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Для наукових працівників, викладачів, аспірантів і студентів.

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VENTURE CAPITAL AS A CATALYST OF BUSINESS DEVELOPMENT IN LITHUANIA

У статті робиться спроба встановити як відповідні фінансові ресурси – особливо фонди з венчурним капіталом – могли б виявити якісь стратегічні можливості нових та інноваційних компаній і в цілому національної економіки. Ставиться питання про те, який – приватний чи суспільний – венчурний капітал більше здатен вирішити проблему недостатності капіталу для відкриття інноваційного бізнесу.

Ключові слова: венчурний капітал, суспільний венчурний основний фонд, інновація.

В статье делается попытка установить как соответствующие финансовые ресурсы – особенно фонды с венчурным капиталом – могли бы выявить какие-либо стратегические возможности новых и инновационных компаний и в целом национальной экономики. Ставится вопрос о том, какой – частный или общественный – венчурный капитал более способен решить проблему недостаточности капитала для открытия инновационного бизнеса.

Ключевые слова: венчурный капитал, общественный венчурный основной фонд, инновация.

Article tries to establish whether (and how) appropriate financing sources – especially venture capital funds – could reveal any strategic opportunities of new and innovative companies and of the whole national economy. The question is raised about which – private or public – venture capital is more able to solve the problem of insufficiency of capital for the beginning of innovative businesses.

Keywords: venture capital, public venture capital fund, innovation.

The sufficient supply of capital is the essential condition for the creation of new businesses, and the share capital, especially the venture capital, is particularly important for the establishment and development of the enterprises having a high growth potential, and exactly such enterprises mostly face the problems of start-up financing. The venture capital is usually offered by the investors ready for the higher risk in exchange for the potentially higher return of the investment.

The goal of the research is to establish whether (and how) appropriate financing sources – especially venture capital funds – could reveal any strategic opportunities of new and innovative companies and of the whole national economy. The methods of the research cover a comparative analysis of scientific literature and a correlation analysis. The article starts from the importance of venture capital for the development of new and innovative businesses, and presents the results of the empirical research. Imperfect market situations are discussed later and the question about whether public venture capital fund would operate better under these specific circumstances is raised. The paper ends in conclusions and proposals for the development of the national venture capital market.

Venture capital as the source of innovation financing

The importance of venture capital in economy is related to its role in financing new innovative enterprises, as the bank-specific financing for the latter ones is mostly inaccessible due to the insufficiency or the absence of the pledges [1]; the capital markets are, in turn, accessible only to the major public limited liability companies. The similar results are also revealed in the research conducted by the Social and Economic Development Centre [2] in Lithuania: key obstacle faced in establishing and developing new business is the lack of financing, and in search for the financing, the major challenge remains the fact that much property must be pledged in order to receive the financing [3]. Moreover, while assessing the risk, the banks have

become even more careful after the crisis of the years 2008 and 2009.

Venture capital has also positive effect on creation of industrial clusters ensuring positive external effects on technological innovations. Nevertheless, some authors [4] state that there is optimum size of venture capital market in a country: too much venture capital can actually reduce, and not increase innovative efforts of companies. This can happen when too much venture capital provides easy conditions for the new technological companies to establish; in that case venture capital can reduce R&D expenditures of well-established businesses. Such assumption is based on idea that the more venture capital (or, generally, essential complementary assets), the easier key employees of the corporations can leave office and start their own business which reduces profit of their former workplace, and also the investments in R&D. On the other hand, the negative effect of the incentives may be regulated by legal measures, e.g. by prohibiting ex-employees to start their own businesses for a certain period of time (non-competitive clauses) or to take the valuable knowledge away from the enterprise (confidentiality clauses).

Existence of empirical relationship between private equity (including venture capital) investments and national innovation capacity could be showed with the help of data provided by the European Venture Capital Association about private equity investments in different European countries (as a percentage of national GDP in the EU Member States, Switzerland and Norway) and data of national innovation indicators, e. g. the Global Innovation Index 2011 estimated by the INSEAD business school [5]. Between the series of previously mentioned data a positive correlation of medium strength is obtained (correlation coefficient is 0,58). The correlation coefficient of similar strength is also obtained having replaced the Global Innovation Index data with the Summary Innovation Index estimated by the EU [6]. Then, correlation between private equity investments into national economy (expressed as a percentage of GDP) and the Summary Innovation Index of the country would be as follows (Table 1):

Table 1. Correlation between private equity investments (as a percentage of GDP) and Summary Innovation Index

Year	Correlation coefficient
2006	0,57
2007	0,56
2008	0,55
2009	0,53
2010	0,55

Therefore, in order to increase national innovation capacity together with country's competitiveness in international markets, where only innovative products are competitive, it is of utmost importance for the country to create favorable conditions for the development of alternative financing sources including private equity market and venture capital funds.

Besides, it is possible to show that there is also a relationship between country's innovation capacity and the part of employees working in high technology sector comparing to the total workforce of a country. Correlation and regression analysis carried out using the Global In-

novation Index 2011 data and Eurostat data about employment and salaries in high technology sector shows that there is a positive strong relationship (correlation coefficient is 0,73) between country's innovation capacity and the part of employees working in high technology sector. Determination coefficient which equals 0,53 indicates that more than a half of workforce dispersion in the sector of high technologies could be explained solely by data of the country's innovation capacity.

Similar results were obtained after having used the Summary Innovation Index data and the same data of employment (Table 2):

Table 2. Correlation and determination between Summary Innovation Index and employment in high-tech sector (as a percentage of total employment)

Year	Correlation coefficient	Determination coefficient
2006	0,75	0,56
2007	0,75	0,56
2008	0,72	0,52
2009	0,71	0,51
2010	0,73	0,54

Source: EVCA, [6], authorial computation

Thus, venture capital acts as a catalyst among new ideas and their potential markets. Without finding financing, new ideas cannot become new products/services for new (often still not existing) markets. Therefore, financing of the new ideas is also a development of the new (future) markets.

Unfortunately, financial crisis of 2009 reduced private investors' wish to finance the innovative companies [7]; therefore, the question is what could become a catalyst of venture capital market itself. We think that public venture capital fund could become such a catalyst.

Venture capital: selection between private and public

In the entrepreneurial society, venture capitalists make venture decisions by using collective experience and knowledge [8; 9], whereas in the society where traditionally no entrepreneurial spirit exists (e. g. in Lithuania like in many other Eastern European countries) investors' knowledge is based only on their previous experience. In case of venture capital it means that venture capital investments are based on the longevity of venture capital firm [10] and the number of ventures in which the firm have invested previously [11]. Therefore, in such society small and newly established funds can finance less beginning and high-technology enterprises, selecting larger or longer operating instead – it is especially relevant to the countries where venture capital market is still in the stage of creation and no large or longer operating private venture capital funds exist. On the other hand, public venture capital fund, being able to accept higher risk, would not experience above-mentioned problems of selection.

Another main reason why it can be worth selecting public venture capital is the fact that development of private venture capital market in itself not always takes place smoothly. Its development is affected by different factors, one of which is culture (culture is defined as a set of values, behavioral models, beliefs and underlying assumptions which are followed by individuals in a certain society). Two cultural dimensions are important to the development of venture capital [12]: avoidance of uncertainty, and collectivism. Avoidance of uncertainty indicates low toleration of activities considered being risky, such as venture capital investments, and it raises alternative costs of risky activities. Collectivism shows the tendency to count on informal relationships of the groups in solving problems of transac-

tions [13]. In collectivistic society, conformism and harmony are considered being a norm, and the behavior which can be understood as opportunism can bring shame [14]. Collectivistic orientation can restrict venture capitalists' transactions by their "circle of acquaintance" [15] and prevent potential external investors (venture capitalists) from joining already mentioned circle, by thus restricting their investment opportunities.

Lithuania is characteristic of both the avoidance of risk (according to the EU-wide research, Lithuanians have the lead across the EU countries in the terms of the fear of bankruptcy when starting business [16]) and the collectivism (as well as the other Eastern European countries); therefore, the development of venture capital in itself takes place (and will take place) heavily. Moreover, as risk premium required from venture capital investments in risk-avoiding society is higher than in non risk-avoiding societies, it should be thought that venture capitalists will also more heavily react to indirect efforts of the Government intended to encourage the development of venture capital. One of the ways to solve it is a public venture capital fund.

Public venture capital fund would be also important in the way that, without sufficient private venture capital in a country, it could play the role of a catalyst by attracting foreign venture capital, as the investments of venture capital funds are limited by geographical distance: with the increase in distance, the spread of information about possible investment targets decreases [17]; moreover, investors wish to physically take part in the management of a target company [18]. Therefore, without local venture capital it is also practically impossible to attract further existing foreign venture capital: investors of the Silicon Valley (venture capitalists) limit themselves to the 1-hour trip by car [19], whereas the limit of 150-250 miles is reached to the extent of all USA [20]. Other authors [21] have established aforementioned distance in the UK being equal to 1,5-hour trip by car, and more than 2 hours in the USA. This distance is equal to 232 km in Germany [22].

One of the ways to solve the above-mentioned problems is the syndication of venture capital funds [23]. After interviewing German venture capital providers, it became clear that investors often use syndicates to find themselves closer to their investment targets [24]. One of the members of a syndicate has always been established not far from the investment target and exactly he performs its supervision.

The other members of a syndicate play the role of passive co-investors [25]. Thus, syndicated investments can be located at a larger distance from venture capital funds than the non-syndicated; however, provided that at least one member of a syndicate will have been established relatively close to the investment target. This is exactly the reason why it can be expected that investors being far from investments will look for a partner of a syndicate, who is closer. Therefore, it is important for a region (or a country) to have a sufficient number of venture capital providers who could act as catalysts, when connecting regional economy with further global supply chains by way of syndication.

Thus, public venture capital fund established in a country, could, even not being of high volume, act as a catalyst and, by attracting foreign venture capital, invest in high technology companies. This could also happen in a syndicate manner. Moreover, while being public, it would provide foreign investors with the "guarantee of reliability" [26].

In general, importance of public venture capital to a country (or a region) could be shown by stochastic dependence, which could be a function of respective parameters discussed above. Design of such dependence is the object of our further research.

Conclusion. There is a positive medium-strength correlation between private equity (including venture capital) investments in a country and innovative capacity of this country; there is a strong correlation between country's innovation capacity and the proportion of people employed in high technology sector, thus, in order to create a high added value economy, country needs innovative companies that would create competitive business environment in the country and would contribute to the growth of employment and economy; innovative companies need adequate financing infrastructure which could be ensured by venture capital funds.

Public venture capital fund would be useful to those countries where traditionally no entrepreneurial spirit exists, where uncertainty is avoided and a strong sense of collectivism exists. Public venture capital fund, keeping in mind specific character of venture capital investments (there is a tendency to invest at limited geographical distance), could, even not being of high volume, act as a catalyst and, by attracting foreign venture capital, invest in high technology start-ups. And this could also happen in a syndicated manner.

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ASSET-BASED POLICY: A NEW DIRECTION FOR SOCIAL POLICY IN CEE COUNTRIES?

Стаття коротко представляє новий напрямок соціальної політики – політику, що базується на активах. Розглядаються та порівнюються різні варіанти впровадження цієї політики в інших країнах. Розглядаючи ідентифіковані виплати, піднімається питання про те, чи буде корисним впровадження політики, що базується на активах у країнах Центральної та Східної Європи.

Ключові слова: активи, політика, що базується на активах, нерівність, країни Центральної та Східної Європи.

Статья коротко представляет новое направление социальной политики – основанную на активах политику. Рассматриваются и сравниваются различные варианты внедрения этой политики в других странах. Рассматривая идентифицированные выплаты, поднимается вопрос о том, будет ли полезным внедрение основанной на активах политики в в странах Центральной и Восточной Европы.

Ключевые слова: активы, основанная на активах политика, неравенство, страны Центральной и Восточной Европы.

The article briefly presents a new direction for social policy – Asset-Based Policy. Various cases of the implementation of this policy in other countries are overviewed and compared. Considering the identified benefits, the question, whether the implementation of the Asset-Based Policy in CEE countries would be useful, is raised.

Keywords: assets, asset-based policy, inequality, CEE countries.

Income inequality, high poverty rate prevent development of society and state, have a significant impact on health and education of residents, conditions of housing

and delinquency rate. Income inequality and wealth disparity cause political discontent that may lead to severe social disorders.

It should be noted, that traditional methods dealing with poverty and social inequality focus on issues of income and consumption, with particular importance given to the idea of progressive taxation and increase of various benefits to the poor. These actions, called income security or income support policy, have to support individuals when they have insufficient income, face difficulties, whether temporary or constant ones, including unemployment, health problems, accidents or old age. Notably, income security was effective policy measure at the time, when national economy offered a number of stable and long-term jobs, providing regular income to majority of its population. Income security policy however is a passive one: it supports individuals in distress; however, it is not intended to develop their possibilities [1; 2]. Research works suggest that transfer of benefits to the poor does not reduce a pre-transfer poverty rate [3].

Modern, post-industrial economy needs active social policy, encouraging personal development and providing motivation for development of one's knowledge, skills and abilities. Latest proposals no longer limit themselves with idea of consumption as a measure of well-being going toward what A. Sen [4; 5] identifies as *capabilities*. According to A. Sen, a concept of capabilities is closely related to personal freedom of choice and ability to carry out one's potential to the fullest.

Therefore, despite the fact that income or consumption are still most widely used measure of poverty in social policy, lately efforts were made to develop a vision on combating poverty and social inequality, based on saving, investment and accumulation of asset. Concept, stressing long-term individual possibilities, based on certain asset level, is called *asset-based policy* [6]. Notably, asset-based policy does not envisage replacing current income security policy, which is a core idea of a welfare state. Both policies can mutually contribute, seeking their goals: benefits received maintain consumption, while the asset accumulated may encourage personal financial freedom and recovery from poverty. To put it briefly, asset-based policy is one that encourages individuals to save and accumulate asset, to improve, develop one's knowledge, skills and capabilities, thereby contributing to the growth of the national economy and progress of its society [7; 8; 9]. Therefore, only both policies, based on asset and income, when applied together, can help reaching mutually contradictory goals of fair social policy and high economic efficiency, thereby cutting the price of trade-off between economic growth and social development.

In the last decade, several countries have focused their social policy in this direction and have started implementing universal asset-based policy. Unfortunately, Central and Eastern Europe (hereinafter CEE) countries are not on that list.

The article seeks to provide a summary of the asset-based policy models implemented in foreign countries, present results of this policy and consider idea of its implementation in CEE countries. The methods of the research cover a comparative analysis of scientific literature and a statistical computation.

Asset-based policy: from theory to practice

Various authors have come up with several different methods to implement asset-based policy:

1. benefits to new-borns: one-time transfers by the government to *child development accounts* opened to all new-borns (hereinafter CDA) [10];
2. matched savings accounts for the poor and transfers by the government, that match at a certain ratio and to a certain limit the personal savings, transferred to these accounts [6];
3. one-time grant to all individuals reaching majority [11; 12];
4. regular monthly benefits for all citizens of a country, after reaching majority [12].

It should be noted, that these proposals envisage fairly different implementation of asset-based policy, however all of them focus on the same goal, i.e. to accumulate a certain amount of asset, escape from regular cycle of benefits, consumption and poverty, encourage development of personal capabilities and as a result, a better development of entire society and national economy.

Interest in asset-based welfare became increasingly popular throughout the world in the last decade of 20th century. Efforts have shifted from scientific research to practical implementation of ideas.

Western countries, which have more or less developed models of asset-based policy include Canada (CDA), the United Kingdom (CDA: universal, most developed, but terminated program). In the East, the policy is in place in Singapore (coherent program of life-long asset accumulation), South Korea (CDA and savings accounts to the poor), and Hong Kong (CDA). There are pilot programs in Taiwan (savings accounts to the poor) and USA (CDA in Oklahoma; individual development accounts for the poor; draft legislation for universal CDA policy at national level).

The table below briefly presents key features of these policies.

Table 1. Asset-based policies in selected countries

Country	Name of accounts / program	Status	Beneficiaries	Scope	Benefits
United Kingdom	CTF	terminated	children (0-18 years)	Universal	Benefit by the Government at birth and reaching 7 and 11 years
Canada	RESP (CESG and CLB)	in progress	children (CESG: 0-18 years; CLB: 0-21 years)	Universal	Benefit by the Government to the new-borns from poor families; matching funds for private savings
USA	KIDS	expected	children (0-18 years)	Universal	Benefit by the Government at birth; matching funds for private savings (for the poor only)
USA	SEED OK	in progress (pilot)	children (0-7 years)	1360 newborns in Oklahoma, USA	Benefit by the Government at birth; matching funds for private savings (for the poor only)
USA	IDA	in progress (pilot)	low-income individuals	selective; low-income families	Matching funds for private savings
Singapore	Baby Bonus, Edusave, PSEA	in progress	children (Baby Bonus: 0-6 years; Edusave: 6-16 years; PSEA: 7-20 years)	universal	Benefit by the Government at birth and until the age of 20; matching funds for private savings
South Korea	KCDA	in progress	children (0-18 years)	as at the end of 2010, ~41 000 institutionalised children	Matching funds for private savings

End table

Country	Name of accounts / program	Status	Beneficiaries	Scope	Benefits
South Korea	Hope Accounts	in progress	low-income individuals	~13 000 individuals from low-income families in Seoul	Matching funds for private savings
Taiwan	TFDA	in progress (pilot)	low-income individuals	selective (not specified)	Matching funds for private savings
Hong Kong	CDF	in progress	children (10-16 years)	Intended for ~13 600 children from low-income families	Matching funds for private savings

Source: [13; 14; 15; 16; 17; 18] and authorial computation

All these policies are characterised by the fact that there is accumulation of funds in an investment account for a certain period of time (in case an account is opened to a new-born, the funds are mostly accumulated until he/she reaches majority; if an account is opened to a low-income individual, funds are mostly accumulated for 2-4 years), using support of the Government (one-time benefits or matching funds); later on, these funds can be used for a predetermined purpose: mostly for education, housing or starting a small business. Only CTF program that operated in the United Kingdom included no restrictions to the use of accumulated funds.

The first results of saving / investment / asset accumulation programs suggest that the asset-based policy increases individual saving rate, financial literacy and may have positive attitudinal, behavioral, and social effects [19]. The most important conclusion is that low-income individuals and families can save, if they participate in saving programs and are provided with information, certain benefits and access to corresponding institutional structures [20]. How can they accomplish it? The studies have showed that families facing severe financial difficulties can modify their consumption habits and come up with various innovative methods in order to save funds in an investment account of their child [21].

Social policy and its efficiency in CEE countries

Overview of key cases of asset-based policy makes an impression that this policy is tested and implemented in Anglo-Saxon countries and South-East Asia, where the coun-

tries have historically inherited or try to imitate the same model of society and social protection (it should be noted, that certain products of asset-based welfare are offered in some other Asian and African countries, however they are provided mostly by commercial institutions, therefore they do not amount to a national policy). This impression is mostly correct: so far, no continental Western European country has carried out similar experiments of asset-based policy (they have a strong welfare state and a well-developed social protection in place); it also applies to the Central and Eastern Europe. CEE countries traditionally follow their Western neighbours, trying to implement the same welfare state models. But is it necessary? First, CEE countries are relatively poor, so they find it hard to create and maintain this costly welfare economy given current economic difficulties and ever more austere fiscal policy conditions. Second, Greece provides a good example, how the welfare economy over-financed for years discouraged efficiency and productiveness and moved the country towards bankruptcy.

When considering, whether asset-based policy would be necessary in CEE countries, one must evaluate the efficiency of current social policy. Gini coefficient and poverty rate are the most appropriate indicators for this purpose. The table below shows that since 2005 (i.e. after joining EU), until 2010, the Gini coefficient fell in five countries, rose in four, and was stable in two. Poverty rate fell in seven countries, yet rose in four.

