„ Do not fear to be eccentric in opinion, for every opinion now accepted was once eccentric. ”

Bertrand Russell

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Volume 9, Issue 1/2015

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# Editorial Foreword

Welcome to Volume 9, Issue 1 / 2015 of the Review of Applied Socio-Economic Research - an international peer-reviewed journal developed and published online by Pro Global Science Association. This issue comprises 10 scientific research articles from authors based worldwide, contributing to an in-depth understanding of the complex and interrelated socio-economic challenges facing Europe in these times of challenge and change, when knowledge has become a key driver of economic growth and jobs creation.

The original research papers encompass a broad spectrum of socio- economic areas, and some pioneering and frontier ideas in socio-economic research. We invite you to read articles about some major business challenges: banking sector in the context of adopting Basel II, ICT sector and knowledge - based economy, motivational methods for employees and consumers of light industry, social media as a web-based marketing tool, strategic environmental assessment. Also, this issue advances social research in themes as suburbanization and residential segregation, inequality, socioeconomic status, the social construction of Roma housing, and changes of marital status: a 1991-2012 comparative analysis in member states of the European Union.

I want to bring to your attention the paper "The social construction of Roma housing issue: determinants of Roma and Romanians perceptions", which gained the International Competition - The Best Scientific Article of the Young Researchers, organized by Pro Global Science Association in the framework of the 4th Edition of International Symposium "Advancing socio-economic research" held in 15 - 16 May 2015. The competition was addressed to young PhD students or PostDoc students.

It only remains for me to thank to my co-editors, to the members of our Editorial Advisory Board, to reviewers and authors for their tremendous and high quality work in preparing and publishing Volume 9, Issue 1 / 2015 of the Review of Applied Socio-Economic Research.

Enjoy reading!

**Cristina Barna**, Assoc. Prof. PhD

REASER Managing Editor

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# Albanian banking sector and the challenges of adopting Basel II

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**Abstract.** *The Albanian banking sector is already facing the challenge of adopting the Basel II international standards with the aim of applying all the necessary requirements on the calculation and reporting of the regulatory capital by the end of 2014. These developments require major preparation from the banks in order to understand, assimilate and implement the new requirements. This paper aims to analyze the challenges and opportunities of the Albanian banking sector in implementing these new requirements.*

*Initially we will define the theoretical context of the requirements of Basel I, II and III as well as the literature review of the basic challenges that Basel II created for developed and emerging countries. In continuance it will be presented a comparative analysis of the requirements of Basel II with the actual Albanian regulatory framework with a special focus on the compliance of the legislation and gaps identified. We point out the fact that Albania as an emerging country is in the process of implementing a hybrid of Basel I and II, since the regulator considers it more suitable with the actual financial situation and the banking sector structure. With reference to the above the Albanian banking sector needs to identify the methods of value maximization from the implementation of this framework and to successfully manage the restrictions it has for implementing it up to the end of 2014.*

*Finally in the aim of identifying all the challenges and opportunities of this process, we'll analyze the major factors that will affect the banking sector with a special mention to the requirements of the regulatory capital.*

**Keywords:** Basel, regulatory capital, Albanian banking sector, regulator

**JEL Codes:** G210, G280.

## 1. Introduction

### 1.1. The historic steps towards an International Accord in 1988 (Basel I)

The main reasons of regulating banks have pushed over searching ways and manners to properly fulfill this need. Starting from the 1900 in the USA the first capital adequacy requirements ratio has gained recognition worldwide and is actually implemented from 100 countries all over the world. These requirements prevent banks' losses, protect creditors in case of bank failure, and restrict risk taking strategies

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of banks. Further capital adequacy rules in USA included Capital to Deposit Ratio (1900 - 1930s), Capital to Total Asset Ratio (1930s), and Capital to Risk Asset Ratio (1945 – 1970s).

Competitiveness has eventually pressed the fall of capital ratios that reached its lowest levels in the mid-1980s and the Basel Committee on the Banking Supervision was obliged to act in the harmonization of the regulatory requirements for the international playing banks. The framework suggested that banks from different countries competing for the same loans would have to set the same (roughly) amount of capital. The result from the Committee's effort was the Basel Capital Accord (or known later on as Basel I), which is still in force today.

The main characteristics of Basel I was:

1. To ensure that international banks would build business volume with appropriate capital backing
2. To set minimum capital standards on banks
3. To focus on credit risk

The new concept of Basel I was the incorporation of credit risk in the calculation of capital requirements. The minimum capital requirement was set to 8% of risk- adjusted assets, with half of this to be met by Tier 1 capital (equity capital and disclosed reserves). Risk adjusted assets were the sum of adjusted with four risk buckets (0 %, 20%, 50% and 100%) assets of on and off balance sheet items.

Basel I Accord was criticized for the fact that mainly focused to credit risk, disregarding other types of risk and at the same time offering a simplistic approach on defining risk weights. The lack of economic foundation in the definition of capital ratio, as well as concerns regarding the "cooking of the books" from banks to adjust the ratio, were some of the growing evidence that questioned the initial definitions and pushed on alternative approaches regarding risk and capital requirements.

A new amendment in 1993 allowed banks to use their internal models approach to estimate VaR (Value at Risk). Furthermore the development of the technology allowed banks to develop their own internal rating models, in order to align the amount of risk they undertake on a loan with their overall targets (the internal rating based approach). Another two approaches, the full models approach (FMA) and the pre-commitment approach (PCA) includes also market risks.

In essence the new approaches introduced through the years indicate that the original Basel I Accord did not consider the differentiations of banking institutions, was more like a "one-size" approach than a flexible framework and for these reasons had to be revised. The revision took place in June 1999 introducing Basel II requirements presented in the next section.

### 1.2. Basic characteristics of Basel II

Three main pillars are proposed in the International Convergence of Capital Measurement and Capital Standards:

1. The minimum capital requirements
2. The Supervisory Review Process
3. The Market Discipline.

As stated in the framework "the fundamental objective of the Committee's work to revise the 1988 Accord has been to develop a framework that would further strengthen the soundness and stability of international banking system while maintaining sufficient consistency that capital adequacy regulation will not be a significant source of competitive inequality among internationally active banks".

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The standardized framework has been implemented worldwide from Basel Committee members and non-members. This included also changes in local rules and regulation for many countries in order to achieve compliance with the new requirements and built the necessary infrastructure for implementation, which of 'course implicated relative costs.

The minimum capital requirement as calculated from Basel II is:

$$MCR = \frac{Capital}{Credit\ Risk + Market\ Risk + Operational\ Risk} \geq 8\%$$

The capital ratio is calculated using the definition of regulatory capital and risk-weighted assets. Regulatory capital is considered the equity capital and disclosed reserves. Due to the fact though that banks might have other substitutes of capital the Committee decided to divide the capital in two tiers – Tier 1 requiring at least 50% of the bank's base capital and published reserves and Tier 2 consisting of supplementary capital limited to 100% of Tier 1. This gives the opportunity to the banks to regulate their capital according to their supervisory requirements and restrictions.

