastructure, difficult technical conditions and lack of needed investments. But the main problem which creates great obstacles for the capitalization of gas resources and impedes the countries' development and export is the conflictual situation persisting in the region for many decades. Instead of cooperation one can see a permanent confrontation which seriously harms the social and economic progress, and that is why democratic and responsible regimes are required, with a new vision upon international relations, but also it is needed the economic, financial and technological support of the great powers, in particular of USA and EU, that is essential and extremely beneficial for the future of this region.

Keywords: *reserve, potential, supply, demand, export, infrastructure.*

JEL Classification: *Q4, Q 5, L1.*

1. Introduction

Natural gas now accounts for 22 percent of the world's energy consumption and its demand is growing faster than oil demand. The proven reserves cover only 60 years of consumption (at 2012 level) and the potential reserves may cover more than 100 years of consumption. While Middle East region has the large reserves of natural gas (and almost 2/3 of oil reserves), its production and exports are still at modest levels, not comparable to its reserves and not comparable to oil industry. Two striking developments have occurred in this area: the first is that Qatar has become the largest producer of LNG in the world and the second would be the discovery of significant resources in the Eastern Mediterranean Sea. Middle East may become an alternative to Russia and to shale gas for EU if important investments will be made by oil international companies associated with local (state) companies for turning into good account its reserves and for building pipelines provided it will end the religious and territorial conflicts and tensions between Israel and its opponents if US and EU will involve much more in tempering the tensely situation existing now. Iraq is an example of a country

with significant gas reserves which was not able to exploit and use them so far due to complicated internal situation and to difficult geopolitical context of the region.

2. Brief presentation of natural gas market

2.1. Gas Reserves

CEDIGAZ-The International Association for Natural Gas-estimated worldwide proved natural gas reserves on January 1, 2013 at 199 857 bcm, compared to 199 836 bcm one year before. The highest increase of reserves in absolute terms was recorded in the Middle East with a growth of 203 bcm representing only a 0.3% gain over last year's estimate, while the highest decrease was recorded in North America (-314 bcm or -2.7%), because of downward revisions due to low gas prices. OPEC countries control about half of the world's gas reserves (48%) and CIS countries(12) account for almost another third (32%) and only three countries -Russia, Iran and Qatar- hold more than half (54%) of all recorded gas reserves while the top ten reserves holders own almost 80% of the total. Middle East has a share of 40.1% of total proved reserves (see table no.1), Iran being on the first place with 33 600 bcm, followed by Qatar with 25 100 bcm, Saudi Arabia with 8200 bcm, United Arab Emirates with 6100 bcm, Iraq with 3 600 bcm, Kuwait with 1 800 bcm (according to the estimates made by British Petroleum for 2012). There are some differences between the recent estimations made by British Petroleum and the older data published by Wikipedia and also huge differences between proven reserves and potential reserves, the last ones are usually at least two times higher. Around 45% of the world's recoverable natural-gas reserves are "unconventional", comprising mainly shale gas, and also tight gas and coal-bed methane, and are spread across the world, but extracting them is more expensive and harmful to the environment than the methods used to produce conventional gas, which badly affects the cost level and economic efficiency.

Table no.1 Natural Gas Reserves in Middle East (in billion cubic meters)

Country	Date/Year	Quantity (Wikipedia)	BP (2012)
Iran	12.06.2013	33600	33600
Qatar	12.06.2013	21000	25100
Saudi Arabia	1.01.2012	8200	8200
Iraq	1.01.2012	3600	3600
United Arab Emirates	1.01.2010	2250	6100
Kuwait	1.01.2010	1798	1800
Egypt	1.01.2010	1656	2000
Oman	1.01.2010	849.5	900
Lebanon	1.01. 2010	750.4
Yemen	1.01.2010	478.5
Israel	1.01.2013	271.0
Syria	1.01.2010	240.7	300
Bahrain	1.01.2010	92.0	200
Jordan	1.01.2010	6.0
Turkey	1.01.2010	6.1

2.2. World Gas Production

According to CEDIGAZ'estimations, world gross gas production increased by only 1.8% in 2012 to 4186 bcm (1.9% estimated by BP), the main factors influencing the production level were: a) quantities of reinjected gas diminished strongly and accounted for 10% of gross production; b) the recent increase in natural gas flaring partly driven by some OPEC countries like Iraq and Venezuela; c) LNG supply-side issues in Southeast Asia and domestic and political challenges in the Middle East and North Africa (MENA) region d) important increase of production in Middle East by 5.4%, in USA by 4.7%, in Norway by 12.6%, in China by 4.1%, in Latin American by 3.1% and in Africa by 2.1% ; e) decrease of production in Canada by 2.3%, Argentina by 3.0%, United Kingdom by 14.1%, in Russia by 2.7%, in Indonesia by 6.6%, in India by 13.1%. As a result of these developments, world marketed production, which accounted for 80% of gross production, increased quite significantly by 2.3% reaching a new record level of 3350 bcm (3363 bcm according to BP), but this growth was slower than the last ten-year average (2.7%/year) in a less favourable economic environment. According to CEDIGAZ, the growth in world gas supply was going to slow in 2013 and 2014 mainly due some financial difficulties encountered by important producers like Russia, Iran, African and Middle East producers. In the year 2012 Middle East region had a share of 17.9% in the world total production (Egypt included), the most important producers being Iran, Qatar, Saudi Arabia, United Arab Emirates, Egypt (see the table no.2). It is noteworthy that the main gas producers in the Middle East are also major gas consumers with the exception of Qatar who became the most important LNG producer and exporter in the world. The ratio between proven reserves on one side and production/consumption on the other side is favourable only for countries like Iran, Qatar, Saudi Arabia, Irak, United Arab Emirates, Kuwait, Oman. These countries could become major exporters of natural gas in the future, provided they will be able to invest more in production and transport infrastructure(pipelines), following the successful example of Qatar who detained one third (32.6%) of LNG global supply in 2012.

Table no.2 Natural Gas Production/Consumption in the Middle East (in billion cubic meters)

Country/Quantity	Production			Consumption
	Year	Quantity (Wikipedia BP-2012)		Quantity (BP-2012)
Iran	2011	151.8	160.5	156.1
Qatar	2011	133.2	157.0	26.2
Saudi Arabia	2012	103.2	102.8	102.8
Iraq	2013	23.2*	0.8	-
United Arab Emirates	2011	52.31	51.7	62.9
Kuwait	2011	13.53	14.5	17.2
Oman	2012	35.94	29.0	-
Lebanon	2011	-	-	-
Yemen	2011	9.62	7.6	-
Israel	2011	2.6	-	2.6
Syria	2011	7.87	7.6	-

Bahrain	2011	12.62	14.2	-
Jordan	2011	0.23	-	-
Turkey	2012	0.63	-	46.3
Egypt	2011	61.26	60.9	52.6

* for Iraq an estimation based on January daily production

Source: Wikipedia, 2013, British Petroleum Review on World Energy, June 2013

Natural gas consumption is dominated by EU, USA, Canada, Iran, China, Japan, Saudi Arabia, Mexico, UAE, Egypt. The regions mostly in deficit, in which consumption depends much on imports, are the EU and Eastern Asia while the surplus countries are Russia, Canada, Norway, Algeria, Qatar, Indonesia, Malaysia and Australia. International Energy Agency (IEA) reckons global gas demand will increase by more than half between 2010 and 2035, as natural gas will replace a part of coal consumption and also of nuclear energy in countries which would phase out nuclear power due to public concerns.

2.3. International Trade

In 2012, the international gas trade including LNG reloads reached 1026 bcm, a 0.6% decrease from 2011. The international gas trade was affected by the exceptional drop in global LNG supply, resulting in global market tightness. The tightness of the LNG market, which is exacerbated by increased demand in Asia Oceania and South America, is likely to last the next three years, according to CEDIGAZ. The inter-regional trade declined by 3.4% in 2012, a reflection of the drop of the European gas needs due to rapid development of green energies, which strongly impacted Russia's exports. The dramatic drop in European's imports from extra-regional sources failed to compensate for the continuous growth of long-distance LNG deliveries from the Middle East to the fast-growing Asian market.

Major natural gas exporters by pipeline were in 2012: Russia (130 bcm to EU and 56 bcm to other countries), Norway (106.6 bcm to EU), Canada (83.8 bcm to USA), Netherlands (54.5 bcm to EU) and Algeria (32.8 bcm to Italy and Spain) while the main importers were: EU (377.2 bcm), followed by North America (128.9 bcm), CIS countries (91.9 bcm), China (21.4 bcm).

LNG trade fell in 2012 after 30 years of consecutive growth. Global flows fell by 1.6% from 241.5 MT in 2011 to 237.7 MT in 2012. Qatar supplied 77.4 MT (105.4 bcm) of LNG to the international market, other major LNG exporters (and also producers) in the world in 2012 were Malaysia with 23.1 MT (-1.9%), Australia with 20.8 MT (+1.6%), Nigeria with 20 MT (+1.2%), Indonesia with 18.1 MT (-3.3%) Trinidad with 14.4 MT (+0.5%), Algeria with 11 MT (-1.6%), Russia with 10.9 MT (+0.4%), Oman with 8.1 MT (+0.2%), Brunei 6.8 with MT(+0,1%), UAE with 5.6 MT (-0.3%), Egypt with 5.1 MT (-1.3%), Yemen with 5.1 MT (-1.5%). The main LNG importers were in 2012: Japan (118.8bcm from Qatar, Australia, Malaysia), South Korea (49.7bcm from Qatar, Indonesia, Malaysia), India (20.5bcm from Qatar and Nigeria), China (20 bcm from Qatar, Australia, Indonesia, Malaysia), Spain (20.4bcm from Nigeria, Qatar, Algeria), United Kindgom (13.7bcm from Qatar), France(10.3bcm from Algeria, Nigeria, Qatar).

3. Middle East Situation

3.1. Great but untapped potential

Middle East region is in a paradoxical situation, on one hand it has huge reserves of natural gas but only a single major exporter (Qatar) and is facing shortages of natural gas supply on medium term if important projects will not start on short term and large investments will not be made on medium term because of the continued rise of the population and the increasing demographic urbanization specific to rapid growing markets. The two mentioned factors are significant drivers for a sustained increase in energy demand and for beginning many projects for covering the growth in energy generation and consumption based mainly on fossil fuels, especially natural gas, despite the increasing attractiveness of renewable energy.

On the other hand in this important and troubled region attention is still focused on oil production and export with some disregard of other classical and renewable energy resources that is why the evolution of the region's gas industry has lagged behind that of the oil sector, despite significant gas deposits. The delayed supply response to increasing demand is explained not only through the lack of productive investments but also by limited regional pipeline cooperation and also by below-market pricing. This unjustifiable delay associated with a lack of realistic vision on resource potential seriously affected the security of gas supply and determined some governments in the region to look beyond natural gas for energy solutions, including more oil-fired and coal-fired power plants in the short term (despite their less-environmentally friendly reputations) and towards nuclear and solar power over the long term. Nuclear energy is considered a feasible option by Iran and UAE, and solar energy by UAE, Kuwait and other countries. Although there is not enough gas in the area for covering the consumption needs of industry and population, a lot of gas is burned at flare in many oil producing countries and this seriously generates a lot of pollution in the atmosphere.

Middle East is a gas rich region, but only some countries, like Qatar, Iran, Egypt and Saudi Arabia have significant gas reserves while other countries have poor reserves. In some countries, like Oman and Yemen, export is done at the expense of future domestic gas demand, which is not a viable economic option. Other countries have plenty of sour gas that is more expensive to extract and process. Iraq provides an example of how a rich gas resource country may be affected or limited in successfully developing its natural resources: lack of legal framework, absence of physical security, neglecting gas investments and focusing on oil infrastructure to achieve immediate cashflow. A major obstacle for the development of gas industry in the region is the fact that much of the region's gas supply is based on associated gas rather than non-associated gas, so gas reserves cannot be exploited for supplying domestic markets or export markets because re-injection is critical to maintain the levels of crude oil production (Philip Weems&Farida Midani, 2009).

Qatar is a major gas supplier (exporter) in the region, for countries like UAE and Kuwait, which built new power and desalination plants and are trying to provide adequate feedstock for the new petrochemical industries. Iran was not able to supply gas to the neighboring countries due to its insufficient production, divergent price options and maybe to religious and political disputes. Many projects in energy intensive industries, like petrochemical industry, were cancelled or postponed in the region due to the lack of gas resources. Investments needed in gas extraction were discouraged by artificially low regional prices, in fact this represented a sort of high subsidy granted to consuming industries, that is why natural gas suppliers (non-LNG) were not stimulated to increase their production for domestic market but only for exports. Moreover until recently, foreign investments made by international oil and gas companies were restricted in many countries.

The low oil and gas prices in the 1990-2006 period and recent global financial and economic crisis had a negative impact on gas sector investments, after the crisis one could see a slow economic growth in major consuming areas associated with a decrease of government funding everywhere and also an overall credit squeeze, which may affect private and public investments in gas extraction and will stress the uncertainties over gas supply shortages in the future. Gas deficit in the Middle East and also in the major importing areas may significantly worsen as a direct result of investment gap. If key infrastructure investments are carried out, then Middle East region may not lose the opportunity to become the major gas supplier in the world, especially as there is the suspicion that its gas reserves are much undervalued.

3.2. Important new discoveries in the Eastern Mediterranean sea

Recent natural gas discoveries in the offshore Levant Basin (Eastern Mediterranean sea) have significantly altered the energy outlook in the Middle East and may bring more prosperity to Cyprus, Turkey, Israel, Syria, Lebanon and Palestinian Territories. The natural gas reserves discovered after 2000 off the coast of Israel and Cyprus are estimated at 1100 bcm but further new discoveries depend on the fate of Syrian conflict, territorial disputes, tensions between Cyprus and Turkey and troubles and strains facing the economies of the countries in the region, which may influence the scale and success of exploration activities. Almost all important discoveries made in the Levant Basin were located in Israel's territorial waters and also in the sea areas belonging to Cyprus and to the Palestinian Territories while exploration activities in Lebanon territorial waters continues due to initial poor results.

Table no.3. Gas reserves, production and consumption of Levant Basin countries (bcm)

Country	-Offshore gas reserves			Production-2012	Consumption-2012
	Possible	Potential	Proven		
Cyprus	200	1400	-	-	-
Israel	492	940	270	-	-2.6
Syria	-	-	243	-7.6	-8.2 (2011)
Lebanon	-	700	-	-	-
Jordan	-	-	6	-	-1.07 (2011)
Palestinian Territories	28.57	-	-	-	-

* estimates made by companies involved in exploration activities.

Source: EIA estimates, IHS, Oxford Institute for Energy Studies, Oil & Gas Journal, company reports, trade

While Israel started the offshore gas production with Tamar field in 2013, Lebanon is with its explorations in the early stages of licensing, and Syria postponed the explorations indefinitely due to the civil war. The exploration successes in Cyprus and Israel, and to a lesser degree in the Palestinian Territories may lead to fierce race for investments in exploration and exploitation of offshore gas resources. The high potential of Levant Basin is mirrored by what happened in the case of Israel who has been an importer of natural gas in the past, mostly through the Arish-Ashkelon pipeline from Egypt and a small portion through a newly installed floating and regasification terminal, but the

recent discoveries of the Tamar and Leviathan fields (among several others) will allow the country to become a significant exporter of natural gas in the next decade. The most notable natural gas discovery in Cypriot waters was the Aphrodite field made by Noble Energy in 2011. The Aphrodite-2 natural gas field is on the Israeli side of the maritime boundary with Cyprus and the two countries will need to conclude an agreement before production begins. The Gaza Marine field holds some significant recoverable resources, and in September 2012 the Palestinian Authority and Israel government discussed on developing the offshore Gaza territory, although no firm agreements are in place. The government of Lebanon completed a pre-qualification bid for exploration in the country's territorial waters in April 2013 and 46 foreign and local companies were accepted with their applications.

To exploit and export the new gas reserves from the Eastern Mediterranean in an economic profitable way, the best option would be to build a pipeline from Israel's Leviathan field via Cyprus, where it would take additional gas, to Turkey (Friedbert Pflüger, 2013). A twin pipeline with an annual capacity of 16 bcm would cost about 2.5 billion dollars, and it would start in the Israeli Leviathan field and traverse 470 km through the Mediterranean Sea and come ashore in southern Turkey. Such a pipeline is less costly than an LNG terminal in Cyprus and it could serve as an instrument to improve relations between (Greek) Cyprus and Turkey. Turkey's annual gas demand is projected to increase from about 42bcm in 2012 to 62bcm in 2020 and Mediterranean gas would be significantly cheaper than imported gas from Russia or Iran. But Israel and Cyprus intend to construct LNG terminals for exports, which are very costly (a single LNG terminal for about 7 bcm of gas per year costs more than 6 billion dollars) and these projects are very difficult to finance, given the relatively limited financial reserves as well as regional risks.

3.3. Natural Gas Situation in Iraq

There are different sources which have presented plenty of information referring to Iraq natural gas reserves and production. Among them one could mention the study made by Harvard University's Belfer Center and Rice University's Baker Institute Center for Energy Studies (Luay J. al-Khatteeb&others, 2013), outlooks, statistics, information published by International Energy Agency, US Energy Information Administration, CIA World Factbook, Oil&Gas Journal, Wikipedia, British Petroleum, Oxford Institute for Energy Studies.

Iraq's current proven gas reserves are estimated at 3560bcm, which represents 1.8% of total global gas reserves. Natural gas deposits in Iraq are predominantly found in an associated form with oil, representing 81% percent of the total reserves, while 2 % is cap gas and 17% is non-associated gas. The levels of overall gas production are and will be linked to the oil production, due to the large percentage of associated gas, some experts claiming that gas reserves in Iraq could be as high as double the current estimation. Iraq's proven gas reserves are concentrated in the south, mostly at the large associated gas reserves in the giant fields of Rumaila, West Qurna, Majnoon, Nahr Umr and Zubair. The gas from the Southern fields is richer in natural gas liquids (NGL) and is less contaminated with sulfur, compared to the reserves in the North of the country and thus it can find a good market in the petrochemical sector, bringing its contribution to the increase of national revenues and reducing the strong dependence on oil revenues.

In the Northern part of the country Ministry of Natural Resources of the Kurdistan Regional Government (MNR-KRG) is responsible for the development of natural resources in the region and assessed gas reserves above the official federal estimation. Under the estimations made by Ministry of Oil (MOO) the most promising gas deposits in the north are those of Khor Mor (51 bcm) and those of

Chemchemical (58.6bcm) while the estimates made by MNR-KRG of the reserves in these fields are almost ten times higher than the initial figures established by the Ministry of Oil, that anyhow are much higher than the estimates made by international organizations and companies.

Based on January monthly production one may estimate Iraq annual production at 23bcm for the year 2013, a very low level compared to its reserves. In the table no.4 one can see the evolution of Iraq natural gas production and consumption in 1989-2009 period, based on official Iraq statistical data. As it can be seen, a large quantity of gas was not recovered and was flared in the atmosphere, because of the lack of infrastructure and other persistent technical conditions. It is noteworthy the huge differences existing between the official data published by Iraqi authorities and those offered by British Petroleum and Wikipedia.

Table no. 4 Iraqi Natural Gas Production and Consumption in 1989-2009 period (mil.c.m.)

Year	Production	Consumption	Flared
1989	16309.81	9329.55	6980.13
1995	7794.56	6755.23	1039.33
2000	14539.64	10020.73	4518.91
2005	13723.00	7077.00	6611.00
2009	17521.00	10139.00	7381.00

Source: Annual Statistical Abstract 2010-2011, Ministry of Planning- Central Statistical Organization, Republic of Iraq.

Out of 23bcm produced in 2013 a share of 85% was achieved by Ministry of Oil, while the rest of 15% was free gas (non-associated gas) commercially produced by MNR-KRG controlled northern field of Khor Mor. The projections made by MOO for gas production are usually linked to the oil production, due to the fact the oil reserves are usually associated with gas reserves. Gas production is expected to reach 87.5bcm by 2020 both from associated gas producing fields and free gas fields, according with initial plans set by MOO, which were very optimistic concerning the level of oil production. During 2013 MOO revised the plans for oil production and these downward revisions will affect the initial forecasted gas production level, the target set initially for gas production is higher than that from scenario forecasts made by the International Energy Agency on Iraq Outlook 2012 and the INES(Integrated National Energy Strategy) scenario of gas projection, which suggest that the total gas production may reach only 72bcm in 2020 as a result of wide scale development of infrastructure required for local consumption and export options.

Before 2003, processing capacity stood at 21.4bcm of associated gas, 16bcm of dry gas, and 5.5 MT annually of LPG. In 2004 capacity had fallen to 13bcm and in 2013 production dropped to 5.15bcm and all new projects are related to the realization of Basra Gas Company projects and the end to flaring by 2015. The Kurdistan Regional Government also intends to export gas to Turkey by 2016 but there is no transport infrastructure to move the gas from Iraqi Kurdistan to Turkey, although there are pipelines inside the Kurdistan for transporting the gas from the Khor Mor Gas Field to power stations to the north. Before thinking to export opportunities Iraqi government will have to ensure the needs of power stations because there is a chronic shortage of electricity supply in the country.

Iraq has a national gas pipeline network extending from Basra in the South to Mosul in the North, which is 1775km long, connecting several power plants and industrial plants along the way and there is also a LPG pipeline extending over 1400km. Both networks are operated by the state-owned

Pipeline Company but they are not operational due to what happened in the last 10 year in Iraq. There are two main gas pipeline projects under construction, the first one is a new 24-inch pipeline running parallel to the damaged 18-inch pipeline from PS-1 in Basra to Haditha with a nameplate shipping capacity of 3.8bcm/year of gas and the second one is a new 42-inch pipeline from PS-1 in Basra to Baghdad, with an 8.75bcm/year of gas transport capacity.

Since 2005, Baghdad has signed a number of agreements to develop potential projects for the production, export and import of gas, but unfortunately nothing has been done so far to make these agreements operational.

Iraq wants to be connected to the rest of the Middle East region in a gas network and also to EU and maybe to other important importing areas, but in the second and third case it will need to develop liquefying facilities. Under Iraq Gas Master Plan, MOO commissioned Shell in 2005 to develop the blueprint plan and strategy for Iraqi gas and this plan began as an independent strategic plan for Iraqi gas, after which Shell entered into direct negotiations with Baghdad in 2008 to sign an exclusive heads of agreement (HOA) with the state-owned South Gas Company to develop all associated gas produced from the southern fields in Iraq. In 2011 this HOA became a twenty-five-year contract to valorize associated gas produced from three southern fields (Rumaila, West Qurna-1 and Zubair) only for meeting the local demand. The deal also includes an option to export LNG to Asia. The joint venture is known as the Basra Gas Company and is located in Basra being controlled by Shell, with a 44% stake, the state-owned South Gas Co. with 51%, and Japan's Mitsubishi Corp, which has the remaining 5%. This \$17 billion natural gas project run by Royal Dutch Shell could prove to be a 'milestone' in the country's post-war recovery.

In the last years Iraq signed a series of agreements to connect to neighboring countries through various energy trades. In January 2010, Baghdad also signed an MOU for Strategic Partnership between the European Union and Iraq to develop Iraqi gas for export to Europe. The MOU was based on an Energy Policy Action Plan adopted by the European Council in March 2007 and the focus of the MOU was put on the Euro-Arab Mashreq Gas Market Project and on the development of the Arab Gas Pipeline in a way that will make Iraq a key gas supplier to Europe Union. Iraqi gas and Iranian gas could be an alternative to Russian gas for European Union provided important investment will be made in transport infrastructure.

Iraq also signed, in 2011, a contract with the Iranian company ACG to extend the pipeline bringing gas from Iran to keep in operation Iraqi power stations producing electricity. In February 2013, the Iraqi cabinet authorized the MOO to sign a contract for a gas pipeline from Iran, through Iraq and Syria, and to Europe Union. However, many analysts believe that the plan will be hindered by various geopolitical challenges that make it impossible to realize it on the short to medium term. The religious conflicts in the region and also the great tension between Iran, Hezbollah and Palestinians on one side and Israel (supported by USA) on the other side adversely affect the development prospects of the natural gas trade but also the level of global oil production. USA and EU are the only strategic actors which can mediate and contribute to solving conflicts and tensions in the area, otherwise Russia's influence in the region may increase and tensions will persist on a long term.

There are two sets of projections taken into account by experts and policymakers: the Integrated National Energy Strategy, which was issued by the Iraqi government in June 2013, and the International Energy Agency's World Energy Outlook 2012, with a special section devoted to Iraqi resource development. The two projections differ as they refer to the timing and volume of potential gas exports. The INES outlook expects gas flaring to stop by 2015, resulting in surplus capacity and

this capacity will be sustained by additional gas production of 26-39bcm from new gas fields. The surplus gas could be exported or used as a feedstock for petrochemical projects aiming at generating high revenues on international markets. In the IEA's scenario, the gas exports may rise from 4.63bcm in 2020 to 20bcm by 2035, if new discoveries will be made; at the same time, the domestic demand may increase to 70bcm, with total production of 90bcm. The achievement of this scenario depends on major contributions and funds to the development of transport infrastructure, together with the development of non-associated gas fields across Iraq. This is specifically true for the development of gas resources in the Iraqi Kurdistan, as most of the associated gas in the South will be used to meet the local increasing demand.

4. Conclusions

1) It is quite difficult to answer to the question related to Middle East natural gas reserves, if this region has an abundance of natural gas supplies or they are not enough for meeting the fast growing domestic demand. Under CEDIGAZ estimations Middle East has a share of 2/5 of the total global proved reserves of natural gas but potential reserves could be much higher, the situation can be similar also for crude oil. However there are reputable specialists and institutions who believe that estimates of proven reserves for Middle East region are exaggerated and therefore neither potential reserves would be too high. But the pessimistic predictions concerning the rapid depletion of oil and gas reserves were dispelled by reality in the last four decades, because there are huge reserves in the oceans, seas and other areas still undiscovered or untapped.

For example, quite recently, important discoveries were made in the Eastern Mediterranean sea, in so-called Levant Basin, but the estimates of the reserves are different depending on the factors involved in the process of exploration and vary from 1000 bcm for proven reserves to 3000 bcm for potential reserves. Cyprus, Israel, Syria, Lebanon, Palestinian Territories and maybe Turkey are the main potential beneficiaries of these reserves.

2) The main gas producer in the region is Iran who has the largest gas reserves in the Middle East, followed by Qatar who is the biggest LNG producer in the world. Other important producers are Saudi Arabia, United Arab Emirates and Egypt. Iraq has important gas reserves but is a small producer. The major gas consumers are: Iran, Saudi Arabia, United Arab Emirates and Egypt. The only country that started the offshore gas production in the Levant Basin with Tamar field in 2013 is Israel, who intends to build a LNG terminal. In April 2014 Mohammad Reza Nematzadeh, Iranian Minister of Industry, has appreciated in an interview published by German newspaper Handelsblatt that Iran can be a reliable, safe and long term gas supplier to Europe because it wants to play an important role in the world gas market not competing with Russia but knowing that Europe's needs will grow in the next years. Iran intends to become a long term partner of EU due to its huge gas reserves and its existing plans for such a cooperation.

3) Middle East region is not a major gas exporter although is the biggest exporter of crude oil in the world due to the lack of proper infrastructure, insufficient productive investments, a large part of natural gas deposits are found in an associated form with oil, strong domestic demand growth in the last decade, obstacles encountered by foreign strategic investors. The major gas exporter (LNG) in the region and in the world is Qatar who sells a lot of gas to Eastern Asian countries and also to some EU countries.

4) Iraq has important gas reserves in the Southern part, in Basra region, in the form of associated gas, used only to meet the high domestic demand and also in the Northern part, in

Kurdistan, where the local government intends to export a part of it to Turkey, although no pipelines have been built so far. Iraq gas production was quite low due to the fact that a large quantity of gas was not recovered and was flared in the atmosphere, causing a lot of waste and pollution, and also due to the difficulties involved by the extraction of associated gas or by the use of gas with much sulfur content. Two main gas pipeline projects are under construction but only for meeting domestic needs and not for gas export. The joint venture known as the Basra Gas Company where Shell plays a leading role is a good example of how large oil companies may contribute to capitalizing of Iraq natural riches and to its fast economic development.

5) Middle East region may become an advantageous alternative for EU to Russian gas only if production will strongly increase in the region with foreign capital contribution and only if some important transport infrastructure will be built on medium term. But all gas pipelines to EU must cross Turkey that doesn't seem at all pleased about the new routes for gas on its territory. A pipeline with an annual capacity of 16 bcm and a length of 470 km for transporting gas from Levant Basin to Turkey would cost about 2.5 billion dollars, but it will meet only the Turkey's domestic demand. A pipeline project to transport gas from Iran through Irak to Syria in order to further export it to EU was postponed or abandoned due to civil war from Syria. Due to cold or even tense relations between Turkey on one hand and Iran and Syria on the other hand any pipeline project across Turkey has no chance of success in the near future. Only by normalizing the political explosive situation from the Middle East, involving the termination of religious conflicts and establishment of an independent Palestinian state, ending of old adversities between Israel and the other states, dismantling of terrorist networks and activities, one may create proper conditions leading to the economic development and social prosperity, including the setting up of powerful regional energy networks based on a strong interstate cooperation, which may allow the increase of export of the local rich natural resources.

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National and International Inequalities in Income and Wealth in a Global Growth with Free Trade and National Inflation Policies

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Abstract

The purpose of this paper is to study global monetary economic growth with heterogeneous households under free trade. The paper examines dynamics of global and national wealth and income distribution in association with monetary economic growth within an integrated framework. Money is introduced via the cash-in-advance (CIA) approach. We show that the dynamics of the world economy (with any number of countries) is described by a set of differential equations. We simulate equilibrium of the global economy with three countries and two types of households in each country. We also demonstrate effects of changes in technology and inflation policy. Our model demonstrates, as Grier and Grier (2007) empirically show, that the global economy exhibits absolute divergence in output levels if some determinants of steady state income are different. The study shows that as one country increases its inflation policy, the equilibrium values of the global output, consumption level and physical wealth are enhanced, and the rate of interest is lowered. The country which raises its inflation policy benefits in every aspect, but the other countries suffer in some aspects and benefit in others.

Keywords: money; global growth; trade pattern; global and national distribution of income and wealth.

JEL Classification: F11; O42.

1. Introduction

This study examines dynamic interactions among economic growth, inflation policies and international trade in a heterogeneous household framework. Because of rapidly increasing complexity of financial markets in association with globalization and wide spread of computer in recent years, financial markets have increasingly become complicated. In order to properly address issues related to global economic growth, it is important to study growth and money in an integrated framework. Nevertheless, many of economic dynamic models in international economics omit monetary issues, by explicitly or implicitly assuming that transactions on the economy's real side can be carried out frictionlessly without money. On the other hand, it is well known that there are many studies on interactions among growth and money in macroeconomics. Modern analysis of the long-term interaction of inflation and capital formation begins with Tobin's seminal contribution (Tobin, 1956). Tobin (1965) deals with an isolated economy in which "outside money" competes with real capital in the portfolios of agents by extending the Solow growth model. Tobin (1965: 676) argues: "The community's wealth ... has two components: the real goods accumulated through past real investment and fiduciary or paper 'goods' manufactured by the government from thin air. Of course the non-human wealth of such a nation 'really' consists only of its tangible capital. But, as viewed by the

inhabitants of the nation individually, wealth exceeds the tangible capital stock by the size of what we might term the fiduciary issue. This is an illusion, but only one of the many fallacies of composition which are basic to any economy or any society. The illusion can be maintained unimpaired so long as the society does not actually try to convert all of its paper wealth into goods.” Tobin’s model includes a real sector as in the Solow growth model. In the monetary economy prices are expressed in money, transactions require money, and financial wealth can be held in the form of money or financial instruments competing with money. In the Tobin model, money is a liability of the public sector. As a depositor of purchasing power money can be held by private agents as an alternative form of wealth to physical capital stock. Different from a barter economy as described by the Solow model, the Tobin model involves a problem of deciding the optimal composition of wealth at every instant. Since Tobin published his model, many other monetary growth models for national economies have been built. For instance, Sidrauski (1967) constructed an economic model in which no real variable will be affected by the economy’s inflation rate. We will address the issues by Tobin and Sidrauski in the alternative framework. Our approach is based on the cash-in-advance (CIA) approach. Clower (1967) proposed a model to incorporate the role of money as a medium of exchange through the CIA constraint. The basic idea is to explain the role that money plays in carrying out transactions by introducing transaction technology. Stockman (1981) proposes another growth model through CIA constraints. The model predicts that there is long-run superneutrality if only consumption expenditures are subject to a CIA constraint. If investment is also subject to a CIA constraint then steady state capital will fall when the growth rate of money rises. Marquis and Reffett (1991) and Mino and Shibata (1995) also introduce money into two-sector models involving human capital via a cash-in-advance constraint. It has become clear that different approaches of taking account of money in growth models lead to incompatible effects of inflation on capital accumulation and wealth and income distribution. There are many other studies which apply cash-in-advances (for instance, Lucas and Stokey, 1987; Townsend, 1987; Woodford, 1994; Santos, 2006; Chen et al., 2008; Miyazaki, 2012; Kam, 2013; Chang et al. 2013). Irrespective of these efforts, only a few models are proposed to study effects of monetary policies on global growth and international trade.

Our main interest is to show how monetary policies affect global growth and trade patterns. Trade among countries has been increasingly expanded both in volume and variety. Some empirical studies affirmatively support positive impact of trade on global economic growth. For instance, a study by Chang et al. (2009) demonstrates that the positive effects of trade openness may be greatly improved under certain conditions. Other empirical studies show the opposite. For instance, Yanikkaya (2003) empirically demonstrates that trade liberalization does not have a simple and straightforward relationship with economic growth. Contrary to the conventional view on the growth effects of free trade, the estimation results show that trade liberalization may not be positively related to economic growth, especially for developing economies. There are many empirical studies on relations between trade and growth (see, for instance, Edwards, 1993; Sachs and Warner, 1995; Krueger, 1998; Shilimbergo, et al. 1999; Rodriguez and Rodrik, 2001; Yanikkaya, 2003; Lee et al. 2004; Chang et al. 2009; Antonakakis, 2012; Obrizan 2013). It is evident that in order to properly analyze these important issues related to trade, growth and distribution, we need a dynamic model of growth and trade with income and wealth distributions within and among countries. This paper attempts to develop an international monetary growth model with capital accumulation and heterogeneous households in each country. As far as growth and trade are concerned, this study is based on the traditional dynamic one-commodity and multiple-country growth trade with perfect capital mobility. It is well known that since the publication of the Oniki-Uzawa model of trade and economic growth by Oniki and Uzawa (1965), various trade models with endogenous capital have been proposed (for instance, Deardorff, 1973; Ruffin, 1979; Findlay, 1984; Frenkel and Razin, 1987;

Eaton, 1987; Frankel and Romer, 1999; Brecher, et al. 2002; Nishimura and Shimomra, 2002; Sorger, 2002; Farmer and Lahiri, 2005; Doi et al. 2007; Lee, 2011; Zhang, 2013). Nevertheless, almost all of these studies are concerned with two-country cases without money. There is a need to generalize the model to multiple countries. As reviewed by Lee (2011: 260), “Innumerable articles and volumes have been published to extend the Ramsey-type endogenous growth model to various directions. ... However, only a few contributions extend these models to a two-country or multi-country economy to re-examine the trade issues and the long-run growth rate jointly in a unified framework.” This study introduces money into a multi-country heterogeneous-household growth model with free trade and perfect competition. The paper is a synthesis of a multi-national growth model by Zhang (1994) and the monetary growth model of a national economy with the CIA approach by Zhang (2009: Chap. 4). The paper is organized as follows. Section 2 defines the multi-country monetary growth model with capital accumulation and free trade. Section 3 shows that the dynamics of the world economy with any number of countries can be described by a set of differential equations. Section 4 simulates the equilibrium of a world economy with 3 countries and 2 types of households in each country. Section 5 examines the effects of changes in some parameters. Section 6 concludes the study.

2. The Multi-Country Trade Model with Money and Capital Accumulation

In describing economic production, we follow the neoclassical trade framework. Most aspects of production sectors in our model are similar to the neoclassical one-sector growth model (for instance, Burmeister and Dobell, 1970; Azariadis, 1993; Barro and Sala-i-Martin, 1995). It is assumed that the countries produce a homogenous commodity (e.g., Ikeda and Ono, 1992). There is only one (durable) good in the global economy under consideration. Production sectors use capital and labor. Exchanges take place in perfectly competitive markets. Production sectors sell their product to households or to other sectors and households sell their labor and assets to production sectors. Factor markets work well; factors are inelastically supplied and the available factors are fully utilized at every moment. A national economy has two assets, domestic money and traded capital goods. The economy consists of consumers, firms and the government. The foreign price of traded goods is given in the world market. The domestic residents may hold two assets, domestic money and traded goods (or world bond). We neglect transport cost, customs, or any other possible impediments to trade. We have perfect mobility of goods. The system consists of multiple countries, indexed by $j = 1, \dots, J$. We assume that there is no migration between the countries and the labor markets are perfectly competitive within each country. Each country has a fixed labor force, \bar{N}_j ($j = 1, \dots, J$). We further classify each country's population into Q_j groups. We assume that each group has a fixed population, \bar{N}_{jq} , $j = 1, \dots, J$, $q = 1, \dots, Q_j$. We have

$$\bar{N}_j = \sum_{q=1}^{Q_j} \bar{N}_{jq}.$$

We use h_{jq} to represent the level of human capital of household (j, q) . In this study we assume human capital exogenous. The total labor supply of country j is

$$N_j = \sum_{q=1}^{Q_j} h_{jq} \bar{N}_{jq}, \quad j = 1, \dots, J.$$

We denote wage rate of group (j, q) and interest rates by $w_{jq}(t)$ and $r_j(t)$, respectively, in the j th country. In the free trade system, the interest rate is identical throughout the world economy, i.e., $r(t) = r_j(t)$.

Behavior of firms

First, we describe behavior of the production sections. We assume that there are only two productive factors, capital $K_j(t)$ and the total labor force, N_j . The production functions are given by $F_j(K_j(t), N_j)$, $j = 1, \dots, J$, where F_j are the output of country j . Assume F_j to be neoclassical. Markets are competitive; thus labor and capital earn their marginal products, and firms earn zero profits. The rate of interest $r(t)$ and wage rates $w_{jq}(t)$ are determined by markets. The marginal conditions are given by

$$r + \delta_{kj} = f'_j(k_j), \quad w_{jq}(t) = h_{jq} w_j(t), \quad w_j(t) = f_j(k_j) - k_j f'_j(k_j), \quad (1)$$

where δ_{kj} are the depreciation rate of physical capital in country j , and $k_j \equiv K_j/N_j$ and $f_j(k_j) \equiv F_j(k_j, 1)$.

Introduction of money

We assume that each country's money is a nontradeable asset. This is a strict requirement for modern economies. We make this assumption for simplicity of analysis. In each national economy the scheme according to which the money stock evolves over time is deterministic and known to all agents. We first assume that a central bank of country j distributes at no cost to the population a per capita amount of fiat money $M_j(t) > 0$. With μ_j being the constant net growth rate of the money stock, $M_j(t)$ evolves over time according

$$\dot{M}_j(t) = \mu_j M_j(t), \quad \mu_j > 0.$$

The government brings $\mu_j M_j(t)$ additional units of money per capita into circulation in order to finance all government expenditures via seigniorage. Let $m_j(t)$ stand for the real value of money per capita measured in units of the output good, that is, $m_j(t) = M_j(t)/P_j(t)$. The government expenditure in real terms per capita, $\tau_j(t)$, is $\tau_j(t) = \mu_j m_j(t)$. The representative household of each group receives $\mu_j m_j(t)$ units of paper money from the government through a "helicopter drop", also considered to be independent of his money holdings.

Behavior of consumers

This study applies an alternative approach to household proposed by Zhang (1993). Applications of this approach to different economic problems are extensively discussed by Zhang (2009). We refer to Zhang's book for further explaining constrain and utility function. Consumers make decisions on consumption levels of services and commodities as well as on how much to save. Let $\pi_j(t)$ and $\bar{k}_{jq}(t)$

respectively stand for the inflation rate and the per capita wealth of household q in country j . The current income of household q in country j is given by

$$y_{jq}(t) = r(t)\bar{k}_{jq}(t) + w_{jq}(t) - \pi_j(t)m_{jq}(t) + \mu_j m_j(t), \quad j = 1, \dots, J, \quad q = 1, \dots, Q_{q_j}, \quad (2)$$

where $r(t)\bar{k}_{jq}(t)$ is the interest payment, $\pi_j(t)m_{jq}(t)$ is the real cost of holding money, and $\mu_j(t)m_j(t)$ is the real value of paper money from the government. In Zhang's approach, the disposable income is the current income plus the value of wealth held by the household. The value of wealth held by the household is denoted by $a_{jq}(t) = \bar{k}_{jq}(t) + m_{jq}(t)$. The disposable income is given by

$$\hat{y}_{jq}(t) = y_{jq}(t) + a_{jq}(t),$$

When deciding the composition of their portfolios, the household knows in advance that a certain fraction of consumption needs to be financed by payment in cash. Assume that cash has to be held in advance of purchasing goods. The liquidity constraint of the household is formed as

$$m_{jq}(t) = \chi_{jq} c_{jq}(t),$$

where χ_{jq} are positive parameters. We require $0 < \chi_{jq} < 1$. Substituting this equation into $\hat{y}_{jq}(t) = y_{jq}(t) + a_{jq}(t)$, we have

$$\hat{y}_{jq}(t) = (1 + r(t))\bar{k}_{jq}(t) + w_{jq}(t) + (1 - \pi_j(t))\chi_{jq} c_{jq}(t) + \mu_j m_j(t). \quad (3)$$

At each point of time, a consumer distributes the total available budget between saving, $s_{jq}(t)$, consumption of goods, $c_{jq}(t)$. The budget constraint is given by

$$c_{jq}(t) + s_{jq}(t) = \hat{y}_{jq}(t).$$

From this equation and equation (3), we have

$$(\bar{\chi}_{jq} + \chi_{jq}\pi_j(t))c_{jq}(t) + s_{jq}(t) = \bar{y}_{jq}(t) \equiv (1 + r(t))\bar{k}_{jq}(t) + w_{jq}(t) + \mu_j m_j(t), \quad (4)$$

where $\bar{\chi}_{jq} \equiv 1 - \chi_{jq}$. The utility level of household q in country j is represented by

$$U_{jq}(t) = \theta_{jq} c_{jq}^{\xi_{0jq}}(t) s_{jq}^{\lambda_{0jq}}(t), \quad \xi_{0jq}, \lambda_{0jq} > 0,$$

in which ξ_{0jq} , and λ_{0jq} are a person's elasticity of utility with regard to commodity and savings in country j . We call ξ_{0jq} and λ_{0jq} propensities to consume goods and to hold wealth (save), respectively. Maximizing $U_{jq}(t)$ subject to (4) yield

$$(\bar{\chi}_{jq} + \chi_{jq}\pi_j(t))c_{jq}(t) = \xi_{jq} \bar{y}_{jq}(t), \quad s_{jq}(t) = \lambda_{jq} \bar{y}_{jq}(t), \quad (5)$$

where $\xi_{jq} \equiv \rho_{jq} \xi_{0jq}$, $\lambda_{jq} \equiv \rho_{jq} \lambda_{0jq}$, $\rho_{jq} \equiv \frac{1}{\xi_{0jq} + \lambda_{0jq}}$.

According to the definitions of $s_{jq}(t)$, the wealth accumulation of the representative person in country j is given by

$$\dot{a}_{jq}(t) = s_{jq}(t) - a_{jq}(t). \quad (6)$$

These equations simply imply that the change in a household' wealth is the saving minus dissaving (e.g., Zhang, 2009).

Inflations and changes in money

According to the definitions of $\pi_j(t)$ and $m_j(t)$, we have

$$\dot{m}_j(t) = (\mu_j - \pi_j(t))m_j(t). \quad (7)$$

The global wealth being fully employed

The total capital stock employed by the production sectors is equal to the total wealth owned by all the countries. That is

$$K(t) = \sum_{j=1}^J K_j(t) = \sum_{j=1}^J \sum_{q=1}^{Q_j} \bar{k}_{jq}(t) \bar{N}_{jq}. \quad (8)$$

Money demand and supply

The total demand for money is equal to the total supply in each country

$$\sum_{q=1}^{Q_j} m_{jq}(t) \bar{N}_{jq} = \bar{N}_j m_j(t). \quad (9)$$

Trade balances

We now describe trade balances of the countries. If $\bar{K}_j(t) - K_j(t) > (<) 0$, we say that country j is in trade surplus (trade deficit). If $\bar{K}_j(t) - K_j(t) = 0$, we see that country j is in trade balance. We introduce variables to measure trade balances

$$E_j(t) \equiv r(t)(\bar{K}_j(t) - K_j(t)).$$

We have thus built the model which explains the endogenous accumulation of capital and the international distribution of capital in the world economy in which the domestic markets of each country are perfectly competitive, international product and capital markets are freely mobile and labor is internationally immobile. We now examine the properties of the system.

3. Dynamics and Equilibrium of the Global Economy

This section shows that the dynamics of the world economy can be expressed as a set of differential equations. The following lemma is proved in the appendix.

Lemma 1

Let $\chi_{jq} = \chi_j$ for all q . The dynamics of the world economy is given by the following differential equations $m_j(t)$, $k_1(t)$ and $\bar{k}_{jq}(t)$, $(j, q) \neq (1, 1)$, as the variables

$$\begin{aligned}\dot{m}_j(t) &= \Psi_j(k_1(t), \{\bar{k}(t)\}, m_j(t)), \\ \dot{k}_1(t) &= \Psi_k(k_1(t), \{\bar{k}(t)\}, [m_j(t)]), \\ \dot{\bar{k}}_{jq}(t) &= \hat{\Psi}_{jq}(k_1(t), \{\bar{k}(t)\}, [m_j(t)]), \quad j = 1, \dots, J, \quad q = 1, \dots, Q_j, \quad (j, q) \neq (1, 1),\end{aligned}\quad (10)$$

in which functions Ψ_j , Ψ_k , and $\hat{\Psi}_{jq}$ are defined in the appendix. For any given positive values of $m_j(t)$, $k_1(t)$ and $\bar{k}_{jq}(t)$ at any point of time, the other variables are uniquely determined by the following procedure: $\pi_j(t)$ by (A5) $\rightarrow m_{jq}(t)$ by (A6) $\rightarrow \bar{k}_{11}(t)$ by (A2) $\rightarrow a_{jq}(t) = \bar{k}_{jq}(t) + m_{jq}(t)$ $\rightarrow k_j(t) = \phi_j(k_1(t)) \rightarrow f_j(t) = f_j(k_j(t)) \rightarrow r(t)$ and $w_{jq}(t)$ by (1) $\rightarrow \bar{y}_{jq}(t)$ by (A3) $\rightarrow c_{jq}(t)$ and $s_{jq}(t)$ by (5) $\rightarrow F_j(t) = N_j(t)f_j(t)$.

This lemma is important as it gives a procedure for the computer to simulate the motion of the global economy. Although we may analyze behavior of the high dimensional differential equations, it is difficult to explicitly interpret results. For illustration, we specify the production functions as follows:

$$F_j(t) = A_j K_j^{\alpha_j}(t) N_j^{\beta_j}, \quad \alpha_j + \beta_j = 1, \quad \alpha_j, \beta_j > 0,$$

where A_j is country j 's productivity and α_j is a positive parameter. From equations $k_j(t) = \phi_j(k_1(t))$ and $f_j(t) = A_j k_j^{\alpha_j}(t)$, we have

$$\phi_j(k_1(t)) = \left(\frac{\alpha_1 A_1 k_1^{-\beta_1}(t) - \delta_j}{\alpha_j A_j} \right)^{-1/\beta_j}, \quad \bar{\phi}_j(k_1(t)) = A_j \beta_j \phi_j^{\alpha_j}(k_1(t)), \quad j = 1, \dots, J. \quad (11)$$

We show how to determine equilibrium of the dynamic system. First by (7), we have $\pi_j = \mu_j$ at equilibrium. By (6), we have $s_{jq} = \bar{k}_{jq} + m_{jq}$. From $s_{jq} = \lambda_{jq} \bar{y}_{jq}$, $s_{jq} = \bar{k}_{jq} + m_{jq}$ and the definition of \bar{y}_{jq} , we obtain

$$m_{jq} = (\lambda_{jq} + \lambda_{jq} r - 1) \bar{k}_{jq} + \lambda_{jq} w_{jq} + \lambda_{jq} \mu_j m_j. \quad (12)$$

Multiplying the two sides of (12) by \bar{N}_{jq} and then adding the resulted Q_j equations for each j , we have

$$\sum_{q=1}^{Q_j} \bar{N}_{jq} m_{jq} = \sum_{q=1}^{Q_j} [(\lambda_{jq} + \lambda_{jq} r - 1) \bar{k}_{jq} + \lambda_{jq} w_{jq}] \bar{N}_{jq} + \left(\mu_j \sum_{q=1}^{Q_j} \lambda_{jq} \bar{N}_{jq} \right) m_j. \quad (13)$$

From (13) and (9), we solve

$$m_j(k_1, \{\bar{k}\}) = \sum_{q=1}^{Q_j} \tilde{r}_{jq} \bar{k}_{jq} + \hat{N}_j, \quad (14)$$

where

$$\tilde{r}_{jq} \equiv \tilde{n}_j r_{jq} \bar{N}_{jq}, \quad \hat{N}_j \equiv \tilde{n}_j \sum_{q=1}^{Q_j} \bar{N}_{jq} \lambda_{jq} w_{jq}, \quad r_{jq} \equiv \lambda_{jq} + \lambda_{jq} r - 1, \quad \tilde{n}_j \equiv \frac{1}{\bar{N}_j - \left(\mu_j \sum_{q=1}^{Q_j} \lambda_{jq} \bar{N}_{jq} \right)}.$$

According to (A3) and (14), we see that we can explicitly express \bar{y}_{jq} as functions of k_1 and $\{\bar{k}\}$. In studying equilibrium, we don't make the assumption that all the households within a country have the equal rate of χ_{jq} . From the definition of \bar{y}_{jq} , $m_{jq} = \chi_{jq} c_{jq}$, $(\bar{\chi}_{jq} + \chi_{jq} \pi_j) c_{jq} = \xi_{jq} \bar{y}_{jq}$, and $\pi_j = \mu_j$, we solve

$$m_{jq} = W_{jq} \bar{k}_{jq} + \bar{\xi}_{jq} w_{jq} + \mu_j \bar{\xi}_{jq} m_j, \quad (15)$$

where $W_{jq} \equiv (1 + r) \bar{\xi}_{jq}$, $\bar{\xi}_{jq} \equiv \frac{\chi_{jq} \xi_{jq}}{\bar{\chi}_{jq} + \chi_{jq} \mu_j}$.

According to (A3) and (14), we see that we can explicitly express m_{jq} as functions of k_1 and $\{\bar{k}\}$. From (15) and $(\bar{k}_{jq} + m_{jq}) / \lambda_{jq} = (1 + r) \bar{k}_{jq} + w_{jq} + \mu_j m_j$ (which is from $s_{jq} = a_{jq}$), we solve

$$\bar{k}_{jq} = \bar{W}_{jq} + R_{jq} m_j, \quad (16)$$

where we use (15) and

$$\bar{W}_{jq} \equiv \frac{\bar{\mu}_{jq} w_{jq}}{1 + W_{jq} - (1 + r) \lambda_{jq}}, \quad R_{jq} \equiv \frac{\bar{\mu}_{jq} \mu_j}{1 + W_{jq} - (1 + r) \lambda_{jq}}, \quad \bar{\mu}_{jq} \equiv \lambda_{jq} - \bar{\xi}_{jq}.$$

We also note that w_{jq} and r are functions of k_1 . From (14) and (16), we have

$$\bar{k}_{jq} = \bar{W}_{jq} + R_{jq} \hat{N}_j + R_{jq} \sum_{q=1}^{Q_j} \tilde{r}_{jq} \bar{k}_{jq}. \quad (17)$$

The equations are linear in \bar{k}_{jq} . It can be seen that for each j , we have Q_j linear equations containing Q_j variables, $\bar{k}_{j1}, \dots, \bar{k}_{jQ_j}$. Assume that from (17) we can solve \bar{k}_{jq} as functions of k_1 , denoted by, $\bar{k}_{jq} = \Omega_{jq}(k_1)$. Inserting $\bar{k}_{jq} = \Omega_{jq}(k_1)$ and $k_j = \phi_j(k_1)$ in (8), we have

$$\Omega(k_1) \equiv \sum_{j=1}^J \phi_j(k_1) N_j - \sum_{j=1}^J \sum_{q=1}^{Q_j} \Omega_{jq}(k_1) \bar{N}_{jq} = 0. \quad (18)$$

Lemma 2

We determine equilibrium of the dynamic system by the following procedure: $\pi_j = \mu_j \rightarrow k_1$ by (18) $\rightarrow k_j$ and w_{jq} by (A1) $\rightarrow \bar{k}_{jq}$ by (17) $\rightarrow m_j$ by (14) $\rightarrow m_{jq}$ by (15) $\rightarrow a_{jq} = \bar{k}_{jq} + m_{jq} \rightarrow f_j = f_j(k_j) \rightarrow r$ by (1) $\rightarrow \bar{y}_{jq}$ by (A3) $\rightarrow c_{jq}$ and s_{jq} by (5) $\rightarrow F_j = N_j f_j$.

As it is difficult to examine dynamic behavior of the high dimensional dynamic system, we are only concerned with steady states in the rest of the paper.

4. Equilibrium with Three Countries and Two Groups in Each Country

For illustration, we will follow the procedure given in Lemma 1 to examine equilibrium of the global economic system. For simulation, we specify the production functions $F_j = A_j K_j^{\alpha_j} N_j^{\beta_j}$. We specify

$$\chi_{jq} = 0.5, \delta_{kj} = 0.05, \lambda_{jq} + \xi_{jq} = 1,$$

and the other parameters as follows

$$\begin{pmatrix} A_1 \\ A_2 \\ A_3 \end{pmatrix} = \begin{pmatrix} 6 \\ 5 \\ 3 \end{pmatrix}, \begin{pmatrix} \mu_1 \\ \mu_2 \\ \mu_3 \end{pmatrix} = \begin{pmatrix} 0.03 \\ 0.04 \\ 0.05 \end{pmatrix}, \begin{pmatrix} \alpha_1 \\ \alpha_2 \\ \alpha_3 \end{pmatrix} = \begin{pmatrix} 1/3 \\ 0.3 \\ 1/3 \end{pmatrix},$$

$$\begin{pmatrix} \lambda_{11} \\ \lambda_{12} \\ \lambda_{21} \\ \lambda_{22} \\ \lambda_{31} \\ \lambda_{32} \end{pmatrix} = \begin{pmatrix} 0.85 \\ 0.8 \\ 0.77 \\ 0.74 \\ 0.75 \\ 0.72 \end{pmatrix}, \begin{pmatrix} N_{11} \\ N_{12} \\ N_{21} \\ N_{22} \\ N_{31} \\ N_{32} \end{pmatrix} = \begin{pmatrix} 2 \\ 3 \\ 4 \\ 5 \\ 5 \\ 8 \end{pmatrix}, \begin{pmatrix} h_{11} \\ h_{12} \\ h_{21} \\ h_{22} \\ h_{31} \\ h_{32} \end{pmatrix} = \begin{pmatrix} 3 \\ 2 \\ 2 \\ 1 \\ 1 \\ 0.6 \end{pmatrix}. \quad (19)$$

Group 1 in Country has the highest level of human capital and highest propensity to save. Country 1's population is less than that of country 2. The human capital level of group 1 in country 2 is the second, next to country 1's. Country 3 has the largest population and the lowest levels of human capital. Country 1's, 2's, and 3's inflation policy parameters are respectively 3 percent, 4 percent and 5 percent. We term country 1 as industrialized economy (IE), country 2 as newly industrialized economy (NIE), and country developing 3 country (DE). We specify the values of the parameters, α_j , in the Cobb-Douglas productions approximately equal to 0.3 (for instance, Miles and Scott, 2005; Abel *et al.*, 2007). In our specifications of the total factor productivities, we emphasize their relative values. A recent literature review of estimating A_j is provided by Delpachitra and Dai (2012). We also assume that different groups have different propensities to save and to hold money. The depreciation rate of physical capital is specified at 0.05. Corresponding to equations (17), we have

$$\begin{aligned}\bar{k}_{j1} &= b_{j1} + R_{j1} \tilde{r}_{j1} \bar{k}_{j1} + R_{j1} \tilde{r}_{j2} \bar{k}_{j2}, \\ \bar{k}_{j2} &= b_{j2} + R_{j2} \tilde{r}_{j1} \bar{k}_{j1} + R_{j2} \tilde{r}_{j2} \bar{k}_{j2},\end{aligned}\tag{20}$$

where $b_{jq}(k_1) \equiv \bar{W}_{jq} + R_{jq} \hat{N}_j$. We solve (20) as follows

$$\begin{aligned}\bar{k}_{j1} &= \Omega_{j1}(k_1) \equiv \frac{b_{j1}(1 - R_{j2} \tilde{r}_{j2}) + b_{j2} R_{j1} \tilde{r}_{j2}}{(1 - R_{j1} \tilde{r}_{j1})(1 - R_{j2} \tilde{r}_{j2}) - R_{j1} \tilde{r}_{j2} R_{j2} \tilde{r}_{j1}}, \\ \bar{k}_{j2} &= \Omega_{j2}(k_1) \equiv \frac{(1 - R_{j1} \tilde{r}_{j1})b_{j2} + b_{j1} R_{j2} \tilde{r}_{j1}}{(1 - R_{j1} \tilde{r}_{j1})(1 - R_{j2} \tilde{r}_{j2}) - R_{j1} \tilde{r}_{j2} R_{j2} \tilde{r}_{j1}}, \quad j = 1, 2, 3.\end{aligned}\tag{21}$$

Insert the above six equations in (18)

$$\Omega(k_1) = \sum_{j=1}^3 \phi_j(k_1) N_j - \sum_{j=1}^3 \sum_{q=1}^2 \Omega_{jq}(k_1) \bar{N}_{jq} = 0,\tag{22}$$

in which $\phi_1(k_1) = k_1$ and

$$\phi_j(k_1) = \left(\frac{\alpha_1 A_1 k_1^{-\beta_1} - \delta_j}{\alpha_j A_j} \right)^{-1/\beta_j}, \quad j = 2, 3.$$

With the parameter values in (19), we first determine the equilibrium value of k_1 by (22). Then, following Lemma 2, we determine the equilibrium values of all the variables. As shown in Figure 1, $\Omega(k_1) = 0$ has a unique positive meaningful solution (we also check the equation for the rest range of the variables).

The equilibrium values are listed in (23).

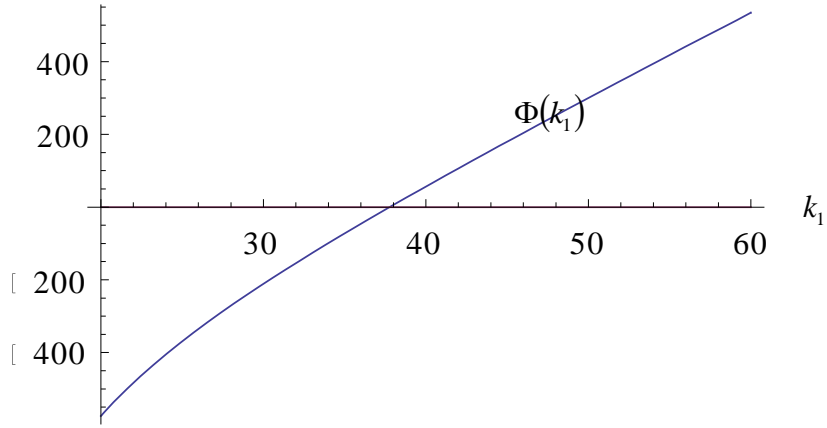
$$F = 521.97, \quad C = 471.16, \quad K = 953.64, \quad r = 0.128,$$

$$\begin{aligned}\begin{pmatrix} k_1 \\ k_2 \\ k_3 \end{pmatrix} &= \begin{pmatrix} 37.77 \\ 21.07 \\ 13.35 \end{pmatrix}, \quad \begin{pmatrix} f_1 \\ f_2 \\ f_3 \end{pmatrix} = \begin{pmatrix} 20.13 \\ 12.48 \\ 7.12 \end{pmatrix}, \quad \begin{pmatrix} m_1 \\ m_2 \\ m_3 \end{pmatrix} = \begin{pmatrix} 20.28 \\ 8.48 \\ 2.28 \end{pmatrix}, \quad \begin{pmatrix} F_1 \\ F_2 \\ F_3 \end{pmatrix} = \begin{pmatrix} 322.11 \\ 137.23 \\ 62.64 \end{pmatrix}, \\ \begin{pmatrix} K_1 \\ K_2 \\ K_3 \end{pmatrix} &= \begin{pmatrix} 604.38 \\ 231.74 \\ 117.53 \end{pmatrix}, \quad \begin{pmatrix} \bar{K}_1 \\ \bar{K}_2 \\ \bar{K}_3 \end{pmatrix} = \begin{pmatrix} 542.33 \\ 310.77 \\ 100.54 \end{pmatrix}, \quad \begin{pmatrix} E_1 \\ E_2 \\ E_3 \end{pmatrix} = \begin{pmatrix} -7.92 \\ 10.09 \\ -2.17 \end{pmatrix},\end{aligned}$$

$$\begin{pmatrix} w_{11} \\ w_{12} \\ w_{21} \\ w_{22} \\ w_{31} \\ w_{32} \end{pmatrix} = \begin{pmatrix} 40.23 \\ 26.84 \\ 17.47 \\ 8.73 \\ 4.75 \\ 2.85 \end{pmatrix}, \quad \begin{pmatrix} \bar{k}_{11} \\ \bar{k}_{12} \\ \bar{k}_{21} \\ \bar{k}_{22} \\ \bar{k}_{31} \\ \bar{k}_{32} \end{pmatrix} = \begin{pmatrix} 139.95 \\ 52.49 \\ 66.51 \\ 22.25 \\ 13.70 \\ 5.72 \end{pmatrix}, \quad \begin{pmatrix} c_{11} \\ c_{12} \\ c_{21} \\ c_{22} \\ c_{31} \\ c_{32} \end{pmatrix} = \begin{pmatrix} 57.87 \\ 33.65 \\ 25.78 \\ 11.68 \\ 6.45 \\ 3.58 \end{pmatrix}, \quad \begin{pmatrix} m_{11} \\ m_{12} \\ m_{21} \\ m_{22} \\ m_{31} \\ m_{32} \end{pmatrix} = \begin{pmatrix} 28.93 \\ 16.82 \\ 12.89 \\ 5.84 \\ 3.22 \\ 1.81 \end{pmatrix}, \quad (23)$$

in which $F \equiv \sum_{j=1}^3 F_j$, $C \equiv \sum_{j=1}^3 C_j$, $E_j \equiv r(\bar{K}_j - K_j)$.

Figure 1. The Unique Solution



We see that the IE's capital intensity is much higher than the NIE's and the NIE's capital intensity is much higher than the DE's. There are also great differences in wage rate and per capita wealth within and among national economies. For instance, the wage rate of household (1, 1) is almost 15 times as high as that of household (3, 2); the per capita wealth level of household (1, 1) is almost 20 times as high as that of household (3, 2). There are also great differences in terms of national output levels, per-capita output levels, per-capita consumption levels, and real money holdings. The NIE's trade is in deficit and the other two economies in surplus. We see that globalization will not lead to convergence in the long term as long as nations are different in human capital and preferences. It should be noted that here we neglect effects of possible free migration among nations upon the global economy.

5. Comparative Static Analysis

As the system has a unique equilibrium, we make comparative static analysis. As we have provided the procedure to determine the values of all the variables, it is straightforward to examine effects of changes in any parameter on the steady state. This section is concerned with how the global economy is affected as national conditions are changed. We introduce a symbol, $\bar{\Delta}$, by which a variable $\bar{\Delta}x$ stand for the change rate of the variable x in percentage due to changes in parameter value.

An improvement in the developing economy's technology

First we study effects of changes in the DE's technology on the national economy and trade patterns. In the literature of economic development and economic geography differences in technologies and human capital are considered as key determinants of spatial differences in economic growth and living standards (e.g., Grossman and Helpman, 1991; Storper and Venables, 2004; Rodriguez and Crescenzi, 2008). We now examine how a change in the total productivity in one country affects the global trade patterns and each country's economic development. We increase the DE's total productivity A_3 from 3 to 3.5. The simulation results are illustrated in (24). As the DE improves its productivity, the global output, wealth and consumption are all increased. The rate of interest is increased. The improvement in productivity of the DE improves the aggregated economic performance of the global economy. Nevertheless, when examining effects of national economies, we see that different economies are affected differently. As the DE improves its technology, not only the country's national output, capital employed, wealth and consumption are increased, but also the country's capital intensity, wage rates, per capita consumption, wealth, and real money holdings of the both groups are improved. Hence, the DE benefits from its technological improvement not only in national aggregated variables but also in all individuals' terms. As demonstrated in (24), the IE's and NIE's national output, capital employed, and capital intensities are all reduced. Moreover, the variables for individuals, wage rates, per capita consumption, wealth, and real money holdings of the both groups are either increased or reduced. We see that some variables of the developed and newly developed economies will not benefit from the technological advance of the developing economy. This occurs partly because as the DE improves its productivity, it absorbs more capital and increases the cost of capital in the global market. The increased capital cost in the global market reduces the capital intensities in the other two economies. As The NIE's trade is in deficit and the other two economies in surplus before the technological change, the IE's and NIE's trade balances are improved and the DE's trade balance is deteriorated.

$$A_3 : 3 \Rightarrow 3.5, \quad \bar{\Delta} F = 2.98, \quad \bar{\Delta} C = 2.99, \quad \bar{\Delta} K = 2.75, \quad \bar{\Delta} r = 0.41,$$

$$\begin{aligned} \begin{pmatrix} \bar{\Delta} k_1 \\ \bar{\Delta} k_2 \\ \bar{\Delta} k_3 \end{pmatrix} &= \begin{pmatrix} -0.44 \\ -0.44 \\ 25.46 \end{pmatrix}, \quad \begin{pmatrix} \bar{\Delta} f_1 \\ \bar{\Delta} f_2 \\ \bar{\Delta} f_3 \end{pmatrix} = \begin{pmatrix} -0.15 \\ -0.13 \\ 25.83 \end{pmatrix}, \quad \begin{pmatrix} \bar{\Delta} m_1 \\ \bar{\Delta} m_2 \\ \bar{\Delta} m_3 \end{pmatrix} = \begin{pmatrix} -0.01 \\ 0.05 \\ 25.99 \end{pmatrix}, \quad \begin{pmatrix} \bar{\Delta} F_1 \\ \bar{\Delta} F_2 \\ \bar{\Delta} F_3 \end{pmatrix} = \begin{pmatrix} -0.15 \\ -0.13 \\ 25.83 \end{pmatrix}, \\ \begin{pmatrix} \bar{\Delta} K_1 \\ \bar{\Delta} K_2 \\ \bar{\Delta} K_3 \end{pmatrix} &= \begin{pmatrix} -0.44 \\ -0.42 \\ 25.46 \end{pmatrix}, \quad \begin{pmatrix} \bar{\Delta} \bar{K}_1 \\ \bar{\Delta} \bar{K}_2 \\ \bar{\Delta} \bar{K}_3 \end{pmatrix} = \begin{pmatrix} -0.01 \\ 0.05 \\ 25.99 \end{pmatrix}, \quad \begin{pmatrix} \bar{\Delta} E_1 \\ \bar{\Delta} E_2 \\ \bar{\Delta} E_3 \end{pmatrix} = \begin{pmatrix} -3.88 \\ 1.85 \\ 22.79 \end{pmatrix}, \\ \begin{pmatrix} \bar{\Delta} w_{11} \\ \bar{\Delta} w_{12} \\ \bar{\Delta} w_{21} \\ \bar{\Delta} w_{22} \\ \bar{\Delta} w_{31} \\ \bar{\Delta} w_{32} \end{pmatrix} &= \begin{pmatrix} -0.15 \\ -0.15 \\ -0.13 \\ -0.13 \\ 25.83 \\ 25.83 \end{pmatrix}, \quad \begin{pmatrix} \bar{\Delta} \bar{k}_{11} \\ \bar{\Delta} \bar{k}_{12} \\ \bar{\Delta} \bar{k}_{21} \\ \bar{\Delta} \bar{k}_{22} \\ \bar{\Delta} \bar{k}_{31} \\ \bar{\Delta} \bar{k}_{32} \end{pmatrix} = \begin{pmatrix} -0.15 \\ -0.15 \\ -0.13 \\ -0.13 \\ 25.83 \\ 25.83 \end{pmatrix}, \quad \begin{pmatrix} \bar{\Delta} c_{11} \\ \bar{\Delta} c_{12} \\ \bar{\Delta} c_{21} \\ \bar{\Delta} c_{22} \\ \bar{\Delta} c_{31} \\ \bar{\Delta} c_{32} \end{pmatrix} = \begin{pmatrix} -0.15 \\ -0.15 \\ -0.13 \\ -0.13 \\ 25.83 \\ 25.83 \end{pmatrix}, \quad \begin{pmatrix} \bar{\Delta} m_{11} \\ \bar{\Delta} m_{12} \\ \bar{\Delta} m_{21} \\ \bar{\Delta} m_{22} \\ \bar{\Delta} m_{31} \\ \bar{\Delta} m_{32} \end{pmatrix} = \begin{pmatrix} 0.03 \\ -0.04 \\ 0.07 \\ 0.01 \\ 26.02 \\ 25.95 \end{pmatrix}. \end{aligned} \quad (24)$$

A rise in in the industrialized economy's inflation policy

This section is concerned with effects of changes in some parameters on the national economy and regional economic structures. First, we are concerned with the inflation policy. Modern analysis of the long-term interaction of inflation and capital formation begins with Tobin's seminal contribution (Tobin, 1965; McCallum, 1983; Walsh, 2003). Tobin showed that an increase in the level of the inflation rate will increase the capital stock of an economy. It should be noted that there are only a few formal monetary growth models with internal trade are proposed in the literature of international economics. We now raise the IE's inflation policy as follows, $\mu_1 : 0.03 \Rightarrow 0.05$. The results are listed in (25). The rise in the inflation policy enhances the equilibrium values of the global output, consumption level and physical wealth, but reduces the rate of interest. The IE's trade balance is improved and the DE's and NIE's trade balances are deteriorated. The effects of the change on the other variables are given in (25). It should be remarked that although the country which raises its inflation policy benefits in every aspect, the other countries suffer in some aspects and benefit in others. This also implies that if not only one country changes its monetary policy, the global effects of printing more money on different countries have ambiguous effects, except on the country which speeds up printing money. In this study, we don't introduce endogenous mechanism for determining speed of printing money. In globally well-connected economies different countries will react differently when one country initiates speeding up money. Moreover, one referee points out, "A higher domestic inflation rate intuitively discourages domestic real money holdings. The resulting rise in the transactions cost lowers the marginal product of capital and thereby suppresses private investment and thus the rate of economic growth. The reduction in domestic real money holdings causes the nominal rate of interest to rise and leads domestic residents to hold foreign currencies." For simplicity of analysis, our model is limited to the case that money is held only by the domestic residents. It is more realistic to allow foreigners to hold money.

$$\mu_1 : 0.03 \Rightarrow 0.05, \quad \bar{\Delta} F = 0.57, \quad \bar{\Delta} C = 0.45, \quad \bar{\Delta} K = 1.78, \quad \bar{\Delta} r = -1.65,$$

$$\begin{aligned} \begin{pmatrix} \bar{\Delta} k_1 \\ \bar{\Delta} k_2 \\ \bar{\Delta} k_3 \end{pmatrix} &= \begin{pmatrix} 1.80 \\ 1.72 \\ 1.80 \end{pmatrix}, \quad \begin{pmatrix} \bar{\Delta} f_1 \\ \bar{\Delta} f_2 \\ \bar{\Delta} f_3 \end{pmatrix} = \begin{pmatrix} 0.60 \\ 0.51 \\ 0.60 \end{pmatrix}, \quad \begin{pmatrix} \bar{\Delta} m_1 \\ \bar{\Delta} m_2 \\ \bar{\Delta} m_3 \end{pmatrix} = \begin{pmatrix} 0.82 \\ -0.18 \\ 0.09 \end{pmatrix}, \quad \begin{pmatrix} \bar{\Delta} F_1 \\ \bar{\Delta} F_2 \\ \bar{\Delta} F_3 \end{pmatrix} = \begin{pmatrix} 0.60 \\ 0.51 \\ 0.60 \end{pmatrix}, \\ \begin{pmatrix} \bar{\Delta} K_1 \\ \bar{\Delta} K_2 \\ \bar{\Delta} K_3 \end{pmatrix} &= \begin{pmatrix} 1.80 \\ 1.71 \\ 1.80 \end{pmatrix}, \quad \begin{pmatrix} \bar{\Delta} \bar{K}_1 \\ \bar{\Delta} \bar{K}_2 \\ \bar{\Delta} \bar{K}_3 \end{pmatrix} = \begin{pmatrix} 3.23 \\ -0.19 \\ 0.07 \end{pmatrix}, \quad \begin{pmatrix} \bar{\Delta} E_1 \\ \bar{\Delta} E_2 \\ \bar{\Delta} E_3 \end{pmatrix} = \begin{pmatrix} -12.14 \\ -7.34 \\ 10.18 \end{pmatrix}, \\ \begin{pmatrix} \bar{\Delta} w_{11} \\ \bar{\Delta} w_{12} \\ \bar{\Delta} w_{21} \\ \bar{\Delta} w_{22} \\ \bar{\Delta} w_{31} \\ \bar{\Delta} w_{32} \end{pmatrix} &= \begin{pmatrix} 0.60 \\ 0.60 \\ 0.51 \\ 0.51 \\ 0.60 \\ 0.60 \end{pmatrix}, \quad \begin{pmatrix} \bar{\Delta} \bar{k}_{11} \\ \bar{\Delta} \bar{k}_{12} \\ \bar{\Delta} \bar{k}_{21} \\ \bar{\Delta} \bar{k}_{22} \\ \bar{\Delta} \bar{k}_{31} \\ \bar{\Delta} \bar{k}_{32} \end{pmatrix} = \begin{pmatrix} 2.82 \\ 3.66 \\ -0.29 \\ -0.03 \\ -0.01 \\ 0.17 \end{pmatrix}, \quad \begin{pmatrix} \bar{\Delta} c_{11} \\ \bar{\Delta} c_{12} \\ \bar{\Delta} c_{21} \\ \bar{\Delta} c_{22} \\ \bar{\Delta} c_{31} \\ \bar{\Delta} c_{32} \end{pmatrix} = \begin{pmatrix} \bar{\Delta} m_{11} \\ \bar{\Delta} m_{12} \\ \bar{\Delta} m_{21} \\ \bar{\Delta} m_{22} \\ \bar{\Delta} m_{31} \\ \bar{\Delta} m_{32} \end{pmatrix} = \begin{pmatrix} 0.47 \\ 1.07 \\ -0.29 \\ -0.03 \\ -0.01 \\ 0.17 \end{pmatrix}. \end{aligned} \quad (25)$$

A rise in the industrialized economy's propensity to save

We now raise household (1, 1)'s propensity as follows: $\lambda_{011} : 0.85 \Rightarrow 0.9$. The effects are listed in (26). As the propensity to save falls, as the neoclassical growth theory predicts, the rate of interest is reduced. The capital intensities, output levels, wage rates, and consumption levels are all enhanced. The wealth per household of the rich group in the developed economy is increased. The wealth levels of the two groups in the NIE are lessened. Although the NIE's wage rates and output are increased, the per capita wealth, consumption level and money holding are reduced. Hence, the NIE suffers from the rise in the IE's propensity to save. In the DE the rich group suffers but the poor group benefits from the preference change. The effects of the change on the other variables are given in (26). Country 1 benefits in every aspect by increasing the rich households' propensity to save. Nevertheless, this change has negative effects on some variables in the other countries

$$\lambda_{011} : 0.85 \Rightarrow 0.9, \quad \bar{\Delta} F = 0.96, \quad \bar{\Delta} C = 0.76, \quad \bar{\Delta} K = 2.99, \quad \bar{\Delta} r = -2.74,$$

$$\begin{aligned} \begin{pmatrix} \bar{\Delta} k_1 \\ \bar{\Delta} k_2 \\ \bar{\Delta} k_3 \end{pmatrix} &= \begin{pmatrix} 3.03 \\ 2.88 \\ 3.03 \end{pmatrix}, \quad \begin{pmatrix} \bar{\Delta} f_1 \\ \bar{\Delta} f_2 \\ \bar{\Delta} f_3 \end{pmatrix} = \begin{pmatrix} \bar{\Delta} F_1 \\ \bar{\Delta} F_2 \\ \bar{\Delta} F_3 \end{pmatrix} = \begin{pmatrix} 1.00 \\ 0.86 \\ 1.00 \end{pmatrix}, \quad \begin{pmatrix} \bar{\Delta} m_1 \\ \bar{\Delta} m_2 \\ \bar{\Delta} m_3 \end{pmatrix} = \begin{pmatrix} 1.37 \\ -0.28 \\ 0.15 \end{pmatrix}, \\ \\ \begin{pmatrix} \bar{\Delta} K_1 \\ \bar{\Delta} K_2 \\ \bar{\Delta} K_3 \end{pmatrix} &= \begin{pmatrix} 3.03 \\ 2.88 \\ 3.03 \end{pmatrix}, \quad \begin{pmatrix} \bar{\Delta} \bar{K}_1 \\ \bar{\Delta} \bar{K}_2 \\ \bar{\Delta} \bar{K}_3 \end{pmatrix} = \begin{pmatrix} 5.42 \\ -0.32 \\ 0.13 \end{pmatrix}, \quad \begin{pmatrix} \bar{\Delta} E_1 \\ \bar{\Delta} E_2 \\ \bar{\Delta} E_3 \end{pmatrix} = \begin{pmatrix} -20.11 \\ -12.16 \\ 16.89 \end{pmatrix}, \\ \\ \begin{pmatrix} \bar{\Delta} w_{11} \\ \bar{\Delta} w_{12} \\ \bar{\Delta} w_{21} \\ \bar{\Delta} w_{22} \\ \bar{\Delta} w_{31} \\ \bar{\Delta} w_{32} \end{pmatrix} &= \begin{pmatrix} 1.00 \\ 1.00 \\ 0.86 \\ 0.86 \\ 1.00 \\ 1.00 \end{pmatrix}, \quad \begin{pmatrix} \bar{\Delta} \bar{k}_{11} \\ \bar{\Delta} \bar{k}_{12} \\ \bar{\Delta} \bar{k}_{21} \\ \bar{\Delta} \bar{k}_{22} \\ \bar{\Delta} \bar{k}_{31} \\ \bar{\Delta} \bar{k}_{32} \end{pmatrix} = \begin{pmatrix} 10.18 \\ 0.34 \\ -0.47 \\ -0.04 \\ -0.01 \\ 0.29 \end{pmatrix}, \quad \begin{pmatrix} \bar{\Delta} c_{11} \\ \bar{\Delta} c_{12} \\ \bar{\Delta} c_{21} \\ \bar{\Delta} c_{22} \\ \bar{\Delta} c_{31} \\ \bar{\Delta} c_{32} \end{pmatrix} = \begin{pmatrix} \bar{\Delta} m_{11} \\ \bar{\Delta} m_{12} \\ \bar{\Delta} m_{21} \\ \bar{\Delta} m_{22} \\ \bar{\Delta} m_{31} \\ \bar{\Delta} m_{32} \end{pmatrix} = \begin{pmatrix} 2.88 \\ 0.34 \\ -0.47 \\ -0.04 \\ -0.01 \\ 0.29 \end{pmatrix}. \end{aligned} \quad (26)$$

6. Conclusions

This paper proposed a multi-country growth model with heterogeneous groups in each country and endogenous wealth accumulation. We show that the dynamics of the world economy is controlled by a set of differential equations. We also simulated the model with the Cobb-Douglas production functions and demonstrated effects of changes in some parameters. We show that different economies may react differently to these changes. As we have explicitly shown the computational procedure, we can simulate the world economy with any number of economies and any types of households. This paper examined the equilibrium behavior of a three-country world economy with two groups in each country. We examined, for instance, as the IE's inflation policy is increased, the equilibrium values of the global output, consumption level and physical wealth are enhanced, but the rate of interest lowered. The IE's trade balance is improved and the DE's and NIE's trade balances are deteriorated. The country which raises its inflation policy benefits in every aspect, the other countries suffer in some aspects and benefit in others. Practically, this also implies that if one country speeds up printing money, other countries in the well-connected global economy may also speed up printing money. It should be noted that our conclusion is

obtained on the assumption that only domestic households hold domestic money. If we allow any household in the global economy may hold money of any economy, our conclusion may be different. Our analysis on the impact of preference change also provides important insights into complexity of globally interconnected world economies. For instance, it is well known that the USA economy has low saving rates. If one group of the USA increases its propensity to save, the living conditions of all the groups and USA economy are improved, even though the effects on some groups and some economies may not be beneficial. Since our analytically tractable framework is based on microeconomic foundation and treats the global economy as a connected whole, it may enable us to analyze other important issues. It is possible to extend the model in different directions. For instance, we may consider that each economy has multiple sectors. Another important direction to generalize the study is to take account of changeable returns to scale in different economies. An old question in monetary economics is how to analyze situation-dependent monetary policies (e.g., Cavalcanti and Nosal, 2009).