Table 2. Gini and At-risk-of-poverty rates in CEE countries

Country	Gini coefficient (for incomes), %			At-risk-of-poverty rate, %		
	2005	2010	Δ in p.p.	2005	2010	Δ in p.p.
EU	30,6	30,5	-0,1	16,4	16,4	0,0
New Member States (12)	33,2	30,3	-2,9	18,9	16,9	-2,0
Bulgaria	25,0	33,2	8,2	14,0	20,7	6,7
Czech Republic	26,0	24,9	-1,1	10,4	9,0	-1,4
Estonia	34,1	31,3	-2,8	18,3	15,8	-2,5
Latvia	36,1	36,1	0,0	19,2	21,3	2,1
Lithuania	36,3	36,9	0,6	20,5	20,2	-0,3
Hungary	27,6	24,1	-3,5	13,5	12,3	-1,2
Poland	35,6	31,1	-4,5	20,5	17,6	-2,9
Romania	31,0	33,3	2,3	24,8	21,1	-3,7
Slovenia	23,8	23,8	0,0	12,2	12,7	0,5
Slovakia	26,2	25,9	-0,3	13,3	12,0	-1,3
Croatia	30,0	31,5	1,5	18,0	20,5	2,5
Arithmetic mean of changes in CEE countries			0,0			-0,1

Source: Eurostat and authorial calculations

It should be noted, that a simple arithmetic mean of the changes of Gini coefficients and poverty rates in the CEE countries, in either case, is close to 0 (Gini coefficient and poverty rate of all 12 New Member States converged to-

wards EU average), which is to say, that the social policy in place didn't bring a break-through in a combat against poverty and inequality.

Conclusions

1. Income based policy is a passive one: it supports individuals in distress; however, it is not intended to develop their capabilities. Modern, post-industrial economy needs active social policy, encouraging personal development and providing motivation for development of one's knowledge, skills and abilities.

2. A concept, stressing long-term capabilities, based on certain asset level, is called *asset-based policy*. During the last decade, several countries started focusing the social policy towards a universal, asset-based policy.

3. The first results of asset accumulation programs suggest that this policy increases individual saving rate, financial literacy and may have positive attitudinal, behavioral, and social effects. Even low-income individuals and families are capable to save.

4. To-date, no continental Western European country has carried out asset-based policy experiments; neither did CEE countries.

5. Dynamics of the Gini coefficient and poverty rate in CEE countries in 2005-2010 suggests that the social policy in place didn't bring a break-through in a combat against poverty and inequality.

6. Inefficiency of current social policy, economic crisis and austere fiscal policy are the main assumption to start implementing asset based policy in CEE countries.

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DYNAMIC MODEL OF MULTISTRUCTURAL ECONOMY

На основі теорії біфуркації (катастроф) запропонована динамічна модель впливу підприємницького потенціалу на процес формування технологічного виробничого укладу. Проаналізовано ефекти, що виникають при заміщенні технологічних укладів.

Ключові слова: підприємницький потенціал, технологічний уклад, модель, моделювання, теорія біфуркації, ВВП.

На основе теории бифуркации (катастроф) предложена динамическая модель воздействия предпринимательского потенциала на процесс формирования технологического производственного уклада. Проанализированы эффекты, которые возникают при замене технологических укладов.

Ключевые слова: предпринимательский потенциал, технологический уклад, модель, моделирование, теория бифуркаций, ВВП.

The paper studies the dynamic model of influence of entrepreneur potential on the process of forming of technological production way, based on the theory of bifurcation (catastrophes). The effects, caused by substitution of the technological ways, are being analyzed.

Keywords: entrepreneur potential, technological way, model, modelling, theory of bifurcation, GNP.

Introduction. Investigation of the causes and consequences of cyclic long-term fluctuations in business activity in the economy led to the emergence and development of the concept of technological multistructure production. At present, generally accepted view about the existence of six technological ways, where the notion of technological way refers to a set of technologies and industries of the same level.

Investigations show that in a market economy development and changing technological way manifested in the form of long waves of economic conditions (Kuznets waves). At the same time rate of economic growth and business activity vary depending on the phase of the life cycle of technological way.

Analysis of recent research and publications. The scientific works of scientists J. Schumpeter, R. Foster, J. Martino, G. Dobrov, S. Glazhev, R. Nyzhehorodtsev are devoted to investigation of features of economy technological development. A significant contribution to the development of the same problems did Ukrainian scientists V. Geyets, L. Fedulova, Y. Bazhal and others.

In particular note the contribution of Joseph Schumpeter in the study of economic development. Schumpeter introduced the economic science distinction between economic growth and economic development. **Economic growth** – the increase of production and consumption of the same goods and services in length of time. **Economic development** – first of all the emergence of something

new, previously unknown, or speaking in modern language, innovations. Schumpeter defined innovation as follows [1]: "This concept includes five cases: (1) The creation of new product, which is not known for consumers or new quality of product. (2) The creation of a new method of production not tested in a given industry which is not necessarily based on new scientific discovery and may include a new form of commercial circulation of goods. (3) Opening of a new market i.e. the market where the industry is not traded in that country whether there was still the market or not. (4) Opening of new sources of inputs whether there was still the source or it was necessary to create new. (5) The creation of new industry, for instance, achieving the monopoly or elimination of monopoly position."

Economic development gives the course of circular flow, brings to life new industries and disband obsolete branches. It just happens in the transition from one technological way to another.

The significant figure in the process of economic development is entrepreneur for Schumpeter. Schumpeter underlines differences between terms "capitalist" and "entrepreneur". The figure of entrepreneur is not characterized by what he owns, but special qualities of character – initiative, authority, gift of foresight, willingness to take risks. Within easy cycling in his opinion there is no entrepreneur. This is the special

type of person carrier dynamic processes; he always focused on new, as an engine of technological progress.

That is why the study of transition to a new technological way necessary to consider the impact of entrepreneurs on the processes taking place in public life in general and the economy in particular. Therefore, the study of economic development should be introduced such concept as "entrepreneur potential", which characterizes not only the amount of accumulated professional education, scientific information, practical skills, but also the initiative, the ability to adopt innovative solutions and their implementation.

The aim of this work is to create a dynamic model of accumulation over time of the entrepreneur potential of society and its influence on the formation of technological industrial ways. In this case, we mean the entrepreneur potential of enterprise, industry, region or individual country as the accumulated amount of professional education, experience, creative work, scientific information and knowledge for achieving a certain goal or implementation of a strategy.

Study of the causes of recurrence of long-term fluctuations in business activity in the economy logically leads to the concept of technological multistructure of production. At present the conventional view is the existence of six technological way (Table 1), where the notion of technological way refers to a set of technologies and industries of the same level [2].

Table 1. Technological way

No of structure	Years (approximately)	Kernel of way	Key factor
1	1780-1840	textile industry, pig iron, iron processing, construction of channels	water engine
2	1840-1890	rail and shipping transport, the creation of machines, the coal industry	steam engine
3	1890-1940	electrical engineering, inorganic chemistry, shipbuilding, heavy weapons, steel	electromotor
4	1940-1990	automobiles, motorized weapons, synthetic materials, nonferrous metallurgy, organic chemistry, electronics	internal combustion engine
5	1990-2020	computers, software, telecommunications, robots, optical fiber	gas technologies
6	since 1995	biotechnology, nanotechnology, optoelectronics, aerospace industry	alternative energy sources

Analysis of developed countries shows that the technological way of economy is focused primarily on the use of technology sixth and fifth ways. High-tech multi-product industries provides competitive economy in general and is a source of value added.

Observations indicate that in the market economy development and changing of technological way appears in the form of long waves of economic conditions. Depending on the phase of the life cycle of technological way of changing the rates of economic growth and business activity.

Analysis of the technological level of development in Ukraine shows that existing technology multistructure of production is one of the main structural problems of the Ukrainian economy today. Similarly, as in Russia, heterogeneous technological ways exist and are reproduced in parallel and independently of each other.

Today Ukraine is dominated by the third technological way. The most common is railways, metallurgy, electric power, inorganic chemicals, coal, machinery.

Partially a fourth way used – the development of organic chemistry and polymer materials, nonferrous metallurgy, oil refining, automotive, precision engineering and instrumentation, traditional military-industrial complex, electronic industries, distribution of transport, wide consumption of oil.

As for the fifth technological way, then it accounts for 5.3% in total national economy. This way determine post-industrial type of production (i.e. development of sophisticated computer

technology, modern weapons, software, aviation industry, telecommunications, robotics, new materials).

According to the Institute of Economics and Economic Forecasting of NAS of Ukraine, about 58% of industrial output falls on the third technological way and 38% – the fourth way. Output, which falls on the fifth and sixth ways, is about 4%, and the sixth technological way that determines the prospects of high-tech development in the future, in Ukraine almost absent (less than 0.1%).

Modelling of social production under conditions of technological way is characterized by the fact that every time a technology fund built up, the value of which depends the speed of further growth in output. The specified process, according to Nyzhehorodtsev R.M. [3] can be described by a logistic curve, which is given by the differential equation

$$\frac{dy}{dT} = a(y - k_1)(k_2 - y), \quad a > 0, \quad (1)$$

where $y(T)$ – technologically significant result achieved by this technology in the way of total cost T (time spent, costs of human capital, etc.); k_1, k_2 – respectively the minimum and maximum possible technologically significant result of the functioning of the technological way; a – parameter that affects the rate of change $y(T)$. Graphically, dynamic value $y(T)$ in Fig. 1.

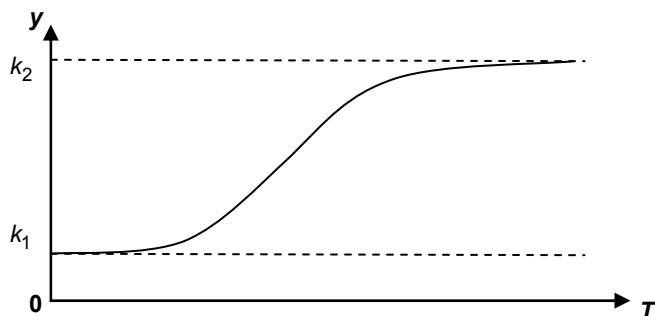


Fig. 1. Dynamics of technologically significant result $y(T)$ from cost of resources

Life cycle of technological way ends with a process of substitution, and its length tends to decrease. Graphically

process of substitution of one technological way by another over time is established as shown in Fig. 2.

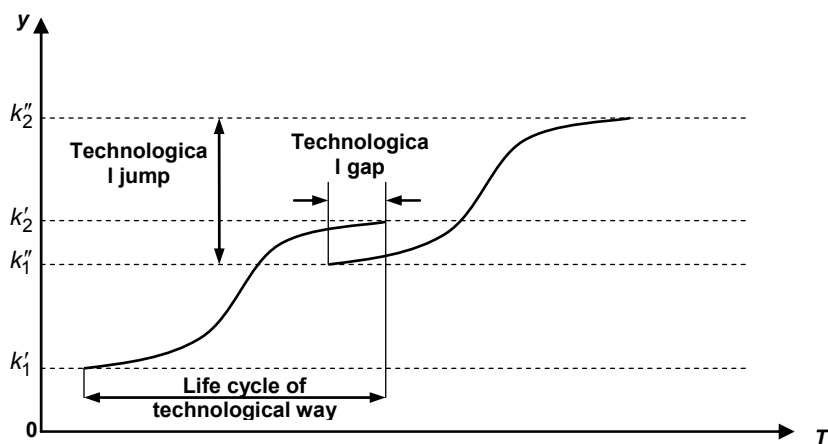


Fig. 2. Substitution of technological way

The process of substitution of technological way can occur more quickly or slowly. In the latter case, while the technological gap is characterized by the absence of the leading technological way in the industry, when technology does not meet the advanced requirements of production (morally obsolete), but the transition to a new way is complicated by lack of development of new technologies.

Long time of life cycle and substitution of technological way leads to uneven economic growth. During the substitution of dominant technology structure the country-leader in level of economic development is faced with moral depreciation of technological capital. At the same time the country-leader get the potential to increase of value added index.

Levels of mastery of technology in areas of material production are determined according to the quantity of added value and thus the total value added, i.e. the gross national product. Distribution of gross domestic product by income and its continued use leads to the realization of the invest-

ment policy. Distribution of investments in intensive and extensive, in turn, affects the level of use of technology.

The level of use of functioning technological way by community is a generalizing index, calculated on the basis of existing structure of investments in fixed capital and available labor that can work in new technological environments.

Since the accumulation of knowledge and experience can be evaluated as exponential growth in time with a certain rate, the accumulation of entrepreneur potential can be described by this mathematical model:

$$\frac{dx}{dt} = rx, \quad x(t_0) = x_0, \quad (2)$$

where $x(t)$ – entrepreneur potential, accumulated during t , r – the specified growth rate, in the general case $r = r(t)$.

Thus, the volume of entrepreneur potential with $r > 0$ is a monotonically increasing function of time. Graphically at $r = \text{const} > 0$ function $x(t)$ is exponential (Fig. 3).

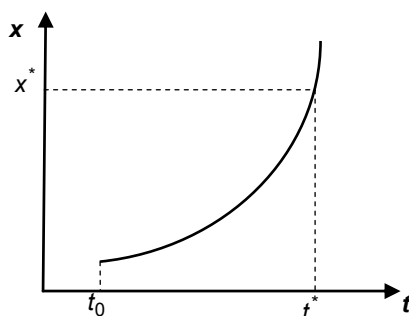


Fig. 3. Dynamics of accumulation of entrepreneur potential

At some time t^* the exponent $x(t)$ reaches a certain threshold x^* , when a new technological way begins to form that may be measured by the volume of gross national product per worker.

Returning to model (1), we determine that it offers two equilibrium states (stationary solutions) k_1 and k_2 ($0 < k_1 < k_2$).

Linearise the differential equation (1) in a neighborhood of equilibrium k_1 . Then we have the following linear approximation:

$$\frac{dy}{dT} = a(k_2 - k_1)y, \quad y = k_1 + \bar{y}.$$

Similarly, in the neighborhood of equilibrium point k_2 we obtain the linear approximation:

$$\frac{dy}{dT} = -a(k_2 - k_1)y, \quad y = k_2 + \bar{y}.$$

It turns out that at $a < 0$ the point k_1 will be stable, and at $a > 0$ – the point k_2 is stable. Thus, when $a = 0$ there is bifurcation of stability exchange between the two states of equilibrium.

Transition of the parameter value through the value $a = 0$ does not lead to violation of continuity of the differential equation solution (1), but its qualitative behavior is changed because of its asymptotics changing. Speed of solution approximation to stable equilibrium depends on how far the value a deviated from zero.

There is no doubt that the volume of entrepreneur potential x passing through a given threshold x^* includes the internal mechanisms of formation (development) of the next technological industrial way. This entitles you to an appropriate mathematical model based on the theory of bifurcation (catastrophe theory) [4, 5] and use with method of "internal bifurcation" [6]. That suggested a dynamic model:

$$\frac{dx}{dt} = rx, \quad r > 0, \quad (3)$$

$$\frac{dy}{dt} = (x - x^*)a(y - k_1)(k_2 - y), \quad a > 0.$$

Graphically, the dynamics of development and transition of economy to a new technological way with taking into account the effect of substitution of technology, shown in Fig. 2 may be represented in Fig. 4.

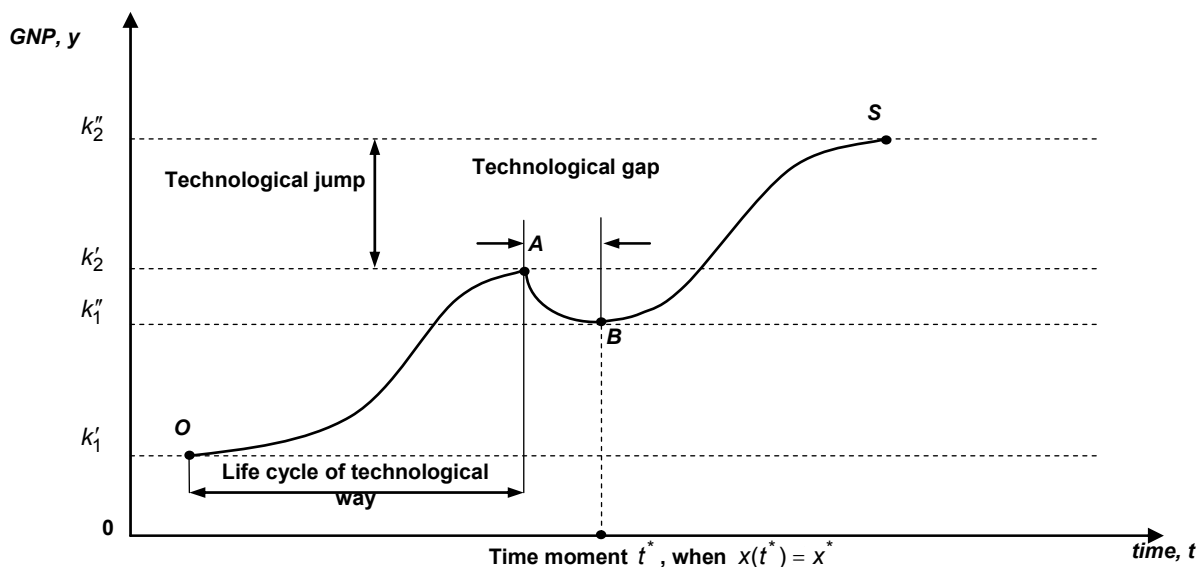


Fig. 4. Dynamics of development and transition of economy to a new technological way

In Fig. 4 point A corresponds to the state where the previous technological way almost exhausted and it was decided to develop the next technological way, although the value of the gross national product per worker $x(t)$ not reached its threshold x^* . Point B corresponds to the state where $x(t)$ reaches its threshold x^* . That is, the curve AB describes forcible state solution of development of the next technological way, although the level of entrepreneur potential has not reached a threshold x^* yet. At that time, GDP per worker decreases, because the existing entrepreneur potential is not able to fully master the new technological way. Curves OA and BS describe the process of operation of the previous and next way.

Note two features of solutions of the dynamic model (3). The first feature – the presence of technological gap AB (Fig. 4), when GDP per worker decreases (transition costs). This feature explains the cyclical process of oscillating increase of economic (technological) progress ob-

served in the world for centuries. Decreasing GDP per worker has a sweeping character, which gradually becomes smooth deceleration, ending its smooth increase in the transition of the entrepreneur potential through threshold x^* . The second feature – the irregularity of the dynamic system (3), which illustrates well the different meaning of parameters x and y . On the one hand, the parameter y can go to two alternative values k_1 and k_2 thus by its values it is easy to estimate the state of the system. On the other hand, the difference in the dynamics of this indicator is secondary because the primary is the transition value x by threshold x^* . Moreover, estimating the similarity of x and x^* , one can estimate the principal possibility of transition to a new state. So generally the first indicator (i.e. x') is most valuable for the identification of the system.

Conclusion. Thus, in this paper it is obtained the new scientific result on the dynamics of GDP per worker associated with the transition of the economic system to the

next technology. It is shown a significant qualitative impact of entrepreneur potential on the dynamics of the respective GDP per worker. The features of the corresponding cyclic development of such systems are analyzed. Simulation results show that between the development of technological way and entrepreneur potential there is a positive relationship, but this relationship is not easy and developed models show that the transition is the technological gap and the gap meaningfully related to the voluntarist decisions and productivity decreasing.

JEL classification F21

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ECONOMIC ANALYSIS AND MANAGEMENT OF STATE PROPERTY CASE OF LITHUANIA

Державне майно слугує суттєвим забезпеченням для гарантування вдосконалення якості життя суспільства, зростання економічного добробуту, соціального страхування, політичної стабільності та зв'язного розвитку в усіх аспектах життя. Мета статті – дати аналіз вартості державного майна та адміністративної системи.