Total risk weighted assets are determined by multiplying the capital requirements for market risk and operational risk by 12.5%, which is the reciprocal of the minimum capital ratio of 8%, and adding the result to the risk-weighted assets for credit risk.

The measurement of credit risk can be done through standard approach – by using external rates for determining risk weights, or through an internal ratings method approach (IRBA) – by using basic internal rating where the bank calculates its probability of default or advanced internal rating where the bank calculates all risk components (except effective maturity).

For the measurement of operational risk that covers the risk of loss due to system breakdowns, employee fraud or misconduct, errors in models or natural or man-made catastrophes, among others, Basel II introduces three methods:

1. The basic indicator approach: the banks must hold capital for operational risk equal to the average over the previous three years of a fixed percentage of positive annual gross income.

2. The standard approach: divides the banks' activities into 8 (eight) business lines (corporate finance, trading and sales, retail banking, commercial banking, payment and settlement, agency services, asset management and retail brokerage) and the total capital charge is calculated as the three-year average of the simple summation of the regulatory capital charges across each of the business lines in each year.

3. The advanced measurement approach: the regulatory capital requirement will equal the risk measure generated by the bank's internal operational risk measurement system using quantitative and qualitative criteria. The usage of this approach is subject to supervisory approval.

For purposes only of market risk coverage Tier 3 capital is introduced consisted of short-term subordinated debt and is solely used to support market risk such as interest rates risk, foreign exchange risk and commodities risk.

Market risk is defined as the risk banks face due to movements in the market prices and two methods of counting it have been introduced in Basel II: the standardized measurement method and the internal models approach.

In summary, pillar I ensures that according to local regulations and supervisory restrictions every bank can calculate its own risk and the capital requirement can be higher in cases higher risk is indicated in the

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loans and lower for the lower-risk loans as well as it introduces the definitions of eligible capital under credit risk, operational risk and market risk.

The supervisory review process presented under Pillar II focuses on the need to supervise banks' capital adequacy as well as to ensure the usage and development of advanced risk management techniques for the monitoring of bank's risks. It covers areas that are not covered from Pillar I and notes the supervisor's role to ensure compliance and fulfillment of the requirements.

Finally the third pillar of market discipline comes to complete pillar I and II by introducing some rules of disclosure to all the banks that implement the minimum capital requirements and the supervisory review process. These rules tempt to create a safe and sound banking environment, to maintain market discipline and to effectively inform the market on the bank's exposures to risk enhancing comparability.

### 1.3. Basel III and its innovation

The financial crisis of 2008 and its domino spread which affected to a large extent the banking sector in America and Europe resulted in a review of all regulations of the sector to ensure that they can effectively fulfill the initial reason of their existence: to ensure the financial health of a modern economy. Basel II and its requirements have been criticized for not taking into account the measurement of liquidity and lack of ability to offer protection from the financial crisis. These shortcomings were addressed in the development of Basel III since 2009, the publication of which was completed in 2013 by further enriching the main pillars of Basel II as follows:

1. Reinforced requirements for the minimal regulatory capital and for the liquidity
2. Reinforced process for the supervisory review regarding risk management and capital planning
3. Reinforced market discipline and transparency regarding risk.

Basel III comes to support tighter requirements for regulatory capital and liquidity in quantitative and qualitative terms, and expands in the calculation of credit risk, market risk, liquidity risk, concentration risk, operational risk and expected default risk. In this context it requires a complete synergy between risk management and financial management to determine and meet the strategic objectives of the banking institutions. Moreover Basel III allows for a concrete development of risk management in the respective institutions. The introduction of the requirements of Basel III was conducted in 2013 and is expected the usage of the new liquidity ration to take place during 2015-2018. The transition of the implementation of the requirements from Basel II to those Basel III is considered to take place gradually but the effects and implications regarding compliance are considered different for different countries.

An analysis of Moody 's on Basel III requirements refers to different countries facing different kinds of difficulties "en route" to harmonization with the requirements of Basel III: EU countries for example can more easily be transferred from Basel II to Basel III and they plan to do this through the distribution of a set of new rules for implementation from all the Central Banks of the member countries. US will have to pass from Basel I to Basel III, since it has not implemented the requirements of Basel II. Japan, Hong Kong, Singapore and Australia are mostly in the same situation with EU countries. While for other countries such as Russia, Eastern Europe, Middle East, Africa and Asia is difficult to determine how they will operate to this harmonization process and what politics will eventually choose for the implementation. Albania as an Eastern European country, needs to perform major steps to implement Basel II requirements as well it's Basel III, the difficulties of which will be described in the next section of this paper.

Referring again to the major differences between Basel III and II the following should be considered:

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1. Basel III has higher capital requirements linked not only with its quantity, but its quality also.
2. Basel III provides measuring methods of economic cycles to forecast their trend and tendency and to manage (decrease) their effect from instant booms and bursts which may be created from the regulatory framework.
3. Basel III includes reinforced requirements regarding the trading of financial instruments and their securitization
4. Basel III defines and calculates VaR through stress tests to define the adequacy of the capital in case of economic changes.

The correct implementation of the Basel III requirements presumes a high quality database and the maximum devotion from the financial institutions, which ought to decide whether they'll use their actual platforms or will need to rebuild new ones.

In this context of actual international developments regarding capital requirements as well as the other pillars of Basel II and III, we will analyze in this paper the challenges and benefits that the Albanian banking sector and the regulators will face.

## 2. Literature review

Although the developments regarding capital requirements appear to have taken a new path with the introduction of Basel III, it is important to know the difficulties encountered and the problems that many countries had regarding the adoption of Basel II requirements as there are still developing countries which are far behind in terms of the implementation. Development, growth and ensuring the financial health of different countries with the application of Basel II, it has also brought new challenges for the banking sector, the knowledge of which makes us more careful in the way of the adoption of Basel III. The literature has offered a lot regarding the determination of these difficulties in a theoretical as well as practical point of view. In this section we'll make a short review of this literature.

Basel II framework represents a new approach on defining the capital according to the bank's size and riskiness as well as introduces internal measurement methods that need to be validated from the respective supervisors regarding their assumptions and integrity. It also gives the opportunity of collaboration between banks and the supervisors enhancing better market conditions and soundness and a healthier financial system. These changes from a traditional Accord of 1988 to a modern and flexible approach are considered important in terms of assessing their implications not only in the direct definition of capital requirements, but also in the long-term competition between banks. As a consequence literature has reviewed the framework's effects in many aspects.

Gottschalk and Griffith-Jones, in 2006 have studied the implementation of the requirements of Basel II in low income countries (especially in Africa and Asia). Their research showed that although regulators have generally shown good will to implement the requirements of Basel II 's and harmonize their legal framework, they have followed a rather cautious policy on the implementation steps. The reason of it has been the complexity of the requirements of Basel II 's which increased even more as a result of lack of expertise from the regulators of these countries. The selection which some countries have made to adopt the standard and simple methods of Basel shows lack of experience but also lack of training by other experienced countries or by the Basel Committee for the adoption of the framework. Moreover this slow adoption plan shows the assessment of regulators for the increased impact that these requirements had in terms of local banks towards international banks that operate in these countries which affects in continuance the competition in the market. International banks are likely to pursue more sophisticated methods than local banks and this could affect their capital requirements giving them the competitive advantage. Substantially

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all these countries have pursued a policy of slow adoption simultaneously assessing problems or challenges created by the new accord. Even today many of these countries have not totally adopted the requirements of Basel II.

