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## CHALLENGES AND PERSPECTIVES OF REGULATING THE ACCOUNTING PROFESSION IN THE REPUBLIC OF MACEDONIA

**Adrijana Bulevska Zarikj<sup>\*1</sup>, Biljana Gjozinska<sup>2</sup>, Igor Bulevski<sup>3</sup>**

<sup>1</sup>European Center for Peace and Development, Terazije 41, Belgrade, Serbia

<sup>2</sup>Integrated Business Faculty, Treta Makedonska Brigada 66A, Skopje, Macedonia

<sup>3</sup> M&S, M.H.Jasmin 36/3-1, Skopje, Macedonia

### ABSTRACT

The primary focus of this paper is to present an inclusive analysis of the regulation of the accounting profession in the Republic of Macedonia, with a specific accent given to the advantages and disadvantages created by the current accounting regulative. The paper strives to create a clear image of the current situation of the accounting profession in Macedonia, as this profession is one of the core influencers of corporate management. Additionally, the paper analysis the directions in which the improvement of the accounting profession should go, in order harmonize its regulation with the regulation of the same profession in developed countries.

Through the analysis of the regulation currently in place, its implementation in practice and a small number of papers addressing this issue, the paper tries to identify the perspectives and challenges that stakeholders in the accounting profession encounter, such as professional accountants, entities using accounting services, public revenue offices, legislators and others.

**KEYWORDS:** Accounting profession, accounting standards, accountant, regulation, accounting registry

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\* Email addresses: [adrijana.ipm@gmail.com](mailto:adrijana.ipm@gmail.com) (A. Bulevska), [biljana.gjozinska@fbe.edu.mk](mailto:biljana.gjozinska@fbe.edu.mk) (B. Gjozinska), [ibulevski@t-home.mk](mailto:ibulevski@t-home.mk) (I. Bulevski)

## 1. INTRODUCTION

The basic function of the accounting profession is collection, processing and presentation of financial information for business entities to stakeholders, in the form of accounting and financial statements. Accounting professionals, or accountants, gather and manage data based on accounting documents, prepare and run general ledgers and put together financial statements and reports as required by legislative. With this essential function of accountants, it is clear that they work as not only a service provider to their clients, but also as providers of services of public character and significance. Except for the basic function of creating statements and reports for their clients, accountants also hold the function of reporting to state authorities for their clients. Therefore, professional accountants must hold in high esteem principles of ethics, accuracy and strictly stated work standards. Unprofessional or unethical working of accountants can easily lead to injury of imperative legal norms in fiscal legislations that can lead to prescribed sanctions for accounting professionals. This is the main reason for precise and accurate regulation of the accounting profession. In end line, such regulation would contribute to higher legal security to all stakeholders of the accounting profession: business entities obliged to receive accounting services, accountants and owners of capital.

In the Republic of Macedonia, regulating the accounting profession has started in 2012, with the first issue of the Law for performing accounting activities. Before its issuing, the legislation regarding accounting has been limited to prescribing the methods for accounting, but not the specifications for being an accountant, as a profession. In 1993 a Law for Accounting has been brought up, which has been in action until 2002. This Law has prescribed the methods of keeping books and leading the accounting process. However, the qualifications for one person to be an accountant hadn't been prescribed with this Law, although its tight regulation has made it difficult for anybody to enter the profession. In 2002, with the enforcement of the Law for accounting of the budgets and budgetary users, the former Law was out of use. However, this has created a period of unregulated accounting process as well as profession, which allowed people from profiles other than economy to enter the profession. The Law for trade companies<sup>1</sup> stipulates the manner and methods used for

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<sup>1</sup> Specifically Article 469, issued in the Official Gazette of Republic of Macedonia, in 2004.

accounting for business entities, but does not indicate who can be an accountant, and what requirements should a person keeping the books of a business entity obtain. Similarly, two laws, for non-profit and governmental<sup>2</sup> entities regulate the methods for accounting for these entities, but neither of these laws – the Law for accounting for non-profit organizations, and the Law for accounting of the budgets and budgetary users of the Republic of Macedonia – have addressed the issue of **who** can be an accountant for such entities and **what** requirements there are for being an accounting professional. The absence of a regulative for the accounting profession specifically, allowed for any person or business entity to perform accounting activities, without fulfilling any profession-specific conditions. Because of this, there was a probable possibility of wrongful execution of accounting activities, due to lack of proper accounting education and experience of accountants, or unethical and unjust condonement of accountants towards their clients. These are the main reasons that accounting profession has been long regulated in developed countries. For example, acts for regulation of company accounting in the United Kingdom date since 1844, and as defined accounting profession form they appear in UK regulations ever since 1907. A significant example for regulating and standard-setting organizations are AICPA in the United States dating since 1887, and ICAF – international federation of accountants dating since 1977.

The first step in standardizing and regulation the accounting profession in Macedonia was the introduction of the IFRS – international financial reporting standards and IFRS for SME – international standards for financial reporting for small and medium-sized entities (IFAC, 2007). IFRS represent a collection of standards and measures for financial reporting which are used on international level, created by IASB with a tendency to apply them on a global level, both in developed, developing and emerging economies – thus providing investors and other users of financial statements with the ability to compare the financial performance of publicly listed companies.

With the goal to define accounting responsibilities and profession, the Law for performing accounting activities is issued in July 2012 (Law for performing accounting activities, 2012). This Law prescribes forming regulatory bodies for accounting professionals and profession and defining the qualifications and conditions which

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<sup>2</sup> Entities-users of governmental funds

accountants, or authorized accountants should fulfill. The Law goes one step further by defining the liabilities and duties that accountants have not only toward their clients, but also toward government bodies to which financial and accounting statements and reports are submitted. However, 6 years and several changes and amendments later, these legal solutions are facing numerous challenges, which this paper will analyze.

## **2. REGULATION OF THE ACCOUNTING PROFESSION IN MACEDONIA**

Until the issuance of the Law for performing accounting activities, there was almost no regulation of accounting activities in Macedonia. Performer of accounting activities, a.k.a. “accountant”, could have been any natural or business entity declared as such, regardless of education, professional preparedness, work ethics, practical experience or willingness for continuous education. In such environment, there was an occurrence of performing accounting services by professionally incompetent persons or companies, no adequate ethics or practical experience. The burden and liability of choosing an accountant has been placed on the business entity that had need of accounting services. In such a situation there were serious implications for managers of business entities, which had to undertake the sole responsibility of accuracy and truthfulness of financial statements, as well as the responsibility for adherence to financial reporting standards. This has created negative implications on the character of the accounting profession, not only as a service towards a client, but as a public character service as well. In this manner, the legal system offered no protection at all from unethical, untimely or incompetent accounting performance to the business entity in need of accounting services. Even in such instances as the signing of an annual financial statement, up until 2011, the sole liable person was the general manager of a business entity, without as much as a mention of the liability the creator of the financial statements, or the accountant, held. In 2011, for the first time in the Law of business entities the need for accountants’ signature on financial statements has been recognized. Except this change in the Law for business entities, this changes has been recognized in the Rulebook for the form and content of annual financial statements (Law for change and supplementation of the Law for business entities, Official gazette of the Republic of Macedonia 52/2011). However, even with these starting changes, there wasn’t a real liability presented to the person creating the

financial statements. In comparison, basic laws and regulations of accounting profession in developed European countries are dated before this century (Walton, P, 1993).

**Table 1. Regulation of the accounting profession in part of the EU-member states**

| Country        | Act of regulation           | Year |
|----------------|-----------------------------|------|
| Austria        | Hofdekret                   | 1768 |
| Beglium        | Code de Commerce            | 1807 |
| Denmark        | Bogforingsloven             | 1912 |
| Finland        | LakiOsakeyhioista           | 1895 |
| France         | Code de Commerce            | 1807 |
| Italy          | Commercial Code             | 1882 |
| Luxembourg     | Code de Commerce            | 1807 |
| Germany        | PreussischesAllgemeinesRech | 1794 |
| Holland        | Code de Commerce            | 1838 |
| Portugal       | Aula de Comercio            | 1756 |
| Spain          | Codigo de comercio          | 1829 |
| Sweden         | Accounting Act              | 1855 |
| United Kingdom | Joint Stock Companies Act   | 1844 |

Source: Walton P., Company Law and accounting in nineteenth-century Europe, 1993

### **3. ANALYSIS OF THE LEGAL FRAME FOR THE ACCOUNTING PROFESSION IN MACEDONIA**

The Law for performing accounting activities was issued in July 2012. With this law the accounting profession is regulated and the main responsibilities and liabilities of professional accountants, as well as their required qualifications and terms and conditions, are prescribed. This Law prescribes the creation of a Registry of accountants and Registry of authorized accountants, Institute of accountants and authorized accountant of Macedonia and their organization, jurisdiction, liabilities and



responsibilities. The Registries of accountants and authorized accountants are defined as books of registering information on accountants and authorized accountants, which are run and updated by the Institute of accountants and authorized accountants (Law for performing accounting activities, 2012). The Institute is also authorized to run and update a registry of all accounting business entities – accounting bureaus or accountants – sole proprietors. These registers include all persons which have gotten an official state authorization and have registered themselves for the function of accountants or authorized accountants in Macedonia. Accountants and authorized accountants can be erased from their respective Registers on their own demand, or by not fulfilling their responsibilities towards the Institute, or by being sanctioned or held responsible by court order, for not being continuously educated, not passing an annual accounting exam, and obtaining a court order for being liable for an accounting error. From this aspect arise several issues and challenges, regarding the availability, form and definition of acceptable continuous education, and the lack of definition regarding liability of an accounting error. Because the second issue was very quickly observed by the legislator, the Constitutional court by a ruling of July 10th 2013 has erased Article 30 line 1 point 5 of the Law for performing accounting activities, which was implying the erasure of accountants from Registries because of a court order of liability of an accounting error.

A significant innovation within the Law for performing accounting activities is the foundation of the Institute of accountants and authorized accountants. All accountants and authorized accountants are members of this Institute, which is run by an Assembly, a Managing Board, Supervising Board and President of the Institute. All accountants and authorized accountants are represented in the Assembly through chosen representatives of all local subsidiaries of the Institute. The Law for performing accounting activities also prescribes the conditions for acquiring a license for performing accounting services, as well as becoming accountant or authorized accountant. In order for a person to be certified as an accountant or authorized accountant, a specific education and work experience in the accounting profession is required. However, this Law also prescribes licensing of all already licensed auditors for the accounting profession as well. Additionally, the Law allows foreign persons to perform accounting activities, if they are fulfilling the legal condition for performing these activities in their home counties. This applies to natural persons and business

entities registered in EU member states. Another issue prescribed by the Law for performing accounting activities is the definition of the legally binding contract between the accountant and its client. This obligation is current trend in modern legislate concerning accounting profession and should provide legal security for both contracting parties, client and accountant.

The Law for performing accounting activities has been changed and amended in several occasions. Some of the changes and amendments have been made in order to amend legal omissions an better explain parts of the legislation, whereas several changes have been made merely to prolong the primarily prescribed deadlines for implementing stages of the Law. The prolonged implementation of the law has been direct result of the over-ambitious and under-prepared legislation.

The first change of the Law for performing accounting activities, legally in force from January 1<sup>st</sup> 2014, has made a requirement of four-year higher education for being an accountant or authorized accountant, with full 240 ECTS under the Bologna declaration, instead of the previous non-defined "higher education" requirement. Additionally, with this change of the Law, the form, content and manner of training and examination for licensing has been prescribed, announcing that the electronic system for examination will be used starting from 2015. This was omitted from the original text of the Law, which makes this change crucial to the proper functioning and enforcement of the Law.

In 2016 a rather significant change has been made to the Law for performing accounting activities. Namely, the concept of licensing examination has been fully changed. Instead of an "entry" examination for obtaining a license, the new changes in the Law prescribe no "entry" examination, but rather continuous learning and validation examination annually, for all licensed accountants and authorized accountants, in order to preserve their licenses. The form of the examination is also changed into practical examination, the number of hours for professional learning obtained is increased, which is planned as a manner of creating more continuous improving environment for the profession. However, in 2017 with another change of the Law, the number of hours for professional learning was again decreased, and the starting date for the annual examination was pushed back for 2020.

The Law for performing accounting activities has been fronted before the Constitutional court of the Republic of Macedonia several times. In 2013, an article

from the Law has been erased, since it was deemed unconstitutional. The article in question has stated that an accountant can be erased from their Registry if there is a conviction against them.

During the end of the first half of 2018, this Law is going to be analyzed by the Constitutional court once again, on numerous accounts, since a number of groups have asked that the Law be revised, with the objection that most of the currently in force articles are in some part unconstitutional. This article<sup>3</sup> has been in violation with Articles 14 and 32 of the Constitution of the Republic of Macedonia, since the type, severity and amount of conviction is not taken into account.

Additionally, several changes in the Law have been made merely to postpone primarily prescribed deadlines for enforcing parts of the Law, such as the formation of the Institute, the formation of the Registries.

#### **4. ANALYSIS OF THE LEGAL FRAME FOR THE ACCOUNTING PROFESSION IN USA**

One of the most significant examples of regulating a profession such as the accounting profession is the example of the United States of America. In the USA, the regulation of the accounting profession, especially in terms of being a public service, has begun in 1887, when the American Institute of Certified Public Accountants (AICPA) was formed as an association of 31 accountants all over the USA (Perry, 1985). The main goal for forming AICPA was to protect the accounting profession from non-accounting educated workers entering it. And in that manner, this organization has spread its influence and succeeded in remaining the main accounting organization to present times. In 1896, the AICPA has issued its first licenses for chartered accountants, and in 1903 the first audited financial statements have been issued in the USA. Since then, other associations such as the Security Exchange Commission (SEC) have been formed to examine the regularity of working in the accounting profession, and generally accepted accounting principles (GAAP) have been introduced, which are used in the USA even today<sup>4</sup>. It is important to note that over a century ago, it was evident to US businesses that regulating the accounting profession is crucial for their

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<sup>3</sup> Article 30 from the Law for performing accounting activities.

<sup>4</sup> In most parts of the world, International Financial Reporting Standards (IFRS) are used today – this is the case with the Republic of Macedonia as well. USA remains one of the last few countries that have not switched to IFRS for accounting reporting standards, although there have been several harmonization attempts between GAAP and IFRS.

well-being and financial sustainability, as well as it is important for accounting professionals to always have other certified professionals such as auditors to attest for their work. Even in the beginning of the formation of the AICPA, the core principle of accounting as a profession has been stipulated as a profession of honor and reliability, since it has been deemed that the accounting profession is one of public importance. As the AICPA has stated (AICPA, 1977):

***“The reliance of the public, the government and the business community on sound financial reporting ... and the importance of these matters to the economic and social aspects of life impose particular obligations on certified public accountants.”***

After the market and stock exchange crashes in the 1920s in the USA, the accounting profession has begun to be more and more strictly regulated, introducing more regulations for who can become an accounting professional, but also how much control and supervision accounting professionals should receive from both independent auditing bodies and governmental organizations. Regulation of the accounting profession, as Perry states (1985), is twofold: regulation is needed as to set standards for the profession; and also to ensure that accounting practitioners comply with set standards. In that sense, the US system of regulating the accounting profession, is based on five pillars: self-regulation, peer-regulation, state licensing, private litigation and federal government regulation. Without getting into an in-depth analysis of all the regulative forms of the accounting profession in the USA, which should be a separate scientific analysis altogether, it is important to note that all forms of regulation do sometimes collide and clash, and especially when having in mind private litigation, state and federal regulations, not always more regulation is the best way out. In the afore-mentioned regulation forms often there are regulatory conflicts, especially between regulations on state and federal level. However, in comparison to the Macedonian situation, it is evident that regulating the accounting profession is primarily more successful because the purpose of regulating the profession is made clear from the beginning. Since the formation of the AICPA, the public purpose and significance of the accounting profession to the business sector has been clearly outlined.

## **5. CHALLENGES AND PERSPECTIVES ARISING FROM THE LAW FOR PERFORMING ACCOUNTING ACTIVITIES REGARDING THE ACCOUNTING PROFESSION**

Unclear defining articles in the Law and lack of regulation for some issues leaves room for free interpretation from different interested entities and legal insecurity, which should be minimalized in the modern legal systems. Article 33 of the Law prescribes disciplinary measures against an accountant, if the said accountant undermines the reputation of the accounting profession with their actions. This article leaves room for free interpretation, and possible abuse of this measure by institutions. Such a measure is of great significance for the preservation of the good reputation of the profession; nevertheless, such a measure must follow a clearly defined protocol of investigation, in order to avoid subjective usage and misuse of the Law.

Another questionable issue with vague legal grounds is the control of the accounting profession which is to be conducted by the Institute of accountants and authorized accountants. The Law never clearly defines who has the legitimacy to demand such a control, but rather it states that any "interested party" can do so. It could be assumed that under "interested party" it is meant entities which use accounting services, or companies and other business entities. However, imprecise definitions again leave a wide space for free interpretation, which can affect the quality of implementation of the Law, and affects the legal security that accounting professionals should enjoy. Additionally, unfounded and biased control over accounting professionals, timely and unqualitative usage of Institute's resources, and loss of time and other resources for the controlled accounting professional.

After all the technical and essential changes of the Law for performing accounting activities, there are yet many unanswered and open questions, and many controversial legal solutions. However, one of the utmost issues with this Law is the political independence of the Institute of accountants and authorized accountants. Namely, the Law prescribed that the choice of Board members, both for the Managerial and Supervising Board, is conditioned with a previous acceptance of the Minister of Finance. Moreover, the resignation of Board members or the President of the Institute is also conditioned with previous acceptance from the Minister, which has led to

several controversies in the past year of operating of the Institute. For example, due to demand of the professional public, the President was to resign from the function, but the Minister of Finance did not approve this decision in 2017, and a year later, the members of the Institute do want to change the President and Board members, the President and Board members also want to resign their posts, but without consent of the Minister of Finance, the Institute has been blocked from its normal operations still. As it can be seen, this significantly diminishes the independence and efficacy of the Institute, increasing the political influence of an authority which is meant to protect interests of businesses and accountants. At the point of conducting this analysis, the Institute has still been blocked from operation due to this instance of political independence, and unfortunately, most members, accountants and authorized accountants, have asked for a higher dependence on the Ministry of finance and the government, seeing this action as the only way out of the blockage. Therefore, under these terms any future operations of the Institute will not be carried out as an independent institution, and the already slow and inefficient implementation of the Law will only become worse.

Perhaps, the greatest challenge of the Law for performing accounting activities is its lack of implementation. Although the Law has been first introduced in 2012, it has only begun to be practiced in 2016, with the beginning of the operations of the Institute of accountants and authorized accountants. Even after the beginning of operations, the Institute has not enforced a large portion of the Law, which has led to lack of improvement of the status of accounting professionals. In the beginning of its operations, the Institute introduced an Act for minimum accounting fees, as a method of protecting its members from black market and unethical competition. The Ministry of finance has immediately issued an alert on this Act, informing all business entities and accountants that this Act is unlawful, because the Institute can only define the criteria for price and fee formation, but not the range of fees themselves. This portrayed yet another problem with the Law – the problem of lack of possibilities of creating price policies for accounting professional that can protect them from unlawful competition and create unified criteria for the accounting profession.

It can be seen that the implementation of a Law is not a guarantee that conditions and quality will improve in a given profession. If said Law is not fully and correctly implemented, and does not change accordingly to challenges and issues it

faces, very little is actually done in professional regulation. If the goal for the Law for performing accounting activities is to regulate clear rights and obligations to both accountants and business entities, a mere introduction of this Law is not enough.

## CONCLUSION

The main goal of the Law for performing accounting activities is to standardize and regulate the accounting profession. Although more time is needed to see the effects of the implementation, the licensing process alone will restructure the competition on the accounting market in Macedonia. If the Law is amended in such manner that it can be correctly implemented, accounting professionals will be validated, and the quantity of accounting service offers will diminish, but the quality of the same service will increase.