Ключові слова: державне майно, класифікації майна, оцінка, адміністративна система.

Государственное имущество служит существенным обеспечением для гарантирования усовершенствования качества жизни общества, роста экономического благосостояния, социального страхования, политической стабильности и связанного развития во всех аспектах жизни. Цель статьи – дать анализ стоимости государственного имущества и административной системы.

Ключевые слова: государственное имущество, классификации имущества, оценка, административная система.

State property serves as an essential provision for ensuring the improvement of society's quality of life, the growth of economic welfare, social security, political stability and cohesive development in all facets of life. Purpose of the article is to perform an analysis of state property values and their management system.

Keywords: state property, property classifications, valuation, management system.

State property is understood as a particularly important priority in the state's economic policy as it ensures a country's economic prosperity, democracy and the state's obligation to guarantee the wellbeing of its citizens. This is especially relevant in this stage of Lithuania's economic development when factors of the global financial crisis have had a negative impact on the country's social and economic welfare.

The problems of setting the actual value of state property, its effective use and management has been highlighted for many years, yet it remains even today. Property valuation based on market principles is applied only to separate property objects, yet the total value of state-owned property has not been calculated [1]. In this respect this topic is rather complex as it encompasses the variety in property concepts and property classification, methodological aspects of property records and analysis, the property use, disposal and management system, as well as directions in this system's reconstruction.

State property questions have received minor attention in academic literature. A majority of the reviewed literature sources analyze property, or more precisely, its category as a specific academic or field of activity object, and do not cover a category such as state property. In other words, state property and questions surrounding its use and management are hard to allocate to a specific field of economics.

Object of the research – state-owned property.

Purpose of the research – to perform an analysis state property values and the management system.

Research methods – in order to achieve the set purpose and meet the objectives, information source and information collection, grouping, comparison, systemization, detailing and summary methods of academic literature, legal acts and methodological resources were used.

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Problems in state property accounting, analysis and value setting

The valuation of property has deep traditions in international practice. National property was calculated for the first time in 1664 in England, later in 1789 in France, in 1805 in the United States, and in 1864 in Russia. The methodological problems of measuring national property have been analyzed in international statistical congresses since 1853. In 1947 the International Association for Research in Income and Wealth was founded [4].

Data about national property was presented for the first time in the 1994–1995 edition of the Statistical Yearbook of Lithuania, giving rather general information which set Lithuania's national property at 129 billion Litass as of January 1, 1996, yet applying the System of National Accounts classification it was valued at over 166 billion Litass. Explored useful mineral resources valued at 47 billion Litass (or 28.3%) dominated in the national property structure, followed by enterprise and company property valued at 39 billion Litass (or 23.5%) [5].

In 1997 and 1998 the Lithuanian Department of Statistics first prepared and published comprehensively detailed bulletins titled "National property of Lithuania", where a new property classification was presented according to the System of National Accounts (henceforth – SNA). In it property was divided into two main components – non-financial and financial.

In the System of National Accounts (SNA) property was calculated, based on international property type classifications and should be valued at market prices that applied at that time. Unfortunately, once statisticians admitted that the property being calculated was not the entire country's national property, and that Lithuanian statistics only covered a part of the country's property (hopefully a larger part), after the mentioned two years of attempts the calculation of Lithuania's national property was aborted. It should be noted that the accounting of all property appeared especially problematic also due to the

fact that it was conducted differently in various types of enterprises, and not all enterprises had to submit reports on their property. Even the newer property classification did not entirely cover the property of small businesses, equipment, transport, farmers and others.

Considering that the history of calculating Lithuania's national property is relatively young, it could be said that Lithuania does have a national property valuation methodical and organizational foundation, and the SNA is compatible with the European System of National and Regional Accounts. Despite the significant efforts and work, which have delivered corresponding results, due to knowledge-related and perhaps even problems of a political nature, national property indicator statistical publications have been discontinued, along with further national property valuation works, even though calculations of state-owned property values using the SNA have continued for many years.

One of the most important conditions for effective management of state-owned property is knowing what property and what the value of the property is that is being disposed of by the state. Implementing the provision of the Law of the Republic of Lithuania on state and municipality property management, use, and disposal, [6] the Department of Statistics has since 2001 conducted statistical research on state and municipality property based on the State and municipality property statistical research methods. Pursuant to the methods, statistical research has been conducted since 2001, during which the following parameters have been calculated: 1) State property, state-owned and managed in trust by state enterprises, state institutions, offices and organizations, the Bank of Lithuania and other legal persons; 2) State property managers' (state budgetary agencies' and state enterprises') obligations; 3) State's obligations; 4) Municipality property which is municipality-owned and

managed in trust by municipality enterprises, municipality institutions, offices and organizations, self-ruling institutions, offices and organizations, and other legal persons; 5) Municipality property managers' (municipality budgetary agencies' and municipality enterprises') obligations and municipality obligations.

Regardless of the fact that the mentioned methods are regularly improved in consideration of comments by the State Audit Office and the requests of the Parliament and Government of the Republic of Lithuania, in its report conclusions the State Audit Office each year notes that the accounting of state property and the financial responsibility system is not complete; some of the property is not included in the accounting calculations (roads, radio frequencies, air space, etc.); the quoted value of some property in the accounting and financial responsibility statements does not correspond with its real value (some of the property is calculated as an indexed value, and some according to purchase value); some of the state-owned property is not reliably valued in either a quantitative or a value sense (museum values, the state's name, objects of Lithuanian heraldry, the right to the air space above the territory of the Republic of Lithuania), and some of the state-owned property is valued only in a natural sense (the State Land Fund, data about the value of explored useful underground resources, data from forest audits).

State property as a whole is analyzed using the SNA property classification that is applied in statistics. We should recall that property is divided into two main parts: *non-financial property* and *financial property*. *Non-financial property* can be created or not created. State property can be explained in the wider and the narrower sense, and calculated in natural – objectified, or financial aspects. Data from Table 1 shows the changes in state-owned (in the wider sense) property values and structures.

Table 1. State-owned property in 2006-2010, (as of 1 January, billion Lt)

	2006	2007	2008	2009	2010	Change (in 2010 compared to 2006)	
						billion Lt	%
1. Non-financial property	155.68	164.94	191.68	197.94	142.80	-12.88	-0.92
1.1. Lithuanian Land Fund	80.24	89.08	111.05	114.35	58.18	-22.06	-27.5
1.2 Closely explored mineral resources	56.05	55.97	58.18	58.34	59.97	3.92	7.0
1.3 Other non-financial property	19.39	19.89	22.45	25.25	24.65	5.26	27.1
2 Financial property	15.75	19.06	20.54	21.76	24.13	8.38	53.2
Total state-owned property	171.43	184.00	212.22	219.70	166.93	-4.50	-2.6

Source: [7]

The data of Table 1 illustrate, that in 2010 the leading role of the assets played closely explored mineral resources (59.97 billion LT or 35.9 percent). In 2006 their share was 32.7 percent. It is noticeable, that till 2010 Lithuanian Land Fund formed the major part of the assets (in 2009 the amount of Lithuanian Land Fund reached 114.35 billion LT, in 2010 only 58.18 billion LT).

Two factors played the main role in reduction of the state non-financial assets: Ignalina Nuclear Power Plant reassessment at the end of 2009, and the average land price drop by 47.7 percent.

Condition of state property and management system

It is believed that management practice does not know of a more complex management process than the management of state property. This is due to several reasons. The first is the structure of state property itself where each component needs a different management

technology. According to the formation of state property tangible fixed assets demands one type of management technology, while intangible or financial and current assets demands other types of management technologies. If we consider land, internal waters, forests, parks, underground resources, internal waters of state significance, roads, and moveable and immovable cultural values and monuments, buildings or their parts, constructions and equipment as objects only under management as state long term material property, then we would see a necessity in forming independent management systems, which, incidentally, are regulated by different laws and implemented by different state institutions. The second reason which follows from the latter is the objectively dependent different level of centralization of separate state property types. For example, state roads are managed in trust by 11 state enterprises, while state forests are managed in trust by 42 state forest enterprises. The third reason is the different

goals that the state sets for each type of property's management [5].

By systemically describing the management goals of all state property they can be divided into the following main blocks: political, economic, social, defence, cultural (when applying to separate types of property they can be detailed further). In the broader sense, we should keep in mind the guarantee of achieving socially significant goals.

The Law of the Republic of Lithuania on the management, use and disposal of state and municipality property [6] regulates the general order and conditions for state and municipality property management, use and disposal. Special separate laws on the management of state property types which determine the management, use and disposal procedures for certain types of state property, their conditions and particularities are: the Land Law and other post-legislative acts; the Forests Law and other post-legislative acts; the laws on Cultural values, Museum values, Financial property – cash resource funds, state-granted loans, etc. and other post-legislative acts. The laws of the Republic of Lithuania and other legal acts regulating the management of state enterprises and their activities are very important.

State property only becomes a factor influencing a nation's welfare if an adequate management strategy is chosen. In the long term strategy for the development of Lithuania's economy, unfortunately, there was no room for our national (or at least the state's) property. There was not even a management concept for that which we call our national property (nor even for all state-owned property). It is hoped that only the current economic crisis which forces us to search for new, alternative instruments for resurrecting the economy and quality of life shall give us a new orientation in solving these problems. In this respect, worthy of mention is the resolution of the Government of the Republic of Lithuania "On certification of the Strategy for centralized management of state property 2009–2016" (2009, henceforth – the Strategy) [2] and the resolution "On certification of the Concept for increasing effectiveness of state-managed enterprises" (2010, henceforth – the Concept) [3]. These documents reveal the reasons that have determined the necessity of increasing the effectiveness of the state's real estate (from the one side) and state-managed enterprises (from the other side), and of affirming principles for increasing the effective use of state property.

In the end of 2009 the matter of searching for an effective state-owned property management model started being actively deliberated. The search for this model is being conducted in two directions: from the one side (guided by the Strategy), finding ways of effectively managing the state's real estate, and from the other (guided by the Concept), by giving most attention to increasing the effectiveness of state-managed enterprise activities and their use of state property (their results). In the first case it is the Ministry of Finance that is responsible, and in the second – the Ministry of Economy.

The management of state property in the broad sense could be understood as a management system which consists of *a managing system – actions and processes – and a managed system*.

The managing system within the Lithuanian state property management system is made up of two parts: the Lithuanian state (as owner and trustor) and its trustees (various state institutions). A hierarchy exists within the trustees group as well. The Law of the Republic of Lithuania on State and municipality property management, use and disposal sets out that the Parliament and the Government carry out the functions of the state property owner. In carrying out its owner functions, the Parliament

accepts legal acts, i.e., laws, wherein the principle provisions for state property management, use and disposal are outlined. In one of the laws, the law of the Government of the Republic of Lithuania, the Parliament delegated the Government the function of disposing of state property, and designating the order for property management and use abiding by the laws in place. Thus, by passing resolutions the Government regulates the transfer of state property to suitable subjects who in turn gain the right to manage, use and dispose of it according to the predetermined order for its management, use and disposal. State property is transferred to the nominated subjects in the following ways: *in trust, according to lending rights or the lease of state property*.

The functions of state institutions concerning the management, use and disposal of state property are scattered and not inter-related and that the circle of institutions participating in the regulation of the means of managing the state's real estate as set out in the Law on State and municipality property management, use and disposal is very wide. The contextual content of the Law suggests that the main state property manager should be the state enterprise State Property Fund, i.e., the enterprise created especially for this purpose, i.e., the auditing and management of state property and the representation of state interests during its use, its disposal and its privatization. However, as the statistical data from recent years shows, a large part of state property is not concentrated in this enterprise.

An obviously decentralized state property management model is in place in Lithuania, something which is entrenched in its structure and the state's management organization, in which according to the Law of the Republic of Lithuania on Public administration (1999) a public administration subject administering the provision of a certain public service cannot themselves provide that service [8].

However, despite what state (municipality) property management model is applied, it is necessary to comply with certain principles when managing, using and disposing of this property. First of all, when using this type of property striving for public benefit should predominate – that is, any use of state property should ensure the satisfaction of public interests. Secondly, any actions related to state property management need to be effective and aim at providing maximum benefit to society. Thirdly, state property needs to be managed rationally – it should not be squandered, it needs to be conserved and disposed of sensibly. Fourthly, when entering into state property trade deals, the public law principle needs to be adhered to – all agreements need to comply with legal acts regulating the disposal of state property. These principles apply for all types of state property management: the in trust management of state property, the acquisition of state property according to a lending contract, the lease of material state property, the renewal of state property, the transfer of state property ownership to other subjects and for the investment of state property. The conclusion that follows is that the management of state property in the broad sense is a particularly difficult process consisting of a managing and a managed system as well as numerous actions and processes covering property accounting, audit, control, use, disposal, etc. The complexity of state property management is also determined by rather difficult legal regulation, and an abundance of special laws and post-legislative acts for the management of separate types of state property.

Conclusions

The evolution of Lithuania's national (state) property calculation was revealed. Three evolutionary

(development) stages were distinguished. The calculations from the *first* stage, starting in 1988–1989 were marked by the statistical work practices that dominated in the Soviet period, based on centralization principles and the predominating Soviet statistical methodology. The *second* stage, from 1997–1998, was when the Department of Statistics of the Republic of Lithuania first prepared and released the publications "Lithuania's National Property" which presented a new property classification according to the System of National Accounts. The *third* stage is considered to have started from 2009. This was the period of state property valuation which was more related to searching for ways of increasing the effectiveness of the use and management of the active part (commercial property) of state enterprise properties.

The analysis of state property value, its structure and change showed that even today the value of state property does not reflect its true market value. The true value is the sum for which property may be sold, exchanged for property or services, or for which a mutual agreement between unrelated parties intending to sell or buy property may be calculated, or be counted as a mutual agreement. It should be noted that some state property has still not been inventorized or included in state registers or accounting calculations, which is why it does not appear on the financial reports of state institutions, offices or organizations. Depreciation is not calculated for all property, and some of the financial property appearing in accounting is irredeemable property (sums outstanding from insolvent debtors, bankrupt enterprise shares, etc.). The annual state property reports are more statistical in nature than accounting-related. Property statistics themselves are rather incomplete and fragmented. When the assessment of state property has been performed, it is seen as the entirety of collected things, ignoring the

question of how all the property functions and how effectively it is being used.

We can conclude that in management practice there is no more complicated management process than state property management. This relates to several reasons. First is the structure of state property itself, where each component requires different management technologies. According to the analyzed state property structure, tangiblenfixed assets requires one type of management technology, while intangible assets or financial and current assets requires other management technologies, and real estate or movable property and state enterprises require others still. All this makes it necessary to formulate independent management systems, which incidentally, are regulated by different laws implemented by different state institutions. The second reason which arises from this is the objectively different level of centralization of separate state property types. The third reason is the different goals that the state sets for the management of each type of property.

In Lithuania there is a clearly decentralized state property (especially for tangible fixed assets) management model in place.

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JEL classification M41, M42

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COMPLEX PROFITABILITY ANALYSIS OF FIXED TANGIBLE ASSETS

Аналіз є головним інструментом для оцінки стану підприємства і для процесу прийняття рішення у відповідності з результатами аналізу. Стаття представляє аналіз рівня доходності основних матеріальних активів; оцінку факторів, що впливають на доходність основних матеріальних активів; аналіз відношень між доходністю та інші співвідношення. Автори статті пропонують підхід, що базується на комплексному аналізі доходності основних матеріальних активів, який би дає можливість менеджерам використовувати більш ефективні основні матеріальні активи та приймати більш ефективні бізнес-рішення.

Ключові слова: основні матеріальні активи, комплексний аналіз, доходність.

Анализ является главным инструментом для оценки состояния предприятия и для процесса принятия решения в соответствии с результатами анализа. Статья представляет анализ уровня доходности основных материальных активов; оценку факторов, влияющих на доходность основных материальных активов; анализ отношений между доходностью и другие соотношения. Авторы статьи предлагают подход, основанный на комплексном анализе доходности основных материальных активов, который дал бы возможность менеджерам использовать более эффективные основные материальные активы и принимать более эффективные бизнес-решения.

Ключевые слова: основные материальные активы, комплексный анализ, доходность.

Analysis is the main tool for evaluation of an enterprise state and for decision making process according to the results of analysis. The article presents analysis of the level of fixed assets profitability; evaluation of factors, which influence the profitability of fixed tangible assets; analysis of relationship between profitability and other ratios. Authors of the article propose complex profitability analysis of fixed tangible assets approach, which would enable managers to use more effectively fixed tangible assets and make more efficient business decisions.

Keywords: fixed tangible assets, complex analysis, profitability.

Any size, type and activity companies in free market competition are interested in increase of profit. Profit is necessary for keeping up financial capability, for expanse of activity and ensuring its going concern. However, total amount of profit does not show effectiveness of company's activity. Several companies, which earned the same amount of profit, may be very different in their financial,

investment, production or commercial activity effectiveness. That is why in the purpose of evaluating effectiveness of different companies various profitability ratios are calculated. Though, many questions occur e.g., how and which profitability ratios have to be calculated, how they have to be called, explained, their results evaluated. There may be found various explanations of profitability terms

and various formulas of profitability ratios or their analysis. Profitability could be described as division of profit (gross, net) by some indicator of a company's activity. Especially strong relationship is between profit and sales revenue, assets, equity. According to this relationship there could be defined such groups of profitability ratios: 1) profitability of sales (gross, net); 2) profitability of equity (authorized, owner's, constant); 3) profitability of assets (total assets, fixed assets, current assets). These groups are very important to information users, which according to their needs and purposes, are interested in some profitability ratios. Buyers and suppliers are most interested in profitability of sales, investors – in profitability of equity, and many internal and external information users are interested in profitability of assets. Managers of companies are interested in good results of profitability ratios from any group, but special attention must be paid to profitability of assets. As level and variation of this group of profitability ratios make impact on possibilities of a company's going concern and expansion or competitiveness. Besides, this group of profitability shows efforts of a company's employees to use assets economically. The special place is taken by fixed tangible assets, which makes about 76 per cent of total amount of assets in Lithuania [8]. Thereby, the complex analysis of fixed tangible assets is necessary, which would disclose changes of ratios during the analysed period, factors, which influenced the results of ratios, and relationship between other ratios.

The goal of the article is to prepare the methodology of complex analysis of fixed tangible assets, which is used by companies managers, would help them objectively to evaluate the level of fixed tangible assets profitability, factors, which make impact on the results of profitability ratios, and make decisions for rational exploitation of fixed tangible assets.

Resources of the research – Lithuanian and foreign authors' scientific literature, data bases of Statistics Lithuania, business accounting standards, etc.

Methods of the research – analysis of scientific literature and statistical data, systematisation, comparison and summary of information, explanation of factors.

The scheme of complex analysis of fixed tangible assets

The profitability of fixed tangible assets shows its effectiveness, ability of managers to manage and control it. It is considered that it may evaluate company's economic, production and investment activity according to the profitability

of fixed tangible assets [5]. Profitability of fixed tangible assets usually is calculated as division of net profit by fixed tangible assets:

$$\text{Profitability of fixed tangible assets} = \frac{\text{Netprofit}}{\text{Fixed tangible assets}}$$

This ratio expresses, how much monetary units of net profit fall to one monetary unit of fixed tangible assets, how managers of companies are capable of using fixed tangible assets and earn profit. Other authors [1, 6] propose in calculation of profitability of fixed tangible assets to use indicator – profit before taxes (pre-tax profit):

$$\text{Profitability of fixed tangible assets} = \frac{\text{Pre-tax profit}}{\text{Fixed tangible assets}}$$

Concept of this calculation is that pre-tax profit expresses better the earned profit as taxes are not related with the effectiveness of the activity. Other authors [9] propose to calculate the gross profitability of fixed tangible assets and for calculation of this ratio in the numerator use indicator – gross profit, but the authors of this article think that gross profit is more functional in evaluating the profitability of sales. In calculation of this ratio there may be used average amount of fixed tangible assets, if there are significant fluctuations of the value of fixed tangible assets.