Conford in 2006 in his paper related with the review of Basel II implementation, risks encountered during the implementation and characteristics of international banking services that are substantially affected by the implementation defines a set of factors to be considered among which: the ability to find people that properly understand the implementation from either the regulator or a commercial banks' prospective (assuming that the regulator and banks under Basel II it would have a very close cooperation), the application of different methods between parent and subsidiaries operating in different countries, where the latter are obliged to follow local regulators, determining the best method for calculating regulatory capital (standard or based on internal rating methods), the special influence that foreign banks will encounter in the competitive markets where they operate, the changes in the regulatory capital, which for some banks are translated into increase and new requirements for capital and for some may be a relief and finally the banking lending practice, which depending on the appetite for risk that each bank has and the regulatory requirements is directed towards certain categories of customers. All these factors are defined as important not only for the countries under the supervision of the Basel Committee, but even for those which are not.

Griffith- Jones and Sprat have argued on the negative effects of Basel II to the developing countries. They analyze and state that the usage of standardized approach in the measurement of credit risk would reduce short-term lending, the removal of the distinction between OECD and non- OECD countries will benefit the latter, highly rated non-OECD sovereigns will be more benefited than low-rated ones, highly rated banks in low rated countries will have the chance to reflect their creditworthiness in the international market, the introduction of external methods of creditworthiness would introduce pro-cyclical effects in the ratings and the functioning of External Credit Agencies (ECAs) even though may use uniform approaches these may not reflect the factors of a national economy rating. Furthermore they argue that the internal rating based approach would give the competitive advantage to larger banks and not to the developing ones reducing the funds they need and so becoming poorer. The dominance of large international banks in the market would also create the unification of economic cycles and would influence on larger crises increasing systemic instability. The authors propose especially for the developing countries the internal rating based approach to be postponed from implementation, as it would worsen their economic conditions and if implemented the probability of default to grow on a linear and not an exponential scale. Also they propose further development of the standardized approach to reduce the incentives towards short-term lending, to expand the number of risk buckets and to introduce public elements in the models of ECAs.

In the context of measuring if Basel II enhances financial stability Wray argues that the requirements of the framework provide better risk assessments methods, ensure supervision and greater transparency, but cannot ensure a sounder and healthier financial system. This due to the fact that the new procedures introduced in the framework would lead to a significant larger reduction of regulatory capital than expected and internal rating models used from banks would lead to divergence and non-uniformity between them. These drawbacks are mainly linked with the fact that the framework can't do something regarding the primary sources of financial instability.

But even the framework can't maintain financial stability; it can reflect it, as presented by Frank Heid in 2007. The author investigates the cyclicality of the Basel II requirements and proves that in times of financial instability or economic turndown capital buffer will decrease because of the rise in the risk weights that compensate the decrease in lending. He argues that the impact of Basel II on aggregate demand is significant, especially in economies where investors are based on bank lending.

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A different point of view is presented in Tanaka, 2002 research paper, where using a general equilibrium model and a representative bank it is shown that capital adequacy is an important determinant in the interest rates elasticity and the loan supply as well as it reduces the effectiveness of monetary policy as a tool for simulating output during recession.

Helmreich and Jaeger in 2008 in their paper for the presentation of the global consequences by the implementation of Basel II show that developed countries like US which have been the initiators of setting regulatory capital requirements, now seem more drawn on the implementation, EU members states are more likely to implement the requirements, while non - members depending on the problems they encounter have chosen a longer route to implementation. The authors refer to the case of Albania in particular by suggesting that Albania has recently required to adopt Basel II because of the large number of foreign banks operating in the country. Regarding the reasons for the difficulties authors refer to the same factors presented above from the literature.

Regarding the effect of the rules of Basel II on increasing the productivity of banks , the research of Delis, Molyneux and Pasiouras, 2008, proved that in contrary to the statistically significant results on the effect of regulations that promote private monitoring requirements, Basel II regulatory capital ( pillar I) does not seem to affect the productivity of banks. Of the three pillars of Basel II, the most important in terms of the impact on the productivity growth of banks is market discipline, indicating that transparency in providing the information can positively affect the development of the banking sector in different countries.

Cho in 2013 in his dissertation presents the main reasons for implementing the Basel requirements and determines through statistical models to what extent has the implementation of the requirements on a global level been managed. The author sets as the main reason that different countries adopt requirements, the importance that they have in ensuring the financial health and stability of the banking sector and also notes that the rate of implementation on a global level is not the same and comparable. Some countries have adopted all the requirements of Basel II , while others are still in the initial stages. It is important however to say that all countries are turning to adoption despite the problems they may encounter.

We could refer to many similar researches, but in summary they have all tried to measure the implications of the framework of Basel II, to critically view and investigate its effect in the economies, either they are developed or developing, to assess the macroeconomic effects that would have after full adoption. Their main purpose is to give highlights on better understanding the requirements, as this will result in better implementation.

## 3. Methodology

The Albanian banking sector has started to operate since 1998 and is structured, regulated and monitored periodically from the Central Bank (Bank of Albania). Banks play the most important role in the local economic growth and in the financial intermediation. The main purpose of the Bank of Albania is to maintain a healthy financial system, to control it and to publish reports and reviews in order to ensure its transparency. In this context the regulator has undertaken the harmonization of the capital requirements for the Albanian banking sector, which has created a new era in the aspect of banks' reporting, their better control and insurance of the financial health of the economy. In this section we'll present a comparative analysis of the Albanian regulatory framework and Basel II requirements to define the level of their harmonization as well as the difficulties in the implementation of Basel II with a special focus on the capital requirements.

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### 3.1. Comparative analysis of the local regulatory framework and the Basel II standards

According to a report from the Governor of the Bank of Albania in 2005, Albania was not estimated to be ready for implementation of the Basel II framework for several reasons mostly linked with being a developing country. As we have expressed above for developing countries the challenge of adopting the requirements is greater than their ability to adapt. Albania as a developing country has a pronounced lack of knowledge on the use of sophisticated methods of risk, there are no rating agencies and banks invest their liquidities in governmental bonds, which according to Basel can increase the demand for capital and exacerbate the financial situation of the banking sector. The growing demand for market discipline makes it even more challenging the setting of rules and transparency for the banking sector after the crisis of 1997, considering the highly sensitive and high impact of the information provided to the public. According to the Governor, of course it is worth mentioning the fact that the banking sector consists largely of foreign banks, which can adopt methods for risk assessment, for which the local regulator may not have the expertise needed to control as such creating a challenge for the local market. Besides the above, two new challenges are added which deal with the creation of local rating agencies and the creation of an action plan that will guide commercial banks in a gradual transition to the adoption of Basel II requirements. For these reasons it was decided and implemented by our regulator a more cautious tactics applying an intermediate level of the requirements from Basel I and Basel II and adoption of a new regulation by the end of 2014.