This Law has for its goal the protection of business and other entities – users of accounting services from potential unethical, imprecise or incompetent accounting services. By increasing the necessity for qualifications and continuous learning, education and examination, as well as by transferring liability to accountants, the quality of the service and the protection to its clients increase. Furthermore, in this manner the regulation will indirectly lessen the burden of management in terms of financial liability, for which management often is not adequately qualified. Moreover, this Law benefits authorities as well. Through the organization of accounting professionals, additional measures for control, financial and qualitative, are possible. With transference of liability to accounting professionals, authorities, especially statistical offices and tax collection offices (Public Revenue Office), benefit from increased accuracy and timeliness in reporting, thus burdening less public administration in these bodies. Finally, by introducing this Law, Macedonian accounting is improving its standards and practices, and is nearing towards International accounting standards and International financial reporting standards, which will improve businesses' positions, in foreign as in domestic trade.

The accounting profession needs to be seen as a profession of public significance. As such, the requirement for the Law for performing accounting activities was long overdue. The enforcement of the Law for performing accounting activities partially solves some of the afore-mentioned issues. Legal control now exists in terms



of who can enter and stay in the accounting profession, and what, partially independent, bodies can regulate the profession. In theory, this has been a great step for the Republic of Macedonia towards harmonizing the accounting profession with regulations in developed countries. The introduction of this regulation creates benefits for accounting professionals, business entities and all users of accounting services. However, the Law has yet to be made more precise and to be improved and amended in order to fill in some legal voids it has created. But regardless of its imperfections and the need for improvement, its creation and the beginning of its enforcement is a step closer to the improvement of the accounting profession. Although this Law faces many challenges, its full practical implementation remains yet to be the greatest challenge of all. If it is possible to fully implement this Law, the accounting profession will certainly be a step closer to the quality of accounting in developed countries.



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## BACKGROUND OF THE EVASION OF A GLOBAL CURRENCY CREATION

Krste Sajnoski<sup>\*1</sup>, Violeta Madjova<sup>2</sup>, Agis Sajnoski<sup>3</sup>

<sup>1</sup>Integrated Business Institute, 3ta Makedonska Brigada 66A, Skopje R. Macedonia

<sup>2</sup>International Balkan University, Samoilova 10, Skopje, R. Macedonia

<sup>3</sup>University professor

### ABSTRACT

In the modern economics, there is no such an important issue that is paid a proper attention to as the global currency is<sup>1</sup>. And what is even worse when it is talked about this institute, it is often a matter of types of global currency which deviate from money's essence. It is taken for granted the thing that those are the most developed countries' currencies (a dollar, euro, yen, pound, and yuan) irrespective of the fact that they present national currencies and their role of global currencies is a contradictio in adjecto. They cannot have global money features by their nature as it was the case with the gold, i.e. as commodity-money. (It is inappropriate the argument that both the pound and the dollar functioned as international currencies. This is true but only because of the fact that they were convertible into gold and were factually convertible). In spite of this, they promote themselves with such a kind of meaning without any reserves, and a more favourable variety is considered to be the statistic "basket" of the already mentioned currencies with floating rates among them. The opportunities for creating real commodity global money are totally ignored. It is evaded the general notion that the absence of a global currency is, by the way, a reason for the problems in the national economies and at a global level (national currencies manipulation, slackened in productivity growth, inequality growth, appearance of global imbalances, growth of protectionism, threats of trade and currency wars), and that it is not possible their evasion unless it is created a global currency.

**KEYWORDS:** commodity money, global currency, gold standard, gold-exchange standard, fiat standard, inflation

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\* E- mail addresses: [krste.sajnoski@fbe.edu.mk](mailto:krste.sajnoski@fbe.edu.mk) (K. Sajnoski), [v.madjova@ibu.edu.mk](mailto:v.madjova@ibu.edu.mk) (V. Madjova), [a.sajnoski@yahoo.co.uk](mailto:a.sajnoski@yahoo.co.uk) (A. Sajnoski)

<sup>1</sup>The Nobelist Robert Mundell has even stated that „It is true that gold today suffers from persistent attacks on it in the press and it is fair to say that there is still a conspiracy of silence on it among international monetary officials “. (Robert Mundell Lecture Page 1, The International Monetary System in the 21st Century: Could Gold Make a Comeback? Robert A. Mundell, Columbia University Lecture delivered at St. Vincent College, Letrobe, Pennsylvania, March 12, 1997).

## INTRODUCTION

In the elaboration of this theme, i.e. of the title itself, it is of great importance to overcome the confusion about the perceptions of the global currency. It has to be differentiated what this economic category means. A lot of the names of the global currency do not correspond to its economic role and meaning regarding the process of communications. This is important for evaluating the achievement of the numerous suggestions made for reforming the IMS. At the same time, the differentiation of the types of global money is also important.

Out of the money's evolution it has arisen the fact that the most perfect is the money in the metallic systems with the gold as commodity-money. Taking into account the objective process of dematerialization of commodity-money (paper money has started functioning in all countries by now), it is logical to follow the creation of a unique paper global currency, but being focused on the distant future. In this context, there is no place for the national currencies in the function of world money. Or if they are in practice, then they are suboptimal in terms of the global currencies. And the things that are most often written about them are a consequence of the transformations undergone by the system of a gold-exchange standard used for eroding the rules of its functioning, and introducing new ones used for urging solutions that the most developed countries' élites used to lead the national economies in a far more comfortable way rather than the ones in the gold standard system. As a victim to the desire and/or the need for a greater comfort in terms of managing the national economies, it was started the process of eroding the international system of a gold standard and the monetary unit on whose basis the capitalism has expanded itself in all world points. However, by having thrown up the hands of that "constant", the western civilization started processes in which were generated and accumulated problems manifested in the course of the two world wars, the Great Depression and the Great Recession, whereas in the last crisis the trend of protectionism growth threatened to turn itself into nationalistic economic policies, currency and trade wars.

In order to see the background as a result of which the focal point of the global commodity currency has moved itself to national currencies (having a problematic role in the function of world money), we will shortly remind ourselves of the advantage of commodity money in the functioning of the global economy and the reasons for

diluting the gold standard. After that, we will point out to the fact that the gradual process of diluting the gold standard ended up in its abandonment, just two years after the SDRs had been created as a global commodity currency in the IMF. At last, we will follow the missed opportunities for developing the system of a gold standard in accordance with the inner logic of money development. In the concluding review, we will point out to the need for overcoming the national currencies in the function of world money (that development presents a retrogressive process in relation to the international system of a gold standard) and the possible solutions going in that direction.

## **1. THE ADVANTAGE OF COMMODITY MONEY IN TERMS OF THE GLOBAL ECONOMY'S FUNCTIONING AND THE REASONS FOR DILUTING THE GOLD STANDARD**

The spontaneous development of the gold standard has occurred as an expression regarding the needs for developing the commodity-money economy whereas the automatism in its functioning helped the capitalist reproduction expand on a global scale. The gold as commodity turned itself into a general equivalent to the commodity values, and the money units of national currencies were determined in the weight of gold. The relations between the weight units were actually gold parities among the national currencies. Under conditions of a liberalized trade and an obligation (and an interest) to keep the parities, the struggle for increasing the national wealth was led by the productivity and innovation growth in the production of commodity values. The capitalism "exalts the monetary unit—not itself a creation of capitalism—into a unit of account"<sup>2</sup>. It was a criterion for a rational international labour division. Everyone could quickly determine where he could sell most expensively, or buy most cheaply at the market, i.e. what the most profitable thing that he could invest in was. From this aspect, it is not coincidental the fact that in the course of the period of functioning of the gold standard, the productivity was considerably higher than in the periods after its transformations into a gold-exchange standard and a gold-dollar standard (the period when the USA was fulfilling its duties using gold). However, after the elimination of

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<sup>2</sup>Joseph A.Schumpeter: Capitalism, Socialism and Democracy, Introduction By Richard Swedberg Stockholm University,p.123)

gold from the IMS and the transition to a dollar standard, the productivity growth was much more slackened<sup>3</sup>.

The appeal to a gold standard is because of its influence on the integration processes both in the national economies and at a global level. However, at the same time, depending on the productivity and innovation growth, it is extorted a transition in terms of the forces on the already mentioned bases. This is not pleasant to the political élites when they lose their position. In fact, this presents one of the “unpleasant truths” as a result of which it came to an elimination of the gold from the IMS right after the phases of dilution. The functioning of the system was not, of course, without any problems. Economic crises started suddenly, but they were overcome at the market by reducing the unsuccessful firms to bankruptcy (because of investing badly and unprofitable working), and by purchasing them by more successful businessmen.

In each case, the functioning of the international system of a gold standard extorted a selection among the successful and less successful firms in the national economies which led to sharpening of the relations between the labour and the capital, and also at the world market between the national capitals in their struggle for conquering the world markets. Some think that World War I is also a war led for a world market distribution. Who had an interest in giving up continuously from the contribute of the gold as commodity money in the system of the gold standard? Who showed an interest in throwing up one's hands from, as Karl Polanyi says, “the western civilization's constant”?<sup>4</sup>

The reason for manipulating the monetary unit and diluting the system of a gold standard lies in the fact that the political élites were unready to deal with the tensions rising out of the objective contradictions between the labour and the capital in separate countries, and among the national capitals (hazards of socialist revolutions' outbreak and appearance of fascism, as well as democracy deformation) after the market had subdued itself regarding the process of overcoming them. But the unreadiness for overcoming those contradictions at the market started increasing continuously right

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<sup>3</sup>„An annual productivity growth in North Atlantic countries has fallen from the 2% rate to which we have been accustomed since 1870 to about 1% now“. ( [J. Bradford DeLong](#), Are we missing the economic big picture?, [Project Syndicate](#), 01 Dec. 2016)

<sup>4</sup>Economic Encyclopedia, (Modern Administration, Economic Encyclopedia I, Belgrade 1984, p.71).

after the exit of the Great Depression when it was accepted the practice of the State's interference in the process of overcoming them by applying fiscal and monetary policy interventions. They are in the hands of the state and the politicians that resort either objectively or subjectively (in most of the countries, the subjective factor is actually objective) to their use in an easier way instead of providing systematic conditions for reducing the tensions and conflicts because of the market selection of successful and unsuccessful businesses and national economies. As Schumpeter<sup>5</sup> notices "the reasons were more political rather than economic: they were related to the neo-mercantilist attitudes and the mounting tension in the international relations, which started to be felt around 1900, and to the mounting state expenses. It was increasing the number of the reasons against the continuous gold standard. In fact, it started losing its popularity as a naughty child speaking the unpleasant truth".

There is no doubt that the powerlessness to face the "unpleasant truth" extorted the need for diluting the system of a gold standard. And this had started happening since its first transformation into a gold-exchange standard up to the demonetization of the gold in the IMS. For the sake of truth, the process of dilution was carried out gradually by being paid attention to in order not to provoke consequences in the national economies and at a global level, i.e. consequences which could cause tensions and conflicts as a result of which the IMS would collapse. The gradual process of dilution was, of course, helped by the attitude towards the gold as a monetary commodity. It was even included in the reforms of creating the SDRs (paper gold) as a global commodity currency. It was actually an approval of the critiques that the useful effects of reducing the value of national currencies playing a role of world money were worn out. However, the process of dilution ended up with the abandonment of the dollar's convertibility into gold (1971). By making a transition to floating rates, it was embedded a new mechanism (floating rates of exchange) which would reduce the strikes of the further reduction of the national currencies' values because of the needs for further inflationary financing. And when as a result of this the Great Recession broke out, the US President resorted to an introduction of protectionist measures, endangering the achieved level of trade liberalization in the world, with jeopardy of causing a trade war.

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<sup>5</sup>J.A. Schumpeter: History of Economic Analysis, Book II, Informator, Zagreb, 1975, p.642.

There is no space for an elaboration of the consequences of the development of IMS. The inflation, i.e. the erosion of the monetary unit is their common denominator. By making efforts to maintain its value, the capitalism has risen itself as a dominant system. By manipulating the inflation irresponsibly (after the state's inclusion in the regulation of economic flows and the transition of the floating rates), it has caused problems whose solving process requires a much greater inflation. And that has led to a disaster. The practice has approved Mises's thinking that "Inflation cannot be employed as a permanent policy because it must, when continued, finally result in a breakdown of the monetary system"<sup>6</sup>. We have already been witnesses to the process of taking measures of the postwar protectionism's arsenal and the policies of the economic nationalism, regardless of the damages they cause to their own country and other countries too.

In a few words, the inflationalization of the system of a global commodity currency "has responded to this blow". The former practice has clearly shown that money is technically printed, and it is essentially created in the process of production by increasing both the productivity and innovation. However, it reduced its growth after the demonetization of the gold. This is not accidental at all. Under conditions of a loose monetary and fiscal policy and growth of the protectionism, the focal point is displaced from the struggle for greater productivity and innovation to income provision through inflationary distribution and provision of greater protection and stimulations. However, the opportunities for this are significant, but at the same time, they are destructive for the global system. The protectionist measures cause damages to the global production because thus it is harmed the criterion for allocation of the commodities, services and the capital.

## **2. THE GRADUAL PROCESS OF DILUTING THE GOLD STANDARD HAS ENDED UP IN ITS ABANDONMENT**

There is no doubt that the need for remedying the consequences of World War I and the Great Depression increased the attraction to a gold-exchange standard by

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<sup>6</sup>Mises Ludwig, Human Action Books / Digital Text, Foreword to the 3rd Edition by Ludwig von Mises, Ludwig von Mises, New York, March 1966



using the created opportunities for enlarging the crediting<sup>7</sup>. The unsuccessful attempts to return the gold standard (above all due to the persuasive argument about insufficient quantities of gold) made a contribution in that direction. Having a fear of the insufficient liquidity of the Genoa Conference held in 1922, by introducing the gold-exchange standard, the national currencies being convertible into gold were introduced into the international system.

The liquidity increased itself by practicing using them. However, thus the other countries' monetary base increased too. Consequently, the inflation was embedded in the new system, and the countries whose currencies were convertible into gold discovered an additional source of means for financing their own needs. It has started the century of inflation since then. The inflation started to be used as a discovery even though the inner logic of money tells that it is a damaging phenomenon, and the practice confirmed that. Mises<sup>8</sup> gives a convincing critique to "the inflationist view of history", to the belief of the inflation usefulness in terms of the development. However, it brings into question the statements made about the expansionism as a driving force of the economic progress pointing out to the effects of the changes made in the purchasing power of money regarding the labour division, capital accumulation and technological improvements. And let's not remind that "Inflation bestows benefits, as well as wreaking havoc. Wealth is transferred from one group to another. Although the transfer has haphazard elements, it goes from the middle class and the poor to the government, the bankers, and the large corporations. This is the immoral process that must be stopped"<sup>9</sup>.

The fact that the gold-exchange standard was also renewed in Bretton Woods has enabled the national currencies to determine their parities not only in gold but also in dollars convertible into gold. Afterwards, the USA by making a one-sided decision informed the IMF that the dollar demands would be converted 35 dollars per one

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<sup>7</sup>It is illustrative the data presenting the holder of the Nobel Prize, Robert A. Mundell: "If we measure the magnitude of inflations both the product of its rate and the total value of commodities affected by it, we can be sure that more inflation has been created since 1914 than in all preceding millennia put together". „But a fundamental change came about with the breakdown of the international monetary system in 1971. As already noted, both countries inflated, but the British price level rose by 750% while the US price level rose by 390%." (Robert Mundell Lecture Page 1, The International Monetary System in the 21st Century: Could Gold Make a Comeback? Robert A. Mundell, Columbia University Lecture delivered at St. Vincent College, Letrobe, Pennsylvania, March 12, 1997)

<sup>8</sup>Mises Ludwig, Human Action Books / Digital Text

<sup>9</sup>Paul Ron, Gold, Peace, and Prosperity, p. 42



ounce of fine gold. Thus it was opened a way of transforming the system into a gold-exchange standard, and after cancelling its convertibility into gold and demonetizing the gold of the IMS, it was made a transition to the dollar standard. This means that by making a one-sided decision, it was extorted the functioning of the fiat standard. Thus, it was allowed a certain distribution of the monetary profits among the developed countries (depending on the use of their currencies as international reserves). The currency convertibility into gold transformed itself into a convertibility of one into another currency (unconvertible into gold) in the course of floating rates.

Up till the day of the USA's unhindered fulfilment of obligations of dollar demands' conversion into gold, the Bretton Woods system had functioned as a gold-exchange standard with an embedded "mistake", as a possibility of inflationary financing, which the Americans used by paying enormous attention more and more often. The functioning of the system generated stability growth whereas the consequences of the inflationary financing did not bring into question the ability of converting the dollar demands into gold (financing the war in Vietnam and other unproductive expenses). Afterwards, it was created the European market of dollars and the crises of foreign exchange markets, the tensions of increasing the gold prices grew up, and also two dollar devaluations happened as a result of what in 1971 its convertibility into gold was cancelled. Afterwards, it was opened a way for a more opulent inflationary financing given the opportunity for bringing the imbalances at the same level and for depreciating the external value of the currencies (including the use of a "soft" power through "voluntary export limitations"). Thus, it was increased the distrust of the dollar. And after the dollar's devaluations, the reserves in terms of the partners' trust were increased.

In order to defend dollar, the president Nixon declared that the US abandoned the dollar's convertibility into gold and the fixed rate of the dollar and transferred to a floating rate. Thus, it was put an end to the gold-exchange standard and the gold-dollar standard. This means that by making a one-sided decision, it was extorted the functioning of the fiat standard. In the period of its functioning as Robert Mundell pointed out, both the USA and Great Britain noticed high inflations, "but the British price level rose by 750% while the US price level rose by 390%".

There is no doubt that regardless of the problems that the gold-exchange, i.e. the gold-dollar phase generated in the functioning of the Bretton Woods system and the

need for solving them, it contributed to the achievement of the Bretton Woods institutions' objectives. However, it was far more useful for the more developed regions rather than the insufficiently developed countries. But, it was proved that the inflation is a solution for development neither in separate countries nor at a global level, and it was predicted that the gold-exchange i.e. the gold-dollar standard has a weakness leading the IMS to collapse (Triffin's dilemma).

However, it is hard to say how the world would be like after II World War if the development of the international monetary system with the gold's functioning as world money evolved according to the inner logic of money's development and its dematerialization into "paper gold" (in a similar way as within the framework of separate countries' national borders where gold money evolved into paper money with enforced validity, but with a consciousness that it has to be taken into account its value stability as it was accomplished automatically in the gold standard's mechanism). It cannot be argumentatively said because it is within the sphere of thinking – if wishes were horses, beggars would ride. It is only an assumption that it had to be more equal (each national economy to make progress on the basis of the achieved labour productivity being in rivalry with the other economies), more integrated (the national economies would be integrated into the world economy more and more on the basis of the rational international labour division), more equal and more solidary (it was foreseen a support for a faster development of the less developed ones). On that basis, the new system was expected to be better in terms of the interwar gold-exchange standard having a potential of enabling the creation of world money and being in accordance with the inner logic of money development and the objective process of their dematerialization. This happened after the critiques of the dollar's weaknesses because of its value's reduction (because of the need for satisfying the international liquidity). There were created SDRs (1969) with characteristics of a global commodity currency. However, this project got stunted after the first two emissions, and in 1974 the SDRs were transformed from a commodity monetary unit into a unit of "a basket of currencies" with floating rates. Due to the functioning of such a system, the world has faced global imbalances, a slacked productivity growth, inequality growth, forced globalization, Great Recession, anti-globalization actions, and behaviours. Unconventional measures of the monetary policy were applied in order to overcome them. The economies recovered, but there was still uncertainty in

relation to the absence of measures in the eventually new recession (the fear is real when taking into consideration the need for bringing back the “normal” monetary policy).

### **3. THE MOST CONSEQUENT PLAN FOR CREATING BANCOR IS THE ONE OF KEYNES REGARDING THE EVADED OPPORTUNITIES FOR CREATING GLOBAL COMMODITY MONEY**

After World War I and World War II, it was missed the opportunity for developing a global currency in accordance with the inner logic of money development (commodity money). After World War I, it failed the idea of bringing back the gold standard and instead it was introduced the gold-exchange standard as a result of which the currencies convertible into gold increased the monetary mass (as a basis for credits), i.e. inflation was embedded within the system. After World War II, despite the few-year efforts to establish a new system, the interests of the most powerful economic, war and political force prevailed in the direction of building a system in which the USA would provide a privileged position in the same way as Great Britain had acquired in the previous one. However, in this period it was made a big step towards the creation of a global currency of the type of commodity money. It was responded with the creation of SDRs as global commodity money to the critiques that the problems of the dollar arose out of its leading reserve currency position in the IMS (the US need to lead a policy of trade deficit because of their duty to get better the liquidity in the world, but it brings into question the maintenance of dollar convertibility). By determining the SDR's value in a quantity of gold, it was admitted that the national currencies are not suitable to play a role of world money. But, this did not last for long. By having made a decision of cancelling the convertibility of the dollar into gold in 1971, it was evaded the IMF's idea of “printing” world money with a value determined in gold and soon (in 1974) it was transferred to the creation of the SDRs as a basket of national currencies with floating rates.