Attention must be paid to the fact, that many authors [1, 6, 8] usually in the process of analysis of fixed tangible assets profitability just give ratio calculation formula and short explanation. But this is not enough for evaluation of fixed tangible assets profitability, factors, which influence this ratio, possibilities to use more effectively fixed tangible assets, earn more profit and so on. Practice of the Lithuanian companies shows, that many companies don't calculate profitability of fixed tangible assets. According to the results of the questionnaire research, which was made in October of 2007, 47,9 per cent of 73 companies calculated only net profitability of assets, and 4 companies calculated fixed assets and current assets net profitability. It has to be emphasized, that those companies, which calculated profitability of assets, didn't make detailed analysis, which would help to disclose the changes of ratio, factors, which influence the ratio and determine, relationship with other ratios and so on.

Authors of this article propose to pay special attention to the importance of profitability of fixed tangible assets ratio and recommend the scheme of its complex analysis, which is provided in Figure 1.

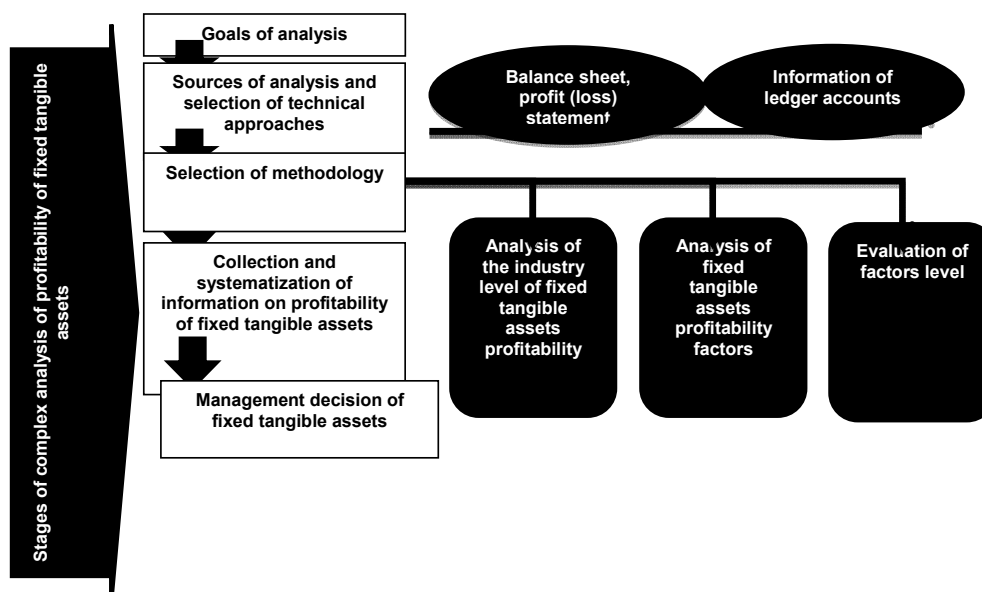


Fig. 1. Complex analysis of fixed tangible assets profitability

Source: Compiled by authors

As the Figure 1 indicates, that first of all there has to be set goals of the fixed tangible assets profitability, selected concrete analysis sources and approaches. Recommended fixed tangible assets profitability methodology consists of some phases: analysis of the industry level of fixed tangible assets profitability; analysis of fixed tangible assets profitability factors; evaluation of factors level. Results of the analysis must be collected and systemized, presented to

the managers of a company, that they could use this information in the decision making process.

In order to evaluate the level of companies fixed tangible assets profitability, company's results it has to be compared with the level of industry.

Analysis of fixed tangible assets profitability in Lithuania

Profitability of fixed tangible assets in Lithuania during the period 2006 – 2010 was 16,45 per cent (Table 1).

Table 1. Profitability of Tangible Fixed Assets, 2006 – 2010, per cent

Title of activity	2006	2007	2008	2009	2010
TOTAL	14,45	22,39	6,84	-6,35	6,17
Forestry and logging, Fishing and aquaculture	18,49	20,51	2,17	1,74	6,58
Mining and quarrying	55,21	47,17	51,17	27,82	25,68
Manufacturing	17,81	13,62	7,23	-1,00	12,26
Electricity, gas, steam and air conditioning supply	3,33	3,14	0,31	-6,57	1,73
Water supply; sewerage, waste management and remediation activities	2,53	1,10	1,18	1,17	3,52
Construction	39,50	36,14	19,01	-10,31	0,22
Wholesale and retail trade; repair of motor vehicles and motorcycle	34,89	49,27	19,56	-5,38	16,51
Transportation and storage	2,31	6,28	-35,31	-15,50	-3,32
Accommodation and food service activities	3,18	0,61	-8,34	-11,93	-1,63
Information and communication	29,95	38,29	25,19	5,44	15,68
Real estate activities	15,66	15,01	0,52	-7,67	0,57
Professional, scientific and technical activities	91,88	182,67	191,04	2,80	220,19
Administrative and support service activities	11,63	13,04	9,60	5,84	8,92
Education	26,96	30,16	6,62	10,96	18,02
Human health and social work activities	-83,77	43,90	-1,81	5,28	7,83
Arts, entertainment and recreation	4,57	7,58	10,03	-8,02	2,73
Repair of computers and personal and household goods; Other personal service activities	12,88	9,16	2,59	-0,67	2,13

Source: Compiled by the authors according to the database of Statistics Lithuania

In 2006 the value of this ratio was 16,75 per cent and in 2007 increased almost twice to 30,00 per cent, but in 2008 this value decreased and in 2009 under influence of world economic crisis profitability of fixed tangible assets was negative – 0,69 per cent, in 2010 situation stabilized and the value of the ratio reached 19,10 per cent. The Table 1 reflects dynamics of profitability of fixed tangible assets according to the types of economic activities in Lithuania.

In human health and social work activities the values of profitability of fixed tangible assets fluctuation was the highest among other activities: from -83,77 per cent in 2006 to 43,90 per cent in 2007, and was 3,76 per cent in average during 2008 – 2010. The most effective usage of fixed tangible assets were in mining and quarrying activity and in professional, scientific and technical activities,

where average value of this ratio was accordingly 41,41 per cent and 137,72 per cent. The lowest value of profitability of fixed tangible assets was in transportation and storage activity and made -9,11 per cent in average during period under analysis.

Analysis of factors, which influence fixed tangible assets profitability

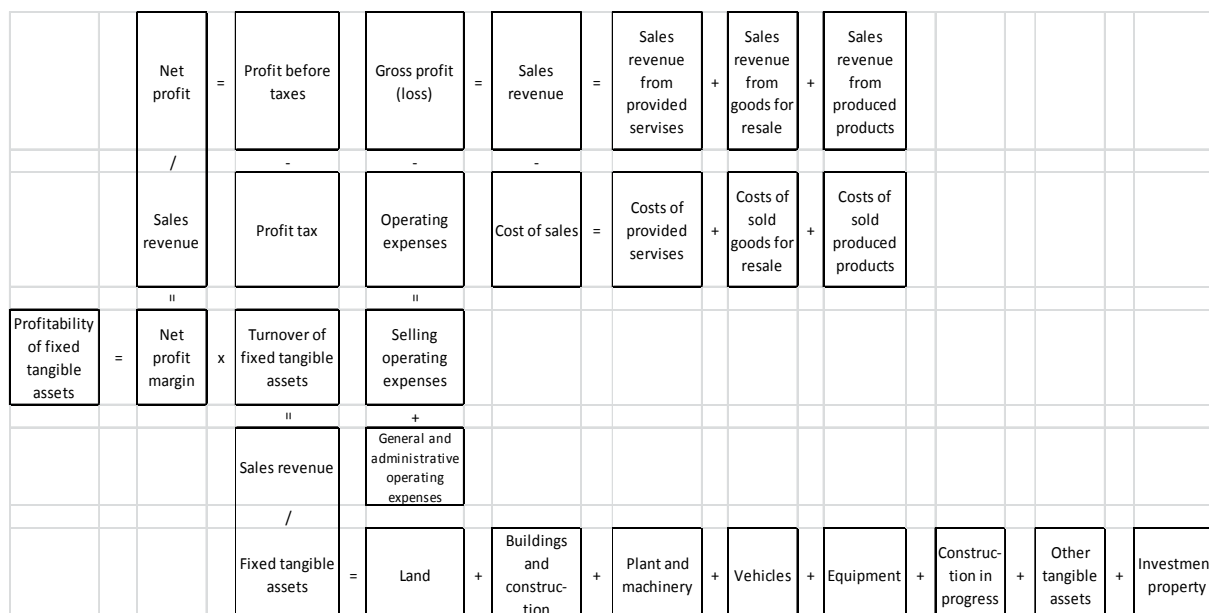
It is easier to analyse factors, which influence fixed tangible assets profitability by using Du Pont pyramidal analysis methodology. The essence of this methodology is that multiplying numerator and denominator of the fraction by sales revenue, there may be calculated new ratios – factors, which give additional information about the reasons of fluctuation of fixed tangible assets profitability. The disaggregation of factors may be expressed like that:

$$\text{Profitability of fixed tangible assets} = \frac{\text{Net profit}}{\text{Fixed tangible assets}} \cdot \frac{\text{Sales revenue}}{\text{Sales revenue}} =$$

$$\frac{\text{Net profit}}{\text{Fixed tangible assets}} \cdot \frac{\text{Sales revenue}}{\text{Sales revenue}} = \text{Net profit margin} \cdot \text{Turnover of fixed tangible assets}$$

According to the disaggregation of factors there may be found out that two factors net profit margin and turnover of fixed tangible assets, influence profitability of fixed tangible assets. Influence of these factors is very important: increase of net profit margin increases profitability of fixed tangible assets, acceleration of turnover of fixed tangible assets improves company's financial condition and also increases profitability of fixed tangible assets. And vice versa, if net profit margin decreases and turnover of fixed tangible assets slows down, the profitability of fixed tangible assets decreases.

According to Du Pont pyramidal analysis methodology there may be evaluated the factors of other levels, which influence the profitability of fixed tangible assets in the first stages of its formation. Attention must be paid that various authors [1, 3, 4, 7] present differently Du Pont pyramidal analysis methodology schemes: although they use the same principle of methodology, but for disaggregation of factors they use different absolute and comparative ratios. The authors of this article offer to analyse profitability of fixed tangible assets according to Figure 2.



sources and technical approaches of analysis; comparability of fixed tangible assets profitability with industry level; analysis of fixed tangible assets profitability factors; evaluation of factors level; systematization of information on profitability of fixed tangible assets; decision on fixed tangible assets.

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JEL classification F32

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ASSESSMENT OF CONDITIONS FOR THE SUSTAINABILITY OF THE BALTIC STATES' BALANCES OF PAYMENTS

Одним з основних статистичних звітів, що відображають зв'язок зі світом, є платіжний баланс, аналіз якого дозволяє скласти думку про ефективність міжнародної економічної діяльності та побудови його в процесі формування економічної політики. З виявленням можливості заїму на міжнародних ринках, країни можуть підтримувати дефіцит поточного рахунку; однак, це збільшує зовнішній борг, і країни, можливо, стикаються з валютними або борговими кризами. У статті розглядається міжчасова модель обмеження платоспроможності для поточного рахунку платіжного балансу; отримані та перевірені міжчасові умови обґрунтованості платоспроможності для Прибалтики.

Ключові слова: баланс виплат, поточний рахунок, міжчасова теорія платоспроможності, коінтеграція, стаціонарність.

Одним из основных статистических счетов, отражающих связь с миром, является платежный баланс, анализ которого позволяет составить мнение об эффективности международной экономической деятельности и составление его в процессе формирования экономической политики. С обнаружением возможности займа на международных рынках, страны могут поддерживать дефицит текущего счета; однако, это увеличивает внешний долг, и страны, возможно, сталкиваются с валютными или долговыми кризисами. В статье рассматривается межвременную модель ограничения платежеспособности для текущего счета платежного баланса; получены и проверены межвременные условия обоснованности платежеспособности для Прибалтики.

Ключевые слова: баланс выплат, текущий счет, межвременная теория платежеспособности, коинтеграция, стационарность.

One of the main statistical accounts reflecting the link with the world is the balance of payments, the analysis whereof allows making judgements about the efficiency of international economic activity and drawing upon it in the process of forming economic policy. With the opening up of possibilities to borrow on international markets, countries can maintain current account deficits; however, it increases external debt, and countries may be faced with currency or debt crises. The paper reviews an intertemporal solvency constraint model for the current account of the balance of payments; intertemporal solvency validity conditions for the Baltic States are derived and checked.

Keywords: balance of payments, current account, intertemporal solvency theory, cointegration, stationarity.

International links of each country are shown by the balance of payments and real exchange rate. In the accounts of the balance of payments, all country's economic links with other countries of the world are reflected, which allows making judgements about the efficiency of international economic activity and, on this basis, adjusting the economic policy process.

Economic openness poses a risk of large current account deficits. Countries can cover the current account deficit having borrowed funds on financial markets. However, a country that has borrowed funds to finance the current account deficit may face debt management problems and currency crisis. Meanwhile, if there is a possibility to borrow funds within the country, it is possible to maintain the desirable consumption and investment level and have a current account deficit that it is expected to be covered from the current account surplus in the future – when the economy is on the rise. It is the basis for one of the main views on the balance of payments – an intertemporal solvency constraint model. In the paper, the current accounts of the balances of payments of the Baltic States are assessed based on the conditions derived from the intertemporal solvency constraint model. The model was applied to three Baltic States – for the assessment of these countries' current account deficits.

Recently, as European countries faced the debt crisis, more attention has been paid to the size of a country's debt. The current account deficit is directly related to the

growth in the public debt, and if a country does not have debt management problems in the future, the deficit may be considered as acceptable.

1. Intertemporal solvency constraint model

This model is based on an intertemporal choice approach to the sustainability of the balance of payments. From the point of view of this approach, saving and investment are conditioned by future expectations for productivity and interest rates, while the current account deficit is caused by intertemporal utility maximisation. Consumers try to maximise utility in all periods, and they do it by assessing income flows now and in the future. A country with a current account surplus produces more than it consumes, exports more than it imports; therefore, it can lend to the rest of the world. A country with a current account deficit borrows from the rest of the world because its imports exceed exports. An assumption is made that borrowing and lending are optimal; thus, countries behave rationally.

Based on a model proposed by C. Hakko and M. Rush (1991), intertemporal budget constraint may be described as follows:

$$-B_t + r_t D_{t-1} = D_t - D_{t-1} \quad (1),$$

where B – the budget deficit, r – the debt interest rate, D – the size of the debt.

As a rule, the values analysed are assessed in relation to gross domestic product (GDP). Therefore, the equation may be rearranged as follows:

$$d_t = \frac{(1+r_t)}{(1+\pi_t)(1+\eta_t)} d_{t-1} - b_t \quad (2),$$

Then, intertemporal budget constraint may be derived as follows:

$$d_t = E_t \sum_{k=0}^{\infty} \prod_{i=1}^k (1+\theta_{t+i})^{-1} b_{t+k} + E_t \sum_{k=0}^{\infty} \prod_{i=0}^k (1+\theta_{t+i})^{-1} d_{t+k} \quad (3)$$

The latter equation shows that the accumulated debt is equal to the current value of the present debt and the cash flows required for the administration of this debt (the coverage of interest).

Applying these intertemporal budget constraint conditions, S. Husted (2000) derives a model enabling the analysis of the sustainability of the current account. The model is created for a small open economy (which is applicable to the Baltic States) having access to international financing with certain interest. S. Husted replaces the budget deficit from the previously described model with the current account deficit indicator, the public debt – with the gross external debt, covering both the public and the private sectors. The current account indicator is broken down into the following main components: import and export flows, and intertemporal solvency constraint is described as follows:

$$X_t = \alpha + MM_t - \lim_{j \rightarrow \infty} \lambda^{t+j} B_{t+j} + \varepsilon_t, \quad (4)$$

where $MM_t = M_t + r_t B_{t-1}$ – aggregated imports and debt interest indicator, X – exports, M – imports, and $\lambda = \frac{1}{1+r}$.

If the limit of the equation approaches zero, the relation between the aggregated imports and exports indicators may be presented as follows: $X_t = \alpha + \beta MM_t + \varepsilon_t$.

In this model, X is the exports of goods and services, MM – an aggregated indicator formed of the imports of goods and services, net debt interest and net current transfers. From this model, the weak and the strong conditions

where d – the size of the debt, as a percentage of GDP; π – inflation, per cent; η – economic growth, per cent; b – the budget deficit, as a percentage of GDP.

Let's modify the latter equation so as to include expectations based on the information (E) of the period t , and, for simplicity's sake, let's denote $\theta_t = r_t - \pi_t - \eta_t$.

for the assessment of the sustainability of the balance of payments current account deficit are derived.

2. Size of the current account deficit not increasing the debt

International financial institutions (IMF, World Bank) state that the acceptable current account deficit (CAD) is about 5 per cent of GDP. However, the model discussed above enable a more precise calculation of this value based on the country's economic situation in a certain period. By applying expression (2), one may calculate the CAD not increasing the debt for individual Baltic States. This model is based on the fact that the CAD is generally financed by loans from foreign investors, while foreign direct investment and non-repayable capital transfers account for a smaller part of financing. This is the reason why there is an assumption in the model that the CAD is only financed by loans.

The results of the calculations show that in 2011 the current account balance did not increase the gross accumulated debt in Latvia and Estonia because those countries had a current account surplus. In Lithuania, the actual CAD exceeded the calculated one; thus, the gross external debt was increased due to the current account deficit.

Based on the model parameters and CAD calculations for individual Baltic States (Table 1), we have determined that a larger CAD not increasing the debt is calculated for the countries with a larger accumulated public debt. However, a larger allowable CAD is allowed by a faster economic growth, higher real effective exchange rate and lower interest rates.

Table 1. Size of the current account deficit not increasing the debt

Country	CAD not increasing the debt	Actual CAD
Lithuania	-1.41	-3.8
Latvia	-3.26	1.2
Estonia	-1.07	4.2

Source: The calculations are based on the NSIs', central banks' and IMF's data.

Econometric analysis allows checking two intertemporal solvency conditions: the weak and the strong one. The previously derived intertemporal solvency model equation, defining the links between the indicators of exports and imports plus interest, reads as follows: $X_t = \alpha + \beta MM_t + \varepsilon_t$.

This equation is valid only if $\beta = 1$ and ε_t is a stationary process. Usually, economic indicators are not stationary, and if X and MM are non-stationary processes, they have to be cointegrated processes.

S. Husted proves that the discounted debt will be approaching zero only when $0 < \hat{\beta} < 1$. In the process of checking the weak condition, it is checked whether export and import indicators are cointegrated by a cointegration vector $[-1, \hat{\beta}]$, where $0 < \hat{\beta} < 1$. Variables are considered to be cointegrated when they are non-stationary processes. Generally, they may be integrated processes of the first or

higher order; however, their regression model remainders are stationary.

The weak condition for the assessment of intertemporal solvency may be explained by a long-term relation between the variables: changes in exports influence GDP, national income and demand. That is, if exports are growing, GDP, national income and import demand will be growing together with it. Imports also influence exports: foreign investment stimulate imports because equipment and investment goods are purchased. An increase in the imports of such – investment – goods increases productive capacity, which causes production, GDP and exports to grow.

An analysis of cointegration in the Baltic States showed that in all the three countries the indicators of imports and exports are non-stationary processes, characterised by deviations from process averages.