Appendix: Proving Lemma 1

First, from equations (1) we obtain $f'_j(k_j) = f'_1(k_1) - \delta_j$, $j = 2, \dots, J$, where $\delta_j \equiv \delta_{k_1} - \delta_{k_j}$. If $f'_1(k_1) - \delta_j > 0$ for all $j = 2, \dots, J$ and given $k_1(t) > 0$, then the equations determine unique relations between k_j and k_1 , denoted by $k_j = \phi_j(k_1)$, $j = 1, \dots, J$, where $\phi_1(k_1) = k_1$. From equations $f'_j(k_j) = f'_1(k_1) - \delta_j$, we have $f''_j(k_j)dk_j/dk_1 = f''_1(k_1)$, $j = 2, \dots, J$. As $f''_j(k_j) \leq 0$, $j = 1, \dots, J$, we see that $dk_j/dk_1 \geq 0$, $j = 2, \dots, J$. That is, $\phi'_j(k_1) \geq 0$. Hence, for any given $k_1(t) > 0$, we determine $k_j(t)$ as unique functions of $k_1(t)$. From equations (1), we determine the wage rates as functions of $k_1(t)$ as follows

$$w_{jq}(t) = \bar{\phi}_{jq}(k_1) \equiv h_{jq} \bar{\phi}_j(k_1), \quad w_j(t) = \bar{\phi}_j(k_1) \equiv f_j(\phi_j(k_1)) - \phi_j(k_1)f'_j(\phi_j(k_1)), \quad j = 1, \dots, J. \quad (A1)$$

We can rewrite (8) as

$$\sum_{j=1}^J k_j N_j = \sum_{j=1}^J \sum_{q=1}^{Q_j} \bar{k}_{jq} \bar{N}_{jq}.$$

Insert equation $k_j = \phi_j(k_1)$ into the above equation

$$\bar{k}_{11} = \Lambda(k_1, \{\bar{k}\}) \equiv \sum_{j=1}^J n_j \phi_j - \sum_{j=2}^J \sum_{q=1}^{Q_j} n_{jq} \bar{k}_{jq} - \sum_{q=2}^{Q_1} n_{1q} \bar{k}_{1q}, \quad (A2)$$

in which $n_j \equiv \frac{N_j}{N_{11}}$, $n_{jq} \equiv \frac{\bar{N}_{jq}}{N_{11}}$, $\{\bar{k}\} \equiv (\bar{k}_{12}, \dots, \bar{k}_{JQ_J})$.

We see that household (1, 1)'s per capita physical wealth, $\bar{k}_{11}(t)$, can be expressed as a unique function of country 1's capital intensity and the other countries' per capita physical wealth $\{\bar{k}(t)\}$ at any point of time. From equations (1) and (A2) and the definitions of \bar{y}_j , we have

$$\bar{y}_{11}(t) = \Lambda_{11}(k_1, \{\bar{k}\}, m_1) \equiv \phi_1(k_1) \Lambda(k_1, \{\bar{k}\}) + \bar{\phi}_{11}(k_1) + \mu_1 m_1,$$

$$\bar{y}_{jq}(t) = \Lambda_{jq}(k_1, \{\bar{k}\}, m_j) \equiv \phi_r(k_1) \bar{k}_{jq} + \bar{\phi}_{jq}(k_1) + \mu_j m_j, \\ j = 1, \dots, J, \quad q = 1, \dots, Q_j, \quad (j, q) \neq (1, 1), \quad (\text{A3})$$

where $\phi_r(k_1) \equiv 1 + f_1'(k_1) - \delta_{k1}$. From $m_{jq} = \chi_{jq} c_{jq}$, $(\bar{\chi}_{jq} + \chi_{jq} \pi_j) c_{jq} = \xi_{jq} \bar{y}_{jq}$, and (9), we solve

$$\bar{N}_j m_j = \sum_{q=1}^{Q_j} \frac{\xi_{jq} \chi_{jq} \bar{N}_{jq} \bar{y}_{jq}}{\bar{\chi}_{jq} + \chi_{jq} \pi_j}. \quad (\text{A4})$$

As we want to express inflation rates as functions of the other variables by (A4) and it is difficult to do this, for simplicity of analysis we assume that all the households within a country have the equal rate of χ_{jq} , that is, $\chi_j = \chi_{jq}$ ($\bar{\chi}_j = \bar{\chi}_{jq}$). Under this assumption from (A4) we solve

$$\pi_j = \bar{\Lambda}_j(k_1, \{\bar{k}\}, m_j) \equiv \left(\frac{1}{\bar{N}_j m_j} \sum_{q=1}^{Q_j} \xi_{jq} \bar{N}_{jq} \bar{y}_{jq} \right) - \frac{\bar{\chi}_j}{\chi_j}. \quad (\text{A5})$$

From $m_{jq} = \chi_j c_{jq}$, $(\bar{\chi}_j + \chi_j \pi_j) c_{jq} = \xi_{jq} \bar{y}_{jq}$, and (A5), we solve

$$m_{jq} = \hat{\Lambda}_{jq}(k_1, \{\bar{k}\}, m_j) \equiv \frac{\chi_j \xi_{jq} \Lambda_{jq}(k_1, \{\bar{k}\}, m_j)}{\bar{\chi}_j + \chi_j \bar{\Lambda}_j(k_1, \{\bar{k}\}, m_j)}. \quad (\text{A6})$$

Equations (A5) show that a country's inflation rate is function of the global distribution of capital stocks and its real money per capita. Substituting (A5) into (7) yields

$$\dot{m}_j = \Psi_j(k_1, \{\bar{k}\}, m_j) \equiv (\mu_j - \bar{\Lambda}_j(k_1, \{\bar{k}\}, m_j)) m_j. \quad (\text{A7})$$

Insert $s_{jq} = \lambda_{jq} \bar{y}_{jq}$ and (A3) in (6)

$$\dot{\bar{k}}_{11} + \dot{m}_{11} = \lambda_{11} \Lambda_{1q}(k_1, \{\bar{k}\}, m_1) - \bar{k}_{11} - \hat{\Lambda}_{11}(k_1, \{\bar{k}\}, m_1), \\ \dot{\bar{k}}_{jq} + \dot{m}_{jq} = \bar{\Psi}_{jq}(k_1, \{\bar{k}\}, m_j) \equiv \lambda_{jq} \Lambda_{jq}(k_1, \{\bar{k}\}, m_j) - \bar{k}_{jq} - \hat{\Lambda}_{jq}(k_1, \{\bar{k}\}, m_j), \\ j = 1, \dots, J, \quad q = 1, \dots, Q_j, \quad (j, q) \neq (1, 1), \quad (\text{A8})$$

where we also use (A6). Taking derivatives of (A2) with respect to time yields

$$\dot{\bar{k}}_{11} = \left[\sum_{j=1}^J n_j \phi_j' \right] \dot{k}_1 - \sum_{j=2}^J \sum_{q=1}^{Q_j} n_{jq} \dot{\bar{k}}_{jq} - \sum_{q=2}^{Q_1} n_{1q} \dot{\bar{k}}_{1q}. \quad (\text{A9})$$

Insert (A9) in the first equation in (A8)

$$\left[\sum_{j=1}^J n_j \phi_j' \right] \dot{k}_1 - \sum_{j=2}^J \sum_{q=1}^{Q_j} n_{jq} \dot{\bar{k}}_{jq} - \sum_{q=2}^{Q_1} n_{1q} \dot{\bar{k}}_{1q} + \dot{m}_1 = \lambda_{11} \Lambda_{jq}(k_1, \{\bar{k}\}, m_1) - \bar{k}_{11} - \hat{\Lambda}_{11}(k_1, \{\bar{k}\}, m_1). \quad (\text{A10})$$

On the other hand, taking derivatives of (A6) with respect to time yields

$$\dot{m}_{jq} = \frac{\partial \hat{\Lambda}_{jq}}{\partial k_1} \dot{k}_1 + \frac{\partial \hat{\Lambda}_{jq}}{\partial m_j} \dot{m}_j - \sum_{i=2}^J \sum_{p=1}^{Q_j} \frac{\partial \hat{\Lambda}_{jq}}{\partial \bar{k}_{ip}} \dot{\bar{k}}_{ip} - \sum_{p=2}^{Q_1} n_{1p} \dot{\bar{k}}_{1p}. \quad (\text{A11})$$

Substituting (A11) into (A10) and (A8), we assume that we can solve the resulted linear (in the derivatives) equations as (10). In summary, we obtain Lemma 1.

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China-EU Trade and Economic Relations (2003-2013)

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Abstract

The paper introduces the development of the China-EU trade and investment relations in the past ten years since the announcement of the China-EU Comprehensive Strategic Partnership, analyzes the driving forces for China's trade surplus with the EU, the situation of the bilateral trade disputes, as well as the issue of the "Market Economy Status" in the bilateral trade relations. The author concludes that great changes have taken place regarding the economic strength and international positions of the two sides, as well as in the international environment in the past ten years since the establishment of China-EU Comprehensive Strategic Partnership. The author also notes that despite the high growth rate of the trade volume between China and the EU, neither side has made adequate preparations for the dynamics of the bilateral trade and no efficient mechanism has been set up to lead the trends. In the future next ten years, China should try to transform the approach led by the EU, shift the passive status in the bilateral trade agenda, more focus on substance instead of forms, and construct a new way of thinking on China-EU economic and trade relations.

Keywords: China-EU Trade; China-EU Investment; Trade Deficit; Trade Disputes; Market Economy Status; China-EU Comprehensive Strategic Partnership.

Introduction

China-EU Comprehensive Strategic Partnership (China-EU CSP) enters into a new decade, in 2013. Trade and economic relations have been among the fundamentals in China-EU relationship. The stability and healthy development of the trade and economic relations have provided the basis for furthering the bilateral relationship; at the same time the increasing trade disputes had a negative impact on China-EU relationship. Facing the next decade, it is worth summarizing the development of the China-EU trade and economic relations in the past decade, identifying the achievements, and exploring the future of the bilateral trade and economic relationship.

The bilateral trade

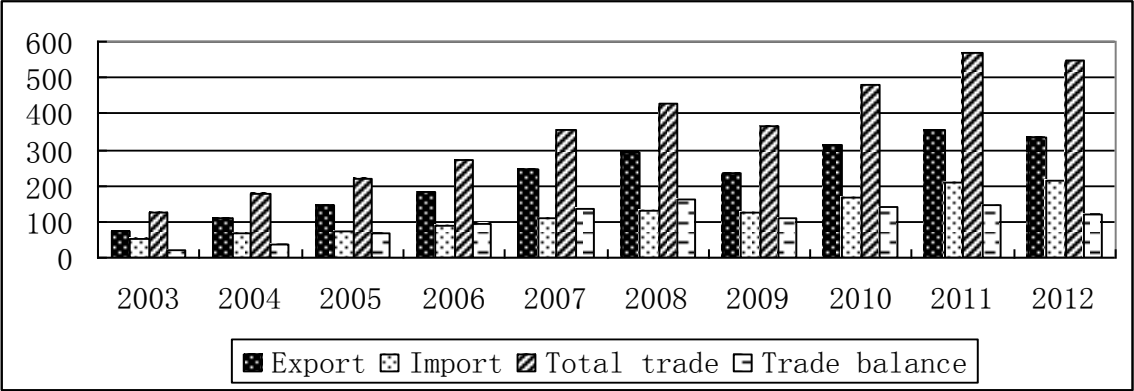
In 2003, both China and EU leaders agreed to promote the bilateral relationship to Comprehensive Strategic Partnership (CSP). China-EU trade has experienced a dynamic growth since then.

I. General trends in bilateral trade

China-EU bilateral trade increased substantially between 2003 and 2012. As Graph 1 is indicating, according to the Ministry of Commerce of China (MOFCOM), China's export to the EU increased 4.6 times, from USD 72.16 billion in 2003, to USD 333.99 billion in 2012, and import from

the EU also increased almost 4 times, from USD 53.06 billion in 2003, to USD 212.05 billion in 2012. On the whole, the trade volume between China and the EU increased 4.3 times, from USD 125.22 billion in 2003, to USD 546.04 billion in 2012. Since 2004, the EU has been the biggest trade partner of China.

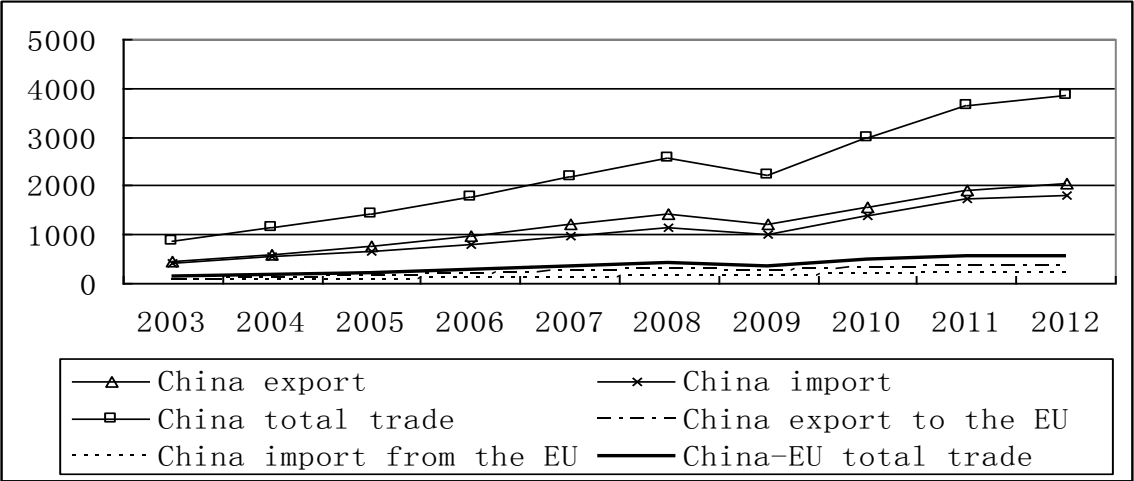
Graph 1 China’s Trade with the EU between 2003-2012, in billion USD



Source: MOFCOM.

The bilateral trade also dropped twice in the past decade. As revealed by Graph 2, the first drop was influenced by the Financial Crisis. Both China’s foreign trade and China-EU trade have experienced the first turbulence in more than 20 years of dynamic development.

Graph 2 China’s foreign trade and China-EU trade between 2003-2012, in billion USD

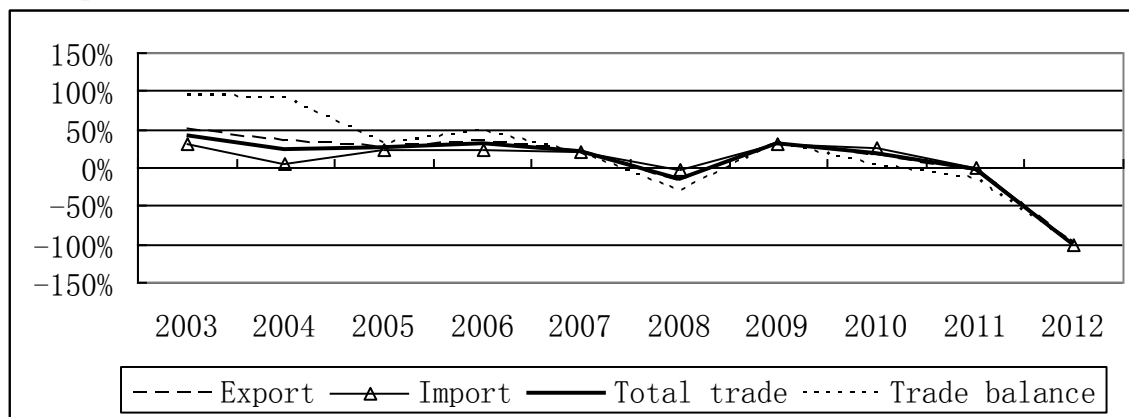


Source: MOFCOM.

The drop of China’s foreign trade was much deeper than China-EU trade. The trade motor restarted in 2010, and the trade volume exceeded the level before the Financial Crisis. Unfortunately, the European Sovereignty Debt Crisis hit the China-EU trade development again, and the trade volume dropped again in 2012. China’s foreign trade also received a negative impact from the Euro Crisis. Although the growth rate of trade slowed down, the trade volume as a whole was still increasing. It means China’s multi market trade strategy has achieved remarkable progress, on the one hand, and it also means that the negative impact of the Euro Crisis to the world economy was weaker than that the Financial Crisis, on the other hand. The EU has been China’s biggest export market for years, but this ended in 2012 when it was replaced by the US.

The speed of trade growth has experienced 3 times up-side-downs in the past decade. As shown in Graph 3, the fastest trade growth was registered in 2003 and 2004 when it was a “honey moon” period in the history of the China-EU relationship. The annual growth rate of the bilateral trade was more than 40%. China’s export to the EU was growing by close to 50% a year, and imports from the EU increased by 85% in 2003 (!) and also by 30% in 2004. Such a high rate in trade growth has provided a fresh input into the newly announced China-EU CSP.

Graph 3 Growth rate in China-EU trade between 2003 and 2012



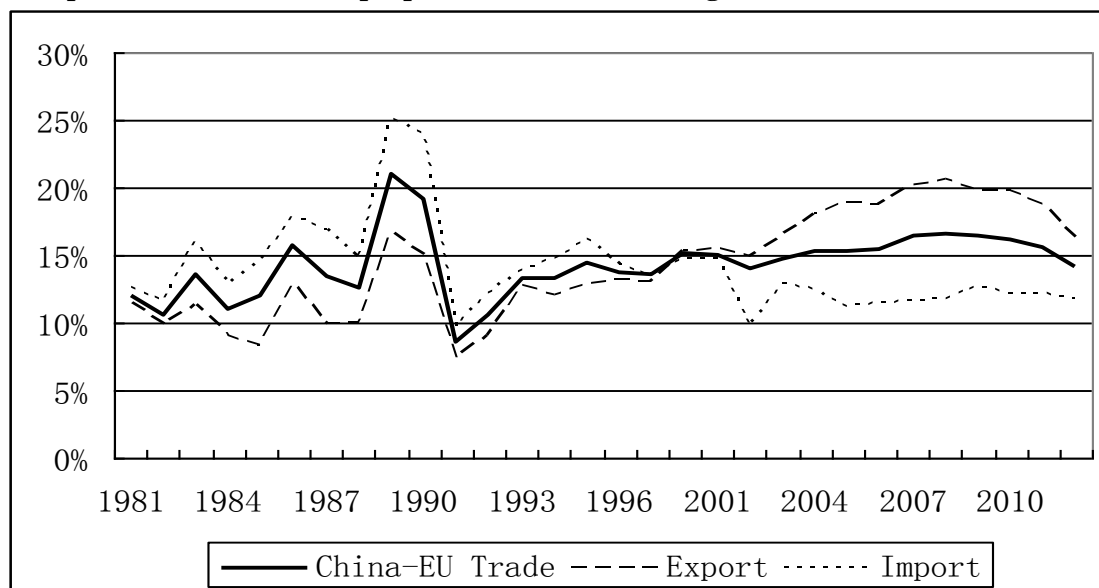
Source: Author’s calculation based on the data by MOFCOM.

The time between 2005 and 2007 was the first adjustment period. After the first slowing-down in 2005 and 2006, the speed of China-EU trade growth was back again to the fast track in 2007, with 30% increase, and the import from the EU increasing by 23% in 2006 and 2007. Hit by the Financial Crisis, the growth rate slowed down again. The rate of trade growth was 20% in 2008, either in export or in import. The first negative growth rate in the latest more than 20 years turned to the surface in 2009, when the trade volume between China and the EU decreased by 15%, with export down by 20% and import by 4%. In 2010, both China’s export and import to the EU were back to fast growth track, with more than 30% increase. And again hit by the Euro Crisis, trade dynamic slowed down. China had provided help to the EU by promoting import from Europe. The import growth rate reached 25% in 2011, but it could not prevent Europe from lack of demand. It was the second time to have a negative growth of China-EU trade in 2012. The trade volume decreased by 3.7%, with export decreasing by 6.2% and import just flat, at the same level of previous year.

Although there were 3 trend reversals in the past decade, the average growth rate of China-EU trade was over 20%, with 24.2% for China’s import from Europe, higher than the 23.4% average growth for the China’s export to the EU.

In the past ten years, growth was the general trend of the China-EU trade, but its proportion in China’s foreign trade has experienced a change from a climbing curve to a down turn (Graph 4). Actually, this proportion had reached more than 20% at the end of 1980s. Afterwards there were some up-side-downs, it reached 15% at the beginning of the 21 century, and kept growing to more than 16% in 2007. Since 2008 there has been a decline of the China-EU trade proportion into the total Chinese foreign trade, to only 14.1% in 2012. The proportion in China’s export to Europe was also slightly down to 16.3% in 2012, and proportion in import was 11.7%. All the figures in 2012 were lower than their level in 2003. Is it because of the negative impact of the Euro Crisis, or is it because of the Europe’s weakening position in China’s multi market strategy? We still need time to observe the reason of such a decline in trade proportion.

Graph 4 China-EU trade proportion in China's Foreign Trade



Source: Author's calculation based on the data by MOFCOM.

II. The product structure

On product structure (the data of the product structure in EU-China trade is from EuroStat), the proportion of manufactured products in China's export to the EU is consistently growing. At the same time the proportion of the EU's export of manufactured products to China is in a downward trend, while the proportion of primary products export is growing. The primary products took 4.3% in EU's import from China between 2002 and 2004, and the manufactured products took 95.4%. In 2012, the proportion of primary products went down to 3.3%, and the manufactured products went up to 96.3%. Regarding on the EU's export to China, the primary products took 7.0% and the manufactured products took 91.1% in 2002, whereas in 2012 the primary products increased to 14.1% and manufactured products went down to 84.7%. The primary products from China in EU's total primary products import increased from 1.3% in 2006, to 1.47% in 2012, and the manufactured products decreased from 29.0% to 22.50% in the same period. In export, the primary products exported to China increased from 4.76% in 2006, to 6.8% in 2012 in EU's primary products export, and the manufactured products increased from 5.54% to 9.1% in the same time.

By product category, the proportion of China's textile products in EU's import is decreasing and the proportions of machinery and electronic products is increasing, whereas the proportion of chemical products in EU's export to China is increasing and the proportion of machinery and electronic products is decreasing. In 2002, the textile products took 14.9% in EU's import from China, the machinery and electronic products took 41.7% and chemical products took only 3%. In 2012, the textile products went down to 12.6%, the machinery and electronic products up to 50.2% and the chemical products took 9.5% already. Regarding exports, textile products took 1.3% in EU's export to China in 2002 and the chemical products 9.5%. The machinery and electronic products took 62%, in which the automotive products took 8.4% alone. In 2012, the textile products kept the same proportion at 1.3%, the chemical products went up to 11.7%, and the machinery and electronic products down to 58.5% in which the automotive products went up to 20.1%!

So the major import of the EU from China is office equipment and telecommunication products, and the major export of the EU to China is automotive products. The office equipment and

telecommunication products took 31.9% of the EU's import from China in 2012, which was the biggest import category and also the biggest trade deficit category in EU-China's trade. The deficit in this category was EUR 87.3 billion in 2012 and it accounted for 60% of the EU's trade deficit with China. In 2012, 56.8% of the EU's total import of electronic data processing and office equipment products came from China, and 50.6% of the total import of telecommunication products was also from China. EU's largest export category to China was electronic machinery, electric and non-electric machinery products, which accounted for 28% of the EU's export to China. The second largest category was transportation equipment, which took 26.4%. The trade surplus in transportation equipment with China was EUR 28.4 billion in 2012, and the automotive products alone took EUR 25.9 billion.

Mutual investments

Comparing with the rapid development of trade, the mutual investments between China and the EU are less developed. There are different figures on investments because of the statistical methodology, but the general trends are similar.

I. General trends

Firstly, neither party considers the other party as main investment destination. The largest investment destination of the EU is the United States, while the largest investment destination of China is Asia. According to the data of EuroStat, the investment of the EU in China accounted for only 4.8% of its investment in non-member states in 2011; the largest investment destination of the EU was the United States in that year, accounting for 33.8%. Meanwhile, the investment of the United States in the EU accounted for 62.2% of the total investment EU received from non-member states, while China only contributed 1.3%¹. In 2000-2010, 76% of the foreign investment received by the United States was from Europe. Likewise, China's investment in Europe only accounted for 11.1% of its overseas investment in the year, while the investment in China's largest investment destination, Asia, accounted for 60.9%². In terms of accumulated amount, China's investment in Europe was only 7% of its total overseas investment, ranking third. The region receiving most investment was Asia (68.5%), followed by Latin America (12.8%).

Secondly, from the perspective of the accumulated amount, the investment of the EU in China is much higher than the investment of China in Europe. According to the statistics of the Ministry of Commerce, until December 2003, the 15 member states of the EU have established 16,158 companies in China, with 65.943 billion dollars of contract utilization of European capital and 37.872 billion dollars of paid-in European capital. In terms of accumulated amount of paid-in foreign capital, EU ranked fourth among the countries and regions investing in China, behind Hong Kong, the United States and Japan. In the same period, China established 432 companies in the 15 EU member states, with 222 million dollars of contract amount of Chinese investment, less than 1% of the investment China received from EU³. By 2011, according to the data of EuroStat, China's investment in Europe only accounted for 1.4% of the total investment of non-member states, while EU's investment in China accounted for 20% of total foreign investment China received, ranking fifth, behind Taiwan,

¹ EuroStat, Foreign direct investment statistics, http://epp.eurostat.ec.europa.eu/statistics_explained/index.php/Foreign_direct_investment_statistics, last visited on July 28, 2013.

² Ministry of Commerce, National Bureau of Statistics and State Administration of Foreign Exchange, Statistical Communiqué on Overseas Direct Investment of China in 2011.

³ http://fec.mofcom.gov.cn/article/zlyj/sy wz/200501/961527_1.html

Hong Kong, the United States and Japan. In that year, China invested 3.1 billion Euros in the EU, and the EU invested 17.8 billion Euros in China⁴. In 2012, China invested 3.5 billion Euro in the EU, and the EU invested 10 billion Euro in China⁵.

Thirdly, from the perspective of the increment, China's investment in the EU started late, but it has been growing fast. In recent years, China's investment in Europe greatly outpaced Europe's investment in China. Under the impact of the European debt crisis, the growth speed of EU investment in China shows a decreasing trend in recent years. According to the statistics of the Ministry of Commerce, from January to December 2012, China approved the establishment of 24,925 foreign-invested enterprises, an annual decrease of 10.1%; and actually utilized 111.72 billion dollars of foreign capital, an annual decrease of 3.7%. Among them, the EU27 member states actually invested 6.11 billion dollars of foreign capital, an annual decrease of 3.8%⁶.

At the same time, China's investment in Europe shows a trend of fast growth in the recent years. According to the statistics of Chinese Ministry of Commerce, in 2010, China's investment in Europe doubled (a 2.8 fold increase compared to 2009) and the flow reached 6.76 billion dollars, increasing by 101.6% year on year, accounting for 9.8% of the total flow and going up four percentage points compared to the previous year⁷. By 2011, China's investment in Europe realized growth for three consecutive years, and the yearly flow was 8.25 billion dollars, increasing by 22.1% year on year and accounting for 11.1% of the total flow, including 7.561 billion dollars of investment in the EU, a year-on-year growth of 26.8%⁸. This situation was changed in 2012. In that year, China's investment in Europe fell by 14.7% year on year in flow, to 7.035 billion dollars⁹, still higher than that in 2010.

Besides, China-EU mutual investment is in serious disproportion to China-EU trade volume. China's trade to Europe grew fast in the past decade. In a time, it was about to replace the United States and become the largest trade partner of the EU. At the same time, EU has remained China's largest trade partner since 2004. For many years, it has been China's largest export market. According to the data of EuroStat, China-EU trade exceeded 100 billion Euro in 2001, 200 billion Euro in 2005 and 300 billion Euro in 2007, was close to 400 billion Euro in 2010 and it exceeded 430 billion Euro in 2011. In 2010 and 2011, China and the United States were locked in the contention for the largest trade partner of the EU. China-EU trade was less than 17 billion Euros behind US-EU trade. In 2012, this gap was broadened to more than 60 billion Euro. The gap between China and the United States over the position as the largest trade partner of the EU was widened again.

Compared with the rapid development of China-Europe trade in the recent 10 years, China-EU mutual investment, particularly China's investment in the EU, lagged much behind. The total amount of US-EU mutual investment is 1.1 trillion Euros, while EU investment in China is 60 billion Euro and China's investment in the EU is 31.5 billion dollars. Under Trans-Atlantic background, compared with

⁴ DG Trade, Facts and Figures on EU-China Trade, April 2013.

http://trade.ec.europa.eu/doclib/docs/2009/september/tradoc_144591.pdf

⁵ EuroStat NewsRelease, 91/2013 - 13 June 2013. http://epp.eurostat.ec.europa.eu/cache/ITY_PUBLIC/2-13062013-AP/EN/2-13062013-AP-EN.PDF

⁶ <http://tjtb.mofcom.gov.cn/article/y/ab/201301/20130100010897.shtml>

⁷ Ministry of Commerce, National Bureau of Statistics and State Administration of Foreign Exchange, Statistical Communiqué on Overseas Direct Investment of China in 2010

⁸ Ministry of Commerce, National Bureau of Statistics and State Administration of Foreign Exchange, Statistical Communiqué on Overseas Direct Investment of China in 2011

⁹ Ministry of Commerce, National Bureau of Statistics and State Administration of Foreign Exchange, Statistical Communiqué on Overseas Direct Investment of China in 2012

the mutual investment between EU and the USA, the mutual investment between China and EU is insignificant.

In a word, investment becomes a lame leg of China-EU economic and trade relations. Regardless of the financial crisis and the European debt crisis, the growth rate of EU-US mutual investment is much higher than the growth rate of China-EU mutual investment. Investment drives trade and further drives employment and growth. The mutual investment between EU and the United States forms a solid economic foundation of the Trans-Atlantic relationship. Therefore, the further deepening of China-EU trade relations should not rest on the increase of export to the EU and should not only set a target of the largest trade partner of the EU. Instead, China needs to consolidate the cornerstone of China-EU trade relations to a deeper degree that is to increase two-way investment.

II. Country-specific Investment of China in Europe

At the end of 2012, China had nearly 2000 directly investing companies in the EU and employed 42,000 local people. By countries, the investment was concentrated, mainly in Britain, France, Germany, Luxembourg, Sweden and Holland; but covered all of the 28 EU member states.

By countries, the top 10 countries receiving investment from China in 2010 included the EU member states Luxembourg and Sweden and the top 20 countries included also Germany and Hungary. Except for the investment in Luxembourg, focused on business services, China's investment in the other three countries mainly flowed to the manufacturing sector. The investment was 3.207 billion dollars in Luxembourg, 1.367 billion dollars in Sweden, 412 million dollars in Germany and 370 million dollars in Hungary. The top 10 countries receiving investment from China in 2011 included the EU member states France, Britain and Luxembourg. The top 10 countries receiving investment from China in 2012 included the EU member states Britain (2.775 billion dollars) and Luxembourg (1.133 billion dollars) while the top 20 countries included also Germany (799 million dollars).

By total amount, by the end of 2012, China had cumulatively invested 36.98 billion dollars in Europe, accounting for 7% of China's total overseas investment¹⁰. The countries receiving more than one billion dollars of cumulative investment from China included Luxembourg, Britain, France, Germany, Sweden and Holland. The top ten investment receivers included Luxembourg (7th place, 8.978 billion dollars) and Britain (8th place, 8.934 billion dollars), and the top 20 also included also France (13th place, 3.951 billion dollars) and Germany (15th place, 3.104 billion dollars).

Regarding China's investments in the EU, in 2012, France remained China's largest investment destination in Europe as 21% of China's investment projects in Europe were in France. Following France were Britain and Germany, 16% and 7% respectively¹¹. China became France's eighth largest source country of foreign capital in 2012¹².

¹⁰ Ministry of Commerce, National Bureau of Statistics and State Administration of Foreign Exchange, Statistical Communiqué on Overseas Direct Investment of China in 2012

¹¹ Economic and Commercial Counsellor's Office of the Ministry of Commerce in France, <http://www.mofcom.gov.cn/sys/print.shtml?i/jyjl/m/201304/20130400102296>, last visited on April 25, 2013.

¹² Economic and Commercial Counsellor's Office of the Ministry of Commerce in France, <http://www.mofcom.gov.cn/sys/print.shtml?i/jyjl/m/201304/20130400102294>, last visited on April 25, 2013.

Table 1 Regional composition of flow of China's overseas direct investment in 2010-2012

Region	Amount (billion dollars)			Year-on-year growth (%)			Ratio (%)		
	2010	2011	2012	2010	2011	2012	2010	2011	2012
Asia	44.89	45.49	64.79	11.1	1.3	42.4	65.3	60.9	73.8
Africa	2.11	3.17	2.52	46.8	50.4	-20.6	3.1	4.3	2.9
Europe	6.76	8.25	7.04	101.6	22.1	-14.7	9.8	11.1	8.0
Latin America	10.54	11.94	6.17	43.8	13.3	-48.3	15.3	16	7.0
North America	2.62	2.48	4.88	72.2	-5.3	96.9	3.8	3.3	5.6
Oceania	1.89	3.32	2.42	-23.8	75.6	-27.3	2.7	4.4	2.7
Total	68.81	74.65	87.82	21.7	8.5	17.6	100	100	100

Data source: Ministry of Commerce, National Bureau of Statistics and State Administration of Foreign Exchange, *Statistical Communiqué on Overseas Direct Investment of China in 2010*, *Statistical Communiqué on Overseas Direct Investment of China in 2011* and *Statistical Communiqué on Overseas Direct Investment of China in 2012*.

III. Sector Distribution of China's Investment in Europe

In 2012, the investment flow of China in the EU was 6.12 billion dollars, accounting for 7% of its total flow. Regarding sector distribution, 1.806 billion dollars flowed to the manufacturing sector, accounting for 29.5%, mainly distributed in Britain, Sweden, Germany, France, Italy, Holland and Austria; 1.259 billion dollars flowed to the leasing and business services sector, accounting for 20.6%, mainly distributed in Luxembourg, Britain and Germany; 1.045 billion dollars flowed to the financial sector, accounting for 17.1%, mainly distributed in Britain, Germany, Luxembourg, Italy, France, Hungary and Ireland; 852 million dollars flowed to the transportation, storage and post service sector, accounting for 13.9%, mainly distributed in Britain and Germany; 427 million dollars flowed to the wholesale and retail sectors, accounting for 7%, mainly distributed in Britain, Belgium, Germany, France and Bulgaria.

By the end of 2012, China's total investment in the EU was 31.538 billion dollars, accounting for 5.9% of its total overseas investment. In view of sector distribution, 9.667 billion dollars flowed to leasing and business service sector, accounting for 30.7%; mainly distributed in Luxembourg, Germany, France, Italy and Hungary; 6.302 billion dollars flowed to manufacturing sector, accounting for 20%, mainly distributed in Sweden, Britain, Germany, Holland, France, Italy, Spain, Austria, Hungary and Romania; 3.793 billion dollars flowed to mining sector, accounting for 12%, mainly distributed in France, Britain, Holland and Luxembourg; 1.163 billion dollars flowed to transportation and storage sector, accounting for 3.7%, mainly distributed in Britain, Germany and Belgium; the investment in scientific research and technical service sector accounted for 2.3%, the investment in production and supply of electric power, heating power, fuel gas, water and other utilities accounted for 2.1%, the investment in agriculture, forestry, animal husbandry and fishery accounted for 1.2%, and the investment in real estate accounted for 0.9%.

Besides, some EU member states and press circles strongly opposed to Chinese companies' investment in Europe, particularly to the acquisitions in some strategic sectors. The review titled "Dangerous Dependence" published in German "Die Welt" said Europe should be cautious of falling into permanent dependence on China. A report of British Daily Telegraph said European debt crisis

was the best chance for China to enlarge its influence in Europe¹³. These discussions had generated unfavorable impact on China's investment in Europe.

The trade imbalance

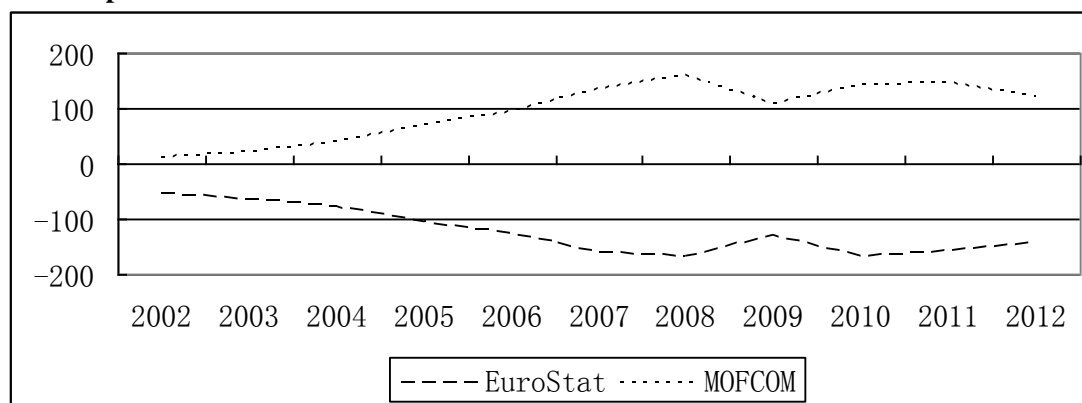
China had a trade deficit with EU before 1997, and since then China turned to a trade surplus. After becoming a member of the WTO, China's trade surplus with the EU increased dramatically. Debates on trade imbalance between China and the EU became more and more frequent, along with increasing trade disputes.

The debate on the bilateral trade imbalance referred to the data, at the initial stage. Especially in 2003, according to the Chinese statistics, China had a trade surplus of USD 19.1 billion with the EU, whereas according to the EuroStat, the EU had a trade deficit of EUR 64.2 billion with China. The gap was huge, but it was embedded in technical reasons, such as the custom clearance method, the exchange rate, etc. The enlargement of the EU in 2004 and 2007 also generated confusion to some extent for both China and the EU custom services. After the EU enlargement, trade data were relatively close to each other.

The peak of the trade imbalance was in 2008, when China had a US 160.18 billion trade surplus with the EU, which was the third largest after the China-Hong Kong and the China-USA ones, whereas the EU had a EUR 169.54 billion trade deficit with China according to the EuroStat. As indicated in Graph 5, since then, China's trade surplus was down to USD 100 billion in 2009 because of the global financial turmoil. There was a rebound in 2010-2011, when the trade surplus was around USD 140 billion, then it went down again to USD 121.9 billion in 2012.

According to the EuroStat, the average annual growth rate of the EU exports to China was 15.3% between 2003-2012, surpassing the 12.8% annual growth rate of the EU imports from China. Although China became the fastest export market of the EU, the export growth dynamic of the EU to China could not keep the pace with China's strong export to the EU. In 2012, the EU trade deficit with China accounted for 34% of the EU-China trade volume. Although it was a significant drop comparing with 52% in 2008. China was still the biggest deficit source of the EU external trade¹⁴.

Graph 5 China-EU Trade Imbalance 2002-2012



Source: the European data is from EuroStat in billion Euro, and the Chinese data is from MOFCOM in billion USD.

Regarding the trade imbalance between China and the EU, we cannot stop at the bilateral data. We need to analyse from the angle of the economic globalization, because the bilateral trade data does

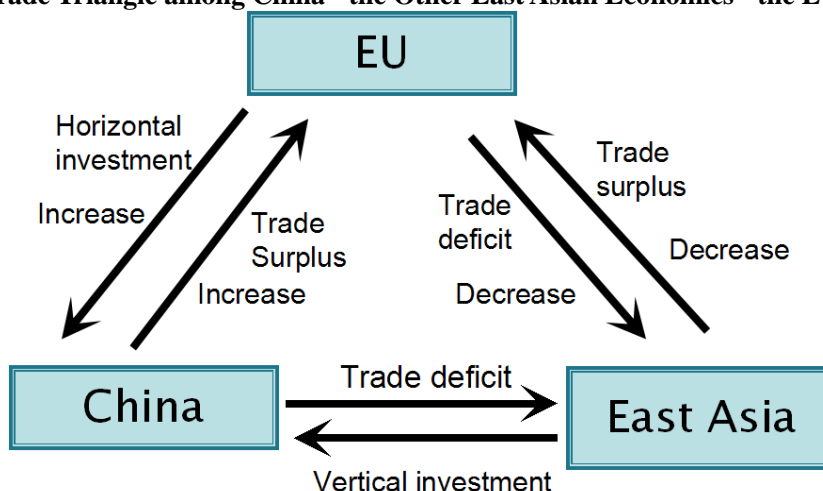
¹³ <http://news.sina.com.cn/o/2010-12-29/090421726235.shtml>

¹⁴ Author's calculation based on the EuroStat data.

not necessarily reflect correctly the complicated trade relations¹⁵. Actually the main reason of the dramatic trade imbalance between the EU and China (similarly to that between the US and China) is the reorganization of the global value chain after China joining the WTO. Such kind of reorganization is represented in two ways.

One is the massive production capacity moving from East Asian economies to China coastal area. Against the background of the economic globalization, at the impact of Chinese labour cost advantage and China's astonishing capacity of absorbing FDI, a tremendous processing trade had been relocated from the East Asian economies such as Japan, South Korea and Taiwan to China's coastal area, along with massive investment. Such kind of processing trade propelled China's export growth in an explosive manner after joining the WTO. The export boost brought China the huge trade surplus with the EU and the US whereas a huge trade deficit with Japan, South Korea and Taiwan. At the same time, the trade surplus between the East Asian economies and the EU decreased dramatically as they moved their production to China. In other words, the export from these East Asian economies to the EU and the US changed for the export of parts and semi-products to China, then, after assembling and processing in China, they exported them to the EU and the US. Graph 6 shows such kind of trade triangle among China - the other East Asian economies - the EU¹⁶. As part of the trade triangle, China's export to the EU increased more than 10 times in 10 years, from USD 23.8 billion in 1997, to USD 245.2 billion in 2007, and at the same time, Asia's share in the EU import increased less than 10%¹⁷. To sum up, the investors from East Asian economies to China transferred their export capacity to China. As a matter of fact, China replaced the export from East Asian economies to the EU¹⁸, but the bilateral trade figures did not reflect the real situation.

Graph 6 Trade Triangle among China - the Other East Asian Economies - the EU



Source: Drawing by author.

The second way is that the European and American manufacturers import semi-products from China, assemble them into final products and then they export these products. More than 2/3 of the

¹⁵ A report of EUISS reflects the similar argument, see Marcin Zaborowski edit, Facing China's rise: Guidelines for an EU Strategy, Chaillot Paper No.94, EU Institute for Security Studies (EUISS), Paris, December 2006, p.17.

¹⁶ The original Trade Triangle model is based on the trade relations among China - the other East Asian economies - the US, see Yang Zhengwei, China's Foreign Trade and Economic Growth, China Remin University Publishing House, 2006, p375. The author of the present paper had taken the verification with the EU data, and concluded that there is a similar trade triangle among China - the other East Asian Economies - the EU.

¹⁷ European Commission, "EU-China trade in facts and figures", MEMO/09/40, Brussels, 30 January 2009.

¹⁸ Andreas Freytag, The Chinese "juggernaut" – should Europe really worry about its trade deficit with China?, Policy Briefs, No.2, European Centre for International Political Economy (ECIPE), Brussels, 2008, p.4

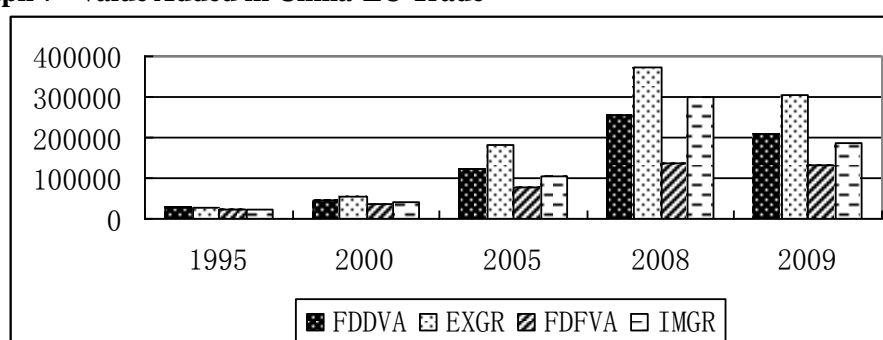
EU's import from China were semi-products, which helped the European manufacturers reduce their production costs and improve the competitiveness of the European export products.¹⁹ The European enterprises had benefited from the huge opportunity of the Chinese market through their investment to China, and they improved their competitiveness in the European market too. On the one hand, the FDI from Europe improved the competitiveness of the Chinese products through the spill-over effect, and promoted China's export to Europe. At the same time, the Europeans imported semi-products and parts manufactured in China, improved the competitiveness of the European products and promoted the European export itself to the world market. On the other hand, the increase of the European investment in China replaced EU's export to China to some extent, and intensified the trade imbalance between China and the EU. Some empirical studies show that the FDI from the EU is one of the reasons which generated the growing Chinese trade surplus with the EU.²⁰

Studies on the Global Value Chain (GVC) released by the UNCTAD, the WTO, the OECD and the World Economic Forum also indicated the changes and the relocation of the GVC in the background of globalization, especially the role of China in the international trade²¹.

Based on the database of Trade in Value Added (TiVA) developed by the OECD and the WTO, as shown in Graph 7, in China's USD 372.3 billion export to the EU in 2008, the domestic value added took USD 256.6 billion, and import took USD 115.7 billion. The double calculation of the import to the export took 31% of the China's export to the EU. Similarly in China's USD 299.3 billion import from the EU, the import going to the domestic final demand took USD 136.3 billion, and the USD 163 billion did not go into the domestic final demand which became part of the processing trade and went to the export again. The double calculation of the import to the export took 54% of the China's import from the EU. In other words, close to 1/3 of the China's export to the EU was contributed by the import, and more than 50% of the China's import from the EU was used for the re-export. Graph 7 clearly explores the defect of the traditional trade statistics in the GVC environment.

Such kind of double calculation brings the direct impact to the China's trade surplus with the EU. Shown by Graph 8, based on the TiVA database, the China's trade surplus with the EU in 2008 was USD 172 billion, in which USD 51.7 billion was double calculated, which took 30% of the China's trade surplus with the EU. The double calculation went to 33% in 2009.

Graph 7 Value Added in China-EU Trade



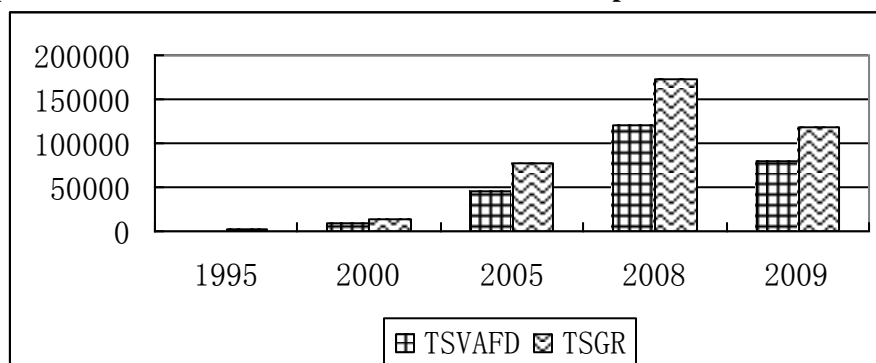
¹⁹ Fredrik Erixon, Back to Basics: Economic Reforms and EU-China Relations, ECIPE Bulletin No. 09/2012.

²⁰ Ye Wenjia, Yu Jinping, An Empirical study on the EU's FDI in China and the China-EU trade relations, The World Economic and Political Forum, No.4, 2008, p27.

²¹ UNCTAD, Global Value Chains: Investment and Trade for Development. World Investment Report 2013, UNCTAD 2013. WTO, Trade patterns and Global value chains in East Asia: From trade in goods to trade in tasks. WTO 2011. WEF, The Shifting Geography of Global Value Chains: Implications for Developing Countries and Trade Policy, WEF 2012.

Source: TiVA, OECD-WTO. Note: FDDVA means domestic value added embodied in foreign final demand, EXGR means gross export, FDFVA means foreign value added embodied in domestic final demand, IMGR means gross import.

Graph 8 Domestic Value Added in the China's trade surplus with the EU



Source: TiVA, OECD-WTO. Note: TSVAFD means value added in final demand in surplus, TSGR means gross trade surplus.

Hence, the trade imbalance issue between China and the EU is far beyond the bilateral level to some extent. The EU not only needs to simply face the challenge from China, but also the challenge from the deepening economic integration in the East Asia, as well as the challenge to the trade policy brought by the economic globalization.

As long as the trade imbalance increases, the trade disputes between China and the EU were intensifying. China has become the biggest target country of the EU trade defense system in recent years.²²

Issue on the Market Economic Status

When we review the past 10 years of the China-EU Comprehensive Strategic Partnership, the China's Market Economic Status (MES) issue is negligible. In almost each of the China-EU Summits in the past 10 years, the issue has been mentioned all the time. China also has invested huge diplomatic resources in this regard and initiated a diplomatic action in 2003 to get the EU and the US provide the MES to China. The action has not succeeded till now.

The MES issue in China-EU relations is a totally different terminology from the market economy. The MES issue is only limited to the EU anti-dumping procedure, which can be traced back to China's negotiation of joining the WTO. During the process of negotiation the MES clause already existed in some WTO members' anti-dumping legislation. Based on the GATT Article 6 and its notes, and based on the requirement of these members, the negotiating parties reach a consensus which indicates that the members of WTO can affirm China's non-MES with conditions during the anti-dumping investigations toward China's products, and have a right to choose a price from a replace country (third country) to ascertain the dumping damage. The consensus also indicates that such kind of practice will be terminated after 15 years of China joining the WTO, which means beyond 23 December 2016 the WTO members cannot apply the price of replace country to ascertain the dumping damage during the anti-dumping investigation on China's products. This consensus had been written into the China's Accession Treaty with WTO as Article 15. Except for this Article, no WTO rules or

²² Chen Xin has a detailed analysis on the recent development of the trade disputes between China and the EU in the recent years. Chen Xin, *New Trends in EU's Economic Relations with China*, Global Economic Observer, no.1, 2013, Bucharest.

China's accession document has doubt on the market economy system of China. It means that except for the anti-dumping procedure, China has no necessity to be recognized as a market economy by other countries and, at the same time, even if to be recognized as a market economy country, it has no further means. The WTO does not require the "identity" of a market economy country, otherwise China would not be accepted as a member of WTO. In sum, MES is only limited to the anti-dumping investigation procedure towards Chinese products, and for more accuracy, it refers to whether the MES treatment will be provided to the producer during the anti-dumping investigation. It is no necessity to extend the issue to whether recognize the achievement of China's economic reform, or to whether China needs to join the "market economy". To accomplish the full socialist market economy is a political target set by China itself which requires no needs of other countries recognition. Unfortunately China has invested huge diplomatic resource to get EU recognizing China's MES, and made China-EU relations followed a zigzag course.

It is true that there is a great negative impact for Chinese producers and exporters when they are treated as non MES. Before 2004, the value of EU anti-dumping cases toward China was not big, and took less than 1% of China's export to the EU. In recent years, the value of the anti-dumping cases has gone up dramatically. The case of wireless data modem in 2010 involved more than USD 4 billion, and the case of solar panel in 2012 involved more than USD 20 billion, 7% of China's export to the EU.

According to the China's Accession Treaty with WTO, by 23 December 2016 EU will stop the method of anti-dumping investigation applying the replace country toward China's products, whether the EU provides the MES to China or not. As the date is approaching, the importance of the MES issue in China-EU relations is declining. The EU well understood the situation, and when China showed less interest in the negotiation with the EU on MES in 2007, the EU suggested new solution in order not to lose the weight and attract China to continue the negotiation. The new suggestion was to provide MES to China's certain enterprises and sectors if they meet the requirements. The negotiation between China and the EU turned to full MES negotiation.

There is no interconnection between providing China with MES and the number of EU anti-dumping cases toward China. Even if the EU would provide full MES to China, it would not stop the EU to apply anti-dumping procedure. Besides, the anti-dumping is one of the trade defense measures of the EU, the EU can apply the measure of anti-subsidy. MES is not the panacea to solve all the problems in China-EU trade relations. There are so many fields and opportunities China and the EU can cooperate, China has no interest to "make great deal" with the EU, and also China has no necessity to make MES as an obstacle for further developing the bilateral relations.

Conclusions and Future Challenges

Great changes have taken place regarding the economic strength and international positions of China and the EU, as well as the international environment in the past ten years ever since the parties have announced the China-EU Comprehensive Strategic Partnership. Both the EU and China have been in a dynamic development stage ten years ago. Europeans were facing the biggest enlargement in their integration history, and China was embracing the challenges of globalization, adjusting itself to the international trade environment after joining the WTO, and promoting integration with the global economy. Ten years later, Europe is trapped in the sovereign debt crisis, more doubts raised by the people on the European integration, and the Europeans will be more focused on their internal issues, the economic growth will be the priority for the EU. China is also facing the challenges of adjusting its economic structure and shifting the economic growth pattern, as well as exploiting the new market

opportunities and promoting stable development of the external trade. Ten years ago the EU market has been the source of economic growth for China, and now China's market also is a potential source for EU's economic growth. The China-EU trade and economic relations is too big to fail.²³

In order to keep the dynamic pace of past ten years in the bilateral trade, both China and the EU need to find new strategy to check the pressure of protectionism and express the mutual concerns. It needs both sides to assess the reality, adjust the strategic position and shift the mentality.

It is true that China's trade relations with the EU in the past ten years had reached considerable progress, and even would replace the US to become the biggest trade partner of the EU. At the same time we also see the weakness at the institutional level in China-EU trade and economic relations. The dynamic trade growth reflects to some extent the spontaneous development, and both China and the EU had no adequate preparation for the dynamic trade jump, and there is lack of efficient mechanism to lead the trend.

Regarding the high level dialogue, the China-EU High Level Trade and Economic Dialogue (HED) took place in 2008, 2009 and 2010. Since then no HED till the November 2013. The trade and economic relationship is the cornerstone of the China-EU relations. The EU is the biggest trading partner of China, and the biggest export market in the latest 8 years. In the recent years China-EU trade volume is closing the EU-US trade volume, China has the chance to replace the US and becomes the biggest trade partner of the EU. At the same time, the EU is also the biggest technology source for China, and China's investment to the EU is increasing dramatically recently. Such kind of dynamic and colorful development did not receive active response from the high level decision makers either from China or the EU. Bilateral trade goes as it goes. The consequence of such gravity development is the trade disputes between China and the EU intensify at one hand, and the EU and the US start the TTIP negotiation and the EU shows stronger intension on developing trans-Atlantic relationship at the other hand. Besides, China is out of the EU's global FTA strategy and shunned by the EU.

Regarding on the working level dialogue, there are more than 50 sectoral dialogue between the EU and China. It is astonishing that among so many working level dialogue there is no mechanism on pre-warning, which could effectively express the mutual concerns and control the disputes in bilateral trade and economic relations. During the PV dispute, Chinese Primer Li Keqiang had initiated a personal call with the president of the European Commission Jose Barroso on 4 June 2013. The telephone call case although indicates the highest concerns of the Chinese government on the PV dispute, it also reflects the embarrassing situation of the so many sectoral dialogue, which means lack of efficiency of the dialogues. As the trade disputes intensify in the recent years, there is a need for China and the EU to establish an pre-warning mechanism as soon as possible.

Regarding on the actors of the dialogue, the dialogues between China and the EU are mainly among the government bodies, the officials, the executives, and there is a lack of the enterprises actively involving in the dialogues. There is an urgency to attract more enterprises into the sectoral and policy dialogues.

Regarding the legal framework, the bilateral trade agreement is still remained in the framework signed in 1985. The deadlock of the China-EU PCA negotiation affected the renewal of trade agreement. The PCA approach was led by the EU which devotes itself to bind economy with politics and to promote political change with trade and economic measures. The purpose of such approach relies on ideology and aims at encouraging political democracy and social development in

²³ Fredrik Erixon, Back to Basics: Economic Reforms and EU-China Relations, ECIPE Bulletin No. 09/2012.

the partner country. The EU's PCA approach is not in accordance with reality of the China-EU relationship. In recent years the EU initiated the Bilateral Investment Treaty (BIT) with China, which would be a condensed version of PCA in some extent, and also helps the European Commission to materialize the investment competence as required in the Lisbon Treaty. The ambitious of the BIT negotiation indicates the European Commission's dilemma. At the one hand, the EC would like to put everything into the BIT basket which is far beyond a traditional investment agreement. And if the chapters on elimination of customs, cooperation of custom service and sanitary regulations would be included in the BIT, it would be a perfect FTA agreement which the EU avoided to response, at the other hand. The European Commission has the difficulty to decide what they exactly want.

Looking forward to the next ten years of the China-EU relations, China should try to transform the approach led by the EU, shift the passive status in the bilateral trade agenda, focus more on substance instead on forms, and to construct a new way of thinking on China-EU economic and trade relations. The 16th China-EU summit held in 21-22 November 2013 proves new achievements. The leaders released the China-EU 2020 Strategic Agenda for Cooperation, announced the start of the BIT negotiation, agreed to actively explore the implementation of a feasibility study on China-EU FTA, and strive to make trade value reach one trillion USD by 2020.

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“The New Season of Chinese Economic Miracle” and its Challenges

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Abstract

The investment and export-driven economic model followed by Chinese governments after 1978 served very well their catching-up vision, but China’s unprecedented race to the top had its flaws and drawbacks, leading to negative externalities and multiple structural imbalances. The global economic crisis and the interventionist package implemented to countervail its impact triggered a host of unwanted, negative outcomes which further aggravated the imbalances of the Chinese economy and created some new ones. It therefore became more obvious than ever that the old economic model had reached its limits and it needed to be changed. This task rests with the new cabinet led by premier Li Keqiang who launched a blueprint of bold reforms, but their implementation will presumably meet the strong opposition of powerful vested interests. The paper looks at the structural imbalances of the Chinese economy, highlighting the needed rebalancing processes. It also looks at the reform blueprint designed by the new leadership, disclosing and discussing some of its main implementation challenges.

Keywords: China, development model, structural imbalances, economic rebalancing, economic reforms.

J.E.L. Classification: O21, O41, O53, P21, P27, P33, P35.

1. Introduction

China is now at a crucial stage of its transformation, with its old and successful economic model having reached its limits and having generated critical negative externalities and structural imbalances. Thus, the need for a new model, resting primarily on domestic demand and focussed on innovation and quality, becomes an imperative. This is a complex and challenging endeavour, trying the government’s ability to avoid the middle income trap, steer China to sustainable growth and make it a member of the highly developed economies elite. It is a vital challenge for China, but also for all the other actors on the global stage, as this country’s status and positioning in the world economy makes its every move important by its consequences for each and every member of our globalized world.

2. The Chinese economic model - from the “miracle of rapid growth” to “running out of steam”

The investment and export-driven economic model followed by Chinese governments served very well their catching-up vision. For over three decades China managed a nearly 10% average

growth rate, becoming the second largest economy in the world, the number one industrial producer, the first exporter, the second importer and the holder of the largest foreign exchange reserve globally, while Chinese companies and banks took top positions in many global markets and in various international rankings.

China managed an impressive industrialization, urbanization and modernization process, it largely diversified its industrial set-up, it developed powerful cities, with bold architecture, interconnected by extensive and good quality infrastructure. It created yearly tens of million jobs and it pulled out of poverty some hundreds of million people, it increased life expectancy and the living standards at home and it became an engine of growth for both Asia and the world. No other country has ever managed such a performance in terms of high growth rates, for such a long period of time, with such impressive results, but...

This unprecedented race to the top also had its flaws and drawbacks, leading to negative externalities and multiple structural imbalances. The main weakness of the model lays in its flawed resource allocation, with excessive investment (and the resulting overcapacities) in resource-intensive industries and in infrastructure, on the one hand, and frugal domestic consumption, weak public services and underdeveloped social protection, on the other. Also, the model encouraged excessive investments in capital, natural resources and energy-intensive industries which produced huge pollution, damaging badly the environment, in parallel with the underdevelopment of innovation and knowledge-intensive industries and services. At the same time, resource allocation in China displayed an excessive bias for the - often inefficient - state-owned enterprises (SOEs), which enjoyed favourable access to cheap financing, various exemptions and low accountability, strengthening their monopoly positions and distorting competition, while the backbone of the economy, the small and medium-size enterprises (SMEs) were forced to restrictions, having little or no access to financing and facing a harsh business environment.

The root-cause of the massive capital misallocation in China and of its resulting economic imbalances was price controls, especially the control over the fundamental prices in any economy: the interest rate (which was kept at low, even negative real levels for deposits, to allow a transfer of wealth from depositors, mainly households, to borrowers, mainly privileged state companies); the exchange rate (which was used as an export drive by artificially keeping the yuan undervalued); the price of energy and, to a certain extent, the price of land and the price of labour (wages), all of which helped China maintain significant competitive advantages, so that it attracted large foreign capital investments and it kept increasing its exports.

Another significant weakness of the Chinese development model was (and it still is) its high dependence on the external demand and the resulting vulnerability of the Chinese economy to the external shocks, while, at the same time, the domestic demand was chronically neglected and the consumption ratio to GDP kept ranking among the lowest worldwide. The true weight of this vulnerability was abruptly revealed in 2008 at the outbreak of the global economic crisis, when all the most important three markets for Chinese exports - the EU, the USA and Japan - collapsed simultaneously, leaving Chinese exporters without orders. This led to tens of thousands of factory closures, bankruptcies, a sudden and huge increase in unemployment and an abrupt contraction of growth, inducing the cabinet to implement a vast fiscal and investment programme, amounting to about 586 billion US dollars (4 trillion yuan). If not for everybody at the time, in retrospect, many have come to the conclusion that the short-term efficiency of this oversized intervention (mainly the quick return to a two-digits growth rate) was not worth its longer-term consequences, some of which are still unsolved.

Thirdly, the banking system underpinning the real economy also got flawed, by granting cheap loans at political command, writing off non-performing credit for SOEs and promoting financial repression¹ through the interest rate policy. Additionally, in recent years, the official banking system seemed to not only overlook, but even take part in the development of “shadow banking”, a parallel, un-official and high-interest rate banking system, which flourished against the backdrop of the financing shortages encountered by the SMEs. On the whole, all these developments rendered the Chinese financial system itself quite vulnerable.

Naturally, the flaws, asymmetries and imbalances developed in the Chinese economy were mirrored by the Chinese society, where social inequality and the income gap increased, while collusion, corruption and moral hazard worsened. Furthermore, the excessive focus on quantitative accomplishments speeded up the inefficient use of natural resources, often using highly polluting technologies which took a huge toll on the environment and on the population. Also, it generated a geographically imbalanced development, with highly developed Eastern coast regions on the one hand, and the central and Western regions lagging way behind, on the other.

Globally, the model also led to significant external imbalances, prone to escalate commercial frictions between China and its foreign partners, particularly with the EU and the US.

As all these flaws, imbalances and malfunctions added up – while further investments following the same pattern faced the prospect of diminishing returns, the “demographic dividend”² kept fading away, the rising prices for factors slackened competitiveness and the economic growth slowed down - it became increasingly obvious that the Chinese development model has reached its limits and was in urgent need of change.

3. The 4 “-uns” of the Chinese economy and the urgency of rebalancing

The best description of what lays now beneath the surface of a seemingly spectacular economy was given in March 2007 by the former premier Wen Jiabao, who contended that Chinese economy had become “unstable, unbalanced, uncoordinated and, ultimately, unsustainable”.

Still, in spite of such a drastic diagnostic, not only did his cabinet do little to reform the economy, but on the contrary, as a result of the 4 trillion yuan fiscal and investment stimulus package, which it implemented between 2008 - 2010 to countervail the impact of the global economic crisis, the “4 -uns” worsened and the vulnerability implied by them was increased (Roach, S., 2013). By implementing the stimulus package, the Chinese government reversed the downward trend of the

¹ The term was introduced in 1973 by Stanford economists Edward S. Shaw and Ronald I. McKinnon and refers to any of the measures that governments employ to channel funds to themselves, that, in a deregulated market, would go elsewhere. In this paper it refers to policies by the Chinese government to keep real deposit interest rates low, or even negative, and channel savings to privileged state companies by way of cheap loans from the state banks, given at political command.

² The term refers to a period of 20 or 30 years, when families have (from various reasons) fewer younger dependents (in China due to the “one-child policy”) and fewer older dependents (in China due to shorter life expectancy of the older generations), so that the largest segment of the population is in the range of the productive working age. During this time span, the economy benefits from a large pool of labour, low wages, competitive advantage and economic growth. Such a demographic dividend was experienced by China in the last two or three decades. But, as the living standards improved, life expectancy increased and so did the number of dependant elders, while roughly the same number of young people entered the labour market, yearly. The result of these trends was a relative decrease of the working age segment of population and a “fading away of the demographic dividend”, which could lead further to labour shortages, increased wages and a downward pressure on the economic growth rate. The recent decisions to give up the one-child policy aims at reversing this trend, but its outcomes will be seen in decades.

economic growth rate during the Q4/2008-Q1/2009, created a significant number of new jobs and managed to preserve social order but, at the same time, it triggered a host of unwanted, negative outcomes which aggravated previous economic imbalances and created some new ones.

In the short run, the huge amount of money poured into the Chinese economy through the enormous fiscal expansion and the loose monetary policy which accompanied it, pushed prices up, inflated speculative bubbles in the equity and real estate markets, encouraged poor lending practices and nourished a serious investment extravagance and waste, resulting in growing industrial overcapacities and unnecessary real estate and infrastructure building. At the same time, the flood of “easy money” furthered corruption and collusion, so that the well-positioned and well-connected families got richer and the income gap in Chinese society got deeper.

In the longer run, the interventionist programme of 2008-2010 led to a steep increase in the regional governments’ debts, it entailed a worrisome rise of the non-performing loans and it contributed to the expansion of the parallel, unregulated system of *shadow banking*. All these developments made the Chinese financial system more vulnerable, worsened its structural weaknesses and deteriorated further the resource allocation in Chinese economy.

The great beneficiaries of the governmental interventions were again the SOEs, mainly the 136 “central companies” directly controlled by the government and managed by leaders appointed on political grounds. Between 2008-2010, these state companies enjoyed an even more favourable support than usually, to the disadvantage of the private sector, especially the SMEs, so that the stimulus program seemed to have generated a powerful new wave of “*state sector advancement while the private sector recedes*” (Tai, C., 2009), becoming an instrument for strengthening state companies and crowding out the private ones (Chan, E., 2010). State monopolies reinforced their dominance in key sectors of the economy, such as banking, telecommunications, energy, rail transport, shipping, petroleum, etc. and were helped to extend their global presence, both by trade and investments, while in contrast, private businesses had to face financial shortages and unfair competition from SOEs.

While the vast stimulus package implemented in the first years of the global economic crisis helped China cope very well with its downturn challenges, during the following years, especially in 2011 and 2012, the government had to focus on correcting the negative “by-products” of its previous massive intervention in the economy, primarily trying to cool down inflation and to defuse the speculative bubbles. Besides policies such as these, which were addressing precise urgent matters but were not solving the multiple structural imbalances of the economy, specific measures for changing the development model itself were included in the 2011-2015 five-year plan (FYP). Nevertheless, in spite of some accomplishments, the former cabinet didn’t seem to push very forcefully for reforms, leaving this task to the next government, led, since 2013, by premier Li Keqiang.

Reforming China’s development model and rebalancing its economy seems to be a complex three-pronged process of:

- *rebalancing demand*, namely of striking the right balance between domestic consumption, investments and exports, with home demand and domestic consumption playing a more important part as engines of growth, while relying less on foreign demand and exports, as well as on state investments;
- *restructuring supply*, which includes: striking a better balance between primary, secondary and tertiary sectors, with a focus on accelerating the development of services; rebalancing traditional, natural resources-intensive industries, which need production capacity adjustments, upgrading and repositioning in the global value chains, on the one hand, and the

higher-technology, knowledge and innovation-intensive industries, whose development need to pick up speed, on the other hand; also, striking a better balance between polluting and green industries; levelling the playing field for a fairer competition between state and private, foreign and domestic companies; breaking up monopolies and any other structures or practices which distort markets, encouraging SMEs and private start-ups;

- *rebalancing regional development*, by extending urbanization and levelling away the urban / rural differences in terms of incomes, opportunities and living standards; also by rebalancing the development of the Eastern and Western regions of the country and bridging the development gap between them.

Simultaneously, proper balances should be struck:

- *between economic growth and social stability*, by setting lower growth rate targets, adjusted to China's present development level and social needs, and by switching from quantitative to qualitative goals, higher living standards included; the state should be less of an investor in the economy, and more of an investor in public services development and social welfare;
- *between human needs and nature*, by trying to reasonably meet human needs without damaging the environment, by promoting green sources of energy, green technologies and industries, rational and efficient resources and energy consumption, by fostering innovation focussed on regaining a well-balanced environment, which is not harming human health, etc.
- *between domestic development and external relations*, by adopting development strategies, policies and regulations which consider not harming in any way other countries, or the global economy as a whole.

4. The New Season of China's Economic Miracle

While the former Chinese cabinet focussed on economic growth and quantitative accomplishments showing little propensity for reforms, the new government faces the complex challenge of completely changing the economic model, so that China avoids the “*middle income trap*”³ and enters the highly developed economies elite. The recent positioning of China's new leaders shows that they are fully aware of the urgency of this endeavour, willing to reform and take on the challenge of steering China to a sustainable, more temperate growth, focussed on quality.

Premier Li Keqiang acknowledged that Chinese economy is at a crucial stage of its transformation, it is steadily moving forward and its fundamentals are sound. He has also affirmed that his cabinet has a holistic approach in conducting readjustments and reforms that “*Reform and innovation is the running theme and spirit of the policies adopted by the Chinese government, and it is the banner that we will always hold high.*”⁴ and that “*Now the new season of the Chinese economic*

³ The **middle income trap** is an economic development situation, where a country which attains a certain income (due to given advantages) will get stuck at that level. As wages rise, manufacturers often find themselves unable to compete in export markets with lower-cost producers elsewhere. Yet, they still find themselves behind the advanced economies in higher-value products. This is the middle-income trap, which saw many countries languish for decades in what the World Bank call the “middle income” range (about \$1,000 to \$12,000 gross national income per person measured in 2010 money). Typically, countries trapped at middle-income level have: (1) low investment ratios; (2) slow manufacturing growth; (3) limited industrial diversification; and (4) poor labour market conditions. The problem usually arises when developing economies find themselves stuck in the middle, with rising wages and declining cost competitiveness, unable to compete with advanced economies in high-skill innovations, or with low income, low wage economies in the cheap production of manufactured goods. (Wikipedia, March, 2014);

⁴ Premier Li Keqiang's Speech at the Summer Davos Forum opening ceremony , the Annual Meeting of the New Champions 2013 , Dalian, September the 11th, 2013;

miracle, one of better quality and higher efficiency, is unveiled, and I guarantee you even more exciting stories to come."⁵

Some of these pledges were substantiated at the 3rd Plenary Session of the Communist Party of China (CPC) Central Committee (CC) in November 2013, where China's new top decision makers unveiled the economic reform blueprint for the next decade. On this occasion, balancing the relationship between state and market - with the market playing the decisive role in allocation and the state intervening less, but more efficiently - was claimed to be the key idea and aim of the reform process. According to this blueprint, China was going to stick to the Party's leadership and to its socialist road, therefore no political reforms were intended, but a strong signal in favour of deep and comprehensive economic reforms was given. It was contended that "reform and opening-up" will decide the destiny of modern China and its adjustment to a rapidly changing global world.

In terms of *market reforms*, the commitment for fair, open and transparent market rules so that prices were decided by markets, was stressed upon; state control over economic sectors was going to gradually loosen, to the benefit of the private sector and foreign enterprises; companies were to operate independently and to compete fairly, in a modern market system; the SOEs were to be reformed, monopolies were to be broken and competition introduced; more state-owned sectors were to be opened to the private capital, including finance, telecommunications and railways; market barriers were to be cleared to improve efficiency and fairness in resource allocation; the *fiscal reform* was going to be in special focus, with a view to building a modern, transparent and efficient fiscal system, with improved legislation; SOEs were to have their profits taxed more substantially (with tax increases going from 0-15% at present, to 30%, by 2020) and the resulting funds were to be redistributed for social purposes; internal and external openness were going to be promoted by both "*going global*" and attracting foreign direct investments (FDI) policies; reforms and the new opening up policies were to be tested in free trade zones (FTZ), used as pilot areas for reform.

The Session also put forward *land reform*, with issues such as establishing property rights to farmers, the reform of the *hukou system*⁶ of registration, the need for a unified land market between urban and rural areas and for new urban/rural relations. These reforms were to be complemented by the *reform of the local administrations*, aiming at streamlining the local/central revenue division and at allowing local governments diversify their budgetary sources by issuance of bonds.

Hugely important and urgent, the *financial reform* was going to introduce the interest rate and exchange rate liberalization, to allow the access of foreign and local private banks into the Chinese banking system and to regulate shadow banking.

⁵ Idem.

⁶ A **hukou** is a record in the system of household registration required by Chinese law. In 1958, the Chinese government officially promulgated the family register system to control the movement of people between urban and rural areas. Individuals were broadly categorised as a "rural" or "urban" worker. A worker seeking to move from the country to urban areas to take up non-agricultural work would have to apply through the relevant bureaucracies. The number of workers allowed to make such moves was tightly controlled. People who worked outside their authorized domain or geographical area would not qualify for grain rations, employer-provided housing, education for children or health care. Hukou limited mass migration from the land to the cities to ensure some structural stability. By regulating labour, it ensured an adequate supply of low cost workers to the plethora of state owned businesses. At present, it is a system widely regarded as unfair, but there is also fear that its liberalization would lead to massive movement of people into the cities, causing strain to city government services, damage to the rural economies, and increase in social unrest and crime. (Wikipedia, March, 2014);

The research and innovation reform, encompassing - among other issues - a special concern for green technologies development and better environment protection, was also earmarked as one of the major objectives of the next decade.

Also, for a more equitable distribution of the benefits of development, *reforms in social affairs and education* had to be accelerated in order to set up a reasonable income distribution system and to increase domestic consumption. Further detailed reforms will follow. They will be designed by numerous think tanks and masterminded by a central leading team in charge with the general design of the reform.

5. Challenging old vested interests

The reform blueprint briefly presented above is unprecedented in scope and intensity and therefore widely considered the starting point of the greatest economic rethink since Deng Xiaoping. Putting it together was a big step forward, but many further challenges are to be faced in its run-down and, most of all, in its implementation. To our judgement, fulfilling the deep and comprehensive reform needed and intended in China will be a difficult, long and bumpy road, due to powerful vested interests which will surely oppose change and fight back, trying to preserve a profitable status quo. Just looking briefly at some of the major reform directions envisaged, one can figure out the most obvious opposing forces that might come to the fore.

On the subject of *reforming SOEs*, for instance, the opposition might be huge among the party elites, as these companies are controlled by powerful, politically high-positioned families, who have got very rich and won't give up easily their sources of wealth. Also, *by opening the state-owned sectors to the private capital* it can be expected that the members of the ruling elite who have benefited directly and hugely from a state-dominated economy will oppose once more, as market-oriented reforms directed to levelling up the competitive playing field would hurt their interests and diminish their privileges. At the same time, SOEs themselves will oppose to losing their subsidies and privileges, as well as to becoming more accountable, paying taxes, giving up dividends and facing competition under free market conditions.

The *financial reform* will most probably meet the opposition of the state banks themselves, as they will not happily agree to losing their monopoly positions and meet, instead, strong competition from potent foreign private banks. Nor will they easily accept to lose the protection and support they previously enjoyed, having to deal, by themselves, with piling-up non-performing loans. One could even speculate that, used to act on political command, under the protection of the state and of their monopoly positions, these banks might even lack the practice and boldness required when having to survive in a harsh, competitive environment, forced to make risky decisions on economic, not political grounds. Additionally, one could expect that some opposition to the financial reforms will come even from part of the academics, who will warn on the risks of economic crises, following interest rate liberalization and other measures.