Apart from the missed opportunities for creating commodity money, there are other ideas too. For instance, an idea of establishing a system and relations which would imitate world paper money in the way national paper money with imposed validity is imitated in the national economies. However, this solution is considered to

be too early, let's not say utopian, in the current international relations even though the development of the euro as a regional currency relativizes the critique. There are also ideas of creating **world money whose value would be determined in "a basket" of more commodities** including the gold whereas the value of the national currencies would be determined in relation to the "basket's" value. Nevertheless, it can be told that the most elaborated is Keynes's suggestion for creating a global commodity currency – **bancor** whose value would be determined in gold quantities. On the basis of this idea there were created **SDRs in 1969**. As it is already known, Keynes's suggestion was not accepted in the course of the negotiations for establishing a postwar IMS in Bretton Woods, and the created SDRs, except for two emissions, did not develop themselves as paper gold. After the demonetization of the gold (1974), the SDRs were transformed in SDRs of "a basket of currencies", and their value was determined by using a ponderable value of several national currencies with floating rates.

It results from the former elaborations that a permanent solution in relation to the introduction of a global currency should be looked for in the consequent expansion of the process of money dematerialization which was commenced and finished in the national economies. It was shown in that process that the money's material value is not a *conditio sine qua non* so that its functions can be fulfilled successfully. However, it is a fact that in the system of a gold standard, it reached the peak of its development on the basis of its material value. In the system of a fiat standard, it should only be found an international mechanism which would minimize the effects of inflation (because of the expansion of credits used badly), and it would award the human efforts made for achieving greater productivity and innovation as qualitative factors of development. In the above-mentioned context, the suggestions for creating global commodity money are only one step away from the opportunity for creating a unique world currency with imposed validity as an expression of increased harmony in the international relations. Keynes's suggestion for creating a **bancor** has the same sense.

When we said that in Bretton Woods it was missed the opportunity for continuing the establishment of IMS on the basis of world money and not on the basis of a combination of gold and foreign currencies, we actually found a support in the fact that there was an elaborated suggestion for the new IMS made by the lord J. M. Keynes in the course of that time. However, his suggestion was not accepted.

Keynes offered a solution in accordance with the perception of money as a commodity. While making efforts to get rid of “the barbarous relict” – the gold as unique commodity – money (because of its production’s impossibility of meeting the needs for liquidity of the increased production of values), he suggested creating a world currency – bancor (a currency that would be used in the trade), with a value that would be determined into gold. The bancor would be issued by an International Clearing House (a bank), and it would be cashable with the national currencies by using a fixed rate of exchange. It would become an accounting unit among the nations<sup>10</sup>.

Keynes wanted to create a system where no surpluses and deficits would be generated. In relation to this system, the export would earn bancors, and the import would spend them. The point was to keep in balance the export and the import so that at the end of the year, the accounts of the countries regarding the ICH (International Clearing House) would be neither in surplus nor in deficit, but they would be “cleared” close to zero. Each country would be given a fixed but more adjustable rate of exchange in relation to the bancor. Keynes’s original thinking noticed that the nations with too many bancors would do damage to the system as much as the ones with too little bancors and that the creditors would be as dangerous for the stability and prosperity as the debtors<sup>11</sup>.

Susan George reckons with reason that the method for establishing balances suggested by Keynes was and it is still genius, especially from the aspect of the current states when it threatens the deficient US and the surplus China and Germany with a war. She points out that contrary to the leveled balances being expected along with Keynes’s suggestion and the postwar trading system, the Bank and the Fund made chaos by applying their policies of structural adjustment as a result of what the debts of the third world can never be paid. And now, it is Wall Street that makes a decision on the politics of the democratically elected governments. The world trade rules are not beneficial to the members of the WTO, and as the wealthy have been getting richer, they actually got more selfish. In this context, it can be said that the world goes through the consequences of the American concept of IMS, and they can be synthesized in

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<sup>10</sup>George Monbiot: Keynes is innocent: the toxic spawn of Bretton Woods was no plan of his, *Gardian*, 18<sup>th</sup> November 2008.

<sup>11</sup>Susan George: Alternative finances, The world trade organisation we could have had, *Le Monde diplomatique*- English edition ([www.monde.diplo.com/2007/01/03economy](http://www.monde.diplo.com/2007/01/03economy))

making a statement that the dollar is a national currency, but that its problems are global. In Keynes's concept, it is created world money, and the problems of the national currencies are actually a problem of the national economies.

Even though it is hard to talk about the statement "if wishes were horses, beggars would ride", there is no doubt that:

- the functioning of the bancor would free the world from the monetary crises in which more national currencies have taken place,
- the inflation would be, above all, a national problem,
- there would not be so big non-reconciliations in the development in order to agree on balancing between separate countries with requirements for changing their national strategies for development,
- there would not be any fear what a country with its own currency could do because the consequences of the relation between the currency's establishment and the country would be borne by the country's subjects, and they would be punished if they led inefficient and irresponsible economic policy, etc.

Among the mentioned advantages, it is really important to state that in addition to the problems undergone by today's world, the world currency, by its nature, as in the system of a gold standard would not suffer from that inflation which had disastrous effects on the economies in extreme cases. It would not be under the influence of the policies of separate countries. Because of that and under conditions of fixed, but adjustable rates in the cross rates of exchange in the world, it would impose a greater efficiency of the international businesses and it would instigate direct foreign investments on the basis of market criteria by using some of the factors of production (especially the labour force) under more favourable conditions rather than by achieving their own profit-making goals in their countries.

It is obvious that Keynes's suggestion eliminates the privileges of any currency, i.e. of any country. He makes efforts to establish a principled solution in accordance with the essence of money and its importance for further development of the world economy. In this context, it is not precisely stated the suggestion that by using the plan of a world currency, Keynes defended the attitudes of the less powerful countries (taking into account, above all, the interests of Great Britain) compared to the US. It can be given such an emphasis, but the fact of the matter is that the suggestion of a



world commodity currency coincides with the logic of development of money being in a function of intensifying the objective processes of globalization.

There is no information whether Keynes came up with the suggestion by searching for more equal relations between the powerful United States and the European forces weakened by wars or whether that is only a consequence of the search for a principled solution for the new international monetary system being on the line of the commodity money's evolution. At all events, it has been shown that the principled solutions are in a function of integrating the national economies into the world economy contrary to the solutions imposed by using force (regardless of the fact whether it is soft or hard power) because of achieving, first of all, partial interests. The fact that the US fulfills tasks in the interest of other economies is not altruism, but it is only an alibi argument for a subtle and more intensified realization of the benefits from the privileged position of the gold-exchange standard.

It is a pure irony the thing that happened to the USA. They evaded Keynes's plan which foresaw the nations - creditors to accept greater responsibility for solving the imbalance in terms of the international payments. And nowadays, they fight with all their forces to impose that duty to the surplus countries either by fair means or foul instead of heading the changes of the international system of payments in a direction of dividing the responsibility between the deficient and surplus countries<sup>12</sup>. This is attainable only by creating a world monetary system with a global commodity currency, fixed, but adjustable rates of exchange, an international currency quantum meeting the world trade needs, and a method for directing the surpluses arisen out of the trade towards a productive use. And it was Keynes's plan that met all these needs. About the comprehensiveness of the solution speaks the fact that it is used to put under a simultaneous pressure both the country-creditor and the country-debtor so that they can clear their accounts<sup>13</sup>. According to Paul Davidson, Keynes believed that the essential advancement in terms of building any kind of international system of

<sup>12</sup>Joseph Stiglitz noticed that John Maynard Keynes pointed out that the surpluses led to a weak total global demand. (Is there a way out how to save the euro?, Utrinski vesnik (Morning News, 10.05.2010).

<sup>13</sup>The Bretton Woods Agreement is based on the orthodox doctrine of adjusting the debtor given the fact that the Americans knew that as creditors they would certainly be adjusted. "The USA poured out their surpluses in order to help Europe and Japan's reconstruction and liberalization after the war, and also to protect them from communism, starting out with a deficit in terms of their balance of payments". (Robert Skidelsky: Keynes, Globalisation and the Bretton Woods Institutions in the Light of Changing Ideas about Markets, World Economics, Vol.6, No.1, 2005).

payments requires a transfer of the debtor's burden of adjustment to the creditor. This transfer would replace the contraction pressure with the expansionist pressure put on the world trade. In order to come at a golden age of economic growth, Keynes suggested a combination of a fixed, but adjustable system of rates of exchange with a mechanism which requires the nation "enjoying" a favourable balance in the trade to initiate most of the necessary efforts in order to eliminate this imbalance, and the indebted countries to maintain a sufficient discipline in order to avoid the exploitation of the new relief they are allowed to<sup>14</sup>.

#### 4. CONCLUDING REVIEW

By agreeing with Hegel<sup>15</sup> that the truth lies in the whole, and the whole is that essence which ends up in the road of its development, it can be concluded that the process of dilution of the system of a gold standard which started one century ago was not a real solution at all because the happenings did not confirm the results that have been achieved in the system of a gold standard by now. The means did not coincide with the objectives. The world went through the two world wars, the Great Depression, and the Great Recession. The international economic turbulent flows after the World War I and the Great Depression in spite of their relatively successful development of a quarter century ended up with a breakdown of the Bretton Woods system and the Great Recession after World War II. Thus, there was a confirmation of the predictions that the embedment of the inflation in the gold-exchange standard presents a wrong direction in terms of the development of the national and the global monetary systems. At the same time, the national ones have relatively easily transferred themselves to paper monetary systems, but they lost their connection with the global commodity money because the global commodity-money system has potentially transformed itself into regional monetary systems in which one of the currencies comprising "the basket

<sup>14</sup>Paul Davidson: Reforming the World's international money, Paper for conference "Financial Crisis, the US Economy, and International Security in The New Administration", Nov.14, 2008, The New School, New York.

<sup>15</sup>"The truth is the whole. The whole, however, is merely the essential nature reaching its completeness through the process of its own development. Of the Absolute it must be said that it is essentially a result, that only at the end is it what it is in very truth; and just in that consists its nature, which is to be actual, subject, or self-becoming, self-development". (G. W. F. Hegel, The phenomenology of mind, translated by J. B. Baillie <http://www.blackmask.com>, p.8)



of national currencies” has a central role. And the effect of their functioning will be suboptimal in relation to any kind of a global commodity currency having a potential of breaking out conflicts, confrontations and a further disintegration of the global market. By transferring to a fiat standard, with floating rates in the cross rates of exchange in the world, the situations got worse both at a national and a global level. By demonetizing the gold as commodity money, its function was overtaken by the national currencies which had already performed a function of international reserves, and the inflation was accelerated. This led to the Great Recession, and the efforts of making a way to get out of it showed that the development instigated by inflation needed a much greater inflation. Of course, it has had disastrous perspectives because the fear of inflation displaces the focal point of the State intervention to the use of protectionist and anti-globalization measures.

The unfavourable results from the influence's dilution of the automatic or half-automatic mechanism of balancing the national economies' development and the uncertainties of abandoning the system of commodity money imposed the need for abandoning “the inflationist view of history” (Mises) and bringing back i.e. introducing again “the constant” (Polonyi) as “a monetary unit i.e. a unit of value” (Schumpeter). And that is possible under the current circumstances by creating a global commodity currency.

The Economics is called to evaluate which of the possible ways of creating a global commodity currency is the most adequate to overcome the existing national and global problems effectively and to open perspectives for a development on the basis of the international criteria of profitability. It is a pure damage if it continues to deal with “a promotion” of the national currencies in the role of world money and/or of the SDRs as a basket of five national currencies. It is obvious that they are not a suitable substitute for the global commodity currency either individually or as a basket of currencies. In principle, they are a contradictio in adjecto of the global currency, and with floating rates among them – they present a source of conflicts and divisions. Only by the functioning of the global commodity currency, it can be expected to cease the non-argumentative accusations and confrontations between the countries with leading currencies. It provides the responsibility for the national economies' states to be borne by the national, political and business élites because they cannot justify themselves for their countries' problems with the behavior of others.

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## IS THERE A ROLE FOR MONETARY POLICY IN STABILIZING BANKING SECTOR SOUNDNESS AND LENDING?

**Tome Nenovski<sup>\*1</sup>, Gligor Bishev<sup>2</sup>, Milan Eliskovski<sup>3</sup>**

1. University American College Skopje, 3 Makedonska Brigada, Skopje, R. Macedonia
2. Sparkasse Bank Makedonija AD, Macedonia 9-11, Skopje, R. Macedonia
3. National Bank of the Republic of Macedonia, Kuzman Josifovski Pitu 1, Skopje, R. Macedonia

### ABSTRACT<sup>1</sup>

Monetary policy solely is not effective in stabilizing lending and banking sector soundness and therefore has to be complemented by the macro-prudential measures. By estimating augmented Taylor interest policy rule, with case study for the Republic of Macedonia, this paper analyses how the monetary policy reacts to standard variables such as: inflation rate, real GDP, real effective exchange rate, foreign exchange reserves and banking sector soundness, for which benchmark variables such as: loans to GDP gap, non-performing loans ratio, capital buffer and interest rate differentials, are taken as variables. This paper considers, as well, how banking sector soundness is affected by changes of Central bank interest rate and interest differentials.

**KEYWORDS:** monetary policy, banking sector, bank soundness, macro-prudential standards, augmented Taylor rule

**JEL CLASSIFICATION:** E52, E58, E61, G21

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<sup>\*</sup> E-mail addresses: [nenovski@uacs.edu.mk](mailto:nenovski@uacs.edu.mk) (T. Nenovski), [gligor.bishev@sparkasse.mk](mailto:gligor.bishev@sparkasse.mk) (G. Bishev), [eliskovskim@nbrm.mk](mailto:eliskovskim@nbrm.mk) (M. Eliskovski)

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## INTRODUCTION

Central banks mainly aim to achieve macroeconomic stability by conducting monetary and macroprudential policy. The goal of the former is providing stable price level and the goal of the latter is maintaining sound banks. The signals of the monetary policy mainly given by adjusting the reference interest rate, largely depend on banking sector soundness and vice versa i.e. the monetary policy affects the banks behavior and their perceptions of risk in the economy. The stable banks are very important condition for providing loans during downturn in order the whole economy to overcome the crisis period in fast manner. Also, the monetary policy needs to constrain bank lending in expansionary phase and therefore to prevent overheating of the economy. Thus, when conducting monetary policy, the Central bank has to react in prompt manner and timely restrain or stimulate bank lending. In order to achieve this, the Central bank needs to follow the movement of benchmark variables or so-called early warning indicators. Such benchmark variables are: loans to gross domestic product (GDP) gap, non-performing loans ratio (NPL), loans to deposits, interest rate differential or interest rate spread and etc. Providing solely stable price level, the monetary policy can stimulate banks to lend and undertake risk. If that risk materializes, then banking sector soundness deteriorates and ultimately their capital decreases. In such situation, it is harder for the Central bank to stimulate banks' lending because they are interested to conserve the capital. Hence, beside the price level goal, the monetary policy needs to take into consideration the mentioned benchmark or early warning indicators in order to react timely and provide banking sector stability as well. On the other side, the banks soundness depends on the macroprudential and monetary policy measures by the Central bank. Furthermore, banks have their own policies and procedures upon which they base risk perceptions in the economy and consequently undertake and manage risks. The banks' perceptions on the riskiness of the economy are very important for providing stable lending. Therefore, the bank soundness depends not solely by the monetary and macroprudential policy, but by the solid internal acts of the banks as well. From the previous said, it comes that monetary, macroprudential policy and bank soundness interact between each other.

The aim of this paper is to investigate the interactions between monetary, macroprudential and banks soundness indicators i.e. how they affect each other and determine lending in the economy of Republic of Macedonia (RM). Other macroeconomic variables will be added as well. Therefore, further in this paper, theoretical and empirical literature overview and econometric testing of this issue will be considered. Moreover, several econometric testings will be conducted encompassing: 1. how the reference interest rate reacts to early warning and macroeconomic indicators by estimating augmented Taylor rule, 2. capital buffer (excess of capital adequacy rate above minimum legal prescribed capital adequacy rate) reaction to reference interest rate and the mentioned early warning and macroeconomic variables, 3. loans to GDP determination to monetary, macroprudential, credit risk and macroeconomic variables, and credit risk i.e. NPL dependence on the monetary, macroprudential, and macroeconomic variables. Finally, conclusion and recommendations to policy makers will be given, based on obtained results of this study.

## 1. THEORETICAL AND EMPIRICAL LITERATURE OVERVIEW

Maintaining sound banking sector is very important condition for stable lending in the real economy. Banks should not over lend and accumulate risks in good times, or under lend in bad times when risks have materialized and consequently the banks' soundness has deteriorated. Sound banks are necessary condition in order to lend in economic recessions and therefore swiftly to overcome the recession. Also, by providing timely signals by the Central bank in economic expansion, banks will restrain lending, the build up of risks especially the credit risk will decrease and subsequently the aggregate demand would decrease and prevent overheating the economy. Banks on the other hand, mainly balance between risk and return in order to maintain their soundness and provide value for the shareholders, deponents and maintain lending for the enterprises and households. Thus, banks have always to be aware about risks and have to monitor macroeconomic indicators in order to perceive potential risks. Soundness of the banks depends on timely and proper signals of the Central bank, but more importantly, their soundness is mainly dependent on their proper risk perceptions in the economy. Therefore, banks need to have solid policies and procedures based upon they will undertake risks in their work. Having in mind the

previous said, banks assess from risk-return point the movement of the macroeconomic indicators and every given signal by the Central bank.

In order to facilitate proper Central bank and banks' decisions, the literature has developed indicators for early warning of the risks. By following this early warning indicators and timely and properly reacting to their movement, the Central bank and banks should prevent build up of risks in good times and preserve their soundness in order to lend in bad times. Latest upgrade of Basel standards i.e. Basel III suggest loans to GDP gap i.e. deviations of loans to GDP from trend level as indicator for timely signaling whether banks should lend offensively or restrict loans. As loans to GDP level is high relative to its trend level, the monetary and macroprudential policy should signal restriction of lending. Also, in such situation, banks have to be aware and restrict lending because as lending increases further from its trend level, then potential credit risk increases and when risks get materialized, then banks' soundness might deteriorate. According to Drehman et al (2011) and Giese et al (2014), basing banks' decisions solely on this indicator is not appropriate because loans to GDP gap is suitable indicator for restriction of lending, but is not the best indicator for stimulating lending. Namely, as Drehman et al (2011) explains, when economy faces exogenous shock, the value of GDP as denominator decreases and the overall loans to GDP gap remains high because enterprises and households can spend previously approved loans and increase them as nominator. Thus, loans to GDP would remain high and could provide misleading signal that lending should decrease in situation when GDP has decreased and is necessary banks to lend in order to overcome recession. Therefore, the Central bank and banks have to monitor other more indicators as well such as: non-performing loans, difference between lending and reference interest rate (Claessens, 2013).

Thus, providing sound banks is a matter of a team work between the Central bank and banks because sound banks are necessary condition for maintaining stable lending in both economic expansion and recession. The Central bank has to conduct proper monetary and macroprudential policy and provide proper signals to banks. Banks have to follow Central bank signals and up to date their policies and procedures for proper balance of the risk-return. Deterioration of banks' soundness requires unconventional measures to be undertaken by the Central bank and the process of transmission becomes more costly.