In July 2013 the Bank of Albania issued the decision no. 48 dated 31.07.2013 for the adoption of the regulation "On the capital adequacy ratio" which enters into force on 31.12.2014 and automatically reverses the regulation "On capital adequacy ratio" dated 05.05.1999. Commercial banks are ordered at this point to take measures for the proper application of the regulation, which includes: defining the criteria and rules for calculating the capital adequacy ratio and determination of the minimum capital adequacy ratio. This regulation besides adopting new definitions includes the calculation of operational risk identified in the section above as non-existent in the actual regulations. The new regulation adopts the standard method for measuring credit risk and counterparty credit risk exposures weighted with a certain percentage according to their risk classification and credit quality. Credit quality is determined by an external rating institution accepted by the regulator. All exposures are classified in classes (15 in total) which take a risk coefficient defined by the regulation. The new regulation refers particularly to foreign credit institutions, how they can be recognized, licensed and how their assessments can be used in determining the risk weights. Techniques for mitigating credit risk are recognized by this regulation and are applicable by placing several types of methodologies that banks must apply. Also, this regulation refers to the treatment of securitized exposures and the calculation of their values using specific weights and their evaluation by an external rating agency. Counterparty credit risk which is measured also by the standard method, includes determining the exposure value of financial derivatives based on concrete methods described in the regulation. At this point even though the regulation does not define any of the internal rating methods (Internal Rating Based Approach) under Basel II, still allows for the use of external rating by external rating institutions, which are regulated in particular.

Market risk for purposes of determining the regulatory capital includes the evaluation of all positions in financial instruments and in goods held for trading purposes. In this regard, the regulation introduces the methods of calculating the capital requirement for market risk as the sum of capital requirement for the foreign exchange position risk and concentration risk plus the capital requirement for all positions of the bank that include foreign exchange positions, goods, repayments. As such the regulation gives the opportunity to banks to select among the methods described the one that forecasts the better situation with respect to its position in financial instruments. Even in defining the capital for market risk the regulation adopts the standard method for determining the weights avoiding internal model methods.

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Finally Chapter VIII of the regulation introduces operational risk and for the first time defines two of the three methods under Basel II to be used for the regulatory capital calculation for operational risk: a simple index method and the standard method.

In summary of the above it is evident that the Bank of Albania through the introduction of this regulation comes closer than ever to implement the requirements of Basel II. However this is done following a conservative approach and applying the standard methods of weights and specified coefficients to avoid the use of internal rating models by commercial banks, which can be complex and difficultly audited by the regulator.

The main challenge for the harmonization of regulations seems to be completed to some extent by the regulator, but what remains is its implementation from the banking sector. What are the future challenges; is an analysis that will perform immediately below.

### 3.2. Challenges and opportunities for the Albanian banking sector in implementing decision nr. 48 dt. 31.07.2014

The decision described above for the regulator itself constitutes a milestone in the path taken to harmonize the regulatory framework. From the standpoint of implementation however is still an emerging challenge.

Albanian banks can consider the implementation of some of the requirements of Basel under this regulation as a way to maximize their value or the value of their shareholders, which stems from the effective risk management, the efficient allocation of resources and capital, the implementation of prices based on risk and lower demand for capital calculated on the basis of the credit rating. This regulation although generally follows standard method for calculating risk-weighted assets, it is worth to mention that for the first time takes into account the operational risk and market risk according to specific methods defined by the regulator.

More efficient risk management comes as a result of systematic monitoring of capital levels according to risk, making more alert the relevant departments dealing with calculations but also any other employee of the institution who begins to evaluate issues related to risk. Furthermore the more efficient risk management allows but also motivates managers to better distribute the resources and to create added value for the institution. The distribution of human resources within the institution is based on the risk appetite that banks have and on the entities that support appropriate functions while minimizing costs. While the added value is based largely on the method of approach that banks will select.

The usage of the risk methods in pricing policies helps institutions to achieve a better cost-income ratio, creates a common basis of understanding for the parties involved in the process, gives a more competitive price for the client and of course the bank creates a comparative advantage in terms of risk-income ratio.

The performance measure of the banking institution can be performed more accurately taking into account the adjusted with the risk income and based in that the specification of the further strategy for maximizing the value of the bank can be defined.

Also the transparency required by the regulator deploys the institution in relation to the perception that the market has for it; the more transparent is the bank the better is assessed by the market, which is directly reflected on its value. The implementation of this regulation must also be seen from the perspective of improving the relationship regulatory – bank through the work towards a common objective.

Concluding about opportunities it is clear that they are directed primarily at maximizing the value of the institution through achieving their compliance with regulatory requirements.

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On the other hand the implementation of this decision is not easy. Banks should be more prepared to face the challenges.

Firstly they have to create groups of experts who understand the regulation in its complexity and analyze the main problems that would face in implementing it. These groups must be in constant contact with the regulator out of whom they should get clarifications on the ways of implementation of the regulation. They also need to decide which approach to follow based on the information available since each selection has a direct effect on the capital requirement. At this point the preliminary analysis of the data available and how they affect the capital requirement should be carried out taking into account different scenarios.

Secondly they must ensure that they possess all the data required to perform the necessary calculations. At this point problems lye in two perspectives: the data quantity and quality. Given that the banking system is relatively young and composed of foreign banks, it must be said that for most banks core banking systems are taken from their parent. In this regard the sophistication that these systems can have is different in terms of the data quantity sufficient for the requirements of the regulation. But even if these data are assumed to be complete, their quality is a separate issue which should be analyzed prior performing the final reporting.

Thirdly the creation of COREP reporting format required by the Bank of Albania is a challenge because banks have to decide on the basis of a cost – benefit analysis if they should engage internal staff to develop the reporting system or will invest in computing programs especially to perform this function. This decision has a direct effect in terms of costs associated with having the vision in the use of software; at this point the banks should also anticipate possible changes in legislation and how these changes may affect their informative systems.

Moreover banks will need to change their internal procedures and their means of control related to the implementation of the new regulation which of course involves additional costs.

Finally, banks will need to train their staff not only to understand the new requirement, but also to make it known that despite statistical models that do not have any inaccuracies, what remains the key to any process is the professional human judgment, which prevails in any decision.

Concluding it is has to point out that it is extremely important that banking institutions should understand the benefits and the difficulties of the implementation of this new regulatory framework, since this will be the best way on their precise and accurate compliance.

## 4. Conclusion

In modern economies the financial health is considered as one of the most important factors in the progress and development of countries. This fact is considered not only by academics but also by banking supervisors. For this reason, the Basel Committee has developed a regulatory framework, known as Basel I, II and III. The implementation of these regulations from different countries under the supervision or not of Basel has created opportunities, but also challenges as they appear in the literature. The important part at every step is the tendency to further regulate issues that each framework has emerged, including solutions in his successor. So Basel III is currently the most comprehensive framework regarding the inclusion of all the shortcomings that emerged from the first two frameworks during their implementation.