Cointegration relations are checked using the Engle-Granger procedure. The assessments carried out showed

that the indicators of imports and exports are cointegrated in Lithuania and Estonia; therefore, in these countries, there is a long-term relation between the indicators, they are characterised by a common trend and meet the weak condition for the validity of the sustainability of the balance of payments. The Latvian indicators of exports and imports are not cointegrated; thus, the weak condition for the sustainability of the balance of payments is not valid for this country.

In the process of checking the strong condition, the relation between the indicators of imports and exports may be put down as follows: $MM_t = EX_t + (B_{t-1} - B_t)$. We can see that MM and EX indicators will be cointegrated only when $(B_{t-1} - B_t)$ is a stationary process. $(B_{t-1} - B_t)$ is the indicator of the current account balance; hence, this condition is stricter than the previous one because the indicator includes not only the balance of trade in goods and services but also current transfers and income.

In the process of checking whether this condition is met, the assessment of the CAD indicator is performed by applying the augmented Dickey–Fuller (ADF) test for the assessment of a unit root hypothesis. After the ADF test had been performed for all three countries, we determined that CAD processes have a unit root; thus, they are not stationary, and the strong condition is not valid for these countries.

Conclusions

Model analysis showed that the main current account deficit sustainability assessment models are based on the intertemporal solvency theory, and the CAD analysis is performed based on those model expressions.

JEL classification F21

1. The current account sustainability assessment models are based on budget sustainability assessment models, when all flows into and from the country are treated similarly to budget revenue and income, while the CAD is also assessed similarly to budget deficit but, instead of general government transactions, all sectors' transactions with the rest of the world are included.

2. The main indicators for the assessment of the weak sustainability condition are imports and exports because they are important constituent variables conditioning the formation of the CAD.

3. The weak current account sustainability condition is valid in Lithuania and Estonia. In these countries, the indicators of imports and exports are cointegrated, are characterised by a common trend, and do not move away from each other a lot. It conditions the stability of the current account dynamics.

4. The strong current account sustainability condition does not satisfy the requirements due to considerable deviations from the period average for 2006–2008, when countries were having large CADs, and large surpluses in 2009–2010.

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BUSINESS ENVIROMENT VS. INCENTIVES IN ATTRACTING FDI

Існуючий розрив в економічному розвитку в країнах Центральної та Східної Європи може бути зменшений за допомогою більш значних іноземних інвестицій. Для того, щоб залучити прямі іноземні інвестиції, уряди країн Центральної та Східної Європи намагаються покращити інвестиційний клімат та застосувати різноманітні стимули. Мета статті – порівняти ефективність таких дій та їх вплив на обсяги прямих іноземних інвестицій у регіоні.

Ключові слова: прямі іноземні інвестиції, ділове оточення, стимули.

Существующий разрыв в экономическом развитии в странах Центральной и Восточной Европы может быть уменьшен с помощью более крупных иностранных инвестиций. Чтобы привлечь прямые иностранные инвестиции, правительства стран Центральной и Восточной Европы стремятся улучшить инвестиционный климат и применить разнообразные стимулы. Цель статьи – сравнить эффективность таких действий и их воздействия на объемы прямых иностранных инвестиций в регионе.

Ключевые слова: прямые иностранные инвестиции, деловое окружение, стимулы.

The existing gap in economic development in CEE countries can be reduced with larger foreign investments. To attract FDI the CEE governments seek to improve investment climate and apply a variety of incentives. The aim of the paper is to compare the effectiveness of such actions and their impact on FDI volumes in the region.

Keywords: Foreign direct investment, business environment, incentives.

Most countries recognised the importance of foreign direct investments (FDI) for their economic growth and try to attract as many as possible by improving business environment and using diverse investment incentives. It is assumed that a business environment is a major factor making a country attractive for foreign investors. Riess [1] mentions regulatory and policy environment as the main driving factor for investors, Dicken [2] considers that country's attractiveness for foreign investors depends on government's policies – fiscal, monetary, trade, industrial – in creating attractive business environment. Some authors hold that FDI inflows are determined by production factor endowment. Dunning [2008] points to the availability of resources including natural resources, efficient and skilled low-cost labour force, while Sass [4] stresses market size and its growth prospects, privatisation, the role of private sector, the quality of infrastructure.

To make business environment more attractive governments have liberalized their policies, however, as most countries competing for FDI did the same it is not enough anymore just to relax investment regime. Low taxes or cheap labour are characteristic for a large number of developing and emerging economies and therefore it is necessary to bring forward for foreign investors additional stimuli hardly proposed by other nations. These stimuli include financial and other incentives provided solely to foreign investors.

Lithuania is not a leading country in attracting FDI despite that business environment is one of the most liberal among new EU member states. This gives a suggestion that for foreign investor business environment is less important than other factors including fiscal and financial incentives. Here is a contentious situation when in most international surveys Lithuania is treated as a country having

attractive investment climate but attracting much less FDI than countries with less liberal business environment. On the basis of comparison with other countries we tried to identify a relationship between FDI volumes and some factors having an impact on investor's decision.

Definition of FDI

FDI is an investment moving across the borders. The major characteristics of FDI are 10% ownership by foreign investor allowing the execution of control over an enterprise and a long run perspective. FDI is defined as "the objective of obtaining a lasting interest by a resident entity in one economy ("direct investor") in an entity resident in an economy other than that of the investor ("direct investment enterprise" [5].

FDI can be made as a greenfield investment aiming at direct financial input to establish a presence in new market. Mergers and acquisitions is another form of FDI when an operating company is taken up by another one from a foreign country. The latter is the major form as it helps to reach company objectives, namely, to attain economies of scale, increase market share and sales. Similar to acquisitions are brownfield investments which are something in between the acquisition of functioning companies and greenfield investments as acquired company is significantly reorganised. Brownfield investments are often related to privatization process.

FDI might be horizontal and vertical. Horizontal are those when multinational corporation enters foreign market with the production of the same or similar goods or services as at home. This form of investment to some extent might be regarded as a trade substitute. Horizontal FDI duplicates similar home activities and are performed in order to serve a local market better and to reduce the costs. Main reasons for such FDI are trade barriers, transportation costs, cheaper factors of production. In reality most FDI is horizontal and even horizontal FDI aimed at serving local markets have vertical FDI characteristics [6].

Vertical FDI is the location of different stages of production in diverse countries to cut costs for distinct phases of the production process [7]. Vertical FDI are related to the production of intermediate goods when a company split production process into separate phases and transfer part of them abroad. Vertical FDI have a lower technology level and a lower spillover effects than horizontal FDI, on other hand, countries will typically attract the type of FDI that is most beneficial given their level of development [8]. The main rationale for vertical FDI is related to additional profit received in result of differences in prices of production factors. Vertical FDI create additional international flows of goods and services. Horizontal FDI are more popular because vertical FDI are more risky as they are more focused on emerging markets and developing countries. On other hand, access to foreign markets for the company is more important than the reduction of production costs.

Business environment and investment incentives as determinants of FDI inflow

What distinguishes the improvement of business environment and foreign investment incentives? The latter are always targeted at foreign investors. Liberal countries usually establish a favourable environment for any business, local and foreign. Some other countries particularly with higher government control relax an investment climate only to foreign companies through developing specific privileges granted to foreign companies. Business environment encompasses economic conditions, regulatory and policy

framework, business facilitation mechanisms. Economic determinants include country's advantages in market size, access to markets, raw materials, infrastructure, technologies, labour skills, membership in regional blocks. Country's economic and political stability along with EU membership have an impact of FDI inflows. To be attractive country's regulatory and legal policy framework (entry and exit rules, taxation, labour market regulation, competition rules etc.) should be sound, flexible, transparent, and predictable. CEE countries lag behind the EU15 with respect to soundness of public institutions (corruption, bureaucracy, low image). Business facilitation covers instruments aimed at making business easy to perform (investment incentives, labour liberalisation, simpler bankruptcy procedures etc.). FDI are searching for countries with better intellectual property protection, lower taxes, low interests rates, simple tax administration system etc.

FDI incentives, hassle costs, social amenities and after investment services aim at promotion and facilitation of inward FDI [9]. In most countries investment promotion agencies are responsible for investment promotion and coordination. Their tasks include identification of potential investors, investor services, image building, investor generation, and other activities aimed at attracting investors [10]. Wells [11] found out that the net present value of proactive investment promotion can be approximately 4 USD for every 1 USD spent.

FDI incentives can be defined as "any measurable advantages accorded to specific enterprises or categories of enterprises by (or at the direction of) a government, in order to encourage them to behave in a certain manner" and include "measures...designed either to increase the rate of return of a particular FDI undertaking, or to reduce (or redistribute) its costs or risks"[12]. Measures of incentives may be focused on revenues, equity costs, taxes, infrastructure, labour, inputs, capital etc. and provided as financial or fiscal inducements, smooth regulations or delivery of goods or services. Often countries establish special economic zones (SEZ) to make a country more attractive for FDI. Incentives are most important in motor vehicle and transport equipment, professional equipment and electrical equipment industries [13].

There are two contentious opinions about the role of incentives in attracting FDI. Barros (14) argues that FDI incentives can have a significant impact on FDI while Villega [15] affirm that they are in principal ineffective and that market-related factors remain a key determinant for inward FDI. It is very difficult, however, to verify who is wrong and who is right.

The incentive systems in CEE countries vary considerably. Most of them applied incentives at the beginning of transition, then eliminated and once again reintroduced in late 1990s. The Czech Republic, Hungary, Poland and Slovakia started to offer generous tax holidays, SEZ, training grants, while the Baltic States relied on low rates of corporate income tax. Since 2001 incentive systems stabilized and tax rates started to fall. This led to the reduction of tax holidays and an emphasis on cash grants and stimulated some levelling up in the countries where incentives were lower [16].

Business environment and FDI

Figures below demonstrate the success of the countries from the CEE in attracting FDI. Some countries are more successful than others, but how much their success depends on the quality of business environment?

Table 1. FDI per capita in selected countries (in thousand USD)

Country	BY	BG	CR	CZ	EE	HU	LV	LT	PL	MD	RO	RU	SK	SL	UA
FDI	1.0	6.4	7.8	12.4	12.3	9.2	4.8	4.1	5.1	0.8	3.3	3.0	9.3	7.4	1.3

Source: [17]

According to Navaretti [7], due to diversity and complexity of FDI determinants it is very difficult to determine the quantity of FDI attracted by business environment or investment incentives.

Regulatory framework in different countries can be compared using OECD FDI Restrictiveness Index (closed=1, open=0) covering foreign equity restrictions, screening and prior approval requirements, rules for key personnel, and other restrictions on the operation of foreign enterprises [18]. The index indicates that the most restrictive countries for FDI are Latvia (0.85), Hungary (0.66) and Russia (0.384) while Romania (0.008), Slovakia (0.12) and Lithuania (0.05) are among the least restrictive countries. Contrary to the index Hungary is among most successful countries in attracting FDI while Lithuania is among least successful.

To find out a relationship between business environment and FDI also Indicator on the Ease of Doing Business calculated by the World Bank was used [19]. Again, a correlation between business environment and FDI per capita was not found. Latvia and Lithuania together with Estonia having the best business environment among CEE countries (rank correspondingly 21, 27 and 24) with exclusion of Estonia are less successful than countries with less attractive business conditions (rank of Czech Republic – 64, Hungary – 51, Slovakia – 48). This indicates that not business environment but other factors are more important in attracting FDI. Liberal business environment creates more turmoil and uncertainty that increase business risks and reduce attractiveness for FDI.

The third widely used indicator to measure business environment is the Index of Economic Freedom appraised by Heritage Foundation [20]. The index measures the rule of law, the role of government, regulatory efficiency and open market indicators. In index of 2012 only Lithuania and Estonia are in upper group of "mostly free" countries (rank from 6 to 28), while Ukraine and Belarus are in the group of "repressed" countries (rank from 151 to 179). However, Croatia with rank 83, Slovenia (69), Hungary (49), Slovakia (51) attracted much more FDI than Lithuania (22). It is obvious that an economic freedom is not the major factor determining the volumes of FDI, but on other hand, the absence of economic freedoms has an evidently negative impact on country's attractiveness for FDI.

The fourth indicator used to assess the impact of business environment on volumes of FDI was the Global Competitiveness Index calculated by the World Economic Forum [21]. Lithuania and Poland with high competitiveness indexes (respectively 4.41 and 4.46) received less FDI than Croatia or Slovenia with low indexes (respectively 4.08 and 4.30), however, Estonia, Czech Republic or Hungary have high competitiveness indexes (respectively 4.62, 4.52 and 4.36) and high FDI. Remarkably, the Global competitiveness index was the only one out of four where correlation between index and FDI is rather strong but this might also been explained by the methodology of calculating the index which encompasses not only business environment but also public sector, infrastructure etc.

Investment incentives and FDI

After identification of absence or low relationship between business environment and FDI an attempt was made to find out if FDI are dependent on investment incentives applied by individual countries. During such analysis three types of incentives were taken into consideration –

financial, fiscal and SEZ. The research is based on two surveys – one carried out by the World Association of Investment Promotion Agencies (WAIPA) and another one done at Vilnius University [16]. The findings based on WAIPA's data were compared with the results of the second survey where foreign investors were questioned about the attractiveness of different types of financial incentives.

Financial incentives recently became very popular tool to induce investors to make investments. Both surveys revealed that countries apply a large variety of financial incentives: subsidies related to job creation and training, wage subsidies, grants offered for the acquisition of tangible and intangible assets, administrative assistance for start-ups etc. According to WAIPA's data the largest array of such incentives is applied by Latvia, Poland, the Czech Republic, the smallest – by Slovakia and Slovenia. Both surveys showed that financial incentives related to labour force are the most attractive type of FDI incentives. Before the accession to the EU the Baltic States relied mainly on low corporate tax rates. Meantime financial incentives are widely used but with higher success only in Estonia. The findings of these surveys do not provide a possibility to claim that countries with larger array of financial incentives attract more FDI.

A large variety of fiscal instruments are applied to stimulate FDI although they can create such problems as budget deficit or market distortions. Researchers agree that such incentives, especially relief from corporate income tax are among the most popular FDI incentives in less developed countries including the CEE. Slovenia offers a deduction from the tax base, Hungary until 2011 offered tax exemptions for 80% of the corporate tax payable for 10 years, Lithuania applies triple deduction on investments in R&D, in the Czech Republic new companies are eligible for corporate tax relief for up to 5 years etc. Estonia is one of few countries where tax relief is not offered but it applies 0% tariff on reinvested profit. The survey of foreign investors revealed that reduced rates of corporate tax as well as flat tax rates are the most attractive incentive. Tax exemptions and tax holidays are quite often applied by the governments but are less preferred by investors. Important incentives for foreign investors are also withholding tax and taxation of employees. The countries with the largest application of fiscal incentives are Latvia, Bulgaria, Slovenia, and Poland. Knowing that these countries are not the most successful in attracting FDI it is possible to claim that fiscal incentives are not very efficient tool in attracting FDI.

SEZ imply the development of infrastructure and facilities to facilitate the inflow of FDI. Slovenia uses a traditional export processing zone, Bulgaria, Hungary, Latvia, Lithuania, Poland apply a hybrid model, SEZ in trade-related activities are prevalent in the Czech Republic, Estonia, Latvia, Romania and the Slovak Republic. In Poland investors are offered industrial and technology parks. A survey of foreign investors disclosed that the most preferable SEZ were enterprise zones and industrial or technological parks while export processing zones and free ports are less attractive. Industrial parks in the Czech Republic and Hungary played an especially important role in attracting huge volumes of FDI. In Hungary in industrial parks are located more than half of the largest MNEs. In the Czech Republic and Hungary FDI in SEZ facilitated the establishment of new progressive industries while in Lithuania majority of FDI were made in traditional medium or low technology industries.

This allows to claim that SEZ and especially industrial parks are one of the most efficient tool in attracting FDI. In Hungary neither high taxes nor less restrictive business environment did not deter investors from investing in industrial parks the first of which were established already in 1990. In industrial parks is created about one third of Hungarian GDP. In Czech Republic two major industrial parks established in 1994 and 1996 attracted most important investors. During the last decade together with other financial incentives they were instrumental in attracting huge quantities of FDI.

Conclusion

FDI are one of the major instruments of economic growth therefore governments make all attempts to attract them by improving business environment and using diverse investment incentives. But do all these measures achieve their results or are just wasting of resources? Most economists argue that business environment is a major factor making a country attractive for foreign investors, others consider that the availability of resources and market size matter more while third group suppose that only investment incentives can help a country to acquire more FDI. But very likely that right are those claiming that due to diversity and complexity of FDI determinants it is very difficult if not impossible to determine the quantity of FDI attracted by business environment or investment incentives.

A comparison of four business environment indicators did not reveal a relationship between business environment and FDI quantities in CEE countries. Neither two out of three investment incentives (financial and fiscal) demonstrated a strong relationship with FDI volumes. Only a relationship between SEZ and FDI is strong enough to claim that SEZ and especially industrial parks are one of the most efficient tools in attracting FDI.

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THE EFFECTS OF A NEW FINANCIAL SUPERVISORY SYSTEM ON CONSOLIDATION IN BANKING SECTOR

Нещодавня фінансова метушня спонукала до розгляду структури фінансового регулюючого механізму. Реформа існуючої фінансової системи могла б привести до процесів інтеграції та консолідації у банківській справі, оскільки банки відіграють дуже важливу роль в економіці. Ця стаття досліджує зміни фінансової системи Євросоюзу, регулюючих правил, та збільшує потенціал перспективи фінансового сектору. В цій роботі робиться спроба оцінити фінансові структурні зміни Євросоюзу, та, щоб ідентифікувати детермінанти цих змін, досліджується роль фінансових закладів у фінансовій системі, вплив економічного розвитку, особливо для розгляду консолідуючих процесів, що відбуваються у банківському секторі.

Ключові слова: банківська справа, консолідація, регулювання фінансової системи.

Недавняя финансовая суматоха побудила к рассмотрению структуры финансового регулирующего механизма. Реформа существующей финансовой системы могла бы привести к процессам интеграции и консолидации в банковском деле, поскольку банки играют очень важную роль в экономике. Эта статья исследует изменения финансовой системы Евросоюза, регулирующих правил, и увеличивает потенциал перспективы финансового сектора. В этой работе делается попытка оценить финансовые структурные изменения Евросоюза, и, чтобы идентифицировать детерминанты этих изменений, исследуется роль финансовых учреждений в финансовой системе, влияние экономического развития, особенно для рассмотрения консолидирующих процессов, происходящих в банковском секторе.

Ключевые слова: банковское дело, консолидация, регулирование финансовой системы.

The recent financial turmoil has prompted to review the current financial regulatory framework mechanism. The present financial system reform could be a cause of the integration and consolidation processes in banking, because banks play a very important role in the economy. This article examines the changes of European Union's financial system, regulatory rules, and extending the potential of the financial sector perspective. This paper attempts to evaluate the European Union financial structural changes, and to identify the determinants of these changes, examine the role of financial institutions in the financial system, the influence of economic development, especially to consider the consolidation processes going on in the banking sector.

Keywords: Banking, consolidation, financial system regulation.

The last few decades' changes in the global environment (market globalization, liberalization in finance and investment, as well as technological changes) have created a situation that facilitates consolidation process in the

financial system. Establishment the European Union was intended to create an integrated union. As market is more integrated, the easier is spreading "infection effect" (or systemic risk). This effect is particularly dangerous in a highly

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integrated markets, in particular it was seen in the latter's financial crisis then a lack of confidence in the market quickly spread to other markets and caused a lot of negative consequences: the collapse of banks, liquidity problems in the financial markets, public debt growth, and etc.