In addition to this, the question that arises is whether the monetary and macroprudential policy react to potential indications of risk increase by early warning indicators and how they affect bank lending. This approach entails costs to banks for adjusting their balances in proper manner (IMF-FSB-BIS, 2016). Namely, monetary restrictive policy in expansion phase limits the profit potential of the banks. Also, in addition to this, the macroprudential signals require banks to adjust properly capital and liquidity position. However, the main benefit of this approach is providing long run stability of the banks and preserving their soundness for maintaining stable lending in the economy. All this measures might increase interest burden to the real economy as well. In order to consider the overall picture for the Macedonian case, further in this paper will be considered empirical testing of: 1. monetary policy reactions by estimating Taylor interest rate rule i.e. how central bank reference rate (central bank bills interest rate) is determined, 2. macroprudential policy reaction by estimating capital buffer<sup>2</sup>, 3. determinants of loans to GDP and 4. determinants of NPL ratio.

### 1.1. Augmented Taylor Rule

Central bank conducts the monetary policy by using interest rate as policy instrument. The setting of interest rate by the central bank can provide significant information on the goals which are important in its running of monetary policy. One type of monetary policy rule that explains how interest rate is set is the Taylor rule. The Taylor rule is simple monetary policy rule that explains how a central bank should adjust its instrument, the interest rate in a systematic manner in response to developments in inflation and output (Orphanides, 2007).

The study of Mohanty and Klau (2004) provides theoretical explanation for proper set of the Central bank interest rate in emerging economies depending on relevant variables for these economies such as: inflation, output gap and exchange rate. The authors indicate that many central banks in their sample of 13 emerging economies adjust interest rates in a systematic manner depending on exchange rate

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<sup>2</sup> Capital buffer might be considered as macroprudential tool when the Central bank issues measures that affect risk-weighted asset of the banks. However, many decisions regarding the profit capitalization, equity issuance and lending restriction depend on managerial decisions of the banks itself and appropriately affect the capital buffer. Thus, the capital buffer is proxy for the macroprudential policy.



changes, inflation and output gap. Moreover, the study indicates that impact of exchange rate on the interest rate is stronger, than the effect from the inflation rate or the output gap. The latest world economic crises from 2007 to 2009 indicated that Central bank focusing solely on the mentioned basic goals by Orphanides (2007) (price stability and output gap stabilization) is not sufficient (Cecchetti and Kohler, 2014). Claessens (2013) states that monetary policy focused on price stability is not able to maintain macroeconomic stability. Namely, the price stability provides basis for increased lending and rise of asset prices. As lending and asset prices rise, banks build up their exposure to risks. Therefore, the monetary policy paradigm has to be shift and the Central bank has to adjust interest rate policy in response to movements in the financial sector. Consequently, the Central bank will provide signals for lending decrease and mitigation of risk exposure of the banks. According to Kafer (2014), the literature suggests that monetary policy should take care for financial stability along with providing stable prices and smoothing output cycles in the economy. In this study, the author explains that the monetary policy in the Eurozone has to react to financial instability indicators. Kafer considers literature for augmenting the Taylor rule with financial stability indicators such as: exchange rate asset prices, credit/leverage and interest rate spread. However, the author ascertains that effects of such policy are heterogenous due to the heterogeneous composition of the Eurozone. But considered this issue for one economy only then the effects are positive from proper reacting of Central bank interest rate policy to financial stability indicators. Agenor and Pereira da Silva (2011) also substantiate the case that monetary policy should react to financial stability indicators and also has to be well coordinated with macroprudential policy for better outcome in middle-income countries. According to this study, monetary policy and macroprudential policy in such countries cannot be substitutes because monetary policy is not able to recognize cross-section dimension of systemic risk and thus both policies have to be complements. Yagihashi (2011) estimates Taylor rule by including standard variables i.e. prices and output gap supplemented by following credit risk variables: net worth capital ratio, default rate and risk premium (difference between Moody's Baa spread and ten year US treasury bond interest rates) of nonfarm nonfinancial corporates and households for the period from 1989 to 2008. The conclusion of this paper is that Federal Reserve adjusts federal funds rate to credit risk variables during the considered period, but this did not contribute much to mitigate



deterioration of the 2007 to 2009 economic crisis. The reason for this, according to Yagihashi lies in the lack of accountability of the Federal Reserve and imprecise communication of Federal Reserve with general public. Regarding the Macedonian economy, Jovanovic and Petreski (2012) estimate Taylor type interest rate rule for the period from 1997 to 2011. The estimated rule is of standard type augmented with official reserves which are especially important for preserving de facto fixed exchange rate of the Macedonian denar. The results of this paper suggest that National Bank of Republic of Macedonia (NBRM) sets central bank bills interest rate depending on inflation and official reserves.

## **1.2. Capital Buffer Determinants**

Capital buffer is the excess of capital that banks have above the legally prescribed minimum and has a very important role for preserving the stability of the banking sector, especially in economies where banks are the main source of funding. The capital buffer of banks is very important to maintain their solvency, and to maintain the potential for unconstrained providing loans in the economy. The capital buffer depends on the macroprudential signals and measures of the Central bank, but moreover the capital buffer build up mostly depends on managerial decisions of the banks for profit capitalization and equity issuance to increase capital as nominator and moreover lending reduction in order to decrease risk weighted assets as denominator and subsequently to increase the capital buffer. Therefore, the capital buffer is not only affected by Central bank decisions but mostly is affected by managerial decisions of the banks itself and therefore the capital buffer might be considered as a proxy for the macroprudential policy.

Ayuso et al (2002), the authors examined the determinants of the capital buffer for the Spanish banks for the period 1986 to 2000. The paper uses annual data, where the capital buffer is the dependent variable, calculated as a percentage i.e the current capital decreased by the regulatory required capital divided by the regulatory capital, and as independent variables are used: lag of the capital buffer in order to cover the adjustment cost of capital, the rate of non-performing loans, the rate of return on equity, dummy variables for distinguishing the banks by size and the gross domestic product growth rate as a measure of the economic cycle. The econometric modeling is done by using panel econometric technique. The findings of this paper suggest that Spanish banks are quite imprudent in terms of the capital buffer management. Namely,

the rate of non-performing loans affects negatively the capital buffer, which means that the materialization of the credit risk has been covered at the expense of the capital. The rate of return on equity also affects negatively, implying that profits are not reinvested to increase the capital. Furthermore, the dummy variable for capturing the size of the banks influences negatively on the capital buffer, indicating that large banks hold less capital than smaller banks. Finally, the relationship between economic cycle and capital buffer is also negative, i.e. when GDP grows, banks decrease the capital buffer and hence the banks behave pro-cyclically in the economy. The paper by Stolz and Wedow (2005) investigates the same issue for German banks for the period 1993-2003. The authors define the capital buffer as a difference between the rate of capital adequacy and legally minimum prescribed rate of 8%. As independent variables used in this paper are: lag of the dependent variable, variables for covering the credit risk costs, profitability, size and gross domestic product for the economic cycle. Also, additional variables are included for encompassing banks' mergers within the observed period, their disposable liquidity as well as the type of the banks in the German economy. The results indicate negative influence of the profitability, the economic cycle and the size of banks on the capital buffer and a positive impact of the liquidity and the mergers. Similarly to previously described studies, Jokipii and Milne (2006) also investigate the determinants of the capital buffer and put emphasis on the economic cycle influence. This study covers the period from 1997 to 2004 and takes into account the banks from the countries in the European Union. Panel econometric technique is used including standard variables for the adjustment costs of capital, profitability, exposure to credit risk covered by the rate of non-performing loans and the rate of loan loss provisions to total assets, the level of loans and the loan growth, the size of the banks and the economic cycle represented by the gross domestic product. The results of this paper suggest that the increased profitability, the size of banks and economic cycle affect negatively the capital buffer, while the exposure to credit risk influences positively. Eliskovski (2014) analyses capital buffer determinants in the Macedonian banking sector for the period 2003 to 2013 and finds that NPL ratio, NPL coverage, profitability and exposure to currency risk positively affect capital buffer, while loan growth decreases capital buffer.

### 1.3. Bank Lending and NPL Determinants

Bank lending behavior depends on Central bank measures but moreover depends on banks' risk perceptions about the economy. Namely, for maintaining stable lending, banks evaluate risk-return position in order timely to prevent build up of risks and prevent deterioration of bad (non-performing) loans. Also, from this risk-return perspective banks assess the Central bank measures through their effect on banks' balance sheet, profitability and risk absorbing capacity (Cecchetti and Kohler, 2014). According to Bernanke and Blinder (1988), the Central bank has to affect bank excess reserves in order monetary policy measures to have effect. Moreover, macroprudential measures need to affect banks' capital position (Cecchetti and Kohler, 2014). Also, if banks over exposure to materialized risks, then Central bank measures would also have limited effect because banks will be interested in preserving liquidity and capital position. Thus, banks' awareness about risks especially the credit risk in the economy is a key factor for stable lending. Namely, in expansion phase banks should be aware and have to follow early warning and macroeconomic indicators in order not to expose themselves to high credit risk which would materialize in recession and increase non-performing loans. Therefore, banks' managerial decisions based on policies and procedures are important for stable lending as well.

In context to Taylor rule and lending, the study of Apergis et al (2012) estimates backward-looking, contemporaneous and forward-looking, Taylor type, interest rate rules for Euro-group, Denmark and United Kingdom using standard variables (inflation gap and output gap) and interest rate smoothing parameter based on interest rate lag for the period from 2000 to 2009. They use this estimates to assess the lending in mentioned economies. This paper finds that banks adjust lending in appropriate manner when the Central banks provide signals based on the decisions guided by the Taylor rule. The study of Tabak et al (2011) considers the lending in relation to capital buffer. Tabak et al (2011) estimate capital buffer and lending determinants for Brazilian economy for the period spanning from 2000 to 2010. Their findings point that Brazilian banks decrease capital buffer in economic expansion and support lending and thus Brazilian banks are acting proactively i.e. increase lending in good times and decrease lending in bad times. This behavior of Brazilian banks does not contribute to stable lending and easily overcome of business cycles. Thus, the results of this study implicate that in economic recession, banks increase the capital

buffers at the expense of loans' growth. Regarding the effect of other variables in this study, the NPL ratio and short-term reference interest rate have negative effect while output gap positively contributes to lending. Bogoev (2010 and 2011) investigates bank lending channel for the Macedonian economy for the period 2000 to 2007 in the first paper and 2000 to 2008 in the second paper. The first paper indicate that risk preferences of the Macedonian banks measured by NPL ratio are most significant determinants of the overall bank lending, while the second paper considers currency composition of the loans and suggests that bank size matters for foreign currency lending and no specific variable has key effect for domestic currency loans. From interest rate and capital perspective, the mentioned papers by Bogoev implicate limited and weak effect of the interest rate and capital position. Furthermore, the stable lending is important for GDP growth. Therefore, Bishev (2015) analyses the effects of credit activity on GDP growth for 8 western Balkan countries and finds that there is a significant long-run relation between loans and GDP.

Regarding NPL and banks' capital determinants, the paper by Athanasoglou (2011) deals with this issue for seven south eastern European economies including Macedonian economy as well. The results of this paper indicate that profitability and liquidity positively affect banks capital, while NPL is positively determined by the capital and negatively determined by liquidity condition. Kjosevski (2016) provides detailed overview of determinants of enterprise and household NPL ratio for the Macedonian banks. This paper points out that banks' lending and profitability have negative influence on NPL ratio while the unemployment rate and bank's capital position positively affect bad loans. Also, this study provides detailed overview of theoretical and empirical literature regarding NPL determinants and hence in order to save space in this study, the reader might consider the mentioned study by Kjosevski. Also, Nenovski et al (2012) explains the structure and efficiency of the banking sector in Republic of Macedonia among which NPL ratio is considered as well.

## **2. ESTIMATION OF THE ECONOMETRIC MODELS AND RESULTS**

Having in mind the above elaborated theoretical and empirical literature, the econometric testing of the determinants of the interest rate rule (Central bank bills interest rate), capital buffer (capital adequacy rate minus 8%), banks' lending (loans to GDP) and NPL ratio in RM will be done by employing Johansen cointegration

technique (Vector Error Correction Model). The Johansen technique allows variables to be taken with same order of integration and uses lags in order to mitigate the problem that might arise of the endogenous variables (Haris and Sollis, 2003). Additionally, this technique provides long-run equilibrium coefficients and the error correction mechanism (ECM) which presents the speed of adjustment of short-run disequilibrium towards long-run equilibrium. Furthermore, this technique allows estimating multiple regressions by providing restrictions i.e. estimation of more than one cointegrating vector. The data for the Macedonian banks are mostly available at the level of the total banking sector for the given period from 2005Q1 to 2015Q2. All variables are nonstationary and all variables are seasonally adjusted with exception to interest rates<sup>3</sup>. Data are obtained from the web site of the National Bank of the Republic of Macedonia (NBRM) and the web site of the State Statistical Office.

Following equations will be estimated regarding the Taylor rule:

$$CBBIR_t = \beta_1 INF_t + \beta_2 LNRGDP_t + \beta_3 LNFXRES_t + \beta_4 LNREER_t + \beta_5 DIFMKD_t + \beta_6 DIFFX_t + \beta_7 LOANSTOGDPGAP_t + \varepsilon_t \quad (1)$$

$$CBBIR_t = \beta_1 INF_t + \beta_2 LNRGDP_t + \beta_3 LNFXRES_t + \beta_4 LNREER_t + \beta_5 DIFMKD_t + \beta_6 DIFFX_t + \beta_7 NPLR_t + \varepsilon_t \quad (2)$$

$$CBBIR_t = \beta_1 INF_t + \beta_2 LNRGDP_t + \beta_3 LNFXRES_t + \beta_4 LNREER_t + \beta_5 DIFMKD_t + \beta_6 DIFFX_t + \beta_7 LOANSTODEP_t + \varepsilon_t \quad (3)$$

where:

- $CBBIR_t$  is nominal central bank bills interest rate,
- $INF_t$  is inflation rate based on consumer price index,
- $LNRGDP_t$  is natural logarithm of real gross domestic product,
- $LNFXRES_t$  is natural logarithm of foreign exchange reserves,
- $LNREER_t$  is natural logarithm of real effective exchange rate (increase means appreciation),

<sup>3</sup> In order to save space, all technical details regarding econometric regressions and estimations are available upon written request to authors.

- $LOANSTOGDPGAP_t$  is difference between loans to GDP and trend obtained with Hodrick-Prescott filter<sup>4</sup>,
- $DIFMKD_t$  is difference between denar loan interest rate and central bank bills interest rate,
- $DIFFX_t$  is difference between foreign exchange currency loan interest rate and 1 month EURIBOR,
- $NPLR_t$  is ratio of non-performing loans to total loans and
- $LOANSTODEP_t$  is ratio of loans to deposits.

According to Taylor (1993), the central bank should change its short-run nominal interest rate in response to deviations of variables which are considered as generally ultimate goals for the monetary policy, namely inflation and output stability. Such defined rule offers simplicity for understanding what is good monetary policy performance and in what manner the central bank should react to deviations of the included objective variables. Namely, it is accepted that well created monetary policy can offset macroeconomic disturbing movements and reduce cyclical fluctuations in prices and output and thus achieve economic stability. Hence, when actual economic output goes below potential output, then central bank by reducing short-run interest rate can boost aggregate demand and return actual economic output up to his potential level. Similarly, if inflationary pressures arise, in that case by conducting restrictive monetary policy the central bank can re-establish price stability in the economy. Since Macedonian currency has de facto fixed exchange rate to Euro currency, effective real exchange rate and foreign exchange reserves will be introduced to control this issue. Monetary policy rule which includes exchange rate is appropriate specification for small open economy according to Ball (1998). The significance of the exchange rate arises from the fact, that it is part of the transmission mechanism (Taylor, 2000). Concerning the coefficient in front of REER, the sign is expected to be positive in short run and negative in medium run as a response to REER appreciation (Ball, 1998) and regarding the coefficient of FXRES it has to be negative. Namely, an appreciation of the real effective exchange rate contributes to negative net exports and drain off of the foreign exchange reserves. In order to stabilize foreign exchange market, the Central

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<sup>4</sup> According to Gersl and Seidler (2012), the lambda parameter for calculating the HP filter when using quarterly data should be set at 400,000. This high amount of lambda parameter is proposed because the credit cycle lasts longer than the economic cycle.

bank has to increase interest rate initially in order to decrease domestic money market demand and consequently to stabilize demand on the foreign exchange market. As time goes by, the appreciation of REER affects negatively the economic output and thus the interest rate has to be lowered to stimulate the positive economic movements. Also, as it was explained above, the Central bank (NBRM) should adjust the interest rate in response to early warning indicators such as: loans to GDP gap (deviation of loans to GDP from its trend level), loans to deposits, difference between denar loan interest rate and central bank bills interest rate and difference between foreign exchange currency loan interest rate and 1 month EURIBOR and bank soundness indicator such as NPL as well. The increase of loans to GDP gap and loans to deposits should provide signal that central bank bills interest rate has to increase as well and thus to provide signal for the banks to increase loan interest rates and decrease lending. Interest rate differential can be considered as a measure of risk perception of the banks and proxy for credit channel conditions (Yagihashi, 2011). NBRM has to decrease central bank bills interest rate as response to increased interest rate differential in order to modify banks' risk perceptions, reduce interest burden to clients and stimulate them to lend (Kafer, 2014 and Yagihashi, 2011). Moreover, the Central Bank of Oman (2015) states that interest rate differentials are market based indicators that provide appropriate signals for stimulation of lending. Furthermore, the banks will provide lending based on their risk-return balance. Thus, increase of NPL ratio as measure of materialized credit risk exposure will deteriorate the risk-return profile of the banks and decrease lending. As a result to this, the literature does not suggest how the central bank bills interest rate has to be adjusted i.e. it might be positive to prevent further lending or might be negative to prevent banks to restrict lending. Additionally, the effect of LOANSTODEP will be considered in order to account for liquidity position of the banks. Namely, as liquidity decreases, CBBIR has to increase and as a result the banks have to reduce lending and improve liquidity position.



Following equations will be estimated regarding the capital buffer as a proxy for macroprudential policy<sup>5</sup>:

$$\begin{aligned} CAPBUFFER_t &= \beta_1 NPLR_t \\ &+ \beta_2 ROA_t + \beta_3 LOANSTOGDPGAP_t + \beta_4 LNRGDP_t + \beta_5 CBBIR_t + \beta_6 DIFMKD_t + \beta_7 DIFFX_t + \varepsilon_t \end{aligned} \quad (4)$$

$$\begin{aligned} CAPBUFFER_t &= \beta_1 NPLCOVERAGE_t \\ &+ \beta_2 ROA_t + \beta_3 LOANSTODEP_t + \beta_4 LNRGDP_t + \beta_5 CBBIR_t + \beta_6 DIFMKD_t + \beta_7 DIFFX_t + \varepsilon_t \end{aligned} \quad (5)$$

where:

- $CAPBUFFER_t$  is capital buffer obtained as difference between capital adequacy ratio and minimum legally prescribed capital adequacy rate of 8%,
- $NPLR_t$  is ratio of non-performing loans to total loans,
- $NPLCOVERAGE_t$  is coverage of non-performing loans with loan loss reserves,
- $ROA_t$  is rate of return on assets,
- $LOANSTOGDPGAP_t$  is difference between loans to GDP and trend obtained with Hodrick-Prescott filter,
- $LOANSTODEP_t$  is ratio of loans to deposits,
- $LNRGDP_t$  is natural logarithm of real gross domestic product,
- $CBBIR_t$  is nominal central bank bills interest rate,
- $DIFMKD_t$  is difference between denar loan interest rate and central bank bills interest rate and
- $DIFFX_t$  is difference between foreign exchange currency loan interest rate and 1 month EURIBOR.