Albania, as a developing country is in the process of implementing a hybrid between Basel I and II, as the regulator considers that it is appropriate for the country's financial situation and structure of the banking sector. The banking sector at this point has to recognize the ways of maximizing the value from the use of this framework and successfully manage the constraints so as to achieve the implementation of the regulation by the end of 2014.

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# Post-Soviet countries: the journey from resource-driven economies to knowledge based-economies. Focus on ICT sector

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**Abstract.** *After the dissolution of USSR the Soviet republics' economies were resource-driven, but only few of them were rich in highly tradable natural resources. They were Russia, Azerbaijan, Ukraine and Kazakhstan. These countries had registered an important economic growth due to natural resources exports, but became prisoners of the so called "Dutch disease". Moldova, Georgia, Armenia, Belarus or Baltic States hadn't any highly tradable natural resources such as oil or gas and had to focus on developing other sectors of economy and have set as a priority the development of ICT sector. The purpose of my study was to find out who has performed better in developing the ICT sector from ex-Soviet republics, what is the correlation between the ICT sector development and the abundance in natural resources. Will the thesis that countries rich in natural resources are less open to knowledge and innovation be confirmed?*

**Keywords:** ICT sector, post-Soviet countries, natural resources, Dutch disease, resource-driven economies

**JEL Codes:** O13, O33, O57, P270.

## 1. Introduction

When leaving the "USSR yard" (or USSR camp, in other's vision), many of Soviet republics' economies, where resource-driven. What was before "shared" between the sister-republics had to be sold at profitable prices on a free market. It become quickly obvious for the new countries that their products are not enough competitive for the external markets. Only natural resources still had their clients abroad, even if the price for raw materials was low and fluctuant. Besides that, countries like Moldova, Georgia, Armenia, Belarus or Baltic States hadn't any highly tradable natural resources such as oil or gas. Others, like Russia, Kazakhstan, Azerbaijan or Ukraine in some extent had exploited inefficiently their natural resources and had become prisoners of the so called "Dutch disease"[1]. Only in the past 10 years the government of these countries, becoming aware of the pitfall to remain dependent only on natural resources without diversifying their economies had started to elaborate and implement strategies in order to reverse "the curse of natural resources"[2]. When post-Soviet countries started to develop their economies under the rules of market

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[1] Resource-led export booms have often led to exchange-rate appreciation that has made other sectors, including manufacturing, less competitive in world markets and has led to domestic cost inflation. Such effects have been dubbed "Dutch disease," an expression coined by The Economist in 1977.

[2] Globally almost 80 percent of resource -driven countries have below average levels of income; more than half of these are not catching up – as per Richard Dobbs, Jeremy Oppenheim, Adam Kendall, Fraser Thompson, Martin Bratt, and Fransje van der Marel, *Reverse the curse: Maximizing the potential of resource-driven economies*, McKinsey Global Institute Report December 2013, exhibit 8)

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economy, they found it too difficult and maybe too late to develop some economic sectors where the western economies had already a long and successful history in background such as manufacturing and the majority of services sectors. Having lost that train, some of them understood that there is one they still can catch and compete with western economies and that was the IT sector. So they have started the "journey" from resource-driven economies to knowledge-based economies. It is interesting to see if and who from these countries have reached the destination or are closer to it. In this research I have tried to find out who has performed better in developing the ICT sector from ex-Soviet republics, what is the correlation between the ICT sector development and the abundance in natural resources. Will the thesis that countries rich in natural resources are less open to knowledge and innovation be confirmed?

## 2. Methods and data

This study aims to confirm or infirm the thesis: *that countries rich in natural resources had developed less successfully their ICT sectors.* It will be focused on 10 ex-Soviet republics: Armenia, Azerbaijan, Belarus, Estonia, Georgia, Lithuania, Latvia, Moldova, Russian Federation and Ukraine which had become independent states after USSR dissolution, in 1991. I didn't include in my study the other 5 former Soviet republics from Central Asia: Kazakhstan, Turkmenistan, Kyrgyz Republic, Tajikistan and Uzbekistan because of the lack or very scarce information on ICT sector in these countries.

After gathering the information on available indicators related to ICT sector development from World Bank, IMF, WTO, UNCTAD, Eurostat and official statistical sites of analyzed countries, I have decided to focus on the following indicators:

- ICT share in GDP;
- ICT services export share in total exports;
- ICT services export share in GDP;
- Share of people employed in ICT activity on total employed people

The year of reference I've chosen to analyse is 2012 (for some indicators is 2013). This is the year with most statistical data available for the majority of analyzed countries and a year when these countries have celebrated their age of majority as independent states.

I have selected the indicators mentioned above because they reflect in my opinion more objectively the performance and the results of ICT sector independently from the country's overall economic development. Other ICT indicators which are often used when assessing a country's ICT capabilities are the ICT infrastructure and access, ICT access and use in households, ICT use in business, but all of them are more related to the infrastructure required to develop ICT sector and not so much to the ICT sector's "final product". These indicators are also important because they actually ensure the basis for ICT sector development and it is worthy to be mentioned that in the majority of analyzed countries these indicators are at a good level, if compared to global statistics. The ICT infrastructure was almost inexistent at the beginning of 90's in post-Soviet countries, therefore these countries have built it using the newest technologies and now, in many of them, some digital indicators such as internet connection speed or broad band coverage are at a higher level even than in the western countries as per statistics provided by OECD (Organization for Economic Cooperation and Development)[3].

Another commonly used benchmark is the ICT expenditures (ICT spending in per capita and absolute terms and as a percentage of GDP), but this indicator depends too much on country's policymakers and was

[3] http://www.oecd.org/sti/broadband/oecdbroadbandportal.htm

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very fluctuant in the past decades depending on countries' economic priorities, that's why I will not use it in my analysis.

I will present bellow the data source and methods of calculation of analyzed indicators.

### 2.1. ICT share in GDP

It was difficult to assess even such a generally used indicator for the economy, because ICT sector is not analyzed as a separate economic sector indicator in the official statistical reports. Therefore this indicator has been gathered from different sources, mostly from information provided by IT associations from these countries. However it was important, in my opinion to analyze the ICT sector as a share from GDP, because due to the totally different size of analyzed economies, if calculated in absolute terms it won't reflect the reality.

### 2.2. ICT Services Exports share in Total Exports

This indicator was analyzed separately for 2012, but also for 2005, 2010 and 2011 in order to notice the tendency. The data has been retrieved from World Bank Exports Statistics and calculated by dividing ICT services exports (BoP, current US$) on Exports of goods and services (BoP, current US$) [4].

### 2.3. ICT services exports on GDP

This indicator will help us to see what is the influence of ICT sector exports on country's revenue reflected in GDP, but also to see if the concerns of many economists that GDP of Russia, Azerbaijan or Ukraine is highly dependent on natural resources exports and these countries should pay more attention on diversifying their "export bucket" also by exporting more ICT services, are justified. The data on ICT services exports have been retrieved from International Monetary Fund, Balance of Payments Statistics Yearbook and Data Files corroborated with Data from Database: World Development Indicators, for the GDP of each analyzed country.