Finally, many could also be reticent to *land reform* and to the *reform of the hukou system of registration*. The first to oppose to land reform are expected to be the local authorities, who not only financed local budgets by selling land, but also did this as a profitable business and source of richness for themselves. Clear property rights for farmers and a unified land market generating correct prices would deprive these local leaders of an important source of wealth and power. As to the hukou system reform, giving it up will meet both the opposition of the local governments and of the city dwellers,

because this measure is prone to induce a huge pressure on the already overcrowded and difficult to manage Chinese cities.

6. Conclusions

At a crucial stage of its transformation, China embarks on a comprehensive, long and difficult reform path, which is both needed and inevitable. The set of reforms envisioned by its new leaders is the greatest economic rethink since Deng Xiaoping, meant to rebalance Chinese economy and regain the sustainability of its economic growth, while avoiding the risk of getting the economy stuck in the middle income trap.

This is a complex, difficult and risky endeavour, which will be hard to design and put together in every detail considering all the multiple inter-correlations, implications and influences between its components, but it will be even harder to implement, given the expected strong opposition of vested interests. Thus, the reform implementation will be the touch stone of the new Chinese leaders, while the reform itself and the radical changes it provides for will be a challenging test for the Chinese economy and society. Still, for China this is the only way forward and, considering its position and impact on the global stage, all its moves, its successes or failures, are of utmost importance for all the rest of the world.

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What Lies Ahead of Germany's Leadership Role in Europe

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Abstract

After almost a quarter of a century since the fall of the Berlin wall, Germany has undoubtedly become the uncontested nerve-centre of the European Union (EU) in both economic and political terms, evolving not only as Europe's most important economic power, but also as its de facto leader in terms of economic policy. Considering the negative consequences generated by the severe sovereign debt crisis that hit EU and Eurozone specifically and the further risks that this has provoked, reshaping Europe's architecture became of vital importance for the future of European integration. Under these circumstances, major changes are needed in order to redesign EU's configuration with a view to better withstanding the potential future crisis, to accomplish budget consolidation and to implement structural reforms in support of a deeper integration. The present paper aims to highlight the importance of Germany's pivotal role in such a complex process and the necessity for it to exercise more leadership in order to help Europe to overcome the crisis and conflicts. Furthermore, our analysis emphasizes Germany's current economic strength and its new geopolitical weightiness, factors that endow the biggest European economy to take the lead more decisively in the interest of safeguarding and farther developing the UE.

Keywords: *Economic and political power, Germany, sovereign debt crisis, European integration, leadership.*

JEL Classification: *E, E61, E65, F01, F02, F43.*

1. Introduction

Undoubtedly, Germany has always been an important player in the EU ever since its foundation, in the early 1950s. Still, as it is largely agreed (Dullien, 2013), at the heart of Germany's current pre-eminence in Europe is its recent economic success. Furthermore, when the euro crisis has changed political and economic relationship within the EU – by dividing the club of apparently equal countries into groups of creditors and debtors – owing to its economic strength, Germany became the largest creditor country. Accordingly, it has gained substantial political clout, becoming EU's uncontested leader, at both political and economic level.

The European financial and sovereign debt crises have caused great turbulences in the Economic Monetary Union (EMU), threatening the stability of the entire currency area and starkly revealing the shortcomings in its existing structures. Since 2010, under the menace generated by the

tensions in euro area sovereign debt markets, crucial reforms have been set in motion at European level, in order to remove the revealed vulnerabilities in the economic and fiscal governance of the monetary union. Designed to overcome the crisis and return to stability, the policies that have been agreed – along with the introduction of the European Semester, establishment of European Financial Stability Facility (EFSF) and European Stability Mechanism (ESM) firewalls, as well as setting up of the single supervision mechanism for banking governance under the European Central Bank (ECB) – have represented at the time the appropriate ways to address the structural deficiencies in the EMU (Becker et al, 2013). Nevertheless, as major challenges still lie ahead, it is necessary to undertake additional actions to ensure that the Eurozone member states conclude binding, enforceable, democratically legitimate, compatible reform agreements EU wide. In this sense, many authors state (Belke, 2010) that a stronger and more effective commitment to crisis avoidance and leading to a deeper integration might be the requisite solution to tackle the remaining problems depressing the euro area. This should enable the achievement of competitiveness goals, sound, sustainable, stable finances – the robustness of the banking sector – as well as growth and employment coupled with solidarity.

At this new juncture, as the largest, most powerful and prosperous economy in Europe, Germany has an imperative interest in deepening European integration, an essential condition in this matter being that EU overcomes the current economic stagnation and severe fiscal constraints. Furthermore, as the long-term prospects of strong growth for Germany are greatly depending on the economic recovery and stabilization of the euro area, it has to assume a more active role and to take the lead in this field more regularly and firmly for a larger achievement of the European objectives and for the common benefit of all the member states, namely of the EU as a whole.

An additional argument for Berlin authorities to assume a higher responsibility and to undertake the role of an “iron fist”, required to sustain the long-term viability of the European integration project is represented by the calls from the European leading politicians, expecting Germany to accept the accountability and liability of political leadership in accordance with its dominant economic position within EU¹. Consequently, EU’s policymakers expect Germany’s approach to the Eurozone crisis and a coherent project that can serve as a benchmark in the further common actions. As it is stated in the recent economic literature (Guérot, 2013) there is a strong need for Germany’s greater involvement on three specific fronts: building a solid banking union, a growth strategy and a greater commitment to European foreign policy.

2. Why Germany?

Since the very beginning of the crisis, when the fundamentals in the EU have shifted dramatically, the member states have pursued for a joint strategy aiming to achieve the overdue consolidation of public budgets, under the strong pressure of austerity prescription imposed by Angela Merkel, to overcome economic imbalances by improving the economic competitiveness of all Eurozone countries. Germany’s central role in EU’s response to the euro crisis was due to its currently strong economy that put it in a position of control, diminishing the usual power balances in the EU. Moreover, France’s economy has been weakened by sluggish growth rates and a high unemployment while other important players such as UK and Poland were not involved in the decision-making

¹ Many policymakers across EU have urged Germany to take authority over European crisis management. Relevant in this matter is a statement of the Polish foreign minister, Radek Sikorsky, at a conference held in Berlin, at the German Council of Foreign Relation: “I fear German power less than I am beginning to fear German inactivity” (Sikorsky, 2011).

process that was largely limited to Eurozone members. Besides, Germany's pre-eminence was further expanded by the existing segregation inside the EU over how to respond to the euro crisis².

Under these circumstances, in a spirit of partnership with other major economies from EU – especially with France, with which acted jointly as a self-appointed centre of the Eurozone crisis management system³ – Germany felt it was its duty to take on the leadership toward the mutually agreed strategy for solving the crisis in Eurozone (Schäuble, 2013) and ensuring economic security for all its fellow EU member states.

Nevertheless, as it is commonly agreed, the unique political structure that is EU does not lend itself to a leader/follower dynamic and it will never be led by a single country as long as by definition it signifies the equal coexistence of all its member countries. It also should be noted that there was not a German plan or desire to exercise this leadership but this role had rather been thrust on Germany by circumstances. As the biggest and the strongest economy of EU, Germany could not avoid its responsibility during the Eurozone crisis, while other potential leaders among the important economies had either chosen to step aside (UK) or were facing many economic difficulties of their own to be able to take the leading role (France, Italy, Spain). Furthermore, the crisis laid exposed the weaknesses of the EU's institutions and proved that the European Commission was technically and politically unprepared to take the lead and to react rapidly in managing critical situations (Guérot&Klau, 2012). Germany became therefore a reluctant leader, still adapting to its new position and focusing not only on keeping Eurozone and EU intact, but also on increasing the economic competitiveness of other member states and also of Eurozone and EU as a whole.

2.1 German economic miracle – from the “sick man of Europe”⁴ toward its economic engine and the anchor of stability

If in the late 1990s and into early 2000s, Germany was often called “the sick man of Europe”, after the Great Recession⁵, due to its economic impressive economic success, the scientific community describes the country as an “economic superstar” (Dustmann et al, 2014).

Except for the year 2000, when Germany marked the strongest economic performance since the unification boom (European Commission – EC, 2001), the first few years around the turn of the century were characterized by slow growth performances – as shown in the Graph 1 – leading to high and persistent unemployment and large budget deficits (as it will be illustrated bellow, in the Graph 2).

² While the North-Eastern countries were arguing for discipline and austerity, the Southern “camp” (Spain, Greece and Italy) was pleading for growth-oriented stimulus. But as the latter needed support from the wealthier EU member states (such as Germany), they emerged in a particular weak position.

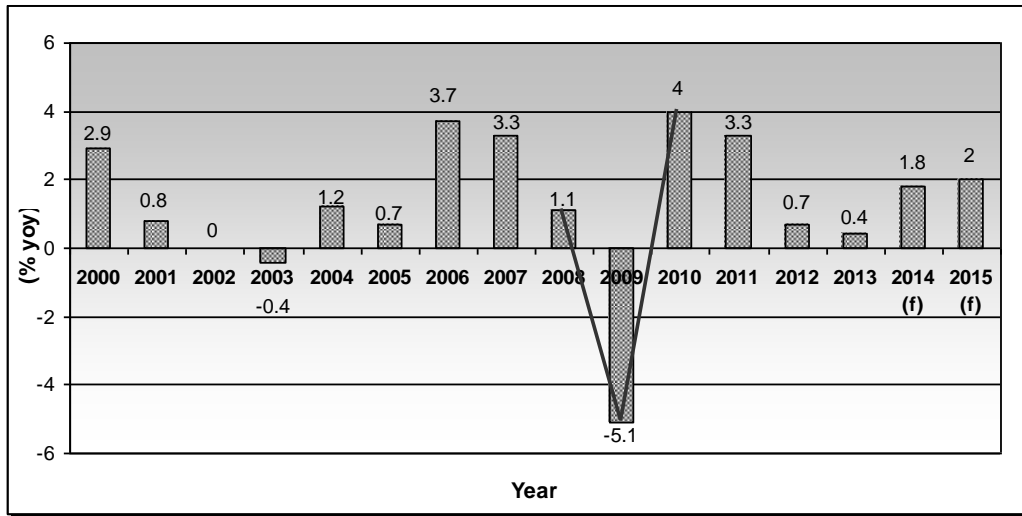
³ France and Germany have driven European integration since 1950s (Guérot&Klau, 2012) and as the euro crisis has revealed, the political tandem was still functional nowadays. Hence, during the euro crisis, the most important partnership – “Merkozy” – has shown that the Franco-German team remains a vital driver of European governance.

⁴ The label of “sick man of Europe” is traditionally attributed to a European country that is experiencing a time of economic difficulties. In the late 1990s, the economic press called Germany with this term as it was facing severe economic problems, especially due of the cost of German reunification after 1990 (see for instance The Economist, 2004).

⁵ According to the economic literature, the term applies to the sharp decline in economic activity during the late 2000s that started in USA in 2007 and resulted in a global recession in 2009.

Graph 1: Germany's annual economic growth, 2000-2015*

(Real GDP, % yoy)



Note: (*) based on European Commissions' forecasts (f) for 2014 and 2015.

Source: Statistical Office of the EU – Eurostat (2014), European Commission – European Economic Forecast Winter 2014;

Consequently, Germany had lost its competitiveness and it was widely considered the economic laggard of EU. In this respect, in order to re-establish country's economic performance, to reduce its public deficit in line with the Stability Growth Pact's (SGP) requirement, to overhaul the labor market and to pave the way in regaining its traditional competitiveness, the federal government launched a very ambitious package of reforms and austerity measures (Agenda 2010⁶) that allowed German economic growth to rebound after 2005 (as it is shown in the Graph 1).

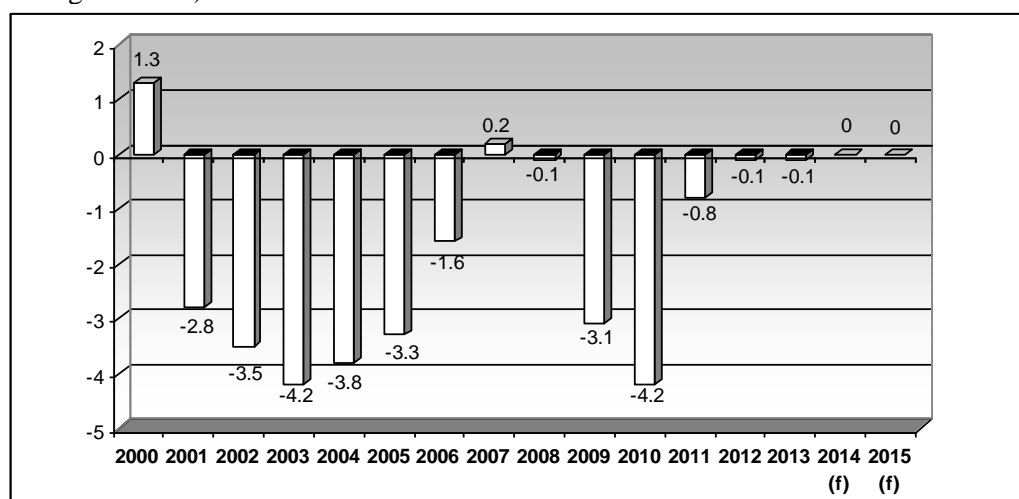
As a consequence of the reforms implemented during 2003-2005, German economy recovered in 2006 from its chronic stagnation and started to outperform again the rest of the European countries in terms of economic growth, employment creation and unemployment rate (Dullien, 2013). Moreover, the country strong economic performance at the time – supported as well by the strong expansion in the global economy, as Germany customarily had an export-led growth model – helped to consolidate public finances and the labor market, thus in 2007 the federal government budget was on a positive balance (as shown in the Graph 2) while unemployment, one the major problems the German economy was facing for many years, has already fallen significantly⁷.

⁶ The German Program “Agenda 2010” was initiated in March 2003, at the proposal of Gerhard Schroeder - Germany's Chancellor at that time.

⁷ This positive trend was also due to the effect of the series of legislative labor market reforms, the so-called “Hartz reforms” that started in 2003 and came into effect in 2005, consisting in a package of radical measures that have helped Germany to drop unemployment, both on long and short-term.

Graph 2: Germany's government balance, 2000-2015*

(As percentage of GDP)



Note: (*) based on European Commissions' forecasts (f) for 2014 and 2015.

Source: Statistical Office of the EU – Eurostat (2014), European Commission – European Economic Forecast Winter 2014;

However, the national economy's level of exposure to the external demand made it vulnerable to the extraneous shocks caused by the global recession in 2008-2009, albeit in the beginning Germany considered itself to be only marginally affected by the crisis (Dauderstädt, 2013). As an economy largely dependent on exports, with world trade dropping severely during the financial and economic crisis, Germany was heavily affected, as in 2009 its GDP declined dramatically, by more than 5% compared to the previous year. However, the economy recovered very quickly from what proved to be the worst recession in post-war history and the rebound of the economy in 2010-2011 was equally strong, resulting in a V-shaped recession, as it is illustrated in the Graph 1.

Although the federal fiscal stimulus program, adopted in 2009 and 2010 as a response to the economic decline has largely increased the national budget deficit in those years (as seen in Graph 2), German economic strategy was running short-term deficit to be followed by fiscal tightening after the economy has completely recovered. This plan was also supported by a strong manufacturing sector that helped the country to survive the global downturn (according to the World Bank (WB) data (WB, 2014), manufacturing's share of Germany's total GDP accounted on average 22% during 2009-12, comparing with a share of 10% in France and UK).

Thusly, by the end of 2011 Germany was back on the path it had followed since 2006 and as it seemed to overcome the crisis relatively undistracted, it was considered an economical miracle once again. Despite the steep decline in output, Germany was the only advanced economy in EU where unemployment decreased rather than increased during the crisis. This remarkable employment performance is reflected in the series of measures adopted by the government – first, the adjustments through lower working hours instead of layoffs and secondly, the government support of short-time work.

Furthermore, the negative impact of the sovereign debt crisis on the federal economy seemed to be limited so far, as Germany's outcome withstood remarkably well. As previously mentioned, it enjoyed a rapid rebound in 2010-2011, followed by a moderate growth in 2012-2013 and according to the latest forecasts of the European Commission (EC, 2014), amid reduced uncertainty, it is projected that Germany would improve its growth performance in 2014-2015 (Graph 1). Also, if until recently,

the growth was largely driven by the external demand, in the aftermath of the crisis, notably since 2012, the upswing has become less dependent on exports, while domestic demand has become the key-driver.

Hereby, we may conclude that the fundamental lesson that Germany has learned during the path adopted in time of economic recession is that ambitious structural reforms to tackle the severe domestic problems may be harmful at first, but ultimately, they pay off. By acting accordingly, Germany not only recovered from the crises, but also became a model worth emulating, an anchor of stability in EU – stabilizing spillover effects for Europe as a whole – (IMF, 2013), as well as a decisive voice in the current debates related to EU's future architecture.

2.2. Germany's increasing role in the international arena

As stated in the literature in the field (SWP&GMF Report, 2013), the globalization reduced the power of national states and made the world smaller and more contested. Under these circumstances, we currently assist to a global power shift. The United States, conscious of its limited resources, is no longer willing to assume the role of global leader and guarantor of the international order on its own, while EU, which is still struggling with the severe consequences of the crisis, presently appears neither willing nor able to take on a similar position. Furthermore, the international engagement of individual European major countries has also declined significantly during the crisis. Thus, the result was a weaker leadership at the global level. In this context, Germany should see itself as a provider of further plans for organizing the adaptation to the new international order.

Currently, Germany benefits of an influential position and weightiness as it has joined the league of global players itself, which was not the case before the unification. If at that time the country lacked both the weight and the freedom of movement necessary for the development of strategic relations with partners beyond European and transatlantic framework, presently Germany's new power opens unique opportunities to use its influence and to reassess its international relationships and alliances. Moreover, as EU cannot have a strategic focus on the common European foreign policy without Germany's viewpoint, there were specific requests from European policymakers for a clear German commitment in this field. But until recently, Germany itself has lacked such a strategic focus (Guérot, 2013). Since the end of World War II, Germany has pursued a relatively tame foreign policy (Friedeman&Lanthemann, 2014), but the recent crisis in Ukraine marked a fundamental turning point in its international politics. German leaders have called for a new framework, opposite to the restrained policy that Germany has practiced for so long, which allows the country a stronger voice in the foreign affairs issues.

Besides, Germany's decision to undertake a more assertive external policy could be also justified by the necessity to find a new binding element in order to rally EU, as long as for the past six years, the economics proved to be rather a centripetal force.

3. Where Does Germany Want To Take Eu?

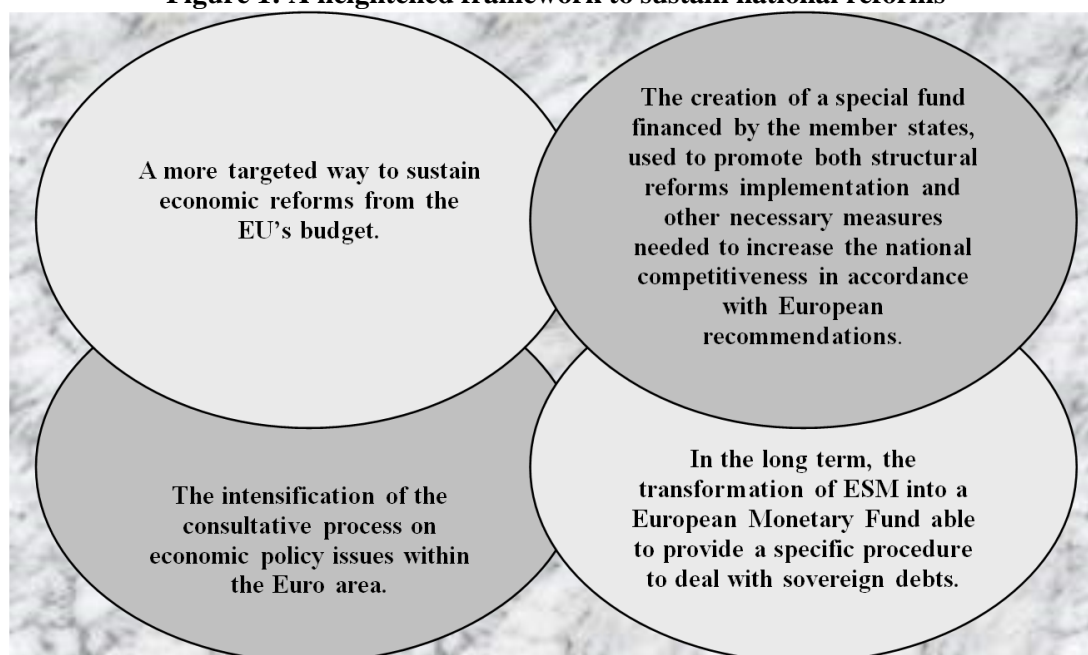
The main goal of the German European policy is represented by the stabilization and further consolidation of the Eurozone. As the crisis has revealed, the economic and monetary policies of the EMU's member states cannot remain any longer a purely national concern, thus the monetary union must be supplemented by a true economic union and especially by a fiscal union. Besides the delicate task of elaborating and formulating fiscal and economic policies directed to achieve stability and competitiveness in the member states along with the acquirement of a greater convergence in the Eurozone, a major challenge is that the latter cannot be solely achieved by adjustments in the countries

affected by the crisis. In this respect, Germany will focus on the promotion of EU wide consensus on common economic and financial policies that are supported by European public. Albeit the path to achieve these goals is still at issue, the main challenge remains the modality to readjust two delicate balances: between national autonomy and common European interest on one hand, and between institutional capacity to act and democratic responsibility, on the other. Consequently, even if the solutions can only be found together with all the European member states, German European policy must be able to provide suggestions and to draw specific frameworks in this respect.

Howbeit, the federal policy for EU envisages two potential models designed to reshape and reinforce EU's architecture, both intended to achieve a higher degree of integration together with a deeper democracy. The proposed models are not alternative as in fact they have the same objectives, but they differ only in terms of degree and depth of integration and also in the specific balance they strike between the intergovernmental level and supranational integration.

First model – a stronger European scheme for national reforms: this option is focusing on further fiscal consolidation and enhancing the competitiveness in all the member states by extending the dimension of the already adopted reforms. Hereby, in order to reform their economies and to return to a sustainable growth path, the European economies affected by the crisis need more support and incentives. For a suitable achievement of the reform process, while the national authorities will continue to maintain control over the mechanisms of the reforms, the European Commission would exert a greater role in the control of member countries' budgetary and fiscal policy. Accordingly, one prime model that Germany envisages in this respect is based on four main interconnected pillars, as illustrated in the Figure 1.

Figure 1: A heightened framework to sustain national reforms



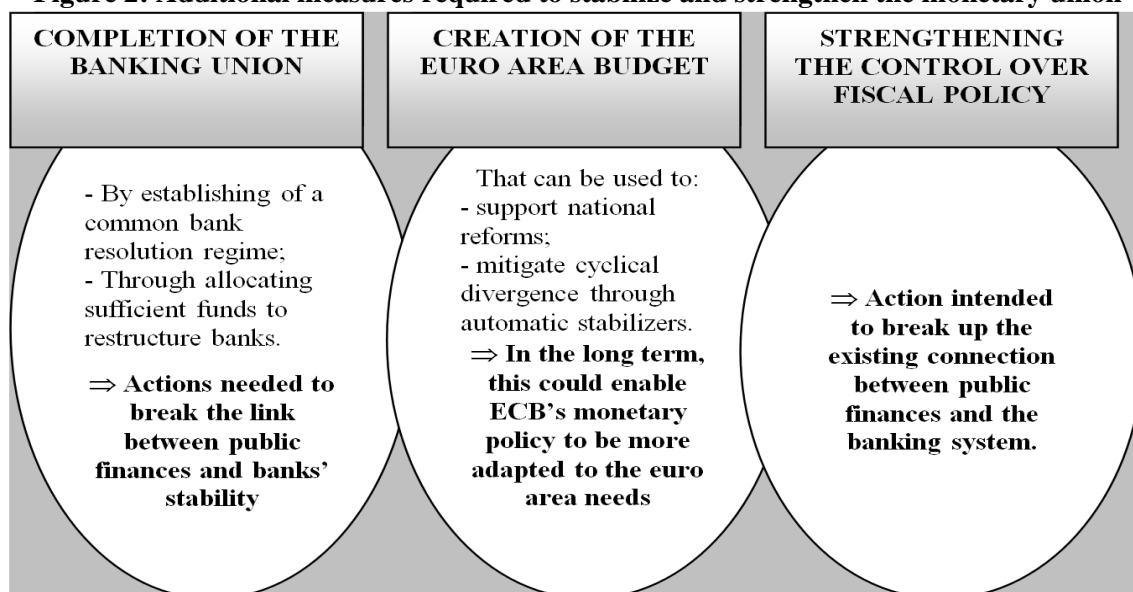
Source: Author's synthesis based on cited scientific literature.

As within the Eurozone complying with the debt limits set up by the SGP is of vital importance, the model developed and proposed by Germany requires also sanctions for the countries whose budgets repeatedly exceed the deficit limits set up by the Pact.

Second model – more common capacity to act on European level

Albeit the second option is conceived upon the stages toward a further integration developed into the first model, it represents a qualitative improvement. Thus, by taking into consideration the argument that the integration of monetary and financial markets restrains national capacities to act and thus make them vulnerable, it concludes that a policy convergent reform is not enough to stabilize euro area. In this respect, the model proposes further actions intended for the achievement of a greater integration but also directed toward to regain the ability to react and take control over the crisis. Based on three packages of measures (as illustrated in the Figure 2), the model is designed to make the monetary union less vulnerable in the long term.

Figure 2: Additional measures required to stabilize and strengthen the monetary union



Source: Author's synthesis based on cited scientific literature.

The both models are designed to increase the level of European integration and to play a role in adopting common decision, as the German leadership is based on the principle of collaboration. In our opinion, the second model requiring the deepening of financial and fiscal integration is more appropriate for the whole progress of European integration and for sustaining a steady economic growth within EU in the future.

4. Why Is Germany Still Reluctant Into Taking The Lead?

As mentioned before, since the crisis has evolved, Germany has perhaps involuntary slipped into a new leadership role in the EMU. Accordingly, Germany has steadily outlined the Eurozone reform debate and set the pace for other member countries, in line with its ambitious consolidation agenda. Nevertheless, as some authors state (Little, 2013), although it assumed the leadership position during the Eurozone crisis, Germany seemed to be a reluctant ruler, as it has not sought this political role. In compliance with some analyses developed at European level (Economist, 2013), there are three main obstacles that interfere with Germany's will to take on this leadership. *Firstly* it is the historical burden – the reticence caused by the two World Wars that still conjure up bad memories. Bearing this in mind, many national policymakers argue that Germany should assume the position of an economic force which acts politically modest.

Secondly, there is a widespread opinion in Germany that one of the decisive causes of the Eurozone crisis was generated by the Southern countries' sluggishness and in this respect, an acceptable solution would lie in the adoption of a fiscally prudent policy, as in Germany. This is the reason why – *thirdly* – Germany accounts furthermore the potential effects of the moral hazard. According to this approach, a rapid reaction from Germany and other Northern creditors would fuel the Southern countries' unwilling to overcome their addiction to credit.

Hence, in order to assume a more dynamic leadership and to build a coherent vision for EU's future as well as to comply with the strategic demands of other member states, Germany needs to set up and to develop a strategic pattern at European level, designed to assure that all the member states act on the same frequency and for the common interest.

5. Conclusions

The German economy has weakened in the competitiveness field following the reunification major effort in the early 1990s and giving its reduced economic performance at the time – correlated with the constantly rising unemployment – during the first few years after the introduction of the euro it was broadly considered as the economic straggler of the EU. Nevertheless, by assuming the task of implementing structural reforms on the labor market, backed with severe spending restraints on public investment, federal government has helped the revival of the national economy in 2006. Although Germany's high reliance on exports made it vulnerable to the global demand downturn in 2008-2009, the country recovered quickly from the deep decline and the following recovery was strong as well. Since it seemed to have overcome the crisis relatively safe, by 2011 many European countries and policymakers began to see the German economy as a model. However, Germany's economic success does not automatically make it a blueprint for every EU's member country and consequently, the European leaders should rigorously analyze and determine which elements of the federal reforms could be applied at their national level, in order to increase productivity, output and employment without causing other potential disturbing effects on long term growth.

Hence, we may summarize by highlighting a key lesson that German economy has learned from the past decade's experience – implementing a radical structural reform plan may have been costly at first but ultimately, the plan has paid off. In other words, German austerity is responsible for German prosperity.

In the light of the great turbulences caused within Eurozone by the sovereign debt crisis and against the negative backdrop that followed, it has been necessary to improvise, creating out of nothing structures of immediate support for the most affected countries and undertaking further reforms of the regulatory and operating framework. In this respect, by having taken the responsibility in maintaining the cohesion in the Eurozone, the biggest EMU's economy – Germany – had a pivotal role.

Furthermore, as an actual major player in terms of economic policy at European level, Germany should accept the transfer of power and assume a more dynamic leadership role, required to sustain the long-term viability of the European integration. Accordingly, Germany must work to deepen European integration in order to enable EU to master the internal and external current and potential challenges. In this regard, German government shares the view that additional actions to reform EU's and EMU's architecture will lead to a more robust monetary union, able to withstand potential future crisis. Albeit significant progress has already been achieved toward this end, there is still room for further improvements.

As at present Germany is still reluctant to take the economic lead over EU, seeing itself rather as a leading role model than a power willing to lead, the future task for the next years should be the work on developing a common understanding of a key issue – a European wide mutually accepted strategic pattern, directed to stabilize and strengthen the EU and Eurozone.

Moreover, Germany should continue its path toward a greater and more pro-active engagement in foreign policy and security affairs as well as maintaining a permanent focus on geo-economic issues and acting more effectively to solve the current global cross-cutting questions.

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Strengthening the Regional Integration in Central and Eastern Europe through Cohesion Policy Instruments and Cooperation among Stock Exchanges

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Abstract

The research paper is focused on the analysis of two ways of strengthening the regional integration in the Central and Eastern Europe – through the Cohesion policy instruments and cooperation among stock exchanges. Substantial benefits from the regional integration through cohesion policy include economic and social prosperity, political understanding. It should be further intensified, as it contributes to reduce regional disparities, exchange knowledge and best practices, ensure economic development. On the other hand, the deepening intra-regional cooperation among CEE stock exchanges leads to quantitative and qualitative changes in the course of their consolidation. Some assumptions are reached regarding expected changes on the Bulgarian capital market in the course of intensifying its intra-regional integrational links to CEE capital markets in conformity with set strategic priorities.

Keywords: *cohesion policy instruments, cross-border programmes, regional financial integration, capital markets*

JEL Classification: *O,P, R10.*

1. Introduction

The European territorial cooperation – objective 3 of the EU Cohesion policy in the current programming period 2007-2013 – financed by the European Regional Development Fund (ERDF) is aimed at achieving the harmonious and balanced integration at the territory of the EU through supporting the cooperation in the fields that are of importance for the Union at the cross-border, transnational and interregional levels. For the development of the regional integration Instrument for pre-accession assistance and European Neighbourhood and Partnership Instrument are also used for candidate or potential candidate countries.

2. Strengthening the regional integration of the Central and Eastern European countries through the EU Cohesion policy instruments

2.1 Regional cooperation in the Central and Eastern Europe through interregional, transnational and cross-border programmes

Extended regional cooperation in the Central and Eastern Europe is very important, in spite of the stage of integration of the different countries. The EU fosters activities to promote regional

cooperation. Considerable benefits of closer regional integration include political understanding, economic and social prosperity which is also of great interest to the EU.

Countries from the Central and Eastern Europe should benefit from multilateral programmes especially because of the exchange of knowledge and best practices from “older” EU member countries and countries from the European Economic Area. INTERREG IVC is targeted at improving the effectiveness of regional policies and instruments, the areas of support including innovation and the knowledge economy, environment and risk prevention (ERDF contribution is 321 million euro). The URBACT II programme encourages cooperation between local and regional level actors to exchange experience on urban policy themes (ERDF contribution is 53 million euro). Jointly with the URBACT II programme, the INTERREG IVC programme is the main vehicle for the EU initiative ‘Regions for Economic Change’ which supports regional and urban networks in developing and spreading best practice in economic modernisation. ESPON provides scientific information for the development of regions and larger territories through applied research, analysis and tools – the ERDF contribution is 34 million euro (28, http://ec.europa.eu/regional_policy/cooperate/cooperation/index_en.cfm).

Among transnational programmes – the South East Europe programme has its significance. It regroupes 16 countries (8 EU member countries) aims at improving integration and competitiveness in a very complex and diverse field. Priority areas of the programme comprise Innovation, Environment, Accessibility, and Sustainable growth which are in compliance with Europe 2020 objectives and contribute to the process of integration of the non-member countries as well.

As the European Commissioner for Regional Policy stated at the beginning of the programme: "The South-East Europe programme is of particular importance for Europe (...) There are challenges in this part of Europe which exist nowhere else on our continent and this makes it all the more important that you can work together effectively in this transnational programme." The South-East Europe is an area in which there are significant regional disparities in terms of economy, innovation, competitiveness. In addition, South East Europe is a bridge between North, South, East and West Europe. Trans-European Networks and Pan-European transport corridors in the area and need further development. The total public contribution amounts to 245 million euro. Black Sea Basin Joint Operational Programme is a multilateral programme financed by European Neighbourhood and Partnership Instrument and its objective is to contribute to the extended and sustainable economic development of the Black sea region.

Among the 10 participant countries there are EU member countries, candidate countries and neighbourhood policy countries. Its budget amounts to 28 million euro and its objectives are to promote the economic and social development of the border regions, cooperate for tackling common challenges, and encourage local cooperation with people-to-people actions.

Different types of eligible projects which are integrated projects with activities in several countries to achieve a common goal, symmetrical projects with same activities in each of the participant countries and single projects implemented in a partner country but having transnational significance will contribute to strengthening regional cooperation.

Cross-border cooperation includes various issues – improvement of the joint management of natural resources; encouragement of entrepreneurship; support of links between urban and rural areas; development of infrastructure; improvement of access to transport and communication networks, etc.

Through joint management of programmes and projects, mutual trust and understanding are strengthened and the cooperation process is enhanced.

The development of regional cooperation is crucial for the Balkan countries – candidates for the EU – it is a key factor for establishing political stability, security and economic prosperity. Economic development is a very important issue if they want to make progress towards European integration.

In many areas, such as trade, energy and transport, because of the fragmentation of the economic space in the region, the most effective way is to intensify regional cooperation. Through regional cooperation, favourable business environment will be created in the Balkan candidate and potential candidate countries that will provide for foreign and domestic direct investments and create jobs, encourage individual initiative and as a result increase living standards of the population.

Beyond the intra-regional challenges, the ultimate goal is to reconnect the western Balkan countries with their neighbours, EU Member States and candidate countries. Infrastructure development is of importance for the development of the economies and increase in economic growth. But reforms are necessary for strengthening institutions so as to promote sound economic policies and social cohesion, regional and crossborder integration.

Table 1: Allocation of funds for Candidate and potential candidate Balkan countries under the Instrument for pre-accession assistance (in euro)

Country	2010	2011	2012
Croatia	16,216,542	16,540,872	16,871,690
Serbia	12,493,321	12,743,190	12,998,052
Macedonia	5,682,932	5,796,590	5,912,521
Albania	10,488,579	10,698,350	10 912 317
B&H	5,311,901	5,418,139	5,526,501
Montenegro	4,761,177	4,856,401	4,953,529

Source: A short survey on EU funding programs and instruments in the countries of the Western Balkans, (Prepared by: Serdon - Sirakov A., Delchev P.), Sofia, Bulgaria, 2011

There are several programmes of each of the EU member countries at the Balkans – Greece, Romania and Bulgaria with their neighbouring countries – EU members, candidates and potential candidates for EU membership.

2.2 Participation of Bulgaria in the cross-border programmes with its neighbouring countries

Bulgaria participates actively in the cross-border programmes with neighbouring countries co-financed by the ERDF and Instrument for pre-accession assistance – with Serbia, Macedonia, Turkey and of course, with Greece and Romania.

Results of these programmes are oriented to the enhancement of the cooperation in the cross-border region, improvement of the quality of life, environment, infrastructure, and social-economic development of these regions – activities which encompass to the great extent the principles and spirit of the EU.

Main activities of the projects are aimed at diversifying economic activities and enhancing the living standards in the cross-border region, improving infrastructure, encouraging entrepreneurship, cooperating in the research, investing in human capital, cultural exchange, creating networks, supporting tourism, protecting environment etc.

Table 2: Cross-border programmes EU-External borders with Bulgarian participation for 2007-2013

Cross-border programmes	Total budget (EU and national co-financing)
Bulgaria-Serbia	36 905 807 euro
Bulgaria-Macedonia	21 063 157 euro
Bulgaria-Turkey	32 084 823 euro

Source: Territorial Cooperation Programmes, Bulgaria 2007–2013

In spite of the progress in implementation of the programmes, there are problems at the partner and project levels, shortage of financing from the beneficiaries, difficulties in subcontracting, delay in implementation of activities, insufficient administrative capacity. Providing support for beneficiaries with trainings and consultancy will contribute to the better realization of the activities. More efforts should be done on bilateral and multilateral level for achieving higher effectiveness. Enhancing cooperation between partner countries will have a positive influence on the economic development of the region. Moreover, sound economic policies are needed to the countries for providing the necessary co-financing for the programmes.

For the new programming period it will be appropriate that one third of the financial resources be allocated for strategic projects of great importance for the region which are considered the most effective and sustainable projects.

Bulgaria also participates actively in the cross-border programmes EU-internal borders with Romania and Greece. The total budget of the programme Romania-Bulgaria 2007-2013 is about 262 million euro and Greece-Bulgaria – about 138 million euro. Activities in the field of economic and social development, environment, accessibility and others are envisaged and their implementation is progressing.

In the frames of their preparation towards joining the euro zone, new member states of the EU from Central and Eastern Europe should benefit from the cohesion policy funds on their way to achieving real convergence in the medium and in the long run. The most important is not only to use the funds but also to do that effectively and with added value.

For the new programming period 2014-2020 the Common Strategic Framework will be applied for the European Social fund, European Regional Development fund, Cohesion fund, European Agricultural Fund for Rural Development, European Maritime and Fisheries Fund (20, Proposal for a Regulation of the European Parliament and of the Council laying down common provisions on the ERDF, the ESF, the CF, the EAFRD and the EMFF covered by the Common Strategic Framework). Member states could design programmes financed by several funds with a view to achieving best results. Focusing on the results and applying an integrated approach and common strategies with other EU policies and financial instruments will contribute to the increase in effectiveness and efficiency of the funds. The projects under these funds should be linked with the objectives of Europe 2020.

Moreover, a link between European economic governance and financing of cohesion policy will be established, which is new. At present such conditions exist only towards the Cohesion fund. The new element will ensure that the effectiveness of expenses in the framework of the funds is based on the sound economic policy.

Cohesion policy is very important for ensuring better budgetary discipline and incentive for reforms in key economic sectors of the countries. It contributes to a great extent to the strengthening of the regional integration of the member states in Central and Eastern Europe and candidate countries by reducing regional disparities, enhancing cooperation, exchanging knowledge and best practices, ensuring economic development. Because of its added value, regional integration of the Central and Eastern European countries should be further developed.

3. Main tendencies in consolidation processes among EU stock exchanges

Stock exchanges are significant part of the financial system since they improve distribution of risks among economic agents and give an impetus to economic growth. Consolidation among stock exchanges on EU level is mainly effected through mergers at regional level among cash and derivative markets. Concrete examples in this direction include the evolution of Euronext, the mergers in the Scandinavian and Baltic regions and that of London Stock Exchange and Borsa Italiana. The three largest platforms for trades in equities at EU level are Deutsche Boerse Group (market capitalization EUR 9,5 trillion by 2011), NYSE Euronext Group (market capitalization EUR 5,5 trillion by 2011) and London Stock Exchange Group (market capitalization EUR 3 trillion by 2011), which generate over 80% of the total turnover volumes of EU stock exchanges.

Mergers allow stock exchanges to combine efforts and resources in the implementation of single trade platforms thus significantly to squeeze technological expenses. The benefits for economic effectiveness arising from integration prove to be positive (19, London School of Economics (2002)). The intensifying consolidation processes among capital market participants on EU level are explained by such factors as increasing demand for investment possibilities within the European financial area (15, Hristova - Balkanska, I. (2002)). The main consolidation models followed by market participants on EU capital markets include: *vertical consolidation and horizontal consolidation*. Vertical consolidation involves combination of diverse activities along the securities trade execution chain from integration of trade and clearing to securities settlement activities within a single entity or between two or more entities. Such consolidation model in EU is followed by Deutsche Boerse (Germany), Borsa Italiana (Italy) and Bolsas y Mercados Espanoles Group (Spain). These consolidation structures may result in establishing dominant position, creation of barriers for entry and may limit the transparency levels in pricing of services along the trade execution and post-trade cycle. On the other hand, horizontal consolidation assumes entering into various strategic alliances agreements or implicit coordinated mergers among systems operators providing the same types of services. Such consolidation model is followed by NYSE EURONEXT Group that is also the owner of London Futures Exchange. Another such example in the sphere of settlement activities is Euroclear Group as a merger among the national central securities depositories of Belgium, France, the Netherlands and Great Britain.

Irrespective of significant consolidation processes on the capital markets there continue to exist various barriers in front of the clearing and settlement infrastructure in EU. The advantages from consolidation and integration processes point to decrease in securities trade costs and rising liquidity volumes on EU capital markets. At the background of these advantages one has to evaluate such shortcomings as decrease in competition and the monopolization of stock exchanges. This leaves open

the question what the mechanism for preservation of competition will be and how traditional market participants will compete with the alternative/multifunctional securities trade facilities.

3.1 Main characteristics of stock exchanges in some CEE countries and directions of intra-regional cooperation among them

For the purposes of the present report the comparative analysis encompasses the capital markets of three countries from EU (namely Czech Republic, Hungary and Slovenia) due to the ongoing or forthcoming consolidation processes on these markets (see Appendix 1). The integration of the financial markets in the selected countries during the last two decades is mostly connected with significant inward foreign direct investments (the average annual incoming flows exceeding 5 % of GDP for the period 2000 – 2008), mostly along the lines of the establishment of foreign banks from Continental Europe in the financial sector of these countries. In the aftermath of the global financial and economic crisis and subsequently the European debt crisis these countries experienced massive outflows of capitals, fall in stock exchange turnover volumes and indices. The targeted countries are considered as being in transition from factor to innovative effectiveness with an average degree of financial development which points to the potential for deepening of regional cooperation among their capital markets (mainly through horizontal integrational forms).

The integrational model followed by the Central and East Europe Stock Exchanges Group (CEESEG AG) (see Appendix 1) includes horizontal form of consolidation of the stock exchanges of Vienna, Budapest, Ljubljana and Prague through the development of a parent holding company and regional subsidiary entities with independent management and establishment of high degree of harmonization of trade execution, clearing and settlement infrastructures. Among the important mid-term objectives of the Group is implementation of electronic trade platform XETRA on the subsidiaries stock exchanges and establishing cross-membership process among them. The long-term strategy of the Group envisages harmonization of market segments, the general business terms on regional scale, reaching high degree of interoperability in the clearing and settlement process and diversification of the financial instruments product range.

In 2011 the stock exchanges of the four countries generated over 60 % of turnover on CEE capital markets and raised over EUR 1.8 billion in IPOs (see Appendix 1). The common electronic trades' platform XETRA has already been implemented on the Vienna and Ljubljana stock exchanges and a process is underway for its implementation on the other two stock exchanges. Cross listings on the regional stock exchanges and the potential for their visibility on other markets in Europe is facilitated through a direct link of the CEESEG AG with the Frankfurt stock exchange operated by Deutsche Boerse.

On the one hand, by 2011 the main stock exchange index on the Budapest Stock Exchange BUX reached a downfall of 20 % as compared to 2010. The market capitalization came up to EUR 14.63 billion and the number of listed companies stood at 54 (7, CEESEG (2011)). The trade turnover registered a fall by 27.5% as compared to 2010 while transactions on the cash market comprise about 60% of total exchange turnover. In the course of the continuing global financial and economic crisis trade in the derivative market registers a fall by about 34 %. A change in the investors' structure at Budapest Stock Exchange is observed with rising share of foreign investors (up to 45 %) as compared to local investors. The local institutional investors make up around 10 % of the total investors' base while local retail investors reach about 28 % by 2011. The international members show significant activities at the cash market, while the local members – on the cash and derivative market.

On the other hand, during 2011 the leading exchange index on the Ljubljana Stock Exchange (LjuSE) SBITOP dropped by about 30% as compared to 2010, total market capitalization reached EUR 4.8 billion. Trade in equities represents about 84 % from total trade at LjuSE (7, CEESEG (2011)). An important element from the development of the exchange is the implementation of the common trading platform of CEESEG AG – Xetra and the attraction of 5 new remote access members who generated around 10 % of total trades' volume at LjuSE in 2011. A step toward deepening of regional cooperation of LjuSE is the cooperation agreements concluded with the stock exchanges of Belgrad, Skopje and Zagreb. Among the important strategic aims of LjuSE (8, CEE Stock Exchange Group (2010) are boosting the liquidity on the local market, increasing interoperability on regional scale and maintaining high quality level of market organization.

An important challenge to the further integration of LjuSE shall be to reach an adequate degree of harmonization in the clearing and settlement cycle, initiation of cross-membership procedure, reform of the pension system and introduction of incentives for privations through launching of IPOs. The introduction of innovative financial instruments as derivative contracts etc. requires further developments in the market infrastructure and eventual clearing through a central counterparty and heightening the supervisory framework.

In 2011 the main index on the **Prague Stock Exchange** (PSE) PX declined by about 26 % as compared to 2010 and there is a potential for further fall due to the significant share of banks' equities in the total number of shares' issues of public entities. The market capitalization reached EUR 29 billion and the total number of listed companies stood at 26. The PSE registered a rise in the diversification of traded securities and recorded one IPO for 2011 to the amount of EUR 7.9 million. The local members at PSE predominate in the total trades' volume having a share of 99.5% and by the year under account the exchange attracted two new foreign members. By 2012-end PSE has scheduled to introduce the common trading platform Xetra, to offer possibilities for cross-membership status and a standardized clearing mechanism (7, CEESEG (2011)).

The comparative analysis of the activities of the three stock exchanges operating within CEESEG AG Group leads to the following **main conclusions**:

- deepening of integration through conclusions of cooperation agreements with other regional stock exchanges outside the CEESEG AG Group (for example Belgrade, Skopje, Zagreb etc.);
- the central securities depositories of the countries under analysis undertake conclusion of agreements for establishment of direct crossborder links with other regional central depositories or with international central depositories (as Clearstream Banking Luxembourg & Frankfurt);
- implementation of unified trade rules (with the introduction of a common trading platform) in conformity with the EU legislative framework in the capital markets field;
- increasing the visibility of the respective markets and the degree of diversification of offered financial products (mainly along the lines of structured and derivative products) and providing possibilities for access to the capital markets to SMEs (by establishing niche specialized segments at the stock exchanges as at Prague and Budapest stock exchanges);
- within the CEESEG AG Group still the Ljubljana Stock Exchange remains “in the periphery” due to the low degree of development of the Slovenian capital market, significant share of state ownership in the capital of listed public entities, tax barriers, insufficiently well developed infrastructure for the supply of innovative products etc.

4. Conclusion

According to a report (24, The World Bank (2011)) the Bulgarian legislation has achieved high degree of harmonization with the EU regulations and directives in the field of capital markets. In 2013 a process for implementation of the new EU legal framework is underway (regarding short sales, OTC derivatives, central counterparties and registers of transactions, alternative trade systems etc.) By 2012 the Bulgarian capital market remains limited in size and insufficiently well developed as compared to the Eurozone countries and the CEE countries – targeted in the research paper. A report (18, IMF Working Paper (WP 12/131)) outlines the necessity to continue development of the capital market in Bulgaria in view of accelerating economic growth and productivity through further structural reforms. It should also be emphasized that while most of the CEE countries (especially Hungary and the Czech Republic) are undergoing an intensified convergence process toward the EU economic structures, the expectations for Bulgaria are divergences from the average EU indicators to remain significantly pointed (10, Economics Research Institute at The Bulgarian Academy of Sciences (2012)).

A recent report (26, The World Economic Forum (2012)) places Bulgaria at 62 position out of 144 countries in the world according to global competitiveness index and takes last position by this indicator from the targeted CEE countries in the present research. On the other hand according to financial development index the country ranks 80th followed only by Slovenia (128 rank) from the presently analysed CEE countries. The main problematic factors in front of competitiveness and financial development for Bulgaria remain the high corruption levels, the insufficient effectiveness of the institutional framework and the constrained access to financing.¹ The National Programme for development of the Republic of Bulgaria encourages overcoming these weaknesses by further optimization of the institutional capacities, active implementation of EU financial instruments for startup and growth-oriented SMEs and application of diverse policies to boost competitiveness in accordance with the principles for sustainable development.

In the wake of the global financial crisis by 2011 the market capitalization as a share of GDP started slightly to rise by and reached 16.13 % while for 2010 it stood at 15.6% (14, Financial Supervision Commission, 2012) yet it remains at considerably low level as compared to the Eurozone average. The low liquidity is the chief shortcoming of the capital market in Bulgaria. It is explained with the low volume of free float as well as the outflow of foreign investors from the Bulgarian capital market in the aftermath of the developments of the global financial and economic crisis.

Regardless of the high degree of harmonization of the legislative framework and the market practices to EU levels the capital market in the country still faces a number of barriers hindering its effective functioning.

More specifically at microlevel can be outlined some of the following limitations: low quality of publicly listed companies taking the form in low levels of free float, low capitalization; the companies which achieve higher capitalization levels are leading players in their respective industries and sectors and are often targets of interest for large national or foreign institutional investors; low liquidity which leads to higher costs for execution of deals with predetermined volumes and rising price volatilities.

¹ In this regard it is pertinent to cite two statements uttered by John K. Galbraith (1955): “There is small probability to create healthy capital market in a weak economy,” “Cause and effect run from the economy to the stock market: never the reverse.”

On the other hand at institutional level continue to exist limitations as: lack of established adequate clearing infrastructure which incapacitates the development of derivative market in Bulgaria; the deliberately retarded process for integration of the central securities depository to the European settlement infrastructures; the appreciable differences of the Bulgarian capital market as regards the developed European markets, the lack of political will for reforms of the capital market of Bulgaria etc.

The successful removal of these barriers is contingent on the leading role of market stimuli and forces through an adequate evaluation of expected costs and benefits. The institutional structures are called upon to eliminate the still remaining legal, tax, regulatory and other limitations in front of the capital market and to execute an ongoing monitoring over the market and its participants in view of preserving financial stability and prevention of systemic risks.

The status of a public entity of the Bulgarian Stock Exchange (BulSE) is part of the strategy of the exchange for its development, raising the transparency in its operation and last but not least for further provision of market liquidity. This process is in accord with the tendencies in Western Europe for transformation of stock exchanges in public shareholding entities mainly along the lines of their privatizations. The increased state share from 44 % to 50 % plus one share aims at blocking attempts from hostile takeover of the stock exchange. The public flotation of the shares of BulSE is driven by an incentive for raising transparency and enhancing liquidity of its own shares. The prospective strategic alliance of BulSE with foreign-owned stock exchange can be expected to lead to improved public wellbeing and raised consumer surplus in the long run in accordance with the public well-being theory.

The comparative economic analysis of some CEE stock exchanges undertaken in the report gives some grounds for assumptions about the attainment of the strategic priorities of the Bulgarian capital market.

The eventual merger of the BulSE into a leading exchange operator or exchange alliance presently would not be conducive to the achievement of full benefits from such consolidation given the outlined restrictions and barriers on micro- and institutional level above. A concrete example in this regard is the Ljubljana stock exchange (which is the most appropriate for comparative purposes with the BulSE as per market capitalization and level of capital market development). The Ljubljana stock exchange has been a subsidiary of CEESEG AG since 2008. For three years following its merger it has managed to attract five remote access members (who generate about 10 % from total turnovers trade) and to introduce the common electronic trade systems Xetra (which has been implemented at the Bulgarian capital market since 2008). Irrespective of the heightened visibility of the Slovenian capital market, it remains limited in size, insufficiently developed and diversified, without available IPOs and just one issue of structured products for 2011.

An indicative conclusion from the comparative analysis of the CEE stock exchanges is that Czech Republic and Hungary manage to derive significantly higher benefits from their integration into CEESEG AG due to the fact that they enter into the merger well-prepared, on the basis of established competitive advantages along product innovation and diversification line, similar level of financial development and gradual harmonization of trade infrastructures.

The successful attainment of the strategic objectives of the capital market of Bulgaria for deeper integration into EU capital markets requires introduction of innovative financial instruments in the short to medium term, boosting liquidity and improving the trade terms and the market infrastructures.

The organization of cash market for innovative financial instruments points toward a potential for cooperation between BulSE and the Sofia Commodity Exchange (as in the case of the Budapest stock exchange) which can develop procedures for trade in financial instruments based on commodities. The clearing services for the cash market can be effected through updating the information systems of the central securities depository (or via the establishment of a clearing house as not-for-profit organization owned by the members of the two exchanges as is the general European practice, or eventually through outsourcing clearing services on the basis of a thorough cost-benefits analysis). The cash market should set capital requirements to the clearing members who will be guarantors that their customers will timely fulfill their settlement obligations, including through granting intra-day credit (in cash or securities). The clearing members should have possibilities to offer cash settlement on T+0 basis (at the value day of the respective transaction) or on the next day (T+1), which is important for raising liquidity.

A factor of paramount importance for the effective functioning of the capital market is raising liquidity, lowering transaction costs, stimulating trades through alternative trading systems and attraction of retail investors. Main customers of multifunctional alternative trade systems could be institutional investors, which are not directly allowed to trade on the exchange. The effectively functioning stock exchange can be considered as a public good. The stock exchange generates profits from increasing the volume of trades, which depends on the quality of offered services and the established exchange reputation.

The boost of liquidity on the primary market (where in 2011 there is not a single IPO) is crucially dependent on reviving of liquidity on the secondary market chiefly along the line of encouraging trade of retail and mutual funds. Market liquidity requires also increasing the percentage of free float and adjusting the levels of transaction fees according to the volume of executed transactions. It is also important to preserve the zero tax on capital gains arising from exchange trades and eventual possibilities for introducing other tax preferences for exchange trades.

An important aspect in attracting new issuers and investors is the scheduled placements of state shares for privatizations (for example through listing of residual shares of the electrical distribution companies) through the stock exchange. The activities of the pension funds in the country is also of importance since they are the only institutional investors given the low level of intensity of mutual funds on the capital market. Irrespective of the fact that the pension funds are predetermining investors on the capital market, their investment opportunities are limited due to the existence of legal restrictions. The share of their investments in equities declines while that of investments in benchmark foreign securities is on the rise. The only way to give an impetus to their activities on the capital market is through transforming the pension funds into public companies in order for them to act strategically for the development of the capital market in Bulgaria. An indicative is the example of the pension funds in Poland which invest on average over 30 % of their assets under management in shares at the Warsaw stock exchange.

The boost of investment interest into the Bulgarian capital market also requires an increase in the activities of the BulSE regarding organization of local and international roadshows, seeking the viewpoint of investors, providing regular for a seminars, training courses to the members of the exchange and the investment community as per the examples of the Ljubljana stock exchanges.

Another possibility for attracting investors is the exchange to organize a niche market for trade in shares of innovative SMEs similar to the OTC START market maintained by the Prague stock exchange. A preliminary condition for this option is the country to encourage financing of SMEs

through various venture capital forms. As a part of the common EU market Bulgaria is dependent on the ongoing processes of economic recovery as per Strategy “Europe 2020” through traditional and innovative forms of investments in venture capital. The complexity of the existing financial and economic conditions in the crisis and postcrisis periods has lead to a restricted access of SMEs to bank lending which presuppose evaluation of venture capital investments with the view of the further development of the capital market in Bulgaria.

Last but not least the attraction of foreign investment companies back to the Bulgarian capital market requires an entire improvement in the conditions of the business environment. This includes reducing the administrative burden and red tape, simplification the rules for acquisition of public companies etc. Such obstacles to economic activities sharply worsen the effectiveness of the capital market. An important indicator in this regard is the control over corruption. The high levels of corruption hamper private investors from exercising their rights through the court.

The potential model for the future development of the Bulgarian capital market passes along an evolutionary organic overcoming of its intrinsic limitations through various forms of regional integration (based on cooperation agreements for direct access to clearing and depository institutions) to subsequent merging into pan-european horizontal clearing and depository institutions. Main prerequisite for the success of such an integration model is the high degree of legislative harmonization of the EU member-states and the potential for implementation of unified market practices, exchange trade systems, quotation rules, clearing and settlement processes.

The expected positive external effects from these integration processes among CEE could be along the lines of economies of scales due to the links interoperability – compatibility – coordination, decrease in the market uncertainties, boost in liquidity and the depth of the capital markets. The development of future trans-european capital market would raise effectiveness of supervision and coordination for preservation of financial stability within EU and on a global scale.

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APPENDIX 1

COMPARATIVE TABLE AMONG CEE STOCK EXCHANGES

Quantitative and Qualitative indicators	The BulSE Sofia AD	CEESEG AG (Vienna, Prague, Ljubljana and Budapest stock exchanges)			
		Vienna	Prague	Ljubljana	Budapest
Year of establishment	1997	1771	1992	1989	1990
Shareholding structure	Public company	Public company	Public company	Public company	Public company
Types of markets	Main market BSE (includes share segment Premium, share segment Standart, segment public companies with special investment purposes, segment collective investment schemes, segment Compensation instruments, Bonds segments, Structured products segment); alternative market BaSE (shares segment, segment public companies with special investment purposes)	Shares market; bonds market; derivatives market; structured products market	Main market, free market, OTC market for SMEs (START)	Prime market; Standard market; Entry market; bonds market; Structured products market	Main market; debt instruments market; derivative market; commodity market and market for foreign shares trades (Beta Market)
Number of stock indices	4	over 70	2	1	2
Market capitalization relative to GDP for 2011 (%)	16.5 %	23%	20 %	13 %	16.2%
Market capitalization in EUR for 2011	6,3 billion.	65 billion	29,9 billion	4,8 billion	16,8 billion
Trade volume at regulated market in EUR 2011	367 million	14,1 billion	7,7 billion	0.4 billion	6,9 billion
Trade volume at OTC market in EUR 2011	399 million	38 billion	109 million	0.2 billion	155 million
Number of listed companies on regulated market by 2011	24	105	26	66	54

Quantitative and Qualitative indicators	The BulSE Sofia AD	CEESEG AG (Vienna, Prague, Ljubljana and Budapest stock exchanges)			
		Vienna	Prague	Ljubljana	Budapest
Concluded cooperation agreements	Cooperation agreements for exchange of market information with Macedonian and Belgrad stock exchanges	Cooperation agreements with the stock exchanges of Bucharest, Zagreb, Belgrad, Sofia, Sarajevo, Montenegro, Bania Luka and Macedonia. Agreements for product and index cooperation with the Shanghai stock exchange, Bulgaria, Serbia, Bosna and Herzegovina, Croatia, Slovakia, Poland, Russia, Ukraine, Romania, Kazakstan, China	Cooperation within the holding structure CEESEG AG; Agreement with the Securities and Exchange Commission of the USA to be nominated foreign market	Cooperation within the holding structure CEESEG AG; Cooperation agreements with the stock exchanges of Belgrad, Skopie and Zagreb	Cooperation within the holding structure CEESEG AG
Established cross-border links between local and foreign central securities depositories	Romania Concluded cooperation agreement with Austrian clearing and settlement bank – Oesterreichische Kontrollbank AG	Clearstream Banking Frankfurt	Slovakia (reciprocal membership agreement)	Clearstream Banking Luxembourg	Clearstream Banking Frankfurt
Free Float (%)	25 %	min. 25 %	min. 25 %	min 25 %	25 %
Number of members	115	93	21	27	38
Number of IPOs for 2011	0	1	1	2	0
Shares issues by 2011	323	111	26	68	55
Bonds issues by 2011	55	3668	95	70	158
Structured products issues by 2011	0	5812	81	1	55

Source: as per statistical information contained in the annual reports of the respective stock exchanges for 2011 - 2012 and the Federation of European Stock Exchanges

Reshoring in Manufacturing and Services

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Abstract

The extent of offshoring and outsourcing recorded in manufacturing and services in the last two decades has gradually eroded the advantage of the global arbitrage of labor costs. Along with other factors, this process began to change the options of international relocation of some companies that initially had adopted such a strategy, generating a reverse trend for returning in the country of origin of manufacturing and other activities. This process, called "reshoring" has recently started to gain some consistency. The trend is most notable in the sphere of production. In terms of business and IT services we cannot yet speak of a tangible start of the reshoring phenomenon, as it does in the sphere of production. Nevertheless we can see a slowdown in the offshoring of services and the emergence of new strategies in the field.

Keywords: *offshoring, outsourcing, reshoring, on-shore, TNCs.*

1. Introduction

The phenomenon of offshoring and external outsourcing in the sphere of production and business services emerged in the '80s and quickly became, in the next two decades, a widespread phenomenon, and in fact a new component of what we call economic globalization.

Both external outsourcing and offshoring took place almost exclusively in the direction of developed countries - the least developed countries (mainly emerging), with important benefits for Western companies that have opted for this strategy as a result of a significant gap in labor cost (most noticeable factor of a wider set of factors that weighted in the geographic relocation decision), and also as a result of the indisputable advantages of the outsourcing of manufacturing and of other components of the value chain of a product in the context of the international functional specialization.

For the offshoring boom period remained emblematic the assertion of the Executive Director of the American giant General Electric, Jack Welch, who said that "the ideal strategy for a global company would be to put every factory it owned on a barge and float it around the world , taking advantage of short-term changes in economies and exchange rates".

The two manifestations of globalization, offshoring and external outsourcing, also produced advantages and disadvantages for the countries involved, namely multiple economic and social benefits to the countries to which production and services have been relocated, while for the Western countries most visible were the lower prices for a wide range of goods and the loss of jobs, initially more evident to those with lower skills, but increasing thereafter for the middle class also. This issue

was raised in a survey conducted in 2010 by NBC News and the Wall Street Journal showing that 86 % of Americans indicated as the cause of economic difficulties the offshoring of jobs to low-wage countries.

The scale of offshoring gradually eroded the advantage of the overall labor costs arbitration. Wages in China and India have grown by 10-20 % annually in the last decade, while payment per hour of work in industry, both in America and Europe, almost stalled. Along with other factors, this process began to change the options of international relocation of some companies that had adopted the offshoring strategy, generating a reverse trend of returning to the country of origin of manufacturing and other activities. This process, called "reshoring", has recently started to gain some consistency, which requires the analysis of the present and future favoring factors. The trend is to be seen both in the production and in the business services areas.

2. Reshoring in Manufacturing

It must be emphasized first that reshoring is predominantly an American phenomenon. This follows from the following facts:

- European companies were much less involved in the offshoring strategy compared to the transnational American companies, so they have, from the start, less to relocate.
- Labor markets in European countries are still inflexible and expensive, so that a considerable advantage in labor cost arbitrage persists, even if wages in China and other countries increased meanwhile.
- Compared to the U.S., in Europe the share of family firms is high and they are prone to conduct business in their own country.
- European companies were to a greater extent relying on "near- shoring", meaning offshoring to East European countries, thus minimizing from the start the cultural and linguistic differences, but also transportation costs.
- However a differentiated approach to offshoring within the European countries can be also observed, most active being the companies of north European countries which, unlike companies in France, Italy and Spain, have not suffered the same social and political pressure to keep the jobs in the country.

Secondly the tendency to manufacturing reshoring results from the expressed intentions of the companies, as well as from the actual relocation of production capacities.

In this respect, from the two surveys conducted in collaboration by AlixPartners, McKinsey and Hackett on a global scale regarding the intentions of companies to relocate manufacturing, it resulted, for the period 2012-2014 compared with the period 2009-2011, on one hand a reduction of the offshoring volume (from 26 % to 23 % of production capacity) and on the other hand an increasing determination to relocate from the initial offshoring destinations (from 25 % to 43 % , including an increase in relocation to other low-cost countries from 16% to 24% of the capacity and an increase of reshoring intentions from 9 % to 19 % of capacity) .

Among companies that have already started reshoring operations worth mentioning are General Electric, Caterpillar, Ford Motor Company, Google, Apple and smaller firms such as IKEA, Emerson (electrical equipment), Desa (power tools), ET Water Systems. A year ago, the number of

U.S. firms that have brought home the whole or a part of the manufacturing capacity already reached 100. The comparative figures the phenomenon is not yet of magnitude, but it is significant.

Transnational companies will become less overall as a result of this trend, but the geographic distribution of their activities will be more selective.

Among the factors that determine today and will influence in the following years the reshoring decisions of companies we should mention:

1. The narrowing wage gap between developed countries and "low-cost" countries. International Labor Organization has calculated that in Asian countries real wages increased between 2000 and 2008 by 7.1-7.8 % per year, while in the developed economies, according to McKinsey Global Institute, wages rose in the same period only by 0.5-0.9 % per year. The gap appears even more striking compared to China where the aggregate of the salaries and benefits of an average worker increased between 2000 and 2005 by 10% per year and have accelerated between 2005 and 2010 to 19% a year, and the Chinese government has set the target to increase the minimum wage by 13% per year until 2015. Regarding the top management remuneration, according to a study conducted by the consulting company Hay Group, in some countries such as China, Turkey and Brazil it equaled or exceeded the levels recorded in America and Europe.

Other countries including Vietnam, Indonesia, Philippines, Cambodia, Myanmar offer lower wages than China, but still do not offer the same opportunities in respect of the long series of production, efficiency and supply chains. Not to mention other setbacks such as labor availability, productivity and skills.

In the context of the narrowing wage gap, already the well-known American company Manpower recommends to those Western companies that have in the overall cost structure of the product up to 15 % labor costs, to avoid the option for offshoring. This strategy will produce them losses due to the narrowing wage gap and its cancellation by transport costs.

It is expected however that in industries intensive in labor to observe a reverse in the current situation to the detriment of offshoring due to an impending revolution in robotics.

2. The impairment, by the interposing of a considerable distance between the functions of manufacturing and design, of innovation and quality. A solution would be the offshoring of research and development to the host countries of production offshoring. An example is the company Caterpillar which has recently decided to expand its R & D activities in China. However, because the protection of intellectual property rights in many developing countries cannot be fully guaranteed, most high technology companies prefer to conduct these activities in their home countries.

Impaired quality as a reason for reshoring is not new. A study by Deloitte Consulting in 2005 revealed that from 25 major companies who outsourced certain activities, a quarter insourced them back to achieve better quality and even lower costs.

3. Slower reaction to market demands when between this and the location of manufacturing is interposed a considerable distance. This factor increases in importance due to the fact that the proximity to customers and the quick respond to their demands became a major competitive advantage.

Increasingly the TNC's production relocation strategy is not so largely motivated by the arbitrage of production factors, as by the need to be close to customers. Some authors consider that in

such cases we do not speak about offshoring in the sense that this term was used in the last three decades, but about "on-shore" in other countries. It is true that the term offshoring is often associated with the transfer of manufacturing to countries with low wages, but we must not forget that the transfer of manufacturing to other countries has been and still is the basic strategy of TNCs to conquer new markets. This aspect is to be found in TNC's strategy to go in various forms to China and other countries for their potential to grow as large markets. The carmakers case is relevant. But there are companies who initially moved manufacturing to China to take advantage of low cost of labor, but now remain and expand in China for the market itself (Bombardier, Siemens, etc.).

Closeness to the customer is a strategy that large companies from emerging countries have also started to implement through the offshoring of manufacturing to developed countries. For example, the Chinese giant Lenovo who bought a decade ago the manufacturing of PCs from IBM, decided in 2013 to transfer some production in the U.S. in order to meet customer demands and quickly customize the product without waiting six weeks until it would arrive by ship from China. Taiwanese giant Foxconn also announced recently that it will increase activity in the U.S., motivated by the partial reshoring of Mac computers by Apple.

4. The appearance and decrease in the cost of implementation of new manufacturing technologies that will cut down the use of labor will gradually diminish the importance of a major reason for manufacturing offshoring. Perspectives closer than we can imagine will offer 3D printers and industrial robots. Already the average price of robots relative to labor cost decreased by 40-50% over the last 15 years with the increasing complexity of their operations and programming versatility.

5. Avoiding the problems of the supply chain management. Although logistics has improved, there are still plenty of factors that can jeopardize a complex chain of suppliers with high spatial dispersion. A recent resounding example was the less inspired product strategy of Boeing to manufacture a new and very sophisticated type of plane, the 787 Dreamliner, outsourcing 70 % of the development and manufacturing activities to about 50 suppliers who in turn have subcontracted to hundreds of other companies. As a result not only the deadlines have been exceeded, but some serious quality and reliability issues appeared. An example of a consistent strategy that relied on short chains and flexible suppliers is the Spanish company Inditex (with Zara as its main brand) that develops successfully by resisting the temptation to contract with suppliers from China and using the manufacturing capabilities of Spain, Portugal and Morocco.

3. Reshoring in Services

In terms of business and IT services we cannot yet speak of a tangible start of the reshoring phenomenon as it happens in the sphere of production. Transport costs do not play any role here. What we find is a slowdown in services offshoring and the emergence of new strategies in the field.

Regarding the first aspect, the slowdown in services offshoring, the main causes are:

a) The fact that most services readily transferable abroad have been already moved there, especially in the BRIC countries, with India as the main destination. In 2008 India was credited with 65% as a destination for IT services offshoring and 43% for business services. Thus, recent estimates show that European and American banks and financial services institutions have already transferred about 80 % of what can be transferred to India and other foreign locations.

b) The fact that many of the activities that could be outsourced are subject to further efficiency gains in developed countries and requiring a higher level of qualification, making them less outsourceable.

Hackett, an American outsourcing consultancy company estimates that during 2002-2016 offshoring will be responsible for the transfer of about 2.1 million jobs in the business and IT services, but this process will slow after 2014 and even stop complete to 2022.

The emergence of new strategies in the sphere of services offshoring and outsourcing can be observed and it is also expected that gradually more and more companies will reconsider their options in the near future. Some considerations can be the following:

1. Although during the crisis years of 2008-2009 the overseas transfer of jobs in the service sector accelerated, including also more complex and highly skilled activities, today, according to some specialists, more companies find that there are hidden costs of this strategy, first of all the loss of connection with some important functions of the company. Thus, if some activities were, until recently, regarded as not being important for the overall profitability of the company, such as information management, now they are reconsidered as essential and undesirable to be transferred to independent firms also located at considerable distances.

2. It is important to note that a strong signal about IT services reshoring was recently given by two American giants that were at the forefront of offshoring and outsourcing processes, namely General Electric and General Motors. The main motivation, but also favored by the reducing wage gap, is that returning at least a portion of IT services in the U.S. allows more flexibility, speed and innovation in relation to the local market, aspects suffering when they were performed by suppliers from India.

3. Decreased relative wage advantage is to be observed also in the sphere of services. In the case of IBM, for example, the cost of labor in India was in the beginning with 80 % less than in the U.S., but now the gap reduced to 30-40 % and decreases further. From a survey conducted by Hfs Research from Boston in 2012 resulted that the most promising market for outsourcing IT and business services for at least the next two years was considered America, for the first outpacing India. One explanation comes from a study of McKinsey, a consultancy company, regarding the perspectives of jobs in U.S., showing that IT specialists in areas with lower wages in the U.S. can be hired cheaper than in Brazil or Eastern Europe, and being just 24% more expensive than those in India. In many developed countries there are wage regional differences, ranging up to 30 %, such as between Paris and northern France, or between western and eastern Germany.

4. Greater labor fluctuation in "low-cost" countries creates services quality issues. We can observe also that third companies cannot perform monotonous back-office tasks better, but on the contrary.

5. Cultural affinity also plays an increasingly important role in customers' mind, customers that are even willing to pay more for this convenience. This is more strongly observed in the case of financial services, and the result is the transfer of call center services from India to the Philippines, America or Europe.

6. A complementary to reshoring phenomenon is the transfer of services offered by big Indian companies from India to U.S. For example, Infosys has opened in recent years a number of 18 new offices in the U.S., employing primarily Americans and being close to various U.S. companies.

4. Conclusions

Can we say that the narrowing wage gap between developed countries and "low-cost" countries, along with other factors to which reference was made above, will increase in the near future the reshoring phenomenon, especially in the sphere of manufacturing and to a smaller scale in the business and IT services. As results from surveys conducted in the Western business environment, a number of factors such as the qualification of the workforce, labor legislation, the existence of appropriate infrastructure and industrial clusters, the stability and benefits of the tax system, get a growing importance in the companies decisions on international relocation. These issues have to be tackled with more consideration within government policies. Reshoring or quitting offshoring or outsourcing may be promising for Western economies, but they have to be stimulated by a greater flexibility of the labor market, by providing an increased number of specialists coming out the educational system etc.

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Adoption of the Objectives of the Monetary and Economic Union and European Financial Integration

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Abstract

The European concerns, with old traditions in forming multinational financial markets, developed in the integration of the financial markets and of the European banking systems which allowed the investors from any European country to follow the orders on the best market, through the best beneficiary, benefitting from the most effective financial-banking services. This market offers sophisticated and modern financial tools, which cope with the needs of the investors, portfolio managers, transnational companies and traders, having an impact over the balanced economic development of the European countries and unemployment reduction.

Keywords: *financial-currency, banking and capital market, dual prices; compensation and discount facilities; portfolio management services; liabilities markets; assets market; money-currency market; derivative products markets; credit market.*

1. Introduction

The paper discusses the appearance of the European Economic Monetary Union and the integration of the European financial markets as a process which was followed by reorganizations of the financial systems at worldwide level, including the European level.

These reorganizations discussed below are tied to a wider opening of the financial markets for the variety of the financial resources, total transformations of the monetary circulation and of the financial tools– debt and patrimonial -, the revolution of the transmission systems, reorganization of the transaction systems, important changes in the competitive processes etc.

The studied matter is also very important to see the impact of the introduction of Euro as an international currency.

The introduction of Euro meant also the integration of the capital markets and the European banking systems. These markets supplied sophisticated and modern financial tools, which answer the needs of the investors, portfolio managers, transnational companies and traders

2. Literature review

2.1 The main economic objectives taken into account at the appearance of the Monetary Economic Union were: the removal of the exchange rate fluctuation, trade and investments promotion, increase of the enterprises benefits, reduction of the transaction costs, competitiveness improvement.

The increase of the Monetary Economic Union, the objectives and the status of the European Central Bank based on the convergence criteria have offered a perspective for the internal and international monetary stability. Afterwards it had a structural contribution over the economic increase and hiring the workforce.

The analysis of the advantages associated with the bringing into force of the European Economic and Monetary Union shows:

Increase in the financial-monetary and international currency durability

A common European currency is an important symbol of the EMU and represents an alternative for the American dollar as associated tool for international liquidity, the "national" currency of such a large market getting the same degree of accessibility as the dollar is enjoying today. The two major international currencies are in competition, and the most stable of them is preferred in international transactions. Thus, per total, the stability of the international monetary system has increased.

Particularly, Europe has as an advantage the fact that the national currency can be used sooner than the dollar, as a reserve asset, allowing to be used as a central monetary authority to regulate the level of the exchange rate with the rest of the world.

The removal of the mutability and uncertainty of the exchange rate implies a more effective assignment of the resources within the union in more ways:

1. By increasing the effectiveness of the prices mechanism as a resources assigner. The volatile and unpredictable exchange rates have as outcome difficulties in interpreting the market signs. The resources are not correctly assigned, and the unemployment is more increased than under other conditions. A monetary union leads to a reduction of the natural unemployment rate in the member states.
2. Stimulation of the member states industrial sectors. The volatile and unpredictable exchange rates favor the resources transfer towards the unbendable goods sector, which is not exposed to the international competitiveness and is greatly unaffected by the changes which is not exposed to the international competitiveness and is on the whole unaffected by the great enough and unanticipated exchange rates. The appearance of the European Union, through the encouragement of the resources transfer back to the industrial sectors, leads to an increase of the average rate of increasing productivity in the member states, as well as to an unemployment decrease.
3. Increase of the competitive forces within the union. The cost of the exchange rate management risk doesn't vary greatly according to the size of the company. Therefore, the uncertainty of the rate exchange represents a disadvantage especially for the small and medium sized companies. The appearance of the Monetary Union has removed this disadvantage.
4. Registration of the greater increase rates of the trade and intra-community investments.

Decrease of the transaction costs on the financial markets

Within the intra-community there are costs related to the conversion rates from one currency to another or an attempt to cover the exchange risk.

Among the member states there has been registered a great degree of integration regarding trade, capital and monetary fluctuation.

The adoption of a single currency was a major merger factor. The liberalization of the capital and financial-banking services movement from Europe has become self-acting and irreversible, with all the known advantages regarding the personal freedom and the economic effectiveness.

Equilibration of the balance of payments

Within Europe the single currency has removed greatly a series of issues related to the balances of payments, turning the “adjustment process” into a mechanical and smooth one. Up to present the resources dissipated collecting, analysis and discussion of the statistics of the intra-European balance of payments can be thus oriented towards a more productive use.

Increase of the monetary-financial and internal currency stability

With a single European currency, the regional inspections don't play an important part in the monetary decisions, which sooner tend to ensure a general stability, than a single inflation rate instead of twenty seven. This indeed is an extremely important consideration due to the fact that, just as Antonio Martino stated: “I don't know any economist who can fight the idea that the proliferation of a regional currency within a certain country would increase the general currency stability, at the national level” [2].

Decrease of the interest and inflation rates

Indeed, the interest rates within the union after 2002 have decreased, but with a reduced anticipated inflation and in the absence of the risk perks attached to the weaker currencies as a depreciation insurance. With all these after the beginning of the financial crisis in 2007 we have been facing an increase of the interests and especially of the inflation.

2.2. Constraints and frustrations caused by the economic and monetary union

Despite the above apparent advantages, there are some objections frequently met regarding the EMU.

Loss of the national economic sovereignty

In this context, EMU can be defined as the power of the national European states to determine and implement the first preferences regarding the economic and monetary policies, regardless of the policies and the events from other states. The loss of economic sovereignty of the states which results in EMU are split in two:

- The loss of control over the economic and financial-monetary policies

Therefore, a country involved in the European Union cannot implement a policy made to reduce unemployment, whereas its partners are involved in adopting policies designed mainly to

reduce the level of inflation. If a country intends to adopt a certain economic policy, it should first win the battle over the objectives of the economic policy.