The  $NPLR$  and  $NPLCOVERAGE$  represent ex-post measures of the credit risk of the banks i.e. measures of the already materialized credit risk losses (Ayuso et al, 2002). The impact of these variables could be positive or negative. The positive effect indicates that higher the credit risk the banks have undertaken should stimulate them to increase the capital and thus to protect against unexpected losses. The negative coefficient indicates that materialized credit risk decreases capital buffer. This might not be considered as bad thing, under condition of high  $NPLCOVERAGE$  ratio because

<sup>5</sup> The explanation why capital buffer is proxy for macroprudential policy is given above in the part of Capital Buffer

loan loss reserves are alternative buffer, protecting the banks against the expected losses. The ROA is used to capture the profitability. As explained in the theoretical models if the profit is distributed as a dividend, then there is no source to increase the bank's capital buffer. However, according to Jokipii and Milne (2006), if profitability is high enough that exceeds the shareholders' expected return, then excess profits can be reinvested and thus have positive impact on the capital buffer. The LNGDPGR is included as a measure of the economic cycle. A negative coefficient in front of this variable indicates that banks increase the capital buffer during economic recession which consequently could restrict their lending, reduce risk weighted assets in the denominator relative to unchanged capital in nominator and thus the recession could deepen. The gap (difference) of the loans to GDP from its' trend level (LOANSTOGDPGAP) is proposed by the Basel Committee on Banking Supervision with the latest Basel Accord (Basel III) for regulating the banking sector pro-cyclicality. In fact, this variable should indicate whether the lending level in the economy is excessive and accordingly the banks should provide additional capital or so called countercyclical buffer<sup>6</sup> (Gersl and Seidler, 2012). The countercyclical capital buffer that banks need to provide should range from 0% to 2.5% relative to respective difference of 2 to 10 percentage points of the loans to GDP from its' trend level. CBBIR is taken to assess the interaction of monetary policy with macroprudential policy. The effect should be positive because increase of central bank bills interest rate decreases lending and banks shift their portfolio composition from risk placements to safe assets placements and consequently the risk weighted assets decreases contributing to increase of the overall capital adequacy ratio. The interest rate differentials (DIFMKD and DIFFX) as representative of risk premiums might have both positive and negative effect based upon risk perceptions and return of the banks. Namely, high risk perceptions perceived by high interest rate differential might reduce bank lending and increase capital buffer while on the other hand, high interest rate differential might provide interest burden to clients and increase of losses for the banks and decrease their capital adequacy. Liquidity position of the banks is introduced with LOANSTODEP variable. The effect might be ambiguous i.e. positive or negative to dependent variable. Namely, as loans to deposits increase and consequently liquidity position of the banks decreases, they

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<sup>6</sup> Basel Accord (Basel III) also suggests to the banks to provide previously an additional amount of capital (conservation buffer), in a case they have a low rate of capital adequacy.

should either provide capital or reduce lending and in that manner increase capital buffer. On the other hand, as loans to deposits ratio rises, risk weighted assets increases as well and contributes to lower capital buffer (under assumption of unchanged capital in the nominator of capital adequacy ratio).

Following equations will be estimated regarding the loans to GDP:

$$LOANSTOGDP_t = \beta_1 LNRGDP_t + \beta_2 CBBIR_t + \beta_3 DIFMKD_t + \beta_4 CAPBUFFER_t + \beta_5 NPLR_t + \varepsilon_t \quad (6)$$

$$LOANSTOGDP_t = \beta_1 LNRGDP_t + \beta_2 INF_t + \beta_3 CBBIR_t + \beta_4 DIFMKD_t + \beta_5 DIFFX_t + \beta_6 NPLR_t + \varepsilon_t \quad (7)$$

$$LOANSTOGDP_t = \beta_1 LNRGDP_t + \beta_2 DIFMKD_t + \beta_3 CAPBUFFER_t + \beta_4 NPLCOVERAGE_t + \beta_5 CBBIR_t + \varepsilon_t \quad (8)$$

Where:

- $LOANSTOGDP_t$  is ratio of bank loans to GDP,
- $LNRGDP_t$  is natural logarithm of real gross domestic product,
- $CBBIR_t$  is nominal central bank bills interest rate,
- $DIFMKD_t$  is difference between denar loan interest rate and central bank bills interest rate and
- $DIFFX_t$  is difference between foreign exchange currency loan interest rate and 1 month EURIBOR,
- $CAPBUFFER_t$  is capital buffer obtained as difference between capital adequacy ratio and minimum legally prescribed capital adequacy rate of 8%,
- $NPLR_t$  is ratio of non-performing loans to total loans,
- $NPLCOVERAGE_t$  is coverage of non-performing loans with loan loss reserves and
- $INF_t$  is inflation rate based on consumer price index.

Banks' lending ( $LOANSTOGDP$ ) depends positively on  $LNRGDP$  movements. Positive GDP contributes to higher income of households and enterprises leading to higher loan demand. Also, favorable movements in  $LNRGDP$  reduces banks' risk perception leading to increase of the loan supply.  $CBBIR$  usually is negatively correlated with lending under condition the Central bank to decrease excess reserves of the banks as suggested by Bernanke and Blinder (1988). However, the effect of  $CBBIR$  might be positive under favorable movements in the economy i.e. as GDP

increases the banks might meet higher loan demand and might not perceive higher risks, despite the increase of CBBIR. The interest rate differentials (DIFMKD and DIFFX) might affect positively or negatively the lending depending on whether the movements of these variables are perceived as opportunity for higher profit or higher risks which could deteriorate loan portfolio. The effect of CAPBUFFER is also uncertain. Namely, increase of CAPBUFFER as a result of decrease of the risk weighted assets in the denominator of the capital adequacy ratio, affects negatively banks' loans. On the other hand, increase of capital in nominator of capital adequacy ratio provides higher potential for lending and thus the effect might be positive. The measures of materialized credit risk represented by NPLR and NPLCOVERAGE i.e. higher values of these variables indicate higher undertaken credit risk and have negative influence on banks' lending. The effect of INF might be ambiguous, because higher but stable inflation rate might positively affect lending, but unstable high inflation leads to lower lending.

And finally, following equations will be estimated regarding the NPLR:

$$NPLR_t = \beta_1 LNRGDP_t + \beta_2 LOANSTOGDP_t + \beta_3 DIFMKD_t + \beta_4 CBBIR_t + \beta_5 INF_t + \varepsilon_t \quad (9)$$

$$NPLR_t = \beta_1 LNRGDP_t + \beta_2 LOANSTOGDP_t + \beta_3 DIFMKD_t + \beta_4 DIFDEV_t + \beta_5 CBBIR_t + \varepsilon_t \quad (10)$$

where:

- $NPLR_t$  is ratio of non-performing loans to total loans,
- $LNRGDP_t$  is natural logarithm of real gross domestic product,
- $LOANSTOGDP_t$  is ratio of bank loans to GDP,
- $CBBIR_t$  is nominal central bank bills interest rate,
- $DIFMKD_t$  is difference between denar loan interest rate and central bank bills interest rate and
- $DIFFX_t$  is difference between foreign exchange currency loan interest rate and 1 month EURIBOR and
- $INF_t$  is inflation rate based on consumer price index.

Bad loans represent the soundness of banks' loan portfolio. It is expected NPLR to decrease as a result to positive movements in LNRGDP. LOANSTOGDP affects NPLR

in uncertain manner i.e. might be positive or negative. Namely, as loans increase with high dynamics, the overall NPLR reduces (loans are denominator in NPLR). But, as the previously approved loans mature, some clients might delay their loan repayments to banks and become non-performing and thus increase NPLR. The effect of interest rates (CBBIR, DIFMKD and DIFFX) is unambiguously negative because higher interest rates provide higher debt burden for the clients. Price level measured by INF has ambiguous effect i.e. might be positive or negative depending on whether higher prices are induced by higher aggregate demand and attribute clients to increase sales or income and repay their delayed obligations or higher prices are consequence of higher costs in the economy that decreases clients income and thus clients are not able to repay timely obligations towards banks.

Above given equations from 1 to 10 are estimated by employing Johansen cointegration technique (Vector Error Correction Model) and long run coefficients will be presented in the tables from 1 to 4.

Results of the augmented Taylor interest rate rule are presented in table 1. The results suggest that NBRM positively adjusts central bank bills interest rate in response to higher inflation. The coefficient is statistically significant and spans from 0.09 p.p. to 0.14 p.p. assuming all other factors remain constant. There is limited evidence that GDP affects negatively CBBIR in the regression 2 of 0.09 p.p. The coefficients in front of LNRGDP in the regressions 1 and 3 are statistically insignificant. Increase of foreign exchange reserves (LNFXRES) provides opportunity for NBRM to decrease CBBIR under ceteris paribus coinciding with results obtained in Jovanovic and Petreski (2012). Thus, this variable indicates that improvement in foreign exchange reserves contributes CBBIR to decrease on average from 0.016 p.p. to 0.075 p.p. As can be noticed from regressions 2 and 3, the estimated coefficients in front of LNREER suggest that CBBIR decreases in long run by average effect of 0.29 p.p and 0.28 p.p. as a response to REER appreciation. There is small conflict with the regression 1 where the coefficient is positive of 0.34 indicating little instability of REER coefficients. With regards to early warning indicators from banking sector, CBBIR reacts negatively to interest rate differentials (DIFMKD – 0.60 p.p. to 1.54 p.p and DIFFX – 0.28p.p. to 0.40 p.p) indicating that NBRM attempts to smooth bank's risk perceptions and stimulate them to adjust credit conditions i.e. banks to decrease their loan interest rates and reduce interest burden to their clients. Other variables for early warning

(LOANSTOGDPGAP and LOANSTODEP) do not have statistically significant effect on CBBIR. Also, CBBIR does not respond to NPLR as measure of bank soundness. The error correction mechanism is negative indicating correction of the short run disequilibrium in long run, however it is not statistically significant.

**Table 1: Estimated regressions for augmented Taylor rule from 1 to 3, CBBIR is dependent variable**

|                                     | Regression 1   |          | Regression 2              | Regression 3              |
|-------------------------------------|--|----------|---------------------------|---------------------------|
|                                     | 2 cointegrating vectors<br>Probability for not rejecting restrictions <sup>7</sup><br>of the coefficients (0.05) |          | 1 cointegrating<br>vector | 1 cointegrating<br>vector |
| INF                                 | 0.097*   | 0.14*    | 0.01                      | 0.09*                     |
| Standard errors                     | (0.03)   | (0.05)   | (0.02)                    | (0.03)                    |
| LNRGDP                              |  | 0.0174   | -0.09*                    | -0.05                     |
| Standard errors                     |  | (1.77)   | (0.02)                    | (0.04)                    |
| LNFXRES                             | -0.05*   | -0.075*  | -0.016*                   | -0.01                     |
| Standard errors                     | (0.0034)   | (0.0077) | (0.006)                   | (0.08)                    |
| LNREER                              |  | 0.34*    | -0.29*                    | -0.28*                    |
| Standard errors                     |  | (0.05)   | (0.05)                    | (0.05)                    |
| DIFMKD                              | -0.60*   |          | -1.37*                    | -1.54*                    |
| Standard errors                     | (0.05)   |          | (0.09)                    | (0.11)                    |
| DIFFX                               | -0.39*   |          | -0.28*                    | -0.40*                    |
| Standard errors                     | (0.06)   |          | (0.06)                    | (0.11)                    |
| LOANSTOGDPGAP                       | -0.03  |          |                           |                           |
| Standard errors                     | (0.02)   |          |                           |                           |
| NPLR                                |  |          | 0.016                     |                           |
| Standard errors                     |  |          | (0.04)                    |                           |
| LOANSTODEP                          |  |          |                           | -0.05                     |
| Standard errors                     |  |          |                           | (0.03)                    |
| Error Correction<br>Mechanism (ECM) | -0.16  | -0.14    | -0.12                     | -0.07                     |
| Standard errors                     | (0.25)   | (0.19)   | (0.19)                    | (0.17)                    |

<sup>7</sup> Because maximum eigenvalue test indicates two cointegrating vectors, restrictions have to be imposed i.e. some variables need to be restricted to zero effect and appear in one vector, while other variables have to be restricted in the same manner in the second vector and thus to estimate regression. Restrictions are imposed based upon the suggestions for augmented Taylor rule with variables indicating early warning signals and soundness of banks in the first cointegrating vector, while the second cointegrating vector contains variables of standard Taylor rule augmented with REER.

\* and \*\* indicate statistically significant coefficient at 1% and 5% level of significance

Source: authors' calculations

Table 2 contains estimated coefficients of the capital buffer estimations. Measures of materialized or ex-post credit risk NPLR and NPLCOVERAGE exhibit negative but statistically insignificant influence on the CAPBUFFER. Profitability represented by ROA has strong positive effect of 2.23 p.p. and 1.79 p.p. on average, under ceteris paribus condition. Thus, profit recapitalization is major source for capital buffer increase for Macedonian banks. This result is expected because profit is main source for capital increase for the Macedonian banks in terms of underdeveloped stock exchange market. The coefficient of LOANSTOGDPGAP suggest that banks build capital buffer as loans increase relative to the trend, but the effect is statistically insignificant. Liquidity position represented by LOANSTODEP i.e. increase of this variable means reduction of the liquidity has positive influence to CAPBUFFER of 0.06 p.p. on average under constancy of all other factors. The LNRGDP variable indicates negative effect of 0.25 p.p. and 0.20 p.p. meaning that Macedonian banks decrease capital buffer as economic output rises and lend more, while in bad times, when LNRGDP decreases they reduce lending (because providing capital in bad times and in presence of underdeveloped stock exchange market is expensive activity) and increase capital buffer. The monetary policy signals presented by CBBIR positively affect CAPBUFFER with magnitude of 1.79 p.p. and 1.40 p.p. indirectly indicating that monetary policy restriction has negative effect on lending and banks increase placements in safe assets such as central bank bills and as a result of that risk weighted assets reduces contributing to increase of the overall capital buffer. Both variables of interest rate differentials (DIFMKD and DIFFX) indicate positive effect on capital buffer with magnitude of 0.47 p.p to 2.80 p.p. for DIFMKD and relatively high effect of DIFFX from 2.88 p.p to 6.38 p.p. on average, keeping all other variables unchanged. The ECM term suggests that short run disequilibrium corrects to long run equilibrium mainly as a result of the movements in the first cointegrating vector i.e. loan demand factors.



**Table 2: Estimated regressions for capital buffer from 4 to 5, CAPBUFFER is dependent variable**

|  | Regression 4   |        | Regression 5   |        |
|--|--|--------|--|--------|
|  | 2 cointegrating vectors<br>Probability for not rejecting restrictions <sup>8</sup><br>of the coefficients (0.32) |        | 2 cointegrating vectors<br>Probability for not rejecting restrictions <sup>9</sup><br>of the coefficients (0.01) |        |
| NPLR   |  | -0.05  |  |        |
| Standard errors  |  | (0.10) |  |        |
| NPLACOVERAGE   |  |        |  | -0.03  |
| Standard errors  |  |        |  | (0.02) |
| ROA  |  | 2.23*  |  | 1.79*  |
| Standard errors  |  | (0.25) |  | (0.18) |
| LOANSTOGDPGAP  |  | 0.01   |  |        |
| Standard errors  |  | (0.07) |  |        |
| LOANSTODEP   |  |        |  | 0.06*  |
| Standard errors  |  |        |  | (0.02) |
| LNRGDP   | -0.25*   |        | -0.20*   |        |
| Standard errors  | (0.02)   |        | (1.63)   |        |
| CBBIR  |  | 1.79*  |  | 1.40*  |
| Standard errors  |  | (0.19) |  | (0.11) |
| DIFMKD   | 0.44   | 2.80*  | 0.47*  | 2.45*  |
| Standard errors  | (0.26)   | (0.47) | (0.19)   | (0.30) |
| DIFFX  | 3.57*  | 6.38*  | 2.88*  | 4.64*  |
| Standard errors  | (0.33)   | (0.53) | (0.22)   | (0.33) |
| Error Correction<br>Mechanism (ECM)  | -0.56*   | 0.33*  | -0.68*   | 0.44*  |
| Standard errors  | (0.21)   | (0.14) | (0.24)   | (0.17) |
| * and ** indicate statistically significant coefficient at 1% and 5% level of significance |  |        |  |        |

Source: authors' calculations

Table 3 contains estimated coefficients of the loans to GDP estimations. The results of the table 3 suggest that LNRGDP has statistically significant effect spanning

<sup>8</sup> Because maximum eigenvalue test indicates two cointegrating vectors, restrictions have to be imposed i.e. some variables need to be restricted to zero effect and appear in one vector, while other variables have to be restricted in the same manner in the second vector and thus to estimate regression. Due to lack of theoretical suggestion about such case regarding capital buffer, restrictions are imposed based upon the suggestions by Bernanke and Blinder (1988) for loan market i.e. the CAPBUFFER is modeled in the first cointegrating vector as dependent variable of loan demand side and from loan supply side in the second cointegrating vector. Therefore, the regressions 4 and 5 provide results on loan demand and loan supply factors effect on the capital buffer of banks.

<sup>9</sup> Same as in footnote 8.

from 0.42 p.p. to 0.83 p.p. in regressions from 6 to 8. Thus, increase of output raises loan demand and accordingly banks increase lending to satisfy higher loan demand. Additionally, NPLR has consistent negative effect to loans of 1.32 p.p, and 0.88 p.p. on average, as presented in regressions 6 and 7, indicating that deterioration in the credit risk is very important factor for banks' lending. This effect of NPLR corresponds with findings of Bogoev (2010 and 2011). On the other hand, increase of NPLCOVERAGE contributes positively to LOANSTOGDP by 0.23 p.p. on average, under assumption all other variables to remain unchanged. Such unusual positive effect might be explained by the fact that high loan loss reserves relative to bad loans could be considered as indirect capital that strengthens the portfolio of the banks and provides potential for stable banks' lending. The coefficient of CBBIR is positive and statistically insignificant suggesting that monetary policy does not affect lending. Risk perceptions and interest burden of the clients measured by domestic currency interest rate differential (DIFMKD) decreases LOANSTOGDP with average effect of 0.64 p.p. to 1.49 p.p. in all presented equations. In contrast to the effect of DIFMKD, the foreign exchange currency interest rate differential (DIFFX) has relatively very high positive effect on lending of 5.13 p.p. and 8.65 p.p. in regression 7. The proxy variable for the macroprudential policy (CAPBUFFER) decreases the banks' loans by 1.74 p.p. on average. The inflation rate (INF) positively affects banks' loans (0.40 p.p.). The inflation rate has exhibited stable movements in the period under investigation in this paper (2005Q1 to 2015Q2) and hence increase of prices increases loans as well. The ECM term suggests that short run disequilibrium corrects to long run equilibrium in regressions from 6 to 8.

**Table 3: Estimated regressions for loans to GDP from 6 to 8, LOANSTOGDP is dependent variable**

|  | Regression 6   | Regression 7   | Regression 8   |
|--|--|--|--|
|  | 2 cointegrating vectors<br>Probability for not rejecting | 2 cointegrating vectors<br>Probability for not rejecting restrictions <sup>11</sup> of the coefficients (0.04) | 2 cointegrating vectors<br>Probability for not rejecting restrictions <sup>12</sup> of the coefficients (0.07) |

<sup>11</sup> Same as in footnote 10.

<sup>12</sup> Same as in footnote 10.

|  | restrictions <sup>10</sup> of the<br>coefficients (0.16) |        |         |         |        |         |
|--|--|--------|---------|---------|--------|---------|
| LNRGDP   |  | 0.70*  |         | 0.42*   |        | 0.83*   |
| Standard errors  |  | (0.09) |         | (0.08)  |        | (0.01)  |
| CBBIR  | 0.64   |        | 0.07    |         | 0.20   |         |
| Standard errors  | (0.61)   |        | (0.44)  |         | (1.53) |         |
| DIFMKD   | 0.02   | -0.76* | -1.13** | -1.49** | 0.08   | -0.64** |
| Standard errors  | (0.71)   | (0.30) | (0.59)  | (0.70)  | (1.73) | (0.32)  |
| DIFFX  |  |        | 5.13*   | 8.65*   |        |         |
| Standard errors  |  |        | (0.61)  | (1.18)  |        |         |
| INF  |  |        | 0.40*   | 0.40    |        |         |
| Standard errors  |  |        | (0.14)  | (0.28)  |        |         |
| CAPBUFFER  | 0.03   |        |         |         | -1.74* |         |
| Standard errors  | (0.19)   |        |         |         | (0.24) |         |
| NPLR   | -1.32*   |        | -0.88*  |         |        |         |
| Standard errors  | (0.16)   |        | (0.06)  |         |        |         |
| NPLCOVERAGE  |  |        |         |         |        | 0.23*   |
| Standard errors  |  |        |         |         |        | (0.07)  |
| Error Correction<br>Mechanism<br>(ECM)   | -0.49*   | -0.03  | 0.22    | -0.02   | -0.27* | -0.11   |
| Standard errors  | (0.17)   | (0.12) | (0.38)  | (0.20)  | (0.08) | (0.08)  |
| * and ** indicate statistically significant coefficient at 1% and 5% level of significance |  |        |         |         |        |         |

Source: Authors' calculations

Table 4 contains estimated coefficients of the NPLR estimations. Positive movements of LNRGDP contribute to decrease of bad loans within banks' portfolio. This variables reduces NPLR by 0.32 p.p. and 0.35 p.p. on average under ceteris paribus condition. LOANSTOGDP has negative effect in regression 9 only with average effect of 0.39 p.p. remaining everything else unchanged. All interest rates (CBBIR, DIFMKD and DIFFX) contribute to expected increase of NPLR. Similarly as interest rates, the

<sup>10</sup> Because maximum eigenvalue test indicates two cointegrating vectors, restrictions have to be imposed i.e. some variables need to be restricted to zero effect and appear in one vector, while other variables have to be restricted in the same manner in the second vector and thus to estimate regression. The theoretical suggestion about such case regarding lending are based upon the suggestions by Bernanke and Blinder (1988) for loan market i.e. the LOANSTOGDP is modeled in the first cointegrating vector as dependent variable of loan supply side and from loan demand side in the second cointegrating vector. Therefore, the regressions 6 and 8 provide results for loan supply and loan demand factors effect on lending.

inflation (INF) has positive effect on NPLR as well. The ECM term suggests that short run disequilibrium corrects to long run equilibrium in regressions 9 and 10.