### 2.4. Share of people employed in ICT activity on total employed people

This indicator has been calculated with the information gathered from various sources. For Armenia, Belarus, Moldova and Ukraine the figure of total employees in ITC was provided by the Report provided by EU –Eastern Europe and Central Asia, Gateway for ICT Research and Innovation, EAST HORIZON[5] which I have divided on total employed people, figure retrieved from official statistical sites of these countries. The data for Estonia has been retrieved from Digital Agenda 2020 for Estonia issued by the Ministry of Economic Affairs and Communications[6]. For Latvia, the most recent figure I could find was for 2010 and it has been provided in Eurostat report - Percentage of the ICT personnel divided on total employment figure from the official statistical site of Latvia[7].For Azerbaijan the Indicator was calculated by dividing the number of people working in Information and Communication sector as per official statistical site[8] on the total number of employed people. The figure for Russia is calculated as per the data from the Russian IT Association Report[9] divided to the total number of employed people in 2011 as per official statistical site[10].

[4] Data source is http://data.worldbank.org/indicator/BX.GSR.GNFS.CD/
[5] Available on http://eeca-ict.eu/countries/http://eeca-ict.eu/countries/
[6] Available on https://e-estonia.com/wp-content/uploads/2014/04/Digital-Agenda-2020_Estonia_ENG.pdf.

[7] Available on http://www.csb.gov.lv/en/dati/statistics-database-30501.html. For Lithuania the figure was provided in the article http://www.lithuaniatribune.com/62925/lithuanias-ict-sector-amongst-the-most-attractive-in-central-and-eastern-europe-201462925/

[8] http://www.stat.gov.az/indexen.php
[9] APKIT in collaboration with McKinsey & Company, Report on "*The Measures for IT Sector Development in Russian Federation. A Business Community Approach*", November 2012, Moscow retrieved from www.apkit.ru/files/Strategy_APKIT_2012_vr.pdf and http://www.gks.ru/bgd/regl/b12_04/IssWWW.exe/Stg/d03/2-rin-trud.htm page 31

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## 3. Results and analysis

The analysis of first indicator shows that indeed **the ICT share in GDP** of resource-rich countries such as Russia, Azerbaijan or Ukraine is under 2%, while in Armenia is 2%, in Belarus – slightly above 3%, in Latvia and Lithuania is 3,7% and the champions in this rating are Estonia and Moldova with almost 5 and 9% accordingly (see table 1). Unfortunately, this indicator is not available for Georgia.

Table 1

| Ranking | Country | % ICT share in GDP | source |
|---|---|---|---|
| **1** | Moldova | 8,9 | http://eeca-ict.eu/countries/ |
| **2** | Estonia | 4,9 | http://estonia.eu/about-estonia/economy-a-it/economy-in-numbers.html |
| **3** | Latvia | 3,7 | http://www.liaa.gov.lv/trade/industry-profiles/information-and-telecommunications-technology-industry |
| **4** | Belarus | 3,1 | http://eeca-ict.eu/countries/ |
| **5** | Lithuania | 3,1 | Investment possibilities in Lithuania - Innovation Circle |
| **6** | Armenia | 2 | http://eeca-ict.eu/countries/ |
| **7** | Azerbaijan | 1,9 | http://eeca-ict.eu/countries/ |
| **8** | Russian Federation | 1,3 | http://www.gazeta.ru/business/2012/10/29/4827945.shtml |
| **9** | Ukraine | 1,24 | http://www.unn.com.ua/ru/news/1318416-chastka-it-u-vvp-ukrayini-torik-sklala-1-24 |

While Estonia is being already recognized as an "IT tiger" of Eastern Europe, the high influence of ICT sector on Moldova's economy may be surprising for many. One may argue that ICT sector has such a great influence on Moldova's GDP only because other economic sectors have very low performance. Even though, the fact that ICT shows good performance can be an important step for the economic long-term development of this country, as ICT sector, in opposition with mining sector for example, is recognized for bringing qualitative and sustainable growth.

The fact that ICT sector brings only 1% to Russia's GDP while the contribution of natural resources to GDP as per World Bank Data[11] is above 18% is not seen as a good proportion by the Russian policymakers and strong strategies are elaborated and implemented in order to boost the ICT sector in Russia so that, by 2020 this indicator should get to 4% according to APKIT and McKinsey analysis from 2012.

Far more alarming is the comparison of Natural resources share in GDP vs ICT share in GDP is in Azerbaijan, where the difference between 38,5% and 1,9% respectively talks by its self (see Figure 1).

[10] http://www.gks.ru/bgd/regl/b12_04/IssWWW.exe/Stg/d03/2-rin-trud.htm
[11] http://wdi.worldbank.org/table/3.15

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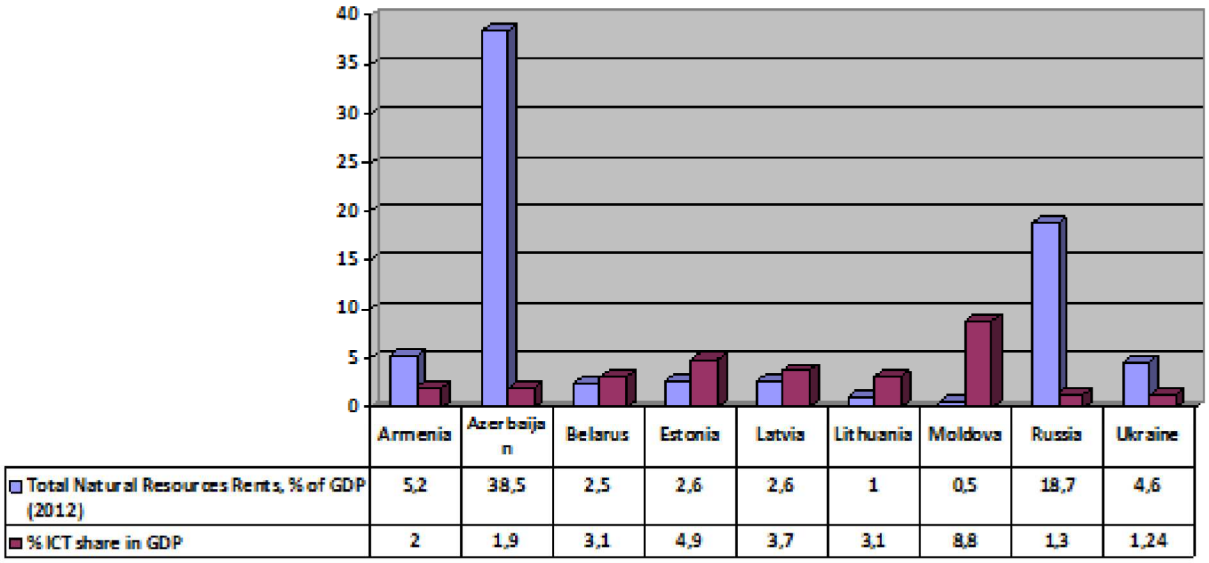
Azerbaijan government has acknowledged this macroeconomic imbalance and has set an ambitious target to grow the ICT sector share in GDP which should reach 9% by 2020[12].