The recent financial turmoil has prompted researchers, politicians, and other public representatives from different countries to review the current financial regulatory framework mechanism and their impact on financial sector prospects. In the present decision to regulate the financial sector, it is clear that this will affect the future of the sector's development prospects.

There are a number of issues [10, 22, 26] that analyzed M&As in the banking sector. Some researches [5, 15, 20] are designed for analysis of M&As in the Europe context. There are several studies [2, 13, 25] that examined consolidation and integration process in EU and resolution for European banking system. Also some researches [4, 11, 12, 16, 17, 18, 19, 23] analysed financial supervisory system, the challenges to reform this systems and impact on consolidation in banking sector.

The purpose of the paper is to analyse the process of financial system regulation in Europe and its impact on possible European Union's financial system changes. In particular, author focus on how the international financial crisis has affected supervision financial system.

The author of this article conceptually overview the recent financial downturn decisions regulating financial institutions, as well as evaluate potential prospects in the European financial sector, especially in banking sector.

The following *research methods* are used: a scientific literature analysis and synthesis, statistic data analysis, analytical and statistical information organization, comparison and aggregation methods.

The Challenges of the EU Financial Supervisory System. The recent financial crisis has resulted in an excess of governmental and regulatory actions. In response to the financial crisis, the European Commission started consulting on and implementing changes to the Capital Requirements Directive (comprising two directives: Directive 2006/48/EC and Directive 2006/49/EC) [21]. The main changes should be done in key areas: liquidity standards, definition of capital, leverage ratio, counterparty credit risk, counter-cyclical measures including through-the-cycle provisioning for expected credit losses, systemically important financial institutions and single rule book in banking, etc. The new EU rules on capital requirements for credit institutions aim to establish a comprehensive and risk-sensitive framework and foster enhanced risk management amongst financial institutions. According to the EU, this would maximize the effectiveness of the capital rules in ensuring

continuing financial stability, maintaining confidence in financial institutions.

According to de Larosi re Group, in December 2010 European Systemic Risk Board was established, which is responsible for the macro-prudential oversight of the financial system within the EU. In January 2011 the European Banking Authority (EBA) was established. The EBA main responsibilities are preventing regulatory arbitrage, guaranteeing a level playing field, strengthening international supervisory coordination, promoting supervisory convergence, and providing advice to EU institutions in banking. Today's the European supervisory architecture is presenting in Fig. 1.

Some researches [12, 18, 19] analysed new supervisory architecture proposes to evaluate how regulating institution share relevant information about banks activity and risk to have a whole view of all banks-group risk. Also there should be an arrangement how to co-ordinate decisions by the authorities. New model makes it possible EU countries to share the information about the status of the banks operating in their country, because new model ensure coordination in micro and macro prudential level between the EU countries. But European Financial supervisors system could potentially conflict with national supervisory authorities. And the most important challenge is to assume responsibility for an institution which is facing financial problems. For systemic problems, the government would have to intervene. There is a problem if countries governments – country of origin or country of residence – should contribute to the bank rescue and/or taxpayer in one country is willing to support the depositors in another country. This is the too-big-to-supervise problem. And the complex supervisory structure with a number new institution may not produce the intention more efficient and stable European financial system.

M. Stichele [23] agreed that new financial supervisory system should be more integrated and consolidated. Key decisions must be taken at the highest level of EU bodies, because the fragmentation of financial regulation and supervision contrasts with the expansion of the EU-wide financial markets and financial services providers, and existing structures did not function to prevent the crash. Some researches [4, 11] combine different view in regulation system. As the EU's consists of different countries with different financial system the local financial institution should be ruled and supervised by that country law, and in countries where banks and other institutions have branches or subsidiaries in other EU countries should be supervised by EU-level rules. It argues that a supranational supervisory system is now needed for some intermediaries, but that proximity to market actors at national level remains important.



Fig. 1. The new European supervisory architecture

Source: authors' own based on [24]

D. Masciandaro *et al.* [17] analyses showed that the degree of convergence among the EU countries is low. This may be one of the major problems in the financial system oversight at EU level. Other study [16] showed that consolidation in supervision and good supervisory governance are negatively correlated with resilience; the degree of involvement of the central bank in supervision did not have any significant impact on resilience, and the impact on resilience of the supervisory regimes is deeply intertwined with the quality of public sector regulation in general, and with the degree of financial liberalization in particular. Each supervisory feature can have a different impact depending on the overall setting.

Other the most important areas of banking supervision of the challenges ahead are the new Basel capital agreement on the rules for calculating capital adequacy. Basel III main goal is to enhance bank and banking sector resilience to unexpected shocks and thereby promote financial stability. Basel III provides a global baseline for capital, leverage, and liquidity requirements. New rules changes rules for calculating capital requirements. According Basel III agreement [3] started from 1 January 2019, minimum common equity capital ratio should be 4.5%, capital conservation buffer must seek 2.5%, minimum tier 1 capital – 6%, minimum total capital – 8%, and minimum total capital plus conservation buffer should be 10.5%. New regulation requires banks to lift their reserves substantially and proportion of capital that banks need to hold in reserve increase. This situation will lead banks to re-assess and adjust their business lines towards diversified, safer, and more rational models and risk practices. New banking regulation rules may be a driver of M&A activity. Larger banks have more opportunities to diversify their assets and hold relatively less capital in reserves. Consolidation may also be considerable convergence of financial institutions to a new universal model of retail banking, operating in different activities and countries.

The Boston Consulting Group [8] made some calculation having regard to the future capital requirements of the agreement. Calculations shows that banks faced the equivalent of a 354bn euros shortfall in the capital required to comply with the minimum Basel III core tier 1 ratio. To put the shortfall in perspective banks would need to reduce their risk-weighted assets by 5 trillion euros (about 17 %) to close the gap. The shortfall is the largest in Europe, at 221bn euros. The European banks have raised 73bn euros in capital since the start of the financial crisis, but they should take further steps to improve capital ratios by reducing their risk-weighted assets and retaining profits. Similar image is presented by the European Banking Authority. The latest stress-testing determined that the aggregated shortfall amounts to 114.7bn euros [1]. The banks with the biggest capital shortfalls are those from Spain, Greece and Italy.

Mergers and Acquisition in European Banking Sector. Banks as the financial intermediaries and credit institutions importance of the economy is undeniable. Banks' market power can be seen analysed the EU countries banking assets and loan portfolio size. All EU-27 countries banking systems assets consist of 43 trillion euro in 2010. 10 EU countries have banking system with more than 1 trillion euros. Two non-euro zone countries, United King-

dom and Sweden banking systems has 11,5 trillion euros and it is about 27 per cent of total EU-27 banking assets. 21 EU countries banks' loan portfolio consists of more than 60 per cent banks' assets. Only Austria, Germany, Italy, Luxemburg, Poland, Spain and United Kingdom banking loans portfolio consist less than 50 per cent of total banking assets. This indicator should be noted, probably the rest of the banking assets consists of the investment (and can be risky, especially what is observed in Spain and Italy). United Kingdom and Luxembourg can be distinguished because they have more common market-based financial structure than other EU countries.

Another important factor of banking systems is the market competition. Former banking crises were associated with a declining number of banks at least if there were no legal barriers to mergers and acquisitions. According to K. Vogler-Ludwig, H. Giernalczyk [13] mergers are driven by three forces: the reduction of risks with the help of diversified financial structures, the economies of scale in the operation of financial services, and the increase of market power. These forces have resulted in rising market shares of the five biggest banks in Europe: in 14 of the 27 EU Member States these five banks have a market share of over 60 % (see Table 1). In Estonia, Finland, Lithuania and Netherlands the five biggest banks have more than 80 per cent in total banking assets. Analysed other market concentration ratio – HHI (HHI>0,180 – high concentration), observed the same trends but the banking market in all EU are in moderate concentration level or competitive (HHI is about 0,11). Additionally, concentration may not necessarily be an adequate measure of competition.

Analysed EU market integration is very important to look at mergers and acquisition process in banking sector. During 2000-H1 2010 M&A were more than 1100 transaction. However, the maximum number of transactions dropped in 2008, but. M&A activity started to pick up in 2009, with the clearest increase taking place in the sub-category of domestic deals. [7]. One of the measures of integration process in banking market is a cross-border activity of banks, for example, the establishment and activity of foreign branches and subsidiaries. Another way to analyse banking cross-border activity is a cross-border merger and acquisition (M&A) activity. Figure 2 present the cross-border M&A transaction in Eurozone banking sector. Analysed 2007-2011 period, in 2008 was the biggest value of cross-border deals, but largely number of deals was in 2009. Most of deals were accelerated or induced by the financial crisis. The financial crisis has not stopped mergers and acquisitions in the financial industries, but it has only changed the criteria. Consolidation is occurring as economically strong banks take the opportunity to acquire those that were seriously impaired in the crisis. Governments forced banks in which they held a stake to restructure and separate from risky parts, but limited duration of government recapitalisation measures are could be another reason which may offer M&A opportunities in banking sector. According *mergermarket* data base [14] in 2012 was announced 25 M&A deals in banking sector, which consist 16 domestic acquisitions, 8 cross-border acquisitions deals, and 1 domestic merger deal. It is important to note that 9 deals started in 2012 were completed.

Table 1. Herfindahl-Hirschman index for credit institutions and share of total assets of the five largest credit institutions (index ranging from 0 to 10,000 and share of the five largest credit institutions in per cent)

	HHI for credit institutions					Shares of the 5 largest CIs in total assets				
	2010	2009	2008	2007	2006	2010	2009	2008	2007	2006
Austria	0,038	0,041	0,045	0,053	0,053	35,87	37,24	39,01	42,83	43,78
Belgium	0,144	0,162	0,188	0,208	0,204	74,86	77,12	80,84	83,42	84,39
Bulgaria	0,079	0,085	0,083	0,083	0,071	55,17	58,29	57,31	56,69	50,34
Cyprus	0,117	0,109	0,102	0,109	0,106	65,78	64,88	63,81	64,90	63,93
Czech Republic	0,104	0,103	0,101	0,110	0,110	62,42	62,40	62,05	65,71	64,06
Denmark	0,108	0,104	0,123	0,112	0,107	64,42	63,99	65,96	64,23	64,69
Estonia	0,293	0,309	0,312	0,341	0,359	92,26	93,43	94,75	95,75	97,11
Finland	0,355	0,312	0,316	0,254	0,256	83,83	82,58	82,82	81,17	82,29
France	0,061	0,061	0,068	0,068	0,073	47,40	47,21	51,16	51,84	52,33
Germany	0,030	0,021	0,019	0,018	0,018	32,60	25,01	22,74	22,00	21,99
Greece	0,121	0,118	0,117	0,110	0,110	70,56	69,19	69,50	67,70	66,30
Hungary	0,081	0,086	0,082	0,084	0,082	54,67	55,18	54,45	54,08	53,53
Ireland	0,090	0,090	0,080	0,070	0,060	56,84	58,76	55,34	50,39	48,96
Italy	0,040	0,030	0,031	0,033	0,022	39,25	30,96	31,18	33,05	26,24
Latvia	0,100	0,118	0,120	0,116	0,127	60,43	69,35	70,24	67,24	69,17
Lithuania	0,155	0,169	0,171	0,183	0,191	78,83	80,48	81,25	80,91	82,49
Luxembourg	0,034	0,031	0,031	0,032	0,033	30,90	29,31	29,71	30,58	31,54
Malta	0,118	0,125	0,124	0,118	0,117	71,21	72,79	72,83	70,22	70,93
Netherlands	0,205	0,203	0,217	0,193	0,182	84,39	85,03	86,75	86,33	85,07
Poland	0,056	0,057	0,056	0,064	0,060	43,37	43,93	44,22	46,60	46,11
Portugal	0,120	0,115	0,111	0,110	0,113	70,81	70,13	69,10	67,81	67,93
Romania	0,087	0,086	0,092	0,104	0,117	52,70	52,40	54,00	56,30	60,10
Slovakia	0,124	0,127	0,120	0,108	0,113	72,03	72,09	71,55	68,15	66,85
Slovenia	0,116	0,126	0,127	0,128	0,130	59,27	59,65	59,14	59,48	61,99
Spain	0,053	0,051	0,050	0,046	0,044	44,30	43,30	42,40	41,00	40,40
Sweden	0,086	0,090	0,095	0,093	0,086	57,78	60,66	61,87	61,01	57,79
United Kingdom	0,052	0,047	0,041	0,045	0,039	42,51	40,78	36,49	40,71	35,95
EU-27 unweighted average	0,110	0,110	0,112	0,111	0,111	59,42	59,49	59,65	59,63	59,12

Source: authors' own based on [6, 7]

Future trends in M&A are far from being clear. Efficiency enhancements such as the concentration of functions at the group level, the transfer of technology and managerial skills, diversification and advances in the harmonization, and integration of retail payment legislation and infrastructures could

be the fundamental drivers of banking integration or consolidation in the future, but the debate about the banks' size in order to avoid additional "too big to fail" cases has become a central issue of policy makers because they are willing to separate big banking groups.

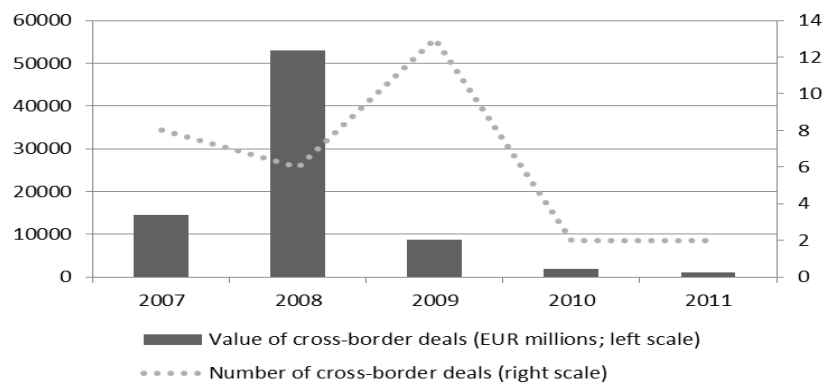


Fig. 2. Cross-border bank M&A activity in euro area

Source: authors' own based on [9]

New banking regulation rules may be a driver of M&A activity. Authors [2, 13] assume that internal ratings-based capital adequacy calculation could release capital. Smaller banks that cannot adopt IRB model will probably face an increase in capital requirements and a decrease in the quality of their balance sheet, thereby becoming easy targets for high performers' institutions. As larger institutions will benefit from adopting credit risk models to efficiently assess their portfolios and release capital, the motivation to reach a larger size will be a comparative advantage in the

future, thus in all likelihood accelerating the consolidation wave. Also larger banks have more opportunities to diversify their assets and to hold relatively less capital in reserves. Consolidation may also be considerable convergence of financial institutions to a new universal model of retail banking, operating in different activities and countries.

Banks as being the most important part of the financial intermediaries and seeking to increase their market value may behave irresponsibly (especially leveraged banks), and thus give rise the systemic risk. And financial integration may

entail certain risks if financial markets are not supported by a sound regulatory and supervisory framework.

It is important to establish a supervisory and regulatory system that ensures a sustainable and secure banking sector, which is a key financial system participants effectively distribute the financial resources. Therefore, it is important to effectively manage the bank consolidation process and defined the management of financial conglomerates and thus limits the possibilities of express of the systemic risk.

Conclusion. The recent financial turmoil has prompted to review the current financial regulatory framework mechanism.

In drawing up the financial system monitoring mechanism is essential to assess each country's financial system and its components, because it provides sustainable economic development. Currently trying to manage the financial crisis and to ensure financial institutions and markets sustainability are proposed a different monitoring mechanism. However, the existing differences between countries and desire them the same regulatory rules can lead to further financial losses.

Therefore it is important to assess each country opportunity to make decisions itself and their long-term perspective. Institutions, whose activities cross national borders, should be accountable not only to their country of origin of the institution, but also the supranational level of supervisory authority.

Financial system supervisory and regulatory framework ensures financial sustainability of the system but still may create conditions of consolidation processes in the banking sector. Although such processes enables to create an integrated financial market, but on the other hand could arise the systemic risk, which is one of the most dangerous across the whole financial system.

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STABILIZATION POLICY IN GLOBAL ECONOMIC CONDITIONS

У статті аналізуються концепції стабілізаційної політики та їх застосування в глобальних економічних умовах. У статті робиться висновок, що більша близькість понять стабілізаційної політики різних економічних наукових областей визначається взаємозв'язком всесвітньої господарської діяльності – глобалізацією. На національному рівні це сприяє самоадаптації й на міжнародному рівні – координації дій між представниками економічної політики.

Ключові слова: економічна діяльність; глобалізація; стабілізаційна політика, конвергенція, дивергенція.

В статье анализируются концепции стабилизационной политики и их приложения в глобальных экономических условиях. В статье делается вывод, что большая близость понятий стабилизационной политики различных экономических областей определяется взаимосвязанностью всемирной хозяйственной деятельности – глобализацией. На национальном уровне это благоприятствует самоадаптации и на международном уровне – координации действий между представителями экономической политики.

Ключевые слова: экономическая деятельность; глобализация; стабилизационная политика, конвергенция, дивергенция.

Article analyzes the concepts of stabilization policies and their application in global economic conditions. The article concludes that greater proximity of stabilization policy notions of various economic science areas is determined by the interconnectivity of world's economic activities – globalization. On national level it fosters self-adaptation and on international level – action coordination between economic policy representatives.

Keywords: economic activity; globalization; stabilization policy, convergence, divergence.

Stabilization policy is often associated with Keynesian aggregate demand-side economics, or global regulation policy carried out in 70's or 80's. In order to emphasize the fact that stabilization policy of economic fluctuations is not exclusively economic policy oriented towards demand the term "stability policy" is used instead of "stabilization policy". The latter is associated with wider implication: the aim of stability policy is not only to restore economic equilib-

rium, but also to protect from undesirable events, ensure the sustainability of economic development.

Despite the varying concepts, scientists agree that rationale of stabilization, stability and economic policy is the same – state's influence on economic activity of economic subjects. The opinions differ only in respect to nature of economic policy [discretionary or fixed policy rules], measures [supply or demand side policy], degree of state's interference

into economy [global regulation or structural policy], and orientation to future [counter-cyclical or consistent long-term policy]. Differences of scientific positions emerge when discussing levers of stabilization policy in reduced economic activity conditions. For instance, discussions regarding the expedience of applying John M. Keynes economic policy provisions in the face of economic instability, in 2007–2008. The supporters of consistent economic policy advocated neutral economic policy, long-term cost cutting policies and creation of conditions for automatic stabilizers.

Theoretical background. Emergent discussion on globalization encouraged the author to analyze the effectiveness of national economic policy [1, 2], expediency of its measures [3, 4] and soundness [5, 6, 7]. Lithuania's economic policy changes in globalization and integration conditions are analyzed by O. Rakauskiene [8], J. Cicinskas [9], P. Gyls [10] and other Lithuanian economists. Various stabilization policy aspects and caused problems are investigated by S. Kropas [11], R. Kuodys [12], S. Karpavicius [13], T. Ramanauskas [14], R. Valkauskas [15], S. Kucinskas [16] and other scientists.

The aim of the article is to discuss the influence of globalization to stabilization policy.

Research object is the stability policy

Research methodology. Methodological analysis of scientific literature.

Article structure. The article is composed of two sections. First section overviews stabilization policy concepts based on theories analyzing economic activity. Second section contains analysis of globalization's impact on economic policy.

1. Economic activity concepts and stabilization policy

Questions related to general equilibrium and economic activity was devoted greater attention at the end of nineteenth century. The result of these theoretical researches was formulation of the second condition in J. M. Keynes general equilibrium, also called savings and investment equality. Starting 1936, after J. M. Keynes published his work *"The General Theory of Employment, Interest and Money"* [17], general equality has been analyzed in two ways: as production and demand equality and as savings and investment equality. The later condition of economic equilibrium is based on the analysis of goods and services, money and financial markets. This is how a new approach, towards interconnectivity between macroeconomic factors, was formed, it disclaimed the main postulate of classical economics that economic equilibrium is self-regulating, supply always meets demand, and natural equilibrium is typical for labor market.