- The loss of the individual control over the tools of the economic and monetary policy

This must be implemented in close cooperation with other states, implemented centralized by the supranational bodies, such as: The European System of Central Banks (ESCB) and the European Central Bank (ECB). Such authorities introduced joint monetary policies for the EU, with the centralized determination of the variables for the monetary emission and interest rate. It is clear that in such situation there are important sovereignty costs. It is possible, for instance, that the macroeconomic policy which is appropriate for the EU as a whole, not to be appropriate for a certain individual region. That's why a series of questions occur:

To what extent would these apparent losses of economic and national currency sovereignty become reality regarding the EMU? Does the economic and monetary sovereignty really exist in the contemporary Europe or is just an illusion? The answer to these questions is very important due to the fact that, if the countries enjoy up to present an important control over their economies, then there is a loss of sovereignty. If, on the other hand, the economic and monetary sovereignty is limited, then the losses of sovereignty are accordingly limited.

This is a controversial issue; it cannot be verified empirically and depends on a great number of relatively complex factors. Valerio Lintner's opinion is that, "... under increasing independence conditions in a world presently characterized by the power of deregulated capital and of the currency markets, there are boundaries for the small and medium European economic capacities to control independently their own economic business. Thus, common promotion of the economic policies can represent for the national European states as a partially refund method of control over their own economy – "collective sovereignty" is anyway preferred to the lack of absolute sovereignty." [1]

Distributional impact

The distribution of any economic profit which resides from the EU is not equal, and the costs of the structural transformations which reside from a Monetary Union are concentrated in some regions of the union.

In the first place, the cost of joining the EMU is borne unequally by the poorer regions of the EU.

Secondly, EMU eliminated another important boundary to operation of the free markets within EU. From a neoclassic perspective, the free markets, in general, and in particular the free movement of the capital and of the financial-banking services within a region, have to increase the economic welfare by facilitating a certain effective resource allotting, and in the same time, to promote the profit leveling of the production factors among the states, in such a way to converge within the Monetary Union. Still, from a different perspective, the free markets can lead to the aggravation of the national and regional differences regarding the real welfare, the more prosperous areas taking advantages on the poorer countries and regions.

Depriving the national governments of an important revenue source

Currency appearance is an important source of revenues for the national governments, and these haven't been prepared to give them up too easy.

We presented above the main global aspects of the Monetary Economic Union, which each member state will face the following years. Still there are implications of the euro introduction over the consumers and the trade societies regarded through their participation on the single financial-monetary and currency market.

2.3. EMU and its involvements over the consumers and companies

2.3.1. Effects over the Consumers

The effects over the consumers must be watched under certain aspects:

Link among currencies

The irrevocable conversion of the participating currencies to EMU and to the single currency, euro, took place on the 1st of January 1999, as it is known. Euro had the same external value as ECU at that moment. ECU ceased to exist, and the contracts designed in ECU were turned into euro, with a 1:1 rate.

The participating currencies don't have exchange rates anymore, but fix conversion rates. Initially, euro use was possible only in transactions which didn't imply cash, but because after the 1st of January 2002 the use of euro not to be banned anymore. All the contracts were changed by legal euro operations, and euro coins and banknotes were also placed on the market. Euro had in that moment the legal status of European currency, which means that the payments were not refused anymore. Euro, as well as the national currencies will be in circulation for a time of maximum 2 months. At the end of this time, placing at intervals but no later than the 20th of February 2002, the national currencies lost their validity, their exchange in banks being still available for a period.

Dual prices

During the two months transition period, a dual system of prices was used in shops and companies. The duration of the period was decided after consulting representatives of the banking industries, stating the fact that a sudden change is not physically possible. Even more, the cash dispensers wouldn't have been possible to be changed right away.

It seems that two months was the right time for the public in general to get used to euro and to learn how to use it as payment means and account unit, even if its minimization was attempted as much as it was possible.

Banking services

The public noticed that all the payments and the saving accounts, customer credits, loans etc. were converted into euro on the 1st of January 2002. All these, as well as the other contracts, were turned into euro according to the laws in force, based on the conversion rate. All the amounts to be received or paid kept their value, so that there were no profits or losses from this point of view. The regulations of the European Council set the fact that those existing contracts, such as pensions, insurance policies, term deposits, mortgages and so on, should remain in force, including the application of the interest rate and refinancing, and the cash withdrawal from the banks pay desks were performed even from the start in euro.

The banking operations remained in the national currency up to the effective conversion deadline, to avoid the expenses and possible errors which could turn up at transforming the balances and the transactions both in euro and in national currencies.

The value of the transactional titles was set only in euro, for instance, for the new emissions of government bonds. This thing was done for the inter-banking payments.

Before the conversion date, new accounts could be opened or transactions in euro performed, but these implied more costs than advantages for the customers, because they were asked to keep their accounts in the national currency, since the payments had to be made in that currency. Funds transfers both for the private customer and for the companies had to be made in euro, but they were asked to accept payments in the national currency to the complete time expiry of the transaction.

Consumer benefits

The exchange of the travel money or import payments was needed until the final phase of the European Monetary Union. After that, the consumers were spared of the effort of such an operation.

It was assumed that the prices would decrease immediately after the European Monetary Union came into being, as the exchange rates were set irrevocably, and the banks were not forced to include a margin for the currency risk transactions. An administration tax is perceived.

Likewise, bank taxes for international payments were substantially reduced after the accommodation of the payment national systems within the union.

Another benefit was that the foreign prices don't have to be recalculated in their own currencies anymore by the consumers. It is easier to compare the foreign prices in their own currencies, as it is easier to compare their prices and products from different states, the market becoming more and more transparent. This gave an impetus to the competition favoring the customer, the pressure against the prices becoming weaker.

The appearance of the single monetary markets contributed to the hiring of workforce, bringing prosperity in the EMU space not only by increasing competitiveness, but also by setting prices and exchange rates.

2.3.2. Effects over the companies

Different organizations were directly involved in planning the final scenario for the introduction of the single currency, organizations which tried to minimize as possible the associated costs.

The stages undergone regard:

- Identifying the changes determined by the introduction of the Euro

The companies had to prepare for the transition to the single currency by identifying the basic changes which had to be performed. According to the features of the company, size, international operations changes took place in: price lists (dual prices during transition); cash register and cash dispensers for coins and banknotes; existing contracts; invoice systems and price transfers; wage systems; accountancy systems, in balance sheet and profit and loss accounts achievement; liquidity and capital flux management; financial policy; data systems.

All these changes which took place within the structure of the companies were combined and also with the software planning, trainings being needed for both suppliers and customers in the same time.

Different studies convey the fact that the training periods for the adoption of the single currency differed from three months, for small companies, to three years for big transnational companies.

- Contracts

In the carrying out of the contracts there was a continuity, and at the end of the transition period, for those expressed in ECU the conversion was undergone in euro according to the European Council regulations, at a 1:1 parity. The fix rates for the term loans were also not changed until the due date, but the interest plus the leading is awarded in euro. Thus, it was recommended for the contracts outside the EU ending on the 31st of December 2001, if it is not mentioned by the parties, still set in ECU or another currency about to disappear, to include a clause to transform in euro at an official conversion rate.

2.4. The ideal European financial market

The ideal European financial market meant:

- Common regulation framework to ensure the protection of the investors and the loyal competitiveness, without useless obstacles;
- Effective compensation and deduction facilities joint for all the European Union countries;
- Trade and communication systems to ensure the transparent and effective distribution of information. Technology played an important part in the self-acting transaction, sending orders and title quotation communication;
- Futures and options contracts in the entire Europe;
- Straightening of the taxes and commissions on stock market transactions and banking operations;
- A competitive framework which quickened the effective development of the financial activity.

The ideal financial market also meant specialized and professional staff, competitive prices, a flexible management system which can combine the long term plans with the ability to answer promptly to the changes and effective use of the technology, with an essential part in the management process and in the delivery mechanism. The risk control, operation surveillance and profitability were emphasized.

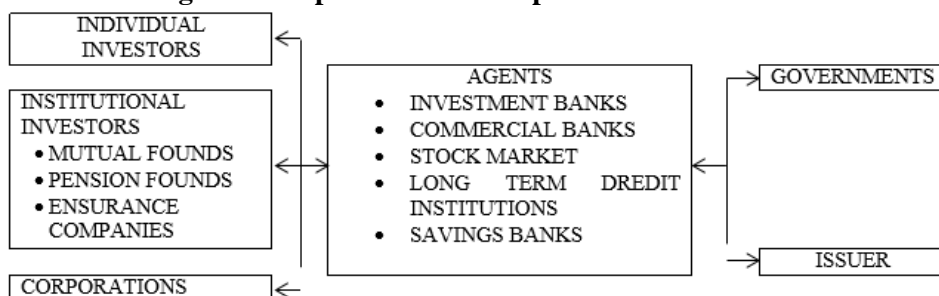
Demand on the financial market

Before the EMU was formed a relatively stable demand was registered on the European financial markets from the investors. But after the appearance of the EMU, serious changes took place which determined the participants (see fig. 1) and the markets to react to new or improved strategies regarding investments, quotation, compensation and deduction, delivery services of the financial products.

Some specialists [3] identified some trends in the European financial market demand. Thus, the marginal tendency towards economy of the investors has increased these funds being placed more

in financial products than in bank deposits, being aware of the importance of making the right investment choice.

Fig. 1 Participants to the European financial market



Knowing and meeting the customers' demands was the key for success. The customers became more sophisticated and demanding.

The institutional investors proved high professionalism focusing important flux of investment in pension funds, mutual funds and insurance companies. As the big companies, they become familiar with the risk management techniques.

The characteristics of the market demand were set by the participant types on the financial markets: individual, institutional investors, and corporations.

The direct investments of the individual investors in exchange securities registered an increase, while the indirect investments on the capital market increased greatly, including the portfolio management services.

The criteria in choosing the agent on the market was safety (security) offered to the customer, image and qualified staff, as well as ability to deliver specialized services; commission and the other taxes play an reduced part in choosing the institution to manage the investments in exchange securities (see fig. 2).

Fig. 2 Services of portfolio management for individual investors

CUSTOMER CRITERIA (in the order of their importance)	COMPARED ADVANTAGES (%)			
	Banks	Financial investment companies	Mutual founds	Insurance companies
Safety, stability	66	1	11	20
Image	67	5	8	15
Staff qualification	44	27	8	9
Long term performance	25	15	37	16
Previous relations	78	10	3	5
Accessibility	91	2	2	3
Products variety	76	5	7	7
New or innovative products	32	28	14	16
Short term performances	28	24	26	10
Commission, price	29	31	17	14

The capacity of the institutional investors has increased significantly, due to the funds received from the individual investors, corporations for pension and treasury found [4]; the provisions reflect the fact that the most rapid development is for the pension funds and insurance companies.

The efficiency criteria for the institutional investors were the following the orders, high qualification of the staff and an efficient compensation and deduction system. The commissions and taxes played a great part, especially due to the competition which conducted to the decrease of tariffs and their unification.

The increase of the demand on behalf of the investors have created new opportunities for the market participants; but they had to invest seriously in technology and IT to cope with the increasing volume of the transactions and to control the costs associated to the supplied services.

The market participants who proved capable of creating a distribution network had to resort to technology to substitute the absence of a physical office. Anyway, important investments were needed in the delivery services of the financial products, which could not be undergone without a clear business strategy and without understanding the computerized communication.

The corporations have turned into the most sophisticated investors on the financial market in the last years, approaching in their operations a strong professional approach, due to the fact that they offered a great importance to some effective and innovative solutions than to tariffs practiced by agents.

But supplying more effective services means keeping on investing in technology, and also changings in the organizations and transaction procedures.

2.5. Tendencies of the European currency financial-monetary market

Tendencies of the European financial market convey a series of very important aspects, which have to be taken into account by the participants.

Competition among agents in general and in a smaller extent the customer demands and the market regulations are the main determinants of the changes on the market, serving the big corporations of the institutional customers. The foreign agents have certainly brought new tools, experience and a new portfolio management style, and the banks are trying to follow the compensation of the loss of the traditional deposits of their customers.

Strategic placement depends on the present environment which offers unique opportunities to those able to implement and develop particular strategies for each business.

The innovation rhythm on the developed financial markets will increase as a result of the financial crisis started in 2007, which also showed the lack of national and international regulations on the financial markets from USA and EU.

Concentration on the European financial markets has increased due to the competition and requirements of the financial markets. The biggest corporations of each country have increased their market share in all the activity sectors, except portfolio management. Concentration is achieved sooner through mergers and acquisitions rather through internal activities. The banks are the main producers of the merger and acquisition processes under conditions of the present crisis, with the purpose of determining the increase of the market shares.

The success management strategies should take into account the risks and should be oriented towards long and short term profitability.

The risks in a changing environment determined by the increased competition imposed the financial investment companies and the banks the need to ensure more risks in search for bigger profits. The capacity to accept and administer risk has become decisive in the market fight. The complexity of the financial products has added new risk valences on the European financial market.

In what regards the tools and the transactions on the financial market, the following conclusions can be drawn:

The bonds market was traditionally divided in two segments: national bonds market and the Eurobonds one. Once with the introduction of the euro, the national markets have integrated forming a unique European bonds market, and the Eurobonds markets from Europe got a new meaning at the international level. Thus, it became a more profound and liquid bonds market, a more attractive one for the investors, due to the share of the exchange securities issued in euro increased within the portfolio.

The derivative products market after the introduction of Euro have become the greatest sector of innovations, the very volatile markets and the interests of the institutional investors determining the demand increase for hedging tools. EMU had a direct impact over the structure of the contracts by excluding the derivations based on the currencies among the participating countries.

The banking sector won a lot from the enlargement and the deepening of the European financial market, which became truly comparable and competitive to the one of the American dollar which still dominates, but will have to face big costs too.

The credit market will be in a strong competition with the capital market, as a consequence of the expansion of the exchange securities in euro, as a disadvantage for the bank loans.

2.6. EURO as international currency

Tendencies which arose from the international financial markets confirm the fact that the future WMO of the 21st century will be based on the dollar-euro-yen triangle.

The single European currency undergoes a long way to reach from behind the dollar as an international currency. Euro will reach its target when it overcomes the present condition as a regional currency, to increase the spreading degree and the services offered to the world economic and financial community.

The euro accession to the status of key international currency is determined by the: EU leader position of the international trade; concentrating exports on the developed countries area (what will determine the extracommunitar Central Banks to make reserves in euro too); the role the trans-nationals have with the registered office in the in Euro-land.

3. Conclusions

To conclude, we can appreciate the appearance of the euro, intended a strong and stable currency, is meant to re-launch Europe in the competition with the United States and Japan, by resetting the spheres of currency influence on the world market. The reunion in euro of the most important currencies as volume of the financial fluxes creates condition for the increase of the number of the countries found on the European economic orbit.

But Euro has to pass the trust test at the European and international level. After ten years of “virtual” existence, the single European currency turned up bad from the direct fight with the dollar on the currency markets, especially that after the beginning of the present crisis of the sovereign debts which affected severely many countries from Europe, the euro region (Greece, Spain, Portugal, Italy, Ireland).

As euro will consolidate its position – especially after the serious effects of the present financial crisis – as a stable currency used in a broader region it is possible that euro will become at a large scale the currency for the financial and commercial contracts.

The joining of the euro in the currency game creates the conditions to fade the considerable differences between the image reflected by the exchange rates and the basic economic data, differences which tend to start a great financial and commercial crisis.

The gradual increase of the balance of the countries with currency deposits in euro will lead in time to the balance of the International Monetary System. Presently it is dominated by the dollar, in conditions which almost half of the external American trade is with countries whose currency is connected to the American currency, supporting the favorable position of the dollar in comparison with its real purchasing power on the world market.

The portfolio reassignment will depend mainly on the orientations given by the differences possible between the debt rate on the euro market and other international markets. The beginning of the interest reduction at Euro started after the beginning of the sovereign debt crisis from the euro region, BCE reducing in 2012 the interest to 1%. Besides this, the stability and homogeneity conditions of the market from the euro region will be able to act as an attraction sight for the investors’ attacks.

The appearance of euro is thought to bring deepening of the cooperation at the global level, based on the convergences in the currency policies of the global economic leaders. This tendency assessment was performed many repeatedly, when the banks from the euro region, United States and Japan coordinated their efforts to temper the financial markets, breaking the shocks to which euro, the American dollar and the yen were exposed to.

This might be one of the advantages of the euro launching: awareness on behalf of the financial world leader of the risk of acting “by yourself” and of the advantages the step coordination might bring.

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The Future of EU Regional Policy

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Abstract

The regional policy represents the expression of the European Union's solidarity with less developed countries and regions, aiming at reducing the significant economic, social and territorial disparities that still exist between Europe's regions. Being an investment policy, EU regional policy supports job creation, competitiveness, economic growth, improved quality of life and sustainable development. During the 2014-2020 period, the EU will invest a total of 351 billion euro in Europe's regions. Our analysis aims at highlighting the possible future development for this common policy, in the new Financial European Framework 2014-2020, underling to what extent, the financial instruments of this policy can contribute to boosting less developed countries and regions, concentrating funds on the areas and sectors where they can make the most difference. Also, this article proposes revealing the convergence of the regional policy objectives with those of the Europe 2020 Strategy.

Keywords: regional policy, economic and social disparities, Europe 2020 Strategy

JEL Classification: O, O11, P, P25, R, R10

1. Introduction

Regional policy aims at reducing the significant economic, social and territorial disparities that still exist between Europe's regions by identifying the regions in most need, defining priorities, involving local institutions and imposing common management, control and evaluation standards – all these elements creating tangible results but also a unique system of multi-level governance. As stated in the literature in the field (Artobolevskiy, 1997), historically, one of the main aspirations of the European Regional Policy was to share progress between member states and to create into an enlarged Europe the means to achieve dynamic growth and high employment on a sustainable basis. Some analysts (Vanhove, Klaasen, 1979) consider that Regional Policy plays a crucial role in reducing economic and social disparities in the European Union, since leaving such disparities in place would undermine some of the cornerstones of the European integration process, including its large single market and its currency, the euro.

In recent years, the debate about the European Regional policy has focused on its benefits as an “integrated approach” towards policy-making. The integrated approach dates back to the origins of the European cohesion policy. In 1957, when the founding six countries signed the Treaty of Rome, their aim was to strengthen the unity of their economies and to ensure their harmonious development

by reducing the differences existing between the various regions and the backwardness of the less favored ones. This aim was inspired by the concern that some less developed regions would not be able to benefit from further market integration. Successive enlargements have substantially increased regional disparities in the EU. In 1986, as Greece, Spain and Portugal joined the Union, the proportion of the population living in a region with GDP per capita below 30% of the EU average, jumped from 12.5% up to 20%. The last two enlargements dramatically increased regional differences in the levels of development and further strengthened the need for a policy that promotes development in all regions.

From the beginning of its launching Regional policy or Cohesion Policy passed through several reforms. This process of reform had aligned the structural funds much more closely with the priorities of the EU's 2020 growth agenda creating a greater emphasis on results and budget discipline through the concepts of macro-economic conditionality and performance reserve. The most recent reform is focusing on investing in EU's regions and cities to deliver the EU-wide goals of growth and jobs, as well as tackling climate change and energy dependence. Taking into account the national contribution of member states and the leverage effect of financial instruments, the overall impact is likely to be more than 500 billion euros. The reform of Cohesion Policy will ensure maxim impact for the investments in accordance with the individual needs of regions and cities.

The Lisbon Treaty explicitly recognizes territorial cohesion as a fundamental objective of the European Union, in addition to economic and social cohesion. This implies that territory matters and Community policies, including the objectives outlined in the Europe 2020 Strategy, should give more consideration to their territorial impact. The integrated approach emphasizes, as some analysis have shown, (Hooghe, 1996) that promoting development requires close coordination of public policies. For example, both investments in infrastructure and investments in education and innovation can contribute to development. Such coordination, however, can only effectively happen at the regional level since factors of growth vary so much between regions. As a result, cohesion policy relies primarily on integrated regional development strategies. Presently, as the debate on the future of the European Regional Policy intensifies, our analysis proposes to respond to this particular question: how can this common European policy provide the appropriate framework for integrated solutions, yet avoid a one-size-fits-all approach.

In order to respond to such a question we will analyze the contribution of the instruments of the regional policy of achieving the diminution of the development gap between member states and the possible implications of the Europe 2020 Strategy for the future of regional policy between 2014 - 2020.

2. Instruments of the Regional Policy in EU

As stated in the literature in the field (Lagendijk, 2003), while the concepts of “region” and “regionalization” have come to underpin major process of administrative and political reform, at the level of regions, nations and the EU, as part of these processes, the notions of “region” and “regionalization” have been translated in practices related to demarcation of territories, competencies and tasks, resulting in recognized territorial boundaries, organizational structures with set responsibilities and resources, as well as in procedures and scripts of regional action.

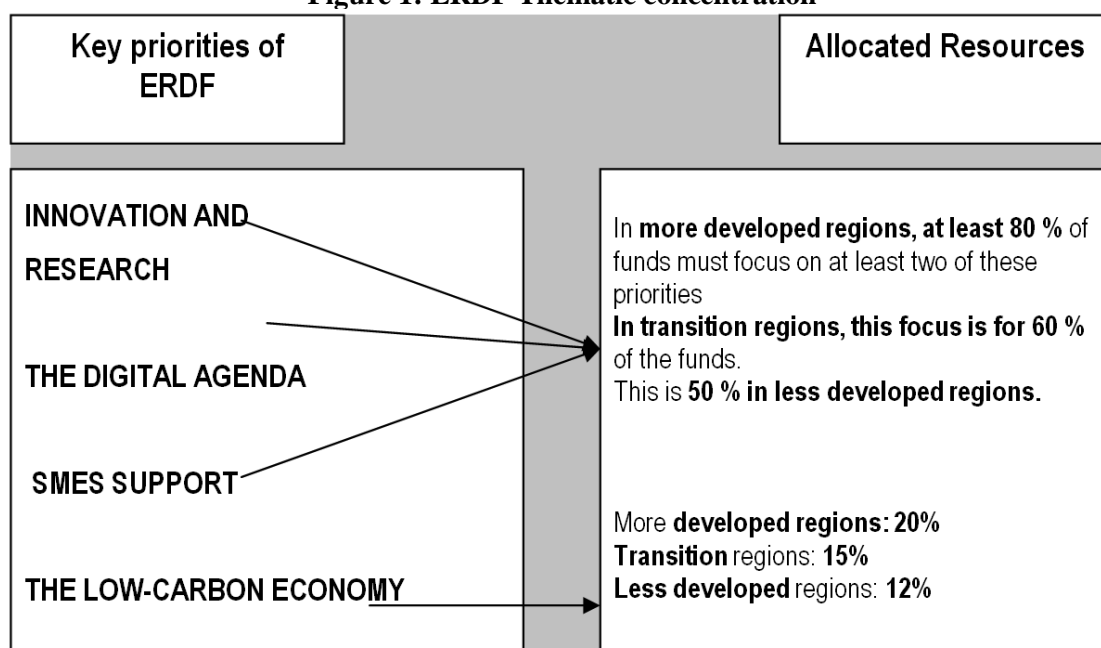
In recent years, the European Regional Policy has adopted a new model in regional economic development. It has evolved from a policy aimed at compensating regions for their disadvantages, to a policy designed to improve regional growth and competitiveness. This is where the integrated

approach can be extremely valuable. Singling out one policy area, say for example transport, does not make sense without taking into account environmental, social and other economic policy areas.

2.1. The European Regional Development Fund

The performance of one European region in one particular sector can often be closely linked to the performance of another one. In this respect, regional economic development strategies need to avoid being developed in isolation. In this context, the European Regional Development Fund (ERDF) was created in order to focus the investment in European economic and social cohesion on several key priority areas also known as “thematic concentration”.

Figure 1: ERDF Thematic concentration



Source: Own conclusions based on the literature in the field.

In the Financial Framework for 2007 – 2013, ERDF budget had a value of more than 200 billion euro, focusing on co-financing investment projects in the areas of creating sustainable jobs, infrastructure, support for regional and local development, and SMEs.

The ERDF gives particular attention to specific territorial characteristics. ERDF action is designed to reduce economic, environmental and social problems in urban areas, with a special focus on sustainable urban development. At least 5 % of the ERDF resources are put aside for this field, through “integrated actions” managed by cities. Areas being naturally disadvantaged from a geographical viewpoint (remote, mountainous or sparsely populated areas) benefit from a special treatment. Lastly, the outermost areas also benefit from specific assistance from the ERDF to address possible disadvantages due to their remoteness.

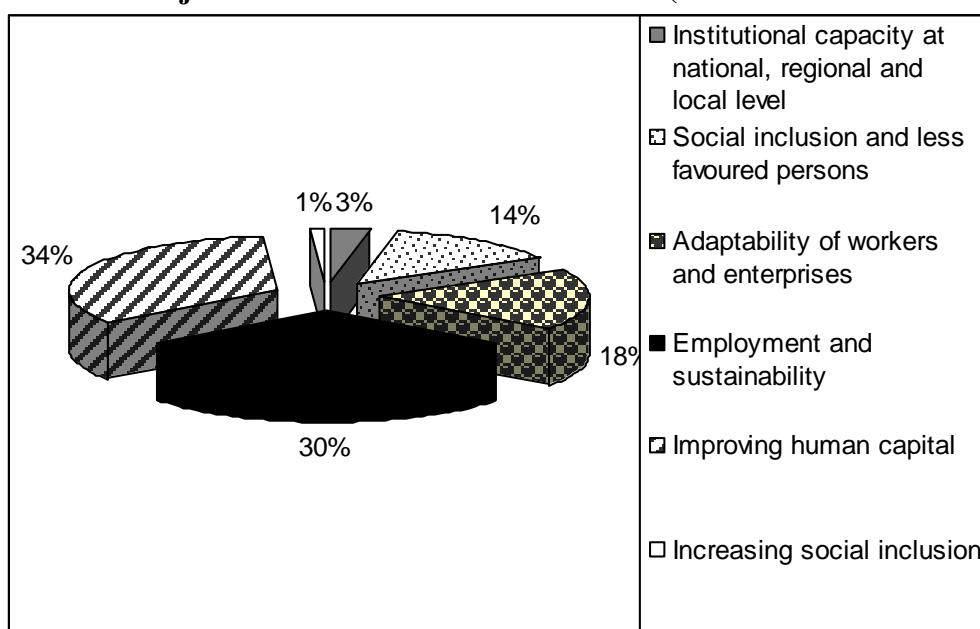
In the New Financial Framework (2014 – 2020), investments under ERDF will be concentrated on 4 key priorities (see Figure 1) of EU relevance: innovation and research, the digital agenda, support for small and medium sized businesses and the low-carbon economy depending on the category of region. Around 100 billion euro will be allocated to these sectors, of which at least 23 billion euro for the low-carbon economy (energy efficiency and renewable energies). As shown in Figure 1, there are separate obligations to dedicate ERDF resources (Less developed regions: 12%, Transition regions 15% and More developed regions: 20%).

2.2. European Social Fund

The European Social Fund (ESF) is a key component of Europe's regional development aiming at reducing differences in prosperity across the member states by increasing employment and providing targeted support to build a more highly skilled and more competitive workforce.

While the primary focus of ESF is to raise prosperity by increasing the labor supply and promoting skills, the current ESF programme also features two cross-cutting themes – gender equality and equal opportunities, and sustainable development. The sustainable development theme focuses on ensuring that the implementation of the programme will take account of the environmental concerns and meet the regulatory requirements in order to sustain projects focused on addressing unemployment problem increasing skills and exploiting market opportunities. Between 2007 and 2013, ESF has benefited from 3 billion euro, divided in six objectives relevant to creating jobs, as shown in the Graph 1.

Graph 1: Broad objectives of ESF between 2007 -2013 (% from total allocated funds)



Source: European Commission, ESF Statistics 2014.

2.3. European Cohesion Fund

After the Treaty of Maastricht it has been introduced the Cohesion Fund meant to support the convergence process of Greece, Spain, Portugal, Ireland and its funds targeted mainly infrastructure projects with certain spillover effects on the whole economy. Regional development policy became more and more a true Cohesion Policy due to European funds used for it and also due to its strategic framework.

The European Cohesion Fund is conceived as a financial support toll in order to help member states whose Gross National Income (GNI) per inhabitant is less than 90 % of the EU average. Its main priority objectives are: trans-European transport networks and projects related to energy or transport, as long as they clearly benefit the environment in terms of energy efficiency. In the former Financial Framework 2007 – 2013, the member states that have obtained funds through this European Fund were: Bulgaria, Croatia, Cyprus, the Czech Republic, Estonia, Greece, Hungary, Latvia, Lithuania, Malta, Poland, Portugal, Romania, Slovakia and Slovenia. The total budget of The

Cohesion Fund, between 2007 -2013, was of 66 billion euro allocated to activities related to trans-European transport networks, notably infrastructure projects under the Connecting Europe Facility and to environment¹.

All these member states have developed priority projects of European interest as identified by the European Commission and projects designed to support infrastructure under the Connecting Europe Facility. As some analysts have shown (Shankar, Shah, 2009), during 2007 -2013, the European regional policy has consistently co-financed the provision of environmental infrastructure for water and waste management helping regions meet the stringent framework set out in EU directives. This has also been an opportunity to facilitate improvements in competitiveness while preserving their environment and creating jobs.

3. EUROPE 2020 STRATEGY - A new basis for Regional Policy on the community level

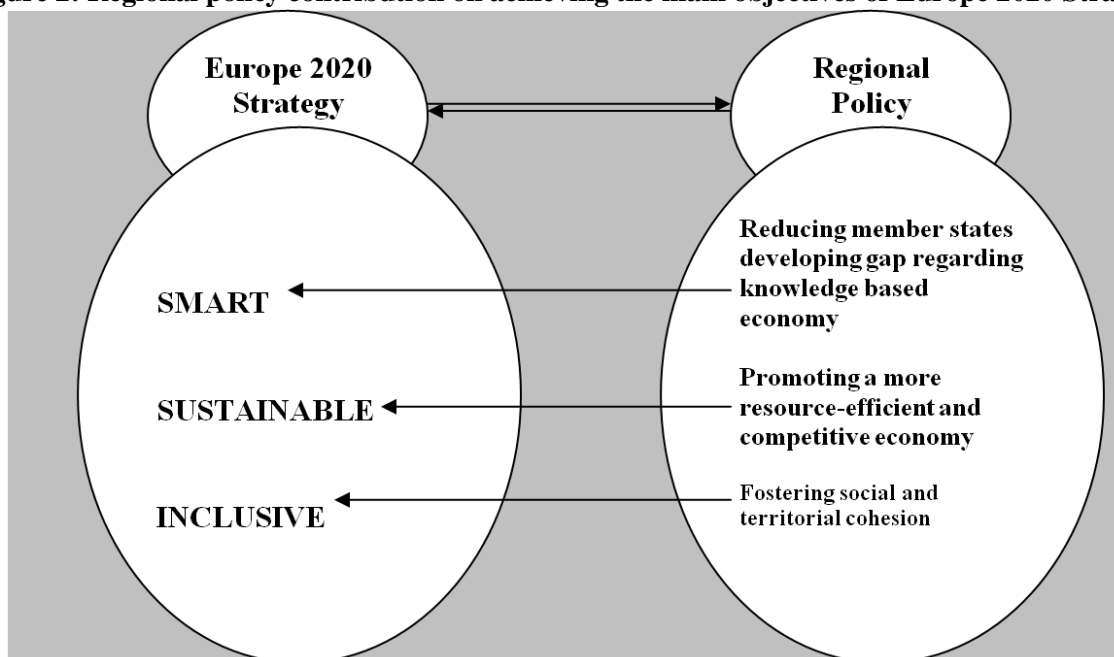
The effects of the recent economic crisis on the EU make the push for effective policy even more urgent. Against this backdrop, the European Commission published its Europe 2020 Strategy, which enshrines the following goals: smart growth, sustainable growth and inclusive growth. As the Fifth Report of Cohesion Policy, published in 2010, is showing, disparities between EU regions are narrowing and differences in GDP per head have shrunk substantially, but in order to help regions to become more competitive, more subsidies are necessary for four main objectives: higher rate of employment, better infrastructure, better trained human resources and more innovative enterprises.

In the literature in the field, some analysts (Budd, 2010) have suggested that regions and regional development policy can significantly contribute to the achievement of Europe 2020 Strategy goals, but in order to do so there should be a balanced approach to investment, e.g. right balance between different types of investment and the strong diversity among EU regions (e.g. differences in characteristics, opportunities and needs) need to be taken into account.

In this respect, it should be mentioned that The Eighth Progress Report on Economic, Social and Territorial Cohesion (EC, 2013) shows that the international economic crisis has made more difficult for the Cohesion Policy to reach the Europe 2020 goals due to reduced employment rates and increasing poverty and social exclusion. Moreover, the same Report highlights that, in the next Financial Framework – 2014- 2020 - widening regional disparities must remain one of the key goals of the European Union and Cohesion Policy. The report shows also that the intensity of problems varies significantly throughout European Union and suggests that the design of future cohesion programmes should reflect these differences to maximize impact and target problems where they are more acute (see Figure 2).

¹ Here, the Cohesion Fund can also support projects related to energy or transport, as long as they clearly benefit the environment in terms of energy efficiency, use of renewable energy, developing rail transport, and strengthening public transport.

Figure 2: Regional policy contribution on achieving the main objectives of Europe 2020 Strategy



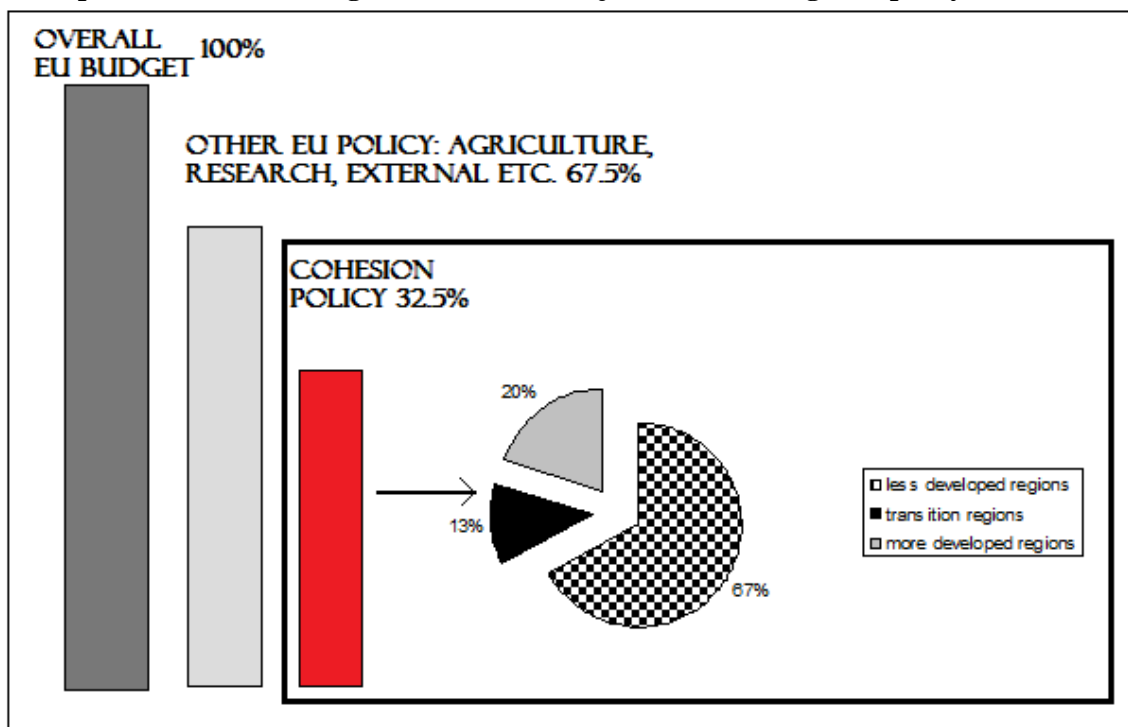
Source: Own conclusions based on the literature in the field.

Regional Policy can contribute to achieving those goals of smart, sustainable and inclusive growth by preparation of the next generation of national programmes for regional development in the period after 2014, providing the opportunity to increase the effectiveness and the quality of measures for cohesion development in the EU-28. Through its instruments, Regional Policy can invest in human capital in order to ensure that people have the right skills necessary to build a resource efficiency society. Such a financial tool is The European Social Fund that can help to unlock the skills, creativity, entrepreneurship and capacity of the workforce to innovate, in line with the Europe 2020 flagship initiative "An Agenda for new skills and jobs". In the future Financial Framework 2014 -2020, it is essential that Regional Policy actions are designed in synergy with those of Europe 2020 Strategy, since this common European policy is uniquely placed to contribute to the delivery of the EU's sustainable growth objectives as a 'place-based policy' which promotes multi-level governance and public-private partnerships within integrated strategies.

4. The objectives of Regional Policy in the New Financial Framework 2014 - 2020

The New Financial Framework for 2014 – 2020 outlined a new strategic programming approach for Regional Policy with a view to a closer integration of the EU policies to deliver the Europe 2020 Strategy and the Integrated Guidelines. This approach would consist of a common strategic framework (CSF) translating the targets and objectives of Europe 2020 into investment priorities. The framework would cover the Cohesion Fund, the European Regional Development Fund, the European Social Fund, the European Agricultural Fund for Rural Development and the European Fisheries Fund. It should be noted also that cohesion policy has an important share in the new Financial Framework for the 2014 – 2020 period, cumulating 351 billion euro from the total 1 082 billion euro. All EU regions benefit from these funds, but the level of investment is adapted to the level of development, as shown in Graph 2.

Graph 2: The new funding context and the objectives of EU regional policy (2014-2020)



Source: EC – *A reformed Cohesion Policy for Europe*, 2014

Note: Less developed regions refers to that particular regions with a GDP lower than 75% from EU-28 average. These regions represent 27% of EU population. Transition regions are those regions with a GDP lower than 75 – 90% of EU -28 average. In these regions is located 12% of EU population. More developed regions are the regions with a GDP higher than 90% of EU – 28 average, in those regions being situated 61% of EU population.

As shown in the graph above, in the 2014 -2020 period, the Cohesion policy supports diversification of regional economies, and contributes to the development of the poorer member states and regions.

Also, the new budget would allow member states to create a development and investment partnership with the EU based on the common strategic framework, would set out the investment priorities, the allocation of national and EU resources between priority areas and programmes, the agreed conditionalities, and the targets to be achieved. As some analyst (Swidlicki, Ruparel, Persson, Howarth, 2012) have underlined, sound macroeconomic policies, a favourable microeconomic environment and strong institutional frameworks are preconditions for creating jobs, stimulating growth, reducing social exclusion and bringing about structural changes.

This is even truer for regional policy, since its effectiveness largely depends on the economic environment in which it operates. It is therefore possible to strengthen the links between the cohesion policy and other common policies of the European Union, helping to increase the effectiveness of this common policy that seeks to support much needed investment in infrastructure, human resources and the modernization and diversification of regional economies, and it contributes to more growth and jobs in the poorer member states and regions. Member states and regions benefiting from such investments can achieve above-average and sustainable growth and are, as stated in the literature in the field (Hjerp, Medarova-Bergstrom, Cachia, 2011), “better equipped” to catch up faster with the EU level than they would be without cohesion policy investment.

Overall, between 2014 -2020, the reformed cohesion policy will invest in Europe's regions, cities and the real economy. It will be the EU's principle investment tool for delivering the Europe 2020 goals: creating growth and jobs, tackling climate change and energy dependence, and reducing poverty and social exclusion. The main financial tool will remain the European Regional Development Fund at key priorities such as support for small and medium-sized enterprises where the objective is to double support from 70 to 140 billion euro over seven years. Some analysts (Böhme, Zillmer, Jæger, Holstein, 2013) consider that such initiative will provide stronger result-orientation and a new performance reserve in all European Structural and Investment Funds, increasing the efficiency in the cohesion policy compliance of the Member States with the European Union's recommendations.

The Cohesion Policy reform has placed an important role on Regional Strategies for Smart Specialization. Regional strategies for smart specialization are a concept promoted by the European Commission under the Cohesion Policy for 2014 2020 which includes identifying the unique characteristics and resources available for each country or region in order to boost economic development and competitiveness of the region. Through regional smart specialization strategies are highlighted competitive advantages of each region which would allow prioritization of new national industrial policy. Regarding this issue, it is worth mentioning that the global financial crisis has shown that economic development can not be left solely to the private capital account, but requires the involvement of the competent public authorities both by fixation the line of strategic directions and through public investments drive certain effects. Implementing the concept of governance in European regional policy implementation requires the involvement of public and private actors for the valorization of existing local and regional level and can have positive effects on re-industrialization process.

Other important dimension of the new Cohesion Policy is the linkage between regionalization and governance process in European Union. As mentioned by some analysts (Prisecaru, 2014), regionalism is widely associated with decentralization – an assumption based on the subsidiarity principle, which involves a certain transfer of attributions from governments or central authorities to regional authorities. In this vision, the New Cohesion Policy for 2014 2020 should imply the use of some newer concepts, like governance, and aims at developing a strategic capacity, an institutional capacity and democratic legitimacy, while at the same time strengthening the administrative capacity.

Regional Policy can contribute decisively to a new industrialization in Europe. As mentioned by some analysts (Mansfield and Milner, 2011) much of the existing research on regionalism centers on international trade (although efforts have also been made to analyze currency markets, capital flows, and other facets of international economic relations). In the light of the most recent reform of Regional Policy in Europe, we argue that whether states choose to enter in the field of industrial policy the economic effects of these arrangements depend on the preferences of national policymakers and interest groups, as well as on the nature and strength of domestic institutions.

5. Conclusion

The European Regional Policy has as a main objective to help promote uniform, balanced regional development in the old and new member states. As shown by the European statistics, regional policy has made a significant contribution to spreading growth and prosperity across the European Union, while reducing economic, social and territorial disparities. Undoubtedly, without regional policy, disparities between member states would be even greater, yet the lasting social effects of the international economic crisis, the demand for innovation arising from increased global challenges call for an ambitious reform of this policy.

The financial and economic crisis has already compelled the European Commission to propose measures to improve the economic governance of the European Union. In particular progress needs to be made in the following key areas: concentrating resources on the Europe 2020 objectives and targets, committing member states to implementing the reforms needed for the policy to be effective and improving the effectiveness of the policy with an increased focus on results. The explicit linkage of the regional policy and Europe 2020 Strategy provides a real opportunity: to continue helping the poorer regions of the EU catch up, to facilitate coordination between EU policies, and to develop the cohesion policy into a leading enabler of growth, also in qualitative terms, for the whole of the EU, while addressing societal challenges such as ageing and climate change.

Regional policy is maybe the most suitable field where multilevel governance is enforced or applied but real convergence is still very slow to achieve. European funding is not enough for reducing the gap, local, regional and national efforts and funds are needed, public/private partnership is very important for taking into good account regional resources.

Better governance is essential to achieve sustainable regional development as confirmed in recent ex-post evaluations of the cohesion policy. It is a crucial building block for creating ownership and consensus over a common vision among the stakeholders that drive the strategy and programme implementation. The involvement of socio-economic partners and civil society needs to start early and be carried on during the whole programming cycle, in order to achieve the two essential objectives of the Regional Policy: to enhance the European Union's competitiveness and to increase solidarity between different European regions. These two main goals of the Regional Policy can help attain one of the fundamental objectives laid down in the EC Treaty: achieving economic and social cohesion by reducing disparities between regions and by spreading the advantages of the common market more equally across the EU territory.

In terms of contribution of Regional Policy to a New Wave of Industrialization in Europe, it is our opinion that although the new industrial concept in Europe can be relevant to its future competitive development, in order to understand industrialization in the peripheral regions of EU. It should also be noted that, despite the introduction of decentralization policies, local industrial development will, as before, very largely depend on central government resource allocation, the stability of government and the role played by large and medium scale enterprises, including Multi-National Corporations (MNCs).

However, today, the European territory as a whole faces new challenges: globalization, climate change and an ageing population. These challenges do not stop at national, institutional or policy borders, but create an impact on regional and local communities. Hence, during 2014 – 2020, the future Regional Policy has the potential to turn these challenges into opportunities, since it is designed in such a way that it provides solution at regional and multi-regional level through development strategies and local projects for the benefit of the European Union as a whole.

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The Single Market and EU Competition Law - Two Pillars of the European Union

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Abstract

The interplay between a deeper, broader, well-functioning Single Market and an active and efficient enforcement of EU competition law is at the core of higher productivity and sustainable growth across Europe. This paper focuses on the domains in which competition policy can help to create and consolidate a genuine Single Market and capitalize on the full potential for Europe's competitiveness in a globalised world. In competition matters, the European Commission has more power than in any other policy areas, with its combined roles as initiator of European legislation and as competition enforcer. The modernisation of the competition policy and law enforcement has been the result of the EU political, economic and social agenda. The European Commission is leading this process, which is the main lever the Union has to respond to the multiple challenges ahead – the globalisation of business and the evolution of the financial and economic crisis.

Keywords: *single market, globalisation, competition policy, competition law, antitrust, cartels, abuse of dominant position, state aid.*

J.E.L. Classification: *K21; L4; G34.*

1. Introduction

The crucial role of the implementation of EU competition policy and law in correcting the market failures that hamper the accumulation of human and knowledge capital, resource optimum allocation, economic efficiency promotion, encouragement of innovation, economic development and setting up employment in the EU member states was a permanent concern of the economic and political governance system for almost six decades. The maintenance of a normal competition environment allowing the companies to compete „on their own merits” is determined by the prevention and correction of market distortions generated by the non-observance by the companies or the governments of the „game rules” (as) instituted by the EU Treaties. Such prerequisites determine the specificity of the competition rules which are considered the „hard core” of the EU internal market.

The fundamental principles of the EU policy in the competition field were not modified from the beginning of this common policy, but the environment it operated in suffered radical changes due to increasing complex and dynamic changes of the global economy. Competition policy and law enforcement is a common goal of the European Commission and the national competition authorities, and should evolve all the time, especially in times of crisis. Despite the regulatory efforts carried out since the 1980s, competition enforcement is crucial to remove the obstacles that still encumber many

key sectors, where regulatory national barriers hinder growth possibilities and EU's competitiveness. The effective enforcement of antitrust rules, the control of mergers and state aid contribute in practice to the establishment of the internal market and to the preservation of open and fair pan-European markets.

2. The role of the effective competition policy and law enforcement for a better and fairly functioning Single Market

The EU is the largest internal market in the world, home to 23 million companies and over 500 million people. The Single Market, that is just over 20 years old, relies chiefly on competition and regulatory authorities to maintain a level playing field for the free movement of goods and services. The Treaties give to the European Commission the exclusive responsibility to enforce EU competition law across the territory of the Union. The competition-enforcement system also includes the network of competition authorities in all EU countries, the European Courts in Luxembourg that review the Commission's decisions, and the national courts of law.

The objective at the heart of EU competition policy is to enhance consumer welfare and efficiently functioning markets within the Union. The protection of the consumers' interests is the standard used for the implementation of the competition policy and law which results in the quality improvement, the wider choice and, frequently, the price decrease, so that the European citizens may obtain as many benefits as possible from the EU internal market.

Exploiting the full potential of the Single Market requires the protection of competition from market distortions whether originating from Member States (distortive State aids) or market players including public undertakings with special or exclusive rights, or mergers that would significantly impede effective competition. European Commission focuses on sectors with the greatest relevance for the competitiveness of EU economy and the greatest – direct or indirect – effect on consumers. Enhancing market efficiency also requires actions to terminate anti-competitive practices and abuses of dominant positions in key sectors such as financial services, ICT, energy, transport and pharmaceuticals, where increased competition will have beneficial spill-over effects on many other downstream sectors. Competition policy and law enforcement thus have an important contribution to the Commission's flagship initiatives in the Europe 2020 strategy.

The implementation of the competition policy is correlated with other public policies for growth, including industrial policy, the digital agenda, and improving the business environment for Europe's companies.

3. The challenges for competition law enforcement in the context of globalization and of the financial and economic crisis

The new realities of the globalization process, the substantial increase of the cross-border economic activities lead to rapid changes of the economic environment. As a result of the progressive integration of world economies, in almost every industry, more and more companies have operations in several continents and make use of supply chains that span the whole world. In this context, the European Commission (DG Competition) faces increasing complex cases to investigate using the tools of economic and legal analysis.

The Commission is responding to the challenges of globalisation by keeping markets open in order to improve the competitiveness of the European economy. EU competition policy protects

European consumers against the potentially harmful aspects of globalisation by targeting international cartels, mergers and abusive practices of firms of any nationality that harm European consumers. Commission's practice shows a growing number of international cartels, and many cartelists have an ever more complex set-up, often using artful networks of bilateral arrangements and communication lines. An important strategy adopted by the Commission to fight today's global cartels is international cooperation.

✓ Opening up distorted markets through the enforcement of the competition rules and better regulation is vital in times of economic downturn. The area in antitrust that has been most affected by the current long crisis is that of cartels. Some cases investigated by the Commission in the past few years that can be defined as defensive cartels, in which companies break the law to shield themselves from the difficulties they face in a crisis environment.

In the context of the financial and economic crisis, state aid control policy was identified as a powerful EU-wide instrument to protect the internal market from potential disintegration. When the financial crisis precipitated in the autumn of 2008, the European Commission was asked to control the massive amounts of public support granted to Europe's banks and adapt the State aid rules in order to deliver on three basic goals: maintaining financial stability, safeguarding the internal market, and protecting the taxpayer. In this context, the Commission embraced a new approach, very flexible, that materialized in the relaxation of the EU state aid rules. State aid to financial institutions has been crucial for restoring confidence in the financial sector and avoiding a systemic crisis. Over the last five years, the State aid enforcement system has proved to be a cornerstone of the management of the financial crisis in Europe. From a substantive point of view, the crisis has certainly reaffirmed the legitimacy of State aid control as a tool "essential to ensure a well functioning Single Market". As part of the EU State Aid Modernization Initiative, the Commission has announced its intention to put in place a permanent set of rules for rescuing and restructuring financial institutions in the post-crisis environment, consistent with regulatory proposals for a permanent EU crisis management and resolution system¹.

A deeper and broader Single Market – competition vs. protectionism

The competition is at the core of higher productivity and innovation, creates jobs and drives Europe's economic growth, thus being crucial for the recovery of European economy after these years of recession. Commission's experience shows that despite the regulatory efforts carried out since the 1980s, competition law enforcement is absolutely necessary in order to realise the full growth potential of the internal market. The effective enforcement of antitrust rules by the Commission and the control of mergers and State aid are already contributing in practice to the establishment of the internal market in key sectors that could bring growth to Europe, but where national barriers still persist, such as telecoms, energy, banking and financial sectors.

Even before the crisis, the European Commission faced the pressure put by the negative opinions about the role of competition policy in the EU. Some critics would say that Europe needed to go soft on competition control to help our companies respond to the challenges posed by international competitors old and new. These views are mainly motivated by the perceived threat to our competitiveness posed by the emerging economies and by a resistance to complete the Single Market, especially in certain areas such as energy, the service sector – including financial services – the digital

¹ Communication on EU State Aid Modernisation (SAM) - Brussels, 8.5.2012 COM(2012) 209 final.

industries and telecoms markets. Also, Commission's practice shows the general increase in defensive cartels, where companies take the wrong-headed decision to react to tight business conditions by breaking EU competition law.

During the years of crisis the calls for a laxer competition control have become louder, and now some critics of competition policy are worried about deindustrialisation and the inefficiencies of financial markets. Commission rejects the laxer competition control and protectionism, considering that it would be a tragic mistake to raise barriers around the Single Market or protect national interests at the expense of the common European interests. In the opinion of the Commissioner for competition Joaquín Almunia, "What we need is a pro-active approach, not a defensive one, to reinforce the foundations of a credible and sound EU strategy for growth. A strategy whose goals must include a fully-fledged Single Market and a real Economic and Monetary Union equipped with the instruments that were missing in its original design. A strategy capable of reinforcing competition policy; not as an obsession of dangerous Brussels fundamentalists – as we are sometimes depicted – but as a vital component in the policy mix that can put Europe back on track".²

Dr. Vince Cable - UK Secretary of State for Business, Innovation and Skills – opened his keynote address to the third European Competition Forum (Brussels, 11 February 2014) with noting that periods of crisis increase pressure on governments to break or circumvent competition law. For this very reason, robust competition control at EU level is needed more than ever. Over the past few years, we have witnessed a profound crisis of capitalism, and supporting competition policy is one of the many things that could be done to restore trust in capitalism, because it shows that markets can be made to work. Stronger competition rules can rebuild trust in the system.

4. European Commission' practice in applying the instruments of competition policy

4.1. Antitrust policy

The Commission fights against anticompetitive agreements between two or more independent market operators which restrict competition (Article 101 of the Treaty on the Functioning of the European Union - TFEU), and prohibits abusive practices so that new entrants can challenge dominant incumbents (Article 102 of the Treaty). The main rules on procedures are set out in Council Regulation (EC) 1/2003 (Antitrust regulation).

Firms are prevented from fixing prices or carving up markets among them by the EU's strong antitrust enforcement. Commission takes a corrective and deterrent action with its decisions. This area of work is "corrective" because the Commission can intervene only after companies adopt anti-competitive and illegal practices. The deterrent effect is ensured by the fines and commitments imposed by the Commission and also by the guidance that encourages other companies to take all the measures needed to stay within the law.

The detection, prosecution and deterrence of cartels

The most flagrant example of illegal conduct infringing Article 101 of the Treaty is the creation of a cartel between competitors (which may involve price-fixing and/or market sharing). The

² Joaquín Almunia, Competition policy for the post-crisis world: A perspective, Celebrating ten years of the GCLC, Bruges, 17 January 2014.

setting up of cartels is the most damaging type of infringement because it causes the most harmful restrictions of competition, not only to the economy as a whole but also to particular businesses and citizens: they force consumers and client companies to pay above-market prices, they limit competition among rivals and negatively affect incentives to invest and innovate, and they often raise barriers to shield the cartel members from the entry of more innovative and efficient rivals. Illegal agreements thus hinder the necessary restructuring in certain sectors, increase production costs and ultimately thwart growth. Fighting cartels has been a core task for the European Commission for the past 15 years at least, and its work has kept pace with the evolution of these illegal business practices, in the globalization context. Even during a crisis such as this one, deterrence is the key. But the Commission takes into consideration the fact that some companies are in financial difficulties and may be driven into bankruptcy as a consequence of the fines – with the corresponding social costs. The goal is to strike the right balance between maintaining a deterrent level of fines and avoiding unwanted side-effects, such as pushing companies out of business.

Driven particularly by the concern about the damage caused by large scale cross-border cartels, many competition authorities have made tougher anti-cartel law and its enforcement a top priority over the last two decades. As part of this “get tough” approach, it is possible to discern a contemporary movement in support of criminal sanctions for serious or so-called “hard core” cartel conduct. More than thirty countries have criminalised cartel conduct in some form. All but five have done so since 1995 and over 20 since 2000, and the list is growing.³ The campaign for criminal sanctions has been led by the United States authorities, based primarily on the view that individual accountability through incarceration is the most effective means of deterring and punishing cartel conduct.

The prohibition of abuses of dominant position

The enforcement of competition law against other illegal practices - the abuses of dominant position - has a particular significance for ensuring the benefits of the liberalization process in the sectors recently opened to competition or which are under liberalization. In some cases a dominant company in a market may try to exclude rivals through unfair practices so as to extract monopolistic rents. The ability and incentives of firms to become larger push them to invest and innovate and these are key drivers of economic growth. This is why getting a dominant position through internal growth does not represent a threat to competition environment in itself. What EU competition law forbids is the abuse of a dominant position. The Commission sanctions such illegal practices of dominant firms that distort the competitive process and hamper the prospects for economic growth. The Commission's view is that the higher the market share, and the longer the period of time over which it is held, the more likely it is to be a preliminary indication of dominance. If a company has a market share of less than 40%, it is unlikely to be dominant, but it is not totally excluded.

The Competition Law not only prohibits the abuse of dominance by a single firm, but also the collective abuse of dominance by several different firms. In order for such a collective dominant position to exist, the independent undertakings in the group must be linked through “economic links”, in such a way that they adopt the same conduct on the market. This could be the case, for example, where two or more independent undertakings jointly have, through agreements or licences, a technological lead affording them the power to behave to an appreciable extent independently of their competitors, their customers and ultimately of their consumers. Collective dominance generally exists in narrow oligopolistic markets, where the conduct of the market leader is copied by the other

³ Gregory C Shaffer and Nathaniel H Nesbitt, *Criminalising Cartels: A Global Trend?* (2011) 12 Sedona Conference Journal 313.

competitors. For example, the parties to a tight oligopoly in a market with the appropriate characteristics, in particular in terms of market concentration, transparency and product homogeneity, are in a position to anticipate one another's behaviour and are therefore strongly encouraged to align their conduct in the market, in particular in such a way as to maximise their joint profits by restricting production with a view to increase prices

Some prominent cases investigated by the Commission in the abuse of dominance domain involve global companies and have also been scrutinised by other competition authorities. Also, a typical case of companies abusing their dominance is that of old incumbents in liberalised markets trying to protect themselves from the pressure of new competitors. In recent years, Commission's investigations related to more cases in the energy markets coming from Central and Eastern Europe, such as with the suspected abuse of dominant position involving the Czech electricity-supply incumbent ČEZ, the Bulgarian Energy Holding, and the company managing Romania's electricity exchange - OPCOM. The Commission also look out for companies whose behaviour risks to fragment the internal market (this is one of the issues investigated in the Gazprom case; the company is suspected of preventing market integration of gas supply and of practicing unfair prices in Central and Eastern Europe).

The deterrent effect of fines imposed by the Commission in antitrust cases

Fines imposed by a competition authority after an investigation in the public interest (public enforcement) are a means of sanctioning infringers (companies whose market behaviour fails to comply with EU competition rules) for their illegal conduct, and discouraging them, and other potential infringers, from engaging in further infringements. When the Commission finds an infringement of EU antitrust rules, it may take a decision under Article 7 of the EU's Antitrust Regulation prohibiting such behaviour and imposing sanctions. The Commission may impose a fine up to 10% of the undertaking's total turnover in the preceding business year. Commission fining policy is based on the principles that some breaches cause more harm to the economy than others, that breaches affecting a high value of sales cause more harm than infringements affecting a low value of sales, and that long-running breaches cause more harm than short ones.

The decisive position of the Commission as regards the power of deterrence of the fines in preventing the creation of new cartels is exemplified by the decisions that imposed the highest fines in the last ten years which generally addressed companies involved in cartels – except for the record fine inflicted in the case of dominant position abuse of the American company Intel Corporation (2009). The total amount of the fines inflicted in cartel situations spectacularly increased during the period 2000-2009 (around €12.9 billion) as compared to the years 1990–1999 (€832.5 million)

According to Joaquín Almunia, Vice President of the European Commission responsible for Competition Policy, in the current mandate (since February 2010), the Commission has adopted 25 cartel decisions involving 167 groups and 389 entities, and these decisions have produced fines for a total of €8.6 billion⁴. These include €1.47 billion for two cartels in the market for TV and computer monitor tubes that had lasted for nearly a decade and almost €1 billion in the recent automotive ball bearings settlement. The main cartel decision involving financial institutions is from December 2013, when seven international banks and a broker received fines for a total of €1.7 billion for creating cartels in the markets for interest rate derivatives. In similar cases, the Commission is looking into

⁴ Joaquín Almunia, Fighting against cartels: A priority for the present and for the future, SV Kartellrecht, Brussels, 3 April 2014.

possible collusions to manipulate other financial benchmarks for oil products and derivatives and in the foreign exchange markets.

Table 1: Fines imposed (adjusted for Court judgments) - period 1990 – 2014

Last change: ++02 April 2014++

Period	Amount in €*
1990 - 1994	344 282 550,00
1995 - 1999	270 963 500,00
2000 - 2004	3 157 348 710,00
2005 – 2009	8 182 251 662,50
++2010 – 2014++	8 416 555 579,00
Total	20 371 402 001,50

*Amounts corrected for changes following judgments of the Courts (General Court and European Court of Justice) and only considering cartel infringements under Article 101 TFEU.

Source: European Commission, *Cartel statistics*, 2 April 2014.

Table 2: Ten highest cartel fines per case (since 1969)

Last change: ++31 March 2014++

Year	Case name	Amount in €*
2012	TV and computer monitor tubes	1 470 515 000
++2008++	Car glass	1 189 896 000
2013	Euro interest rate derivatives (EIRD)	1 042 749 000
2014	Automotive bearings	953 306 000
2007	Elevators and escalators	832 422 250
2010	Airfreight	799 445 000
2001	Vitamins	790 515 000
2008	Candle waxes	676 011 400
2007/2012	Gas insulated switchgear (incl. re-adoption)	675 445 000
2013	Yen interest rate derivatives (YIRD)	669 719 000

*Amounts adjusted for changes following judgments of the Courts (General Court and European Court of Justice) and/or amendment decisions.

Source: European Commission, *Cartel statistics*, 2 April 2014.

Since 2010 companies have the option to settle cartel cases with the Commission, and 13 settlement decisions have been taken to date, with fines totalling almost €4 billion. Settlements offer quicker finality, a 10% reduction in the amount of the fines, and shorter decisions.

The severe effects that the dominant position abuse have upon the competition are exemplified by the Commission's decisions related to record fines inflicted upon certain firms charged with such illegal actions – the cases of Intel Corporation (2009) – €1.06 billion - and Microsoft Corporation (2004) – €497.196 million.

✓ **The Europe's telecoms industry** - a recently liberalized sector and a particular one in terms of competition law - is abundant in cases of abuse of a dominant position. Telecoms and online markets are one of the sectors where growth prospects are in theory very high but these markets remain fragmented, and cross-border barriers in this market are of a regulatory nature. In the meantime, such barriers should not be an alibi for operators to seek monopolistic rents and impede innovation.⁵ Considering the size of former monopolists, together with the seriousness of the types of conduct investigated, fines are usually very high. An interesting point regarding the fines concerns the recidivism in this sector where incumbent operators have been found to have committed abuse

⁵ Cani Fernández and Irene Moreno-Tapia, Dominance in the telecommunications sector: An overview of EU and national case law, 4 September 2013, e-Competitions Bulletin Telecom & Dominance, Art. N° 42836.

repeatedly. Since 1998, the Commission has imposed fines in only four cases concerning abuse of dominant position in the telecoms industry: *Deutsche Telekom* (€12.6 million), *FT/Wanadoo* (€10.35 million), *Telefónica* (€151.88 million) and *Telekomunikacja Polska* (€127.6 million). The three first decisions concern pricing practices (margin squeeze and predatory pricing), whereas the latter covers access issues.

✓ **Commissions' practice shows that not all antitrust decisions end with the imposition of fines.** Under Article 9 of the Antitrust Regulation, the Commission may also conclude an antitrust investigation by making legally binding the commitments offered by the companies concerned, when these can restore good competitive conditions in a market. Prohibition decisions and fines in antitrust look back at the past, whereas commitment decisions look ahead towards the future. The commitments decision is sometimes a good option, especially in fast-moving markets). Commission took such decisions in several cases related to the energy sector, but also in the field of financial services or even in basic industries. For example, since the *energy sector* inquiry closed by DG Competition in 2007, a dozen antitrust decisions have been taken involving old incumbents in energy markets of several countries including Italy, Belgium, France and Germany. In these cases, seeking commitments that would open up the markets has been Commission's preferred policy. Another example is an important on-going investigation of online search service provider *Google* for suspected abuse of dominant position, which will probably be concluded with a commitment decision if the third package of commitments offered by the company could finally allay the four competition concerns identified in the company's business practices.

4.2. Merger control policy

This area of activity implies a preventive work for reviewing proposed mergers. The European Commission promotes mergers and acquisitions that raise no competition concerns and may bring benefits to the economy. Combining the activities of different companies may allow the companies, for example, to develop new products more efficiently or to reduce production or distribution costs. Through their increased efficiency, the market becomes more competitive and consumers benefit from higher-quality goods at fairer prices.

The Commission has the responsibility to prevent the mergers that can lead to anti-competitive dominant positions. The legal basis for EU Merger Control is Council Regulation (EC) No 139/2004, the current Merger Regulation. The regulation prohibits mergers and acquisitions which would significantly impede competition in the Single Market. If the resulting entity from a merger has too much market power it could raise prices substantially for consumers, stifle innovation, and generally distort competition. Mergers going beyond the national borders of any one Member State are examined at European level and the Commission must be notified of any merger with an EU dimension (meaning that the merging firms reach certain turnover thresholds) prior to its implementation (ex-ante control). Mergers below the jurisdictional thresholds remain within the exclusive competence of national competition authorities, in line with the principle of subsidiarity.

Commission clears the vast majority of the mergers that are submitted to it either unconditionally or with "remedies"- normally divestitures - that preserve a competitive market structure. Only occasionally Commission is forced to block a deal when the remedies proposed by the companies are not good enough to allay competition concerns. In the latest prohibition of the end of February 2013, the Commission did not allow the low-cost airline Ryanair to go on with its plans to acquire the control of Aer Lingus – Ireland's flag carrier. Another example is the proposed acquisition of TNT Express by UPS in the market for the express delivery of small packages; in January 2013, the

Commission prohibited the take-over that would have restricted competition in 15 EU countries. Also, in February 2012, the Commission prohibited the proposed merger between Deutsche Börse and NYSE Euronext - a deal that would have led to a near-monopoly in exchange-traded European financial derivatives worldwide.

✓ After more than 20 years in force, the basic features of the EU merger control system are well proven. The Merger Regulation¹ has been regularly reviewed in the past to improve the system and to take into account evolving practice. The review of the merger control system answered the requirements of the business environment facing the changes brought by the globalization – higher complexity, size and geographic area of the concentration operations – and the requirement of ensuring the appropriate legal framework for the EU enlargement as well. The Commission's activity in the field of merger control is, generally speaking, considered successful and in keeping with the directions recommended by the European Council in order to facilitate through this kind of operations the restructuring process and the orientation to a higher competition as imposed by the globalization process.

Nearly 10 years after the most recent reform, and in line with the Commission's goal of ensuring better regulation, possible further improvements of the EU merger control in certain areas are now under debate.

4.3. State aid control policy

Under the state aid control the Commission closely monitors public subsidies, including those granted by means of taxation, to ensure that such measures do not give certain companies an unfair advantage over their competitors. The general provisions on state aid are established in Article 107 of the Treaty. European Commission – using state aid control instruments – can promote a better allocation of resources by preventing measures that distort intra-community competition and trade while allowing support measures that actually target market failures and promote policy objectives of common interest (regional development, employment, research and development, innovation, risk capital, environment protection, and effective support of SME), and has a real incentive effect. Within the approach of the EU authorities, a robust state aid control is the best guarantee to preserve a level playing field and at the same time to make the best possible use of scarce public resources. The state aid can foster growth, promote social development, and strengthen the internal market when it is designed well.

✓ In 2008-2009, the Commission adopted the “*Temporary Framework for state aid measures to support access to finance in the current financial and economic crisis*” to enable Member States to deal with financial problems in systemic banks, as well as to provide assistance to the real economy, seeking to alleviate the impacts of the financial and economic crisis. The temporary state aid framework, which expired in December 2011, helped the EU member states to counter the negative effects on the real economy of the lack of loans without excessive distortion of the competition on the EU internal market. State aid control by the Commission ensured the coordinated national responses to threats that have emerged from the financial crisis in Europe and prevented costly and damaging subsidy races between Member States.

The member states took unprecedented support measures for the financial sector which included not only higher guarantees (and even unlimited) to the banks' deposits, guarantees to the inter-banking loans, direct capital injections and partial nationalization, but also packages of individual rescue measures. The effects of the crisis on the financial markets weakened during 2012 but Member

States continued to provide critical support to financial institutions through a number of state aid measures.

Aid to the financial sector in the period 2008 - 2012

Between 1 October 2008 and 1 October 2013 the Commission took more than 400 decisions authorising state aid measures to the financial sector. In the period 2008-2012, the overall volume of aid used for capital support (recapitalization and asset relief measures) amounted to € 591.9 billion (4.6 % of EU 2012 GDP).⁶ Member States have granted an overall amount of € 413.2 billion (3.2 % of EU 2012 GDP) in recapitalization measures (the second most used instrument to support the financial sector after the guarantees on liabilities). The four countries that supported their banks mostly with capital measures during these years were the UK (€ 82 billion), Germany (€ 64 billion), Ireland (€ 63 billion), and Spain (€ 60 billion). In the period 2008-2012, Member States provided asset relief measures for a total of € 178.7 billion (1.4 % of EU 2012 GDP).

The guarantees and other form of liquidity supports reached its peak in 2009 with an outstanding amount of € 906 billion (7.7 % of EU 2012 GDP). The crisis intensity has gradually weakened in many EU countries since then, and the outstanding amount of liquidity support has dropped to € 534.5 billion (4.14 % of EU 2012 GDP) in 2012.

Since the introduction of the special state aid regime for banks in distress, the Commission has analysed the restructuring or liquidation of around one quarter of Europe's banking sector in terms of assets. Financial markets will remain a top enforcement priority for the Commission, having in view that competition policy can greatly help to re-open normal capital flows to the real economy. One of the lessons that the Commission have learnt during this crisis is the need for more stringent regulation and new ethical standards in the financial services sector. The European Commissioner for competition, Joaquín Almunia, stressed that *"financial institutions cannot think of themselves as being above the law. They must be subject to the same standards as non-financial companies and they should respond to the same calls for social responsibility"*.⁷

✓ According to the Europe 2020 Strategy, *"state aid policy can ...actively contribute to the Europe 2020 objectives leading to a more sustainable, productive and growth oriented economy, by promoting and supporting initiatives for more innovative, efficient and greener technologies, while facilitating access to public support for investment, risk capital and funding for research and development."*

In 2012, the Commission adopted a *State aid modernisation strategy* setting out the objectives of an ambitious reform process. The three pillars of the reform package are:

- better quality aid measures, fostering sustainable, smart and inclusive growth in a competitive internal market, and contributing to the quality of public finance;
- streamlining rules and providing for faster decisions;
- shifting the focus of the control on the aid that can really distort competition in the EU.

The core reforms of the state aid modernisation initiative are gradually introduced through the review of a number of sectoral guidelines to bring them in line with the objectives of the Europe 2020 strategy for growth and link them with the new Multilateral Financial Framework that would come into force in 2014.

⁶ European Commission, State Aid Scoreboard 2013, Aid in the context of the financial and economic crisis.

⁷ Joaquín Almunia, Speech at Bruegel workshop, Brussels, 18 February 2014.

In the course of 2012 - 2013, a series of instruments were adopted, such as Regional Aid Guidelines, Rescue and Restructuring Guidelines for financial institutions and the De Minimis Notice. The State aid modernisation will be completed in 2014, when will be adopted, notably the *Risk Finance Guidelines*, the *R&DI guidelines*, the *Environmental and Energy Aid Guidelines*, the *Rescue and Restructuring Guidelines*, the *revised General Block Exemption Regulation*. The updated *Procedural Regulation* will allow the Commission to handle the complaints that it receives – about 300 a year – in a way that is more consistent with the established priorities.

5. Conclusions

The EU has to complete its ambitious project – the establishment of a genuine pan-European market that could bring sustainable growth to Europe. A strong enforcement of competition policy and law is the basic ingredient of better-functioning markets, that enhance investments and innovation, increase productivity levels and raise the competitiveness of the European economy.

As the EU's competition authority the Commission takes executive decisions over business practices and government measures that can harm competition in the internal market and undermine its integrity. The Commission also have the responsibility to improve the EU competition law and the governance in the field.

The implementation of the competition policy, strongly correlated with the requirements of other policies – horizontal and sectorial – is an efficient tool that contributes to the achievement of EU's strategic objectives.

Competition policy and law have been periodically reviewed to adapt to the complex new challenges generated by the globalization, the process of integration of the EU and the economic developments.

Preserving a level-playing field for every company that does business in the European Union is an important task of the European Commission and the national competition authorities in the Member States. In the difficult context of the financial and economic crisis, this task has been more important than ever, and now the robust enforcement of EU competition law is a prerequisite for a rapid and sustainable recovery in Europe.

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International Petroleum Fiscal Regimes: Trends in Tax-Royalty Worldwide and in Romania

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Abstract

“Resource nationalism” is a cyclical phenomenon whereby governments assert varying degrees of control over natural resources located within their territories, in an attempt to maximise revenue generation from their national resources. Resource nationalism often depends on the price of hydrocarbons and the ability of national governments to extract them. International oil companies are attractive partners for the development of concessions as they have advanced extractive technology, superior project management skills, flexible logistical chains and access to capital from global financial markets. However, these advantages will erode as National Oil Companies (NOCs) improve their expertise over the mid- to long-term and new forms of resource nationalism may restrict their room for manoeuvre. The recent trends in most of oil producing countries’ policies are focusing on highly increasing the fiscal levies imposed to resources exploited under the concession agreements and also on imposing minimum labor taxes. At the end of 2014, The Romanian Government will have to reappraise the fiscal systems for the companies operating in the national oil and gas upstream sector, because the 10-year “freezing” of royalties on oil and gas, at a very low level compared with other producing countries will come to an end. This article tries to present the trends in the international petroleum fiscal regimes worldwide, to make a comparative analysis between Romania and other countries from this point of view and finally to make some recommendations as regards the main guidelines that the negociators could follow in order to obtain better conditions for the new fiscal regime and implicitly a better turning into account of our natural resources to the benefit of the consumers.

Keywords: *fiscal regime, oil revenue, royalties, oil and gas extraction, oil, gas price.*

JEL Classification: *E62, H2, H25, L71, Q41.*

1. Introduction

The exploration and exploitation of hydrocarbon reserves worldwide are conducted on the basis of three main types of agreements / contracts: a) concession agreements; b) oil production sharing agreements; c) service/technical agreements.

The **concession system** is applied nowadays in Europe, including Romania, and North America. Concessions were large grants of acreage rights, they had long duration, sometimes as many as fifty to ninety-nine years. The recipient of the concession has complete oil and gas rights in the

concessions including all management decisions. The host nation was typically paid a flat royalty per barrel or a percentage of revenue.

The **system based on production sharing** requires that the investor assumes the risk, and the state receives a share of production, usually a majority quota, after the parties have recovered the share of costs and investments. These types of contracts require as a precondition the existence of significant oil or gas deposits, aiming at motivating a private company to enter a partnership with the host state and a relative easy exploitation of the field. A certain percentage of oil production is considered “cost oil” from which recoverable costs can be recouped by the contractor group. Generally “operating” costs are 100% recoverable immediately from available cost oil, although the amount of production dedicated to cost recovery may be limited to ensure that the host government always receives a share of what is being produced. By the time production commences, the contractor group will typically have spent/invest a significant amount of capital in exploration, drilling, completion and equipment costs. These costs may have to be depreciated over time for cost recovery.

The third major system is based on **service contracts** which are technical agreements and are used mainly in Mexico and Iran.

2. Main components of the fiscal tax systems applied in the international oil industry

The operating companies in the oil and gas industry are normally paying profit (income) taxes, royalties, VAT and possibly withholding tax. The royalty is the specific duty applied to oil and gas extractive industry, and must be paid by the companies that explore and exploit hydrocarbon reserves. Under concession contracts there are several types of fees: income tax, revenue tax or a combination of both. Government imposes taxes to contractor operations group, depending on the profitability of each oilfield perimeter granted. The State may negotiate with the contracting company that payment is made in kind or cash.

A number of countries with tax/royalty regimes impose, in addition to corporation tax, various forms of “rent” or taxes to capture a greater share of the economic benefits arising from operations, whether these result simply from highly profitable fields or from windfalls such as high petroleum prices. Examples include the UK’s Petroleum Revenue Tax (PRT), Norway’s Supplemental Petroleum Tax (SPT), Brazil’s Special Participation (SP), Australia’s Petroleum Resource Rent Tax (PRRT) and Alaska’s Production Tax (known as ACES). In the case of UK, Norway and much of offshore Australia no royalty at all is now levied and the countries rely on “rent” and income taxes for virtually their entire share of profits.

Leases granted under a tax/royalty style arrangement are quite different from the old-style concession agreements, even though the term “concession” may still be used (as are permit or license). While details vary from one jurisdiction to another, they all contain significant term provisions, usually involving relinquishment of some part of the acreage at various stages such that only the immediate producing area remains held for a long time (typically the life of production).

UK, Norway and Australia - no longer impose royalties on oil, but just a rent and a tax. A possible explanation is that, in UK and Norway reserves have registered a relatively pronounced depletion rate and production is declining. But oil industry tax regime could record changes in Australia and even in Norway, after they recently announced significant new discoveries of oil

deposits. A high level of royalties is practiced in large oil producing and exporting countries, while in the States interested in attracting foreign investment, the average tax rate is about 12-13%.

Annually, the consulting company "Ernst & Young" publishes an updated version of a guide of the petroleum taxation regimes in more than 160 countries all over the world.

3. Investment policy prospects in the oil and gas producing countries

Resource nationalism is a cyclical phenomenon whereby governments assert varying degrees of control over natural resources located within their territories, in an attempt to maximise revenue generation from their national resources. Resource nationalism often depends on the price of hydrocarbons and the ability of national governments to extract them. International Oil Companies are attractive partners for the development of concessions as they have advanced extractive technology, superior project management skills, flexible logistical chains and access to capital from global financial markets. However, these advantages will erode as National Oil Companies (NOCs) improve their expertise over the mid- to long-term and new forms of resource nationalism may restrict their room for manoeuvre.

Several trends are emerging for the coming years:

1) The tax regime for foreign investment will be differentiated depending on extractive sectors type (oil or gas), as long as national oil companies will not have the know - how necessary for the operation of their natural gas deposits associated with the oil. This will lead to tighter regulation of access to the oil sector and relatively more flexible natural gas development.

2) The fact that a greater part of the new oil and gas discoveries will originate in remote or hardly affordable areas in technological, geological and commercial terms, will prompt the developing country governments to resort to a greater extent to international oil companies and to offer more favorable conditions for foreign investment, in exchange for their expertise and financial assistance in energy exploration and production.

3) The recent guidelines, worldwide, for the governments that own natural resources is to highly increase the fiscal levies imposed to resources exploited under concession agreements and to impose minimum labor taxes; in this case, the new forms of resource nationalism will consist of the acquisition by the host state of some minority stakes in production concession, imposing regulations on labor force utilisation and temporary access restrictions to international oil companies.

4) The high crude oil prices stimulate policies of "resource nationalism" type because they increase the benefits/rent that the state can extract from resources ownership. In the last decade, international oil companies' control on hydrocarbon reserves and production declined steadily, and this trend is expected to continue, as governments who possess resources will tend to capitalize the advantages of high energy prices, implicitly by increasing the technical and financial capacity of their own national oil companies (NOC). In 2012, NOC's controlled 90 % of the world's oil and gas reserves and at least 75 % of their production

5) During lower energy prices periods, governments tend to relax the rules on foreign investment regime in order to secure additional funding/ investment.

6) The interest in unconventional resources development worldwide will increase. In addition to conventional resources, the attention of governments has been increasingly captured by the new fuel sources, such as, for example, shale gas, whose exploitation is a priority in North America, China and

probably in certain European countries. Poland, for instance, recently amended its legislation on exploration/exploitation of shale gas, including the fiscal regime for this domain in order to stimulate these operations.