**Table 4: Estimated regressions for non-performing loans ratio from 9 to 10,  
 NPLR is dependent variable**

|  | Regression 9           | Regression 10          |
|--|------------------------|------------------------|
|  | 1 cointegrating vector | 1 cointegrating vector |
| LNRGDP   | -0.32*                 | -0.35*                 |
| Standard errors  | (0.05)                 | (0.12)                 |
| LOANSTOGDP   | -0.39*                 | -0.05                  |
| Standard errors  | (0.03)                 | (0.12)                 |
| CBBIR  | 1.14*                  | 4.44*                  |
| Standard errors  | (0.37)                 | (1.28)                 |
| DIFMKD   | 0.77                   | 4.70*                  |
| Standard errors  | (0.43)                 | (1.39)                 |
| DIFFX  |                        | 2.54*                  |
| Standard errors  |                        | (0.48)                 |
| INF  | 0.11*                  |                        |
| Standard errors  | (0.03)                 |                        |
| Error Correction Mechanism (ECM)   | -0.15                  | -0.13                  |
| Standard errors  | (0.17)                 | (0.08)                 |
| * and ** indicate statistically significant coefficient at 1% and 5% level of significance |                        |                        |

Source: authors' calculations

### 3. CONCLUSION AND RECOMENDATIONS

Thus, based on the obtained results, it turns out that monetary policy performs well its job regarding price stability and bank soundness, but needs to react more to early warning indicators in order further to maintain stability of the banking sector. The same conclusion applies for macroprudential policy as well. Banks on the other hand, mainly lend if GDP increases and their soundness improves i.e. credit risk exposure measured by NPL ratio decreases. NPL ratio is also pretty much determined by GDP movements. The maintenance of the banks' soundness mainly is a result of the joint work between NBRM and banks' risk management and did not require for unconventional measures.

In order to answer the question in the title, the role of the monetary policy in stabilizing the banking sector soundness and lending is limited because the monetary policy in the Republic of Macedonia is being conducted in terms of liquidity surplus<sup>13</sup> of the banking sector. In this respect, unconventional monetary policy instruments in form of direct bond purchases are not possible. Namely, the banks place their extra funds in the central bank bills issued by the NBRM and other monetary instruments such as: overnight or seven days deposits and thus preserve their liquidity. According to the results in the Table 1, there has not been any need for the monetary policy to react to the early warning indicators such as: loans to GDP gap, loans to deposits and NPLs in the period analyzed, because the banks have already created liquidity surplus that is buffer which alongside with their strong capital structure preserves their stability from adverse shocks. The liquidity surplus of the banks placed in the NBRM, allows for the monetary policy to react to the price early warning indicators such as: interest rates differential (DIFMKD and DIFFX) and provide signal through the lowering the reference interest rate (CBBIR) in order to smooth bank's risk perceptions and stimulate them to adjust credit conditions and that is the banks to decrease their loan interest rates and reduce interest burden to their clients. Moreover, according to the results in the Table 3, the banks increase lending in terms of stable GDP growth because the loan demand increases and banks perceive this as an opportunity for higher lending to creditworthy clients. Increased lending in good times in terms of higher GDP, decreases the NPL according to the results in the Table 4. However, there is a saying that "bad loans are provided in good times" because it is always expected that the GDP would deteriorate and NPL increase leading to eventual deteriorated banking sector stability and lower lending. Beside the solid risk management of the banks, the struggle for the profit could make the banks to lend to clients which perform well in good times, but also these clients might experience bad results in bad times and become NPL. Hence, the monetary policy alongside with the macroprudential policy could contribute more to the soundness and stability of the lending of the banking sector by monitoring the lending indicators in good times and developing methods for analyzing the risks' sources. Therefore, based on these results, it turns out that conducting structural reforms are always necessary to maintain

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<sup>13</sup> Loans to deposits ratio of the Macedonian banking sector, averaged to 84.6% for the period considered in this research.

positive GDP that could contribute to lower NPL ratio and stable lending. Also, providing stable movements in GDP decreases banks' risk perceptions and banks are stimulated to lend.

Furthermore, structural reforms are necessary for RM as small and open economy on the way to European Union (EU) entrance. Accelerating the entrance process of RM in EU would open new opportunities for business and reduce banks' risk perceptions.

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## **ECONOMICS HAS LOST ITSELF WHILE SEARCHING “WHAT IT PRESENTS”, IGNORING THE CHANGES DETERMINING “WHAT IT REALLY IS”**

**Agis Sajnoski<sup>\*1</sup>, Krste Sajnoski<sup>2</sup>**

<sup>1</sup>University professor

<sup>2</sup>Integrated Business Institute 3ta Makedonska Brigada 66A, Skopje R. Macedonia

### **ABSTRACT**

Economics' states are most often discussed under conditions of crises and also in cases when it is searched for ways of overcoming them. Before they occur, the Economics and the economists deal with solving such a kind of “pure” economic problems which maximize the results and use the scarce means optimally. The Great Recession has forced debates whether the Economics would overcome the crisis by functioning in the same way up to now and whether it would find a solution to overcoming the next one. This is so, not because the economists failed to foresee the occurrence of such a breakdown in the developed economies (it's not their obligation), but due to the fact that a long period of time, especially after the breakdown of the Bretton Woods system, they ignored the changes occurring as a result of the conditions under which individuals realize their existence at any point in the world of capitalist reproduction (which actually presents a political economy's subject). Obsessed with statistical-mathematical researches of economic phenomena, the Economics and the economists have underestimated the influences of unfavourable trends on the relation between the individual and the society (growth of inequality, deprivation, democracy deficit, populism), on the relation between the market and the State (weakening of market regularities, protection of zombie enterprises, growth of protectionism and economic nationalism), and on the international relations (absence of a regulated IMS). And let's not mention the consequences of neglecting nature. If such problems are not regulated and directed properly, they generate crises. In addition, the Economics cannot carry out adequately the researches on using scarce material means optimally if it doesn't give an insight into those crises (which presents a subject of the Economics).

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\* E-mail addresses: [a.sajnoski@yahoo.co.uk](mailto:a.sajnoski@yahoo.co.uk) (A. Sajnoski), [krste.sajnoski@fbe.edu.mk](mailto:krste.sajnoski@fbe.edu.mk) (K. Sajnoski)

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**JEL:** A10, A11

## INTRODUCTION

To elaborate the theme presented in this paper's title, it is necessary to recall that the Political Economy was the one which first occurred, and afterwards the Economics detached itself from it with the intention of deepening the researches into the economic sphere, and achieving exactness in terms of the research results - if it cannot be not achieved as the one in natural sciences, at least being accurate less than the astronomy.

Detached from the Political Economy, the Economics has achieved a great breakout in the researches done on different relations between separate economic phenomena by applying statistical-mathematical methods. However, it did not assist much the Political Economy in doing its interdisciplinary researches on the relation between the individual and the society (above all, in the process of providing their material existence), on the relation between the market and the State, and also between the human and nature. Thus, it just detached itself from the Political Economy, and it started to exist as a separate discipline. Instead of using the research results in the economic sphere to support the Political Economy as a social science being closest to the natural ones, the Economics, under the pressure of practice (after the Great Depression), started to overtake segments of the Political Economy's subject (especially in terms of the relation between the market and the State). Thus, it divided the unity into the necessary interdisciplinary researches, and it promoted itself as a substitute for the Political Economy. But, unfortunately, it remained to be an incomplete, poor substitute. There is still no solution for mitigating the tensions between the labor and the capital and for reconciling the relations between the role of the market and the State in the long-term. This means that the strive for Economics' specialization ended up in disavowing the Political Economy because it had focused itself on researching the economic phenomena in separate national economies, and observing their relations with foreign countries bilaterally and regionally. Nevertheless, the Political Economy is substantially a science

of the capitalist reproduction relations both at a national and a global level. Therefore, the Economics is also unjustifiably presented as a Political Economy because it evades its subject – the conditions under which the individuals provide means for maintaining and renewing their material existence. They depend on the national and global conditions, i.e. on the way they permeate themselves.

For the sake of truth, it should be stated that only the Economics in the USA can partly present itself as a Political Economy due to the fact that the American economists could do a research on the economic phenomena in the national economy and at a global level under such conditions which were largely applied not only in the USA but also at a global level taking into account the scope of their economy and the international role of the dollar. However, regarding all these things, it cannot be actually treated as a Global Political Economy. By applying dominantly the statistical-mathematical methods for doing a research on the rational use of scarce resources and on the relations between the economic phenomena, the Economics has isolated itself largely from the other social flows (political, sociological, legal, ecological, cultural, etc.) at home and in the international relations, and consequently it undergoes certain critiques. However, this happens not because it deals with “pure” economics, but because it pays no attention to the constantly changing conditions at a global level and also to the influences of arsenal’s measures on state intervention.

Its research results are under a strong influence of the essentially changed conditions of making a profit in relation to those conditions which were valid in the gold standard system<sup>1</sup> and were not dependent on the political élites and the policies of any country. They were all responsible for taking care of the free functioning of the international system’s automatic rules. The conditions were objectively given to the researchers. Nowadays, only the U.S. economists are given conditions to a large extent taking into consideration the fact that it is the American macroeconomic policy which determines them.

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<sup>1</sup> Here we want to stress that it is not plotted the return of the system of the pure gold standard. It does not present an all time’s system. However, as Prof. Dr. Vjekoslav Majhsner says, “as a practical monetary system the gold standard is actually historically conditioned, but as a theoretical construction it is in such a measure perfect that it can serve as an example for the future monetary systems” (Fundamentals of the Science of Money, University of Skopje, 1958, p. 182). It is a problem that the political élites with not enough arguments evaded the suggestions for creating global commodity currency.

Given the fact that calculations were made by applying sophisticated methods after 1971 in a period of drastically changed conditions in the national economies and at a global level, they were not only made more difficult but also the achieved results stopped having such a meaning as they used to have under conditions of functioning of the global commodity currency. This situation results in the following question: “can the Economics survive if it is out of the scope of the political economy research?”, especially taking into account the absence of a global currency and unregulated international monetary and financial relations, the dispersion of processes of economic nationalism, the violation of market laws and the constant endangerment of the human environment.

The theme presented in this paper’s title determines the research method (logical thinking) and the paper’s structure. By conducting a research on facts (what it is) and relations (correlations) between the facts, there are neglected the influences of institutional changes which actually determine themselves. Otherwise, how it would be possible for the inflation not to affect the unemployment under certain conditions, to have a positive impact on a short-term basis under other conditions, and to be damaging on a long-term basis. Moreover, “the correlation between the inflation and the unemployment’s reduction is the most significant” after the transition to a fiat standard, i.e. dollar standard in the IMS. It is not accidental the fact that the USA has the lowest rate of unemployment (4%) nowadays.

In this context, the paper elaborates the way the Economics has fallen into such “a trap” (detaching itself from the Political Economy – heading 2, and the process of inflating the IMS – heading 3, determining the facts and correlations between them). Furthermore, heading 4 points out that due to the fact that the economists have been torn between the short-term and long-term interests of their own countries, the global interests and institutional conditions under which the national economies fight for obtaining a more favourable position in the world market are neglected. The current conditions are actually the most favourable ones for the USA (even though they do harm to it too). However, the international imbalances cannot be overcome without changing the institutional conditions globally. In order to overcome them, global solutions are needed.

We will offer an elaboration of the mentioned problems and responses to the posed questions by analyzing the meaning and the result achieved due to the Economics’

separation from the Political Economy; the fact that the Economics has lost itself by searching “what it presents” ignoring the changes made in the commodity-money relations both at a national and global level which actually determine “what it really is”; and that the economists have been stretched out between science and politics. In the concluding review, we will point out the need of the Economics to bring itself back to the use of Political Economy’s principles and to the issues it has to deal with in order to regain its social authority.

## **1. MEANING OF THE ECONOMICS’ SEPARATION FROM THE POLITICAL ECONOMY AND ITS LOW ACHIEVEMENT**

After having defined the Economics and having determined its subject, the economists engaged themselves with doing a research on “pure” economic problems. It was logical to do a research on the optimal use of scarce means, not as a single problem but in the context of achieving social objectives as the creation and growth of wealth (Adam Smith), its production and distribution (J. S. Mill), and the growth of all people’s well-being (Alfred Marshall) are<sup>2</sup>.

The period of defining the Economics’ subject showed that there was a reason for the Economics’ separation from the Political Economy. The conditions under which the rationality of using scarce means had to be estimated were provided by the spontaneously established gold standard system being the most developed commodity-money system with a global currency, free trade, and international competition. Under the conditions of its international functioning, the economists searched for a way how to increase the national wealth and well-being. It was clear that the only way leading to developing commodity-money relations was in fact the one made through a production and innovation growth. It was only that basis which could provide both a rational inclusion of the national economies into the international labor division and a more favorable position of the national economies in terms of the global pie distribution.

In that system, the relationship between the Political Economy and the new discipline was logical. However, problems appeared along with the beginnings of the

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<sup>2</sup> According to Alfred Marshall, the economists “were without exception devoted to the doctrine that the well-being of the whole people should be the ultimate goal of all private effort and all public policy”. (Marshall, A. Principles of Economics. Online Library of Liberty. 8th ed., p.6)

system's demolition, especially with the act of ignoring the changes of the conditions under which the national economies build their wealth and the individuals provide their means of existence. And they deviated more and more from the market conditions and deformed the research results in order to use the scarce means rationally both at a national and global level. That led to a separation of the Economics from the Political Economy, and it did harm to both of them. The Political Economy was left with no information about the influence of the changed conditions on the income acquisition and with no real results of the rational use of scarce means. The Economics got stuck itself into estimations which did not give a real picture of the states between the objectives and the means or it remained indifferent both to the domestic and global institutional changes, satisfying itself with the calculations' accuracy and deformed parameters.

By supporting the statistical-mathematical research on the relations between the economic phenomena, the research on the economic welfare got weaker, and the social economy "has largely disappeared from the mainstream" (Atkinson A.B. 2008). This took place particularly right after 1971.

There is no doubt that by specializing and ignoring the changes of the conditions under which people provide means for maintaining and renewing their material existence, the Economics devastates the political economy approach, and thus it does harm to itself. Because of the constant violation of the commodity-money relations in the national economies, especially at a global level, the economists cannot make an approximately accurate calculation of the optimal use of scarce means at a micro level and suggest an adequate allocation of the means. It is not accidental the fact that the slackened productivity growth<sup>3</sup> coincides with the time of violating the global system of commodities' and services' valuation (when the capitalism threw up its hands of the Western Civilization's constant<sup>4</sup>) and with its dilution lasting up till the inauguration of

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<sup>3</sup> „An annual productivity growth in North Atlantic countries has fallen from the 2% rate to which we have been accustomed since 1870 to about 1% now". ([J. Bradford De Long](#). Are we missing the economic big picture? [Project Syndicate](#), 01 Dec 2016)

<sup>4</sup> Economic Encyclopedia I. (1984). Belgrade: Modern Administration, p.71.

For Karl Polanyi "final failure of the gold standard was the final failure of market economy" ("The Great Transformation, The Political and economic origins of our time", p. 199).

Schumpeter sees the capitalism's achievement in the thing that „it exalts the monetary unit—not itself a creation of capitalism—into a unit of account" ( Joseph A. Schumpeter Capitalism, Socialism and Democracy, Introduction By Richard Swedberg Stockholm University, p. 123).

the national currencies in the role of world money (after 1971) and the growth of autarky in the national economies.

The research results of the relation between the inflation and unemployment talk about the conditions' importance illustratively. Once, it was dominant the understanding of the negative relation between inflation and unemployment. Afterwards, it was pointed out the absence of a long-term relation between the inflation and unemployment. At last, it took place a period when there were dominant attitudes of a positive relation between the inflation and unemployment. These facts are so illustrative that we do not have to remind that the research results which led to the first point of view are correspondent with the conditions created by the functioning of the international system of a gold standard. The conditions established by the Bretton Woods system (with fixed, but adjustable courses) had an influence on the second point of view, whereas the third view came to the fore after the abandonment of the gold standard and the transition to a paper, dollar standard with floating rates in the world cross rates of exchange. The Economics does not have to look for more valid evidence for the relation between the institutional changes and the inflation and unemployment movements. This means that it is high time to create conditions under which the national economies will base their development on the productivity and innovation growth. They do not correlate with the intensification of inflation in a long-term period. The consequences of the inflationary financing are ruinous not only for the economies at a national and global level, but also for people's moral<sup>5</sup>. And that is the pillar of human future.

Let us just remind that the inflation was presented only as a means of an anti-cyclical policy in the gold standard system in order not to disrupt the foreign balance of national economies. In the Bretton Woods system which was a system of gold exchange standard, the inflation embedded in it (due to the increase in "liquidity" and "reserves" in the world) was considered to be a useful short-term means, but there was not a long-term relationship between the inflation and unemployment. The research showed that the danger of inflation increase and dispersion in the system would not reduce the

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<sup>5</sup> „Inflation bestows benefits, as well as wreaking havoc. Wealth is transferred from one group to another. Although the transfer has haphazard elements, it goes from the middle class and the poor to the government, the bankers, and the large corporations. This is the immoral process that must be stopped“. (Ron, P. (2011) Gold, Peace, and Prosperity... p. 42)



unemployment, but it would destabilize the system's functioning. However, the research results of the positive relationship between the inflation and unemployment appeared after the breakdown of the Bretton Woods system's key principles (after the elimination of gold from the system, the abandonment of convertibility into gold, and the transition to floating rates of exchange) and after the establishment of a relationship of bare force in the international relations. Thus, the inflation promoted itself to a significant microeconomic policy lever in the most developed economies, especially that one of the USA because the short-term inflationary benefits continued to exist a longer period of time (of course, this also refers to the negative implications of the increased inflation). By having made a transition to the dollar floating rate of exchange, they actually got rid of the obligation of maintaining the rate's stability whereas the inflation was dosed according to the national economy's needs. After the Great Recession, it was obvious that the required dose has enlarged itself because the increase of the national banks' target inflation has been advocated from 2% to 4-6%<sup>6</sup> for a long period of time. In fact, that happened in the course of that period when the national economies have not faced the normal monetary policies' transition uncertainties yet even after the application of a set of unconventional measures lasting several years. It is not malicious if we say that this is probably done with the intention to lower the inflationary and/or deflationary pressures by applying a more opulent inflation. In fact, this refers to a lower resistance policy which should not be surpassed by the economists even though they understand the needs of the political élites.

The applied econometric research shows that there are important relations between different phenomena, but this does not mean that they are causal. By having reviewed some of them, Goran Petrevski<sup>7</sup> shows that there is no causality even in terms of the relation between the inflation and economic growth. There is no doubt that the research points out the presence of a correlative relation between the inflation and the economic growth. However, there is a warning of attentiveness when taking into account

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<sup>6</sup> In this context it is indicative the thinking of Olivier Blanchard and some collaborators of IMF whether it should be increased the inflationary target from 2% to 4%." (Blanchard, O. Dell'Ariccia, G. and Mauro, P. (2010). Rethinking Macroeconomic Policy, IMF Research Department, February 12). Kenneth Rogoff suggested that „raising inflation to 4% or more for a period of a few years to deflate the debt overhang and accelerate wage adjustment “ (Rogoff, K. (2014). The 4% Non-Solution. Project Syndicate, Jun 5.