Ukraine, even if considered to be still a resource driven economy [13] has a much less disproportion between the contribution of natural resources and ICT sector to country's GDP (see Fig. 1)




| | Armenia | Azerbaijan | Belarus | Estonia | Latvia | Lithuania | Moldova | Russia | Ukraine |
|---|---|---|---|---|---|---|---|---|---|
| Total Natural Resources Rents, % of GDP (2012) | 5,2 | 38,5 | 2,5 | 2,6 | 2,6 | 1 | 0,5 | 18,7 | 4,6 |
| % ICT share in GDP | 2 | 1,9 | 3,1 | 4,9 | 3,7 | 3,1 | 8,8 | 1,3 | 1,24 |

Fig. 1: Share of Natural Resources Rents in GDP vs ICT share in GDP (2012)

**ICT services exports share in GDP** (year of reference 2013) indicator has been calculated by dividing ICT service exports (BoP, current US$) by country's GDP. This indicator is reflected in Figure 2.

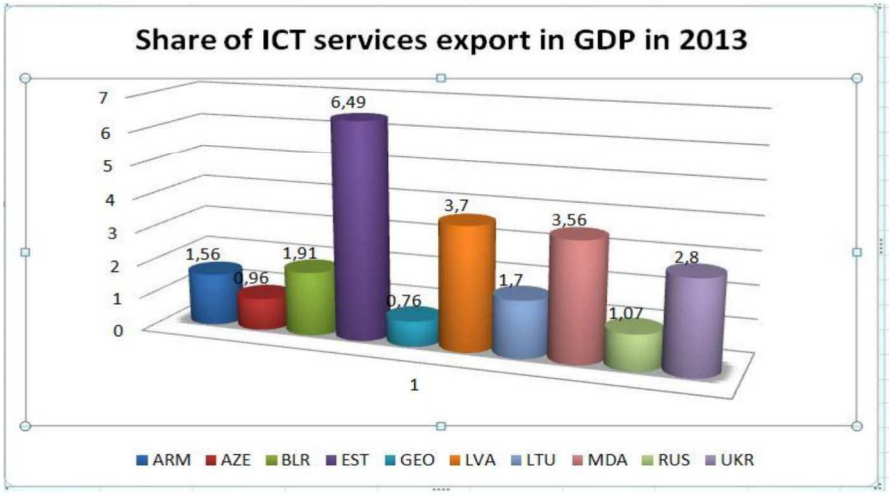



Fig. 2: Share of ICT services export in GDP in 2013

[12] http://www.trend.az/business/it/2266546.html
[13] According to Nataliya Bezrukova; Vitaliy Svichkar DUTCH DISEASE IN UKRAINE: ASSESSMENT OF THE DOMESTIC EXPORT PROBLEMS Source:Economic Annals¬XXI (Економічний часопис¬XXI), issue: 07¬08(2) / 2014, pages: 4¬7, retrieved from www.ceeol.com

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This indicator is highest in Estonia, seconded by Latvia and Moldova. Russian Federation and Azerbaijan are occupying the last positions, repeating the ranking of the first indicator (ICT on GDP). Thus, this indicators is also confirming the thesis that countries rich in natural resources have less developed their ICT sector.

**Share of ICT Services Export in Total Exports** indicator shows that Moldova, Estonia and Latvia perform better when we talk about ICT services exports. Good performance on this indicator is also shown by Armenia. In Belarus, Lithuania and Georgia, this indicator situates near 2% which means that the ICT services export doesn't have a significant impact on these countries' economies.

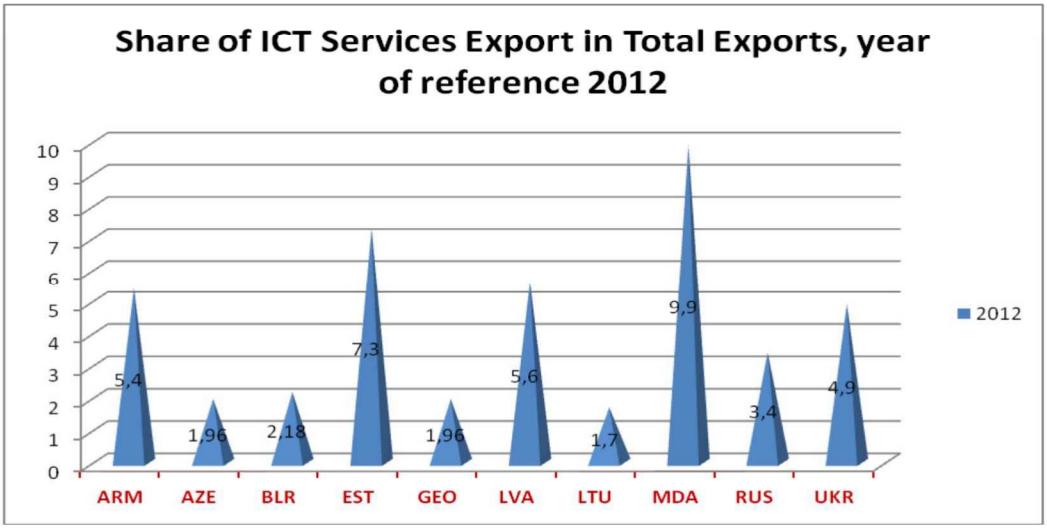


Fig. 3: Share of ICT Services Export in Total Exports, year of reference 2012

When talking about resource driven economies, which are as per criteria singled out by McKinsey & Company, Inc.[14] (2012) countries where the resource export (oil, gas, minerals) makes up more than 20% of exports of the total country exports such as Russia, Ukraine and Azerbaijan, this indicator is at a lower level. However these countries are aware of the risk on remaining dependent on natural resources exports, therefore they have implemented strategies for diversifying their "export bucket". One of these strategies is related to ICT sector development. In Ukraine, these strategies have started to show some results and this is reflected by the relatively higher level of ICT services export share in total exports, which has reached almost 5%. We see that Ukraine has performed better in diversifying its export by increasing the ICT services exports share also when analyzing the dynamics of this indicator, starting from 2005 (figure 4).

While in absolute terms Russia exports more ICT services than other countries from the region if calculated as a share from total exports it is only 3,4%, a figure that is still very low when comparing to 64% representing the share of natural resources exports in total exports.[15]

[14] Richard Dobbs, Jeremy Oppenheim, Adam Kendall, Fraser Thompson, Martin Bratt, and Fransje van der Marel, *Reverse the curse: Maximizing the potential of resource-driven economies*, McKinsey Global Institute Report December 2013

[15] according to http://www.resourcegovernance.org/countries/europe/russia/overview

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Azerbaijan has absolutely alarming situation when we talk about export diversification, the ICT service export share is only 1,96% while share of extractive exports in total reaches 95% (!)[16]