7) Improving the management of the high cost oil and gas fields: Governments are struggling to manage the high prices of oil fields by maximizing production efficiency of oil and gas. This strategy aims to redress the budget, while ensuring a satisfactory return on exploitation of natural resources.

In assessing the tax efficiency of a tax/royalty one must take into account a number of factors : the commercial reserves of hydrocarbons; the tax deduction system ; the overall fiscal context (tax circumscribing oil operations - the so-called "ring fence" system – to carry forward the losses, the depreciation regime, the tax incentives , transaction tax , withholding tax, customs duties, VAT, excise duties, etc.); the overall development of the resources owner countries.

It has been demonstrated that a high rate of petroleum taxation does not always lead automatically to the rise of the budget revenues of a country. The correlation between the amount of natural resources and the development level of a country has been subject to complex analysis. The British economist Richard Auty was the first, in 1993, who used the term "the resource curse" also known as the "paradox of plenty " in his book " Sustainable development in mineral economies" in order to highlight the paradox that countries and regions with an abundance of natural resources, specifically non-renewable resources like minerals and fuels, tend to have less economic growth and worse development outcomes than countries with fewer natural resources. This is supposed to happen for many different reasons, including a decline in the competitiveness of other economic sectors than the petroleum sector (caused by appreciation of the real exchange rate as resource revenues enter an economy, a phenomenon known as Dutch disease), volatility of revenues from the natural resource sector due to exposure to global commodity market swings, government mismanagement of resources, or weak, ineffectual, unstable or corrupt institutions (possibly due to the easily diverted actual or anticipated revenue stream from extractive activities).

The most disruptive effects were ascertained in the Middle East region, which although holds more than 50% of the world's oil reserves, has had serious backlogs in terms of democratization and economic reforms. The situation was described also, by Michael Ross (2013), as follows: "The revolution of energy markets made oil-rich governments stronger and richer than they ever imagined. But for their citizens the results were often disastrous". Paradoxically, countries with low income levels are the most vulnerable to be affected by "the resource curse" and paradoxically, are the target of the increased interest of Western oil companies in order to capitalize on their resources. On the other side there are also, oil countries where mineral resources which are efficiently administered (most of them, accidentally or not, developed countries such as Norway, Canada, Australia, USA, UK) but recently they include also some emerging countries, such as Chile or Botswana. The defeatist thesis of the "resource curse" contains exaggerations, and even a dose of manipulation, because it can become a supporting factor for the most powerful countries to come back to resource-rich states, (after their "banishment" from the '70s) and for international oil companies in their pursuit of overprofits. The economic aspect of this thesis has been reformulated lately, in more moderate terms as it was found that the oil/gas resource-rich countries do not tend to have a lower growth than the scarcer ones, but only a more volatile and suboptimal growth rate, the most deprived countries being those where the state had the right to develop resources and to control their management.

The conclusion is that the exploitation of mineral resources should be perceived as a development tool, not as an end in itself, and a good governance is a crucial condition for the efficient management of mineral resources: efficient governance, fighting corruption, good regulations, sound and democratic consultation.

Tax policies applied to the exploration/exploitation of hydrocarbons (crude oil, natural gas) varies greatly from one country to another. According to the analysis made by "Conoco Phillips" and "Forbes", in 2006-2010, the average profit margin of oil companies has been around 6.5 %, a level which ranged the oil sector on a medium place (114) in a ranking of 215 industries, and showed that the upstream petroleum operations, are far from being a very profitable sector, because of its highly intensive capital character.

U.S.A represents a positive experience, from two points of view: the balance in the distribution of risks between the state and oil companies and the stability of the investment climate, which ensures high budget revenues. The oil companies exploiting hydrocarbons in oil/gas blocks owned by the federal government, are paying royalties of 12.5 % for onshore mining and 18.75 % for the offshore, and a corporate general tax of 35% applied to taxable income.

In the **UK**, the fiscal regime applied to exploration and production of oil and gas includes two main components:

- A 30% income tax, to all operating companies, from April 1, 2008;
- A surcharge tax of 32 % levied on 24 March 2011.

The Great Britain has charged royalties only until 2002, when they were abolished. Their size amounted to 12.5 %, and they have been levied on the gross value of oil and gas extracted, less a rebate for expenses related to transportation, treatment and storage. The fiscal regime includes also a complex system of tax deductions, so that the effective impact of charges is visibly subdued.

Norway is the largest oil and gas producer in Western Europe. A company involved in extractive activities (i.e., upstream activities) within the geographic areas defined by the Norwegian Petroleum Tax Act (PTA) is subject to a marginal tax rate of 78% on its net operating profits (28% ordinary corporate tax and 50% special tax) derived from the extractive activities. The area covered, generally, is within Norwegian territorial borders or on the Norwegian continental shelf (NCS). Basically, the Norwegian State retains almost 8 of every 10 euros of profit obtained by oil companies. Norwegian philosophy regarding exploitation of its natural wealth is that "the state operates on the principle that international companies supports the host state in its natural resources valorisation but, in the end, the oil belongs to the nation".

Western European countries -that generally have low or very low hydrocarbon reserves- apply the following levels of royalties:

- In Denmark, the tax regime that applies to hydrocarbon exploration and production (E&P) companies consists of a combination of corporate income tax (CIT) and a hydrocarbon tax, amounting to a notional level of 52%, but which by deduction (depletion allowances) reaches only 18 % .
- Turkey applies a fixed royalty of 12.5 % for both oil and gas production and a 20% tax on corporation income.
- Germany charges a royalty of 10% to the value of oil and gas production.

- In Hungary, the royalties registered an average of 12% by 2010, with variations depending on the size of the deposit, which in some cases (of higher deposits) can reach up to 30 % .
- In France, the royalties can reach up to 30 % of the production value, depending on the level of the productivity of the reservoir;
- In Italy, a country whose oil and gas industry can be compared to that of Romania, the royalty represents 7% of the production value, with slight variations depending on the size of the deposit, which is subject to a surcharge of 3% in order to create a special fund;
- In almost all Arab countries rich in oil reserves about 70 % of the profits go to the state budget, and in countries like Saudi Arabia or Iraq, the state income from oil exploitation reached 85-90% %.

Israel applies an income tax and a tax on windfall profits in the upstream activities (exploration / exploitation) of oil and gas. Overprofit tax is progressive, ranging from 0% to 50 %. It must be emphasized, however, that the recent increase in oil taxes in this country has as motivation, the discovery of huge gas reserves in the eastern Mediterranean basin.

Poland is very representative from the point of view of shale gas policies. The government of this country is on track to complete the process of improving the fiscal and regulatory framework for shale gas. In early March 2014, the Polish government decided to exempt from taxes shale gas industry until 2020. The move is seen as an important incentive to encourage shale gas projects. After 2020, Poland will impose two special taxes on gas and oil production: a fixed tax calculated on the production value, a variable tax ranging between 0 and 25%, that will apply to the profits from oil and gas production, differentiated by production costs. Overall, taxes, including the corporation tax will not exceed 40 % of company profits, and will bring to the state revenues of 5 billion dollars in the period 2020-2029. (One can note that unfavorable regulatory regime was one of the causes of recent withdrawal of large companies from shale gas industry in Poland).

4. The oil fiscal regime in Romania

The fiscal regime practiced in the oil and gas industry in Romania includes the following components:

- Income taxes -16 %;
- Charges (royalties levied on the value of the production, the income from gas storage and pipeline transportation of crude oil);
- Tax on non-resident income -16 % ;
- VAT -24% ;
- A fee of 4 euro/ton applied on oil sales revenues from domestic production;
- A “building” tax applied starting 2014 and calculated as a 1.5 % quote to the buildings’ value owned by the respective taxpayers (wells and gas and oil pipelines);
- A temporary surcharge of 60 % to the profits from natural gas price liberalization, while granting a deduction for investments exceeding 30 %.

In Romania, the “Petroleum Law” stipulates that royalties are calculated as a percentage of the production value. In addition to this fee, there are also over 80 types of taxes, payroll taxes ,income taxes, local taxes, etc.).The current levels of royalties, which are applicable to all operators in the oil and gas upstream sector, were established before the privatization of Petrom national oil company, in 2004. Petrom argued the “freezing” of taxes at a very low level, averaging 7%, by the need for fiscal stability, given the long investment cycle, of 10-20 years, specific to oil sector.The royalties are not fixed, but varies depending on the size and the oil fields’yield, being also influenced by the international crude oil price dynamics.

The Romanian Government is nowadays facing major challenges as regards the renewing of the fiscal oil tax system. In 2014, the 10-year "freezing" of royalties on oil and gas, will come to an end and must be replaced with a new fiscal system.

One of the major challenge for the future negotiations relates to whether the current system of progressive rates should remain in force or should be replaced with a flat corporate income tax on oil and gas operations.

The present status of Romania’s oil industry is characterized by the following features:

- 1) Romania has the lowest yield per oil field in Europe, 31 boe/day for ROMGAZ and 17 boe/ day for Petrom (for proved reserves) , while in Italy, the same indicator is 265 boe/day, in the UK, 409 boe/day, and in Israel, 4,804 boe/day. The data set covers only exploitable deposits and not those found in the Black Sea or the shale gas deposits.
- 2) The oil proved reserves of Romania have an average depletion degree of 87%.
- 3) The operating costs in Romania oil industry (\$ 17/barrel, on average) can be compared with those of the UK (23 U.S. dollars / barrel).
- 4) Romania is supposed to have important offshore natural gas deposits in the Black Sea and also big shale gas reserves.

The second challenge relates to the amount of the new fee/royalty. Romania is interested in establishing a level of taxation that ensures an increase of budget revenues without jeopardizing major investment projects, especially the Black Sea exploration operations.

In this context it should be noted that the defining features of the Romanian energy policies oscillated between policy dilemmas related to the national character of oil industry and the insufficient financial and technical resources needed to ensure its development and modernization. It is already well known, the traditional political and legislative approach, contextual and shallow, about the exploitation of national energy resources and the ineffective way of using these revenues. It is also worth remembering that before “taking” Petrom, OMV was almost an unknown company on the petroleum market while now, its market value reached more than 20 billion euros .

The most circulating variants for changing the oil fiscal regime in Romania are the following:

- 1) A report of Erste Research Group expects a tripling of royalties level (from 7.5 % to 22.5%). The same source noted that "it is possible that Romania will introduce a completely new system or will simplify the current one. They are considering the idea of a differentiated taxation of oil and gas, depending on the location of resources - onshore or offshore.

2) The experts of "PricewaterhouseCooper's (PwC)" consulting company believe that the current concession system and the relating fiscal regime are the most suitable for Romania. According to PwC, a tax system based on revenues is appropriate to Romania as it takes into account the production yield per field and the development of international oil prices. Moreover "the tax regime should take into account a deduction system for hydrocarbon exploitation under difficult conditions (e.g. deep conventional deposits, deposits with high maturity, heavy oil, deposits in offshore blocks) and must be simple and easy to implement and monitor." PwC said that maintaining differentiated rates would be advisable to avoid the closure of marginal deposits with low production yields. "Given the low volume of production, the high degree of exhaustion of the deposits, the high operating costs, low production per well, the high risk involved, Romania should practice a moderate tax in order to stimulate investment in the oil sector". The conclusion of PwC study is that such a system, made of moderate levels of taxation could be a growth engine of the economy and can help to maintain the level of energy independence to an acceptable level".

3) ROMGAZ considers that it will be necessary to increase the level of oil and gas royalties, by 25%-40 % .

4) Romania's Government is considering the need to establish an "incentive scheme" for companies exploiting shale gas and oil in the Black Sea, although "an increase of the current level of fees being absolutely necessary." The beneficiaries of this "incentive scheme" could be Exxon and OMV Petrom, which announced in 2012 the discovery of a gas field in the Black Sea estimated at 42-84 billion cubic meters. Romanian government plans also to create a special fund, following the Norwegian model, which will be designed to finance important projects for the country."

5) OMV, the majority shareholder of OMV-Petrom company, had contradictory reactions to the prospect of an increase in fees. OMV threatened that if fees will be increased, it will diminish investment even threatening to cease exploration in the Black Sea: "We can not make investments if they are not profitable". But in the last ten years OMV recorded huge profits in Romania, mainly due to very low prices of Romanian crude oil.

5. Considerations regarding the future oil tax regime variants for Romania

The generalization of the European royalty rate, in EU including Romania even at its highest level, is theoretically unacceptable. The European countries that have established these rates have developed economies, but generally are deprived from energy resources. These countries were interested in establishing small royalties and taxes in order to attract investors, because the investors came even from these countries.

As a country with a less developed economy, Romania needs higher budgetary revenues from these royalties in order to support its development. A generalization of the low European royalty does not offer this opportunity. On the other hand, if the new system will establish too high royalty rates, the investors will be discouraged and probably will not be willing to get involved.

Considered until recently, "a rich country in poor resources " (mainly in hydrocarbon resources), Romania may benefit from the recent discovery of a major deposit of natural gas in the Black Sea continental shelf and also from its very important reserves of shale gas. These new energy sources have fueled the idea that Romania could become energy independent in the years ahead, or at least will suppress gas imports. But acquiring the energy independence status can be only temporary, and will have a cost, usually very high, and sometimes prohibitive. Moreover, we may not talk about

energy independence for a period of 3-6 years, as would be the equivalent of time-life of reserves in the Black Sea, at the current rate of consumption.

Therefore the key question to be answered specifically, is that the energy strategy of a country has a cost limit in terms of economic efficiency, sustainability and environmental policy, and in case that a country does not have the capital and the necessary know-how, it must assess the effects of economic and social concessions of these resources. It should be considered that the exploitation of newly discovered gas reservoirs in the Black Sea might cost between three and ten billion dollars, and the resulting output does not belong, in fact, to the Romanian state, but to foreign companies, mainly to Exxon/Mobil and OMV/Petrom, that received operating licenses. These companies are not obliged to sell the gas in Romania, but presumably they will do it, provided that the state should have negotiated a repurchase clause of the production at a preferential price, before licensing the exploration/ exploitation to them.

If natural gas deposits in the Black Sea and the shale fees are renegotiated this year, probably for the next 10 years, the promised "energy independence " will be reached at best, at the "beginning of the next decade", while the proven reserves in the Black Sea, have not yet been determined and evaluated in terms of commercial viability. Therefore, the state should guarantee the venture of OMV in Romania, a practice unusual elsewhere in the world.

The rule established by the EU under the single market practice is that the resources exploited must be purchased at the same price level all over the European Community. Romania agreed with the IMF, in exchange for financial stability, to liberalize its gas market and increase the price, to the import parity levels by the end of 2018 for corporate customers and households. As a result, the domestic price of gas will increase substantially. This will entail a big rise of suppliers and distributors' profits, in total contradiction to the essence of the concept of liberalization, which supposes a reduction of costs and prices, both to producers and consumers, as a result of increased competitive pressure. Such gas price liberalization imposed by the European Commission transforms itself from a beneficial instrument of economic progress into a negative impact factor for economic and social evolution.

The "promise" of lower prices at which foreign companies will sell the gas exploited to the Romanian state is uncertain. After the market will be liberalized and the pipelines interconnection with Western Europe will be completed, nothing will stop producing companies to sell the gas, elsewhere than in Romania, if they cannot obtain a higher and very profitable price.

Although until a few years ago, it was assumed that a competitive market of gas, with a multitude of operators will not occur easily in any one region of Europe because of the reduced opportunities of accessing and exploiting new sources of gas that could be brought to the market, nowadays, the paradigm of absolute domination and dependence on Russian gas (that some German policymakers are considering it quite unavoidable) begins to be threatened, at least in south European basin, by a variety of potential sources: shale gas in Poland - Romania -Ukraine, the gas discovered in the Black Sea; Azerbaijani gas delivered through the Trans-Adriatic pipeline (TAP), which replaced the Nabucco project; the huge gas discoveries in the eastern Mediterranean basin (Israel,Cyprus); the resumption of ties between the U.S. and Iran, which could lead to its re-entry on world gas market, alongside with another high potential producer/exporter- Iraq; a number of projects included in the Eastern route, Gas East, where Romania was involved, at least in theory, to compensate for the cancellation of Nabucco .Only under these conditions, inter-fuel competition could begin to act

effectively on the price of imported gas from Russia (in the sense of changing its base) and weaken the link with oil prices, finally going up to a possible decoupling of the oil price.

6. Conclusions

A high level of royalties is usually imposed by oil-exporting countries. Instead, in those states aiming at attracting foreign investments, royalties shares have been established in recent years at around 12-13%.

The concession agreements are the most common way to exploit the natural resources. The owner state grants a concession to private companies, for which they are receiving a fee. The fee can be applied to different tax bases or on profits or income, as it is the case in Romania. Quotas can be fixed, regardless of the type of the deposit or variable, depending on the type and size of deposits.

High crude oil prices stimulate policies of "resource nationalism", because they increase the benefits/rent that the state can extract from resources ownership.

On the basis of concession contracts, Romania's benefits come only from royalties and taxes.

The concession system where the royalty rate is applied to profits, not to the income (Romania's case) can be adjusted by a deductions' tax system, although the complexity of tax regime administration makes it more appropriate in countries with a large concentration of resources (large deposits and reduced fragmentation).

The leeway in negotiating fees is extremely sensitive and requires a system to find a balance between the interest of the state to collect higher revenues to the budget and the investors' desire to look for attractive fiscal conditions for such operations. Environmental protection is very important in this process, as well as the social impact.

Although the production sharing agreements could be a solution for the state to reap the benefits from the newly discovered resources, such a variant is difficult to apply in Romania, because large companies are reluctant to become engaged in such agreements, except in very large resources case, which could be able to provide significant commercial production in the long term and a fast rate of depreciation.

Romania will benefit from certain advantages, in its future negotiations for changing the petroleum fiscal regime: the Black Sea newly discovered offshore reserves and the potential shale gas reserves; the liberalization of domestic price of gas, in the future years, which will ensure a significant increase of extractive companies gains, but will be also a reason for taxing foreign companies revenues benefiting from this "undeserved gift "; a long tradition in the oil extraction industry with long technical expertise both in oil and gas industry that can be used in the form of service contracts ;the existence of an institutional framework and national rules adapted to European resource management; the completion in the near future of interconnections with pipelines in Western Europe and neighboring countries.

On the other side, Romania will be faced with some relative disadvantages: the lack of national capital for investment; the lack of democratic consultation in the field of exploitation projects and of applied negotiation; the fact that the tax regime in the hydrocarbon renegotiation takes place in a time when there is no clear information about the actual amount of gas discoveries neither in the Black Sea nor in shale deposits.

Taking into account the local specificities and the recent trends worldwide, Romania's negotiating pattern in establishing a new fiscal regime for oil and gas exploitation should be nuanced according to some features:

- It will be necessary to determine, with some degree of certainty, the amount of reserves Current estimates are quite elusive. An exploratory well will be drilled in 2014 and other 10 deep wells by 2018;

- The technological and logistical costs of deep offshore drilling (at about 1000 m) are much higher than the land costs ; they are also higher in The Black Sea area, than in other parts of the world,because of drilling equipment shortage and a small number of service providers of deepwater drilling;

- Finally, there are problems related to some deficiencies of onshore infrastructures (the existence of a transport infrastructure covering almost all the territory, but, physically worn and not calibrated for interconnection to the European network) and to certain legislative ambiguities that will take time and investment to be remedied.

Starting from these findings we consider the following guidelines in establishing the new oil fiscal regime in Romania:

a. Maintaining a differentiated system of royalties rates according to the:

- deposits' yield, as a way to encourage the development of marginal fields , with small production;

- the hydrocarbon type (oil or gas);

- the location of reserves - onshore and offshore , respectively existing proved reserves, and the new ones in the continental shelf of the Black Sea .

b. In accordance with the worldwide trend of imposing higher taxes for new hydrocarbon resources, the Romanian state should consider a relatively substantial increase of fees for large deposits, while developing a new system of taxes for the new deposits discovered in Black Sea;

c. The Romanian state should take into account the possibility to levy an additional (windfall) profit tax on the revenues that the companies will collect in the next years following the liberalization of gas prices.

Without falling into the trap of a hard nationalism of resources, Romania will have to follow the examples of countries that have successfully capitalized oil and gas resources and to act upon the principle that international companies are designed to provide the financial and technical support to turn into account the natural resources but in the end, the oil belongs to the nation. We mention that in Norway, the revenues from oil taxes and royalties represent 30 % of GDP,while in Romania, during the 10 years ending in 2014, the fees collected from oil extraction represented only 1% of GDP.At the same time, the foreign operating company profits were very high, even in times of crisis .

It is obvious that multinational companies'policy is aiming at maximizing profits, by tax evasion practices, through transfer pricing, and finally, the tax burden is falling mainly on SMEs and middle class. Moreover, it is an obvious connection between Exxon operations in the Black Sea and U.S. geopolitical interests in the region and between Chevron operations in Romania and the strategic partnership with the U.S.A. The U.S. administration supports and promotes the interests of major U.S. oil companies through strategic partnerships with the allied nations but it is not the one that imposes

disadvantageous conditions to these states. Owing to their superior capabilities (advanced technologies, superior project management skills, flexible supply chains, easy access to capital in global financial markets) and also to some internal factors (lack of expertise of professional negotiations, national political concessions, and more recently, increased geopolitical risks in the Black Sea) the multinational companies can impose their tough conditions to the national oil companies .

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EU Energy Policies Targeting the Environment

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Abstract

Activities in the energy sector provide the greatest contribution to the emission of greenhouse gases (GHG), which are assigned primary responsibility for producing climate change. The European Union puts great emphasis on the mitigation of the environmental impact of the energy sector, in particular concerning the combat against climate change, this fact being demonstrated by the implementation of policies by the EU in this field. This paper aims to analyse the most important Community energy policies with environmental effects, such as setting of climate and energy targets for 2030, policies on nuclear and renewable energy or measures to increase energy efficiency.

Keywords: *emissions, energy efficiency, greenhouse gases (GHG), policies.*

JEL Classification: *Q42, Q43, Q47, Q48, Q54.*

1. EU 2030 framework for climate and energy policies

By burning fossil fuels, the energy sector has a major contribution to the generation of GHG emissions — mainly carbon dioxide (CO₂).

The reduction of polluting emissions resulted from the combustion of fuels represents an important mean of protecting the environment and to improve the population health - the major requirements under the sustainable development strategy of the society – being known the association between the greenhouse effect and climate change. In this context, the European Union puts great emphasis on the implementation of energy policies directed toward environmental protection.

On the 22th of January 2014, the Commission proposed the energy and climate objectives that have to be fulfilled by 2030. The targets send a strong signal to the market, thereby encouraging private investments in new pipelines and electricity networks, or in low carbon emissions technologies.

The compliance with the EU's commitment to reduce by 2050 the GHG emissions by 80-95% compared to the reference year is subject to the fulfilment of new targets on energy and climate:

- 40% reduction of GHG emissions (compared with 1990 levels);
- a share of 27% in the final consumption to come from renewable energy sources;
- the energy efficiency role to be an important one, but without being specified a particular target.

The European Union already has a set of policies relating to climate and energy for the next period (by 2020), entitled energy-climate change package. The objectives established by this package, called "20-20-20 objectives " are the following:

- reduction of 20% of the GHG emissions compared with 1990 levels;
- a percentage of 20% of the energy generated in the EU to come from renewable sources (wind, solar, hydro, biomass, etc.);
- increase of energy efficiency by a 20% reduction in energy consumption.

But the forecasts by 2050 suggest that current policies are not sufficient to ensure the energy safety in a competitive and low carbon economy. The energy price and cost study, carried out by the Commission, reveals the causes of the recent price increase and its impact on consumers, assuring that policies are based on a thorough economic analyses and offering an insight into the evolution of international prices. During the 2008-2012 period EU has registered a significant increase in average energy retail (sales) prices for households and industry. However, during the same period, the wholesale electricity price has fallen by one-third, and the wholesale gas price has remained the same. The study showed that energy prices will increase on short term - mainly due to fossil fuel prices and the need for investment in new networks. The following issues were highlighted:

- the electricity prices for household appliances increased by 4% per year, the gas price for domestic use has increased by 3% per year - more than inflation rate in most countries of the EU;
- retail electricity prices for industrial consumers increased by 3.5% per year - but the retail price of natural gas in the industry increased by less than 1% per year, under the inflation of the majority of EU States;
- the wholesale gas price remained the same, despite the fluctuations in this period.

In February 2014, in a study prepared by the Enerdata, there were estimated the costs and benefits due to 2030 Climate and Energy Targets, to EU Member States. Total costs estimated in this study include abatement cost, permit trading cost, the purchase of international credits, and subsidies for renewables (costs from implementing renewable technology specifically). The abatement cost includes the cost of resource for consumption, but it is based on more than just the cost of technology and behavioral change needed to drive the implementation. Default or supporting barriers included in the data on historical energy consumption are also taken into consideration in the abatement costs to reflect the energy systems choices of the Member States. The costs are compared with a Reference Case, to indicate the extra effort necessary to meet the set targets compared to a "business as usual" case. The Reference Case considered in this study includes current European policies until 2020 (EU and Member States), only EU climate policies after 2020 (e.g. maintaining the current cap trajectory of the EU ETS), but do not include Member States legislation or policies after 2020, and conservative estimates of energy efficiency measures.¹

The results obtained from the analysis are displayed in table no. 1.

¹ Enerdata, (2014), *Costs and Benefits to EU Member States of 2030 Climate and Energy Targets*

Table no. 1: Cost of energy policies by scenario

In 2030		40% GHG	% GDP	40% GHG + 30% RES	% GHG	50% GHG	% GDP	50% GHG (10% credits)	% GDP
Total cost vs. Ref, bn Euro		30	0.2%	41	0.3%	94	0.6%	67	0.4%
Average health cost vs. Ref., bn Euro (not captured in total costs)*		-18	0.1%	-18	0.1%	-27	0.2%	-19	0.1%
Energy import bill vs Ref, bn Euro (captured in total costs)**	Fossil fuels	-72	0.4%	-78	0.5%	-111	0.7%	-58	0.4%
	Biomass	4	0.0%	5	0.0%	6	0.0%	3	0.0%
In 2030		40% GHG + Alt NTS burden shares	% GDP	40% + Alt split ETS/NTS	% GDP	40% GHG + 30% EE	% GDP	40% GHG + 30% RES + 30% EE	% GDP
Total cost vs. Ref, bn Euro		30	0.2%	41	0.3%	100	0.6%	121	0.8%
Average health cost vs. Ref, bn. Euro (not captured in total costs)*		-18	0.1%	-18	0.2%	-27	0.1%	-24	0.1%
Energy import bill vs Ref, bn Euro (captured in total costs)**	Fossil fuels	-72	0.4%	-66	0.4%	-101	0.6%	-107	0.7%
	Biomass	4	0.0%	5	0.0%	-1	0.0%	1	0.0%

* Avoided health costs are not accounted for in the total cost, and so provide an offsetting benefit from reduced local air pollutants.

** While reduced fossil fuel use is captured in the total cost, the change in the energy import bill illustrates the potential for wider macroeconomic and energy security benefits not captured in the total cost.

Source: Enerdata, 2014

2. Nuclear energy

The European Union has the highest safety standards for all types of civilian nuclear activities, for example power generation, waste storage, research and medical usage. The safety of the nuclear plants is the responsibility of their operators, which are supervised through the national legislation. The Commission wishes to enhance security rules in the European Union, following the Fukushima accident. The Commission cooperates with countries outside EU, particularly with its neighbours. In cooperation with the International Atomic Energy Agency (IAEA), EU provides support to countries

that wish to comply with the international safety standards in the utilization of nuclear energy and for making the necessary infrastructure in terms of security.²

In June 2013 The European Commission proposed the amendment of the 2009 Directive on nuclear safety, by:³

- introduction of new safety objectives at EU level;
- establishment of an European system of peer evaluations of nuclear installations;
- establishment of a mechanism for the development of nuclear safety guidelines, harmonised at European Union level;
- strengthening the role and independence of the national legislators;
- increasing the transparency of the issues related to nuclear safety.

The European Union needs its own verification mechanism to ensure the fulfilment of the common objectives relating to safety. At least once every six years the nuclear facilities will be subject to specific inspections relating to issues of nuclear safety and to the peer review assessments in the European Union.

3. Renewable energy sources (RES)

Due to the negative environmental impacts of the energy production through the burning of fossil fuels and the fact that these are an exhaustible resource in the European Union and beyond, the emphasis is placed on the promotion of renewable energy sources. On March 27, 2013, the European Commission published the first progress report on the renewable energy, under the provisions of 2009 Directive on the renewable energy framework. From the enactment of this Directive and the introduction of the renewable energy, most Member States have experienced a significant increase in the consumption of this type of energy. The 2011 statistics indicates that EU is on the right track (13%) in terms of respecting the 2020 target - 20% share of energy from renewable sources.

In terms of the sustainability criteria of the European Union relating to bio-fuels and bio-liquids, the implementation of the scheme for bio-fuels in Member States is considered to be too slow.

In accordance with the requirements of the 2009 Directive on renewable energy, every two years the Commission shall publish a progress report. The report assesses the progress of Member States in the promotion and use of renewable energy, taking into account the targets for 2020. The report also describes the development of RES policies in each Member State and their compliance with the measures from the directive and the renewable energy national plans. Furthermore, in accordance with the Directive, the report contains information on the sustainable use of bio-fuels and bio-liquids consumed in EU and on the impact of their use on consumption.

Table no. 2: The share of energy from renewable sources in gross final consumption (%)

Country	The share of energy from renewable sources in gross final consumption (%)									Prediction		
	2004	2005	2006	2007	2008	2009	2010	2011	Target 2020	2013-2014	2015-2016	2017-2018
UE-28	8.1	8.5	9	9.7	10.4	11.6	12.5	13	20	-	-	-
Belgium	1.9	2.3	2.6	2.9	3.2	4.4	4.9	4.1	13	5.4	7.1	9.2

² European Commission, 2014

³ European Council (2013), Draft proposal for a Council Directive amending Directive 2009/71/EURATOM establishing a Community framework for the nuclear safety of nuclear installations

Country	The share of energy from renewable sources in gross final consumption (%)									Prediction		
	2004	2005	2006	2007	2008	2009	2010	2011	Target 2020	2013-2014	2015-2016	2017-2018
Bulgaria	9.2	9.2	9.4	9	9.5	11.7	13.7	13.8	16	11.4	12.4	13.7
Czech Rep.	6.0	6.1	6.5	7.4	7.6	8.5	9.2	9.4	13	8.2	9.2	10.6
Denmark	14.9	16	16.4	17.8	18.6	20	22	23.1	30	20.9	22.9	25.5
Germany	5.2	6.0	7.0	8.3	8.4	9.2	10.7	12.3	18	9.5	11.3	13.7
Estonia	18.4	17.5	16.1	17.1	18.9	23	24.6	25.9	25	20.1	21.2	22.6
Ireland	2.4	2.8	3.1	3.6	4	5.2	5.6	6.7	16	7.0	8.9	11.5
Greece	7.1	7.2	7.4	8.4	8.3	8.5	9.8	11.6	18	10.2	11.9	14.1
Spain	8.3	8.4	9.1	9.7	10.8	13.0	13.8	15.1	20	12.1	13.8	16
France	9.3	9.5	9.6	10.2	11.3	12.3	12.8	11.5	23	14.1	16.0	18.6
Croatia	15.2	14.1	13.8	12.5	12.2	13.3	14.6	15.7	20	14.8	15.9	17.4
Italy	5.1	5.1	5.5	5.5	6.9	8.6	9.8	11.5	17	8.7	10.5	12.9
Cyprus	2.7	2.6	2.8	3.5	4.5	5	5.4	5.4	13	5.9	7.4	9.5
Latvia	32.8	32.3	31.1	29.6	29.8	34.3	32.5	33.1	40	34.8	35.9	37.4
Lithuania	17.3	17	17	16.7	18	20	19.8	20.3	23	17.4	18.6	20.2
Luxembourg	0.9	1.4	1.5	1.7	1.8	1.9	2.9	2.9	11	3.9	5.4	7.5
Hungary	4.4	4.5	5	5.9	6.5	8	8.6	9.1	13	6.9	8.2	10
Malta	0	0	0	0	0	0	0.2	0.4	10	3	4.5	6.5
Netherlands	1.8	2.1	2.3	3	3.2	4	3.7	4.3	14	5.9	7.6	9.9
Austria	22.8	23.8	25.3	27.2	28.3	30.2	30.6	30.9	34	26.5	28.1	30.3
Poland	7	7	7	7	7.9	8.8	9.3	10.4	15	9.5	10.7	12.3
Portugal	19.3	19.8	20.9	22	23	24.6	24.4	24.9	31	23.7	25.2	27.3
Romania	17	17.6	17.1	18.4	20.3	22.3	23.4	21.4	24	19.7	20.6	21.8
Slovenia	16.1	16	15.6	15.6	15	19	19.6	18.8	25	18.7	20.1	21.9
Slovakia	6.7	6.6	6.9	8.2	8.1	9.7	9.4	9.7	14	8.9	10	11.4
Finland	29	28.6	29.8	29.4	3.7	30.4	31.4	31.8	38	31.4	32.8	34.7
Sweden	38.7	40.4	42.4	43.9	45	47.7	47.9	46.8	49	42.6	43.9	45.8
United Kingdom	1.2	1.4	1.6	1.8	2.4	3	3.3	3.8	14	5.4	7.5	10.2

Source: Eurostat, 2013

4. Energy efficiency

According to the definition given by the Business Dictionary, energy efficiency is the "percentage of the amount of energy consumed by an equipment for a useful activity, and not consumed in the form of heat". Energy efficiency is a concept that groups the ways and means by which energy consumption (primary and secondary resources) can be reduced as a result of a technical and economical analysis. A low energy efficiency generates higher levels of consumption and of course higher costs. The new EU directive on energy efficiency was adopted in December 2012. Most of its provisions have to be implemented before June 2014. This Directive establishes a common action framework for the promotion of energy efficiency in the EU, and insures the fulfilment of the 2020 objective, namely 20% increase in energy efficiency.

All 28 Member States are required to use energy effectively in all stages of the energy chain - from the energy transformation/production and distribution to the end user. The new Directive will contribute to overcoming barriers and market failures that prevent implementation of efficiency in energy delivery and usage, and provides the establishment of the specific objectives for 2020.

The new measures include:⁴

- quantifiable defining of the EU target on energy efficiency: "The EU 2020 consumption should not be higher than 1483 Mtoe - primary energy, and not higher than 1086 Mtoe – final energy";
- obligation of each Member State to establish an objective relating to energy efficiency, in the form in which the respective country prefers (e.g. primary/final savings, intensity, consumption) and the requirement that, by April 30th 2013, they will communicate this goal, together with the "translation" in terms of the absolute level of primary energy consumption and final energy consumption in 2020;
- Member States obligation to achieve a certain amount of energy savings during the 2014-2020 period by using energy efficiency schemes and other measures to increase efficiency in households, industry and transport;
- major energy savings for consumers: free and unrestricted access to information in real time, regarding energy consumption through individual metering, thus allowing consumers to better manage energy consumption;
- large enterprises obligation to perform an audit at least once every four years, and the first audit to be performed until December 5th 2015;
- public sector should represent an example, by renovation of 3% of the buildings owned and occupied by central institutions, and at the same time, through the inclusion of energy efficiency criteria in public procurement law, through the acquisition of efficient buildings, products and services, from the energetic point of view.

Table no. 3: Energy efficiency targets of the EU Member States

EU Member State	Article 3 indicative national energy efficiency target for 2020	Absolute level of energy consumption in 2020 (Mtoe)	
		Primary	Final
Austria	Final energy consumption of 1100 PJ	31.5	26.3
Belgium	18% reduction in primary energy consumption by 2020 relative to the Primes 2007 baseline (53.3 Mtoe)	43.7	32.5
Bulgaria	Increase of energy efficiency by 25% until 2020 (5 Mtoe primary energy savings in 2020) and 50% energy intensity reduction by 2020 compared to 2005 levels	15.8	9.16
Croatia	Increase in energy efficiency resulting in final energy consumption reduction of 19,77 PJ in 2016 and 22,76 PJ in 2020	-	9.24
Cyprus	0.463 Mtoe energy savings in 2020 (14.4% reduction in 2020 compared to a reference scenario)	2.8	2.2
Czech Republic	47,84 PJ (13,29 TWh) savings of final energy consumption*	39.6	25.315
Denmark	Primary energy consumption of 744.4 PJ (17.781 Mtoe) in 2020	17.8	14.8
Estonia	Stabilisation of final energy consumption in 2020 at the level of 2010	6.5	2.8
Finland	310 TWh of final energy consumption in 2020	35.9	26.7
France	17.4% reduction of final energy consumption in 2020 compared to a baseline	236.3	131.4
Germany	Annual improvement of energy intensity (energy productivity) by 2.1% pa on average until 2020	276.6	194.3
Greece	Final energy consumption level of 20.5 Mtoe	27.1	20.5
Hungary	1113 PJ primary energy consumption in 2020 (236 PJ savings)	26.6	18.2

⁴ European Parliament, (2012), *Directive 2012/27/EU of the European Parliament and of the Council of 25 October 2012 on energy efficiency, amending Directives 2009/125/EC and 2010/30/EU and repealing Directives 2004/8/EC and 2006/32/EC*.

EU Member State	Article 3 indicative national energy efficiency target for 2020	Absolute level of energy consumption in 2020 (Mtoe)	
		Primary	Final
	compared to business-as-usual), resulting in 760 PJ final energy consumption		
Ireland	20% energy savings in 2020 along with a public sector energy saving target of 33%	13.9	11.7
Italy	20 Mtoe primary energy reduction by 2020, 15 Mtoe final energy reduction by 2020	158.0	126.0
Lithuania	17% reduction in final energy use compared to 2009 level (reduction of 740 ktoe)	6.485	4.278
Luxembourg	Preliminary target value for 2020 of 49,292 GWh or 4,239.2 ktoe final energy	4.482	4.239
Latvia	Primary energy savings in 2020 of 0.670 Mtoe (28 PJ)	5.37	4.47
Malta	22% energy or 237.019 toe savings target by 2020	0.825	0.493
Netherlands	1.5% energy savings per year(partial)	60.7	52.2
Poland	13.6 Mtoe primary energy savings in 2020	96.4	70.4
Portugal	Reduction of primary energy use in 2020 by 25% compared to projections	22.5	17.4
Romania	Reduction of 10 Mtoe (19%) in the primary energy consumption	42.99	30.32
Slovakia	3.12 Mtoe of final energy savings for the period 2014-2020	16.2	10.4
Slovenia	10.809 GWh energy savings by 2020	7.313	5.088
Spain	20% energy savings to be achieved by 2020	121.6	82.9
Sweden	Energy use shall be 20% more efficient by 2020 compared with 2008 and a 20% reduction in energy intensity between 2008 and 2020	43.4	30.3
United Kingdom	Final energy consumption in 2020 of 129.2 Mtoe on a net calorific value basis	177.6	157.8

Source: European Commission, 2014

The targets on energy efficiency for the Member States are displayed in table no. 2., in the form preferred by the respective country, and also the "translation" of those objectives in terms of the absolute level of primary energy consumption and final energy consumption in 2020.

5. Other components of the energy policy

5.1. Energy Roadmap 2050

In 2011, the European Union has assumed through the adoption of the Energy Roadmap 2050, that by 2050, the emissions will be reduced by 80-95% below 1990 levels. In the 2050 Roadmap, the Commission examines the challenges stemming from the EU "decarbonisation" objective, under the conditions of ensuring energy supply and competitiveness. The roadmap is the basis for the long-term development of a European framework together with all interested parties.

5.2. European Energy 2020 Strategy

The communication "Energy 2020 - A strategy for competitive, sustainable and secure energy" requires the adoption of measures in areas where new challenges may arise. These areas are:

- energy efficiency
- infrastructure
- energy technology
- external dimension of the internal market in energy

5.3. The single market for gas and electricity

On October 10th 2011, the European Union has adopted strict new rules regarding the wholesale energy trading. The main objective is to prevent the use of internal information, and other forms of market abuse, which distorts the wholesale energy prices and represents the reason for which businesses and consumers pay more for energy than would be necessary. The new legislation will come into force by the end of 2014. For the first time, energy trading will be regulated at EU level, in order to uncover abuses. The national authorities of the Member States may apply sanctions to help stop and prevent market manipulation.

5.4. Energy infrastructure

The European Union aims to complete the energy strategic networks and storage systems by 2020. This objective relates to the production, transport and storage of energy. A modern energy infrastructure is crucial for an integrated energy market and to meet the climate and energy objectives of the EU.

The energy network has to be modernised and expanded in the European Union in order to take energy from RES and provide a safe supply everywhere. Intelligent networks are also needed, in order to save energy and to better manage the distribution. The Commission has identified 12 priority areas for the corridors and networks for electricity, gas, oil and carbon dioxide, and promotes projects to implement them.

6. Conclusions

The energy sector has a negative impact on environment, mainly because it represents the largest generator of greenhouse gas emissions (GHG) - especially carbon dioxide - the main responsible for producing climate change.

The European Union puts great emphasis on mitigation of the energy sector environmental impact, by implementing various policies, in particular those concerning to increasing energy efficiency, promoting the use of renewable energy sources and combating of the negative effect of nuclear energy. The measures for increasing energy efficiency are particularly important because an increased energy efficiency leads to the decrease of quantities of fossil fuels used, and of course to the generation of a considerable lower amount of greenhouse gases emissions in the atmosphere. Promotion of renewable energy sources has a positive impact on the environment, taking into account the limited nature of fossil fuels and the negative impact of burning fossil fuels in the energy production activities. At the same time, policies on nuclear energy play an especially important role, given the serious safety problems, accidents and radioactive waste generation, these waste representing a risk to human health and the environment. In addition to these measures, the European Union's energy policy, also contains other components, like the Energy Roadmap 2050 and European Energy 2020 Strategy. At the same time, it should be mentioned the important role played by the energy sector in the new EU reindustrialisation policy. The success of the implementation of the Energy Community policies with environmental impact is conditioned by the involvement of all decision-makers, respectively the European institutions and the Governments of the Member States.

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EU Travel and Tourism Industry - A Cluster Analysis of Impact and Competitiveness

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Abstract

The tourism industry has known a sustained growth in recent decades, this sector taking advantage of the capacity to generate added value regardless of the type of capital input. The impact of tourism on the economy is indisputable, but the efficiency and the competitiveness provide a sustainable development of this industry. The EU enlargement, geographical and numerical, provides both - a diversity of tourism destinations and an opportunity for growth, considering widening of single market. This paper aims to assess tourism in the European Union, considering the impact and value of the tourism multiplier effect in economy, respectively efficiency and competitiveness of tourism. This paper proposes a classification of EU countries based on cluster analysis, using K-means algorithm.

Keywords: *tourism, European Union, cluster analysis, multiplier coefficients, efficiency, competitiveness.*

1. Introduction

The economic importance of tourism was for many decades underappreciated, but nowadays we discover that the concept of „tourism activity” became „tourism industry”. The European Union gives tourism a high importance, which contributes substantially to its economic and social objectives. Regarding the tourism, the EU has as main objective to achieve an optimal balance of tourism activities in member countries. In 2010 the Commission proposed a strategy for boosting European tourism, in order to maximize the potential of this sector. A total of 21 proposals, on the four main directions, are subject of the Commission's strategy on tourism in Europe - „Europe - the world's No 1 tourist destination – a new political framework for tourism in Europe”: (1) Stimulate competitiveness in the European tourism sector (Promoting diversification of the supply of tourist services; Developing innovation in the tourism industry; Improving professional skills; Encouraging an extension of the tourist season ; Consolidating the socioeconomic knowledge base for tourism); (2) Promote the development of sustainable, responsible and high-quality tourism ; (3) Consolidate the image and profile of Europe as a collection of sustainable and high-quality tourist destinations; (4) Maximise the potential of EU financial policies and instruments for developing tourism.

This paper proposes an assessment of tourism in the European Union, starting from two types of information: the impact of tourism in the EU economy and the competitiveness of the tourism sector.

Based on statistics provided by the World Travel and Tourism Council and the World Economic Forum, we calculate multiplier coefficient for tourism, the tourism industry efficiency, the balance of payments in international tourism, and finally grouping EU countries based on these variables using cluster analysis. Related to the World Travel and Tourism Council analyses, the direct impact includes employees and the related value added for accommodation, recreation, transportation etc, while the indirect impact measures the supply chain impact, the induced impact measures the impacts of incomes earned directly and indirectly as they are spent in the local economy. Direct, indirect and induced impacts are equal with the total economic impact of tourism (World Travel and Tourism Council, 2013a).

World Economic Forum has calculated since 2008 (next editions were in 2009, 2011, 2013) a tourism competitiveness index. „The Travel & Tourism Competitiveness Index (TTCI) aims to measure the factors and policies that make it attractive to develop the T&T sector in different countries”(World Economic Forum, 2013). The index includes 14 criteria, on the three main pillars: A - Regulatory framework (Policy rules and regulations, Environmental sustainability, Safety and security, Health and hygiene, Prioritization of Travel and Tourism);B - Business environment and infrastructure (Air transport infrastructure, Ground transport infrastructure, Tourism infrastructure, Information and Communications Technical infrastructure, Price competitiveness in T&T industry); C - Human, cultural, and natural resources (Human resources, Affinity for Travel & Tourism, Natural resources, Cultural resources). The paper is structured as follows: literature review, research methodology, results and discussion, conclusions.

2. Literature review

The specialized literature has covered important stages in analyzing the impact and competitiveness of tourism destinations over the last few decades.

The impact of tourism (Sadler, 1975; Liu et al., 1984 Rita, 2000; Dwyer et al., 2004; Ivanov & Webster, 2007) or competitiveness of destinations (Gooroochurn & Sugiyarto, 2005; Kayar & Kozak, 2007; Leung & Baloglu, 2013) were important directions for assessing the growing importance of tourism in the global economy.

Statistical and mathematics methods were options of many researchers, among them we notice the tourism multiplier analysis (Archer, 1982; Hughes, 1994; Dwyer et al., 2004) or cluster analysis (Brida et al., 2010; Brida et al., 2012; Leung & Baloglu, 2013, Chen, 2011; Vareiro Cruz et al., 2013)

Sadler (1975) analyzed the costs and the benefits generated by tourism in the economies of developing countries. Archer (1982) examines the origins, nature and evolution of tourism multipliers, their misuse, strengths, weaknesses and limitations, and their value for planning and policymaking. Liu et al. (1984) have demonstrated the importance of side effects generated by revenues from tourism in economy. Hughes (1994) claimed that the multiplier calculated in relation to tourist expenditure is too wide or too narrow. Dwyer et al. (2004) had a critical approach to the methods widely used in estimating the economic impact of tourism, including multiplier analysis, proposing alternative techniques better related to the economic reality of our times. Ivanov & Webster (2007) tested a methodology for measuring the contribution of tourism to economic growth in the three EU countries: Cyprus, Greece and Spain.

Gooroochurn & Sugiyarto (2005) considers that tourism competitiveness is a complex concept, difficult to measure, proposing a model to measure it based on 8 indicators - price, openness, technology, infrastructure, human tourism, social development, environment and human resources.

The results showed that the most competitive destinations are the U.S., Sweden, Norway, Finland and Australia. Leung & Baloglu (2013) have proposed multidimensional scaling and cluster analysis methods to evaluate the destination competitiveness, based on The Travel & Tourism Competitiveness Report.

Chen (2011) used cluster analysis to group residents by their perception of the tourism impact events. Brida et al. (2010) used cluster analysis in the segmentation of host population by the views about the tourism policy strategies. Brida et al. (2012) appealed also to cluster analysis to assess residents' perceptions of the impact of cruise tourism on the local community. Cruz Vareiro et al. (2013) used cluster analysis to group residents according to their perception of the impact of tourism development, the results of classifying them into three groups - the Sceptics, the moderately Optimistics and the Enthusiasts

Tourism in the European Union was also a theme widely approached (Rita, 2000; Coles & Hall, 2005; Kayar & Kozak, 2007; Halkier, 2010) in various studies - competitiveness, impact, and policy development.

Rita (2000) highlights the importance of tourism as a generator of economic growth and jobs, saying that despite clear evidence of the importance of tourism in economic and social terms, it has made great difficulty getting its recognition within the EU legal policy. Kayar & Kozak (2007) evaluated tourism competitiveness in EU countries compared with Turkey, based on 13 key factors using cluster analysis and multidimensional scaling techniques. Study results show the grouping of the analyzed countries in three clusters, the fact that Turkey is only competitive by prices and underscores tourism competitiveness determinants: air and ground transport infrastructure, natural resources, cultural resources, health and hygiene. Halkier (2010) considers that in the absence of major programs to develop quality tourism services and the competitiveness of European destinations, the EU's role in tourism development has often been seen as quite limited. Halkier (2010) also examines two areas of EU policy - Competition Policy and Regional Development, in relation to tourism, concluding that, while policies aimed specifically tourism was limited, the side effects generated by the tourism sector are clearly considerable.

Since the number of member states has increased from 25 (2004), it has been reviewed the importance of tourism in the European Union. „European tourism needs to be managed with foresight, proactively rather than retrospectively responding to change, with its managers more keenly sensitised to the regularity of enlargement events, adjustments in EU governance, economic and social reorganisations in existing and new member states, and the potential restructuring of markets.” (Coles & Hall, 2005). The addition of Romania and Bulgaria in 2007 and most recently of Croatia in 2013 brings again into question the need to transform tourism in an EU priority.

3. Research Methodology

The research methodology includes three stages: (1) empirical data analyze, (2) calculation and assessment of multiplier tourism coefficient and efficiency of industry, (3) cluster analysis.

Using statistics provided by WTTC reports on the impact of tourism in the economy of the current European Union member states has been analyzed both, in comparison to the year 2013, and also the changes for the 2003-2013, respectively 2013-2023 period, considering the following indicators: direct share of tourism in GDP, total share of tourism in GDP, direct share of tourism in employment, total share of tourism in employment.

It was examined, based on the index calculated by the World Economic Forum in 2008 and 2013, the tourism competitiveness of EU countries compared (score and world rankings) and evolution of TTCI index and his three pillars: A – Regulatory framework, B – Business environment and infrastructure, C – Human, cultural, and natural resources.

The position of the EU countries in international tourism was evaluated based on the balance of payments- residents spending outside the country and international tourism receipts, for each of the 28 Member States in 2013.

The second step was to assess the impact of tourism in EU member states by calculating multiplier of tourism and industry efficiency.

"According to the World Tourism Organization, the multiplier effect can be defined as the additional amount of income earned by a unit of tourist expenditure that will be used in the economy. Some authors propose the following method of calculating the multiplier effect" (Bulin:104): $K = (\text{direct impact} + \text{indirect impact} + \text{induced impact}) / \text{direct impact}$.

Adapting this formula, we calculate K for GDP and K for employment as follows:

$$K_{GDP} = \frac{\text{total impact in GDP}(\%)}{\text{direct impact in GDP}(\%)} \quad K_{Employment} = \frac{\text{total impact in employment}(\%)}{\text{direct impact in employment}(\%)}$$

The results were analyzed comparatively, static (2013) and dynamic (evolution compared to 2003 and projections for 2023), taking into account reference value in the literature for tourism multiplier ($k = 3$).

Further, we calculated the tourism industry efficiency as the ratio of the total contribution / direct contribution of tourism to GDP and total / direct tourism employment:

$$E_{DIRECT} = \frac{\text{direct impact in GDP}(\%)}{\text{direct impact in employment}(\%)} \quad E_{TOTAL} = \frac{\text{total impact in GDP}(\%)}{\text{total impact in employment}(\%)}$$

The results were analyzed comparatively static (2013) and dynamic (evolution compared to 2003 and projections for 2023), taking into account that a greater than one value of the industry's show efficiency and a value below one shows its inefficiency.

The last step consisted in cluster analysis using K-means method. „This procedure attempts to identify relatively homogeneous groups of cases based on selected characteristics, using an algorithm that can handle large numbers of cases[...]the algorithm requires you to specify the number of clusters" (IBM).

For this we used STATISTICA software, the number of clusters was predefined to 3. In turn, the European Union countries were grouped based on the following variables: K GDP and K Employment; E Direct and E Total; The three main components of tourism competitiveness index (A, B, C).

After results were revealed the movements produced in the groups on the three moments - 2003, 2013 and 2023 (WTTC prognosis) and examined the evolution of averages of cluster analyses variables.

We assume comparisons and include all 28 EU member states in the analysis for 2003, when Cyprus, Czech Republic, Estonia, Hungary, Latvia, Lithuania, Malta, Poland, Slovakia and Slovenia

(which joined the EU on May 2004), Romania and Bulgaria (January 2007) and Croatia (July 2013) were not members yet.

4. Results and discussion

4.1 Empirical analyses

Impact of tourism. Direct contribution of the tourism industry on GDP in European Union countries registered in 2013 shares between 1,6% (Romania) and 13,5% (Malta). Low share of less than 2 percent were recorded in Denmark (1,9%), Germany (1,6%), Lithuania (1,8%) and Luxembourg (1,6%), instead new-member Croatia registering a double-digit percentage (12,1%). Further, the shares in the total contribution (including the direct contribution, plus indirect and induced contribution) range from 27,7% (Croatia) and 4,5% (Lithuania). Over 20 percent of the GDP is tourism and the activities / sectors adjacent in Cyprus (20,5%) and Malta (25,5%), while in Germany the share is only 4,7%.

The situation is broadly similar in the case of tourism contribution in employment. Thus, the direct contribution share of less than 2 percent we find in Germany (1,8%) and Lithuania (1,8%), while on the opposite side, the higher shares are in Malta (14,7%) and Croatia (13,2%). Also, the total contribution of the tourism industry in employment is only 4.4% in Lithuania and 5% in Germany, while in Croatia is 29,8%, 26,3% in Malta and 22% in Cyprus.

Relating to 2003, in 11 of the 28 current EU member countries, all four indicators of impact of tourism analyzed knew a decline - Austria, Belgium, Bulgaria, Cyprus, Estonia, Finland, France, Germany, Lithuania, Malta and Netherlands, in other countries the phenomenon being contrary - Greece, Ireland, Latvia, Luxembourg, Portugal, Romania, Slovakia and Slovenia. The most unfavorable evolution was recorded by Bulgaria, the direct contribution of tourism in the economy decreasing by more than 3 percentage points (3,6 percentage points to GDP, 3 percentage points for the employed population), while the total by 12 percentage points (of GDP) and 10.6 percentage points (employed population). The best results in the European Union were recorded by Greece (increase of direct contribution to GDP by 1 percentage point and 1,2 percentage points for the employed population) and Luxembourg (total contribution increases by 2,9 percentage points GDP and 4.1 percentage points for the employed population).

Projections for the next 10 years show an increase of the importance of tourism in 27 of the 28 European Union member countries, except Bulgaria, which keeps the downtrend. WTTC projections show that Croatia (direct contribution to GDP will increase by 4,2 percentage points and 2,9 percentage points employed population) and Cyprus (total contribution to GDP will increase by 9.9 percentage points and in employment by 8 percentage points) will have the best results in the Union in the next period (2013-2023).

Tourism competitiveness. Although Switzerland is on the first position among global tourism competitiveness, the podium is completed by two EU countries - Germany (2) and Austria (3), both with the same overall score (5,39) in 2013. Moreover, the following places in the 2013 world rankings are also occupied by the EU countries - Spain (4) and the UK (5), both with 5,38 score, France (7th rank, 5,32 score) and Sweden (9th rank, 5,24 score) being also in the top 10.

Analyzing the scores on the the three pillars, the best scores in European Union are recorded by Austria for A pillar (score 5,80 in 2013), Germany for B pillar (5,29 in 2013) and UK for C pillar (5,57 in 2013).

In contrast, are members of the European Union where the tourism competitiveness index is very low, much below their potential - Romania (rank 68 in 2013 and 69 in 2008), Slovakia (rank 54 in 2013) and Bulgaria (rank 50 in 2013). Romania recorded the lowest values for two of the three pillars (5,61 for A, 3,67 for B, 2013), for C pillar lowest value being in Latvia (3,81).

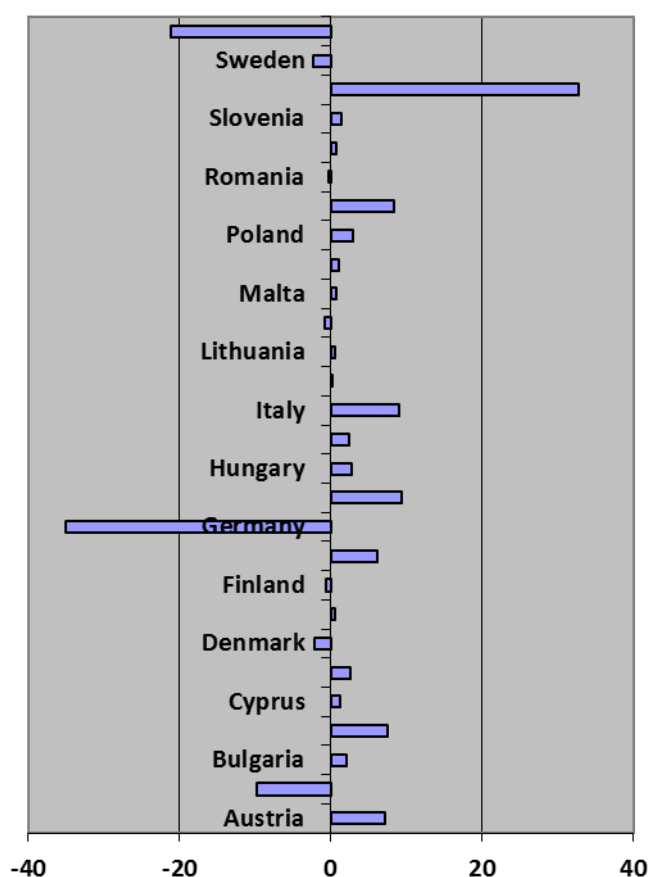
On the evolution of EU countries from the first year was calculated ICCT (2008, noting that at that time Croatia was not a member), it is observed that a performance improvement of competitiveness on the all three pillars recorded by four countries - Belgium, Ireland, Poland and Romania, a decrease in the index (also on the all three pillars) is signaled in Hungary, Portugal and Slovakia. Moreover, Poland and Belgium are the countries with the best performance for the period 2008-2013, with increases in the overall index of 0,29 and 0,2, which resulted in gaining a fourteen, respectively nine positions in the world rankings. Instead, Slovakia has dropped the most places -16 positions, and Greece has declined the most in index (-0,17) which made falling 10 positions in the world rankings. On the three pillars, the best performance in the period 2008-2013 was registered in Poland (pillar A, 0,41), Bulgaria (pillar B, 0,4) and the Netherlands (pillar C, 0,39). In the same period the most significant decrease in competitiveness was recorded in Greece (pillar A, -0,44), Denmark (pillar B, -0,22) and Bulgaria (-0,38).

Table 1. International tourism

Country	Visitor exports (bn euro)	Outbound tourism (bn euro)
Austria	16,6	9,4
Belgium	10,2	20,0
Bulgaria	3,3	1,2
Croatia	8,4	0,9
Cyprus	2,2	1,0
Czech Republic	5,8	3,2
Denmark	5,3	7,4
Estonia	1,3	0,8
Finland	3,9	4,5
France	44,3	38,2
Germany	37,4	72,4
Greece	11,0	1,6
Hungary	4,6	1,8
Ireland	7,1	4,6
Italy	33,3	24,3
Latvia	0,9	0,6
Lithuania	1,1	0,6
Luxembourg	1,1	1,9
Malta	1,1	0,3
Netherlands	16,4	15,3
Poland	9,0	6,1
Portugal	12,0	3,7
Romania	1,8	2,1
Slovakia	1,8	1,0
Slovenia	2,2	0,8
Spain	49,1	16,3
Sweden	12,8	15,1
UK	29,3	50,4

Source: based on WTTC Country Reports

Fig. 1. Tourism Balance of Payments



Source: author's calculations based on WTTC Country Reports

Regarding the tourism balance of payments (exports - imports), we concluded that in the European Union in 2013 there are 8 importing countries (tourist expenditure abroad residents are

higher than receipts from international tourism) - Belgium, Denmark, Finland, Germany, Luxembourg, Romania, Sweden and UK. Evaluating more closely the balance receipts of expenditures we distinguish three major tourism exporters in EU: Germany - receipts of 37,4 billion euros, 72,4 billion expenditures; United Kingdom - receipts of 29,3 billion euros, 50,4 billion expenditures; Belgium – receipts of 10,2 billion, 20 billion expenditures. The largest exporter of tourism in the EU is Spain - 49,1 bn receipts, the balance excess of 32,8 bn euros.

Significant excedentary balances also register Italy - receipts of 33,3 bn, the excedentary balance of 9 bn, France - receipts of 44,3 billion, excedentary balance of 6,1 billion, but a high volume of imports.

Also, Germany and the UK although they have high receipts from tourism (37,4 bn and 29,3 bn euros), they are the largest consumers of tourism in the EU - spending 72,4 billion (Germany) and 50,4 billion (United Kingdom). Important exporters of tourism in EU are also Austria, Croatia, Greece or Portugal.

4.2. Tourism multiplier and efficiency

Based on statistics provided by the WTTC, we calculated the tourism multipliers and efficiency and the results are in the table below.

Table 1. Multipliers and efficiency of tourism (2003, 2013, 2023)

Country	Multipliers						Efficiency					
	K GDP			K Employment			E Direct			E Total		
	2003	2013	2023	2003	2013	2023	2003	2013	2023	2003	2013	2023
Austria	2,87	2,77	2,66	2,81	2,68	2,53	0,91	0,91	0,84	0,93	0,94	0,89
Belgium	2,52	2,55	2,36	2,52	2,50	2,41	0,93	0,92	0,93	0,93	0,93	0,91
Bulgaria	3,45	3,57	3,50	3,55	3,56	3,45	1,14	1,09	1,03	1,11	1,09	1,04
Croatia	2,24	2,29	2,21	2,18	2,26	2,22	0,80	0,92	1,01	0,83	0,93	1,01
Cyprus	3,10	3,06	2,95	2,95	2,86	3,41	0,90	0,87	1,17	0,94	0,93	1,01
Czech Republic	3,03	3,00	2,90	2,31	2,06	1,98	0,67	0,56	0,54	0,88	0,82	0,78
Denmark	3,55	3,74	3,64	2,83	2,86	2,78	0,69	0,66	0,69	0,87	0,86	0,90
Estonia	4,03	3,97	4,03	3,92	3,80	3,68	1,03	0,97	0,89	1,05	1,02	0,98
Finland	3,00	3,09	2,96	3,19	3,09	3,00	1,00	0,96	0,90	0,94	0,96	0,89
France	2,50	2,47	2,40	2,47	2,39	2,32	0,90	0,86	0,84	0,91	0,90	0,87
Germany	2,78	2,94	2,76	2,84	2,78	2,68	0,95	0,89	0,89	0,93	0,94	0,92
Greece	2,94	2,53	2,59	2,38	2,07	2,19	0,71	0,73	0,75	0,88	0,89	0,89
Hungary	2,73	2,59	2,52	1,85	1,75	1,70	0,74	0,72	0,65	1,09	1,06	0,96
Ireland	3,94	4,29	3,85	4,00	4,14	3,68	1,00	0,95	0,93	0,99	0,99	0,97
Italy	2,64	2,49	2,41	2,63	2,37	2,22	0,92	0,84	0,78	0,92	0,88	0,85
Latvia	2,83	2,86	2,73	2,95	2,75	2,59	1,21	1,00	0,89	1,16	1,04	0,94
Lithuania	2,67	2,50	2,42	2,65	2,44	2,30	1,04	1,00	0,95	1,05	1,02	1,00
Luxembourg	2,12	3,42	3,55	2,19	3,48	3,61	0,81	0,76	0,71	0,78	0,75	0,70
Malta	1,88	1,89	1,81	1,81	1,79	1,70	0,93	0,92	0,88	0,96	0,97	0,94
Netherlands	3,04	2,95	2,96	1,64	1,55	1,53	0,31	0,30	0,31	0,58	0,57	0,60
Poland	2,52	2,48	2,40	2,38	2,43	2,21	1,00	1,00	0,89	1,06	1,02	0,97
Portugal	2,82	2,74	2,60	2,69	2,56	2,40	0,80	0,80	0,76	0,84	0,86	0,82
Romania	3,29	3,19	3,24	2,21	2,38	2,46	0,58	0,67	0,65	0,87	0,89	0,86
Slovakia	2,72	2,48	2,50	2,71	2,33	2,27	1,06	0,96	0,92	1,07	1,02	1,02
Slovenia	3,41	3,56	3,62	3,20	3,28	3,22	0,91	0,90	0,85	0,97	0,98	0,95
Spain	2,81	2,75	2,72	3,10	3,10	2,98	1,10	1,12	1,07	0,99	0,99	0,98
Sweden	4,00	3,96	3,81	3,41	3,11	3,11	0,76	0,68	0,70	0,89	0,87	0,85
UK	3,00	2,97	2,97	2,59	2,30	2,20	0,82	0,65	0,62	0,95	0,84	0,83
UE Average	2,94	2,97	2,90	2,71	2,67	2,60	0,88	0,84	0,82	0,94	0,93	0,90

Source: author's calculations, based on WTTC Country Reports

Note: data for 2023 based on WTTC forecasting

Multiplier of tourism. The average multiplier of tourism in 2013 at EU level is 2,97 if GDP and 2,67 for the employed population. Reference value in the literature ($K = 3$) is exceeded by the 10 of the 28 EU members in the case of GDP multiplier and only 8 of 28 in the case of employment multiplier.

The highest values of K GDP are recorded by Ireland (4,29), Estonia (3,97) and Sweden (3,96), the opposite being found in Malta (1,89) and Croatia (2,29). Also for K Employment the EU performer is Ireland, with a multiplier of 4,14, high values were recorded in Estonia (3,8), Bulgaria (3,56) and Luxembourg (3,48). The lowest multiplier effect in employment is registered by Netherlands (1,55), also low values are in Hungary (1,75) and Malta (1,79).

Comparing the K for the two categories (GDP, Employment), we pointed out that in only two EU countries the multiplier effect of tourism in employment is higher than considering the GDP - Spain ($K \text{ GDP} = 2,75$; $K \text{ Employment} = 3,1$) and Luxembourg ($K \text{ GDP} = 3,42$, $K \text{ Employment} = 3,48$).

Instead, the major discrepancies between the values of K GDP and K Employment are registered in Netherlands ($K \text{ GDP} = 2,95$; $K \text{ Employment} = 1,55$), Czech Republic ($K \text{ GDP} = 3$, $K \text{ Employment} = 2,06$), Denmark ($K \text{ GDP} = 3,74$, $K \text{ Employment} = 2,86$) and Sweden ($K \text{ GDP} = 3,96$; $K \text{ Employment} = 3,11$).

At the EU level (Note: in the analysis there are included all the 28 present EU members countries) the multiplier effect of tourism has not know significant variations in the period 2003-2023: K GDP multiplier value increased slightly from 2,94 to 2,97, and K Employment decreased slightly from 2,71 to 2,67. The most significant increase of K GDP was recorded for Luxembourg (from 2,12 to 3,42) and the largest decrease of K GDP for Greece (from 2,94 to 2,53). In the case of K Employment, this also improved the most in Luxembourg (from 2,19 to 3,48), and dropped most in Slovakia (from 2,71 to 2,33).

In the next 10 years there is projected an insignificant decline of K multipliers of tourism on the EU, both for GDP (from 2,97 to 2,90) and Employment (from 2,67 to 2,6). Luxembourg will know the largest increase in K GDP, by 4 percent, from 3,42 to 3,55, and for Ireland K GDP will decrease the most, about 10 percent, from 4,29 to 3,85. The highest increase of K Employment will be 19% in Cyprus (from 2,86 to 3,41), and the most important decrease is going to be recorded in Ireland (from 4,14 to 3,68).

Tourism industry efficiency. It can be noticed that, at the EU level in 2013, both total and direct efficiency register values below one, total efficiency of tourism in the economy is higher than the direct efficiency ($E \text{ direct} = 0,84$, $E \text{ total} = 0,93$).

Regarding the direct efficiency of tourism activity, only in Spain (1,12) and Bulgaria (1,09) we can conclude that we have a efficient industry, the lowest values being recorded in Netherlands (0,30) and Czech Republic (0,56). Also in the case of total efficiency of the industry, the Netherlands recorded the lowest value (0,57). In opposition, 7 EU countries have E total higher than 1 - Bulgaria (1,09), Hungary (1,06), Latvia (1,04), Estonia (1,02), Lithuania (1,02), Poland (1,02) and Slovakia (1,02). In only two of the 28 member states direct efficiency is superior to total efficiency of tourism - Spain ($E \text{ direct} = 1,12$, $E \text{ total} = 0,99$) and Luxembourg ($E \text{ direct} = 0,76$, $E \text{ total} = 0,75$). The most important differences between direct and total efficiency are registered in Hungary ($E \text{ direct} = 0,72$, E

total = 1,06), the Netherlands (E direct= 0,30, E total = 0,57), Czech Republic (E direct = 0,56, E total = 0,82) and Romania (direct E = 0,67, E total = 0,89). At the level of EU countries, the average efficiency of tourism fell slightly between 2003 and 2013: direct efficiency from 0,88 to 0,84, total efficiency from 0,94 to 0,93. Although in many present EU members, direct and total efficiency experienced a slight decline, new entrant Croatia had a positive evolution (E direct increased from 0,8 to 0,92, E total increased from 0,83 to 0,93). Romania also experienced increase of direct efficiency by 14 percent, from 0,58 to 0,67, unfavorable evolutions registering UK (E direct decreased by approximately 20%, from 0,82 to 0,65 and E total over 10 percent, from 0,95 to 0,84).

For the next 10 years, the average efficiency of tourism in the EU will experience a similar trend of the previous decade, E direct down from 0,84 to 0,82, and E total from 0,93 to 0,90. The best evolution for the 2013-2023 period will be recorded by Cyprus, direct efficiency will increase by 35% and total efficiency by 9%, so going from values below one (E direct 0,87, E total 0,93 total) to values over one (E direct 1,17, E total 1,01). Tourism industry will become ineffective in Poland, E direct decreasing by 11 percent, from 1 to 0,89, and Latvia, E total decreasing by 10 percent, from 1,04 to 0,94.

4.3. Cluster analysis

Using k-means algorithm for cluster analysis in STATISTICA software, the members countries of EU were grouped into three clusters as follows: Cluster 1 – countries with low K GDP and K Employment; Cluster 2 - countries with medium K GDP and K Employment; Cluster 3 - countries with high K GDP and K Employment. Moreover, on cluster 3 the average for K is higher than 3, the reference of multiplier coefficient of tourism.

Fig. 2. Clusters – Multiplier analysis

Fig. 2. Clusters' Multiplex analysis

2003	Cluster 1		Cluster 2		Cluster 3
Exporters	Croatia France Hungary Netherlands	Czech Republic Greece Malta Poland	Austria Italy Lithuania Slovakia Spain	Cyprus Latvia Portugal Slovenia	Bulgaria Estonia Ireland
Importers	Belgium Luxembourg Romania		Denmark Germany	Finland UK	Sweden
Mean K GDP	2,62		2,94		3,86
Mean K Employment	2,18		2,86		3,72

2013	Cluster 1		Cluster 2		Cluster 3
Exporters	Croatia France Hungary Lithuania Netherlands Slovakia	Czech Republic Greece Italy Malta Poland	Austria Cyprus Latvia Portugal Spain		Bulgaria Estonia Ireland Slovenia
Importers	Belgium		Finland Romania	Germany UK	Denmark Luxembourg Sweden
Mean K GDP	2,52		2,93		3,79
Mean K Employment	2,16		2,72		3,46


2023	Cluster 1		Cluster 2		Cluster 3
Exporters	Croatia France Hungary Lithuania Netherlands Portugal	Czech Republic Greece Italy Malta Poland Slovakia	Austria Latvia Spain		Bulgaria Cyprus Estonia Ireland Slovenia
Importers	Belgium		Finland Germany Romania UK		Denmark Luxembourg Sweden
Mean K GDP	2,47		2,86		3,62
Mean K Employment	2,11		2,64		3,37

Source: by author, based on STATISTICA software output

Analyzing the composition of clusters in the years 2003, 2013 and 2023 we can see that Bulgaria, Estonia, Ireland and Sweden belong each time to cluster 3, with highest tourism multiplier. Compared to 2003, in 2013 Denmark, Luxembourg and Slovenia have promoted from cluster 2 to cluster 3, but the average K GDP and K Employment have decreased. The composition of the cluster 2 was affected by downgrades to cluster 3 of Italy Lithuania and Slovakia, but also by Romania's promotion from cluster 1. These changes have generated a slight decrease of variables average, more pronounced for K Employment. The number of countries in the cluster 1 increased from 11 to 12, the average K decreasing, more pregnant in the case K GDP. It is noted, in 2003-2023, a significant jump of Luxembourg from cluster 1 to cluster 3.

Projections for 2023 show that Cyprus will climb to cluster, on a background of declining averages of K, while Portugal will increase to 13 the number of countries from the cluster 1, despite the same trend of decreasing multipliers averages.

Fig. 3. Clusters - Efficiency analysis

2003	Cluster 1		Cluster 2		Cluster 3	
Exporters	Croatia	Czech Republic	Austria	Cyprus	Bulgaria	Estonia
	Greece	Netherlands	France	Hungary	Latvia	Lithuania
	Portugal		Ireland	Italy	Poland	Slovakia
			Malta	Slovenia	Spain	
Importers	Denmark	Luxembourg	Belgium	Finland	-	
	Romania	Sweden	Germany	UK		
Mean E Direct	0,68		0,91		1,08	
Mean E Total	0,82		0,96		1,07	
						
2013	Cluster 1		Cluster 2		Cluster 3	
Exporters	Czech Republic		Austria	Croatia	Bulgaria	Estonia
	Greece		Cyprus	France	Ireland	Latvia
	Netherlands		Hungary	Italy	Lithuania	Poland
			Malta	Portugal	Slovakia	Spain
			Slovenia			
Importers	Denmark	Luxembourg	Belgium		Finland	
	Romania	Sweden	Germany			
	UK					
Mean E Direct	0,62		0,87		1,01	
Mean E Total	0,81		0,94		1,02	
						
2023	Cluster 1		Cluster 2		Cluster 3	
Exporters	Czech Republic		Austria	Estonia	Bulgaria	
	Hungary		France	Greece	Croatia	
	Netherlands		Ireland	Italy	Cyprus	
	Portugal		Latvia	Lithuania	Slovakia	
			Malta	Poland		
			Slovakia	Slovenia		
Importers	Denmark	Luxembourg	Belgium		-	
	Romania	Sweden	Finland			
	UK		Germany			
Mean E Direct	0,62		0,88		1,07	
Mean E Total	0,81		0,93		1,01	

Source: by author, based on STATISTICA software output

K-means cluster analysis grouped the European Union countries by direct efficiency criteria and total efficiency of tourism, as follows: Cluster 1 - countries with low E Direct and E Total, Cluster 2 - Countries with medium E direct and E total, Cluster 3 - countries with high E direct E total.

Average values for E direct and E total in the case Cluster 3 are over one, suggesting an efficiency tourism industry.

Analyzing the composition of clusters on 2003, 2013 and 2023, it can be observed that in the cluster 2 are the most countries, and their number is increasing chronological - 9 in 2003, 11 in 2013 and 15 in 2023. To the 7 countries with high efficiency of tourism, which were in cluster 3 in 2003 (Bulgaria, Estonia, Latvia, Lithuania, Poland, Slovakia, Spain) Finland and Ireland have been added in 2013, due to a decrease of the average of E direct and E total. Also Croatia and Portugal have promoted from cluster 1 to cluster 2, but in return UK dropped from cluster 2 to cluster 3. E's averages are, to all cases, lower in 2013 than in 2003, showing the general trend of decreasing efficiency of tourism on EU countries.

Forecasts for 2023 show that in cluster 3 the number of countries will decrease to 4: Bulgaria and Spain will remain in the group, and Cyprus and Croatia will join them. Note that the new EU member Croatia have promoted successively from cluster 1 to cluster 3 in the period 2003-2023.

The average of E Direct variable will increase, this being a cause of decreasing the number of components of cluster 3. It is also noted, in the clusters 2 and 3, that E Direct and E Total averages didn't change significant, and but also dropped of Greece (crossing from cluster 3 to cluster 2) and Portugal (pass from cluster 2 on cluster 3).

Another notable thing is that in all 3 the moments (2003, 2013, 2023), only in 2013 we find an importing country – Finland -, in the group of efficient tourism (cluster 3).

Fig. 4. Clusters – TTCI Analysis

2008	Cluster 1	Cluster 2	Cluster 3
Exporters	Bulgaria Latvia Lithuania Poland Slovakia	Croatia Cyprus Czech Republic Estonia Greece Hungary Ireland Italy Malta Netherlands Slovenia	Austria France Portugal Spain
Importers	Romania	Belgium Luxembourg	Denmark Finland Germany Sweden UK
Mean A Pillar	4,83	5.31	5.57
Mean B Pillar	3,85	4.71	5.17
Mean C Pillar	4,07	4.40	5.01

2013	Cluster 1	Cluster 2	Cluster 3
Exporters	Bulgaria Hungary Latvia Lithuania Poland Slovakia Slovenia	Croatia Belgium Denmark Finland Luxembourg	Austria France Netherlands Spain
Importers	Romania	Cyprus Czech Republic Estonia Greece Ireland Italy Malta Portugal	Germany Sweden UK
Mean A Pillar	4,97	5,38	5,55
Mean B Pillar	4,16	4,83	5,13
Mean C Pillar	4,10	4,57	5,28

Source: by author, based on STATISTICA software output

Cluster analysis based on the three pillars of tourism competitiveness generated three groups of countries on the EU: Cluster 1 - countries with low competitiveness, cluster 2 - countries with medium competitiveness, cluster 3 - countries with high competitiveness.

The number of countries with high competitiveness, despite falling averages for variables 2 of 3 (A and B pillars), declined to 7 in 2013, Austria, France, Germany, Netherlands, Spain, Sweden, UK.

Denmark and Finland, tourism importing countries, respectively Portugal, tourism exporter, fell from cluster 3 to cluster 2, and the same trend being registered in Hungary, Slovenia and Croatia, relegating from cluster 2 to cluster 1. Conversely, the only performer is the Netherlands, which has promoted from cluster 2 to cluster 3.

5. Conclusions

The analysis of the impact and multipliers of tourism, industry efficiency and competitiveness of the tourism sector, confirms that in European Union we have countries with different internal policies in relation to the tourism industry.

Regarding the direct impact of the tourism industry on economy, Croatia and Malta are among the countries where the industry is a major contributor in the formation of GDP and employment, but on the other hand, in those countries tourism revenues are still low relating to other destinations within the EU. In contrast, high tourism competitiveness of EU countries has as a result important international tourism receipts. Countries such as Austria, Germany and Spain, with leading positions in tourism competitiveness world ranking, have high receipts from visitors.