<sup>7</sup> Goran Petrevski (2005), Monetary Policy- Theory and Experience of Macedonia, Association of socio-economic development, Skopje, p. 52.

its interpretation, especially when determining how much that relation is causal. The practice has showed some periods of a simultaneous growth of inflation and fall of the rate of economic growth. It is also a problem the situation of stating which phenomenon conditions the other one because the relation is two-sided, i.e. both sides have an influence on each other. This means that the quantified relation cannot determine the causality. It is the economic theory which needs to determine the relation's character. And it cannot ignore the empirical evidence that the high inflation has a harmful impact on the development; whereas in cases of a very low inflation, it can have a positive influence on the growth. However, there is not a single argument on behalf of the possibility of stimulating the economic growth by increasing the inflation further away. This means that it is crucial the influence of institutional changes on the relations between separate economic phenomena.

The standpoint that Economics does not need to deal with the objectives (individual and/or social) but only with the means for fulfilling the determined objectives (in spite of Alfred Marshall's opposite attitude<sup>8</sup>) led to a slackening of its achievement. This division is problematic under radically changed conditions necessary for running a business both at a national and a global level. The economists as scientists do not need to put themselves in such a position to find and evaluate only means for achieving the determined individual and/or social objectives even inclining themselves towards the maxim "the end justifies the means". Unless they determine the objectives (the political élites do that), it is not acceptable to require means at any expense in order to achieve or justify them if their use causes an obvious and even a wider range of damages when being examined from the aspect of verified evidence. What they should do at least is to point out that the use of some means which can assist in achieving certain objectives is actually inappropriate if it endangers other social interests, interests of other countries or the human environment. It is legitimate, for instance, the president of the USA to ask "America to be first" since it has means to support such a kind of policy. However, it is the economists' duty to do a research and point out if they are appropriate both from the

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<sup>8</sup> „Economics aims indeed at helping the statesmen to determine not only what that end should be, but also what are the best methods of a broad policy devoted to that end“. And he warns: „The economist needs imagination especially in order that he may develop his ideals. But most of all he needs caution and reserve in order that his advocacy of ideals may not outrun his grasp of the future“. (Principles of Economics, 8th ed. p.32 and p.34).

aspect of national interests and from the global economy's aspect. They are asked to explain the short-term and long-term effects achieved by undertaking measures which violate the principles of international collaboration. In principle, the country which intensifies the protectionist measures and bilaterizes its relations with other countries (by applying a soft and/or hard force) does harm both to itself and to others. Therefore, the country isolates itself and the effects of free trade and multilateral relations are reduced. The use of force causes counter reactions with retaliatory measures which can lead to undesirable tensions, conflicts, and even wars.

The practice has shown that the Economics cannot reveal the truth by carrying out a research on empiricism. Mises says "The economist does not need an expensive apparatus for the conduct of his studies. What he needs is the power to think clearly and to discern in the wilderness of events what is essential from what is merely accidental".<sup>9</sup>

According to Mises, in order to comprehend the reality, it is necessary to find out the causative-consecutive relations between the economic phenomena, and also the political and other social relations. This requires a scientific analysis. It is not enough just to pay attention to the determination of facts.

## **2. IGNORING THE CHANGES OF THE CONDITIONS UNDER WHICH THE ECONOMY FUNCTIONS**

By having made a decision to solve "pure" economic problems, it is considered that the economists act like unbiased scientists. They offer solutions, and they do not judge whether they are good or bad, considering their persuasions. In order not to cross that boundary, they start out from the way the world functions, i.e. from the way the economy functions. They take that for granted, i.e. as something given and it is not being discussed regardless of the changes of conditions under which the economy functions. By applying this approach, the economist decides to study what it actually presents, not what it should be like<sup>10</sup>, i.e. he restricts himself to give subjective value judgments.

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<sup>9</sup> „Human Action“ Books / Digital Text, Foreword to the 3rd Edition by Ludwig von Mises

<sup>10</sup> This attitude is supported by the authors Lionel Robbins and Ludwig von Mises and it is in accordance with the economists' behavior in the system of the gold standard's functioning. However, this right is unsustainable considering the drastically changed conditions under which the national economies attain wealth and the individuals their means of existence. This means that it is wrong when somebody calls upon their attitude even after the termination of the gold standard.

This decision predicts that “what it presents” is actually determined not only by economic but by other factors too, above all, political and social ones which are quite changeable and have a serious influence. Therefore, the evidence of “what it really is” refers only to the period of doing a research on the relations of separate economic phenomena. The example of inflation and unemployment is regarded without any ambiguity. The inflation has no influence on the unemployment in the gold standard system. Under the conditions of the Bretton Woods system, the growth of inflation has an influence on the unemployment’s reduction at a short notice, but it does not have an influence on a long-term basis. However, the correlation between the inflation and the unemployment’s reduction is the most significant under conditions of a fiat currency standard when the money printing is left to the State’s will. This implies that the act of drawing conclusions is problematic without taking into account the global conditions needed to find out which economy gets the benefits from the determined positive or negative correlations. The things which affect the countries with reserve currencies do not apply to the other ones. Likewise the case in Bretton Woods, this shows that it is indispensable to arrange the international economic relations from a position of the world on the whole in order to evade new cataclysms, provide peace, progress, and stability in the world and within the framework of all countries’ general gains depending on their productivity and innovation.

While escaping from making value judgments in terms of the research results (even though this does not mean that such judgments were not made), the economists forecast the Great Recession which occurred because they had underestimated the effects of the loose monetary and fiscal policy. Before the recession, they also forecast the breakdown of the Bretton Woods monetary-financial system and later the crisis which occurred because they had underestimated the need for creating a global currency and the effects out of its absence. And in terms of the Great Recession, it is not exaggerating to say that only few<sup>11</sup> pointed out the danger of reviving the gold standard system into a form of a gold exchange standard due to the embedment of the inflation in the IMS.

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<sup>11</sup> In “The Monetary Sin of The West”, Jacques Rueff pointed out that after World War I, the gold exchange standard “produces a duplication of the world’s credit base”(p. 26) and “becomes a powerful instrument of worldwide inflation the moment large migrations of international capital occur” (p. 26 ). This happened because “the gold-exchange standard was a formidable inflation factor“(p.19)

While the Economics was being focused on researching only economic problems, and on defining “what it really is” under conditions of “a fever of unscrupulous economic growth” dispersed in all meridians in the world, it actually underestimated the need for studying “the way all the members of human community such as owners and non-owners, producers and narrators, workers and rentiers, peasants and officials, priests and professors, whores and politicians etc. meet their own life needs.”<sup>12</sup> What the individual’s attitude towards the process of production, the society, the country and nature is or will be, depends on that way.

In the course of the period when they were obsessed with the growth and (un)employment, the Economics did not succeed in recapturing the unfavorable consequences of macroeconomic policies which had manifested themselves in the growth of inequality in separate countries and between them. It also failed to recapture the reasons and consequences of the market regularities’ looseness and counterproductive activities for saving banks and companies from going bankrupt with the State’s assistance, the consequences of violation and abandonment of the Bretton Woods international game rules, the frequent use of protectionist measures, and even announcements for starting currency and trade wars. These changes have seriously violated “the relation of production with people’s material life.”

The data about the relation between the wages and productivity speak in addition to the significance and influence of changes under systematic conditions in the national economies in the period of functioning of the rules of the Bretton Woods system and in the period of its breakdown. It is a fact that “that typical compensation and productivity grew at the same rate over 1948-1973, and only began to diverge in 1973”, i.e. “since 1973, there has been divergence between labor productivity and the typical worker’s pay in the US”<sup>13</sup>. After 1973 it came to “a decline in labor’s share of national income”. “Beginning by at least 2000, and probably earlier, the US labor share seems to have fallen by five or six percentage points”.<sup>14</sup> The mentioned data show that in the course of the first period, the country carefully dosed the inflation and it took care of the relation between

<sup>12</sup> Dragicevich, A. (1984). Critiques of Political Economy. Zagreb: Globus, p. 89 and 92.

<sup>13</sup> Stansbury, A. Summers, L. (2018). On the link between US pay and productivity, [VOX CEPR's Policy Portal](#), 20 February

<sup>14</sup> Gene, G. Elhanan, H. Oberfield, E. Sampson, T. (2017). The productivity slowdown and labour’s income share. [VOX CEPR's Policy Portal](#), 11 November

the labor and the capital. However, in the course of the period after 1973, right after the termination of dollar's convertibility into gold, the country chose other objectives (growth and employment against stability). The changes in the IMS enabled the inflation to be used more often as a means for their fulfillment (in spite of the negative implications it generates both in the national economy and at a global level).

The Economics forecast the hazards of the gold standard's transformation into a gold- exchange and gold-dollar standard, the hazards of the Bretton Woods system's breakdown and the Great Recession's outbreak by carrying out a research on defining "what it presents". But there were some prompt warnings of possible cataclysms similar to the Great Recession and the growth of inflation which would undermine the postwar IMS and would end up in a disaster. These conclusions were a result of logical thinking. They cannot be drawn by carrying out statistical-mathematical research on "what it presents", but rather by observing and reasoning the inner logic of the development of institutions and the commodity-money economy's phenomena which reached their peak in the gold standard system presenting not an imposed, but a spontaneously developed system. It is a problem the fact that the Economics had no "duty" to follow the logic of that system's development and simulate it under conditions of a system of paper money (fiat currency) in accordance with the objective process of money dematerialization. This process ended up in the national economies, but it was betrayed by the abandonment of the relation between the commodity and money, i.e. by the inflationary financing i.e. the policies of cheap money and expansion of credits. And why it did not start out following the logic of development of the system which had generated a greater stability and productivity is another question and a distinctive topic.

### **3. ECONOMISTS BEING STRETCHED OUT BETWEEN THE SHORT-TERM AND LONG-TERM INTERESTS**

As we have shown in the previous paper items, if the Economics presents itself as a Political Economy in order to communicate with reality, then it should not ignore the changes made under conditions of creating means for a material existence of the individuals, firms, and national economies in cases of evaluating the adequacy of those means needed for achieving social objectives. Because of the more and more incisive

crises, it is needed a direction leading to a creation of more long-term systematic solutions which would help effectively to overcome the objective contradictions between the labor and the capital (within national and global frameworks), between the market and the country, and the human and nature.

The practice has shown that one does not need to succumb to the short-term interests because sooner or later, the price of the “free lunches” has to be paid. The inconsistent solutions often strike down the political élites in achieving their objectives. However, they are counter-productive when it comes to achieving a sustainable development of the national economies over a long period of time. After the Great Recession, nowadays it is senseless to call upon Keynes’s justification for promoting the state intervention (as a short-term, anti-market solution) with the note “we are all dead in the long run” (as a justification for extending the previous behavior). Then, it had a sense because a way out of the Great Depression was provided by applying a state intervention instead of market measures. The indications of damages due to the interference of the country over a longer period of time have lost their sense as a result of the non-functionality of the market mechanism in the process of overcoming the crisis. The tensions of high unemployment searched for quick solutions in order to survive the moment, and right after the economy’s recovery, it was expected that the market’s functioning would continue.<sup>15</sup> But, as it can be seen and without doing research, it did not happen. The power of the State has gradually and continuously been downgrading the market. It is not even protected from undertaking measures by the arsenal of the nationalistic economic policies, i.e. anti-global measures endangering the national economies and the global economy as well. The Economics and the economists did not find a model<sup>16</sup> for bringing into accord the relations between the market and the State.

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<sup>15</sup> “The authoritarian state systems of to-day seem to solve the problem of unemployment at the expense of efficiency and of freedom. It is certain that the world will not much longer tolerate the unemployment which, apart from brief intervals of excitement, is associated—and, in my opinion, inevitably associated—with present-day capitalistic individualism. But it may be possible by a right analysis of the problem to cure the disease whilst preserving efficiency and freedom.” (Keynes. J. M. *The General Theory of Employment ...*,p.)

<sup>16</sup> Nouriel Roubini makes an effort for solving the inequality in a proper way, rebalancing the relative economic roles of the market and the State in order to evade the social and political instability which caused damages to the long-term economic growth and welfare. „Any economic model that does not properly address inequality will eventually face a crisis of legitimacy. Unless the relative economic roles of the market and the state are rebalanced, the protests of 2011 will become more severe, with social and political instability eventually harming long-term economic growth and welfare“. (Roubini, N. 2011)



Therefore, it is imposed the question: what about the inflation? It was started with a low process of dosing. The dependence and needs led to suggestions and requirements of “helicopter money”, but it has been pointed out over decades (even when it was not felt) that the process of supporting the inflation will end up with a disaster of the monetary systems. It should not be looked for evidence being more valid than the outbreak of the Great Recession.

After all, it seems that the long period of inflation use is running out. If nothing changes, “death” approaches. It is the duty of the Economics and the economists to give a warning against the hazards instead of looking for justifications of the policies leading to a national and global chaos. It is true that they do not determine the objectives, but they can dissociate themselves if the means needed for achieving the objectives are harmful both to the national and global economy. Thus, the responsibility for the missed and harmful policies will be put on the political élites. In the pursuit of the truth (and, the truth is a whole, as Hegel said), there is no place for justification of the type “the international economist’s duty is not to support the interests of the system against the country’s interests. His duty comprises of bringing out the possible alternatives and their consequences both in the system and the country”.<sup>17</sup> The first sentence is problematic because it has nothing to do with the scientific search for the truth, and the second one is true, but the country’s interests are mainly supported by the research.

The Economics is at a junction whether it will continue to “ride” the inflation (by reducing the power of money subsequently) or whether it will open a front for increasing both the productivity and innovation at a global level. The Economics needs to reassess the inflation as a means leading both to prosperity and wealth in the light of such indications given several decades ago regarding the unsustainability of that opinion<sup>18</sup> and derived on the basis of logical thinking about the commodity-money relations which will outwear the capitalistic ones. The practice has shown that the inflation leads to a crisis, and the fact that it is insisted on overcoming it by a greater inflation leads to greater national and global disasters.

<sup>17</sup> Kindleberger, Ch. (1974). International Economy. Belgrade: Vuk Karadzich, , p.429

<sup>18</sup> The practice confirmed Mises’s thinking that “Inflation cannot be employed as a permanent policy because it must, when continued, finally result in a breakdown of the monetary system” (Human action)

In spite of the unfavorable trends in the national economies and the international economic relations, the Economics and the economists have not valued the evidence elicited from logical reasoning yet. In other words, they have not valued the evidence which was predicted several decades ago and proved by the Great Recession's outbreak and the difficulties in overcoming its consequences. The Economics and the economists, by inertia, are still stuck into the research of "what it presents". Roughly said, the economists continue to be divided into followers of the free market functioning (liberals) and followers of the country's engagement in the regulation of the economic flows by applying a fiscal and monetary policy (Keynesians). However, both of them were left without answered questions regarding the final consequences of their concepts' application, especially if it is given precedence either to the market's influence or the influence of the state intervention. The former practice has shown that the liberals were louder in terms of the boom phases in the economy, and the Keynesians in terms of the slump phases in the economy. However, it has actually shown that the first cannot deal with the crises' consequences (and each boom ends up in a crisis). It has also manifested that after the economy's recovery from the recession as Skidelsky<sup>19</sup> said, the latter ones were left with no theory of what needs to be done in good times in order to evade the bad ones. Both in the courses of the Great Depression and the Great Recession, the liberals did not contradict effectively to the policy against the State's engagement in overcoming them. Instead, they were appealed by it, and in the course of the boom periods, before the crises' outbreak, the Keynesians did not come up with ideas how to avoid the rush into an abyss. Because of the economists' engagement in defending the justification of their own ideas, they have actually left the Economics with no solution (a model) for continuous functioning of the capitalist reproduction at this level of development, and also with big uncertainties regarding the individual's relation with the society, the relations between the market and the State, and the human and nature.

The world comes across deformations at the three points which unfavorably affect the development of the national economies and the global market relations. The democracy as a political basis of the liberal capitalism faces either with a non-liberal

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<sup>19</sup> Skidelsky, R. (2018). How Economics Survived the Economic Crisis. Project Syndicate, Jan. 18

democracy (populism) or with an undemocratic liberalism<sup>20</sup>, i.e. with a loss of the democratic basis for free-market relations. In the course of debates on the relation between the market and the State, the Economics did not develop a model of balanced relations in terms of the market's and the State's role of evading (or at least mitigating) the unreal booms and the inevitable slumps. Skidelsky says "Macroeconomics still needs to come up with a big new idea."

#### 4. CONCLUDING REVIEW

The West developed economies' recovery which has lasted for several years, leads to thinking that the Economics survived the Great Recession. However, the fears that a new crisis can quickly take place if it is stopped the functioning of the monetary policy's unconventional measures in order to normalize it, it is extorted the question whether the Economics would really survive the greatest recession after the Great Depression.

The question is not rhetoric. In fact, it is imposed by the uncertainty being present in the development of the progressed economies and the world, and the evidence that the Economics provides no clear response (we do not say good or bad) to the Great Recession in the same way Keynes's theory of the State's engagement in instigating the consumption responded to the Great Depression with the aim of increasing both the production and employment or in the same way Milton Friedman's monetarism responded to stagflation.

If it is judged regarding the debates on this year's USA budget, it can be stated that the economists have confirmed the old division of followers of free market functioning (liberals) and followers of the country's engagement in the regulation of the economic flows by applying the fiscal and monetary policy (Keynesians). However, they were both left without answered questions. The first had no answers in terms of the way of overcoming the consequences of the market's influence generating an insufficient demand, and the latter in terms of the way of restricting and/or evading the State's exaggerating role which apparently influences the economy's overheating ending up in a recession.

The former practice has shown that the liberals were louder in terms of the boom phases in the economy, and the Keynesians in terms of the slump phases in the economy.

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<sup>20</sup> Rodrik. D. (2018). The Double Threat to Liberal Democracy. Project Syndicate, Feb. 13

However, it has actually shown that the first cannot deal with the crises' consequences (and each boom ends up in a crisis). It has also manifested that after the economy's recovery from the recession as Skidelsky<sup>21</sup> said, the latter ones were left with no theory of what needs to be done in good times in order to evade the bad ones. Both in the courses of the Great Depression and the Great Recession, the liberals did not contradict effectively to the policy against the State's engagement in overcoming them. Instead, they were appealed by it, and in the course of the boom periods, before the crises' outbreak, the Keynesians did not come up with ideas how to avoid the rush into an abyss.

After all, it seems that the present is the time when ends "the long term in the course of which we are all dead". The Economics and the economists are at a challenge to find out solutions for the actual problems in the national economies and at a global level. This means that the Economics has to turn itself into a Political Economy out of which it has detached as a special discipline. It cannot be further searched for optimality in terms of the use of scarce means if there is no insight into the changes of the commodity-money relations both at a national and a global level determining the conditions affecting the income acquisition. There are no rational solutions if the individuals, firms, and the country do not have the "constant" (the money unit) contributing without any doubt to the dispersion of the capitalist reproduction on all the meridians in the world and to the achievement of the human history's development which has been unseen by then.

In spite of the creation of a global currency, if the Economics is presented as a Political Economy, then it has to be found a solution which will balance the relations between the labour and the capital, the market and the State. On one hand, the goal is to reach an agreement on the functional income allocation between the labour and the capital lasting a long period of time in accordance with the growth of labour productivity. On the other hand, the goal is to violate neither the business motivation for a market realization of bigger profits (after having determined the contribution necessary for the realization of the State functions) nor the State's role in terms of the realization of the negotiated functions. Only in such a way the business can turn itself without any problems towards productivity and innovation, and it can bear the responsibility for unsuccessful functioning, and also prevent the State from turning itself into a monster

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<sup>21</sup> Skidelsky. R. (2018). How Economics Survived the Economic Crisis. Project Syndicate, Jan. 18

which manipulates both the representatives of capital (business) and the representatives of labor (the employed). In fact, it will be once in favour of the first, and the second time in favour of the others. However, the worst thing is the fact that it justifies the word monster to use such means which constantly undermine the commodity-money economy and lead to the practice of economic nationalism ending up in wars. And the wars are not a means which improves the democratic relations in the society and provides an increase in the well-being of the population and the healthy living environment.