J. M. Keynes publications raised discussion among economists and further developed general equilibrium theory. Neo-classical synthesis theory was developed whose followers (P. Samuelson, J. Hicks, J. Tobin, A. Hansen, L. R. Klein, D. Patinkin) are perceived as most significant advocates of Keynes theory. Economic fluctuations in neo-classical synthesis theory were linked to demand shocks, which can be generated by increasing tendency to safe or declining investments, as well as export changes in small open economy. Market, according to the advocates of this theory, is stable at least in the long-term and economic fluctuations caused by demand shocks, can be overcome with changing prices and salaries. Nevertheless, this process is rather slow. Therefore, longer-term economic imbalances are possible. These fluctuations are also consolidated by multiplication and acceleration processes. Therefore, it is necessary to use the measures of stabilization policy.

Advocates of neo-classical synthesis theory, who believe Keynesian stabilization policies are needed, were extensively criticized in the 70's and 80's. Edmund S. Phelps and Milton Friedman were perceived as representatives of contra Keynes revolution, who raised a hypothesis of adaptive expectations and sought to prove that neo-classical synthesis theory is unable to thoroughly explain the mechanism of economic fluctuations (especially inflation) and the necessity of stabilization policy. In their opinion, stability is intrinsic to private sector, economy always reaches equilibrium and natural unemployment level exists. Unemployment can be reduced below its natural level only when raising inflation. There is no long-term interdependency between inflation and unemployment level, since economic subjects base their decisions not on money illusion, which is typical to Keynes model, but rather on real dimensions. The greater the inflation, the faster prices and salaries rise.

Theoretical considerations of E. S. Phelps and M. Friedman did not have a significant influence on Keynesian theory. Nevertheless, rational expectations' hypothesis created a crisis in neo-classical synthesis theory. The critic of Lucas was publicly admitted and rational expectation assumption became used in macroeconomic models.

Monetarists (M. Friedman, K. Brunner, A. H. Meltzer), based on rational expectation assumptions, proclaimed that interdependence between inflation and unemployment level wane when it is attempted to take advantage of the latter. Attempts to decrease unemployment affect expectations, which are rational. Therefore, economic subjects adapt to the market by increasing salaries and prices. By making decisions they do not make mistakes, since expectations are formed using all attainable information to form the vision of the future. The question of what creates great production and employment disruptions by monetarists is answered—state's intervention. By pursuing active fiscal policy government might restrain private initiative, expansionary monetary policy raises inflation and restrictive monetary policy affects employment. These factors create the insecurity in private sector and economic activity is disrupted.

The idea, that economic fluctuations are created by state's regulation is the basis for supply-side economics and neo-liberal economic policy. The attention is shifted from inducing demand to labor relations, incentives for all types of investments, taxes, social expenses and etc. Disruption in production, according to advocates of supply-side economic theory is also triggered by state's intervention. According to the representatives of this theory, optimal stabilization policy should not be discrete or active. These criteria are met by fixed policy rules, which allowed the stabilization of economic subjects' expectations and for the government to resist pressures from different institutions to change economic policy. Economic policy rules in 80's and 90's were extensively discussed. As an alternative to discretionary policy, new rules were formed, including nominal GDP, price level, interest rates and exchange rate determination.

Revolutionary influence of rational expectations theory encouraged the followers of J. M. Keynes – new Keynesians [E. S. Phelps, G. N. Mankiw, G. Akerlof, S. Fischer, J. Taylor] to prove that demand-side policy is effective even with the rational expectations assumption. Antai Stanley Fischer [18] and John B. Taylor [19] associate the expedience of demand-side policies with the lack of market's ability to overcome economic fluctuations using price mechanism, since nominal values are inflexible.

Application of inflexible values' [or imperfect competition] notions in real business cycle models, in other words, coupling of active Keynesian analysis with notions of new classical theories, encouraged the creation of a new neo-classical synthesis, or "new consensus" theory [20, 21, 22

]. It reveals incorporation of various scientific fields, typical for this period [23, 24, 25]. During this period, different models and theoretical principles are combined in explaining complex interconnections: Keynesian view is applied in composing models, which support classical tradition, or new-Keynesians use new-classical research methods.

Discussion regarding the need of stabilization policy became very intensive during the last decade of twentieth century. During this period, scientists searched for an answer to the questions: what role should be given to national economic policy measures in regulating economic activity? How to withstand internationally spread economic fluctuations, when economies of separate countries are evermore related? What challenges does globalization present to macroeconomic policy?

2. Hypothesis of stabilization politics in global economic conditions

Academic literature indicates, that globalization affects country's economic policy. Nevertheless, it does not present one unambiguous answer to what kind of influence.

Scientists present two kinds of explanations of economic policy effectiveness in global economic conditions. One of them [26, 27, 28] assumes that economic policies of various countries are interrelated, they assimilate, national powers decrease. This notion is based on *Heckscher-Ohlin* model, *Stolper-Samuelson* theorem, *interjurisdiction* or *intergovernmental* competitiveness theories. Based on the statements of mentioned theories the connection between the power of country's interest groups and production factors determining it – labor and capital mobility, was proven [29, 30]. On one hand, the greater it is, the greater the influence of these factors on national economic policy. Nevertheless, labor and capital mobility between countries strengthen the convergence between the pursued economic policy and institutions. Global capitalism system is created, where countries enjoy free trade and have similar economic institutions [29].

Divergence hypothesis is an opposite from economic policy convergence hypothesis. Scientists who represent it proclaim that economic policy does not become similar in global conditions [21], different institutional structure, legal regulation and traditions determine a different country's reaction to global challenges, this way creating conditions needed for further national economic policy [31]. It is also specified that strengthening globalization increases differences in national economic policy [21].

Scientists agree, that the economic policy content was rather similar end of twentieth century, when comparing to earlier decades. This is shown by liberalization and deregulation processes, structural economic reforms, creation of conditions for market self-regulation mechanism and etc. Assimilation of different countries' economic policies, in scientific literature [3, 4], are associated with increasing labor and capital mobility, more effective employment of financial resources, openness of economies, supply uncertainty.

Strengthening business relations, increasing work sharing and specialization, mobility of goods and services, decreasing information expenses enables economic subjects to quickly respond to changes, in other words, to relocate business or change its nature [32]. Capital mobility obliges governments to sustain low inflation and indebtedness, forego actions, which could disrupt market self-regulation processes and create such undesirable occurrences as emigration of labor force, outsourcing of production to other countries, etc. Due to such conditions the majority of economic policy measures [e.g. encouraging supply] lose effectiveness [4]. Expansionary policy increases inflation, disrupts self-regulation. Economic policy measures, which regulate

purchasing power of citizens, are not effective due to increasing economic openness: rising income, developing import decreases possibilities to implement the aims of national economic policy [e.g., use of own resources].

Nevertheless, more scientists note shortcomings of the market's self-regulation in globalizing conditions. There are discussions on the expedience of market deregulation [33], utility of structural reforms, since their effect divides society and destroys the middle class through redistribution of income [34], due to the effectiveness of self-stabilization measures during supply shocks [35], due to decreasing distribution possibilities of public goods in economic and social safety capitalism conditions [10, 36].

The increasing adaptation possibilities and quicker decision-making of economic subjects increase competitiveness. Country's reaction to competitive pressure raised by globalization is internationally coordinated economic policy and various forms of integration [monetary unions, coalitions, agreements and etc.].

Europe's response to globalization challenges is European monetary system [37]. Common currency creates possibilities for Euro zone countries to overcome international competitiveness pressures more effectively. Nevertheless, "introduction of Euro and transfer of common monetary policy is a prerogative to European community and creates a completely new dimension of economic policy" [38]. International agreements, integration limit the possibilities of country's economic policy. The greater the coordination of international economic policy, the less space there is for national economic policy, the weaker its powers become. This means that countries resolve stabilization problems on a global level.

Conclusions

1. Current globalization period can be characterized by assimilation of opinions regarding economic stabilization questions between scientists from different areas of studies. Different models and theoretical principles are used in order to explain complex global interconnections of macroeconomic indicators: Keynesian view is applied in composing models, which support classical tradition, or new-Keynesians use new-classical research methods.

2. Scientists who analyze globalization challenges raise two hypotheses: convergence and divergence of economic policy. Convergence hypothesis foresees assimilation of economic policies between different countries and decreasing powers to overcome economic fluctuations using country's own powers. Economic policy divergence hypothesis states that strengthening globalization increases the power of national economic policy. This is determined, on one hand, by insufficient convergence level of countries, on the other hand – the influence of national economic structure on stabilization process.

3. Influence of globalization effect on national economic policy is ambivalent: globalization decreases the power of national economic policy and at the same time encourages the creation of effective institutions, which aid in withstanding competitive pressures and searching for the individual resource management style.

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ACCOUNTING ERRORS, FRAUD AND FINANCIAL CRIME: THE CASE STUDY OF LITHUANIA

Головна причина браку довіри до фінансової інформації – фальсифікація фінансових декларацій. Дослідження демонструє, що помилки звітності та фальсифікації викривляють фінансові результати та не відображають істинні режими роботи, в той же час це приводить до неправильних рішень, неточних прогнозів та ділових перспектив. Ключовими ініціаторами маніпуляцій фінансовою інформацією є директори, акціонери та бухгалтери. Для того, щоб краще зрозуміти діапазон помилок та фальсифікацій дуже важливо встановити критерії. Головними критеріями класифікації помилок та фальсифікацій є причини, значення, зміст та наслідки. Стаття аналізує спотворення інформації, цілі, причини та наслідки фінансових декларацій, дає особливості маніпуляцій та ефекти, аналізує відповідальність за маніпуляції та виявляє види фінансових злочинів у Литві.

Ключові слова: помилки звітності, фальсифікація, фінансовий злочин, доказ.

Главная причина нехватки доверия к финансовой информации – фальсификация финансовых деклараций. Исследование демонстрирует, что ошибки отчетности и фальсификации искажают финансовые результаты и не отражают истинные режимы работы, в то же время это приводит к неправильным решениям, неточным прогнозам и деловым перспективам. Ключевыми инициаторами манипуляций финансовой информацией являются директора, акционеры и бухгалтеры. Для того, чтобы лучше понять диапазон ошибок и фальсификаций, очень важно установить критерии. Главными критериями классификации ошибок и фальсификаций являются причины, значение, содержание и последствия. Статья анализирует искажение информации, цели, причины и последствия финансовых деклараций, дает особенности манипуляций и эффекты, анализирует ответственность за манипуляции и выявляет виды финансовых преступлений в Литве.

Ключевые слова: ошибки отчетности, фальсификация, финансовое преступление, улика.

The main reason of the lack of confidence in financial information is falsification of financial statements. The study demonstrates that the accounting errors and frauds distort financial results and do not reflect the true operating conditions, at the same time it leads to wrong decisions, inaccurate forecasts and business prospects. Key initiators of the financial information manipulations are directors, shareholders and accountants. In order better understanding the range of errors and fraud is very important to distinguish criteria. The main criteria of the errors and frauds classification are: causes, significance, content and consequences. The article analyzes the distortion of information, goals, causes and consequences of the financial statements, provides manipulation features and effects, analyzes responsibility for manipulations and reveals the types of financial crime cases in Lithuania.

Keywords: Accounting errors, fraud, financial crime, evidence.

Deception, fraud and other financial crimes should be disclosed in order that all the financial information presented to inform all its customers to collect owed taxes to the budget. The Lithuanian legislation establishes the concepts of financial crime, refers to evaluating any responsibility for such acts. The main legislation governing the responsibility for financial crimes is the Criminal Code of Lithuania and Code of Administrative Offences of Lithuania.

The extent of financial crime in Lithuania is quite large; it is documented by the Financial Crime Investigation Service in reports on the extent of crimes detected, their impact on the society and the State, as well. For the year

2010 in the report stated that State budget only from the criminal acts during the year 2010 not collected by more than 47 million litas, temporarily restricted right to the property for more than 101 million litas. According to the author's work this problem is really relevant. It is therefore necessary to examine the Lithuanian legislation and judicial practices on financial crime [3].

Working methods are the scientific literature analysis, the analysis of Lithuanian legislation framework, the analysis of the trial practice, the logical comparative analysis, organising the information, drill-down and aggregation methods.

The concept of financial crime in accordance with the legislation of Lithuania

The main legislative framework of the Republic of Lithuania that defines the responsibilities and penalties relating to financial crime is the Criminal Code of the Republic of Lithuania (hereinafter CC RL). It is worth mentioning, that the Law of Republic of Lithuania on the prevention of money laundering and terrorist financing, whose purpose is to identify money laundering and (or) terrorist financing prevention measures and the bodies responsible for implementation of prevention measures against money laundering and (or) terrorist financing.

CC LR distinguishes two types of offences: crime and misdemeanour. Article 11 of CC LR provides that the offence committed is banned and dangerous and for which there is provided for imprisonment. This Act provides the classification of offences, indicating that they are divided into the negligent and intentional. These can be divided into minor, less serious, serious and very serious.

Lithuanian legal framework includes separate legislation that provides for the concept of individual criminal acts. It is necessary to understand the concepts of the criminal act provided in the Law of Republic of Lithuania on the prevention of money laundering and terrorist financing by examining financial crimes. This act is defined in one of the types of criminal offenses – money laundering. This law states that money laundering is amendment of the legal situation of assets or transfer of property, knowing that such property is derived from criminal activity or participation in such activities, for the purpose of concealing or disguising the illicit origin of the property or of assisting any person involved in a criminal offence to evade the legal consequences of this offence.

CC LR specifies that for the different levels of financial crime threatened with liability and penalties: custodial or public works or monetary penalties. The table below provides information about liability for financial crimes in CC LR.

Fraudulent accounting management

Still one of the types of financial crime is fraudulent accounting management. This is an intentional action, which seeks to get the benefit, despite the fact that carried out the crime. Article 222 of CC LR indicates that for fraudulent accounting management, destruction of or damage to documents or hiding, and therefore an inability to fully or partially determine the person's activities, its assets or liabilities, equity, or the size of the structure, is punishable by a fine or by imprisonment or arrest for up to four years.

Code of Administrative Offences of Lithuania also provides for liability for fraudulent accounting management. This Act is used to fraudulent accounting management associated with tax evasion, avoidance regarding evasion, evasion or their pay. In comparison with the CC LR of the fraudulent accounting concept it can be seen that this term is used in a broader sense and includes not only the tax area.

Criminal liability for fraudulent accounting management from administrative liability demarcate the fact that for the criminal liability it is necessary to have consequences, the inability to completely or partially determine a person's activities of its assets in equity or obligation size or structure defined in Articles 222 and 223 of CC RL. The article 1731 paragraph 1 of Code of Administrative Offences does not require of such consequences. It is sufficient to give rise to administrative liability for violation of the accounting rules only having the fact of that.

Author, after analyzing the Financial Crime Investigation Service reports about the fraudulent accounting management schemes, has determined that persons involved in criminal activity often use real companies which are not operating but providing invoices for goods or services not actually omitted. In the figure below, is shown in the following diagram of the criminal activity.

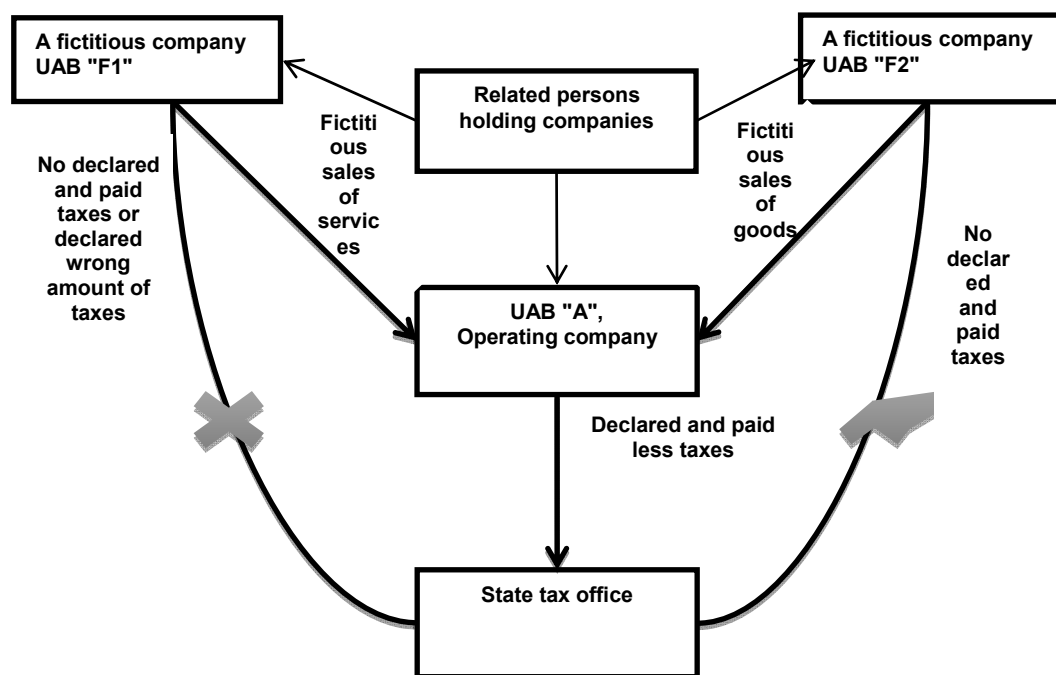


Fig.1. Fraudulent accounting management scheme

Source: Author's set up on the basis of the Financial Crime Investigation Service reports

The figure shows the three companies which belong to the same or related persons. The really operating company UAB "A" receives invoices from fictitious companies UAB "F1" and UAB "F2" for fictitious services or not received goods.

Negligent accounting management

Article 223 of CC RL provides for responsibility for the negligent accounting management. The law stipulates that whoever had to manage, but not managed or negligently handled bookkeeping required by legislation or during statutory defined period not kept safe documents and this activity resulted wholly or partly inability to determine the person's activities, its assets or liabilities, equity, or the obligation size or its structure, is punishable by a fine or public works, or arrest, or imprisonment for up to two years.

Similarly as in the case of fraudulent accounting management Code of Administrative Offences provides for liability for negligent account management. This law states that the negligent accounting management where the result is not paid taxes in level from thirty to fifty minimum living standards, which had to be paid by law for the verification period; there could be liability – a fine of three thousand to five thousand litas. Where due to such action is not paid for more than 50 minimum living standard the amount of taxes which had to be paid by law for the verification period, the person threatened with a fine from five thousand to ten thousand litas.

The concept of negligent accounting management in Code of Administrative Offences is used more narrowly than in CC RL because this Act caused by a criminal offence relating to tax evasion or illegal appropriation.

The judgment of the Supreme Court of Lithuania, adopted on 10 March 2009, stipulates that the negligent account management is inappropriate accounting treatment relating to the Accounting Act and other laws and legislation acts enforcement, for example, when all accounting documents are not registered and collected, documents and registers are not written and registered in accordance with the requirements of the mentioned laws.

Financial Crime Investigation Service carried out more than one pre-trial investigation for negligent accounting management. Below is an example to illustrate one of the described financial crime schemes.

Negligent account management covers a wide range of operations. For example, the write-off acts has not been prepared, the acts has not been prepared for fuel consumption rates, the inventory of assets, liabilities, has not been executed as required by the Law on Accounting.

Conclusions

Falsification of financial statements – the main distrust of the financial information by consumers of financial information.

The falsification of financial statements is extremely sensitive issue, whereas the information consumers have doubts about the authenticity of the data provided by the financial accounting and justice. Whereas the main objective of financial accounting is to provide a true and correct

information, it is especially important to users of financial information, that the information on this and would be.