The cluster analysis for the three categories of variables - the multiplier of tourism industry efficiency and travel & tourism competitiveness-also confirms that EU brings together countries with different performance in tourism.

Looking to the Cluster 3 for all classifications (highest performance) it can be observed that no country is situated on top every time. Bulgaria, Estonia and Ireland are members of cluster 3 for tourism multipliers and efficiency. In those countries tourism has a driving effect in economy and, in addition, in those countries the industry works with efficiency. Sweden and Spain are situated also in 2 of 3 analyzes in the cluster 3: Sweden for tourism multipliers and competitiveness, Spain for efficiency and competitiveness. While Sweden is an importer, Spain is the most important exporter of tourism from EU, and also has the highest receipts from foreign visitors. Therefore, we can not establish a direct link between the status of those countries in international tourist flows and their position within the clusters.

Limitations of this study are related to the method of analysis (k-Means clustering), therefore future research may consider using other algorithms of cluster analysis or discriminant analysis, following a general classification of EU Member States taking into account all the variables used.

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Trade Promotion Organizations (TPOs) Role in Laying the Groundwork for an Export Promotion Program

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Abstract

Most countries focus on strategies for export development and promotion, given the importance of national goals and, in many cases, limited resources. A TPO has a significant role in laying the groundwork for an export promotion program. TPOs should pay close attention to the trade information needs of exporters and have appropriate mechanisms for acquiring such information systematically and disseminating it in a timely way. Moreover, a TPO provides basic and useful support to the export community if it can facilitate contacts between foreign buyers and exporters. Developing the export promotion program is one of the basic requirements when the TPO formulates its support program for the export sector.

Keywords: *export development, business strategy, TPO, promotion program.*

1. Introduction

Trade promotion activities are a function of several entities in any country. There is usually one central governmental export promotion body to provide the policy framework and mechanism for co-ordination and consultation among the various sectors or organizations involved in foreign trade. Such TPOs can specialize in a few key functions or perform a broad range of services. The type and extent of their activities depend on the resources available to them, such as the experience of the organization, the quality of its work force, its network of linkages and financial resources. The TPO's ability to identify changing conditions and requirements of its primary clients – the exporters - and then adapt trade promotion services accordingly is more important than the variety of services offered.

The aim of this paper is to outline the procedures and methodology for identifying products focused on company-product selection and the identification of exporters' needs.

2. Identification of products and markets

Most countries focus on strategies for export development and promotion, given the importance of national goals and, in many cases, limited resources. A TPO has a significant role in laying the groundwork for an export promotion program. The TPO can give methodological and technical assistance to the national business collectivity by doing the necessary studies to identify what products to promote and decide which markets offer the greatest opportunity for export growth. Moreover, the TPO could participate in designing and developing marketing strategies for specific sectors and products, incorporating into these strategies all recommended measures and actions for achieving export targets.

The main thrust of the export promotion and marketing efforts is to attract the attention of targeted markets abroad and to project the desired image for the country as a source of products. Trade promotion activities abroad are thus crucial functions for most TPOs. The TPO can provide a lot of services to exporters by intensifying its promotional efforts in selected foreign countries. Activities related to trade fairs, sellers' missions, inviting foreign buyers to visit local manufacturing plants and facilitating subcontracting arrangements are some examples of a TPO's efforts. Specialized export services aim at providing exporters with skills in various foreign trade techniques, thus helping them to become more competitive in the international market.

Two different approaches may be considered:

- the "integrated approach", in which several special services and overall advice to client companies are provided by a group of trained staff; or
- the "specialist approach", in which such services are offered by a specific group of specialists.

A useful and practical approach is to adopt the product-market framework for an export promotion program. As the term suggests, each program concentrates on a specific product or group of products. Activities are directed mainly at helping the specific sector or a selected group of companies to gain entry into certain markets.

The advantage of this approach is that it makes a relatively low demand on the workforce and on financial resources, which may be limited in some developing countries. The product-market framework means allocating resources to focused activities for maximum impact designed to achieve export targets. Three features of this approach are:

- Products are identified for the purpose of designing a marketing strategy for a specific sector, including all necessary action and support activities that help generate or increase exports.
- A program based on the product-market framework can address specific concerns of the sector, putting into evidence particularly obstacles to export growth, and providing the basis for coordinated or co-operative actions, including joint export promotion and marketing activities.

The program can help individual companies to develop their own marketing strategies and program and to identify specific areas where support or assistance is required.

Planning and implementing a program with a product market framework could be done by a central export coordinating body, although institutions and organizations from both the public and private sectors might also participate.

The significant role of the TPO is to lay the groundwork in preparing the program and to do the necessary studies to identify the products to be promoted in target markets.

In many cases, companies looking forward to export do not have a clear idea of what products to promote in international markets. This leads to haphazard trade promotion efforts, often as a reaction to inquiries made by foreign buyers, with uncoordinated, ineffective export assistance. Identifying priority export products is necessary to maximize the impact of all activities and efforts aimed at achieving national export targets.

In carrying out the activities in the field, a TPO should not work in isolation from the business community. A TPO must be ready to adjust the scope and nature of its services according to the requirements of the export sector.

Initial selection and determination of export supply capability are the first steps in the identification of export products. Identified products have to be matched with the results of corresponding market selection and identification activities in order to fully determine export potential. Product identification is a process of successive selection until the most promising products emerge. The process begins with preliminary research into national economic development. Policies and programs set the priorities for product sectors and statistics on production, domestic consumption, exports need to be analyzed in order to determine the availability of an export supply.

A list of products should be made that could be matched with the demand potential in major importing countries. The initial analysis could be the basis for deleting certain products from this list. Then, the following types of products should be identified in order to give them priority ranking:

- Products for which local raw materials are available and for which development could lead to high value added downstream activities.
- Products that are produced predominantly by local companies.
- Products subject to few restrictions, giving access to foreign markets.
- Products that can make possible contributions to foreign exchange earnings.
- Labor-intensive exportable products that will help alleviate employment problems.

The determination of the products to concentrate on for export has to be discussed at a governmental inter-agency level or committee. A TPO, together with ministries and agencies involved in industrial policy, foreign investment and economic planning and representatives from the private sector should sit on this committee to map out current and future export plans which will form the basis of the policies and programs for priority product sectors.

After making a broad selection of export products, the next important step towards product identification is determining who are existing and potential exporters. This is done with an export readiness survey with the following objectives:

- To identify and select exporters/manufacturers who could most effectively use trade promotion assistance and support, so that they could be successful lead participants in the drive for specific export markets.
- To identify and select the most promising products in terms of sales and production capability in order to estimate the amount of production that can be exported in the short and medium term.
- To identify the constraints companies face in exporting, and/or in increasing exports of the selected products.
- To identify the type of assistance packages that will help companies become major exporters by increasing their sales and production capability in the short and medium term.

The suggested approach is to identify potential export companies, and then identify promising products. This approach is based on a strong belief that in the early stages of export promotion, the most able companies (rather than those most in need of assistance) can give the needed push for national exports. These companies can be used as vehicles to generate export business growth and to support and reinforce this growth with suitable assistance programs or services.

The first step in this approach is to develop a list of potential export companies. Possible sources of information include the customs department, the central bank, other government agencies and trade/industry associations. The second step is to narrow down the list by using the information obtained from market research activities.

The third step is to use questionnaires and make visits to the selected companies in order to obtain more detailed data. It is important to prepare adequately for the site visits to the companies and the questionnaire.

3. Preparing profiles on products and companies

In order to be effective and efficient, one of the most basic and useful services of a TPO is the preparation of registries or directories of exporters to be disseminated to foreign buyers and to the country's commercial representatives abroad.

Preparing product profiles is primarily aimed at giving foreign buyers written information about types and groups of available products. It is possible for a TPO to prepare product profiles by consolidating information obtained through the export supply survey. The product profiles will describe the different exportable categories and give some details of the nature of the products, volumes available for export, prevailing prices, and information on producers and exporters.

Company profiles, based on the export supply survey, will show not only the general characteristics of the companies, but also information on their products and production capacities. The product and company profiles should include:

- categories of exportable products and exporters;
- industry capacity and export volume;
- price variation;
- company characteristics;

This information will be useful to a TPO as an information base for:

- registries or directories of exporters;
- a target base for company participants for specific trade promotion events/activities;
- a dissemination list for international market news;
- initiating an industry grouping or core group of exportready companies for dialogue sessions on developments affecting the industry.

The publication of registries or directories of exporters, as well as product and company profiles, are extremely useful tools for the promotion of high-priority products. Moreover, these publications complement efforts by individual companies or groups of companies to publicize and promote their products abroad and gain entry into certain markets.

As a conclusion in this respect, TPO's effectiveness can be measured by its ability to respond to trade inquiries and facilitate matches between foreign buyers and local exporters. When a foreign buyer makes urgent inquiries, a TPO should be able to immediately provide accurate information on

the names of reliable exporting companies, appropriate descriptions of their products and exportable quantities that meet with the buyer's requirements.

4. Product adaptation and development

Exporters must sell products that are acceptable to buyers in order to establish solid positions in foreign markets. Requirements for products will vary from market to market as a result of differences in geography, culture, economics, or politics, which affect consumers' tastes, preferences, and buying habits.

Lack of information about product requirements in export markets is one reason why exporters from developing countries do not always gain acceptance in foreign markets.

At the same time, very few manufacturers and exporters appreciate the importance of product design and development. Exporters need to understand how buyers in foreign markets look at a product so they can adopt suitable product development strategies.

In some countries, a TPO co-ordinates assistance in product development, although direct assistance is usually provided by specialized agencies such as design centers. Specialized agencies can allocate resources in order to provide design information and consultancy, make prototypes, and assist in launching products.

The challenges of international marketing make such activities valuable in helping companies adapt their products to suit preferences of buyers in foreign markets, which can be a daunting task. One of the most important tasks of a TPO, together with other economic agencies and trade associations, is to help exporters develop and produce goods and services that can enter the target markets, as well as compete against products from other countries.

Product development. Product development is defined as the process of developing product features and attributes which increases consumer value and demand in a target market. It encompasses the application of marketing enhancement concepts like quality and design methodologies. Therefore, mechanisms will be needed to help exporting companies to improve their performance through a wide range of quality improvement, measurement, and assessment programs to ensure that their products are export marketable. Exporters have to offer quality products if they want to successfully compete in the international markets.

Identifying suitable quality standards. Standardization is the establishment of agreed sets of specifications for specific products. It is closely related to quality control schemes.

There is a distinction between product quality standards and quality-system standards. The former specifies various characteristics that the product must meet to conform to the product standards. The latter defines a method for managing quality in an enterprise to ensure that products conform to the quality the company has set for itself. The attainment of quality-system standards is the ultimate goal for exporting enterprises, because once these are achieved, they can be applied to all products and services of the enterprises. The attainment of product-quality standards is a first step.

Alignment towards international standards. One way to attain product-quality standards is to align standards with major importers of certain products. The alignment strategy should be developed jointly by the relevant economic agencies (including the TPO) and the private sector.

Another strategy is to establish mutual recognition agreements between two or more organizations in different countries to accept each other's testing certification of conformity to product quality standards. These help facilitate market access for exports on the basis of an objective assessment of each party's products.

Quality control circles. The idea of quality control circles started in Japan, where groups of workers meet to discuss problems and develop ideas aimed at raising productivity and quality at the workplace. At these discussions, in which management also participates, solutions put forward by workers are adopted. This concept has spread and most industrialized countries have adopted the quality control circles concept.

National brand development. Branding is an important marketing tool and may be considered as the process of creating and managing brands. It involves creating an overall image about a product to attract customers. A brand aims to give a product its unique image and characteristic. Undertaking branding activities also allows companies to build up their strategic assets, because brands are considered as valuable assets, and if properly managed, will not depreciate in value over time.

Branding is applicable to all categories of products and services. Creating a distinct image or identity is the first step towards establishing a commodity as different from others. Some tools of branding that are used include developing a brand name and designing a distinctive symbol or logo. In some cases, producers who market their commodities internationally have used a label to identify the country or place of origin and associated that identity with the quality of the product.

Development of brands should emphasize the quality standards of the local product, as well as unique features that are features of the country's export products. The image of products will also influence the acceptance of exports from that country.

5. Identifying exporters' needs

Market identification, trade information services and promotional activities abroad are the key functions of a TPO. However, there are specialized services and other supplementary activities which the TPO may consider providing, depending on the exporters' requirements. Three specialized or supplementary activities are described in the following paragraphs.

Preparing market profiles. Exporters require summarized information of characteristics and requirements of foreign markets. The TPO can prepare and disseminate market profiles for exporters. Market profiles should be updated periodically, as conditions frequently change.

Acquiring samples of foreign products. The TPO may buy samples of foreign products in order to help companies adapt their products and to obtain complete, direct information about product requirements in foreign markets. Given the costs involved, the TPO should only take samples of products that have clear export potential. In addition, products can be shown to manufacturers in photographs or catalogues. Manufacturers and exporters may be invited to examine products and materials displayed at specific offices or exhibition halls.

Formulating an export promotion program on a product basis. An export promotion program is a mechanism for concentrating efforts to promote a given product or group of products. Export promotion works when there is co-operation from other entities responsible for certain aspects of foreign trade and when participation of the manufacturing and exporting sectors is encouraged. In

addition to formulating a program for a whole sector, the TPO may help individual companies prepare their own programs to gain entry into certain markets.

6. Conclusions

A strategy is a general plan for developing a business. Every export company that wants to develop and prosper needs some form of strategy. A company's strategic fit with the trading environment has to be continuously reconsidered because it is likely to erode.

The quality of business decisions depends on pertinent, reliable and timely information. Exporters need to stay current in their awareness and understanding of market developments and trade opportunities in order to maintain their positions or establish edges over their competition. A TPO should pay close attention to the trade information needs of exporters and have appropriate mechanisms for acquiring such information systematically and disseminating it in a timely way. Moreover, a TPO provides basic and useful support to the export community if it can facilitate contacts between foreign buyers and exporters.

Developing the export promotion program is one of the basic requirements when the TPO formulates its support program for the export sector. The export promotion program is the basis for preparing, implementing and evaluating the TPO's annual work program.

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Impact of VAT on the Profitability and the Cash Flow of Romanian Small and Medium Enterprises

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Abstract

The options available to taxpayers make tax systems attractive and give them an opportunity to choose one system or another after a careful analysis of the fiscal advantages and disadvantages of each choice. A small or medium company has to explore the options available, whether that is VAT registration or de-registration or choosing the best VAT special scheme. VAT optimisation is particularly interesting because of the high cash flow involved and because of the cash flow benefits that can be obtained. This paper presents an analysis of VAT costs and their impact on profitability and cash flow of small and medium enterprises. We also analysed specific mechanisms to improve profitability and cash flow through VAT optimisation.

Keywords: VAT optimization, special VAT schemes, the compliance costs, profitability, cash-flow.

1. Introduction

Modern taxation systems impose a heavy burden on taxpayers, particularly on small business taxpayers. That burden consists of three elements (Babone et al, 2012):

- In the first place there are taxes themselves;
- Secondly, there are the efficiency costs, involving tax-induced market distortions;
- Finally, there are the operating costs of the tax system: the costs to the government (ultimately borne by taxpayers) of administering and collecting the taxes and the costs expended by taxpayers in complying with their tax obligations.

Companies must optimize the relationship to taxation from a financial and economic point of view. This behaviour is possible when taxation offers business the opportunity to increase its profitability and liquidity when they exercise their tax options.

The enterprise' tax management objectives shall ensure tax security and effectiveness.

Tax security is obtained by complying tax obligations. In this way the companies avoid any penalty taxes and proceed to a better allocation of its financial resources.

Tax effectiveness involves minimizing taxes in observance of the tax law. This can be obtained either directly or indirectly. Direct effectiveness can be achieved through tax law which includes measures of incitement for tax purposes. An example of this is the company option to be liable for VAT even if its turnover allow it to qualify for a small businesses scheme (which means exemption from VAT).

The aim of this work is to analyse the impact of company management options of VAT on profitability and cash flow.

Obtaining tax advantages requires a good knowledge of tax legislation. This is why in the first chapter of this work we will identify the main characteristics of Romanian VAT system and we will go into detail on two special schemes of VAT: the small companies' scheme and the cash accounting scheme, which have a significant impact on the cost related to VAT.

The costs of complying with VAT regulations are separated into administrative costs, direct costs and costs related to the cash flow management. We will examine these costs in the second chapter.

At the end of our work we will try to identify for the managers of small companies some tools designed to improve cash flow, simplify accounting requirements and thus, reduce administrative burdens of VAT.

2. Key features of Romanian VAT system

2.1 Transactions within the scope of VAT

Supplies of goods or services, which have the place of supply in Romania, are subject to Romanian VAT, where made by a taxable person in the course of a business carried on by said person.

The transactions which fulfil the following conditions are subject to Romanian VAT:

- They represent a supply of goods/services in return for consideration or an operation treated as such.
- The deemed place of supply is in Romania.
- They are performed by taxable entities.
- They result from economic activities.

From the VAT point of view, persons may be classified as follows:

Table 1. Taxable and non-taxable persons in VAT system

Taxable persons	Normal taxable persons – Romanian entities carrying out economic activities in excess of the small undertaking threshold of EUR 65,000 (RON 220,000).		
	Exempted persons	Taxable persons covered by the exemption for small companies	3 <i>Group of the entities which do not pay VAT</i>
		Romanian entities who carries out exclusively VAT exempt without deduction right	
Non-taxable persons	Non-taxable legal persons	Public institutions, Non-governmental organizations	
	Non-taxable natural persons	Natural persons who do not carry out economic activities independently. These persons are not required to register for VAT purposes.	

The persons of the Group of the 3 entities are not required to register for VAT purposes at the beginning of activity, but are required to register if their intra-Community acquisitions exceed EUR 10,000 /year.

Within the scope of the VAT enters various categories of transactions, such as (Grigore & Gurău, 2009):

1) Taxable transactions

- the supply of goods for consideration within the territory of a Member State by a taxable person acting as such;
- the supply of services for consideration within the territory of a Member State by a taxable person acting as such;
- the intra-Community acquisition of goods for consideration within the territory of a Member State by a taxable person acting as such;
- the acquisition of general business to business services taxable in Romania, from EU and non-EU suppliers;
- the importation of goods into Romania.

2) Transactions exempt from tax

a) Supplies of goods or of services exempt from tax, with the right to deduct the input VAT, sometimes called “zero-rating”:

- Export of goods, transport and related services
- Intra-community supply of goods
- International transport of passengers
- Goods placed in free trade zones and free warehouses

b) Supplies of goods or of services exempt from tax, without the right to deduct the input VAT:

- activities including banking, finance and insurance
- medical, welfare and educational activities, if performed by licensed entities
- rental and lease operations involving immovable goods, as well as the supply of old buildings and non-constructible plots of land (however, the option to tax these operations is available)

c) Exemptions on intra-Community acquisition and importation (imported goods that would have been VAT exempt if supplied locally in Romania)

3) Special VAT schemes

The cash accounting scheme

Special scheme for small companies (taxable persons whose annual turnover is no higher than the equivalent in RON of 65.000 euro). These persons may opt either for the normal system of VAT.

Special scheme for travel agents

Special scheme for second-hand goods, works of art, collectors' items and antiques

Special scheme for investment gold

Special scheme for non-established taxable persons supplying electronic services to non-taxable persons

2.2. The cash accounting scheme

The introduction of cash accounting scheme is part of the wider EU measures aimed at combating intercompany indebtedness. VAT-registered suppliers of goods and services often provide credit to the state by paying the VAT due on their supplies before they have received the cash from their customers. In the meantime, their clients benefit from an "advance" deduction of input VAT without effectively paying anything (including tax) to their suppliers. This effect is known as "pre-financing" and it is considered to be one of the flaws of the current VAT system.

Therefore, with the aim of reducing intercompany indebtedness, the EU has amended its legislation (Directive 2011/7/EU). One measure is to introduce an optional VAT cash accounting scheme, which Member States can opt to implement in their national legislation from January 1, 2013 (www.tmagazine.eu.com).

In Romania, this system was introduced on 1 January 2013 and taxable persons generating annual taxable turnover of up to EUR 500,000 (RON 2,250,000) were obliged to apply. These persons were supposed to record the output VAT only after the client had paid it but no later than 90 days from the date on which such VAT had been generated. Nevertheless, the taxable entity could not deduct the VAT related to acquisitions until the relevant invoices were paid.

The taxable entities registered for VAT purposes that did not apply the system but acquired goods or services from entities being obligated to apply it could not deduct the related VAT until the invoices for such acquisitions were paid. These entities had no obligation to collect VAT upon receiving the invoice value as they should comply with the general rules.

Because of the noticeable number of companies that were in this situation, more than 400,000, the Government expected a significant impact on unlocking money in the economy. Unfortunately, the effects were not as expected. The main problem, even observed by the European Commission, has been imposing deadline for payment of 90 days of VAT to the budget, even if the invoice was not received. At the same time, it was not specified a time limit for the deduction of value added tax, and the companies could credit the state budget, sometimes even for months.

The cash accounting system has been modified on 1 January 2014, due to European Commission pressure and the discontent of the business environment.

The system has undergone two essential changes:

- The system is not mandatory. Companies with annual taxable turnover of up to EUR 500,000 may choose to apply or not, depending on the cash flow and the activity type.
- More important, the second change has been eliminating the 90-day period in which output VAT had to be paid to the state budget, even if the amount was not received from their clients.

A positive side effect from the VAT cash accounting scheme is that it provides a means of combating VAT fraud. Most often, VAT is drained through fraudsters reclaiming input VAT on

invoices documenting fictitious supplies. The application of the VAT cash accounting scheme should limit the number of such cases.

Currently, some large customers of small and medium enterprises have stronger negotiation powers and are dictating certain contractual conditions, such as long payment terms. These companies can benefit from VAT reclaim on their purchases before they actually pay the price (including the tax) to their suppliers. However, this will no longer be possible if the cash accounting scheme is applied. The need to recover input VAT may prove an incentive for larger companies to pay their SME suppliers more quickly.

Nevertheless, applying the cash accounting scheme may not be attractive to an SME compared with the threat of losing a big client who might dislike this inconvenience. It is currently difficult to predict whether this is a legitimate issue. To a large extent, the effectiveness and attractiveness of the scheme depends much more on the practical complexity of the registration procedure and the requirements for its application.

2.3 VAT Chargeability

In the standard system, VAT chargeability occurs on the date of the supply of goods/services. However, chargeability appears from the date of the invoice, when the invoice is issued before the delivery of the goods.

If the cash accounting scheme (CAS) is applied, the deduction and collecting of VAT shall take place as follows:

Table 2. The deduction of VAT, in the cash accounting scheme

Buyer	Supplier	VAT Chargeability
The buyer applies CAS	The supplier applies CAS	Input tax is deductible to the extent payments are made to suppliers
	The supplier doesn't apply CAS	
The buyer doesn't apply CAS	The supplier applies CAS	Input tax is deductible from the date of the purchase of goods/services.
	The supplier doesn't apply CAS	

Table 3. The collecting of VAT, in the cash accounting scheme

Supplier	Buyer	VAT Chargeability
The supplier applies CAS	The buyer applies CAS	Output tax is chargeable upon receipt of payment.
	The buyer doesn't apply CAS	
The supplier doesn't apply CAS	The buyer applies CAS	Output tax is chargeable from the date of the supply of goods/services.
	The buyer doesn't apply CAS	

2.4. Regime of deductions

A taxable person is allowed to deduct the VAT he paid on his purchases insofar as the goods or services are used for his business activities.

If a taxable person registered for VAT purposes performs both taxable and exempted transactions without deduction right, input VAT (for purchases) may be recovered according to the following criteria:

- VAT directly attributable to taxable transactions – direct deduction in full
- VAT directly attributable to exempt transactions – non-deductible in full
- VAT related to both taxable and exempted transactions – subject to pro-rata allocation.

The pro-rata allocation shall be made up of a fraction comprising the following amounts:

- as numerator, the total amount, exclusive of VAT, of turnover per year attributable to transactions in respect of which VAT is deductible;
- as denominator, the total amount, exclusive of VAT, of turnover per year attributable to transactions included in the numerator and to transactions in respect of which VAT is not deductible.

Net VAT to be paid or to be recovered shall be determined as follows:

- If the output VAT is higher than the deductible VAT, the difference between them is the VAT payment.
- If the deductible VAT is higher than the output VAT, the difference between them is the VAT to be recovered (a negative amount of tax).

2.5. VAT Compliance

As a general rule, the fiscal period is the calendar month. For taxable entities whose previous year-end turnover did not exceed EUR 100,000 and not performing intra-community delivery/acquisition of goods, the fiscal period is the calendar quarter.

VAT returns should be submitted to tax authorities by the 25th day of the month following the end of the fiscal period.

In addition to the VAT returns, tax payers must submit to tax authorities three other summative statements (390, 392A and 394).

The VAT payment shall be paid up to the date of submission of VAT returns.

The negative amount of tax shall be compensated with VAT payment in respect to the following period or shall be refunded. A request for VAT refund is made through a tick box that should be marked on the VAT return. The VAT refund is made after a tax audit is performed, either in advance of the refund or after the refund (subsequent procedure). The VAT refund with a subsequent procedure is only available for taxpayers having a low risk profile as determined by the fiscal authorities.

Refund claims must be processed by the tax office within 45 days from the submission date. In practice, this period may be longer.

3. The impact of VAT on the companies' profitability and the cash flow

VAT involves the following costs for the enterprise: the compliance costs, direct costs and costs related to the cash flow management.

3.1 The compliance costs (administrative costs)

The compliance costs are the costs expended by taxpayers in complying with their tax obligations. These costs are generated by:

- The complexity of legislation: frequency and nature of changes, costs involved in understanding legislation (exclusions, exemptions, deductions, good/services distinctions etc.)
- Procedural requirements. Companies registered for the purposes of VAT must draw up the supporting evidence and VAT registers. It also must be organized rigorous, detailed and complex enough accounting records to have the information necessary for drawing up the VAT return. This will involve additional work and therefore, the increase in expenditure on wages and salaries.

The Communication from the European Commission on the future of VAT (Communication from the European Commission to the European Parliament, the Council and the European Economic and Social Committee on the future of VAT, 2011) mentions that compliance costs for business represent 2% to 8% of VAT receipts. The compliance costs are disproportionately higher for small business. Furthermore the compliance costs are significantly higher when businesses are involved in cross border trade. SMEs have fewer resources for coping with the difficulties resulting from the differences in rules and obligations of each Member State. The cost is proportionally higher for them.

The administrative costs in the case in which the company applies the cash accounting scheme (CAS) are higher, for the following reasons:

- This system requires more accounting records, as well as completing several forms, statements and logs.
- If suppliers/service providers who are applying this system does not mention in the invoices "CAS", the beneficiaries shall be obliged, in order not to have problems with the right of deduction, to check the status in the register suppliers taxable persons who apply to the CAS available on the ANAF web site, resulting in additional bureaucratic work. (The National Agency for Fiscal Administration – ANAF, subordinated to the Ministry of Public Finances, has the mission to provide the resources for the public expenditures of the society by collecting and managing efficiently the taxes, charges, contributions and other amounts due to the general consolidated budget.)

3.2 Direct costs. VAT implications on the companies' profitability

Considering the impact of VAT on costs and default on the companies' profitability, there are two possible situations:

(A) *value added tax is neutral* for the enterprise only if two conditions are fulfilled simultaneously:

- The company falls within the scope of the payment of VAT or is a small company which has opted for VAT purposes
- The deductibility is 100%.

This neutrality is due to the fact that the company registers purchases and sales in the net value, exclusive of VAT. In this situation it is estimated that between accounting and taxation creates report neutral, accounting information being used as support for calculation of VAT.

(B) value added tax adversely affects companies' profitability as follows:

- If the company is not subject to VAT, the inputs VAT enter into the acquisition cost.
- If the company is subject to VAT, but supplies goods exempted from VAT without the right to deduction (pro rata allocation is less than 100 %), the non-deductible difference is included in the acquisition cost, thereby affecting the account of results by an increase in operating costs.

The increase in the operating costs involves reducing the management intermediate balances.

Thus, commercial margin will diminish with non-deductible VAT. This will result in reduction in the value added, the gross operating surplus, the operating result, the current result and the outcome of financial year.

Decrease of result will lead to the reduction of return rates, in view of the fact that these rates shall be determined as the ratio between the results and invested capital.

In order to optimize the cost tax, the company needs to analyse very well its object.

If the company is exempt from VAT and obtains its supplies of goods or services which have a relatively high value, it charges the cost of acquisition with the value added tax, risking to be excluded from the market. If the costs of acquisition, which determines the value added tax, are large, then the company's manager's decision must be to choose to be subject to VAT.

For a company whose object of activity is supply of services, through the analysis, consultations, assessment, design and exploitation of intelligence, in general, external consumption is small. In such situations, the company will not opt for VAT purposes, as this will be borne by the customer. Even if the quality level of the services provided is high, customers will choose non-taxable companies, because the cost will be lower.

3.3 Costs related to the cash flow management

Understanding and implementing cash flow management strategies is a vital piece in building a sustainable business. Managing capital in a responsible manner means making financial decisions related to short term financing as well as maintaining a balanced relationship between short term assets and short term liabilities. The ultimate goal of a company will be to be able to continue its day-to-day operations with enough cash flow to cover short term debts in a timely manner and to also handle operational expenses.

Costs related to the cash flow management are determined by the delay between receipt of claims and the payment of debts in the short term.

According to the financial equilibrium theory, net cash flow (NCF) is influenced by the difference between the delay revenue (inventories, claims, prepaid expenses, VAT refund etc.) and delayed payments (amounts owed to suppliers, to employees, to the state for tax obligations and social consisting of: VAT payment, profit tax, excise duties, contributions to social security etc.). These delays are compiled by an indicator called working capital needs (WCN), which has direct influence on net cash (NCF), as a result of the relationship:

$$\text{NCF} = \text{WC} - \text{WCN}$$

in which: WC = working capital = Current assets – Current liabilities

The relationship that highlights the impact of the value added tax on WCN look as follows:

$$\text{WCN} = (\text{inventories} + \text{claims} + \text{VAT refund}) - (\text{accounts payable} + \text{VAT payment} + \text{other short-term obligations})$$

VAT refund and VAT payment affect treasury monthly or quarterly. Thus, if the company records VAT payment, this amount shall be paid in the 25th day of the following month. Until that date the company will be able to use availabilities created and give up on loans. This will result in increasing financial autonomy and the decrease in the debts rate. The company benefits from this surplus cash-flow for 25 days, provided that the amount of sales to be paid by customers before the date of the first of the following month. Otherwise the surplus cash-flow shall be reduced in proportion to the number of days of delay in payment.

If the company has to recover VAT, then it will be faced with the need of cash. Even if refund claims must be processed by the tax office within 45 days from the submission date, in practice it may take months.

Financial implications of VAT may be highlighted also by the determination of three indicators: average collection period (ACP), average payment period (APP) and days of working capital needs (DWCN).

The average collection period (ACP) shows the average number of days it takes a business to collect payment for sales to customers on credit.

The formula used to calculate the average collection period is:

$$\text{ACP} = \frac{\text{Average of accounts receivable}}{\text{Average of sales}} \times 365$$

When the average collection period increases, the company is faced with a deficit of liquidity.

The average payment period (APP) is defined as the number of days a company takes to pay off credit purchases. It is calculated as follows:

$$\text{APP} = \frac{\text{Average of accounts payable}}{\text{Average of supplies}} \times 365$$

As the average payment period increases, cash should increase as well, but working capital remains the same.

If we take into account only those elements strictly generated by financial flows on VAT, the difference between ACP and APP will represent days of working capital needs (DWCN):

$$\text{DWCN} = \text{ACP} - \text{APP}$$

If the company's goal is to minimize the use of working capital, then it has to do everything it can to keep accounts receivable low (for example, by offering discounts for quick payment) and accounts payable high.

The companies' cash flow can be also seriously affected by applying the cash accounting scheme. In 2013 this scheme had a positive impact on the cash-flow for some of the Romanian companies and a negative one for most businesses.

A negative impact on the cash-flow was felt by some small and medium companies obliged to implement the system in the year 2013, as well as at large companies that have been working with SMEs which applied the cash accounting scheme, in the sense that they have been able to deduct the input VAT only after payment of the invoice.

Although the cash accounting scheme should have led to an increase in the companies' cash flow and should have helped them in a time when banks were not yet open for financing, the reality was different. This scheme was not even a payment of VAT at collection time, but rather a deferment of payment until the 90th day at the date of the invoice, which did not bring taxpayers significant benefits.

What's more, the new scheme of VAT has led, in some cases, to elimination of small companies from the market, since some large companies, which were not eligible for the cash accounting scheme, had selected the providers of goods and services who don't apply the new VAT scheme. Suppliers which applied the cash accounting scheme were excluded because large companies wanted to avoid administrative costs and improve their cash flow.

Since 2014, the cash accounting scheme became advantageous as a result of the elimination of two obligatory conditions in 2013: the obligation of firms with an annual turnover less than EUR 500,000 to apply the system and the obligation of them to pay the VAT in up to 90 days, even if the amount has not been received from the customer.

The main advantage of using this scheme is the positive impact on the supplier's cash flow, if a customer is a late payer. Under this regime, the supplier should not bear the burden of paying VAT on the supply before receiving the payment from customers.

For purchasers, VAT recovery is delayed until payment for invoices subject to cash accounting. Therefore, the regime will indirectly help to improve the liquidity of the entities that opt to apply the cash accounting scheme by eliminating the situations when a customer benefits from input VAT reclaim before paying the supplier. In such cases, the customer would likely prefer to pay all invoices for which the cash accounting scheme is applied instead of keeping the invoices unpaid.

4. Conclusions

Small companies' managers must plan carefully, choose wisely and in accordance with the type of their business and reduce the risk of failing to achieve tax compliance. In the area of VAT stand out two options for small businesses with major impact on the profitability and cash-flow:

- *The option of applying the system of VAT exemption for small business*

This scheme provides a competitive advantage by prices free of the VAT.

The option of applying the system of VAT exemption for small business is justified under the following conditions:

- The company doesn't carry out or estimates a turnover of less than EUR 65,000;
- The company doesn't carry out a significant investment process;
- The company is not carrying out operations exempted from VAT with the right to deduction (e.g. exports, intra-Community supplies of goods etc.);
- The company has mainly B2C (business-to-Consumer) transactions.

If the company has mainly B2B (business-to-Business) transactions then is better to register for VAT, as this will allow it to reclaim the VAT paid on goods and services purchased.

- *The option of applying the cash accounting scheme*

This option is justified under the following conditions:

- The firm carries out or estimates a turnover of less than RON 2,250,000;
- The firm collects invoices issued to customers after substantial periods of time;
- The firm has no significant acquisitions that should generate VAT to be refunded.

Such a situation can be found, for example, in the services sector, where input VAT is insignificant, in comparison with output VAT.

If the company collects invoices in a short period of time or is planning an investment process which will generate VAT refunds, it is better not to opt for the application of the cash accounting scheme. The main advantage will be that input VAT will be deducted immediately, no matter the time of the payment of the bills to suppliers, therefore, by default, the possibility to apply for a VAT refund more quickly.

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Integrating into the Global Economy through Services. The Case of Romania*

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Abstract

Services represent a most important and dynamic frontier of international trade and investment. The steady expansion of trade in services and its relative resilience in the recent crisis, coupled with its key role in global production networks and its increasing potential in attracting investment provides new opportunities for countries to grow their economies and integrate into the global economy. Drawing on insights from current literature and relying on balance of payments and trade in value-added statistics, this paper examines the main developments shaping Romania's services trade over the post-crisis years. Its aim is to assess whether the country is seizing the new opportunities arising from services globalization. It finds that following the dramatic crisis-induced decline in the value and performance of Romania's services trade, the outlook is now radically improving as evidenced by strongly rebounding services flows and net exports. Nonetheless, the country's integration into the global economy through services flows continues to remain below its potential.

Keywords: Romania, trade in services, global economy, European Union, services outsourcing, trade in value-added, global value chains, transnational corporations.

JEL Classification: F14, F15, L24, L80, L86.

1. Introduction

Apart from being the main source of growth and employment in most economies, services are major contributors to global trade, either as trade in services per se or in their role of facilitating trade in goods or through their incorporation as intermediate inputs into the production of goods. More importantly, services play an essential role in global value chains (GVCs) controlled by transnational corporations (TNCs), which are nowadays the dominant form of organizing global production, investment and trade. Indeed, 80% of global trade in goods and services now takes place within GVCs

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(UNCTAD, 2013a, p.135). These are effectively global factories, through which TNCs locate different stages of the production process in the world's most cost-efficient locations through a network of independent suppliers and their own affiliates. Within GVCs, services are coordinating the different stages of production dispersed worldwide, ensuring the effective movement of parts and components across national borders and facilitating trade in goods within these networks. Without services, GVCs could not function. Hence, it should not come as a surprise that two thirds of global FDI stocks is allocated to services (UNCTAD, 2013a, p. 135).

Notwithstanding the global financial and economic crisis, world trade in services has increased dramatically over the past decade, rising over threefold since 2000 to reach \$4.6 trillion in 2013 (WTO, 2014). As many types of services (such as transport, financial services, insurance, etc.) are inextricably linked to trade in goods, the two categories of trade flows evolved closely over time and outpaced growth in global production. The share of services in total world trade in goods and services remained relatively unchanged at around 20% since the 1990s, when measured on the basis of balance of payments statistics. But, if measured in value-added terms, almost half (42%) of value-added in world exports is contributed by services (WTO, 2013, p. 82).

The steady expansion of trade in services, its relative resilience in the recent crisis, its important role in GVCs and its increasing potential in attracting investment and employment provides new opportunities for countries' growth and integration into the global economy. This has led many countries across the world – both developed and developing ones – to factor services trade into their post-crisis national growth strategies. Seizing the opportunities for increased services exports is one of the key focuses of the EU's trade policy. Likewise, the United States has listed promotion of services exports as one of the priorities of its national export initiative. It is also noteworthy, that in its twelfth five-year plan (2011-2015), China has set a goal for the share of GDP of the services industry to increase from 43% to 47% and for import and export of services to reach \$600 billion (UNCTAD, 2013b, p. 8). But many other developing countries have targeted promotion of services exports as a major policy focus. The growing relevance of services trade for development is reflected by numerous success stories that point not only towards India with its well-known software and business services export-led growth, but also numerous developing countries (e.g. Kenya, Bangladesh, Costa Rica, etc.), that have grabbed the opportunities arising from services globalization to specialize in certain services niches and enter into GVCs.

Against this background, the paper examines the main trends that have shaped Romania's trade in services in the pre- and post-crisis years. Its purpose is to explore, through the lens of services trade flows, whether the country advances – or fails to advance – in integrating into the world economy and reaping the benefits from the ongoing services globalization. The paper relies on balance of payments statistics provided by the National Bank of Romania and Eurostat, that are complemented by new dataset on trade in value-added developed jointly by OECD-WTO. It is organised as follows: Section 1 to 3 looks at the dynamics, composition and performance of Romania's services trade over the 2005-2013 period. The analysis disentangles recent trends and particular features of the country's services trade in comparison with selected new EU member states. Section 4 investigates the peculiarities of Romania's interaction with the global economy and also highlights some of the country's assets and drawbacks in enhancing it. The last Section concludes.

2. Romania's trade in services in the post-crisis era: facts and figures

Until the outbreak of the global financial and economic crisis, Romania's trade in services recorded remarkable growth, which has led to rapid structural adjustment and steady improvement of

services trade performance. Table 1 illustrates the main trends that have marked the evolution of Romania's trade in services during 2005-2013 in comparison to its trade in goods, based on balance of payments (BoP) statistics provided by The National Bank of Romania (NBR).

Table 1: Romania's trade in goods and services, in 2005-2013 (EUR million and %)

	2005	2006	2007	2008	2009	2010	2011	2012 ¹	2013 ²
Trade in goods³ (in EUR million)									
Exports	22255	25850	29549	33725	29084	37368	45274	45070	49563
Imports	30061	37609	47371	52834	35955	44968	52683	52449	52986
Net	-7806	-11759	-17822	-19109	-6871	-7600	-7409	-7379	-3423
Trade in services (in EUR million)									
Exports	4104	5587	6931	8754	7064	6622	7253	8402	10327
Imports	4448	5583	6454	8095	7356	6219	6913	7273	7740
Net	-344	4	477	659	-292	403	340	1129	2587
Share of services in total goods and services trade (in %)									
Exports	15.6	17.8	19.0	20.6	19.5	15.1	13.8	15.7	17.2
Imports	12.9	12.9	12.0	13.3	17.0	12.1	11.6	12.2	12.8

Notes: ¹ Revised data; ² Preliminary data; ³ It is important to note that f.o.b. imports for 2005-2009 are calculated according to the former conversion factor c.i.f. / f.o.b. = 1.0834, while f.o.b. imports for 2010-2012 are recalculated by the NBR on the basis of the new coefficient c.i.f. / f.o.b. = 1.0430 introduced in January 2012. Due to this statistical break, the two data sets are not comparable.

Source: Own calculations based on BoP statistics (NBR, 2005-2013).

The favourable economic setting that prevailed both domestically and internationally before the start of the crisis coupled with the preparations for Romania's EU accession on January 1st 2007 and the ensuing full EU membership years have played an essential role in the rapid expansion of the country's trade in services. The dynamic growth in production and trade in goods as well as increasing inward FDI (hitting with €9.5 billion a historical high in 2008) have boosted services flows through both cross-boarder trade and foreign affiliates' sales. According to our calculations, services exports increased at an average annual rate of 32% during 2004-2008 – more than two times faster than exports of goods (15%). Similarly, the dynamics of services imports (26%) exceeded growth in goods imports (21%). As a result, services increased their share in total exports of goods and services to 21% in 2008, similarly to the global average. Moreover, as services exports outstripped growth in imports, the chronic deficits in the services balance turned into growing surpluses in 2006-2008 (Table 1).

However, these favourable developments have been abruptly put an end by the crisis, that has badly hurt Romania's overall trade flows. The crisis has triggered a sharp trend reversal in the evolution of services trade in terms of dynamics, volume and performance, and its impact has been still felt in 2012. The dramatic decline of services trade in two years in a row, i.e. in 2009 and 2010, was accompanied by a worsening of trade balance in 2009 and ensuing sluggish growth.

Looking at the evolution of Romania's services trade flows during the crisis and post-crisis years from a global and European perspective, one can discern a number of salient features, that are indicative of the severe departure of the country from the trends shaping services flows at the global and European level (Ghibuțiu, 2013).

A first point to be made is that the decline in Romania's services exports by 19% in 2009 was far more pronounced than in the world and European average (11% and 13%, respectively). It was also more severe than the decline in goods exports (-14%), while the opposite trend prevailed internationally, with services flows showing greater resilience than goods flows (e.g. global and European exports of goods collapsed by 23% and 22%, respectively, in the same year). Moreover, a further contraction of services exports (by 6%) occurred in 2010, that was followed by modest growth in 2011-2012 (Table 2).

Table 2: Growth in Romania's trade in goods and services, in 2005-2013

	% Annual changes								
	2005	2006	2007	2008	2009	2010	2011	2012 ¹	2013 ²
Goods³									
Exports	17.5	16.2	14.3	14.1	-13.8	28.5	21.2	-0.5	10.0
Imports	23.9	25.1	26.0	11.5	-31.9	25.1	17.2	-0.4	1.0
Services									
Exports	41.4	36.1	24.1	26.3	-19.3	-6.3	9.5	15.8	22.9
Imports	42.7	25.5	15.6	25.4	-9.1	-15.5	11.2	5.2	6.4

Notes: ¹ Revised data; ² Preliminary data; ³ Imports are valued f.o.b. See Table 1/Note 3 for further details.

Source: Own calculations based on BoP statistics (NBR, 2005-2013).

Secondly, the process of recovery in Romania's services trade is severely protracted. It is long overdue not only in comparison with worldwide and European patterns, but also the country's goods trade. Even a glance over a selected group of new EU member states (NMS)¹ reveals that services exports rebounded in all these countries already in 2010 (similarly to world exports), and in most of them exceeded already in 2011 their pre-crisis peak in 2008 (Table 3). The opposite, however, holds for Romania's services exports, that have failed to return to their pre-crisis level even in 2012 and unlike goods exports, that have regained their pre-crisis high already in 2010 (Table 1).

Alltogether, the adverse effects of the crisis have weakened even further Romania's export generating capabilities and also widened the country's traditional gap in relation to the NMS. According to Eurostat (2014) data, Poland's services exports were 3.5 times larger than those of Romania in 2012, though the two economies are comparable. But even services exports generated by smaller countries, like the Czech Republic and Hungary, were double the size of Romania's services exports in the same year (Table 3).

For the first time in the post-crisis years, BoP data released by the NBR for 2013 points towards a real turning point in Romania's trade in services following two years of decline (2009 and 2010) and ensuing weak recovery from the crisis. According to preliminary data, the country's services exports recorded a 23% surge in 2013, reaching an all-time peak of €10.3 billion, while imports of services increased by 6% over the previous year, amounting to €7.7 billion (Tables 1 and 2).

Indeed, Romania's services trade rebounded vigorously in 2013 and there are indications that services flows might return to their pre-crisis growth trajectory. Several arguments underpin this assertion. First, Romania's services exports have seemingly regained their former strength in 2013 and outpaced notably growth (6%) in global and European services exports (WTO, 2014). Second, growth of services exports was well above the dynamics of goods exports for the second consecutive year, meaning that we may witness again a trend similar to the pre-crisis years when services trade expanded at a faster pace than trade in goods (Table 2). Third, Romania's services balance improved radically. After recording a historical high already in 2012 with €1.1 billion, net exports have risen more than twofold in 2013 to reach almost €2.6 billion (Table 1). Not surprisingly, the latest IMF country report duly emphasises that the higher share of services in total Romanian exports and the surge in net exports in 2013 have been greatly instrumental in narrowing further the current account deficit from 4.4% of GDP in 2012 to 1.1% in 2013 and accelerating GDP growth to 3.5% (IMF, 2014).

Undoubtedly, BoP data for 2013 indicates a strong revival of Romania's trade in services, that could put services flows again on a dynamic and sustainable growth path that has characterized their

¹ Throughout the paper, we refer to Hungary, the Czech Republic, Poland, Slovakia, Slovenia and Bulgaria.

evolution before the outbreak of the crisis. Nevertheless, it will take time until the adverse effects of the crisis will be fully absorbed and the negative trends that have shaped Romania's services trade in recent years will be reversed. In the meantime, the crisis-induced shortfalls continue to raise concerns, especially as they are adding to structural weaknesses inherited from the past.

3. The legacy of the crisis

Notwithstanding the favourable developments in Romania's trade in services, that started in 2013, the modest contribution of services to the country's overall trade as well as feeble integration of service flows into the global economy continue to raise concerns. Consecutive contractions of trade in services in 2009 and 2010, combined with slower growth in services trade than in goods trade until 2012 resulted in a steep drop in the contribution of services to overall trade, as measured by the share of services in total exports of goods and service, namely from 21% in 2008 (very close to the world and European average of 20% and 24%, respectively) to only 13,8% in 2011, similarly to the 1990s and early 2000s. Yet, a reversal of this trend occurred since 2012, with the respective share increasing to 17% in 2013 (Table 1). Comparatively, the services share in total trade in goods and services stood at 20% and 25% in world and EU average, respectively, in the same year (WTO, 2014).

Hence, it should not come as a surprise that Romania's modest share in world exports of services has decreased to 0.2% during 2009-2012, after it took over a decade for this share to increase by 0.1 percentage points and reach 0.3% in 2008. It was only in 2013, that the country's export share came closer to 0.3%. For instance, Poland accounted for a 0.9% share in world exports of services in 2012, and the Czech Republic and Hungary for 0.5% each (WTO, 2013).

The situation is not any better when considering trade in services at the European level. While the internal market has an outstanding importance for Romania's trade in services, absorbing 76% of its total services flows, the country accounted for only 0.7% of total intra-EU services exports and imports in 2012, down from 1.0% and 0.9%, respectively, in 2008. Conversely, the corresponding weights are not only higher, but have also increased between 2008 and 2012 in Poland (to 2.6%/2.6%), the Czech Republic (1.6%/1.4%) and Hungary (1.3%/1.2%). In 2012, only Slovakia, Bulgaria and Slovenia recorded lower internal market shares for services (Eurostat, 2014).

Actually, Romania exhibits the lowest level of trade integration within the global economy (measured as average of services imports and exports relative to GDP) among the selected NMS, namely 5.6% in 2012 (Table 3). Moreover, the index increased in most NMS between 2002 and 2012 (e.g. from 8.5% to 10.6% in the Czech Republic, from 10.7% to 14.5% in Hungary, 8.7% to 12.0% in Slovenia and 4.8% to 7.1% in Poland), but in the case of Romania it virtually stalled since 2002. This means lack of progress in terms of the country's integration into the global economy through services flows and poor specialization in services activities.

Table 3: Services exports and net exports in selected NMS, in 2007-2012
(EUR billion and %)

NMS	Exports/Net (EUR bn)	2007	2008	2009	2010	2011	2012	Share of services trade ¹ in GDP, in 2012
Bulgaria	Exports	4.8	5.4	4.9	5.0	5.3	5.7	11.2
	Net	1.2	1.3	1.3	1.9	2.3	2.4	
Czech R.	Exports	12.6	14.9	13.9	15.8	16.6	17.2	10.6
	Net	2.1	3.0	2.8	3.0	2.7	2.0	
Hungary	Exports	12.6	13.8	13.3	14.6	15.6	15.9	14.5
	Net	1.3	1.5	2.0	2.9	3.2	3.4	

Poland	Exports	21.0	24.2	20.7	24.7	27.0	29.4	7.1
	Net	3.4	3.5	3.4	2.3	4.0	4.8	
Romania	Exports	6.9	8.8	7.1	6.6	7.3	8.4 ²	5.6
	Net	0.4	0.7	-0.3	0.4	0.3	1.1 ²	
Slovenia	Exports	4,1	5,0	4,3	4,6	4,8	5,1	12.0
	Net	1.0	1.4	1.2	1.3	1.4	1.7	
Slovakia	Exports	5.1	5.8	4.3	4.4	4.7	5.6	7.6
	Net	0.4	-0.5	-1.0	-0.7	-0.4	0.3	

Notes: ¹ Average of services imports and exports divided by GDP (%); ² Revised data released by the NBR.

Source: Data compiled from BoP statistics (Eurostat, 2014; NBR, 2014).

And last but not least, Romania stands out among the NMS also in terms of net exports. With the exception of Slovakia, all NMS show systematic and considerable surpluses in their services balance and the trend is an upward one since the 1990s. The surpluses recorded by Poland (€4.8 billion), Hungary (€3.4 billion), Bulgaria (€2.4 billion) and the Czech Republic (€2 billion) in 2012 are well above Romania's (revised) surplus of €1.1 billion (Table 3). Romania's achievement in terms of net exports in 2012 is all the more remarkable as its services balance recorded traditionally structural deficits since 1990, except for some modest surpluses during the pre-crisis years, with a €659 million peak in 2008. Hence, the year 2012 appears to mark a turnaround in Romania's trade performance, particularly as net exports more than doubled in 2013, hitting an all-time record of €2.6 billion (Table 1). Nevertheless, Romania's net exports since 2010 should be viewed with due caution, as one may hardly assess how much of their increase is attributable to statistical changes introduced in January 2012 and how much is due to a real improvement in services trade performance.²

4. Steady growth in business services: a testimony to rising services outsourcing

It is noteworthy, that in spite of the unfavourable developments in Romania's services flows in terms of dynamics and volume in the post-crisis period, the structure of services trade by main components – i.e. transport, travel and "other services" – continued to evolve in line with global and European patterns, particularly in respect of the relative weight of "other services" in total trade.

The share of the latter component stood at 53% in 2013 on the export side, similarly to the global average, and was even higher on the import side (62%). The fact that services included in the "other services" component of services trade – known also as *modern services* – substantially increased their contribution to total services trade and became more important than traditional services, such as tourism and transportation, reflects the rapid structural adjustment in Romania's trade in services, that started long before the outbreak of the crisis. More importantly, the fast growth of "other services" has been largely driven by knowledge-intensive business services, such as information services, legal services, accounting, management consulting, marketing, research & development services. These services categories are mainly used as intermediate inputs in the production process to enhance the efficiency and competitiveness of manufacturing firms. Due to new ICT, they are also increasingly outsourced and play an essential role in GVCs, adding value to traded goods and supporting their functioning.

Information and computer-related services is the main single services category among the "other services" component of Romania's services trade and also the one with the highest growth rates

² The new c.i.f./f.o.b conversion factor applied since 2010 by the NBR affects the size of services imports and balance (see Table 1/Note 3). The methodology for calculating f.o.b imports has an overwhelming influence on the country's services balance due to the large share of transportation services in total services trade and the very high share of freight transportation in total transport.

of exports (expanding by 21% even in 2009, when total services exports declined by 19%). Actually, this services category has spearheaded Romania's exports of services both in the pre- and post-crisis years. Moreover, data for 2013 shows that exports and imports of information services soared by 41% and 47%, respectively, over 2012. Accordingly, the share of information services in total services exports went up to 14% in 2013 from 4% in 2004. And most importantly, information services have increasingly generated net exports, hitting with €886 million an all-time record in 2013.

Similarly, exports of business services under the "other services" heading of the BoP – such as legal, accounting, management consulting services and advertising, market research, architectural and engineering services – expanded by 19% and 14% in 2012 and 2013, respectively, after being severely hit by the crisis in 2009-2010. This type of services also started to generate net exports for the first time since 2008 (worth €254 million in 2012 and €650 million in 2013).

Steady expansion of information services and numerous other business services is indicative of rising services outsourcing activities within the domestic economy. While BoP statistics are not equipped to permit gauging the real size of services that are outsourced by foreign companies to Romania, yet BoP data on the "other services" component may serve as a very broad proxy for illustrating their potential size. Besides, data provided from inside the outsourcing industry confirms that the domestic outsourcing market has grown rapidly, increasing its size significantly over the last years. Romania ranks among the most attractive services outsourcing destinations both from a global and European perspective, and given its large potential in this area it is likely to preserve its position also in the long-term. According to several international rankings released by prestigious global consulting companies, the country is on the top of investors' preferences.³ The range of services that are outsourced to Romania relates predominantly to IT services and entails both core and support business functions, such as legal, accounting and audit services.

The main factors determining Romania to rank among investors' favourite services outsourcing destinations include: relatively low cost of labour; geographic and cultural proximity to Western Europe relative to other attractive regions of the world; well-trained workforce, especially in ICT; relatively good knowledge of foreign languages; universities capable to provide young talent in several fields in demand by investors; and well-functioning ICT infrastructure.

5. Romania's interaction with the global economy

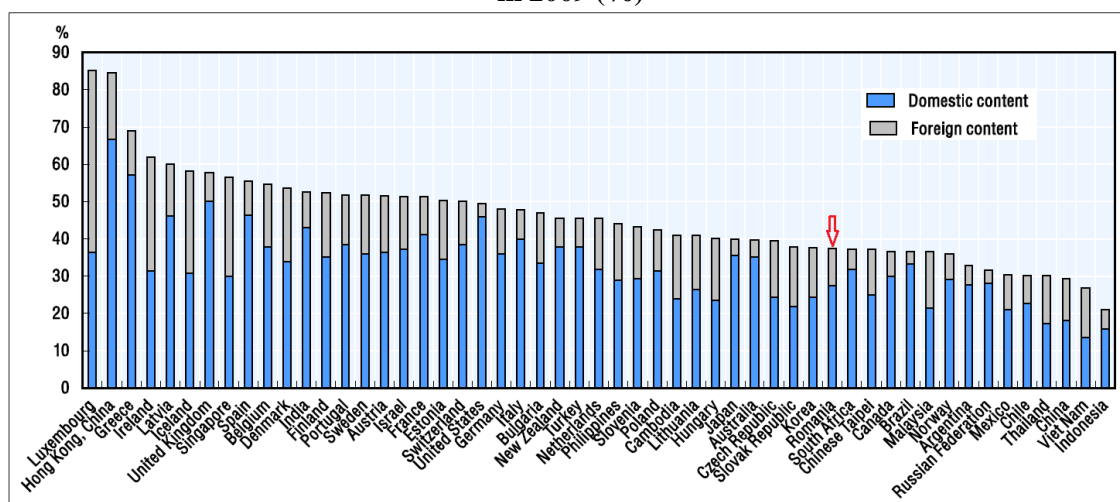
Data based on conventional BoP statistics does not convey a complete picture of the real amount of a country's services transactions, as it reflects only the volume of cross-border trade. It does not tell us anything about services embedded in goods exports and nor about services flows that take place through FDI. Estimates based on trade in value-added (TiVA) data developed jointly by OECD-WTO provide a more realistic picture of the direct and indirect contribution of services to total exports, as they also highlight services embedded in goods, i.e. inputs of intermediate services that are incorporated into final goods and exported.

³ For example, according to the global consulting firm AT Kearney (2011), which ranks periodically the most attractive 50 locations for outsourced services in the world, Romania accounted for the 25th place in 2011, outpacing Hungary, the Czech Republic and Slovakia, but lagging behind Bulgaria and Poland. According to Tholons (2013) top 100 most attractive cities for outsourced services worldwide in 2014, Bucharest ranked 40th, after Krakow, Prague, Budapest, Brno and Warsaw, but before Bratislava, Sofia, Ljubljana and Wroclaw.

According to TiVA data, the share of services value-added in Romania's total exports stood at almost 40% in 2009, which means that the real contribution of services to total exports was in fact twice as high as evidenced by BoP data (19.5% in 2009) (Figure 1). However, in Hungary, Poland and the Czech Republic, this indicator was higher than in Romania, i.e. between 40-50%. According to WTO data, the contribution of services to total world exports is 42% on average (WTO, 2013). However, in countries like the US, UK, India or France, the respective share is 50% or even higher. In the EU as a whole, services contribute by 51% to total exports while in China by one-third (Figure 1).

Value-added trade measures also help to gain some insights into the relative positions of countries in the global economy, i.e. within GVCs. The share of foreign content in gross exports of a country – or vertical specialization – is a commonly used indicator to illustrate this. The more countries rely on imported inputs for the production of goods and services that are subsequently exported, the higher their participation in GVCs. Data provided by the OECD-WTO TiVA database points to increasing foreign content in the exports of most countries in the last two decades and, so, increasing integration within GVCs (Figure 2).

Figure 1: Services value-added¹ as percentage of total exports, in selected countries, in 2009 (%)



Note: ¹ "Domestic content" and "foreign content" relate to the source of value-added, indicating the proportion of value-added generated domestically and externally (imports), respectively.

Source: OECD (2013a, p. 58), based on OECD-WTO Statistics on Trade in Value-Added (OECD, 2013b).

The share of foreign content in Romania's total gross exports stood at about 25% in 2009, below the world average (28%), and increased only slightly – by some 3 percentage points – between 1995 and 2009. This suggests not only a rather weak involvement of the country in GVCs, but also slow progress in enhancing it. This comes through more clearly when comparing Romania with other NMS, such as the Czech Republic, Hungary and Slovakia, where the foreign content of exports was much higher in 2009, reaching 40% or even more, and also significantly up on its share in 1995. Not surprisingly, Poland and Hungary recorded the most remarkable increases between 1995-2009, due their relatively high inward FDI stocks.

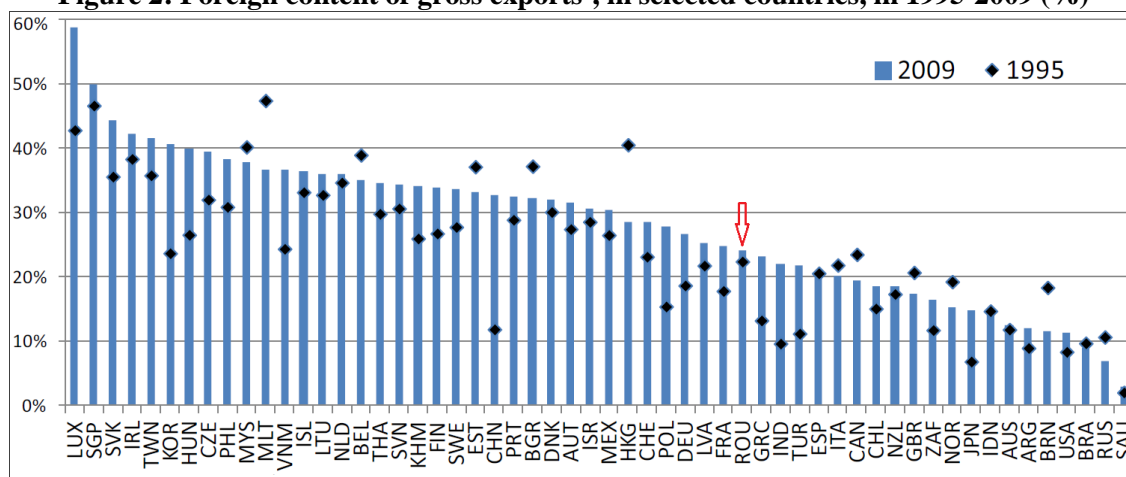
A major reason behind Romania's relatively weak presence in the global economy and slow progress in enhancing its participation over the recent years is, undoubtedly, the drastic contraction in FDI inflows since 2009. Services are intrinsically linked to FDI as most categories of services may be supplied internationally only through the presence of foreign affiliates abroad. Likewise, the expansion of TNCs operations through FDI is a major driver of growth of GVCs, as shown by the strong

correlation between FDI stocks in countries and their GVCs participation (UNCTAD, 2013, p.138). Hence, the presence of TNCs bears both upon imported contents in exports and participation in GVCs.

A snapshot of developments related to Romania's FDI inflows in the post-crisis years supports the above argument and highlights the country's involvement in GVCs through FDI. After reaching a historical peak in 2008 with €9.5 billion, FDI inflows to Romania declined by over 60% in 2009, amounting to only €1.8 billion in 2011 and €2.1 billion in 2012. Despite an increase by 27% over the previous year, the amount of FDI attracted in 2013, worth €2.7 billion, remains still very low (NBR, 2014). In fact, Romania ranks among those NMS where FDI has not returned to its pre-crisis level, unlike the Czech Republic, Poland and especially Hungary, where FDI recovered and even surpassed the pre-crisis levels.

With an inward FDI stock of €59 billion in 2012, Romania lags behind Poland (€179 billion), the Czech Republic (€103 billion) and Hungary (€77 billion). In terms of FDI stock percentage share in GDP in 2012, the country (45%) ranks behind Bulgaria (95%), Hungary (80%), the Czech Republic (67%), Slovakia (60%) and Poland (47%), except Slovenia (33%) (Eurostat, 2014). Although on a descending trend, the services sector still predominates in the country's total inward FDI stock, accounting for over half (BNR/INS, 2013). More than two thirds of Romania's total inward FDI stock is owned by EU-15 investors, particularly from the Netherlands, Austria, Germany, France, and Italy. The geographical composition of foreign investment in Romania indicates a high level of corporate integration and outsourcing activities between the old and new EU member states. It also confirms that despite rapid advances in ICT that have reduced trade and coordination costs and made the geographical dispersion of different stages of production processes technically feasible, geography still does matter. In fact, this explains why GVCs have rather a distinctive regional character and Romania's presence in GVCs is associated with strong intra-EU value chain links. Put differently, the country is part of "Factory Europe", unlike "Factory Asia" or "Factory North America".

Figure 2: Foreign content of gross exports¹, in selected countries, in 1995-2009 (%)



Note: ¹ Foreign content of gross exports indicates the external value-added related to total gross exports value.
Source: OECD (2013b), based on OECD-WTO Database on Trade in Value-Added (OECD, 2013b).

While the prospects for enhancing Romania's involvement in the global economy through increased FDI are not very bright in the short-term, nevertheless, encouraging signs are coming from the global outsourcing industry. According to projections, the global services industry remains on the rise, driven by continuing technological innovation and expanding world demand from upper income groups as well as outsourcing strategies by firms associated with the "splintering" of the production process. Moreover, observers from inside the industry estimate that globalization of services

production is only in an early stage, with IT and BPO outsourcing being only a precursory sign of a broader trend that, in the future, will stimulate companies to resort more intensely to outsourcing of different business functions to cost-effective locations around the world. The reason is twofold: on the one hand, outsourcing is an effective way for companies to reduce costs and improve their operations, and, on the other, the dynamic expansion of GVCs has enhanced economic interdependence of countries across the globe.

6. Conclusion

Steady growth in Romania's trade in services until the outbreak of the global financial and economic crisis has fuelled rapid structural adjustment and improvement in its trade balance. However, the crisis has badly hit trade flows and services flows in particular, and reversed these favourable trends. Along with a dramatic decline in services trade and ensuing sluggish growth, the country also witnessed a sharp deterioration of its trade performance. Moreover, Romania's services trade proved to be far less resilient during the crisis and post-crisis years and went off the patterns prevailing at the global and European level, including the new EU member states.

All in all, the adverse effects of the crisis combined with protracted recovery have weakened the export generating capabilities of the country and widened further its traditional gap relative to the new EU member states in the sphere of services. The crisis also triggered a steep drop in the contribution of services to Romania's overall trade and in the country's share in both global services trade and intra-EU trade. As a result, Romania's integration into the global economy through services flows came to a halt.

With services flows strongly rebounding and net exports hitting an all-time record, the year 2013 marks a turning point in the evolution of Romania's services trade, that is likely to put services flows again on a dynamic and sustainable growth path. However, the full absorption of the harmful effects of the crisis and the consolidation of the emerging positive trends will take time. Until then, we can only conclude that Romania's integration into the global economy through services flows is far below the country's potential and also lags behind the new EU member states.

Looking ahead, if the turnaround holds true, services trade flows are going to improve. But just waiting for an automatic increase in services trade will not be enough to enhance Romania's participation in the global economy. This should be actively supported by proper policy measures. Seizing the opportunities provided by services globalization and enhancing Romania's effective integration into the global economy calls for significant further investment in technology dissemination, skill building and upgrading. But apart from strengthening the necessary physical and human infrastructure, new government policies and firm strategies are needed to fully capture the benefits of globalization and minimise potential adjustment costs.

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An Analysis of the Social Media Presence of the Brands

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Abstract

Brands need to be close to consumers. The pursuing of this objective convinced an increasing number of companies to start using social media tools, such as social networks or blogs, in order to communicate with a great number of consumers. Hence, social media is rapidly turning into an important part of the brand communication strategy. The power of social media marketing can help the companies to create brand awareness and also to enhance the consumers' engagement with a brand. Nowadays people seem to enjoy being part of an online brand community. Building a strong social media presence is an efficient way to generate high visibility for the brand. But the companies looking to reach greater exposure for their brand have to vie with dozens of other brands that seek to gain the same consumers' attention. This is why the authenticity and the credibility are essential aspects that increase the chances of success. Based on the investigation of secondary data sources, this paper aims to analyze the social media presence of some of the most successful brands in Romania. Looking at some examples of social media marketing campaigns, this paper will outline the importance and the impact of such practices for the long-lasting customer relationship and the brand image.

Keywords: *social media, online marketing communication, brands, brand awareness, brand image, online customer relationship.*

JEL Classification: *M31.*

1. Introduction

“As the business and branding environment is changing, brand management has to respond with adequate tools and frameworks” (Fisher-Buttinger & Vallaster, 2008, p. 13). As a result many marketing specialists have studied the advantages of using social media for managing and strengthening the brand, showing that online platforms, such as Facebook, Twitter or YouTube, have the capacity to engage consumers with the brands in an interactive way.

“Standard marketing strategies and tactics are inadequate in this changing time” (Macy & Thompson, 2011, p. 18) therefore it is necessary “a reinvention of integrated marketing that leverages traditional, online, and real-time social media marketing” (Macy & Thompson, 2011, p. 32).

In general it is considered that a brand needs to be where conversations are taking place. Social media provides the opportunity of real-time conversations between brands and consumers, but the most important aspect is knowing how to build and manage a relevant dialogue because a company “can either speak at people or it can speak with people” (Brogan, 2010, p. 1).

The marketers are also trying to fulfill the objective of creating a relationship between brands and consumers, which can be realized through online communities developed on social media platforms. In this case, the greatest advantage is that the consumers decide for themselves to become members of such brand communities, proving their interest in the brand.

By closely communicating with the consumers on a social media level, the company or the brand becomes “a trusted source of information, which makes it a great asset when creating company awareness and brand credibility. Social media has become an imperative for all brands looking to be a part of the digital market and create buzz around their business. Social media leads to massive exposure due to its worldwide access, sharing capabilities, and huge amount of daily users.” (Angelova, 2013). For example, according to a Mediascope study, the Romanians hold the second place in Europe regarding the time spent online, with an average of 18.6 hours per week (Ziare.com, 2013). Also, according to a Gemius study, the number of Romanian Internet users is around 9 million and the most popular social networks are Facebook, with more than 7 million user accounts, LinkedIn, with over 1,2 million accounts and Twitter, with 79,000 accounts (DailyBusiness.ro, 2014).

Although social media tools aren't something new anymore, it is considered that marketers are still not making the most of their full potential. Only some companies have successfully integrated them in the marketing communication strategy. Hence, it is important to analyze and to identify the main aspects that characterizes the social media campaigns.

2. Social media and brand communication strategy

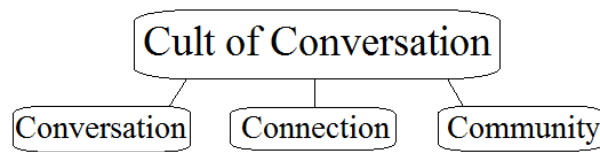
According to Stephen Rappaport “a brand is a conversation” (Macy & Thompson, 2011, p. 66). Starting from this assumption a brand should be managed so that it is constantly engaged in a dialogue with its consumers. Also, branding is about “how customers experience your brand, and the way you interact with your customers” (Stuart, 2014). As it was mentioned before, social media platforms allow the brands to interact with their fans through online communities and to directly communicate with them in various ways.

The companies that decide to integrate social media in their brand communication strategy “will discover that conversations are one of the most powerful brand accelerators and business development tools to appear in years. Conversations in real-time are shoring up customer retention and brand loyalty” (Macy & Thompson, 2011, p. 4).

This new communication channel comes with a specific set of attributes, among which the most important is that the consumers are in control and they select the messages that they want to see. Another important aspect is the differentiation. The consumers are experiencing today a huge number of brand messaging which bear the risk of not being noticed or being immediately forgotten. This is why “social media require companies to establish a different culture of communication to be effective” (Macy & Thompson, 2011, p. 69). According to Kyra Reed & Marjorie Kase, this new culture of communication is referred to as “the cult of conversation” (Macy & Thompson, 2011, p. 42). This concept involves access and openness and it is based on the idea “that the most effective social media campaigns, and the most memorable, are social” (Macy & Thompson, 2011, p. 43).

The cult of conversation is represented as the peak of a pyramid whose base is composed of three interrelated and equally important elements: conversation, connection and community (Fig. 1).

Fig. 1: The cult of conversation



Source: Macy, B. & Thompson, T., 2011, p. 43.

“The entry point to social media is Conversation” which refers to what and how is going to be said and whether the voice in social media will be that of the brand or that of a semi-social or social personality (Macy & Thompson, 2011, p. 70).

The second element of the pyramid refers to the Connections established in social media which are determined by the style of conversation.

The third element is Community which “arises out of meaningful conversation and connection” and which should become “an engaging environment for participants” (Macy & Thompson, 2011, p. 70).

Hence, in social media, a brand must become a voice, perfectly adapted to consumers and the messages must be characterized by transparency, authenticity and should be strong enough to influence the consumers and to capture their attention. A brand is often evaluated through the share of voice which can be defined “as the activity and volume of conversations by people taking place in social media about one’s service, product, or brand” (Macy & Thompson, 2011, p. 27).

3. Brands on social media

The study “2013 Social media marketing industry report” surveyed 3025 marketers revealing some insights into how marketers are currently using social media to grow and promote their businesses (Stelzner, 2013). The main results of this study showed that 86% of marketers consider that social media is important for their business. Regarding the benefits of social media marketing, 89% of all marketers indicated that their social media efforts have generated more exposure for their businesses and brands. The top five platforms used by marketers in 2013 were Facebook (92%), Twitter (80%), LinkedIn (70%), blogging (58%) and YouTube (56%).

According to a Starcount study, the top 10 list of the most popular social media brands worldwide in 2013 includes brands such as Samsung, Coca-Cola or Nike (Daleda, 2013). The study compiled data across Facebook, Twitter, YouTube and other social media websites in order to create the top 10 list.

The most popular social media brand in 2013 was Samsung Mobile. “Although Samsung wasn’t the most popular brand on any particular social network, it gained over 14 million fans on Facebook, 4 million followers on Twitter and over 86 million views on YouTube” (Daleda, 2013). Walt Disney achieved the second place and it earned nearly 1 million new fans on the Chinese microblogging site Sina Weibo and over 2 million new fans on Facebook. The third place is owned by National Geographic which was “the most popular brand on YouTube in 2013 with 160 million views” (Daleda, 2013). The following places are owned by Nike, which had over 50 million views on YouTube, and Google which “earned almost 3 million new fans on Facebook, its total number of fans exceeding 15 million” (Daleda, 2013). Coca-Cola comes in the sixth place with over 15 million new

Facebook page fans and over 58 million views on YouTube. MTV had a combined 10 million new fans across Facebook, Twitter and Google+. Facebook was the most followed brand on its own page, gaining 16 million fans in 2013, the same as Instagram which gained also 16 million new followers on its own official Instagram profile. The last place is owned by YouTube which had over 3 million new fans on Google+ in 2013.

In Romania, Biz created a list of the most visible 50 social media brands during the year 2012 and the first two months of 2013. The study called Top Social Brands 2013 took into account the brands degree of popularity and the impact of the campaigns carried on in social media (Biz, 2013). The top 50 most popular brands was led by Vodafone, followed by Samsung, Danone, Avon, Pepsi, Heineken, Cosmote, Coca-Cola, Ford, Orange, F64, Nivea, Nokia, Romtelecom, Dacia, KFC, Staropramen, Microsoft, Timișoreana, Renault, ING, Lay's, Farmec, Ursus, BMW, Banca Transilvania, Petrom, Rom, Doncafe, L'Oreal, BCR, HTC, Lenor, Grolsch, UPC, Prigat, Citroën, Bitdefender, LG, HP, Piraeus Bank, OMW, Jack Daniel's, Oriflame, Matache Măcelaru, KLM, Canon, Heidi, Skoda and Siemens (Manafu, 2013a).

A different study, realized by Gemius (2013), presents the Romanian brands most present on the Internet in 2013. The study called Online Leading Brands in Romania 2013 was based on „2359 questionnaires completed by Romanian Internet users aged 18-45” (Gemius, 2013). The results of the study showed that in 2013 Dacia was the most popular brand on the Internet, followed by Borsec, eMag, Ursus, Dorna, Gerovital, BCR, Farmec and Rom.

All these results show that social media became a marketing tool widely integrated in the brand communication strategy by companies activating in fields such as FMCG, telecommunications, retail, banking, automotive, software or electronic products.

3.1. Examples of social media marketing campaigns

The following four case studies belong to top brands and illustrate best practices and examples of innovative and well-built social media marketing strategies. The analyzed examples are: the Coca-Cola campaign “Let's eat together”, the Pepsi campaign “Ia-ți vara în cap”, the Heineken campaign “Share the sofa” and the Danone campaign “The milk's road”.

3.1.1 The Coca-Cola campaign “Let's eat together”

Knowing that nowadays the moments when we eat together are more and more scarce, The Coca-Cola Company launched the campaign named “Let's eat together” in order to give people the chance to reunite with their families, friends or colleagues and to take part in a unique ambience at a meal prepared especially for them by Coca-Cola and a famous chef.

The promotional campaign, created by The Coca-Cola Company and MRM Romania, successfully combined the online environment and the social media tools with the offline promotional activities which included several TV commercials, public relations, outdoor billboards and special events.

The company used the microblogging site Twitter for the first time in order to promote its brand. The company's representatives declared that “in our communication with the customers, we want to use all the tools that motivates them to stay connected. Twitter is a social platform little used in Romania, but which has great potential for future development” (Borcea, 2013).

Hence, the most important part of the integrated communication platform used a live tweeting campaign that took place between March 1, 2013 and April 11, 2013. During this period, the users had to post on their personal accounts a message containing the hashtag #letseattogether through which they invited their friends to eat together. The “#” symbol is called hashtag and it is used in order to mark a tweet’s keywords and to help the users to discover more easily subjects of common interest. Every day 6 original tweets were chosen and were then included in the TV commercials. At the end of the campaign a jury selected from all the tweets the winner of the big prize, represented by a meal organized for 6 persons by Coca-Cola.

The fans could use as well Facebook to invite their friends or families to eat together following three easy steps: they should choose an invitation theme, select their invitees and send the invitation through Facebook. The users were constantly invited to “send the virtual happiness truck on tour” by sharing the eating together moments on Instagram, Facebook and Twitter (Coca-Cola.ro, 2013).

During this campaign, the brand’s activity on Twitter increased well above the average level registered in 2012. At the end of the campaign the Twitter user base grew by 15% and the campaign entered the top 10 Twitter trending topics. Also the brand’s association with food increased by 15%. The campaign, strongly characterized by interactivity, had over 1 million social media impressions (Manafu, 2013b).

3.1.2 The Pepsi campaign “Ia-ți vara în cap”

Pepsi is “a brand that has moved from the cult of personality to a fully social cult of conversation” (Macy & Thompson, 2011, p. 44).

The campaign entitled “Ia-ți vara în cap – Get on the road only with Pepsi!” was designed by GolinHarris for promoting the brand using an interactive contest. The campaign took place between July 15 and September 12, 2013 and integrated both online and offline tools such as TV commercials, outdoor advertising, public relations, the website Pepsi Pulse and the social network Facebook, including also partnerships with the most popular singers from Romania.

The social media part of the campaign included a dedicated blog named varaincap.ro and a Facebook application. Before the official campaign was launched, it was supported by an experimental weekend during which teams of bloggers went on a road trip trying to obtain everything in exchange of Pepsi cans.

The senior manager of GolinHarris declared that “Pepsi is a brave brand, lively, adventurous, with a distinct and strong personality. We wanted to capture these features in the campaign. We started from the idea that the brand is so strong and beloved that you could get anything in return to some Pepsi cans” (IAA, 2013).

In order to compete, the fans had to log into the Pepsi official Facebook page and to register along with two of their friends, trying to gain supporters and gather as many votes as possible. The first 10 teams that gathered the majority of the votes went into the finals. Only three selected teams went on a 7 days road trip through the country having to obtain everything, from accommodation to meals, by offering instead only Pepsi cans. During the campaign over 265 teams signed up for the contest on the brand’s official Facebook page (Maxim, 2013a).

The PepsiCo Romania representatives said that “summer is the vacation season, a season of intense experiences and adventurous discoveries on the musical rhythms of the moment. We know that

the Pepsi fans want such experiences, so this summer we challenged the young Romanians to take part in a unique experience: to go on a road trip only with Pepsi” (Revista Piața, 2013).