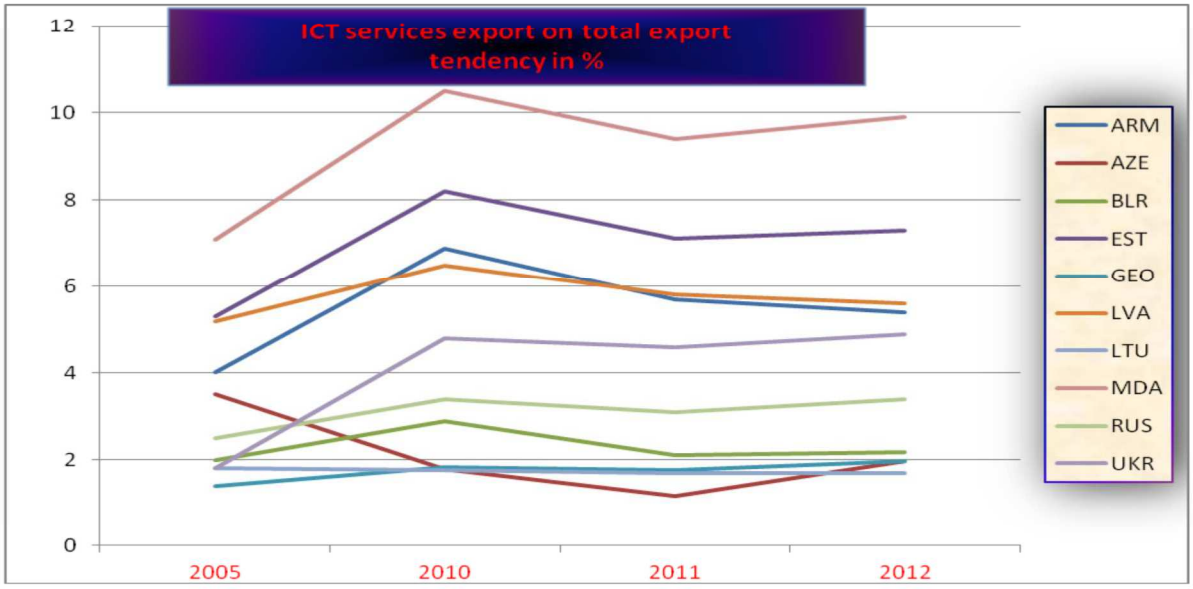


Fig. 4: ICT services export on total export tendency in %

Figure 4 shows also that almost in all 10 analyzed countries starting from 2005 there is a tendency to increase the share of ICT services export in total exports, and only in Azerbaijan, the indicator in 2012 was at a lower level than in 2005.

**Share of people employed in ICT** indicator grants the leadership again to Estonia, where 4% of total employed people are working in ICT sector, seconded by Moldova with 3% and Belarus with 2,2%. In other analyzed countries this indicator is under 2%, as shown in the figure bellow.

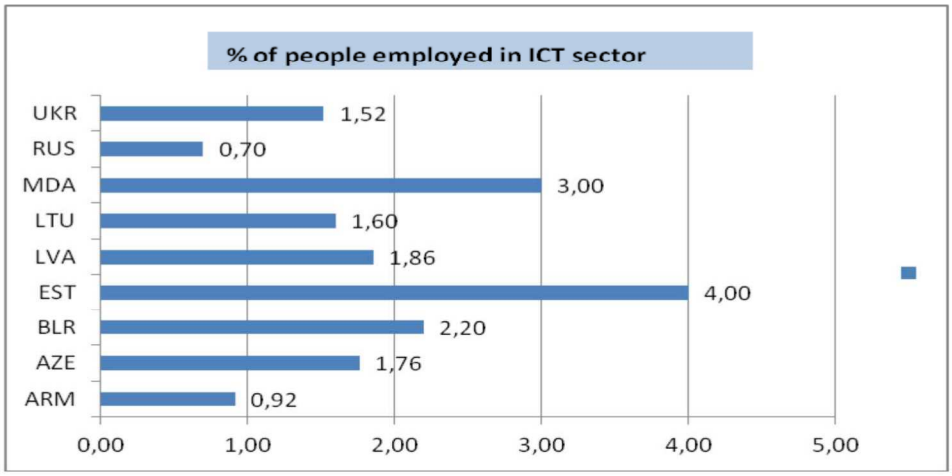


Fig. 5: % of people employed in ICT sector

[16] according to http://www.resourcegovernance.org/countries/eurasia/azerbaijan/overview

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This indicator isn't very homogeneous, because in some statistics it includes only the persons working in IT sector, in other this figure includes all employees with ICT related activities across all labour market, but still it is an important benchmark when analyzing the ICT sector development. It is notable that this indicator has the highest levels in Estonia and Moldova and lowest, in Russia and it is also low in Ukraine and Azerbaijan, confirming the correlation noticed also in the analysis of the previous indicators. The countries rich in natural resources have a less developed ICT sector, also from the ICT employment point of view.

ICT employment indicator is important to be analyzed not only from the perspective of the added value to the economy, there is another significant aspect related to ICT jobs. First of all we should outline the quality of these jobs. As per Chris Vein, World Bank Chief Innovation Officer for Global ICT Development these are "good jobs, which have positive economic and social implications for workers and society". Hence, the ICT sector has also a very positive social impact, reducing the gap between the poor and rich, and contributing to the creation or consolidation of the middle class. On the contrary, in the resource driven economies, exploitation of natural resources had, in the majority of cases, a negative social impact, by allowing a small group of persons to benefit from them, see the cases of oligarchs in Russia and Ukraine.

## 4. Discussions and conclusions

Having in mind the Millennium Development Goals which have demonstrated that the ICT sector had an important impact on combating the poverty, but also the Europe 2020 targets, especially when referring to R&D and innovation, the Baltic states, but also Moldova, Ukraine and Armenia have developed strategies to boost the ICT sector development. The analysis of indicators has proven that the progress has already shown up in the Baltic States and Moldova and good results are starting to appear in Ukraine, Belarus and Armenia. Russian Federation has also adopted a strong strategy for developing the ICT sector and even Azerbaijan, the most dependent on natural resources country from the analyzed pool is working on strategies for boosting the ICT sector. But, the evidence is that countries rich in natural resources have registered a much lower progress if comparing with the others from the analyzed pool.

As stated also in McKinsey Global Institute Report (2013) :"Bluntly, too often an abundance of resources has not enhanced economic development, but impeded it". Resource rich countries haven't managed to ensure that their resource wealth is used for productive long-term investment that creates clear benefits for a large share of the population. These countries have often failed in spending wisely the benefits coming from abundance in natural resources for many reasons, including because of corruption and macroeconomic instability.

Another discussion that can emerge from this study is what should be the role of the state in developing the ICT sector in analyzed countries, in converting their resource endowments into long-term prosperity. It is clear that the ultraliberal approach "that any measure taken by the state for resolving a economic or a social problem has more negative than positive effects"[17] is not to be followed in this situation as relying on the "spontaneous harmony" in countries rich in natural resources is not an option. It has been already proven that the capitals and human resources will tend to go to the oil and gas and mining sectors, where they can get easier and quicker material advantages. People, will always try to get maximum advantages with minimum effort. That is why it is important for the governments of these countries to play a role in redirecting the main

[17] Francisco Vergara "*Temeiurile filozofice ale liberalismului*", Ed. Nemira, 1998.

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business forces and capitals into the ICT sector, determining them to invest more time and resources in innovation activities.

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