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## DIGITAL ECONOMY, ENTREPRENEURSHIP AND THE CONCEPT OF OPEN INNOVATION

**Tatjana PETKOVSKA\*<sup>1</sup>, Tatjana PETKOVKA MIRCHEVSKA<sup>1</sup>, Biljana ANGELOVA<sup>1</sup>**

1. University "St. Cyril and Methodius" – Skopje, Institute of Economics, Goce Delcev No. 6,  
Skopje, R. Macedonia

### ABSTRACT

This paper elaborates the connection and the importance of the concept of open innovation and entrepreneurship in a digital economy. Through theoretic explication, elaboration is performed on the need of implementing the concept of open innovation as a way of cross-linking in the network systems of companies, with the purpose for them to adapt to changes in the business environment. The model of open innovation is a paradigm that points to the need for systematic incitement and research on a wide range of internal and external sources of innovation opportunities and integration of the research. These business models should enable transfer of know-how and exchange of information for creating innovations that will be successfully commercialized on the market.

**KEYWORDS:** business model, open innovation, entrepreneurship, digital economy

**JEL CLASSIFICATION:** L26, L86, O31

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\* E-mail addresses: [tanja@ek-inst.ukim.edu.mk](mailto:tanja@ek-inst.ukim.edu.mk) (T. Petkovska), [tatjana@ek-inst.ukim.edu.mk](mailto:tatjana@ek-inst.ukim.edu.mk) (T. Petkovska Mirchevska), [angelova@ek-inst.ukim.edu.mk](mailto:angelova@ek-inst.ukim.edu.mk) (B. Angelova)

## INTRODUCTION

For sustainable growth in the economy, it is necessary to create an innovative and entrepreneurial society. Entrepreneurship develops in the combination between the opportunities and innovativeness of entrepreneurs. Innovation is an informational – creative process that relies on social interactions and knowledge accessibility (Trott, 2014). This imposes companies an obligation to provide mechanisms for quick access to new knowledge, for their processing and application.

In digital economy, the development of science and technology, the abundance of data and knowledge, the development of small and medium-sized enterprises, new markets, and new and more complex demands of consumers on the market all lead to obsolescence of the traditional (closed) model of innovation. In such a situation, conditions are created for the development of the open innovation concept, that is, a network system is created in which companies have the opportunity to accept, exchange and use information for developing innovative ideas. Businesses that apply this concept use a network of information and communications with the competition, the academic community, research centers and consumers as equal partners in the functioning of this business model, based on connecting and exchanging external and internal ideas.

The application of the concept of open innovation is of special significance for the small and medium-sized enterprises in Republic of Macedonia. In comparison with the EU, small and medium enterprises in Republic of Macedonia mostly lag behind in their skills, innovations and internationalization. Domestic innovations are weak (11,3 %, compared to the EU average of 28,68%), while the percentage of SMEs that cooperate with other countries is unsatisfactory. (Boshkov, Bishev, 2014). That means that the mutual cooperation of the businesses and the relationships that have been established between them and the research centers should be strengthened, so as to improve their innovativeness. In that sense, in addition to institutional measures and best practices, it is also important to elaborate knowledge on the importance and need for accepting and implementing the model of open innovation, as a key condition for the development of entrepreneurship.

## 1. DIGITAL VERSUS TRADITIONAL ECONOMY

The digital revolution expressed through the dynamic and rapid development of technology and the Internet and their broad application in the business sphere is leading to transformation of the old into the digital economy. The digital revolution has changed the way of living and the way business is done, but has also caused radical changes in the business activities of companies (Angelovska-Dicovska., Petkovska-Mirchevska, 2016). Social, technological and economic factors create a complex environment and initiate pressure on the business and at the same time impose the need for adapting to the environment (Turban, Ephraim, Wetherbe, 2004). Digital economy is called Internet economy or web-economy and is based on digital network technology: the Internet, computer and software programs. Digital networking and the communication infrastructure enable a global platform in which individuals and companies interactively communicate, cooperate and seek information. This platform includes (Regodik, 2010):

- broad range of products that can be digitalized and are submitted through a digital infrastructure,
- consumers and companies conducting financial transactions digitally through networked computers and mobile devices,
- physical goods, with built-in microprocessors and opportunity for networking.

Unlike traditional economy, digital economy is characterized with challenges and opportunities for businesses in terms of (Combe, 2006):

- Exchange of information – through the Internet, information is published, downloaded and used as input in business activities.
- Connectivity and interactivity–companies have access to the Internet and an opportunity for electronic and two-way communication, regardless of the distance.
- Network economy–costs for sending information are minimal, therefore companies can achieve economies of scale by providing added value to products and services, quicker and more efficiently by using the Internet.
- Fast (rapid) changes–technology enables quicker transaction processes and an increase in consumer expectations.

- Abundance of information–the digital economy creates an abundance of information where the value can be reduced if important information is not selected from unimportant information.
- Exchange of products –websites offer a display of a wide variety of products and services and additional services such as discounts, links to complementary products, price comparisons, payment, delivery and etc.
- Communication channel–the Internet provides information on products and their prices, low communication costs, quick response time, after-sales services, online technical support and so on.
- Transaction channel–easy access for all Internet users, low transaction costs, low administrative costs, improvement of transaction processes and etc.
- Distribution channel – opportunity for supply and distribution of digital products.

The Internet introduces new rules in the digital economy and has led to changes in the supply and demand of products and services, in the way prices are determined, in the manner in which transactions are carried out, in market and marketing research, decision making, individual adaptation of products and services, in the way communication is performed with consumers and so on.

The key differences between digital economy and traditional economy is in terms of economy, business and consumers (Combe, 2006). There are low barriers for entering the market, a low level of risk tolerance and consumer personalization (Vaskovic, Lutovac, 2009). Economic, business and consumer factors change under the influence of information-communication technologies (ICT). Countries that are market developed recognize ICT as a resource for increasing the competitive advantage of their companies (Cuzovic, Sokolov-Mladenović, 2014). Markets are becoming dynamic and complex, production is becoming flexible, while consumer tastes dynamic and segmented. Digital economy has set the following challenges faced by companies (Fingar, Aronica, 2016):

- Reengineering of the processes in the entire industry in terms of reengineering the business processes of companies.
- Redefining the sales boundary within the industry (direct sales without retail trade)

- Development of new industries.
- Repositioning of companies in accordance to the new market demands and the new environment.
- Disintermediation (redefining existing supply chains and eliminating intermediaries).
- Intermediation (new markets emerging in the network).

Five different types of Internet users can be defined, or models of usage of the Internet (Chaffey, Chadwick, Mayer & Johnston, 2006):

- Directed information seekers – users seeking product, market or leisure information and usually do not plan to buy online;
- Undirected information seekers – users known as surfers who like to browse and change sites and usually click on various advertisement links;
- Directed buyers – users who buy specific products online; For such users, sites of brokers or cybermediaries that compare product prices and features are important locations to visit;
- Bargain hunters – users who want to find available offers from sales promotions such as free samples or competitions;
- Entertainment seekers – users who want to interact with the Web for enjoyment through entering contests such as quizzes, puzzles or other interactive games.

Digital economy is also knowledge based economy. It is essentially based on professional and market knowledge, creativity and innovations of society overall. Digital economy has three basic participants that are usually (Chaffey, Chadwick, Mayer & Johnston, 2006):

- G – Government, state, administration, management,
- B – Business, economy, enterprise,
- C – Customer, Consumer, Citizen, buyer.

The relationships between the stated participants are referred to as: B2B, B2C, C2C, C2G, G2B, G2C and etc.

The development and widespread use of the Internet and Internet technology lead to significant changes in the way companies do their work, regardless of their size and nature. All businesses (micro, small, medium and large-sized) have equal opportunities on the Internet to show their production programs with lower and reasonable costs. The Internet in the business environment creates new ways and opportunities for development of entrepreneurship and innovative ideas for business development along with efforts for those innovations to transform into concrete values that are offered on the market.

## **2. ENTREPRENEURSHIP AND INNOVATIONS IN THE DIGITAL ECONOMY – MODEL OF OPEN INNOVATION**

Entrepreneurship is usually associated with a sustainable and creative idea. Innovativeness is one of the immanent features of entrepreneurs that is linked to their ability to transform it into an economic value through a certain business undertaking (Bianchi, Henrekson, 2005) (Xiaoyu, Steven, 2012). Entrepreneurship is a process of seizing opportunities, whereas entrepreneurs are people who discover and create opportunities. In defining entrepreneurship, Austrian economist Joseph Schumpeter puts special emphasis on innovation, that is, on the development of new products, new production methods, new markets and new ways of organization. According to this point of view, in order to invest in technology as an impetus for growth, conditions need to be created in the environment (Trott, 2012).

Innovation is one of the most important features of entrepreneurship that creates competitive advantages for companies. It is based on some type of innovation, on a change in which the entrepreneur sees an opportunity for success, and realizes it by using the innovation. Sometimes, the innovation may end up resulting in a completely new, unknown product until then, and in other cases it can also be a replacement for an existing function, or for its more efficient and more successful performance.

Worldwide, innovations are driven by fundamental and applicable scientific research. In the US, innovations resulting from fundamental (and applicable) scientific research are a foundation of the economy. Scientific research, as one of the first steps in the innovation process, contribute to creating a large number of enterprises, jobs,

new technologies and products. However, the innovation process as the base of entrepreneurship is far more complex, even though some theorists are trying to present it with linear models that depend solely on research at institutions of higher education and scientific centers.

The entrepreneur's creativity is the thread that connects the entrepreneur's idea with the innovation, or rather the new product, service or technological process that will acquire market valorization, and will become significant for the business and for the realization of its economic performances (Janevski, 2011).

The OECD emphasizes that due to faster technological development and growing and global competition, that the life cycle of products and services is significantly shortened, which on the other hand assumes a faster and more successful development of new ones (Crouzier, 2015). In order to achieve competitiveness, the existing changes on the market demand enterprises to open up towards the outside, and at the same time become sensitive to external knowledge and ideas, which they finalize with their internal process of research and development. For the development of successful innovations, it is necessary to have greater integration of various technologies, which increases operational costs and risks. This encourages the interdisciplinary of enterprises and the search for complementary knowledge and technologies in the external environment.

Turning a business idea into a real business can be implemented in different ways and by applying different business models. Digital economy creates conditions for changes and advancement of existing models of innovation and their adaptation and becomes a challenge for companies, especially in the management, which is risky and uncertain.

Most of the innovation models several years ago were "closed" and limited with internal knowledge and technology. The digital revolution, the development of science and technology, the abundance and available data and know-how, the expansion of small and medium-sized enterprises, changes and movement of the labor force, new markets, new and more complex demands of consumers and other factors have all led to the gradual obsolescence of the business models of closed innovations.

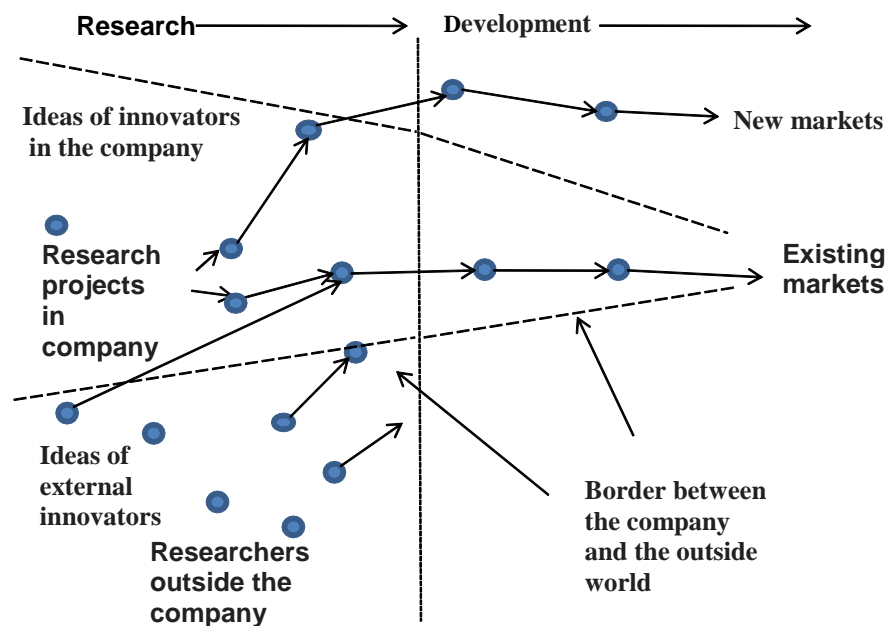
Establishing a new, more open business model, accelerating the innovative activities of the company, their cooperation with other participants on the market,



exchange of ideas, resources and technology, along with better meeting the need of consumers, are becoming a base for the development of the “open” innovation model. The model of open innovation is defined as “the use of purposive inflows and outflows of knowledge to accelerate internal innovations, and expand the markets for external use of the innovation, respectively (Chesbrough, 2007).

The new model describes the process in which the company seeks external cooperation in order to collect ideas or technologies, to utilize their own resources and to establish alternative routes to the market during the innovation cycle. Hence, the boundaries between the company and its environment become more permeable and allow interaction in both directions, towards the internal and external environment (Picture 1). For companies, open innovation represents a more profitable way of innovating, as with them they can reduce costs for development, increase speed for market entry, increase differentiation on the market and realize new sources of revenues.

**Picture 1: Process of open innovations**



Source: Chesbrough, H. W., (2007), Open innovation: the new imperative for creating and profiting from technology, Boston (Mass.): Harvard Business School Press. Cop. 2003, pg. 25

Open innovation is the process by which organizations use both internal and external knowledge to drive and accelerate their internal innovation strategy in order to fulfil existing market needs or to access new market opportunities The process of

innovations is usually observed as a great financial burden for small and medium-sized enterprises, as well as outflow of funds for a relatively long and lasting process of research and innovations that can cause catastrophic consequences for small and medium enterprises (Zimmermann, 2014). Because of these reasons, small and medium enterprises must look for new ways of innovation, in which the open innovation is a feasible alternative (Gassmann and Enkel, 2004). This model emphasizes the mutual cooperation between companies; it reduces potential risk and increases the efficiency of innovation processes and the commercialization of ideas.

Small and medium enterprises use external resources primarily as a way to access marketing and sales channels (Mulej, Zdenko, 2004). For them, the concept of open innovation is significant, as they are characterized by the necessary flexibility and specific skills, but at the same time do not have the necessary capacities to manage the innovation resources by themselves. In cases of complex technology, which small and medium-sized enterprises do not develop by themselves, knowledge is very important and necessary in order to manage these technologies, which can be acquired from outside. By combining the ideas and necessary resources for them to be achieved, a new generation of small and medium enterprises is created that influence the market and the creation of a new value for consumers. Creating value means a set of activities starting from development, selecting a technology, marketing of new products and services on the market. Hence, space is created for cooperation through establishment of strategic partnership. Companies create a network of potential innovators and flow and exchange of know-how is provided and other resources necessary for efficient implementation of the process of innovations.<sup>1</sup>

Connecting companies for innovations includes tasks with various difficulties, from the simplest (joint procurement of necessary inputs) to the most complex (cooperation for research and development). The level of cooperation depends on the available resources, opportunities and business strategies, and on the ability of companies to achieve the anticipated goals. Networks should be used in the process of innovations, given that the knowledge that has been generated by the companies is a

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<sup>1</sup>On the global market, the open innovation model is used by companies that are leaders in their industry. Such are the examples of General Electric, Samsung, Lego and others, which by introducing this model in their operations create a fundamental change in the way business is managed and innovations promoted.

precondition for achieving better positions in terms of the competition. Businesses that have broad networks can have accessibility to more data on the experience of business partners, as well as on the potential market opportunities. Companies need to continuously update their data and introduce an appropriate system for their processing, analysis and systematization. In literature on development of new products, implementation of the open innovation concept is associated with the use of user tools that enable a company to use innovation opportunities. Some authors point out to opportunities for experimental learning and creating so-called, knowledge creating companies" (Trott, 2006). This viewpoint is connected to the manner and type of technology that is used and one that changes the way in which individuals, groups and the community communicates. Models of open innovation should enable fast and extensive communication and interaction in the process from developing an idea up to successful commercialization, or accepting the new value on the market.

There is active discussion from a strategic, organizational, legal and business perspective on the implications and trends that support open innovations. In an era of open innovations, the level of cooperation is growing among countries. Cooperation with external entities is the basis for greater innovativeness and cutting time to the market. It is necessary to point out to nine different perspectives that are necessary for the theory of open innovation to better develop (Gassmann, Enkel, & Chesbrough, 2010):

- The spatial perspective leads to research on the globalization of innovation. Since research, technology and development of products have become global, open innovation has become easier. New ICT enable virtual research – development teams and decentralized innovation processes.
- The structural perspective shows that there is a strong tendency towards outsourcing in R&D. This is due to cost reduction and greater specialization because of increasingly more complex technologies and production systems.
- The user perspective means that users are integrated into the innovation process in order to understand the potential requirements of customers and integrate users' knowledge.

- The supplier perspective has undergone very little research, but has a strong impact on innovation. Early integration of suppliers into the innovation process can significantly improve innovation performances.
- The leveraging process means research leveraging of existing and new markets.
- The process perspective incorporates three key processes in opening up the innovation process: outside-in, inside-in and a coupled process. Sometimes these processes complement one other, but usually there is dominance of the outside-in process.
- The tool perspective means that opening up the process of innovation requires a set of instruments. These tools enable customers to create their own product or enable companies to integrate the external problem solvers or idea creators through websites.
- The institutional perspective means that open innovation can be considered a private-collective innovation model. Spillovers of proprietary knowledge occur regularly by means of compensation (for example, licensing), or without compensation (for example, most open source initiatives).
- The cultural perspective means creating a culture that values outside competencies and know-how.

Having in consideration the advantages and perspectives that the theory on open innovation enables, small and medium-sized enterprises in Republic of Macedonia that wish to be successful and competitive on the market and increase the value added per employee, need to change their investments in research and development, which today are largely based on closed innovation, and strengthen that with open innovation, at least in certain segments. Hence, small and medium enterprises should introduce into their strategies planning of changes, which include greater flexibility in their work, cooperation with outside partners, research and development that involve external sources of information and know-how. Open innovation makes sense in cases where huge financial resources are needed for research and development, when enterprises do not have appropriate staff for this and etc.

## CONCLUSION

Open innovation is a concept that develops in a digital economy environment and introduces changes in the process of managing innovations that are key to the development of entrepreneurship. In general, it is based on the idea that companies can rely on externally generated know-how to improve their performances in innovation. Open innovation as a process can promote shorter innovation cycles by intensifying research and better optimization of resources.

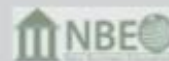
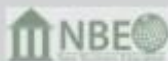
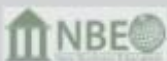
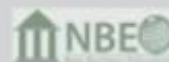
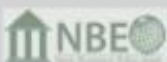
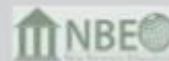
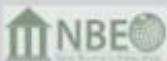
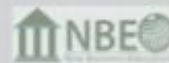
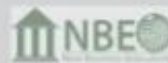
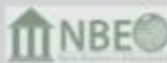
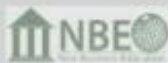
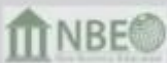
In the new digital economy, changing conditions in the environment imposes new rules of behavior for companies on the market. In these conditions, the traditional model of innovation is not suitable for the new circumstances and business trends. When limiting factors become visible and existing business models of closed innovation do not give results in solving the current problems, a new concept is introduced or the so-called model of open innovation.

This model assumes that companies should use external and internal ideas, as well as strategies for market positioning through development and implementation of new technologies. The idea of open innovation also indicates that the internal ideas can be present on the market by using communication and distribution channels, for the purpose of creating additional value. Ideas may also emerge outside the company, in laboratories, research centers or in other ways. The open model of innovation allows contemporary companies to provide a better and safer future with a tendency to a continuously increasing number and ways of implementing new technological knowledge and new products and processes.

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