This campaign generated the most appearances in the online media for the brand, namely 639 appearances, with 172 more than in the same period of the previous year (Maxim, 2013b).

The campaign was supported by more than 45 bloggers, through Facebook and Twitter posts, likes, shares and comments, quickly becoming one of the most visible and followed campaigns. More than 300 messages with the #varaincap hashtag were posted on Facebook and Twitter and more than 51,000 unique visitors were exposed to the campaign on the dedicated blog and other blogs (MarkMedia, 2013).

3.1.3 The Heineken campaign “Share the sofa”

The campaign entitled “Share the Sofa” was created by DDB and Tribal Worldwide Amsterdam for Heineken. This Heineken campaign can be considered “the biggest Twitter campaign of all times, since #ShareTheSofa is a communication platform that “transcends all markets and engages fans across the territories” (Reynolds, 2013).

This fun and different initiative was meant to offer to the consumers a unique experience associated with the brand. The fans were invited to join UEFA Champions League players on Twitter for a chat during select games. The fans could pose questions to former footballers who would then answer the questions in real-time. This way it was created the feeling that the football legends were sitting next to the fans on the sofa watching the game.

While the campaign was not particularly innovative, Heineken managed well to integrate its #ShareTheSofa activity into its overall Champions League sponsorship. Heineken’s involvement in Europe’s top football competition dates back to 1994, currently the company paying £ 43 million a year to sponsor the competition (Reynolds, 2013).

According to Paul Smailes, Global Head of Digital at Heineken, the idea of this campaign was “the result of combining a couple of key insights. 70% of UEFA Champions League viewers watch the game at home and over two-thirds of our consumers are also online while watching TV. Twitter is also the number one social media platform being used during live TV shows and also provides us a great opportunity to directly connect passionate UEFA Champions League viewers with legendary players” (Reynolds, 2013). Besides that “the UEFA Champions League is one of the top three most-tweeted events of the year, according to the company” (Wasserman, 2013).

The success of this campaign was defined based on scale and share of voice. For example, the match with Hernan Crespo resulted in 46.8 million earned impressions and 78% share of voice among UEFA Champions League sponsors. The match with Owen Hargreaves generated 2,600 tweets and 55,6 million social impressions, while the match with Fernando Morientes managed to gain 1,200 questions directed to him (Oster, 2014). The number of people who engaged and followed the campaign and also the number of countries that supported the idea increased significantly with each match.

3.1.4 The Danone campaign “The milk’s road”

The campaign entitled „The milk’s road - How the Danone yoghurt is made” was developed by Danone and Blogal Initiative and was carried over 15 days, between May 7 and May 21, 2013. This campaign was dedicated exclusively to bloggers.

In order to compete, the bloggers had to write a cover letter motivating why they want to see how the Danone yoghurt is made and to include the hashtag #cumsefaceiaurtulDanone. At the end of the campaign 9 bloggers were selected and divided by draw in 3 teams, each team including a farmer, a carrier and a quality controller. These teams had the chance to observe how the Danone yoghurt is made and to actively participate in the process. The farmers went to the farm to see how milk is harvested, the carriers traveled with the tanks that bring the milk to the factory, and the quality controllers went to the factory to assist in the manufacture of yoghurt. After that, they had to write a blog post describing their experience.

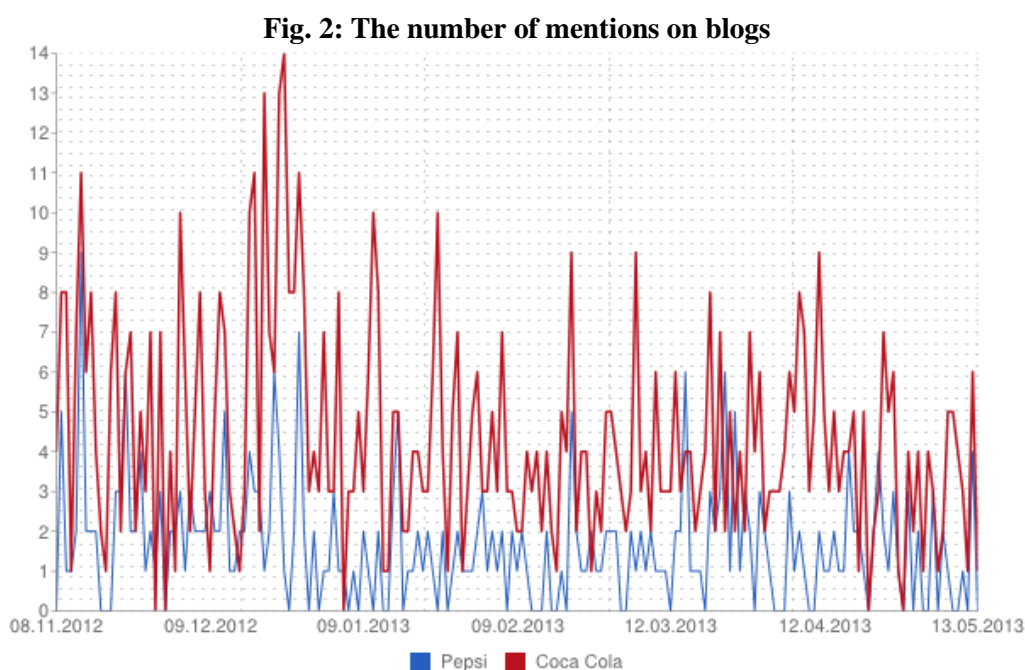
According to Zelist, the campaign had a total viewership estimated around 270,000 impressions, 140,000 unique visitors, 200,000 duplicate visitors and overall 44 bloggers wrote about this campaign in 59 posts (Blogal Initiative, 2013).

3.2. A comparative analysis of the brands activity on social media

Using the monitoring service Media IQ, which provides instant access to over 120,000 online sources such as websites, social networks, forums, blogs and comments, a comparative analysis between Coca-Cola and Pepsi was realized regarding the brand activity in social media in Romania (Vlad, 2013).

The analysis, concentrated over a period of 6 months (between November 2012 and May 2013), shows that Coca-Cola has a significantly more pronounced presence on the social media platforms in Romania, with a total share of voice of 72.42% against the value of 27.58% for Pepsi.

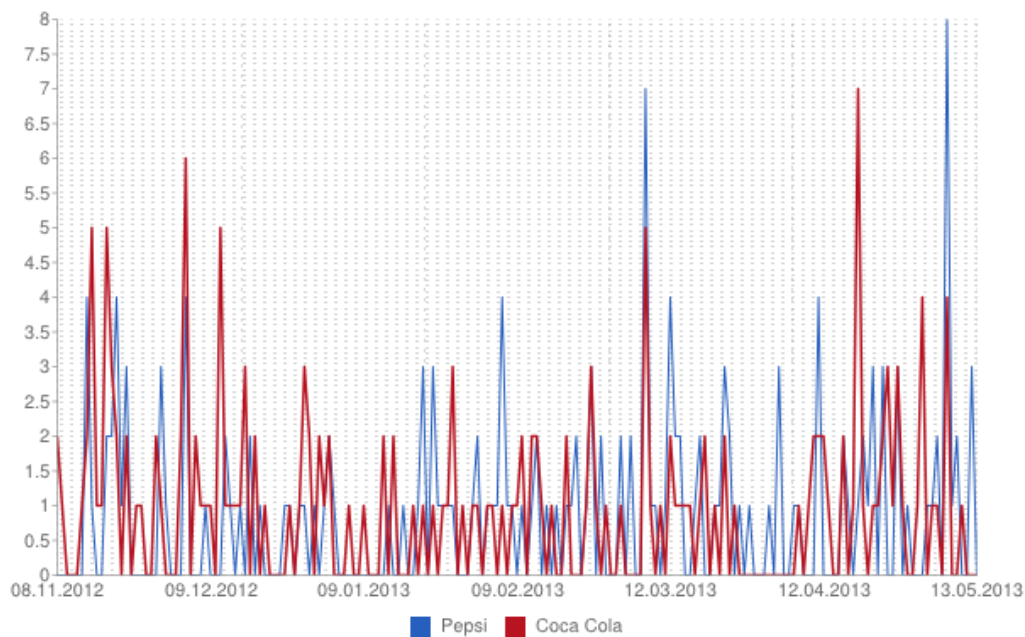
The analysis also shows that regarding the number of mentions on blogs, Coca-Cola had a significantly better position than Pepsi, with a peak of 14 mentions compared with a maximum of 9 mentions for Pepsi (Fig. 2).



Source: Vlad, A., 2013.

Regarding the number of mentions on forums, Coca-Cola was ranked the second since Pepsi managed to obtain a higher value for this indicator (Fig. 3).

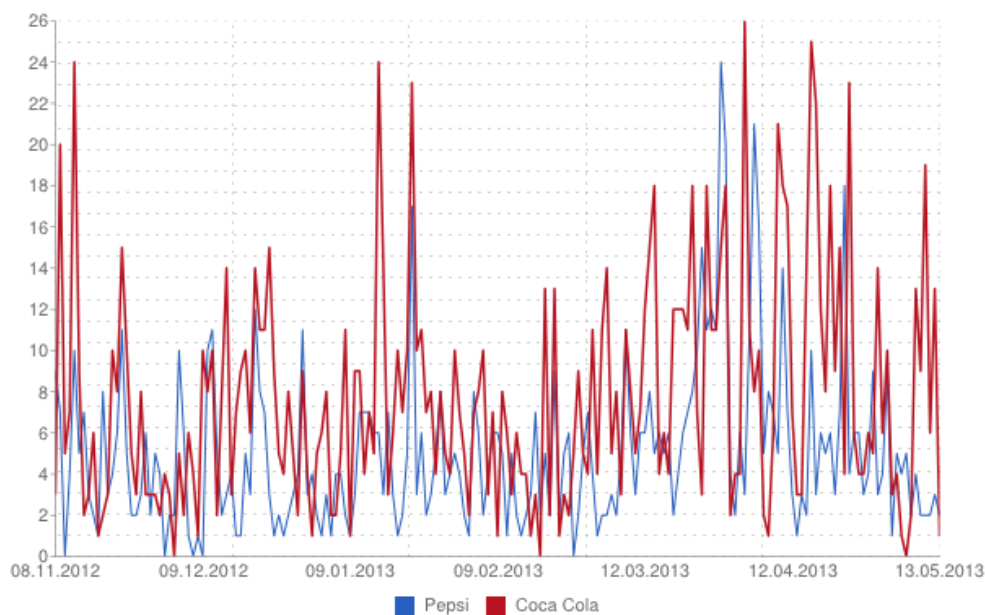
Fig. 3: The number of mentions on forums



Source: Vlad, A., 2013.

The total number of mentions on Facebook and Twitter shows a better activity for Coca-Cola compared with Pepsi during each of the six analyzed months (Fig. 4).

Fig. 4: The number of mentions on Facebook and Twitter



Source: Vlad, A., 2013.

4. Conclusions

The main aspect to be highlighted is that the most successful campaigns integrate multiple communication channels, both online and offline.

Even if social media tools have increased in popularity, they are still not sufficient to ensure the visibility required by a strong branding campaign. But with the help of social media, the branding

campaigns can benefit from other important and unique advantages such as an increased interactivity and creativity, a large audience and rapid feedback.

The companies need to understand that attracting consumers and engaging them in online brand communities can expand the brand's audience and therefore increase the brand awareness and also improve the brand credibility depending on the type of submitted messages and conversations. Also it is important to remember that in social media "authenticity and transparency are even more important than consistency of the brand message" (Macy & Thompson, 2011, p. 40).

The effect of social media on brands should be seen as a positive one, and creating an online presence for the brand should become a part of the communication strategy in order to sustain the long-lasting customer relationship.

More than ever, social media marketing must be viewed as "a business management function that contributes to the bottom line" because the companies using it can "generate sustainable, profitable growth and will end up winners in the globally connected world" (Macy & Thompson, 2011).

A further research work should include a more detailed analysis of more branding campaigns and should also concentrate over the impact of each specific social media platform on the consumers' level of engagement with the brand.

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Trans-boarding the Doctrinal Phenomenon within the Management Sciences towards a Creative Dimension

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Abstract

The changes generated by the doctrinal phenomenon belonging to the management sciences within the economic dimension mark an evolutionary scale of the industry. The birth of a creative side of the global industries has generated an assembly of multidisciplinary framed phenomenon. This paper aims to highlight these issues and to describe a different point of view of this environment that is being characterized by an ascending innovation trend.

Keywords: *doctrinal phenomenon, creative industries, social and economic environment, human resources, global evolution, management sciences.*

1. Introduction

The emergence of new industries, tightly bounded into the economy, entails the need of describing the phenomenon that aided the creation and ensures the continuously expansion of these industries. In the content of this paper we will present the mechanism that created the trans-boarding action of doctrinal phenomenon within the management sciences area, describing the phenomenon that initially generates specific changes and afterwards prolong their effect at a general level.

The described hypothesis and also the issued conclusions represent the result of studying the social and economic environment in which the theoretical and practical demarches have suggested the highlighting of this point of view. The creative dimension of the concept appeared throughout the economic and social changes at a global level are presented as “mutations of concept relocations” (Stefan-Duicu V. M. & Stefan-Duicu, A., 2013) [1].

2 General Considerations Regarding the Doctrinal Phenomenon

2.1 The doctrines – archetypal structures

Whether we approach the social, religious or even political structures, the doctrines represent a defining feature, namely the archetypal character built from the point of origin, element by element.

The doctrines engage a complex cultural mechanism consisting of a plentitude of resources.

Within these resources there are found the developing environment of theoretical ideologies, material resources, financial, intellectual and not the least, the central feature that coordinates the doctrinal core – the human.

The human resources within the enterprises, used in proper conditions can develop into true resources with a high level of creativity (McGregor, 1957) [2].

Humans, regarded as founders and leaders of doctrinal phenomenon are located in an area with significant influence and undeniable contribute to the global evolution of the environments over which the doctrinal phenomenon act at certain times.

Fig. 1 Human Resources – global resources (created by authors)

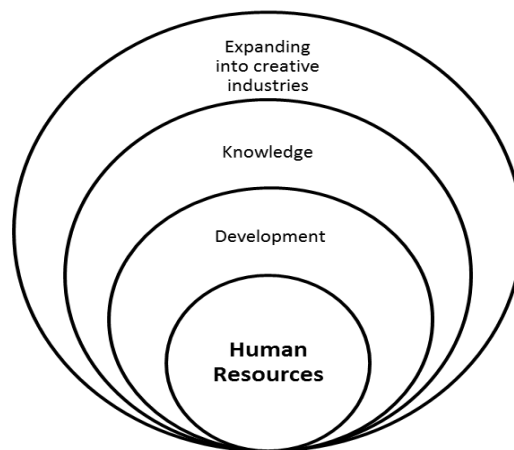
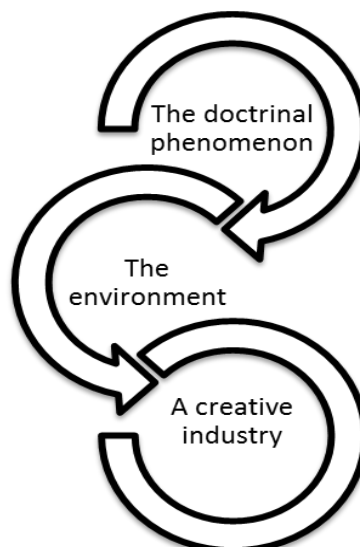


Fig. 2 The representation of the creative industries (created by authors)



2.2 The perception of doctrinal phenomenon

Doctrinal phenomenon is that phenomenon that occurs as a result of extrapolating the doctrines in a certain area generating a reconsideration of the environment within a new shape.

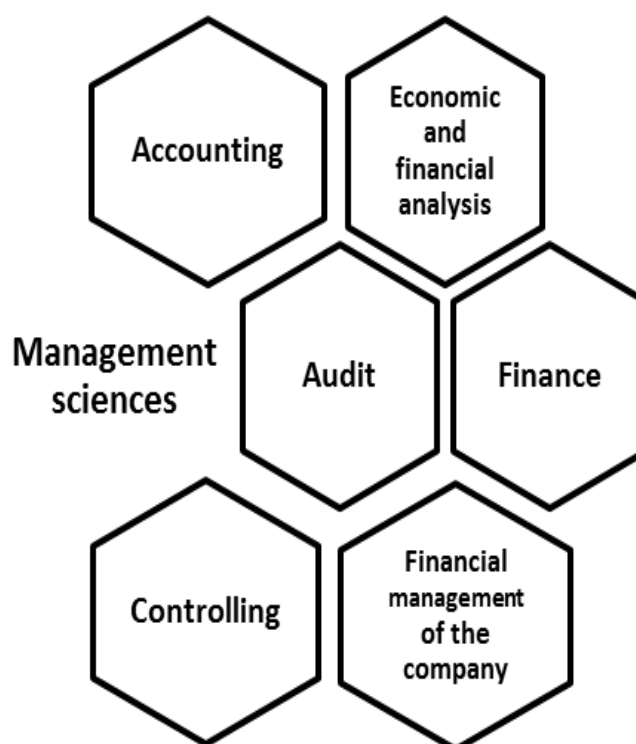
These phenomena possess a complex methodological corpus and a high degree of cohesion when the results of braiding the phenomena with the environment on which it acts is positive.

The nature of the doctrinal phenomena is established taking into consideration a certain point of view and require a theorization and time and space positioning of the element's trans-boarding as well as the dimension that it incorporates.

3. The Doctrinal Phenomena Reported to Management Sciences

3.1. Framing the management sciences

Fig. 3 The components of Management Sciences (created by authors)



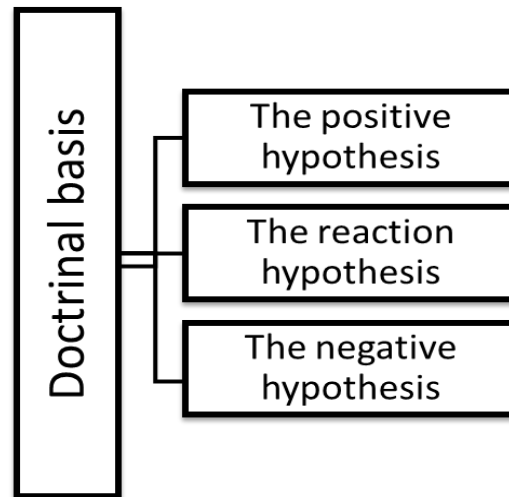
The management sciences mark a multitude of sciences, disciplines and practices among which there are found accounting, economic and financial analysis, audit, financial management of the company, controlling, strategic management, etc.

A brief radiology of this board of subjects highlights a series of conceptual elements: some common, some adapted to the expressed point of view. These elements refer to a doctrinal core for every discipline, for example the financial statements are positioned as a doctrinal fixed typology, the improvement of a preexisting set of indicators, depending on the intended purpose (Godelier, 1998) [3].

The objects on which the focus is on are similar and the conjuncture in which it evolves defines the constructive character of the society we live in.

4. Scenarios of Doctrinal Phenomenon Affecting the Economic Dimension

Fig. 4 Scenarios regarding the impact of conceptual trans-boarding phenomenon (created by authors)



4.1 The emergence of new industries – the positive hypothesis

At the time a phenomenon that incorporates concepts and instruments specific to management sciences (accounting, financial management of the company, financial and economic analysis, audit, controlling, etc.) is transposed over an existing domain, the creation of a singular, creative framework takes place. The existence of this creative framework can be found under many forms:

Material form (e.g. the adjusted forms of financial statement, standardized in time, computing software upgrades);

Financial form (the enhance of trading instruments, payment methods);

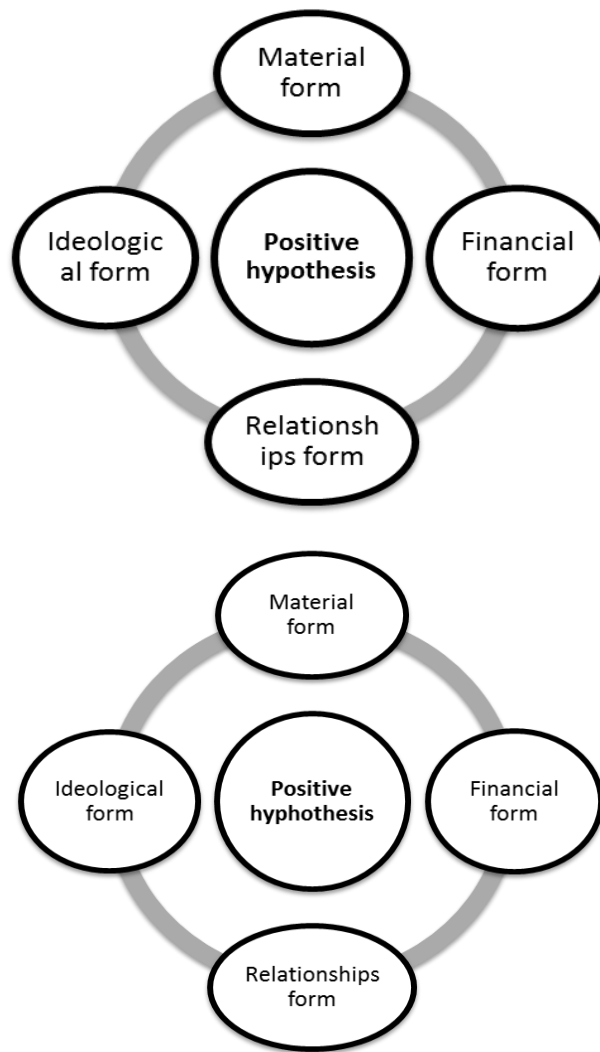
Relationship form (when the apparition of new concepts enriches the communication between employees);

Ideological form (in situations when the conceptual corpus of the trans-boarding phenomenon has a fundament with accelerated expansion features).

The creative industries incorporate substantial elements of artistic and creative endeavor and represent a matter that rises permanent questioning regarding its global expansion (Caves, 2000) [4].

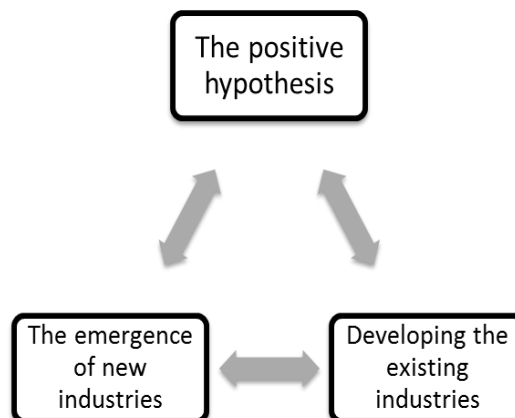
The newly emerged reality represents only a statutory posture of concepts in time while the society's trend of development is high and the trans-boarding of phenomenon can succeed and shift permanently.

Fig. 5 The representation of the positive theory in cyclical terms (created by authors)



The creativity equips multiple forms, starting from the studying of innovation at an individual level to new characteristics of private organizational processes as an assembly of individuals therefore an assembly of creative structures brought together (Bilton, 2007) [5].

Fig. 6 The positive hypothesis of a trans-boarding phenomenon (created by authors)



4.2 Probing the trans-boarding of phenomenon – the hypothesis of reaction

This hypothesis arises at the time the concept's trans-boarding phenomenon is not directly embraced but questioned and doubted.

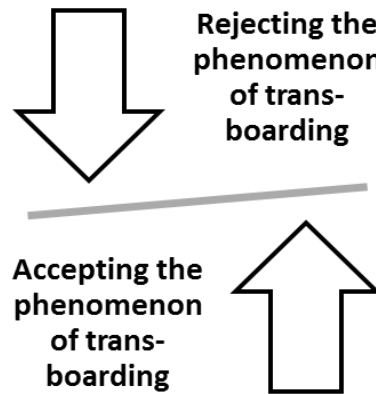
This hypothesis is activated when the concepts that intervened in the process are not exactly bounded and do not have utility and an easy foreseeable purpose.

The finality of this hypothesis imposes two possible reactions:

The admittance of the trans-boarding phenomenon into a beneficial posture to the economic society and previously in a positive stage of adaptation;

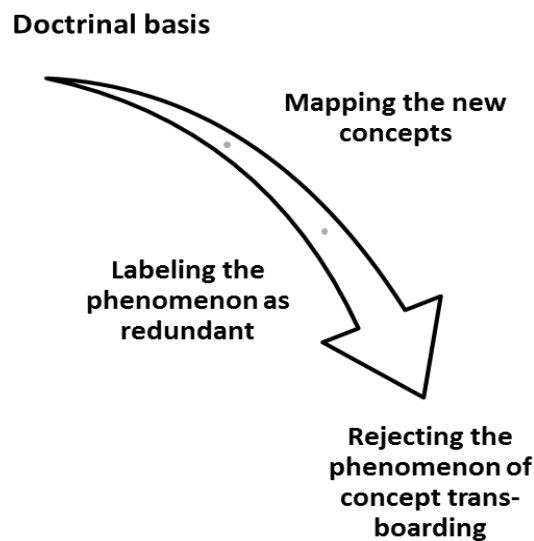
The rejection of the phenomenon of trans-boarding and the removal of the demarches taken by then.

Fig. 7 The hypothesis of reaction in the neutral point of conceptual activation (created by authors)



4.3 The rejection of the phenomenon of trans-boarding – the negative hypothesis

Fig. 8 The negative hypothesis – an answer of doubtful character (created by authors)



The phenomenon of trans-boarding in the negative hypothesis represents an unrealistic model of the concepts depicted.

The rejection of the phenomenon of trans-boarding is referring to decline the entry in the economic space of any kind of borrowed mechanism with the motivation that this trans-boarding is being considered either harmful, redundant, or its purpose not being practical.

Through the negative hypothesis any residual trace of the concepts proposed within the phenomenon of trans-boarding are being removed and at this point a self-regulating phenomenon of the specified environment is being reached.

5. Conclusions

The global economic vision combines elements that have as basis a multitude of sciences and practices that have been progressively created, borrowing and transforming concepts, ideas and factors accordingly to the existing conjectural features.

A great development of industries with a high character of novelty is positioning the people in the key point of starting all scientific demarches.

The phenomenon of doctrinal trans-boarding represents a result of the dynamism of the social and economic development and not the least, these phenomenon are extending on a large area of domains.

The emergence of such a phenomenon is essentially due to the capitalization of scientific research and encouraging the human collective towards reaching new knowledge and new work environment.

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Three Types of Accounting Policies Reflected in Financial Statements. Case Study for Romania

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Abstract

The objective of financial statements is to give a true and fair view of financial position and of the performance, a true and fair view which will be useful for a wide range of users to take economic decisions. Accounting policies choice involves setting options that generate the best financial and accounting information. The best information must be in agreement with the most accurate image of financial position, performance and changes in financial position and performance. The present paper intends to present three different accounting policies used for the same situations and the results of their implementation. Starting question is: which of the results are the true and fair view?

Keywords: *accounting policies, true and fair view, depreciation, taxation, maximize profit, aggressive behaviour, conservative behaviour.*

1. Introduction

The accounting truth - between to be or not to be

Freedom to choice accounting policies by companies represents one of the barriers to compliance the objective. This enables us to ask how relevant is accounting information reflected on the financial position or financial performance?

Truth offered by accounting can only be the result of a compromise between the expectations and requirements, and for manufacturers, a relationship between sincerity and regularity (respecting the principles and fundamental rules, so the financial policies).

Our pleading about the accountant truth influenced by accounting policies approved by an economic entity actually refers to that truth built with sincerity. We do not intend to emphasize irregularities, behind which are hidden interests, which deteriorates the image reflected by the financial statements, materialized in manipulation of the result that has a fraudulent nature.

„There is only one accounting truth?” The answer to this question is, definitely NO, but one answer can be offer by accounting which give to each protagonist to economic and social life the truth that everybody need¹. Starting from this question, our target is to build a study case by using differing accounting policy and to see how is affected the information’s image offered by an economic entity.

¹ Caprou M. – Contabilitatea în perspective, Ed. Humanitas, București, 1994, pg. 157

2. Three accounting policies with different objectives

In our approach to demonstrate that a fact (in our case the image of the financial position) seen from different people looks different without being able to say that someone distorts the truth, we improvised three sets of accounting policies.

First set of accounting policies will aim to maximize profit. Therefore the entity will have an aggressive behaviour that involves selecting accounting policies that include rules that lead to lower costs in the income statements (can not influence the revenue because they have strict rules of recognition: the registration of revenue can neither be brought forward or deferred).

The second set of accounting policies will be subordinated to a strategy targeting conservative behaviour, with the aim of capital maintenance by minimizing costs, starting from the fact that business must be conceived in light of future business and businessman's responsibility is not only profit but also stability of the economic entity. It must be respect the principle of business continuity, and business development too.

Another set of accounting policies will be based on no strategy; will fit into compliance with accounting rules but knowing that the tax rules do not contradict the accounting, tax rules prevail to the detriment of accounts.

The first set of accounting policy aims to minimize costs. In this regard, taking into account:

- Inclusion of formation expenses on intangible assets, in which case the company may immobilize expenses and as a result of this choice recovery will be made through depreciation, the depreciation period is 5 years;
- Recognition of development costs when they are still in the research phase, because the criteria for recognition of the development phase leaves room for subjectivity and interpretations;
- Establishment of large economic life of tangible and therefore their depreciation over a period as long, returning a reduced depreciation expense in the income statement;
- Choice of straight-line depreciation method;
- If the subsequent expenses related to fixed assets are at the limits between change and maintain performance, they will be recognized as a component of current assets;
- Elements which have an input value less than the limit established by legislation in the field (1,800 u.m.) will be recognized as a component of current assets and amortized over a longer period of time;
- Interest on financing the acquisition or construction of qualifying assets will be capitalized; respectively it shall be entered on their value.
- Choice of output costing inventory method first in - first out (FIFO), which will ensure lower costs;
- Evaluating to the inventory reflected on the balance sheet will consider recording some small adjustments or they really will be missed.

The second set of accounting policies has as strategy a conservative behaviour in order to maintain equity and who choose to accounting policies aimed at:

- Inclusion of formation expenses in period expenses in which they were incurred;
- Research costs are recognized as an expense when incurred, if it can not distinguish the research phase and the development of an internal project to create an intangible asset, the entity treats the expenses on that project as would be determined only the research phase;
- Search for the optimal duration of use of tangible assets, by correlating rigorous as technical point of view the economic lifetime during which depreciation is calculated with the use of tangible effective, can be taken as a reference life economic use for tax purposes;
- Choice of valuation method last in - first out (LIFO) or weighted average cost method (VAC) to calculate the cost of inventories, these methods lead to more balanced costs;
- Registration of interest expense related to qualifying assets in the income statement of the period;
- Establishing clear technical criteria against which Subsequent expenses performed with tangible are classified in period expenses or increase the value of tangible assets;
- Periodic revaluation of tangible assets leading to higher depreciation expenses;
- Recording of adjustments for depreciation.

The third set of accounting policies will be based on no strategy; will be choice to do not differ from tax policies. They aimed to minimizing income tax.

Between possibilities of using tax treatments and methods so that the entity will obtain a corporation tax minimization through its delay time, are:

- as regards assessment of inputs , the entity will act so part of the expenses that might be find in the input value (acquisition cost or production cost) to be treated as expenses of the period, thus enjoying for a immediate and full deductibility.
- Legal regulations allow the use of three regimens for asset depreciation. Economic entity has a choice between a faster or slower recovery of amounts invested in fixed assets. From a tax perspective is favourable depreciation method that defers tax burden, that the method allows the faster recovery in the value of fixed assets depreciation. Digressive and accelerated depreciation schemes serve the objectives of fiscal management: the early years, depreciation expense is higher, so the profit tax and the tax is lower, while the last part of the normal operation, the depreciation is less and pays more tax.
- output Evaluating of interchangeable elements may be made by several methods, fiscal interest recommend the method that allows the largest cost, LIFO or VAC respectively. In terms of inflation, such an approach is better and because of its financial implications.

2.1 Presentation elements and financial and economic operations that are significant for this study

In the application that we present will use information from the balance sheet, the income statement from the year N, and information about some of the financial and economic operations that make the difference between the three policies analyzed.

In this sense, the information regarding the balance sheet and financial and economic operations of interest to our study are reflected in Table 1:

		u.m.
No	Elements / financial and economic operations	Value
1.	In February of year N have incurred expenses in connection with the amendment of the entity formation expenses.	12.000
2.	In November-December year N were performed research and development expenses for that criteria for recognition as assets is not very clear.	45.300
3.	The company owns a building with a book value of	550.000
4.	The building is depreciated for (remaining period for depreciation is 15 years, and the method is linear)	320.000
5.	In December of year N, is renovating the building	37.000
6.	In December N - 1 purchased furniture	60.000
7.	He holds a means of transport carrying amount of	70.000
8.	Useful life means of transport is 5 years and is amortized for	56.000
9.	The company has tangible in progress qualifying assets	88.000
10.	Interest on loans to obtain production of qualifying assets	10.000
11.	In December of year N, purchase an iron	1.700
12.	Initial stock of goods to which have been added during the inputs of the year	126.000
13.	Other stocks - balance at end	140.000
14.	Other assets	240.000
15.	Total debt of the company at the end of N	593.000

The entity's revenue in year N is 1.850.000 u.m. and expenses 1.326.000 u.m., deductible at all. That not includes depreciation costs for the furniture and other expenses that result from the detailed dates.

For evaluating the output of stocks we will use the example given for the presentation of the three assessment methods. In the case presented goods expenses depending on the method used were:

- 111 126 u.m. using the VAC method;
- 111,000 u.m. using FIFO;
- 112,000 u.m. using LIFO.

A series of operations is performed or not, based on the policy adopted.

Thus, under **the first set of accounting policies**:

- Formation expenses, which are recognized as intangible assets arising will be depreciated in a period of five years, the depreciation for the year N will be: $12.000 \text{ um} / (5 \text{ years} * 12 \text{ months}) \times 10 \text{ months} = 2.000 \text{ u.m.}$;
- For furniture purchased in December year N - 1 will be chosen linear depreciation method, and normal period of use will be 10 years. Amortization for the year N will be: $60.000 \text{ um} / 10 \text{ years} = 6000 \text{ u.m.} / \text{Year}$;
- for stock assessments at the output will choose FIFO valuation method.

In compliance with **the second set of policies** will do so:

- Depreciation method chosen for the furniture will be accelerated and the useful life is 5 years. Depreciation for the year N will be: $60.000 \text{ u.m} \times 50\% = 30.000. \text{ u.m.}$;

- for stock assessments at the output will use the LIFO method of valuation;
- It will revalue the building; its fair value is 250,000 um;
- The evaluation at the end of the year find a depreciation of the vehicle, its market value is 10,000 um and other stocks 115,000 um. So they recorded depreciation too.

The third set of accounting policies are aligned with tax stipulations, but will follow the decrease in the short term of the income tax, so it will tend to higher expenses in fiscal limits.

- Depreciation methods allowed for furnishings are: the linear method and the digressive. We will pick digressive method. The catalogue of the useful life for depreciable fixed assets requires choosing a depreciation period between 7 and 9 years. Depreciation chosen is 7 years and for year N: $(60.000 \text{ um} / 7) \times 2 = 17.143 \text{ um}$;
- for stock assessments at the output will use the LIFO method.

2.2 The behaviour dictated by each set of policies and their effects on the balance sheet and the income statement. Each policy with its own truth

As a result of applying the **first set of policies** will be observed:

a) Effects on balance sheet

- Formation expenses will be recognized in the company's assets at cost, less accumulated depreciation: $12000 - 2000 = 10,000 \text{ um}$;
- The company will recognize development expenditure in the structure of intangible assets, the likelihood of future economic benefits does not have a quite large degree of certainty, but the company decides that it can recognize them as an asset;
- The building that the company owns has been renovated in December year N, because since it is deemed higher economic benefit after renovation (this is not exactly verifiable) decided to incorporate renovating costs into the cost of the building, so it will be reflected in the balance sheet at the value of: $550000 - 320000 + 37,000 = 267,000 \text{ um}$;
- The book value of furniture is $60000 - 6000 = 54,000 \text{ um}$;
- As often happens in practice, we considered that the inventory value of goods under assessment is equal to their carrying amount;
- For the qualifying assets, was chosen capitalization of interest for the related loans. Tangible assets in progress: $88,000 + 10,000 = 98,000 \text{ um}$;
- The iron will be recognized in tangible, even if its value is less than 2.500 um, in accordance with the accounting policy choice;
- Merchandise was assessed using the FIFO method, the cost of which is 111,000 um, at the end of N's stock value is: $126000 - 111000 = 15000 \text{ um}$;
- Debts were not affected by the policy adopted;
- Equity was modified through income statement.

b) impact on the income statement:

- Depreciation expense in the amount of 6.000 um;
- Merchandise costs 111,000 u.m.

Following the implementation of the **second set of policies** will occur:

a) Effects on the balance sheet

- The book value of the building $550000 - 320000 = 230,000$ um, are revalued at fair value 250. 000 um, is the value at which it will be presented in the balance sheet equity also increased by 20,000 um;
- Furniture purchased in December N - 1 will be reflected in balance sheet at value: $60000 - 30000 = 30,000$ um;
- The vehicle has a book value of $70000 - 56000 = 14,000$ um. The inventory value is 10,000 um, will be recognized depreciation of 4,000 um, so the balance sheet value of the vehicle will be $70000 - 56000 - 4000 = 10,000$ um;
- Tangible assets in progress are recorded at production cost does not include borrowing costs;
- Iron is recognized as inventory objects, and will be given by consumption;
- Merchandise was evaluated using the LIFO method, cost of which is 112,000 um, at the end of N merchandise value is: $126000 - 112000 = 14.000$ um;
- Other stocks are carrying amount of 140,000 um, and net realizable value resulting from inventory is 115,000 um, an adjustment for depreciation is recognized in the amount of 25,000 um, the carrying amount of those inventories is $140000 - 25000 = 115,000$;
- Debts were not affected by the policy adopted;
- Equity was modified through income statement and the increase of revaluation reserve with 10,000 um.

b) Impact on the income statement:

- Formation expenses will be recognized as period costs;
- Will be considered can not distinguish the research phase and the development of internal project to create an intangible asset and should be treated as expenses would be determined only by research phase. Costs will be recognized in the period;
- Building renovation costs will be recognized in the costs of the period, considering that they were made in order to maintain the economic benefits from building;
- Depreciation of furniture 30,000 um;
- Spending on vehicle depreciation 4,000 um to which are added those for depreciation of other stocks in the amount of 25,000 um;

- Interest expense 10,000 um;
- Expenses for inventory objects (iron) 1700 um;
- Merchandise costs (LIFO method) 112,000 um.

The third set of accounting policies imply recognition of the following changes:
a) on the balance sheet:

- Because formation expenses are not amortized in fiscal terms, they will be recognized as period costs;
- To recognize the costs of renovation - renovation will opt for their recognition in the cost of building: $550000 - 320000 + 37,000 = 267,000$ um;
- Furniture will be recognized at book value less accumulated depreciation: $60000 - 17143 = 42.857$ um;
- The vehicle will be recognized in the balance sheet at book value: $70000 - 56000 = 14,000$ um Will not be recognized depreciation adjustments;
- Tangible assets in progress will be recognized at production cost without comprise interest expense;
- The iron purchased is recognized as inventory and give in the consumption;
- Merchandise was evaluated using the LIFO method, cost of which is 112,000 um. At the end of N stock value is: $126000 - 112000 = 14000$ um.

b) on the income statement account:

- Formation expenses will be recognized as period costs;
- The costs of research - development will be recognized as period costs;
- Depreciation of furniture 17.143 um, as have been calculated in the presentation of the case;
- Merchandise costs are valued at 112,000, when applying LIFO;
- Interest on loans for assets with long manufacturing cycle costs will be considered in the period;
- Iron was recognized in inventory group and put into service: expense 1,700 um.

The results of the three types of policies are reflected in the balance sheet and the extract of the income statement which we present below:

Table 2: Extract of Balance Sheet

- u.m. -

Elements	Value		
	First policy	Second policy	Third policy
Formation expenses	10.000	-	-
Development expenses	45.300	-	-
Building	267.000	250.000	267.000
Furniture	54.000	30.000	42.857
Vehicle	14.000	10.000	14.000
Tangible assets in progress	98.000	88.000	88.000
Iron – tangible assets	1.700	-	-

Merchandise	15.000	14.000	14.000
Other stocks	140.000	115.000	140.000
Other assets	240.000	240.000	240.000
TOTAL ASSETS	885.000	747.000	805.857
LIABILITY	593.000	593.000	593.000
EQUITY (Assets – liability)	292.000	154.000	212.587

Table 3: Extract from Income Statement

- u.m. -

Elements		Value	
Before applying studied accounting policies			
Total revenue	1.850.000		
Expenses	1.326.000		
Income	524.000		
After applying studied accounting policies	First policy	Second policy	Third policy
Amortization costs	8.000	30.000	17.143
Merchandise costs	111.000	112.000	112.000
Set up expenses	-	12.000	12.000
Research expenses	-	45.300	45.300
Building repair expenses	-	37.000	-
Depreciation costs	-	29.000	-
Interest expenses	-	10.000	10.000
Inventory costs	-	1.700	1.700
Total expenses resulting from the application of policies	119.000	276.700	198.143
Result	405.000	247.300	325.857

Maybe we forced a little the note by recognizing development costs, in the study composed, although our aim was to show how can change the image of the accounting reports according to accounting policies. We did not intend to break the rules for this.

Thus, highlighted true and fair view and accountant truth reflected through the three different policies. It can be said that any of the three situations do not present fairly, that one of them did something wrong? What is the accountant truth?

For the first situation total value from assets is **885,000 um**, for the second the value of the total assets is **747,000 um** and in the third situation total assets are **805 857 um**.

Accounting policies do not affect debts, as happened in the case presented. These could be affected by provisioning, representing a special category of debt. However, they are presented separately in the balance sheet.

Instead, as a consequence of those assets has taken different values, the structure that was affected is equity by changing the result, which is actually the target in choosing accounting policies.

In this sense, the result was changed by the different value of the expenses related the operations whose recognition in based on policies. Thus:

By applying the first set of policies the expenses was 117,000 um

By applying the policy number two expenses was 276.700 um

And in the third case the expenses level was 198.143 um

But the application of one or other of accounting treatments permitted, namely the adoption of different accounting policies, have snowball effect on the financial statements: changing an element entail the amendment of others.

Thus, as we have seen, when applying different policies, assets are changed. This draws changing in expenses too, change that results in a different profit (result), so a different tax. Changing the value of profit leads to change the default value of dividends and dividend tax.

All these will cause those interested to adopt an accounting policy or another, depending on individual interests and certainly not to the presentation a true and fair view of the business.

Therefore in our example, different values of expenses have led to a different result. Thus:

In the first case the result was **405.000 u.m.;**

In second case **247.300 u.m.;**

In the third the result was **325.857 u.m..**

It can be seen that as a result of the use of aggressive policy centred on maximizing profit, compared with conservative accounting policies that converge to maintain equity, differences in the result can be very large.

2.3 Reflection of accounting policies on next year's costs

The costs that have been maximized or, conversely, minimized in year N will have an effect on future periods, they will increase or decrease costs. Be mentioned that in the coming years will be influenced only depreciation expenses.

Thus, we imagine that, hypothetically, in the following year the revenues and expenditures remain at the level of N. We will not take into account the depreciation of the vehicle and building only to the extent that suffered changes resulting from actions year N. Merchandise items, other stocks and other assets remain unchanged.

We will obtain, from these suppositions, the following information about how was influenced year N +1 by economic and financial operations analyzed:

For **the first set of accounting policies** reflection of operations of N will be:
- Formation expenses are reflected in the balance sheet at 7.600 um respectively net carrying amount at the beginning of the year (10,000 um) less accumulated depreciation during the year (2,400 um);

Development costs will be amortized over a period of four years: $43,500 \text{ um} / 4 \text{ years} = 10,875 \text{ um} / \text{year}$, they will have in the balance sheet the value of 32 625 um;

For the building we will consider only the value corresponding amortization increased due to renovation: $32\,000 \text{ um} / 15 \text{ years} = 2133 \text{ u.m.} / \text{Year}$. Book value of the building will be 264 867 um;

Net book value of furniture at the end of N + 1 is 48,000 um (U.m. 60,000 - 12,000 u.m.);

Tangible assets in progress will be tangible assets after their nature amortized in ten years, we shall analyze the related depreciation of interest, which is what brings differences: $10.000 \text{ um} / 10 \text{ years} = 1000 \text{ u.m.} / \text{Year}$;

The iron is depreciated in a period of three years: $1.700 \text{ um} / 3 \text{ years} = 567 \text{ u.m.}$.

Considering debt levels remained unchanged, simplified balance sheet in year N + 1 will be:

Table 4: Extract of Balance Sheet - year N + 1, the first set of accounting policy

Elements	Values	
	Year N	Year N + 1
Formation expenses	10.000	7.600
Development expenses	45.300	32.625
Building	267.000	264. 867
Furniture	54.000	48.000
Vehicle	14.000	14.000
Tangible assets in progress	98.000	97.000
Iron – tangible assets	1.700	1.133
Merchandise	15.000	15.000
Other stocks	140.000	140.000
Other assets	240.000	240.000
TOTAL ASSETS	885.000	860.225
LIABILITY	593.000	593.000
EQUITY (Assets – liability)	292.000	267.225

Depreciation costs in year N + 1:

- 2.400 u.m. amortization for Formation expenses;
- 10.875 u.m. amortization for Development;
- 2.133 u.m. amortization for renovation of the building;
- 6.000 u.m. amortization for furniture;
- 1.000 u.m. amortization for interest rate included in cost of the asset;
- 567 u.m. amortization for iron;

Total depreciation costs: 22.975 u.m.

In the case of the **second set of accounting policy**, in Year N + 1 will be influenced expenses:

- For furniture depreciation value is: $30.000 \text{ u.m.} / 9 \text{ years} = 3.333 \text{ u.m.}$;

- Vehicle depreciation is less with: 4.000 um, by comparing if would not have recognized its depreciation in last year.

Total depreciation costs = $3.333 - 4.000 = - 667 \text{ u.m.}$

Its net book value at the end of year N + 1 = $30.000 - 3.333 = 26.667 \text{ u.m.}$.

Table 5: Extract of Balance Sheet – year N + 1, policy no. 2

- u.m. -

Elements	Values	
	Year N	Year N + 1
Formation expenses	-	-
Development expenses	-	-
Building	250.000	250.000
Furniture	30.000	26.667
Vehicle	10.000	10.000
Tangible assets in progress	88.000	88.000
Iron – tangible assets	-	-
Merchandise	14.000	14.000
Other stocks	115.000	115.000
Other assets	240.000	240.000
TOTAL ASSETS	747.000	743.667
LIABILITY	593.000	593.000
EQUITY (Assets – liability)	154.000	150.667

For the third accounting policy:

- For building, will take into account only that part of depreciation corresponding increase in value due to renovation: $32.000 \text{ u.m.} / 15 \text{ years} = 2.133 \text{ u.m.} / \text{year}$; book value of the building will be 264.867 u.m.;
- For furniture, the depreciation will be: $42.857 \text{ u.m.} / (7 \text{ years} - 1 \text{ year}) = 7.143 \text{ u.m.} \times 2 = 14.286 \text{ u.m.}$; (linear depreciation would be value 8.571 u.m./year) will still apply degressive depreciation and book value of the building will be. $42.857 \text{ u.m.} - 14.286 \text{ u.m.} = 28.571 \text{ u.m.}$.

Table 6: Extract of Balance Sheet, policy no. 3

Elements	- u.m. - Values	
	Year N	Year N + 1
Formation expenses	-	-
Development expenses	-	-
Building	267.000	264.867
Furniture	42.857	28.571
Vehicle	14.000	14.000
Tangible assets in progress	88.000	88.000
Iron – tangible assets	-	-
Merchandise	14.000	14.000
Other stocks	140.000	140.000
Other assets	240.000	240.000
TOTAL ASSETS	805.857	789.438
LIABILITY	593.000	593.000
EQUITY (Assets – liability)	212.587	196.438

The expenses have value: $2.133 + 14.286 = 16.419 \text{ u.m.}$

Table 7: Extract from Income Statement year N + 1

Extract from Income Statement, year 1992			
Elements	Values		
Before applying studied accounting policies			
Total revenue	1.850.000		
Expenses	1.326.000		
Income	524.000		
After applying studied accounting policies	First policy	Second policy	Third policy
Amortization costs	22.975	- 667	16.419
Result	501.025	524.667	507.581

Table 8: Extract from Income Statement year N

- u.m. -			
Total expenses resulting from the application of policies	117.000	276.700	198.143
Result	405.000	247.300	325.857

As it seen from the above, a policy that aims to reduce expenses, actually delay them and defer these expenses to the next exercise. If in N, expenses that were recognized as a due to policy of maximizing the result took the lowest value, respectively 117 000 um, in year N + 1 the costs of analyzed operations had the highest value, 22 975 um as compared to the other two cases.

If the profit earned was not distributed to owners, this behaviour is beneficial to society as delaying practically income tax, provides superior financing.

But, as we know, most times, the profit is distributed mostly owners, this behaviour having a negative impact on society in the long term.

By the second type of accounting policies has been assigned to the exercise N a high volume of expenses, respectively 276 200 um, taking even a part of the expenses in the year $N + 1$ by recognizing vehicle depreciation.

The third set of accounting policy has had a moderate impact on the outcome of N, 198.143 um, well and load on the year $N + 1$ is the average: 16 149 um.

Each of the presented policy was deliberately chosen as opting for extreme treatments, so the impact is quite visible one. In practice can be encountered a large number of combinations on treatments allowed, depending on the interest and how each understands to present a true and fair view of the entity they represent.

4. Conclusions

The main goal of our study is to make relevant differences between images obtained due to the application of different policies. For this reason we have chosen very different accounting treatments for the chosen policies. The three policies were applied to the same set of financial statements and have proposed the same financial and economic operations in accordance with the three sets of accounting policies.

The result was as expected. In year N, the one which was studied, there have been obtained values of assets and expenditure in accordance with the proposed objective when selecting accounting policies.

Whatever the impact that the accounting policies have on the future exercises, the necessity of assurance of continuity and consistency in the application of accounting policies has to be taken into consideration. This is necessary for the financial statements to provide information necessary for decision making that can be comparable over time to identify trends in its financial position and the actual performance of the entity.

Since the accounting policies and rules offer several treatments to resolve those problems inevitably arise some distortion in the relevance of accounting information and the differences between the obtained results, as we demonstrated in our study.

As seen from the mentioned is relevant that the accounting policies affect the result and there should be a guarantee that the entity did not proceed to accounting manipulations in order to increase profits. Such a situation of things is enhanced if commercial companies are required audited financial statements.

In an economy disconnected from taxation accounting policies can easily satisfy a real and concrete assurance, which through the certification can be credible to all users, and according to the fundamental purpose of accounting, can satisfy the need for truth.

For the purposes to those shown, we can say that accounting policies are permissive and relative. It raises the question of the objectivity of accounting and consequently, of true and fair view of financial position, result and changes in financial position.

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Testing the Convergence Hypothesis in the European Union

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Abstract

The main objective of this study is to measure the degree of convergence in European Union-28 (EU-28) in the period from 1995 to 2012. The catch-up rates diminished for many countries in the period from 2008 to 2012, because of the negative effect of economic crisis, when the disparities among countries were larger. Three statistical tests were applied for the entire period and for the two sub-periods (1995-2007 and 2008-2012). All the statistics (T_1 , T_2 , and T_3) values have indicated the existence of divergence in the EU-28 between the levels of GDP/capita in PPS. However, during the each analysed period there is an obvious decrease of the variance in the last period compared to the first period.

Keywords: convergence, catch-up rate, GDP per capita, European Union.

1. Introduction

There are many statistical indicators used to assess the degree of economic convergence for more regions or countries. In this article, we are not interested in the classical measures used to evaluate the convergence. We will use the catch-up rate, which is not actually a convergence indicator, but it provides us indirectly important information regarding the degree of convergence. Moreover, the classical statistical indicators coefficient of variation, variance or inequality indicators are not enough to catch the evolution of the convergence process. Therefore, we propose in this article the study of convergence process in European Union in different periods by using the statistical tests.

This paper has several parts. After a brief introduction, a short literature review is made, underlying the latest results regarding the convergence assessment.

The empirical application supposes the computation of catch-up rates for each state of the EU-28 in different periods and the statistical evaluation of convergence process using the tests recognised by literature. A section dedicated to main conclusions was presented in the end.

2. The economic convergence in literature

Sala-i-Martin (1996) presented two classical measures of convergence represented by beta and sigma indicators that can also be used in order to compute the speed for getting convergence. Sigma measure reflects the convergence or divergence tendency and it depends on the value of sample variance. Beta indicator computes the speed for getting the convergence when it has a negative value. Authors like Mankiw, Romer and Weil (1992) and Islam (1995) showed that the economies with a low

initial income will grow faster than the economies with higher initial incomes, using control variables like population growth and saving rate. Quah (1996) and Durlauf (1996) concluded that the transversal growth model is incompatible with the convergence, but consistent with the multiple mechanisms of endogenous growth. Friendman (1992) and Quah (1996) claimed that the real convergence should not be measured using beta indicator. The beta and sigma measures are linked and reciprocal checked. The poor economies tend to have a high speed of increase compared to the rich countries. This observation implies the following facts: the coefficient of variation for GDP/capita decreases in a slow way and there is a negative relation between the rate of GDP/capita and the initial level of this variable.

Azomahou, El ouardighi, Nguyen-Van, and Cuong Pham (2011) proposed a semi-parametric partially linear model to assess the convergence between EU countries, showing that there is no convergence for members with high income. Beyaert and García-Solanes (2014) measured the impact of economic conditions on long-term economic convergence. The convergence in terms of GDP/capita is different from that of the business cycle during 1953-2010. Cuaresma, Havettová and Lábaj (2013) evaluated the income convergence dynamics and they proposed some forecast models for European countries. The authors predicted that the human capital investment will determine income convergence.

Palan and Schmiedeberg (2010) tested the structural convergence in terms of unemployment rate for Western European countries, observing divergence for technology-intensive manufacturing industries. Le Pen (2011) utilized the pair-wise convergence of Pesaran (2007) for the GDP per capita of some European regions.

Crespo-Cuaresma and Fernández-Amador (2013) determined the convergence patterns for European area business cycles. In the middle of 80's there was an obvious business cycle divergence while in '90 the convergence was persistent.

Kutan and Yigit (2009) used a panel data approach for 8 new countries in the EU and they stated that the productivity growth was determined by human capital in the period from 1995 to 2006. Monfort, Cuestas, and Ordóñez (2013) observed two convergence clubs in EU-14 by applying a cluster analysis. Iancu (2009) assessed the real convergence using the sigma approach in EU members considering three groups: EU-10, EU-15 and EU-25, the results showing an increase of the divergence in the period from 1995 to 2006. Mihut and Luțaș (2013) assessed the sigma convergences across the new countries that become member of the EU.

3. Assessing the economic convergence in EU-28

The catch-up rate is used to measure the pace of catching-up more developed regions. Some authors, like Halmai and Vasary (2010), have shown that convergence and catch-up do not express the same concept. The dynamics of the two variables are different, because the convergence shows the degree of progress, while the catch-up indicates the distance to be achieved towards convergence. For GDP growth it is useful to extend the catch-up for narrower residual difference and the convergence will be lower. The catch-up rate is defined as:

$$CR = 100 \cdot \frac{\Delta(y_{i,t} - y_t^*)}{(y_{i,t-1} - y_{t-1}^*)} \quad (1)$$

$y_{i,t}$ —GDP per capita in purchasing power standard (PPS) at time t for country i

y_t^* – average GDP for EU-28 countries

Δ – difference between GDP at time t and GDP at time t-1

The indicator is usually computed for historical actual rates, being used for ex-post analysis of dynamics of catch-up rates.

If we have negative value for catch-up rates, then we can state that the disparities between countries have decreased.

Table 1: Average catch-up rates in EU-28 countries in 1996-2004 and 2005-2013

Country	1996-2004	2005-2013
Belgium	1.87	2.13
Bulgaria	3.24	-0.47
Czech Republic	1.03	0.06
Denmark	1.27	2.10
Germany (until 1990 former territory of the FRG)	7.21	8.61
Estonia	1.36	-2.39
Ireland	18.06	-1.13
Greece	23.76	36.46
Spain	6.15	30.74
France	-0.32	0.49
Croatia	0.94	0.47
Italy	-20.02	-16.69
Cyprus	65.89	42.17
Latvia	-0.65	-2.70
Lithuania	-0.20	-4.22
Luxembourg	2.11	3.60
Hungary	1.87	1.03
Malta	0.45	-1.21
Netherlands	0.59	1.99
Austria	2.24	3.20
Poland	-0.96	-2.67
Portugal	4.09	3.28
Romania	-3.18	-1.24
Slovenia	4.18	5.78
Slovakia	-3.42	-4.74
Finland	1.08	2.40
Sweden	1.17	2.61
United Kingdom	20.22	-11.29

Source: author's calculations

It was observed a decrease of the catch-up rate in the second period compared to the first period for the following countries: Portugal, Bulgaria, Czech Republic, Estonia, Cyprus, Latvia, Lithuania, Hungary, Malta, Poland, Slovakia and Croatia. There are also negative catch-up rates for some countries that become more obvious in the second period where the economic crisis have produced many disturbances. The catch-up rate measures the absolute disparity and it is not the best indicator in this context. In the formula of CR there is an absolute amount. Therefore, a positive sign

of the indicator shows an increase in disparity while the GDP per capita may decrease. The solution for this disadvantage is to compute the difference of GDP per capita in two subsequent years:

$$\Delta GDP_{i,t}^{pc} = \frac{y_{i,t} y_{i,t-1}}{y_t^* y_{t-1}^*} \quad (2)$$

$y_{i,t}$ – GDP per capita in purchasing power standard (PPS) at time t for country i

y_t^* – average GDP for EU-28 countries

In this case the disparity between the countries and the average is diminished for positive values of the difference.

Table 3: Average annual changes of catch-up rates in EU-28 countries in 1996-2004 and 2005-2013

Country	1996-2004	2005-2013
Belgium	1.02	1.42
Bulgaria	0.33	0.42
Czech Republic	2.13	2.34
Denmark	1.02	1.84
Germany (until 1990 former territory of the FRG)	1.01	1.13
Estonia	2.03	0.67
Ireland	1.34	2.49
Greece	0.94	0.77
Spain	1.84	1.37
France	0.87	1.28
Croatia	0.78	0.66
Italy	1.94	2.08
Cyprus	0.55	1.09
Latvia	-0.12	0.70
Lithuania	0.98	1.31
Luxembourg	3.45	5.17
Hungary	1.04	0.29
Malta	1.06	1.52
Netherlands	1.03	1.90
Austria	0.89	1.15
Poland	-0.28	0.55
Portugal	2.05	1.64
Romania	-0.05	0.66
Slovenia	0.23	2.44
Slovakia	1.05	0.95
Finland	1.63	2.03
Sweden	0.87	1.28
United Kingdom	0.93	1.11

Source: author's calculations

A decrease in the value of the average of annual changes of the indicator was observed for fewer countries: Portugal, Greece, Spain, Estonia, Hungary, Slovenia and Croatia. The highest decrease was observed for Hungary, with 72.12% in the second period compared to the previous one. Therefore, for this country we can observe a decrease in disparity. The catch-up rates diminished for many countries in the second period because of the negative effect of economic crisis.

Lichtenberg (1994) proposed a test for the convergence assumption that the variance of an indicator like productivity across regions diminishes over time.

N- number of regions (countries)

T- the end of the analyzed period

Y_{it} - productivity at time t in region i

$$y_{it} = \ln(Y_{it})$$

$$\hat{\sigma}_t^2 = \sum_i (y_{it} - \bar{y}_t)^2 / N - \text{variance of } y_{it} \text{ across regions}$$

$$\hat{\sigma}_1^2 - \text{variance in the first period}$$

$$\hat{\sigma}_T^2 - \text{variance in the last period}$$

According to Lichtenberg (1994), the ratio $T_1 = \frac{\hat{\sigma}_1^2}{\hat{\sigma}_T^2}$ follows a F distribution $F(N-2, N-2)$ when the productivities do not converge over a period of time.

If the productivities follow an autoregressive model, we have the following relationship:

$$y_{it} = \rho y_{i,t-1} + v_{it} \quad (3)$$

$$t=2, \dots, T \text{ and } i=1, 2, \dots, N$$

y_{it} – identically and independent distributed (i.i.d.) $N(\mu_1, \sigma_1^2)$ and independent of v_{it} – i.i.d.

$$N(\mu_1, \sigma_v^2)$$

The lack of convergence stated in the null hypothesis supposes the following restriction:

$$\rho^2 = 1 - \frac{\sigma_v^2}{\sigma_1^2} \quad (4)$$

If $\rho^2 < 1 - \frac{\sigma_v^2}{\sigma_1^2}$, there is convergence in time for productivities.

$$y_{iT} = \pi y_{i,1} + u_i \quad (5)$$

$$i=1, 2, \dots, N$$

$$\pi = \rho^{T-1} \quad (6)$$

$$u_i = \sum_{t=2}^T \rho^{T-t} v_{it} \quad (7)$$

If there is no convergence we have:

$$\pi^2 = 1 - \frac{\sigma_u^2}{\sigma_1^2} \quad (8)$$

Carree and Klomp (1997) have shown the deficiencies of T1 , proposing two alternative statistics: T2 and T3.

The hypothesis in this case is: the initial variance (in the first period) and the last variance (in the final period) are equal.

$$T_2 = (N - 2.5) \ln \left[1 + \frac{1}{4} \frac{(\hat{\sigma}_1^2 - \hat{\sigma}_T^2)^2}{\hat{\sigma}_1^2 \hat{\sigma}_T^2 - \hat{\sigma}_{1T}^2} \right] \quad (9)$$

T2 follows a chi-square distribution ($\chi_{(1)}^2$).

The covariance of productivities in the initial and last period is:

$$\hat{\sigma}_{1T} = \sum_i (y_{i1} - \bar{y}_1)(y_{iT} - \bar{y}_T) / N \quad (10)$$

The productivities in the first and last period follow a bi-variate normal repartition:

$$\begin{bmatrix} y_{i1} \\ y_{iT} \end{bmatrix} \sim N \left(\begin{bmatrix} \mu_1 \\ \mu_T \end{bmatrix}, \begin{bmatrix} \sigma_1^2 & \sigma_{1T} \\ \sigma_{1T} & \sigma_T^2 \end{bmatrix} \right) \quad (11)$$

$$T_3 = \frac{\sqrt{N} \left(\frac{\hat{\sigma}_1^2}{\hat{\sigma}_T^2} - 1 \right)}{2\sqrt{1 - \hat{\pi}^2}} \quad (12)$$

$\hat{\pi}$ - the least squares estimate for π in the equation

We calculated the statistics (T1, T2 and T3) for gross domestic product (GDP) per capita in PPS for European Union (EU-28) countries from 1995 to 2012.

Table 4: T1, T2 and T3 and other intermediate computations

Statistics and other indicators	Values for 1995-2012	Values for 1995-2007	Values for 2008-2012	Critical values at the 5% level of significance
T1	1.1679	1.1433	1.0089	1.9292
T2	0.3567	1.3785	-0.0066	3.841

T3	-7.5898	0.9390	0,045	1.645
$\hat{\sigma}_1^2$	2.5047	2.5047	2.1637	-
$\hat{\sigma}_T^2$	2.1447	2.1908	2.1447	-
$\hat{\sigma}_{1T}$	2.222	2.2458	2.2329	-
ρ	1.002	1.0028	1.0005	-
$\hat{\pi}^2$	1.1139	1.1630	1.2736	-

Source: author's computations

According to the table, the values of the statistics are lower than the critical value, this fact implying that the null hypothesis cannot be rejected. So, the conclusion is that in all analyzed periods there is not convergence across countries regarding the GDP per capita values in EU-28. However, we can observe that in each period the initial variance is greater than the variance in the final year. Therefore, we can conclude that in each horizon there is evidence of divergence reduction. The lowest diminish is seen the period from 2008 to 2012, which is the period corresponding to the economic crisis. It is obvious that during the crisis the process of reducing the divergence has diminished compared to the previous period and to overall period.

4. Conclusion

The convergence in EU-28 was assessed using some statistical tests and a complementary approach based on catch-up rates to see the tendency of disparity. The results showed that there is strong evidence of divergence in EU-28 countries, even if there is a slow decrease of the convergence during 1995-2012. In crisis period the decrease of divergence is lower compared to the pre-crisis times and compared to the entire analyzed period. This research could be continued by computing other recognized indicators (variability measures or inequality indicators), but the conclusions should be the same.

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Cloud Computing Services: Benefits, Risks and Intellectual Property Issues*

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Abstract

Major software players of the global market, such as Google, Amazon and Microsoft are developing cloud computing solutions, providing cloud services on demand: Infrastructure as a Service (IaaS), Platform as a Service (PaaS) and Software as a service (SaaS). In software industry and also in ICT services market, cloud computing is playing an increasingly important role. Moreover, the expansion of cloud services indirectly contributed to the development and improvement of other types of services on the market – financial and accounting services, human resources services, educational services etc. – in terms of quality and affordability. Given the fact that cloud computing applications proved to be more affordable for small and medium enterprises (SME), an increasing number of companies in almost all the fields of activity have chosen cloud based solutions, such as Enterprise Resource Management (ERP) software and Customer Relationship Management (CRM) software. However, cloud computing services involve also some risks concerning privacy, security of data and lack of interoperability between cloud platforms. Patent strategy of certain proprietary software companies led to a veritable “patent war” and “patent arm race” endangering the process of standardization in software industry, especially in cloud computing. Intellectual property (IP) legislation and court ruling in patent litigations is likely to have a significant impact on the development of cloud computing industry and cloud services.

Keywords: *cloud computing services, Infrastructure as a Service (IaaS), Platform as a Service (PaaS), Software as a service (SaaS), standardization and interoperability, software patents.*

JEL Classification: *L-86, O-30, O-39.*

1. Introduction

The present article proposes an analysis of cloud computing services and an assessment of their main benefits and risks, given the essential features and characteristics of cloud computing and the particularities of services in this field. The first objective is to carry out a concise literature review on this topic in order to briefly summarize the main definitions and theoretical perspectives on cloud computing and also the main benefits and risks of cloud computing services; the second objective is to realize a more elaborate and particularized analysis concerning one central issue related to cloud computing services: the impact of intellectual property legislation – especially court ruling in patent and copyright cases – on standardization and interoperability in cloud computing services. A more detailed summary of the article is the following: (a) define the concept of cloud computing, pointing

* The present article is an updated and improved version of the paper prepared for RESER Conference, 2012 Edition.

the main features; define and exemplify the principal types of cloud computing services: Infrastructure as a Service (IaaS), Platform as a Service (PaaS), and Software as a Service (SaaS); (b) analyse the main benefits of cloud computing services; (c) and the potential risks and challenges: security and privacy of data, vendor lock-in, lack of standards and interoperability, intellectual property issues; (d) Assess the impact of intellectual property legislation and court ruling in patent litigation in the field of cloud services.

2. Cloud Computing Definitions and Characteristics

2.1. Cloud Computing Definitions

The name “cloud computing” is essentially a metaphor. In order to properly define cloud computing it is necessary to explain what is really behind this metaphor. “The cloud” is a familiar cliché designating the Internet and often a cloud shape is used to represent Internet in a network diagram, abstracting underlying infrastructure, hardware and software. In very broad terms, according to Barry Sosinski, cloud computing refers to applications and services that run on a distributed network using virtualized computing resources based on pooled physical resources, partitioned as needed and accessed by common Internet protocols and networking standards (Sosinski 2011, 3-5).

There is no formal definition of cloud computing universally agreed by all IT specialists and academics, but nevertheless there are two main definitions that are being used by Cloud Community and also there are some key (defining) characteristics of cloud computing that are often emphasized by IT scientists.

First definition is provided by Ian Foster: cloud computing is a “large-scale distribution computing paradigm that it is driven by economies of scale, in which a pool of abstracted, virtualized, dynamically-scalable, managed computing power, storage, platforms and services are delivered on demand to external customers over the Internet” (Foster, Zhao, Raicu & Lu, 2008). The second definition is provided by Jeff Kaplan: cloud computing is a “broad array of web-based services aimed at allowing users to obtain a wide range of functional capabilities on “pay-as-you-go” basis that previously required huge hardware-software investments and professional skills to acquire. Cloud computing is the realization of the earlier ideals of utility computing without the technical complexities or complicated deployment worries” (Geelan, 2009).

Another more comprehensive definition of cloud computing is suggested by Mohan T.: cloud computing is “a techno-business disruptive model of using distributed large-scale data centers either private or public or hybrid offering customers scalable virtualized infrastructure or an abstracted set of services qualified by service level agreements (SLAs) and charged only by the abstracted IT resources consumed.” (Buyya, Broberg & Goscinski 2011, 44)

2.2 Cloud Computing Nature and Characteristics

Given cloud computing definitions mentioned above, we may infer some of the essential features of cloud computing and also the special character of cloud computing services.

In the Cloud Computing Bible, Barrie Sosinsky clarifies that the use of term “cloud” makes reference to two essential features: abstraction and virtualization. Thus, Sosinski explains that “cloud computing abstracts the details of system implementation from users and developers” and that “applications run on physical systems that aren't specified, data is stored in locations that are unknown, administration of systems is outsourced to others, and access by users is ubiquitous.” Also,

regarding virtualization he explains that “cloud computing virtualizes systems by pooling and sharing resources” and that “systems and storage can be provisioned as needed from a centralized infrastructure, costs are assessed on a metered basis, multi-tenancy is enabled, and resources are scalable with agility” (Sosinski 2011, 4).

There are also important characteristics of an ideal cloud computing model (Sosinski 2011, 24-25):

- scalability: access to unlimited computing resources as needed;
- elasticity: ability to right-size resources as you needed;
- low barrier to entry: access to systems for a small investment;
- utility: pay as you go model that matches resources to need on an ongoing basis.

The nature and characteristics of cloud computing are sometimes explained using the electricity analogy, although the comparison with electricity model has some limits. According to Voorsluys, Broberg and Buyya, the computing resources are virtualized much in the same way that electricity is virtualized. Electricity is readily available from a wall socket and beneficiaries of electric power do not necessarily need to know or care how electric power is generated or how it gets to that outlet. Electricity is delivered as a utility and behind this service there are power generation stations and huge distribution grids. Similarly, cloud computing model aims to deliver computing resources as a utility, aggregating computing resources in one system and distributing computing services in a standardized manner (Buyya, Broberg & Goscinski 2011, 3). James Urquhart (Uruquart 2009) and Krishnan Subramanian (Subramanian 2010) explain that although analogy between cloud computing model and electricity model is useful in depicting some important features of cloud computing, the cloud computing model and electricity model are nevertheless different, mainly because cloud computing involves computing and storing data. From this perspective in the cloud computing model there are additional problems – security of information, legal and contractual issues – that are not encountered in the electricity model.

2.3. Cloud Computing Services

Voorsluys, Broberg & Buyya emphasize that the main principle behind cloud computing is the possibility of providing computing, storage and software as a service (Voorsluys, Broberg & Buyya 2011, 3). Services provided through a cloud system are frequently classified as: Infrastructure as a Service (IaaS), Platform as a Service (PaaS) and Software as a Service (SaaS) (Furht & Escalante, 2010, 339). IaaS, PaaS and SaaS are known as SPI model of cloud computing (Sosinski 2011, 3).

IaaS provides virtual machines, virtual storage, virtual infrastructure and other virtualized computing resources. IaaS service provider manages the entire infrastructure, while the client is responsible for all other aspects of deployment that can include the operating system and applications. Examples of IaaS service providers are: Amazon Elastic Compute Cloud (EC2), Eucalyptus, GoGrid etc. For instance, on Amazon EC2 a client could have a virtual machine (which imply hardware virtualization) and can install an operating system (OS) on that virtual system. Amazon has also a number of operating systems and enterprise applications but clients can install whatever software they want to run (Sosinski 2011, 11). Sometimes IaaS providers are also PaaS and SaaS providers. Most of the large cloud computing services providers (especially IaaS providers) have multiple data centers located all over the world. For example, according to Sosinski estimation, in 2010-2011, Amazon had about 20 data centers, while Google 35 data centers (Sosinski 2011, 14).

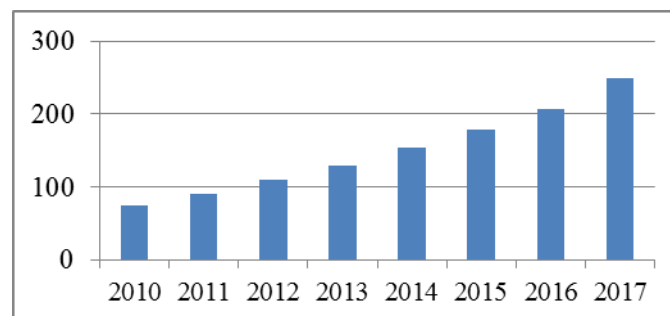
PaaS provides virtual machines, operating systems, applications, services, development frameworks, transactions and control structures. The client can deploy applications in the cloud infrastructure or use applications developed using programming languages and tools supported by PaaS provider. The provider manages cloud infrastructure, the operating systems and provided software and the client is responsible for installing and managing deployed applications (Sosinski 2011). Examples of PaaS services are: Google AppEngine, GoGrid CloudCenter, Force.com, Windows Azure Platform, Zoho Creator.

SaaS is a complete operating environment with applications, management and user interface. In SaaS model everything from the application down to infrastructure is the vendor responsibility, the client is simply using the application: entering, managing data etc. (Sosinski 2011). Examples of SaaS services are: Google Apps, Oracle on Demand, Zoho CRM, Salesforce.com, SQL Azure.

All these types of cloud computing services could be classified as high tech knowledge intensive services, but in addition they revolutionized other type of services (financial and accounting services, human resources services, educational services, etc.) because cloud computing solutions and applications proved more affordable and less expensive for small and medium enterprises (SMEs). For example, companies can use ERP (Enterprise Resource Planning) or CRM (Customer Relationship Management) applications in the cloud, without having to buy or rent data centers and without having to maintain IT departments. Acumatica ERP and Zoho CRM represent two of the multiple cloud based solutions, especially for SMEs.

Interest in cloud computing is growing as companies look to reduce their costs and shift their services online. Gartner analysts estimate that worldwide spending on public cloud services increased from 109 billion dollars in 2012 to 132 billion dollars in 2013 and predict that in 2017 global public cloud services spending will reach 250 billion dollars (Graphic 1).

Graphic 1 – Worldwide Public Cloud Services Market Size, 2010-2017 (billion dollars)



Source: Gartner (2013)

*2013-2017 forecasts

3. Cloud Computing: Benefits, Challenges and Risks

3.1. Benefits of Cloud Computing Services

The main benefits of cloud computing services are closely related with its essential characteristic (abstraction, virtualization, scalability, computing as a utility, etc.). Barrie Sosinski (Sosinski 2011, 16-18) enumerated five essential advantages of cloud computing services:

- on demand services – the client can access the services without interaction with cloud service provider personnel
- broad network access – access to resources in the cloud is available over the network using standard methods in a manner that provides platform independent access to clients of all types
- resource pooling – resources are pooled in a system that support multi-tenant usage.
- rapid elasticity – resources can be rapidly and elastically provided.
- measured service – clients are charged based on a known metrics such as amount of storage, number of transactions, bandwidth etc.

Other benefits of cloud computing and cloud services may include: access to a huge range of applications without having to download or install anything, lower costs, ease of utilization, quality of the service (QoS) agreed under the contract, outsourced IT management, simplified maintenance and upgrade, access to the application from any computer via Internet, scalability via on demand resources, pay-as-you-go pricing model.

3.2. Cloud Computing Services: Challenges and Risks

Privacy and Security of Data

Cloud computing analysts often emphasized that the most important area of concern and risk regarding cloud computing services is privacy and security of data. Since cloud computing involves massive use of third-party services and infrastructure, the problem of security and privacy of sensitive data transferred in cloud applications cannot be avoided – cloud computing environment may not be as secure as in-house IT systems. In this case, trust toward providers of cloud services is important. Moreover, security procedures such as data encryption, access protocols, methods of data aggregation, and methods of erasing information at the end of the service relationship are key techniques of ensuring security of data (Buyya, Broberg & Goscinski 2011, 35).

However, as a rule, consumers cannot rely thoroughly on cloud providers to keep their data private against government control and political surveillance. Security of data and communication is not only a technological problem but also a political problem. For instance, in 2010 Google considered that Chinese dissidents were at risk because Chinese government used company's technology for political surveillance, and after these incidents, Google decided to move their servers from China in Hong Kong (Sosinski 2011, 18-19) (Branigan 2010). Another example is the case of the US Intelligence organization, National Security Agency (NSA), which is presumed to have paid “hundreds of millions of dollars a year to U.S. companies for clandestine access to their communications networks, filtering vast traffic flows for foreign targets in a process that also sweeps in large volumes of American telephone calls, e-mails and instant messages” (Timberg & Gellman 2013). NSA documents leaked by Edward Snowden (a former NSA contractor) reveal that voluntary cooperation between NSA and providers of global communication date back to 1970s (Timberg & Gellman 2013). If disclosed to the public, such deals between intelligence agencies and global communication companies could cost tech giants and cloud companies suspected to be involved (like Google, Microsoft, IBM, Yahoo, Twitter, Facebook etc.) billions of dollars. This fact could limit the incentive of global communication providers to violate the privacy of data. The Information Technology & Innovation Foundation (ITIF), a D.C. based think tank, published a report asserting that U.S. cloud computing providers could lose up to \$35 billion by 2016 because of the leaks revealing collaboration with intelligence agencies (Gustin 2014) (Castro 2013).

Standardization, Interoperability and the Risk of Vendor Lock-in

A major concern for cloud services customers is the risk of vendor lock-in (customer became dependent on a certain vendor, being unable to change the vendor without incurring substantial losses or without substantial switching costs). For example, customers may decide to change their cloud services provider and for this reason they will need to move their data or/and applications on other platforms. Therefore, an important question and at the same time a major challenge for cloud services providers is are the problems of standardization and interoperability between cloud platforms. Richard Stallman a renowned American software freedom activist and computer programmer (the president of Free Software Foundation and the founder of GNU operating system project) considers that the risk of data and application lock-in by a certain provider in the case of web based applications is very high. For this reason he warned that cloud computing may be “a trap aimed at forcing more people to buy into locked, proprietary systems that would cost them more and more over time” (Johnson 2008).

Patents and Copyrights in Software Industry and Cloud Services: their Impact on Standards and Interoperability

There are two important orientations concerning software licensing that may be identified in software industry: (a) free software and open source, on the one side and (b) proprietary software, on the other side.

Currently, free software movement is leaded by Free Software Foundation that works for adoption of free software and free media formats, and organizes activist campaigns against threats to user freedom². According to Free Software Foundation, a program is free software if the program's users have the four essential freedoms³:

The freedom to run the program, for any purpose (freedom 0).

The freedom to study how the program works and change it so it does computing as anybody wish (freedom 1). Access to the source code is a precondition for this.

The freedom to redistribute copies (freedom 2).

The freedom to distribute copies of modified versions to others (freedom 3). By doing this anybody can give the whole community a chance to benefit from your changes. Access to the source code is a precondition for this.

Free Software Foundation actively campaigned for convincing people to use free software, pointing out some hidden threats for users from the part of proprietary software companies (Microsoft, Apple): invading privacy, vendor lock-in, abuse standards etc. Also Free Software Foundation actively campaigned against software patents.

Open Source Initiative is in some respects similar with free software movement. An open source program needs to meet the following criteria⁴:

² The complete program and philosophy of Free Software Foundation are exposed on their website: www.fsf.org

³ The definition of free software presented here is authored by Free Software Foundation as fundamental principle of its project to develop a Unix-like operating system – GNU operation system – which was launched in 1984 (www.gnu.org).

⁴ This is an abridged definition of open source software. The complete definition may be found on the Open Source Initiative Website: opensource.org

Free redistribution of program;

The program must include source code, and must allow distribution in source code as well as compiled form;

The license must allow modifications and derived works, and must allow them to be distributed under the same terms as the license of the original software;

Integrity of The Author's Source Code;

No discrimination against persons or groups;

No discrimination against fields of endeavor;

The rights attached to the program must apply to all to whom the program is redistributed without the need for execution of an additional license by those parties;

License must not be specific to a product;

The license must not place restrictions on other software that is distributed along with the licensed software. For example, the license must not insist that all other programs distributed on the same medium must be open-source software;

License must be technology-neutral.

Open Source Initiative devised also the open standards requirements for software: no intentional secrets, availability, no patents that hinder interoperability, the implementation of standards must not be the object of license agreements and must not require technologies that do not meet the open standards criteria.

The main difference between Open Source Initiative and Free Software Movement is that the advocates of open source do not actively campaign against proprietary software. They simply promote by their activity other types of software than proprietary software. According to their statements, they also do not oppose software patents if these do not hinder standardisation and interoperability.

Proprietary software⁵ companies develop computer software licensed under the exclusive right of copyright holder. According to this type of license the user has the right to use the software complying with some restrictions, such as number of computers on which software can be used, further distribution and reverse engineering (e.g. inspection and modification of source code). Typically, vendors of proprietary software do not offer the human-readable version of software but only the compiled form of software – the machine language “understood” by the central processing unit of computer.

The licensing strategy of proprietary software companies played an important role in the “fight” against open source and free software competitors. Internal Microsoft memoranda leaked in the 90’s⁶ reveals that Microsoft used FUD tactics (spreading fear, uncertainty and doubt) and EEE tactics (embrace, extend and extinguish) to disrupt its competitors which develop open source software. By

⁵ It is important to note that proprietary software is not synonymous with commercial software. Proprietary software may be distributed without charge or for a fee. Similarly free software or open source software may be distributed with no charge or for a fee.

⁶ The documents leaked are often referred as Halloween documents, mainly because many of them were originally leaked close to 31 October in different years. The documents are currently published on www.catb.org

EEE tactic, Microsoft “embraced” certain open standard or open source software, “extended” it with some extra features and finally “extinguished” it breaking compatibility with other open source software and imposing a non-disclosure license agreement for the new released software. According to Microsoft’s critics, what happened with Kerberos, the computer network authentication protocol developed by Massachusetts Institute of Technology (MIT), illustrates perfectly Microsoft EEE tactic. Kerberos gained pre-eminence on the market because its developers from MIT released the source code and this fact allowed security experts around the world to review and to refine the program, line by line (The Economist, 2000). Microsoft included Kerberos in its Windows 2000 operating system and slightly modified it, adding proprietary extensions, so that Microsoft version was no longer fully interoperable with widely used standard version of Kerberos. Further, Microsoft denied the access to a Windows 2000 Server using the modified Kerberos to all products, except those made by Microsoft. Critics say that Microsoft extinguished an open standard in order to help Windows become a dominant operating system on servers (Dominic 2000).

Another often cited instance of Microsoft EEE tactic is the case of AOL's IM protocol which everyone was using in the 90s. Microsoft extended the standard with proprietary add-ons which supplied new features but broke compatibility with AOL's software. Microsoft extended the standard and gained dominance providing the MS Messenger for free, but AOL was not allowed to use Microsoft protocol (Hu 2001).

Although Microsoft was repeatedly sued for monopoly abuse, the real “sin” of Microsoft was its licensing strategy. IP legislation and court ruling in patent litigation played an important role in this. While benefiting of standards and software previously developed under free software or open source license agreements, Microsoft systematically broke compatibility with free software or open source products by its corporate licensing strategy. Notwithstanding, open source and free software companies proved to be increasingly competitive and continued to flourish improving also the quality of their products. During economic recession of 2009 a growing number of entrepreneurs searched for ways to reduce IT costs and open source software proved to be a great way to cut costs (Randall 2009). Consequently, open source software companies not only survived recession but they increased their sales. For example, in 2009, Red Hat, the world's biggest independent open-source firm revealed an increase of 25 percent of annual revenue over the previous year.

Open source and free software companies’ progress is mainly due to their development model, especially to the fact that they praised and cultivated open source and open standards. Even Microsoft joined the new trend and started to cooperate with open source software companies. Although Microsoft did not abandoned its licensing policy, it had to refrain in some cases because the cooperation with companies developing open source software under GNU General Public License⁷ required sharing the source code of applications developed using other open source software. For example, in 2009, Microsoft contributed approximately 20.000 lines of source code to the Linux kernel with the aim of improving support for running the Linux operating system in virtualized environments on Windows servers. Microsoft used Linux code in order to develop the Linux Hyper-V driver, and consequently they had to release the resulting code under the GPL in order to comply with the licensing requirements of open source software partners (Paul 2009).

*

Standards and interoperability are key conditions if cloud computing services are to be widely adopted by customers. According to the specialists from the Institute of Electrical and Electronics

⁷ GNU General Public License may be read on the GNU project website: <http://www.gnu.org/copyleft/gpl.html>

Engineers (IEEE), standardization and interoperability represent a bigger issue than privacy and security of data for cloud computing services. Patent and copyright strategy of companies developing proprietary software could seriously hinder the establishment of open standards and interoperability between cloud services providers. The easy switching between two providers of cloud computing services is possible if both providers are either running the same operating system or are conforming to an open standard. But if operating systems and standards should conform to licensing rules and royalties, every standard could contain individually licensed components with intellectual property owners taking advantages from everyone implementing the standard (Upbin 2012). In this case, a wide agreement on using standards will be hardly reached.

Software companies often claimed copyright on the very interfaces that let one piece of software interoperate to another (APIs - Application Programming Interfaces). APIs are ubiquitous and fundamental to all kinds of program development. Granting copyright protection to functional APIs would allow some companies to hold up important interoperability functionality that developers and users rely on every day. This would have important consequences for cloud computing services cancelling almost all their advantages both for developers and customers. Two recent cases perfectly illustrate this kind of problems. In the Oracle vs. Google, Oracle attempted to persuade US Federal Court that the very interfaces of programming services (Application Programming Interfaces - APIs) can be copyrighted and claimed copyright on Java's APIs. In 2010, Oracle bought Sun Microsystems, which was a company that developed and supported open source software, including Java. The Federal court rejected in 2012 Oracle request (Vaughan-Nichols 2012). In 2013 Oracle appealed the case and some of the panel judges may side with Oracle (Levine 2013).

In a similar case concerning the popular statistical package SAS, European Court decided that APIs can't be copyrighted because this would imply a monopoly on ideas:

"A firm called World Programming created a clone designed to run SAS scripts without modification. In order to do this, they bought a copy of SAS and studied its manual and the operation of the software itself. They reportedly did not have access to the source code, nor did they de-compile the software's object code. SAS sued, arguing that its copyright covered the design of the SAS scripting language, and that World Programming had violated the SAS licensing agreement in the process of cloning the software. The EU's highest court rejected these arguments. Computer code itself can be copyrighted, but functional characteristics—such as data formats and function names—cannot be. "To accept that the functionality of a computer program can be protected by copyright would amount to making it possible to monopolize ideas, to the detriment of technological progress and industrial development," the court stated." (Lee 2012)

Therefore, many proprietary software companies try to acquire a special position on the market by their licensing and patent strategy. In many cases, they used royalty free available software and technologies, added some new features and finally claimed copyright on the new released software. According to Free Software Foundation, virtually all of the technologies used now in software industry were developed before software was widely viewed as patentable. "The Web, email, your word processor and spreadsheet program, instant messaging, or even more technical features like the psychoacoustic encoding and Huffman compression underlying the MP3 standard—all of it was originally developed by enthusiastic programmers, many of whom have formed successful business

around such software, none of whom asked the government for a monopoly.” (End Software Patent, 2013)⁸

Major software companies are increasingly involved in a veritable “patent war”. They are increasingly interested in building their patent portfolio mainly in order to secure defense against patent litigation (Prentice 2010) but also in order to pull out of the race their competitors. Moreover, gains from selling patent portfolios became an important source of profits for tech and software companies. The case of Microsoft and Salesforce that sued each other in 2010 for alleged patent infringement illustrate this trend. Microsoft and Salesforce compete head-to-head in the market for customer relationship management (CRM) software. They also compete in the market for the underlying platform to host online software, with Salesforce's Force.com and Microsoft's Windows Azure. Gartner researcher and analyst, Brian Prentice, considers that “patent arms race” in software industry will not ends very soon.

Currently, it is almost impossible for a software developer to avoid the accidental infringement of previously copyrighted software. It is also difficult to follow what new software patents are registered (Timothy B. Lee and Christina Mulligan, 2012). How the software industry and cloud computing services would look like if the current trend of “patent arms race” will continue? If the consolidation of patents portfolio will continue to be the main objective of software companies, the offensive or defensive patent war will be pervasive and more and more resources will be diverted to resolve legal disputes.

Stephan Kinsella, an American intellectual property lawyer and economist questions the legitimacy and justification of certain types of intellectual property, especially copyrights and patents, on the ground that they unjustly trespass against the tangible property of owners, transferring it to authors and inventors. According to S. Kinsella, patents and copyrights are veritable monopoly privileges granted by courts, creating artificial scarcity where there was none before (Kinsella 2008). In the case of software patents, private and tangible owned resources of customers and developers from everywhere are placed under the control of software companies that obtained some key software patents which indeed are very akin to any others legally granted monopoly privilege.

It is usually asserted that the system of patents encourage innovations, providing incentives for inventors to engage in innovative activities. But in industries where progress is achieved by sequential and complementary innovation – such as software and especially cloud computing industry – open and royalty-free standards could be more important. Royalty-free standards do not mean that a company cannot charge customers for programs or services they provide. The main role of open, royalty-free standards is to ensure universality, which is a key principle underlying Web and development and growth (Berners-Lee, 2011). In software industry, as in many fields of research, innovation and progress have an incremental character and for this reason it is facilitated both by the wide access of developers and people to previously developed technologies and software, and by the reliance on common or universal standards.

Moreover, most of the software engineers are becoming more and more burdened with legal and administrative tasks, which means that, in terms of costs and benefits, in every software company less time and resources are engaged in genuine software engineering tasks, while more and more resources are diverted to an offensive or defensive patent war.

⁸ The entire pleading against software patents may be found on the following web address: <http://endsoftpatents.org/>

The development of cloud computing industry and of cloud services depends on the existence of open standards. There are initiatives for creating open source cloud platforms that will compete with proprietary platforms, such as Microsoft (Azure Platform) and VMware (vSphere). For example, Rackspace.com – a large IaaS cloud service provider – initiated an open-source project, called Openstack, providing open source software for building public and private clouds. Also, Eucalyptus is a Linux based software platform for creating cloud computing IaaS systems. The project have an interface that can connect to Amazon's cloud systems (EC2, S3) and it offers also the possibility for developers to work in a private cloud on Eucalyptus platform with different technologies for system virtualization, including VMware, Xen and KVM (Sosinski 2011, 201-21).

Resuming this last section of the paper on intellectual property issues it follows that: (a) the setting of open standards and the interoperability between cloud services are hindered by licensing rules and patents; (b) the legitimacy of software patents and software copyrights is questionable given the fact that they are veritable monopoly privileges granted by courts via government legislation (c) in the field of cloud computing patents limits innovation (Berners-Lee, 2011) and shift resources used for developing cloud solution to the “patent arms race” and “patent war”.

4. Concluding Remarks

Cloud computing services play an increasingly important role in software industry and services market. Given their undeniable advantages – affordability, easy access to information, outsourced IT management, lower costs etc. – many companies in almost all the fields of activity have chosen cloud based solutions for their businesses.

But in spite of its many benefits, cloud computing services have their disadvantages – e.g. risks concerning the privacy and the security of data in the cloud and lack of interoperability between cloud platforms. In the context of patent war between major software companies, the problem of standardization and interoperability represents an important challenge for cloud services. Intellectual property legislation and court ruling in patent litigations could impact negatively the process of standardization in cloud computing. Very often proprietary software companies try to patent key software features that make interoperability possible, precisely because they estimate important gains from such operations. Moreover, the patent arm race that escalated software and tech industry is impacting on cloud services, hindering innovation, increasing costs for start-up projects and diverting resources from genuine software engineering tasks to an offensive or defensive patent war.

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The Influence of Education on Economic Growth

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Abstract

In transition countries affected by uncertainty, the educational system usually suffers from lack of funds from the government and it is affected by various reforms. It is important to see how education influences economic growth and how this growth can be improved by investing in education.

In this article, after a literature and econometric models review, the influence of primary, secondary and tertiary education over the GDP growth will be analyzed for Bulgaria, Czech Republic and the Netherlands, using regressions models, with the aid of computer software tool EViews. The models will be tested in order to obtain a good and reliable model.

Keywords: education, economic growth, GDP growth rate.

JEL classification: I25, C5.

1. Introduction

Education must be a priority for a proper development of a country. Education is a form of human capital, just like labor force, health, experience, training and other factors. The study of (Schultz, 1961) points out that both skills and knowledge that people gather during schooling years represent a form of human capital.

Economic growth in transition countries is a must in order to obtain an increase of the living standards of the people. From the economic growth, a part must always be invested in education, in order to achieve even higher growth.

Education is different in all the countries in the world and family and colleagues are important factors that contribute to education. Education also helps understand and process new information and implement new technologies (Hanushek, 2007).

The main purpose of this study is to analyze the effect of education on economic growth in Bulgaria and Czech Republic, during the transition period and to compare it to the situation in a developed country the Netherlands. The data used are: GDP growth rate (%), gross enrolment ratio in primary education, gross enrolment ratio in secondary education, and gross enrolment ratio in tertiary education (ISCED 5 and 6). Bulgaria has been affected over time by various reforms in education. There is a high level of uncertainty, regarding the stability over years of the systems and reforms adopted by the government. The level of interest for study of the students tends to decrease, fact that can be easily seen from national tests. On the other side the Netherlands show a stability of the educational system, that is common for developed countries.

2. Literature review

One of the main researchers on the role of education on economic output is Robert Barro. In (Barro, 1991) it is shown that human capital (as school enrollment rates) has a positive association with real GDP per Capita. In another work of (Barro, 1999), the schooling quality influence (using test scores) over economic growth is measured. Also, in (Barro, 1997), the contribution of education on economic growth is estimated, using the average years of attainment for males aged 25 and over in secondary and higher schools at the start of each period. In another work, (Barro and Sala-i-Martin, 1995) show that the average schooling years has a significant positive over the economic output.

Another interesting study is the one of (Bergerhoff, 2013), in which is raised the question about whether countries benefit from educating international students. The author proposes a model and used it for analysis. The model is actually a “Solow style” simplification of the Lucas model (Lucas, 1988), that investigate the effects of internationalization in higher education on economic growth.

Khattak (2012), investigates the contribution of education to economic growth in Pakistan. In this study the Ordinary Least Squares (OLS) and Johansen Cointegration test as analytical techniques are used. The model is derived from an augmented form of Cobb Douglas Production Function, where real GDP per capita has been used as a measure for economic growth, physical capital is measured by gross fixed capital formation, secondary and elementary school enrollments have been used as measures for education and labor force participation rate for labor. The study shows that elementary as well secondary education contributes to Real GDP per Capita in Pakistan.

In the study of (Hanushek and Kimko, 2000) it is concluded that the results of mathematics and science in 31 countries are strong positively related to the growth of macroeconomic indicators. Education in Romania and Bulgaria is an interesting subject for researchers. For example the evolution of higher education in Romania during the transition period is analyzed in (Andrei, 2010) and a comparative study of some features of higher education in Romania and Bulgaria are done in (Andrei & Lefter, 2010).

3. Main models on the role of education over economic growth

The impact of education on economic growth has always been an interesting subject for economists and other specialists. There are many models that can be used for analyzing the impact of education on economic growth.

The starting point for many of these models is the following augmented form of Cobb Douglas Production Function:

$$Y = (A, K, L) \quad (1)$$

If human capital is introduced in equation (1), it becomes

$$Y = (A, K, L, H) \quad (2)$$

where Y shows GDP growth, A is a technological parameter, L shows labor, K is the physical capital, while H shows human capital. H variable is usually represented by education.

In the study of (Mankiv, 1992), the MRW model is developed, in which the augmented Solow growth model solved for the steady-state per capita income level ends up to an equation that includes physical and human capital as the basic determinants of growth¹.

The MRW model has employed a Cobb-Douglas production function of the following form (in which human capital is considered as an independent factor of production):

$$Y = K^{\alpha} H^{\beta} (AL)^{1-\alpha-\beta} \quad (3)$$

The empirical form of the model can be written as:

$$\log Y = a_0 + a_1 \log K + a_2 \log L + a_3 \log H + \varepsilon \quad (4)$$

Linear models, LOG-LIN, LIN-LOG and LOG-LOG, can be used to describe the relationship between economic growth and education quantity and quality. First, in the LOG-LIN model (the dependent variable will be the logarithm of GDP growth, in our case), absolute change in the dependent variable will cause relative (percentage) change in the dependent variables. Second, in the LIN-LOG model, absolute change in the regressands is caused by relative (percentage) change in the dependent variable. Third, in the LOG-LOG model, relative change in the dependent variables will entail relative change in regressands.²

4. Methodology of the study

For the study, the multiple regression model used is:

$$y = \beta_0 + \beta_1 x_1 + \beta_2 x_2 + \dots + \beta_k x_k + \epsilon$$

The estimated multiple regression equation:

$$\hat{y} = b_0 + b_1 x_1 + b_2 x_2 + \dots + b_k x_k$$

where:

b_0 = estimate of β_0 ;

b_1 = estimate of β_1 ;

b_k = estimate of β_k ;

y = GDP growth (%);

x_1 = gross enrolment ratio (primary, total)

x_2 = gross enrolment ratio, secondary (all programs, total)

x_3 = gross enrolment ratio, ISCED 5 and 6 (total)

ϵ = random variable.

In order to obtain good estimates the least squares criterion will be used, choosing b_0, b_1, \dots, b_k so as to $\min \sum_i (y_i - \hat{y}_i)^2$ (minimize the sum of square errors).

b_1 is the relationship between y and x_1 , so if it is positive then that means that y and x_1 are positively related and if it is negative then that means that they are negatively related.

¹ Constantinos Tsamadias & Panagiotis Prontzas (2012): The effect of education on economic growth in Greece over the 1960–2000 period, *Education Economics*, 20:5, 522-537.

² Akram Ochilov, Education and economic growth in Uzbekistan, *Perspectives of Innovations, Economics & Business*, Volume 12, Issue 3, ISSN 1804-0519, 2012.

The multiple coefficient of determination $R^2 = \frac{SSR}{SST} = 1 - \left(\frac{SSE}{SST} \right)$, where $SST = SSR + SSE$.

The adjusted R^2 , noted $R_a^2 = 1 - (1 - R^2) \left(\frac{n-1}{n-k-1} \right)$.

The linear models, LIN-LIN, LOG-LIN, LIN-LOG and LOG-LOG for the multiple regression model will be tested, in order to obtain the best model.

5. Basic data interpretation

In this section, the data used in the study will be presented and briefly analyzed.

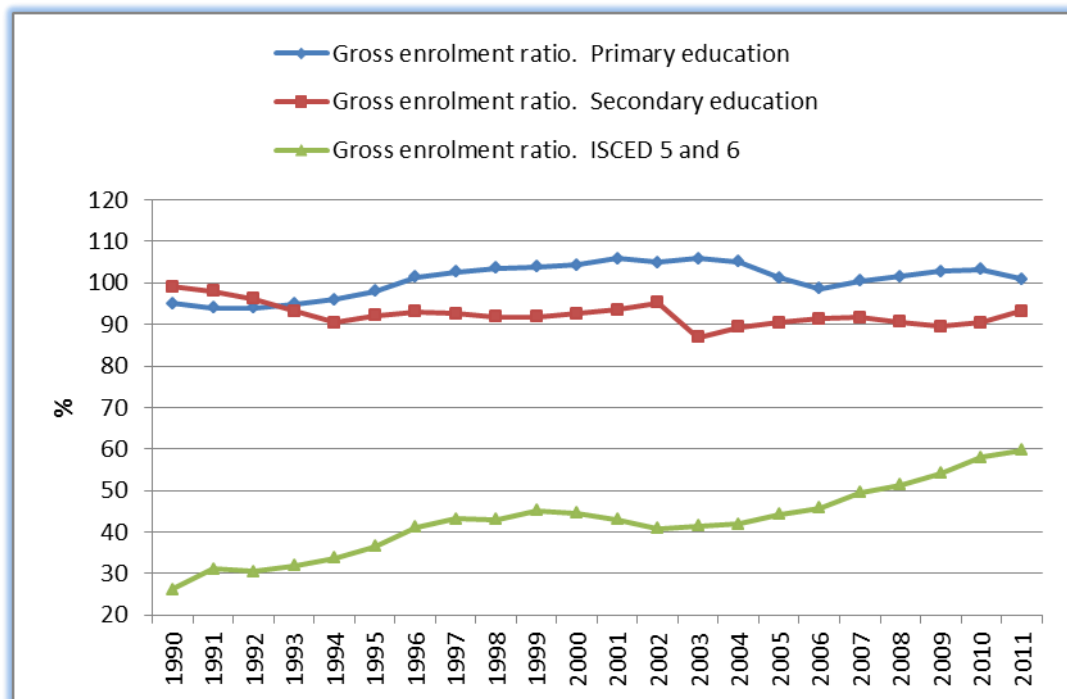


Figure 1. The evolution of gross enrolment ratio in Bulgaria

Data source: UNESCO Institute for statistics

The evolution of the gross enrolment ratio in primary and secondary education in Bulgaria slightly fluctuated between 1990 and 2011 but the gross enrolment ratio in tertiary education recorded a constant growth during the same period of time.

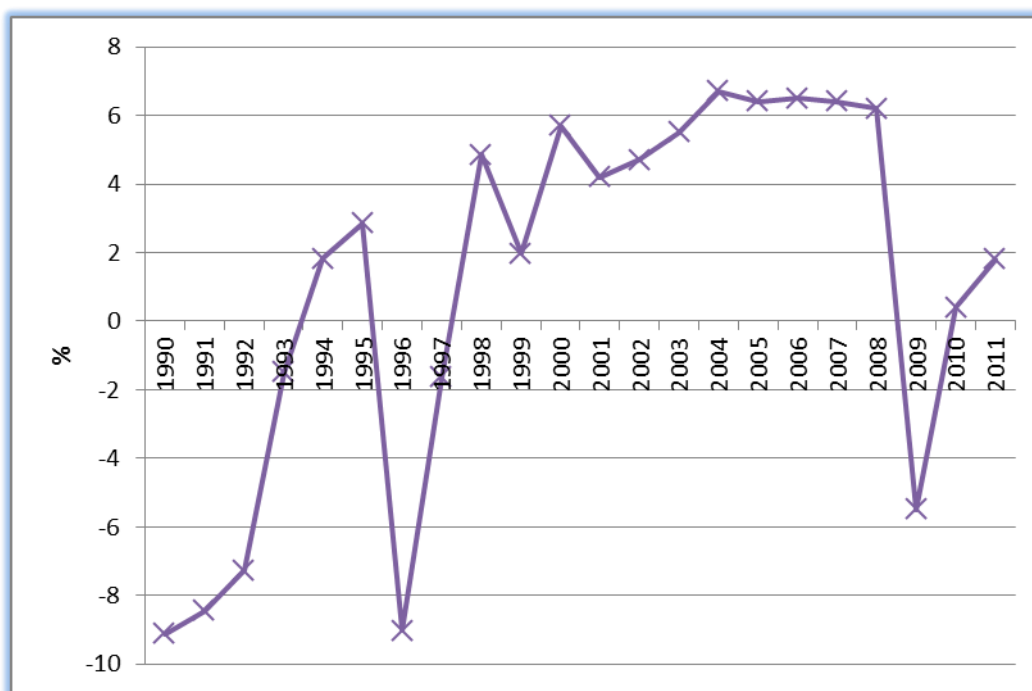


Figure 2. The evolution of the GDP growth rate in Bulgaria

Data source: UNESCO Institute for statistics

Bulgaria has known a significant drop of the GDP after the political changes in 1989/1990 but the growth rate became positive from 1990 until 1996 when another steep decrease was recorded. After 1996 the GDP followed a similar evolution with other East European countries, being affected by the economic crisis in 2009.

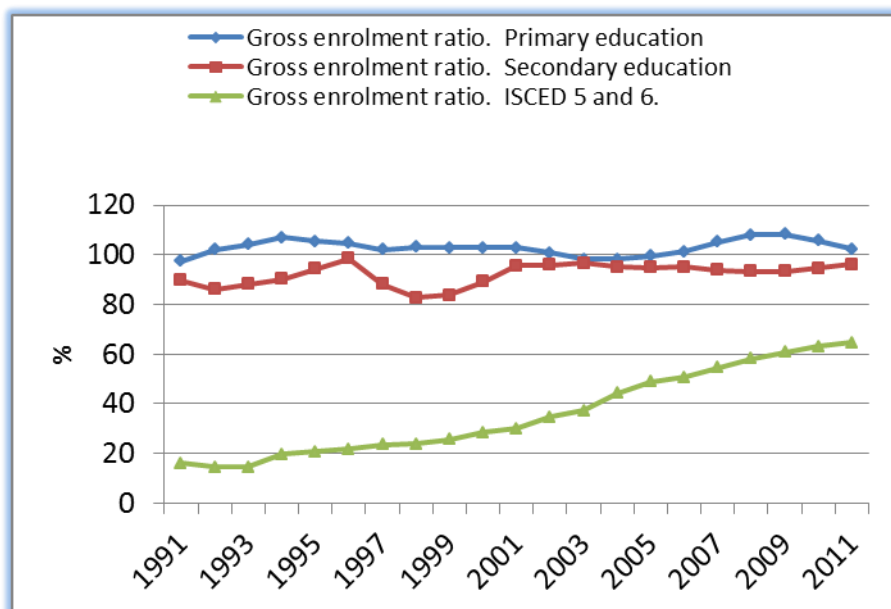


Figure 3. Gross enrolment ratio for primary, secondary and tertiary education for Czech Republic

Data source: UNESCO Institute for statistics

While the gross enrolment ratio for primary and secondary education has slightly changed over the analyzed time horizon, the enrolment ratio for tertiary education recorded a constant increase in Czech Republic.

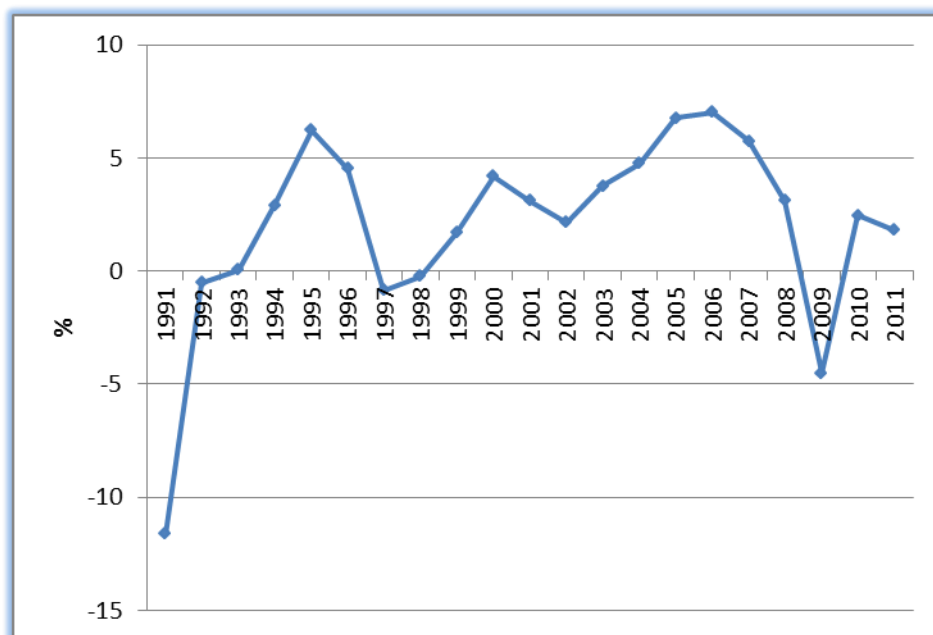


Figure 4. GDP growth ratio for Czech Republic

Data source: UNESCO Institute for statistics

The GDP growth ratio for Czech Republic show a negative value in 1991 that was encountered for most of the ex-communist countries after the political changes in 1989 and then it starts to increase having positive but fluctuant values until 2009. The economic crisis resulted in a steep drop of the GDP growth ratio in 2009 followed by a relative recovery.

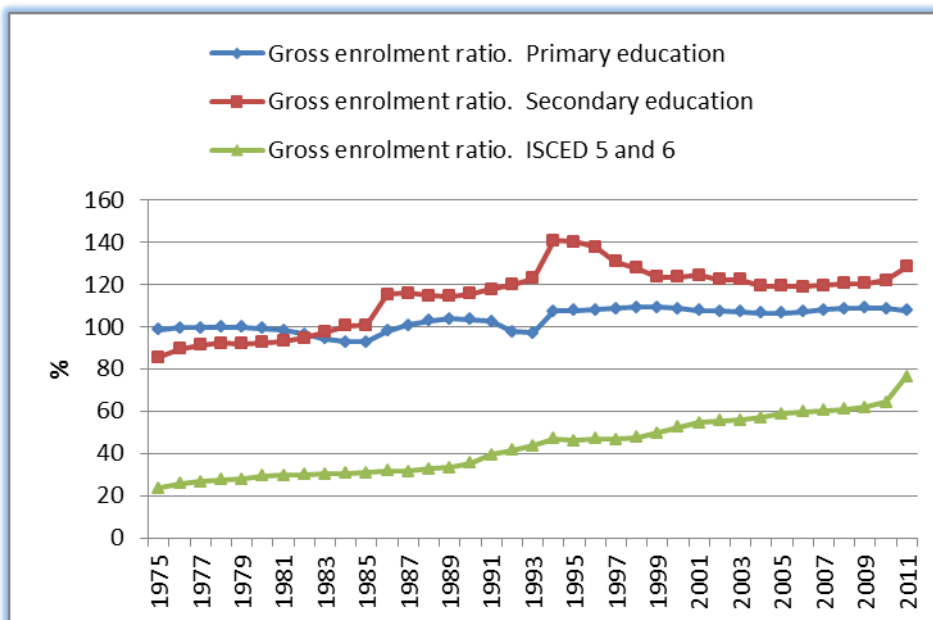


Figure 5. Gross enrolment ratio for primary, secondary and tertiary education for Netherlands

Data source: UNESCO Institute for statistics

In The Netherlands the gross enrolment ratio for primary education has slightly increased over the analyzed time horizon while the gross enrolment ratio for tertiary education constantly increased. The gross enrolment ratio for secondary education increased until 1995 when it starts to decrease until 2010.

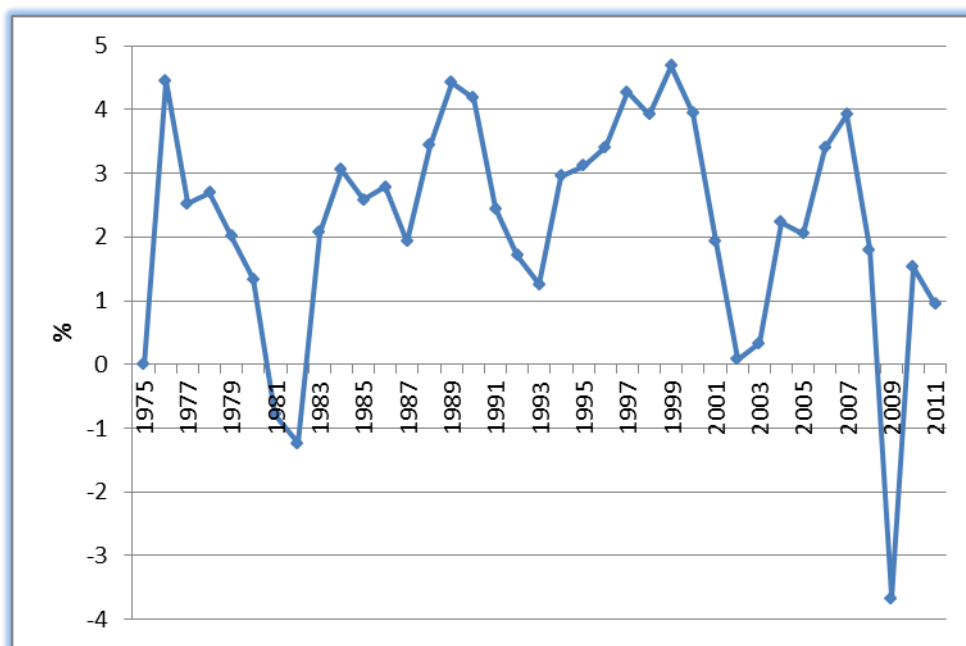


Figure 6. GDP growth ratio for Netherlands

Data source: UNESCO Institute for statistics

Figure 6 shows that the GDP growth ratio for Netherlands dropped from 1976 to 1982. Between 1982 and 2008 the GDP growth ratio has fluctuated. There was an important drop in 2008 due to the economic crisis but the economy recovered and after 2008 the GDP growth ratio was positive.

6. Results and comments

A good regression model should have the following characteristics: a) a high R square value and a high adjusted R square value; b) most of the independent variables should be individually significant to explain dependent variable (can be tested using t-test); c) independent variables should be jointly significant to influence the dependent variable (f-test can be used); d) there should be no serial correlation in the residuals; e) the model should not have heteroskedasticity; f) residuals should be normally distributed. All these four features will be tested for our model.

The most important thing to be taken into consideration is that education quantity has an effect on economic growth after some years. The graduates have to start their career in order to affect the economy of a country. For this reason a time lag will be introduced in the model. The time lag for primary education will be set to 10 years and the time lag for secondary education to 5 years.

After testing the regression models for the three countries, the **LOG-LIN** model will be used.

c variable is the constant and *primary_lag* (primary education enrolment lagged by 10 years), *secondary_lag* (secondary education enrolment lagged by 5 years) and *ISCED_5_6* (tertiary education enrolment, not lagged) are the independent variables. For each of the variables, the coefficient, standard error, t-statistics and p-value is displayed in the output.

- The regression model estimates for **Bulgaria** is presented below:

Dependent Variable: LOG(GDP_G)
Method: Least Squares
Date: 03/04/14 Time: 17:39
Sample: 2000 2011
Included observations: 11

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-6.391051	10.30228	-0.620353	0.5547
PRIMARY_LAG	0.202269	0.091535	2.209739	0.0628
SECONDARY_LAG	-0.017522	0.087571	-0.200088	0.8471
ISCED_5_6	-0.224691	0.064962	-3.458829	0.0106
R-squared	0.720396	Mean dependent var		1.400947
Adjusted R-squared	0.600566	S.D. dependent var		0.856040
S.E. of regression	0.541024	Akaike info criterion		1.884582
Sum squared resid	2.048950	Schwarz criterion		2.029271
Log likelihood	-6.365200	Hannan-Quinn criter.		1.793376
F-statistic	6.011806	Durbin-Watson stat		1.797327
Prob(F-statistic)	0.023794			

Figure 7. Regression analysis output with all three independent variables for Bulgaria

The data included in the regression is from the 2000 to 2011 time period, because the main goal is to observe how education influences economic growth after the transition period started. Also, the data for primary education and secondary education was lagged by 10 respectively 5 years as previously stated.

The coefficient of determination is $R^2 = 0,720396$, meaning that approximately 72,03% of the variability of the GDP growth is explained by the three education related variables.

Analyzing the *Prob.* column, which is actually the p-value, the least significant variable is the gross enrolment ratio in secondary education variable and the most significant variable is the gross enrolment ratio for tertiary education.

From the p-value of the F-statistics, it can be noticed that F-statistics is significant. This means that our three variables jointly influence the GDP growth in Bulgaria.

Students enrolled in tertiary education can be counted as labor force, so the following regression will be also commented:

Dependent Variable: LOG(GDP_G)
Method: Least Squares
Date: 06/04/14 Time: 09:11
Sample: 2000 2011
Included observations: 11

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	5.883552	1.432713	4.106582	0.0027
ISCED_5_6	-0.094746	0.030022	-3.155882	0.0116
R-squared	0.525306	Mean dependent var		1.400947
Adjusted R-squared	0.472562	S.D. dependent var		0.856040
S.E. of regression	0.621698	Akaike info criterion		2.050242
Sum squared resid	3.478578	Schwarz criterion		2.122586
Log likelihood	-9.276329	Hannan-Quinn criter.		2.004639
F-statistic	9.959589	Durbin-Watson stat		1.028341
Prob(F-statistic)	0.011627			

Figure 8. Regression output only with ISCED_5_6 as independent variable for Bulgaria

The coefficient of determination is $R^2 = 0,525306$, meaning that approximately 52,53% of the variability of the GDP growth is explained by *ISCED_5_6* (tertiary education) variable. Also, the variable is individually significant to GDP growth and the model has a good f-statistic value, meaning that it is significant.

Next, the residuals distribution will be checked for the model in figure 7.

From figure 9, the Breusch-Godfrey serial correlation LM test (looking at the p-value), it can be noted that the residuals are not serial correlated, meaning that this model has not any serial correlations.

Breusch-Godfrey Serial Correlation LM Test:

F-statistic	0.753515	Prob. F(2,5)	0.5176
Obs*R-squared	2.547603	Prob. Chi-Square(2)	0.2798

Test Equation:

Dependent Variable: RESID

Method: Least Squares

Date: 06/04/14 Time: 09:40

Sample: 2000 2011

Included observations: 11

Presample and interior missing value lagged residuals set to zero.

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	4.501323	11.75510	0.382925	0.7175
PRIMARY_LAG	-0.085724	0.110888	-0.773074	0.4744
SECONDARY_LAG	0.019333	0.106634	0.181302	0.8633
ISCED_5_6	0.046379	0.082423	0.562694	0.5979
RESID(-1)	-0.392879	0.574216	-0.684201	0.5243
RESID(-2)	-1.276338	0.881466	-1.447972	0.2073
R-squared	0.231600	Mean dependent var		2.93E-15
Adjusted R-squared	-0.536799	S.D. dependent var		0.452653
S.E. of regression	0.561144	Akaike info criterion		1.984773
Sum squared resid	1.574412	Schwarz criterion		2.201807
Log likelihood	-4.916251	Hannan-Quinn criter.		1.847964
F-statistic	0.301406	Durbin-Watson stat		1.375801
Prob(F-statistic)	0.892945			

Figure 9. The Breusch-Godfrey Serial Correlation LM test

For the heteroskedasticity test of the variance of the residuals, the Breusch-Pagan-Godfrey test has been used (figure 10). From the p-value of the test, it can be noticed that the residuals are homoscedastic.

Heteroskedasticity Test: Breusch-Pagan-Godfrey

F-statistic	3.926670	Prob. F(3,7)	0.0620
Obs*R-squared	6.899895	Prob. Chi-Square(3)	0.0752
Scaled explained SS	3.230005	Prob. Chi-Square(3)	0.3575

Test Equation:

Dependent Variable: RESID^2

Method: Least Squares

Date: 06/04/14 Time: 09:44

Sample: 2000 2011

Included observations: 11

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	2.241608	4.127563	0.543083	0.6039
PRIMARY_LAG	-0.051002	0.036673	-1.390724	0.2069
SECONDARY_LAG	-0.000852	0.035085	-0.024297	0.9813
ISCED_5_6	0.064987	0.026027	2.496926	0.0412
R-squared	0.627263	Mean dependent var		0.186268
Adjusted R-squared	0.467519	S.D. dependent var		0.297047
S.E. of regression	0.216759	Akaike info criterion		0.055226
Sum squared resid	0.328891	Schwarz criterion		0.199915
Log likelihood	3.696257	Hannan-Quinn criter.		-0.035980
F-statistic	3.926670	Durbin-Watson stat		2.278561
Prob(F-statistic)	0.061963			

Figure 10. Breusch-Pagan-Godfrey test

Finally, the residuals should be normally distributed. In order to check it, we used Jarque-Bera test. It can be noticed that the residuals are normally distributed (figure 11).

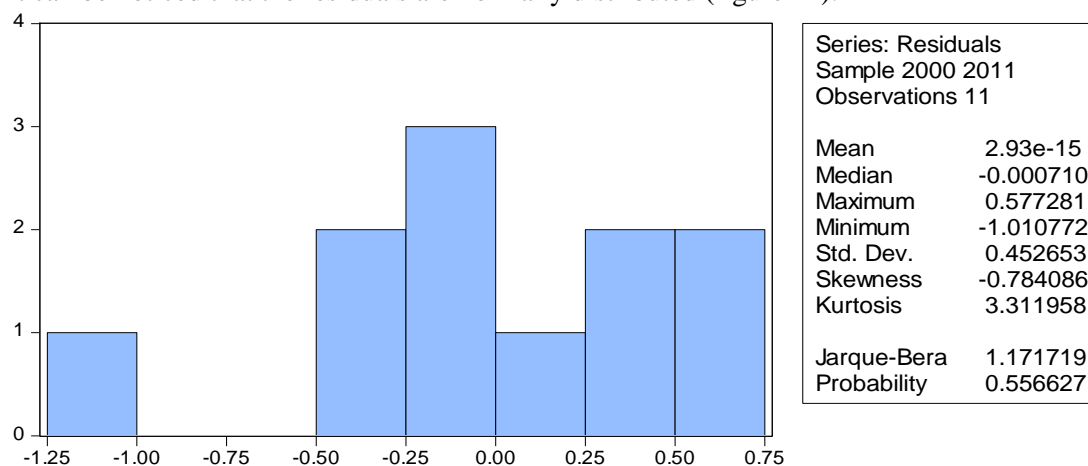


Figure 11. Jarque-Bera test

- The regression model estimations for the **Czech Republic** are presented below:

Dependent Variable: LOG(GDP_G)

Method: Least Squares

Date: 03/04/14 Time: 17:35

Sample: 2001 2011

Included observations: 10

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-36.34601	12.96671	-2.803024	0.0310
PRIMARY_LAG	0.288664	0.095723	3.015610	0.0235
SECONDARY_LAG	0.107116	0.045237	2.367905	0.0557
ISCED_5_6	-0.041087	0.016956	-2.423174	0.0516
R-squared	0.610740	Mean dependent var		1.301676
Adjusted R-squared	0.416110	S.D. dependent var		0.477468
S.E. of regression	0.364846	Akaike info criterion		1.110493
Sum squared resid	0.798676	Schwarz criterion		1.231527
Log likelihood	-1.552463	Hannan-Quinn criter.		0.977719
F-statistic	3.137953	Durbin-Watson stat		3.099636
Prob(F-statistic)	0.108420			

Figure 12. Regression analysis output with all three independent variables for Czech Republic

The data included in the regression are from the 2001 to 2011 time period, because the main goal is to observe how education influences economic growth after the transition period started. The data were lagged by 10 respectively 5 years as for Bulgaria.

The R-squared value is approximately 61,07%. This means that 61% of the variability of the GDP growth is explained by the three education related variables.

As in the case of Bulgaria, in order to have a good regression model most of the independent variables should be individually significant to influence the GDP growth. As seen from the *Prob.* column, the most significant variable is the gross enrolment ratio for primary education. The other two variables are at the limit of being significant or not.

The F-statistics value of the model, from which we can determine the jointly significance of the variables to explain the dependent variable is high meaning that the variables are not so good at explaining the GDP growth.

Running the Breusch-Godfrey Serial Correlation LM test, it can be observed that the residuals are not serial correlated, meaning that this model has not any serial correlations. From the Breusch-Pagan-Godfrey test, it can be stated that the residuals have a constant variance, meaning that residuals are homoscedastic, which is a good feature for the model.

The last test, the Jarque-Bera test, is used to check if the residuals are normally distributed. The Jarque-Berra statistics is 0.590287 and the corresponding p value is 0.744425 (74,44%), meaning that population residual is normally distributed.

- The regression model estimates for **the Netherlands** are presented below:

Dependent Variable: LOG(GDP_G)				
Method: Least Squares				
Date: 03/04/14 Time: 18:14				
Sample: 1985 2011				
Included observations: 26				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-8.370149	4.112822	-2.035135	0.0541
PRIMARY_LAG	0.107832	0.040835	2.640672	0.0149
SECONDARY_LAG	0.010891	0.016541	0.658410	0.5171
ISCED_5_6	-0.063413	0.023484	-2.700287	0.0131
R-squared	0.322412	Mean dependent var		0.756948
Adjusted R-squared	0.230014	S.D. dependent var		0.892414
S.E. of regression	0.783083	Akaike info criterion		2.489482
Sum squared resid	13.49082	Schwarz criterion		2.683036
Log likelihood	-28.36327	Hannan-Quinn criter.		2.545219
F-statistic	3.489372	Durbin-Watson stat		1.056606
Prob(F-statistic)	0.032844			

Figure 13. Regression analysis output with all three independent variables for the Netherlands

The data included in the regression are from the 1985 to 2011. The data were also lagged by 10 respectively 5 years as previously stated.

The R-squared value is less than in Bulgaria and Czech Republic case, $R^2 = 0.322412$, meaning that only 32,24% of the variability of the GDP growth is explained by the three education related variables. Instead, the variables are more individually significant in the Netherlands case than in Bulgaria or Czech Republic's case. Also, from the f-statistics it can be observed that overall the independent variables are jointly significant to influence the GDP growth just like in Bulgaria's case. Like in Bulgaria's case, students enrolled in tertiary education can be counted as labor force, so the following regression will be also commented:

Dependent Variable: GDP_G
Method: Least Squares
Date: 04/08/14 Time: 15:12
Sample: 1985 2011
Included observations: 27

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	5.311499	1.360007	3.905493	0.0006
ISCED_5_6	-0.058862	0.027028	-2.177827	0.0391
R-squared	0.159464	Mean dependent var		2.429666
Adjusted R-squared	0.125843	S.D. dependent var		1.745131
S.E. of regression	1.631634	Akaike info criterion		3.888228
Sum squared resid	66.55573	Schwarz criterion		3.984216
Log likelihood	-50.49108	Hannan-Quinn criter.		3.916770
F-statistic	4.742930	Durbin-Watson stat		1.325235
Prob(F-statistic)	0.039062			

Figure 14. Regression output only with ISCED_5_6 as independent variable for the Netherlands

In the Netherlands only 15,94% of the variability of the GDP growth is explained by *ISCED_5_6* (tertiary education) variable. The p-value of the variable is good, meaning that it is significant at a level of 5%. Also, from the f-statistics it can be noted that the model is significant.

Running the Breusch-Godfrey serial correlation LM test for the model in figure 13, we obtain:

Breusch-Godfrey Serial Correlation LM Test:

F-statistic	3.650005	Prob. F(2,20)	0.0445
Obs*R-squared	6.952388	Prob. Chi-Square(2)	0.0309

Test Equation:

Dependent Variable: RESID

Method: Least Squares

Date: 04/08/14 Time: 15:17

Sample: 1985 2011

Included observations: 26

Presample and interior missing value lagged residuals set to zero.

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	1.750998	3.792150	0.461743	0.6492
PRIMARY_LAG	-0.016335	0.038439	-0.424943	0.6754
SECONDARY_LAG	-0.004232	0.015519	-0.272677	0.7879
ISCED_5_6	0.008125	0.021351	0.380564	0.7075
RESID(-1)	0.595496	0.227987	2.611975	0.0167
RESID(-2)	-0.193144	0.245171	-0.787794	0.4401
R-squared	0.267400	Mean dependent var		7.81E-16
Adjusted R-squared	0.084249	S.D. dependent var		0.734597
S.E. of regression	0.702972	Akaike info criterion		2.332174
Sum squared resid	9.883381	Schwarz criterion		2.622504
Log likelihood	-24.31826	Hannan-Quinn criter.		2.415778
F-statistic	1.460002	Durbin-Watson stat		2.079034
Prob(F-statistic)	0.246764			

Figure 15. Breusch-Godfrey serial correlation LM test for the Netherlands model

From the test in figure 15, it can be observed that the residuals of this model are serially correlated.

Next the Breusch-Pagan-Godfrey test will be run in order to determine if the variance of the residual is homoscedastic or heteroscedastic.

Heteroskedasticity Test: Breusch-Pagan-Godfrey

F-statistic	2.461725	Prob. F(3,22)	0.0894
Obs*R-squared	6.534403	Prob. Chi-Square(3)	0.0883
Scaled explained SS	15.45750	Prob. Chi-Square(3)	0.0015

Test Equation:

Dependent Variable: RESID^2

Method: Least Squares

Date: 04/08/14 Time: 15:18

Sample: 1985 2011

Included observations: 26

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	13.55259	6.589493	2.056697	0.0518
PRIMARY_LAG	-0.163300	0.065425	-2.495977	0.0205
SECONDARY_LAG	0.009475	0.026502	0.357510	0.7241
ISCED_5_6	0.049557	0.037626	1.317100	0.2014
R-squared	0.251323	Mean dependent var		0.518878
Adjusted R-squared	0.149231	S.D. dependent var		1.360235
S.E. of regression	1.254642	Akaike info criterion		3.432216
Sum squared resid	34.63080	Schwarz criterion		3.625770
Log likelihood	-40.61881	Hannan-Quinn criter.		3.487953
F-statistic	2.461725	Durbin-Watson stat		2.268809
Prob(F-statistic)	0.089410			

Figure 16. Breusch-Pagan-Godfrey test for the Netherlands model

Looking at the output from figure 16, it can be seen that the variance of the residual is homoscedastic.

Using the Jarque-Berra statistics, it can be determined whether the residuals follow a normal distribution or not.

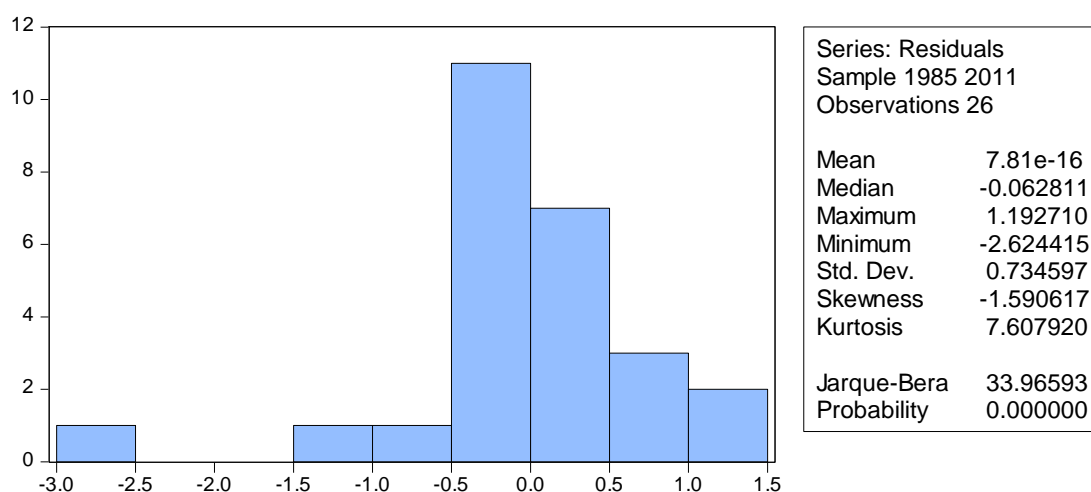


Figure 17. Jarque-Berra test for the Netherlands model

From the output of figure 17 we can conclude that the residuals are not normally distributed.

7. Conclusions

In this article, after searching and testing several models, three LOG-LIN models are proposed. After testing each of the models it can be observed that all of them have both strengths and weaknesses.

The main point that is demonstrated is that education has an influence on economic growth in both transition and developed countries. The level of influence varies and depends on other factors from country to country.

What is interesting to observe is that a negative relationship exists between GDP growth and tertiary education in all three countries. A very good explanation about this phenomenon is provided in (Ochilov, 2012) and just like in Uzbekistan case, in all three countries (Bulgaria, Czech Republic and the Netherlands) tertiary schools educate and re-educate existing workers, meaning that actually instead of working and contributing to GDP growth, people are going to tertiary schools. Also, high educated persons demand higher wages.

Taking a look at all three models it can be observed that the secondary enrolment variable is the least significant variable of the three independent variables.

The best regression model can be considered the one for Bulgaria, because two out of three independent variables are significant and the variables jointly influence GDP growth. Also, the model has not any serial correlation and the residuals are homoscedastic. Another important thing is that from Jarque-Berra test population residual is normally distributed.

Due to the fact that few data are used, it can be consider that a calibration of each of the models has been obtained. As further development of the study, a panel data regression model is suitable.

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BOOK REVIEW

Austerity and Economics: Why Germany and European Union supported austerity and why Europe is lagging behind in its recovery after the crisis

Mark Blyth: Austerity - The History of a Dangerous Idea, Oxford University Press, 2013

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A brief introduction about the economic crisis that started in 2008

Before discussing about austerity and the well documented and highly captivating analysis of it done by Mark Blyth¹ in his book “Austerity – The History of a Dangerous Idea” some introduction about the economic crisis that started in 2008 is needed. The reason for this logical and contextual need is the fact that in the European Union, particularly in the Euro area (in countries like PIIGS – Portugal, Ireland, Italy, Greece, Spain) as well as in the less developed member countries (Romania included), austerity started to be advocated as a cure for the crisis despite the fact that five years later the results are still expected to manifest in any significant way. The point we want to make here is that indeed starting with 2008 it was an economic crisis but not a global one. The demonstration for this statement is rather simple. The World Economic Outlook of the International Monetary Fund series 2000 – 2014 (covering time interval 1998 – 2013) shows that at the world economy level only in 2009 we had a negative growth (a rather small decline of -0.6% at world level and, at the same time, in the same year 2009, a high growth of +6.9 % in developing Asia), while for all years before and after 2009 the world economy registered a positive (and even reasonably high growth rate). The interpretation of this data is that the world economy system has not been in crisis, what we have is a repositioning of the participants, a restructuring, a period of redefining the hierarchies². Therefore, from the very beginning the crisis should have been presented as a specific economic phenomenon that required specific solutions and not as a global phenomenon asking for overall, standard solutions.

In this context European Union has been the less performing component of the world economy (with the notable exception of Germany and, to a certain extent of Poland)), most of the time after 2008 Europe being unable to generate sustainable and significant economic growth. During all this period European Union through a number of political leaders and through the actions of the European Commission quite stubbornly insisted that austerity is the solution to its economic problems. In order to be accurate we need to point out that the support and sometimes the enforcement of austerity came largely from Germany and that although many European countries applied in various ways and intensities austerity policies,

¹ Mark Blyth is Professor of International Political Economy at Brown University, Rhode Island, USA and Director of the International Relations and Development Studies Programs with Watson Institute for International Studies.

² Bonciu, F., Baicu, G., World Economy Under Loupe: From Acute to Chronic Crises, Pro Universitaria Publishing House, Bucharest, 2010.

not all countries have been convinced to do so or happy about austerity's implications and their effectiveness.

Mark Blyth and his particular/personal approach to austerity

The publishing of Mark Blyth's book "Austerity – The History of a Dangerous Idea" in 2013 generated a lot of reactions and comments in international media. It had been considered a timely book as in 2013 five years had already passed since the onset of the crisis. And it had been also timely because in 2013 there was an evident difference between those who applied austerity (mainly countries in the European Union) and those who did not (mainly United States, but also Poland, Asian countries and others). The first group is still struggling in 2014 with difficulties, while the latter it is not in perfect condition but anyway overcame the effects of the crisis.

Aside of being timely the Mark Blyth's book has some characteristics that recommend it. **First**, from a reader's point of view, the book has a personal touch, in author's words it has a "personal history". This personal history refers to the fact that Mark Blyth originates from a relatively poor background in Scotland and had benefitted from the welfare state to survive and to be educated until he reached the current position of Professor of International Political Economy at Brown University in Rhode Island, USA, and Director of the International Relations and Development Studies Programs with Watson Institute for International Studies.

The author mentions that he could become what he is today exactly because of the state and the welfare programs that allowed him to have a home, food and education. All these areas (social housing, state retirement pensions, free access to education, etc.) have been subject to serious budget cuts under the umbrella of austerity policy and therefore those who are born today in less fortunate families or environments have far less chances than they could have some decades ago. Under the austerity policies like those promoted in Europe "workers bail bankers", social mobility has almost stopped and a new "Mark Blyth" would no longer be possible. As a consequence talented but less fortunate children of today would no longer become professors. This is the personal touch of the book and it is convincing.

Second, the author is very clear from the beginning in stating what type of austerity he has in mind and that the idea of obtaining economic growth from cuts (that is austerity) is a "dangerous nonsense". And because austerity may mean many things to many people Mark Blyth explains from Chapter 1 what type of austerity he is going to study and combat: "Austerity is a form of voluntary deflation in which the economy adjusts through the reduction of wages, prices, and public spending to restore competitiveness, which is (supposedly) best achieved by cutting the state's budget, debts, and deficits. Doing so, its advocates believe, will inspire "business confidence" since the government will neither be "crowding-out" the market for investment by sucking up all the available capital through the issuance of debt, nor adding to the nation's already "too big" debt."

By stating at the very beginning this definition Mark Blyth makes a strong and clear distinction between eliminating waste, theft or corruption on the one hand, which is a thing universally supported and the reduction of aggregate demand as a route to economic growth, on the other hand, which is a completely different story. To put things in a broader context we may say that from a technical or engineering point of view, it is possible to increase energy efficiency and therefore it is possible to produce more with less, but all within the limits of a sub unitary (less than 1) efficiency ratio. This context means that when we start reading the book we have to take into account that the author takes a clear position on signaling the dangers of austerity as a general idea of obtaining growth by reducing aggregate demand and has no reference at all to other cuts that deal with inefficiency, waste, bureaucracy or corruption.

Third, Mark Blyth approach to austerity is at the same time functional, with the busy reader in mind. Not only the chapters are conceived as modules but they can even be read separately, function of the time or immediate interest of the reader. In the preface to the book the author is giving instructions for this modular approach: chapter one refers to the implications of austerity or what is at stake; chapters two and three refer to why austerity is promoted particularly in Europe and how the crisis in United States generated such significant effects in Europe; chapters four and five research the origins and history of the concept of austerity; and chapter six explains why austerity is such a dangerous idea.

Fourth, the book is based on an inter-disciplinary and chronological approach that combines history, sociology, economics and politics. In this way the concept of “austerity” and its various interpretations are revealed together with the interests of those who supported it in various circumstances and sometimes for very different reasons.

The added value of the book “Austerity – The History of a Dangerous Idea”

What makes primarily this book valuable is the fact that it brings a solid foundation to any discussion on austerity. It is indeed a “history” of the idea of austerity that traces the roots of the concept to the Enlightenment era, mainly relating it to the works of John Locke, David Hume, Adam Smith and later on to those of David Ricardo. During the first part of this historical journey the austerity concept is analyzed for a time interval of several centuries which include the period 1692 – 1942.

Reading the book it is of interest to find that the current position against state and state intervention in economy which is manifested under various forms and it is stated most openly by libertarians originates in the seventeenth century when the state was to a large extent identified with the king (head of state whatever the name of this position) and the debt of state was therefore the debt of the king. For the emerging capitalists as a social class less state meant less money for the kings and aristocracy and the fundamental role of the state in their view had to be limited to the protection of property. The intellectual roots of austerity are traced by the author to the heart of economic liberalism that feared government debt because this affected savings, merchants and accumulated wealth. Mark Blyth explores the evolution of austerity related approaches starting from the “liberal dilemma about the state: can’t live with it, can’t live without it, don’t want to pay for it”. He points out that the concept of austerity as it is perceived and presented today appears once with the modern state in the nineteenth century.

One value added aspect of the book is the strong component of economic doctrines analysis that covers the classics (John Locke, David Hume, Adam Smith, David Ricardo but also John Stuart Mill and others), the Treasury view of the nineteen-twenties Great Britain, the new and neo-liberalism (with prominent figures like T. H. Marshall, John Maynard Keynes, and William Beveridge), Keynesian approach and Austrian economists (in particular, Friedrich Hayek, Ludwig von Mises, and Joseph Schumpeter). Closer to our times Mark Blyth explores the monetarism of Milton Friedman, the Washington Consensus of the International Monetary Fund and the World Bank, and a rather specific and at the same time strange concept of “expansionary austerity” that emerged as part of the postwar German ordoliberalism and at Bocconi University during the 1980s and the 1990s. The presentation of the fight of ideas that emerge, disappear and re-appear in new formats is really fascinating.

As Germany acted after 2008 within the European Union not only as the strongest economy but also as the strongest supporter of austerity the understanding of roots and later development of German ordoliberalism is of paramount importance. One of the major achievements of Mark Blyth and his book, at least in our opinion, is the clear explanation of an apparent paradox: how came that Germany supports austerity and this translates for the countries where it is applied into cuttings of the state budget (meaning less state) and at the

same time the strongest European economy (that is Germany) is characterized by a powerful state?

The answer to this paradox is found in a particularly valuable part of the book which explains the origins of the ordoliberalism and its German context. The explanation is long and complex and includes such interesting observations as the role played by the state in “late-industrializing states” where a particular relation developed between the state and the markets.

Leaving aside Great Britain (that was the pioneer of capitalism and had the advantage of the first comer) and the United States (that was also an early player and rather isolated geographically) Mark Blyth tell us that: *“all late developers have a scale problem. To catch up with already industrialized states, the state in a late developer must underwrite the risk involved in investment because the scale of the capital required to industrialize after other states have done so outstrips the capacity of any individual entrepreneur to do so In playing this role, the German state, whether Wilhelmine, fascist, or democratic, has always accorded itself a more directive and coordinative role in the economy than is typical of liberal states. Critical throughout Germany’s development has been the role of the state in suppressing consumption and increasing savings to provide adequate pools of capital for large-scale industrial investments, while also providing transfers to smooth, rather than block, such policies.”*

It is also interesting to find out that in the 1930s when the concept of ordoliberalism was developed by the Freiburg school of economics the target of criticism were the private economic cartels and not the state. Under the specific German conditions competition and not consumption appeared as the solution to growth. As Blyth tells us: *“By attacking concentration and cartels while keeping prices stable, ordoliberals hoped to generate growth by enhancing the competitiveness of German firms and the attractiveness of their products. The policy objective of these institutions was therefore the encouragement of ‘achievement competition’ rather than ‘impediment competition’ whereby the quality of products manufactured would create the demand for them, in a modern supply-side restatement of Say’s law. Under such institutional conditions the benefits of rapid growth would flow to all members of society.”*

By stressing competition as an engine to growth and benefitting from the support of a strong state as well as due to some historical constraints related to its internal market Germany developed especially after the second World War as an export oriented economy. Once this historical framework is finished it is rather clear why Germany is the successful export oriented economy of today and why Greece, Portugal or Romania can not follow in its steps.

After analyzing the historical becoming of the post-war Germany, the country that imposed to a large extent austerity within European Union after 2008 and which was quite often presented as a model for the rest of the member states Mark Blyth points out several flaws in this logic: **the first** is the fact that not all countries are Germany (for the historical reasons mentioned above), nor they could be even if they want to; **the second** is the fact that Germany has export surpluses exactly because other countries are buying her goods and therefore run deficits; if all European countries were like Germany and exported as much, then Germany could not be as strong and well performing as an exporter; **the third** aspect is that if all European countries would have export excedents who would have deficits ? As Mark Blyth puts it: *“that made Germany rich was only possible precisely because other countries were not doing the same at the same time”*. The problem is not a new one, it confronted mercantilism supporters during the 16th to 18th centuries.

In relation to the post 2008 situation a central idea presented and supported in the book is that the European debt crisis largely originate in the private sector and the decision to rescue many European banks (that took the risks of speculative investments) led to the fact

that bad bank debts were transferred into public debt and quite suddenly public spending appeared as the cause of crisis despite lack of evidence. As the author says: “*The result of all this opportunistic rebranding was the greatest bait-and-switch operation in modern history.*”, and continues: “*What were essentially private-sector debt problems were rechristened as ‘the Debt’ generated by ‘out-of-control’ public spending.*”

In explaining the difference in approach to the banks problems in United States and Europe Mark Blyth highlights two aspects: the first is that European Central Bank is not allowed to act as a lender of last resort for saving the banks, an option that is possible in United States; the second aspect that differentiate Europe from United States is that European banks are too big to rescue. As a proof of this in 2008 in United States the combined assets of the six largest banks represented 61 % of GDP, while in Germany the two biggest financial institutions (Deutsche Bank and Commerzbank) had assets equal to 114 % of GDP, and in France the three biggest banks (BNP Paribas, Société Générale, and Crédit Agricole) had assets equal to 316 % of GDP.

Another factor that complicated the situation in Europe and oriented towards the adoption of austerity measures was the Euro zone and its mechanisms. In the Euro zone the members can not print money, can not devalue, can not let the banks default, can not cut taxes and can not increase government spending. What else is left? Only austerity, but this is not supported as a growth policy either by theory or by practice.

Mark Blyth explains clearly that we may draw a parallel between the gold standard and the Euro zone (as in both you can not devalue, inflate, or default) and shows that austerity did not provide results in Europe in the early 1930s but on the contrary it led to the Great Depression and further on to the second World War.

In the same context an interesting contradiction that is revealed by the author refers to the fact that the various rules and regulations specific to the Euro zone and in fact specific to all member states (such as the Maastricht criteria, the Stability and Growth Pact, the European Semester, etc.) have as subjects the member states but they do not provide for banks (that is private entities) that may behave badly. A rather long quote here from Mark Blyth’s book may be illustrative: “*By looking only at inflation rates, budget deficits, and state debts, EU planners failed to see the growth of a banking system that is too big to bail. The price of their hubris is the belief among European elites that only a decade or more of unremitting austerity will suffice to prop them up, perhaps at the ultimate cost of undermining of the European political project. This may be the true price of saving the banks. Not just the end of the euro, but the end of the European political project itself, which would be perhaps the ultimate tragedy for Europe.*”

In relation to the social implications of austerity policies in Europe Mark Blyth points out to the unfairness of these policies that put most of the costs on the poorer segments of society which had the least to do with the onset of the crisis. In his words: “*Few of us were invited to the party, but we are all being asked to pay the bill.*” And he also stresses that austerity creates in fact a vicious circle in that cutting aggregate demand can not create jobs which in turn can not create demand. What it is to be appreciated is that the author finds solid arguments to some widely accepted statements of the austerity supporters. Thus, to the usually quoted saying “*more debt doesn’t cure debt*” he retorts with “*We tend to forget that someone has to spend for someone else to save; otherwise the saver would have no income from which to save.*”

In order to trace the historical roots of austerity policies the book analyses at length the austerity episodes in various countries between 1914 – 2012 and gives some convincing examples from the inter-war period: Germany in 1923 – 1933, United States during 1921 – 1937, Great Britain during 1921 – 1939, Japan during 1921 – 1937, France during 1919 – 1939. The examples are well documented and really convincing in proving why austerity did

not work in any of the mentioned countries and by worsening the situation it eventually led to World War II.

An important part of the analysis presented in the book refers to the relation between the Austrian economic school and austerity. And it is here that we find another particular paradox. After 2008 in the European Union austerity (that is cutting of state budget expenses and therefore having less state) was supported by Germany (that is ordoliberal and has a strong state, it is true with a specific type of state power) and by the diverse representatives of the Austrian economic school that are against any form of state intervention in the economy.

The paradox consists in the fact that the two major supporters of austerity (Germany as a major exponent of ordoliberalism and the representatives of the Austrian economic school) have different if not antagonist positions vis-à-vis the state relation with the market economy. As regards ordoliberals, Mark Blyth explains that: *“despite their deep misgivings about the welfare compensation, [they] keenly appreciated that the “stability and security [of] the working class was prerequisite to securing the market economy. As a consequence, although the ordoliberals really did not want the economic constitution to be tied to a welfare state, circumstances and politics dictated otherwise: the market economy had to become social”*.

Maybe it is worth here to read again article 3, paragraph 3 from the Treaty of Lisbon: *“The Union shall establish an internal market. **It shall work for the sustainable development of Europe based on balanced economic growth and price stability, a highly competitive social market economy, aiming at full employment and social progress,** and a high level of protection and improvement of the quality of the environment. It shall promote scientific and technological advance”*³. The provisions of article 3 include the idea of “balanced economic growth and price stability”, the concept of “a highly competitive social market economy” as well as the “full employment and social progress” all of which are consistent with ordoliberalism and the German understanding of the role of state and its highly specific type of intervention in economy.

Mark Blyth finds here some particularly valuable ideas that explain all that is to be explained about European Union, austerity and Germany’s position: *“Germany both possesses and professes a liberalism that embraces the state and transforms it. In doing so, it does the same for austerity. The fact that ordoliberalism, ordnungspolitik, and the rest, are all about rules means precisely that good economic governance is not about spending. **If the rules establish a framework within which prosperity is established through the enhancement of competition, then the supply side of saving and investment, rather than the demand side and consumption, still rules the day.** Ordoliberalism may have modernized liberalism, but its economics in many ways remain as classical as Smith and Hume.*

In the context of a late-developing, export-led economy that needs to force savings to catch up the British, this makes perfect sense: Erst Sparen—Dann Kaufen (that is first save, then spend). But ... [this] rather spectacularly ignores the fact that for someone to be running an export surplus, someone else must be running a deficit. We cannot all run surpluses and save. Someone has to spend so that there is demand for these exports. Thus, a fallacy of composition of a different type rears its head again; and this is where the transfer of these austerity-based principles into the EU’s constitutional framework and in Germany’s policy response to the crisis, really shows up. If Germany’s focus on rules, obligations, a strong monetary authority, a weak parliament, and no spending to compensate for busts sounds familiar, it should. It’s the basic design of the EU. Germany’s response to the crisis, and the crisis itself, both spring from the same ordoliberal instruction sheet”.

³ Treaty of Lisbon amending the Treaty on European Union and the Treaty establishing the European Community, signed at Lisbon, 13 December 2007, Official Journal of the European Union, C306, Volume 50, 17 December 2007.

In fact, Germany also influenced consistently the European Union approach to the functioning of the European market even before the crisis from another perspective and that approach failed. The centrality of the competitiveness and competition could be found in the Lisbon Strategy launched in 2000 that aimed at transforming Europe into "the most competitive and dynamic knowledge-based economy in the world, capable of sustainable economic growth with more and better jobs and greater social cohesion"⁴. By 2010 the Lisbon Strategy has been evaluated a failure. The Europe 2020 Strategy that followed has been designed much along the same lines with Lisbon Strategy and as of early 2014 seems to be as (un)successful.

The idea that one-size-fits-all solutions does not function is not new. However Mark Blyth draws an original parallel between the failure of the Washington Consensus (liberalize and economic growth will automatically come) as an universal recipe to economic success and the failure of the German ordoliberalism recipe (growth through saving and becoming competitive and not by consumption) as a solution for late comers to the development table as Greece, Portugal, Spain or even a late, late comer as Romania.

However, such provisions as those envisaged by German ordoliberalism are not at all in line with the Austrian economic school that ideally aims at an entirely self-regulated, free market economy. Speaking about the Austrian economic school Mark Blyth is consistent in having a historical approach. Therefore he starts in presenting the ideas that underlie the Austrian economic school starting from the late nineteenth century in the former Austrian-Hungarian Empire. Blyth explains that: *"First ignored and then defeated in Europe, Austrian ideas survived in America, where their popularity has ebbed and flowed for nearly a century. Although battered and beaten-down by the Keynesian revolution after World War II, Austrian ideas never quite disappeared from the American scene. They staged something of a comeback in the 1970s when Hayek was awarded the Nobel Prize in economics and served as a popular justification for Reagan's supply-side policies, but they disappeared again until the current crisis brought them back to the fore. Why this reappearance? The answer lies in what they said about banks."*

What the Austrian economic school said about the banks and that seemed highly acceptable for the Americans after the onset of the crisis was the following: *"It's all about the banks producing cycles of boom and bust that are always made worse by the government getting involved either through central-bank-based monetary policy or through simulative fiscal policy. Austerity is the correct and only possible response to a slump."*

The big problem with the Austrian economic school is when the solutions are checked against public policies and institutions of the contemporary economies. Can someone imagine the total elimination of government from economy or the giving up of fractionary reserves and reliance only on real money and real savings? And can someone really guarantee that left by themselves all economies will self-heal? A wise remark by Mark Blyth is that contrary to what Schumpeter said about the positive role of innovation and entrepreneurship, the onset of the financial crisis in the United State derived exactly from too much innovation and entrepreneurship in the financial sector via *"excessive balance-sheet leverage, the fragility of the shadow banking system (the repo markets), and the structure of complex derivatives"*.

Mark Blyth concludes that: *"In sum, while the Austrian theory is very insightful in some areas, especially in covering the broad story of the credit cycle and the dangers of excessive debt, the Austrian policy proposal that follows from this analysis—"maximum austerity as quickly as possible"—makes little sense given what we know about how actual economies perform when they go through busts. Far from encouraging "self-healing," nonintervention and noncompensation can produce the politics of permanent austerity, as*

⁴ The Lisbon Special European Council (March 2000): Towards a Europe of Innovation and Knowledge

Europe is finding out. Politically attractive to some, especially to antistatist conservatives, such ideas resonate in theory, but they detonate in practice.”

A particularly interesting part of the book refers to the in depth scrutiny of some studies written in the 1990s that apparently proved that “expansionary contraction” does exist: the paper of Francesco Giavazzi and Marco Pagano from 1990: “Can Severe Fiscal Contractions Be Expansionary? Tales of Two Small European Countries” on Denmark and Ireland and that of Alberto Alesina and Roberto Perotti, “Fiscal Expansions and Adjustments in OECD Economies,” from 1995 on 20 countries among which outstanding for the authors’ demonstration were Ireland and Australia.

Mark Blyth shows that further analysis, including research done under International Monetary Fund aegis, proved that the conclusions of such studies were not consistent, leaving significant data and events outside analysis (such as effects of globalization or the inputs represented by European Union structural funds), or they were entirely misleading (for instance in Denmark cuts were made in a period of boom and not of crisis which changes entirely the situation while in Australia the demonstration invoked cuts in unemployment benefits and in capital taxes that actually did not exist at all). In brief the whole “expansionary contraction” concept was based on fiction, mistakes and inappropriate generalizations and therefore has no real support.

Some short conclusions on Mark Blyth’s book.

Besides being a captivating lecture on the history of economic ideas and on arguments and facts that shaped European Union institutions and policies in the last decades and particularly after 2008 Mark Blyth’s book “Austerity: the history of a dangerous idea” draws our attention on **three types of risks** faced by politicians, economists or other social scientists:

a) risks of generalizing ideas, policies and institutions that can not be generalized (that is by taking them out of their very specific historical and even geographical context). One example in this respect is the case of the German ordoliberalism. As Blyth says: “ *It’s a great instruction sheet—so long as you are indeed the late-developing, high-savings, high-technology, and export-driven economy in question. If you are not, as the periphery of the Euro zone is finding out, then it’s a one-way ticket to permanent austerity*”.

b) risks of extrapolating and implementing explanations of a school of economic thought (the Austrian economic school) to circumstances that are far away from those taken into account by the initial authors. Both globalization as a world phenomenon and European Union as a political and economic entity as well as the public values and institutions of the modern Western states have characteristics that do not allow for letting the economy and society as a whole to self-heal and re-balance no matter what the social costs may be and no matter how long it will take;

c) risks of believing that there are such things as absolute solutions, interpretations of reality or policies based on them. Monetarism and neo-liberalism made sense in the 1960s and 1970s in many Western economies. At that time, in his approach, Milton Friedman assumed that unemployment is voluntary. Can we speak about voluntary unemployment in the post 2008 European Union? Also the ideas of rational expectations and efficient markets made sense for some time but in the long run they failed to prove absolute and able to generate automatic solutions. The idea of state as an intrinsic distorting factor for the economy found a modern support in the public choice theories which introduced the idea of a political business cycle where the state spending was correlated to the electoral cycles and had as effect the periods of booms and busts that were the consequences of elected officials trying to maximize votes. The perfect solution to the risks presented by the public choice theories seemed to be the independent central bank. All these theories and ideas and other similar ones reflected

parts of truth or reality or temporary realities. Making them absolute led through a complex inter-action to the idea that austerity is a bitter medicine that automatically heals provided that enough time is allowed. The only and major problem with this statement is that it is wrong. And it has been an irony of fate that the confirmation for austerity not being the solution came in June 2013 from the International Monetary Fund that rather criticized the European Commission for the measures imposed on Greece and other countries (despite the fact that IMF is a member of the Troika together with the Commission and the European Central Bank)⁵. In a more complete and complex way the confirmation that austerity is not the solution came also from the European Parliament that conducted an enquiry on the role and operations of the Troika (ECB, Commission and IMF) with regard to austerity programmes imposed to the euro area countries⁶. The Report voted in the European Parliament on March 13, 2014 also pointed out that the activity of the Troika as a whole was characterized by “lack of appropriate scrutiny and democratic accountability.”⁷

In synthesis, Mark Blyth extracted three reasons why austerity is a dangerous idea: because it cannot work; because it is unfair in imposing a large part of the burden on the poorer segments of society (that was not at the origin of the crisis); and because it simply ignores the fact that all countries cannot adopt austerity policies at the same time and be successful in restoring growth.

Leaving aside the subject of austerity Mark Blyth’s book leaves on the reader a long lasting proof on how powerful ideas can be and how they can shape the fate of humankind. At the same time the book invites us to make the effort of a holistic approach in trying to solve extremely complex problems of a global nature.

⁵ Matina Stevis, Ian Talley, IMF Concedes It Made Mistakes on Greece, Wall Street Journal Europe, June 5, 2013

⁶ Report on the enquiry on the role and operations of the Troika (ECB, Commission and IMF) with regard to the euro area programme countries (2013/2277(INI)), Committee on Economic and Monetary Affairs, European Parliament, Document A7-0149/2014, February 28, 2014

⁷ Op.cit. p18.