The main financial information falsification initiators are company executives, shareholders and accountants.

The main criteria which make it possible to classify errors and negligence are causes of occurrence, importance and influence, the emergence of the way, content and consequences.

Financial literature highlights a key difference between errors and frauds. The literature indicates that the error is committed intentionally, random act of altering which does not change and distort financial information. Fraud is the intentional error about a deliberate, unlawful acts and the expression of malicious intention of employee.

It is important that life cycle of errors and fraud would be as short as possible to minimize the time after an error or fraud occurs before the preventive system for errors and fraud is created.

In addition, the literature has emphasized the fact that some of the errors and fraud in general is not detected and rectified and this may affect other errors and fraud occurring. So it is important that efforts are made to reduce the cycle to minimize the likelihood of errors and fraud.

The fact that the financial statements have been tampered could be shown by lot of circumstances and indications. For example, the fact that the company operates in economically unstable regions, that the company is lack of working capital, that the industry perceived major changes, that the company does not have qualified accounting professionals, that have changed most of the administrative staff.

Most disclosure of financial crime is related to value added tax embezzlement, whereas the persons carrying out the criminal activity create complex schemes; involve other companies not only in the country but also abroad.

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RETHINKING NATIONAL AND EUROPEAN FINANCIAL REGULATORY FRAMEWORKS AFTER THE CRISIS: THE CASE OF THE THREE NEW EU MEMBER STATES

Фінансова криза 2008 року змусила країни-члени ЄС переглянути існуючі національні та європейські фінансові регулятивні засади. Нові держави-члени також беруть участь в реконструюванні структур фінансового регулювання, хоча їх позиції не так сильні, як у старих країн-членів. Ця стаття спрямована на визначення того, як криза вплинула на докризові фінансові регулятивні структури в Чеській Республіці, Угорщині та Польщі, а також висвітлення їх позицій щодо новостворених європейських фінансово-регулятивних заходів.

Ключові слова: фінансові регулятивні засади, національні контролери, європейське фінансове регулювання.

Финансовый кризис 2008 года заставил страны-члены ЕС пересмотреть существующие национальные и европейские финансовые регуляторные основы. Новые государства-члены также участвуют в реконструкции финансово-регуляторной структуры, хотя их позиции не так сильны, как у старых стран-членов. Данная статья направлена на определение того, как кризис повлиял на докризовые финансово-регуляторные структуры в Чешской Республике, Венгрии и Польши, а также освещение их позиции в отношении вновь созданных европейских финансово-регуляторных мероприятий.

Ключевые слова: финансово-регуляторные основы, национальные контролеры, европейское финансовое регулирование.

The 2008 financial crisis made the EU member states to review the existing national and European financial regulatory frameworks. The new member states (NMS) are also involved into the overhaul of the financial regulatory structures, although their positions are not as vocal as those of the old member states. This paper aims at defining how the crisis affected the pre-crisis financial regulatory structures in the Czech Republic, Hungary and Poland as well as highlighting their positions regarding the newly established European financial regulatory arrangements.

Keywords: financial regulatory framework, host and home supervisors, European financial regulation.

In light of the current financial crisis the issue of the financial regulatory and supervisory structure at both international and national level has gained unprecedented attention. The EU authorities and governments of member states have been considering changes of financial regulatory and supervisory framework since the outburst of the crisis, debating on single pan-European supervisory agency, the role of national central banks in financial regulation and supervision and host/home banking supervision. As a result of the crisis, the UK that started a trend of integrating financial regulation into a single supervisory authority in 1997 revisited its framework and again empowered its central bank with regulatory and supervisory functions. In the Czech Republic authorities were re-confirmed in the efficiency of keeping the whole range of regulation and supervisory functions in the central bank. Besides changes at the national level, not all member-states support the idea of creating a single pan-European supervisory agency that implies transfer of some national supervisory power to the EU-level.

In this paper we aim to review how the global financial crisis affected the established national financial regulatory and supervisory frameworks in the three Central and East European countries – the Czech Republic, Hungary and Poland and identify their position regarding the single European financial regulator. To answer the questions the author studies scientific papers, reports of international organizations, articles of European newspapers and journals and official notes and speeches.

In Ukraine the issue of financial regulation and supervision is studied by many national researchers, including S.Naumenkova, V.Mistchenko, O.Petryk, R.Oleynyuk and others. The topic of institutional frameworks of financial regulation and supervision is widely-researched by the foreign researchers, such as D.Masciandaro, M.Quintyn, D.Llewellyn, K.Lannoo, K.Pistor, A.Spendzharova and many others.

National financial regulation and supervisory framework

Around 20 years ago national supervisory structures were much more uniform across the countries consisting of separate agencies for each financial subsector. The question of national financial supervisory structure was considered as meaningless, and scholars had not examined it till the milestone decision of the UK to unify its financial su-

pervisors into a single supervisory authority taken in 1997 that initiated the trend of supervisory reforms worldwide [22]. Till the early-mid 1990s the institutional structure of supervisory body was considered irrelevant and supervisory design of each country was perceived as either deterministic or accidental [22], [13]. According to Llewellyn the debates on regulatory and supervisory framework were induced by financial innovations and structural changes of financial markets, emergence of financial conglomerates and internationalization of financial operations. These made the work of regulators and supervisors more complex and broad and had the implications for the structure of financial oversight at the national and international level [21].

In practice the academic interest to institutional design of financial supervision was triggered by the wave of supervisory restructuring that had challenged the classical model of financial oversight with separate authorities for banking, securities and insurance supervision. The United Kingdom started this wave in 1997 by the decision to merge its financial supervisory agencies into a single body called the Financial Supervisory Authority (FSA) [22]. The reforms in supervisory structure gained momentum in Europe, as 77% of the EU countries had modified its supervisors thereby changing previously much more uniform supervisory landscape [22, 4].

The most frequently occurred argumentation in favour of a unified financial authority is that a single agency allows for better supervision of financial conglomerates with cross-sectoral and cross-border financial business because it enables more flexible and consistent oversight avoiding duplication and overlapping that is typical for multiple supervisors. Another frequently exploited advantage is an economy of scale due to shared infrastructure, premises and more specialized staff. The economy of scale argument constitutes one of the leading motivation for small countries to unify supervisors due to the so called "small-country rationale", as it can be very costly for a small country to maintain several supervisory bodies [31]. There is bulk of other arguments dealing with supervisory efficiency of a single supervisor and its better compatibility with the modern financial system. However, there is also an extensive list of disadvantages of the unified model, including the diseconomies of scale if supervisory functions are not clearly defined and/or an agency is too big; creation of

quite powerful and too bureaucratic agency with a threat of a slow response to the problems, the moral hazard problem and others [21], [6]. There are also debates on the central bank involvement in supervision with equally big list of pros and cons [23], [13]. Both advantages and disadvantages of the unified model and the central bank participation can be easily questioned, so that there is therefore no "best practice" in institutional supervisory structure. Scholars say that each country should build its supervisory framework regarding its specific factors [21], [6].

The EU financial regulation

In the wake of the global financial crisis no binding pan-European financial regulatory and supervisory agencies were present, so that financial oversight functions rested upon national regulatory and supervisory authorities. The European Central Bank (ECB) was not largely involved into financial regulation and supervision. The main focus of the European financial regulation was to harmonize the variety of the national regulatory rules and practices.

To speed up harmonization and convergence of supervisory practice among EU members, in 1999 the Financial Service Action Program (FSActP) set 43 Directives to completely integrate financial markets by 2005 [19], [1]. Under FSActP the so-called Committee of Wise Men devised a Lamfalussy process aimed at facilitating the adaptation of the EU regulation. The Lamfalussy process started up a more efficient EU regulatory structure, which works along 4 levels: primarily legislation (level 1), regulatory committees (level 2), supervisory committees (level 3) and strengthened enforcement (level 4). At level 1 the primarily legislation is adopted by the European Parliament and the European Council, and then it is reviewed for recommendations by the level 2 committees, such as the European Securities Committee (ESC), the European Banking Committee (EBC), and the European Insurance and Occupational Pensions Committee (EIOPC). The level 3 committees are responsible for implementation of the EU legislation at national level, and they are composed of the Committee of European Securities Regulators (CESR), the Committee of European Banking Supervisors (CEBS), and the Committee of European Insurance and Occupational Pensions Supervisors (CEIOPS). At level 4 the European Commission enforces the correct implementation of EU legislation at national level [20], [16].

The Lamfalussy process has worked well for supervisory convergence and European supervisory culture, since the national supervisors started to meet on a variety of issues at level 3 Committees, and this structure has facilitated the implementation of the FSActP Directives [18], [29]. However, the effective cross-border prudential supervision was not a prescribed task of the Lamfalussy process and level 3 committees, and they were also given no mandate to do this. The committees have intergovernmental nature and do not perform any supervisory functions, and thus the Lamfalussy process has not altered the nationally-based supervisory structure of the EU [10], [19]. Although ECB can contribute to the policies relating to prudential supervision and financial stability, its role must have been consistent with subsidiarity ...[and] neutrality with respect to models adopted at the national level" [18, 35-36].

Despite the positive implications of the Lamfalussy process it was not sufficient to harmonize the national supervisory rules, and the EU institutional framework appeared to lag behind the trend of pan-European banks expansion. The process established numerous committees of a strictly vertical structure taking apart in banking, insurance and securities supervision, and thus the whole EU supervisory structure has appeared as a very cumbersome composition of 51 national

supervisory authorities, at least 9 EU-level committees and so 80 bilateral arrangements [32], [4].

As a whole the EU supervisory arrangements in the wake of the crisis were still very fragmented, since they grounded on different mandates, enforcement powers, rules, accountability and modus operandi of national supervisors, while the memorandums of understanding (MoUs) that have been an instrument of cooperation between national agencies since late 1980s were non-binding and could not avoid numerous deficiencies in information exchange [18], [32]. The deficiencies of the structure were brought forward by the financial crisis that started in 2008, calling for the overhaul of the whole system.

Financial regulation and supervision structure in the Czech Republic, Hungary and Poland before the crisis

All three countries by the outset of the crisis developed the integrated financial regulation and supervision model, when financial oversight of all financial sectors is performed by a single authority. However, in Poland and Hungary supervisory agencies are autonomous and independent from the national central banks, while in the Czech Republic all regulatory and supervisory functions are integrated under the roof of the Czech National Bank.

By the Act on Supervision of Financial Markets of 2006 the Polish government established a consolidated supervisory body – the Polish Financial Supervision Authority (KNF), which was to unite financial markets, banking and insurance supervisors. The reason reported was growing significance of multifunctional banks with large spectrum of financial services [2]. However, the IMF warned Polish Authorities against the consolidation on the ground of the low level of financial conglomeration in the country and challenging supervisory tasks of adoption of Basel II and Solvency II standards. On the IMF's view the consolidation decision should have been meticulously prepared with cost-benefit analysis and measures to avoid political pressure [16].

However, the integration of supervision under KNF proceeded and the true reason of the decision was a political rationale rather than the reported development of large financial groups in Poland. The idea to take regulatory and supervisory functions from the National Bank of Poland was motivated by the desire to diminish the power of the central bank then headed by the Polish reformist Leszek Balcerowicz, who stood upon high independence of the central bank and withstood the pressure on the Bank from the government. After Balcerowicz's resignation in 2006, Mr. Skrzypek the close ally of the then-President Lech Kaczynski was agreed for the position of the NBP's Head and the lead political party called upon the return of the banking regulation and supervision functions to the Central Bank [12]. However, the process was not reverted and KNF started working in 2008.

In the Czech Republic the senior financial authorities met several times in 2004 to talk about integration of supervisory institutions. The initial agreement was to merge banking supervision and credit unions within the Czech National Bank (CNB) structure, while the insurance supervision, supervision of pension funds and the securities market integrate into the Czech Securities Commission (CSC). Full consolidation of supervision into a single agency of then undetermined kind was planned for about 2010 [3], [61]. However, much earlier on October, 5 2005 the Ministry of Finance and CNB declared that the single supervisor will be established under CNB already next year. On 1 April 2006 the CNB consolidated all the activities of the Czech Securities Commission (CSC), the Finance Ministry's Office of the State Supervision in Insurance and Pension Funds (ÚDPP) and the Office for Supervision of Credit Unions (ÚDDZ) [2].

The decision of the Czech authorities to integrate financial oversight within the Central Bank is seen as rational, given the absolutely dominant role of the banking sector in the financial system and marginal development of non-bank financial sectors. CNB accumulated experience in regulation and supervision, had skilled and well-equipped staff and technical base, so that integration of the financial supervision under its roof was a cost-efficient decision [7].

Hungary was an early integrator of its financial supervision. In 1997 the Hungarian government made the first step in integration of supervisory agencies by the establishment of an authority responsible for Banking and Capital Market Supervision, which had merged State Banking Supervision Agency and Security and Exchange Supervision. However, the merger of 1997 was in fact more formal than real, since the new institution contained two separate lines – one for banking and another for capital markets, what did not facilitate consolidated supervision [1]. Having drawn the lessons from this first attempt of supervisory integration the Government after the consultation with the NBH and the MoF made decision then agreed by the Parliament to establish a single supervisor of overall financial sector, namely the Hungarian Financial Supervisory Authority (PSZAF) from April 2000 [1]. The process of decision-making was rapid, focused and concentrated, and took 6-7 months, what is an evidence of the overall consensus for the integration by the financial authorities and political players in Hungary. The PSZAF was to respond to the range of problems in financial supervision, but foremost to facilitate the consolidated supervision of financial groups which dominate Hungarian financial sector. However, as pointed by the IMF, PSZAF lacked regulatory autonomy upon establishment [1], [16]. Throughout the gradual amendments to the legal background on the PSZAF, the supervisor is granted institutional independence, but PSZAF cannot impose binding regulation, despite the possibility to participate in making proposals and drafts of laws.

Hungary was the first country, who integrated its financial supervisors into a separate agency in 2000, and according to the analysis the Hungarian strategy for the quick reforming banking regulation and supervision in line with international standards explains the timing of the unification. As the National Bank of Hungary historically was not engaged a lot in banking and non-banking oversight, the establishment of a single regulator outside the central bank was much easier in this country than in its counterparts.

After the crisis: key changes to national and European financial regulatory frameworks

The global financial crisis that grew out of the collapse of the US sub-prime mortgage market in 2007 and then spread to Europe, causing acute liquidity shortage, revealed many drawbacks of national and international financial regulation regarding their ability to prevent, manage and resolve crises. National authorities in the old member states had to bail out the number of failed banks and the process, which in most cases involved large international financial groups, lacked international coordination and effective involvement of the EU institutions, including ECB.

Although not exposed to toxic assets like advanced countries, new member states underwent tightening of international liquidity and downward pressure on their currencies that negatively impacted financing of foreign-denominated claims and liabilities held to a large extent by banking sector. Through deterioration of international trade and credit tightening the real sector of the new member states was also affected causing further problems for banks. As the banking system in the new member states is strongly dominated by the international banks, the most acute problem was the burden sharing and division of func-

tions between home and host supervisors. Further on, when the problems of European banks mounted up due to sovereign debt crisis in some EU states, the risks to financial stability for new member states increased.

Quickly after the outset of the crisis the talks on the overhaul of both national and European financial regulatory framework started. Regarding the national supervision, the claims on stronger role of central banks contrary to the previous trend of establishing a separate supervisory agency were prevailing. The proponents of the expanded role of central banks say that it can generate a synergy between central bank's power as monetary authority and financial regulator; the central bank is better-equipped with tools and skilled employees and is in better position to gather and analyse macro data and effectively use the available tools to mitigate financial risks; and central bank can better withstand political pressure during crises [25]. Thus, many EU countries decided to reconsider its financial supervision structure and the role of central bank: Austria and Luxembourg extended the role of central banks in financial regulation and supervision; Belgian government decided to integrate prudential supervision into the central bank and similar decision was under consideration in Portugal; Germany intends to concentrate banking supervision at the Deutsche Bundesbank; Ireland re-integrated financial regulation under the central bank; Lithuanian government approved the merge of all financial supervisors under the central bank and the UK also abandoned its financial supervision agency and re-empowered the Bank of England [9].

At the EU-level after the crisis the calls for greater centralization of supervision became more vocal, as strictly national regulation and supervision of cross-border activities of large European financial groups appeared to have major deficiencies. At the EU-level three non-binding Lamfalussy committees were not capable and competent to deal with the crisis. Then existing EU framework did not ensure efficient information sharing between regulators and supervisors. Thus, CEBS – a committee in the area of banking – gathered banking regulators from different member states and was a place, where they could regularly meet, talk and develop guidelines. It seems that CEBS was well-placed to respond to the crisis in the new member states, but it remained passive [28, 29]. The passiveness is explained by the fact that CEBS's recommendations were non-binding and the committee (along with other Lamfalussy committees) did not possess instruments to arbitrate and mediate between home and host supervisors and resolve their conflicts over the activities of cross-border banks [29].

On its turn a centralized European regulatory framework could be more consistent with the large cross-border banking in the EU, could better coordinate a collective response to the crisis situations and would correspond to the logic of having monetary policy and financial supervision at the same level for the euro zone countries [5]. The problem of establishing such framework was a likely resistance of member states, not willing to transfer its regulatory and supervisory powers to the EU-level and abandon its national sovereignty. Moreover, the option to establish a centralized pan-European supervisory agency was also unfeasible due to no EU fiscal policy. That is why the proposed EU-level framework was to a large extent a compromise to achieve the national political consensus [24].

Following the De Larosiere report of 2009 that defined the main drawbacks of the EU financial regulatory framework and laid down recommendations how to overhaul the system, the European Commission proposed the creation of a European Systemic Risk Board (ESRB) in charge of overseeing risks for the entire financial system (macroprudential supervision) along with a European System of Fi-

financial Supervisors responsible for supervising financial institutions (microprudential supervision) [29]. After hard triangle negotiations between EU Commission, European Parliament and EU Council the new EU regulatory framework was approved by the European Parliament on September 22, 2010 and confirmed by the Ecofin Council on November 17, 2010. The new framework started work in January 1, 2011 [29].

In the approved framework ESRB is a body responsible for macroprudential supervision of the EU financial system, assessing threats to the EU financial stability and issuing warnings. The recommendations of the ESRB are not legally binding, but the parties are asked for thorough justifications in case they refuse to implement the recommendations – the so-called "comply or explain" principle. The majority of votes in ESRB are held by the representatives of the national central banks of all EU member states. The President of ECB is a chair of ESRB. The structure of ESRB and its positioning points to enhanced role of ECB in macroprudential regulation in the EU brought up by the new regulatory framework. ESRB takes decisions by simple majority, but recommendations and decisions to make warnings public are taken by two thirds [29], [26].

Much more debates ran over the establishing microprudential regulation in the EU –European System of Financial Supervisors. ESFS includes three committees – on banking (EBA), securities (ESMA) and insurance (EIOPA). The committees are set to develop guidelines, recommendations and technical standards; issue recommendations to national supervisors, including binding decisions in emergency situations and directly supervise the credit rating agencies [28, 67-68]. One of the most debatable issues when discussing ESFS was the binding power of the committees, as some member states did not want to cede its national authority. Finally it was an agreement of the binding power of the committees in emergency situation, but decisions may be contested by national supervisors, when they impinge on the fiscal responsibilities of the member states [29].

The Czech Republic, Poland and Hungary: the reforms of financial regulation and supervision

The financial systems of the Czech Republic and Poland were so far good in withstanding the crisis. The financial system of Hungary due to large macroeconomic imbalances was much more hurt. However, all three countries maintain its institutional structure of financial regulation and supervision with single separate supervisory agencies in Hungary and Poland and the unified supervision inside the Central Bank in the Czech Republic. However, mandates and functions of central banks and the supervisory agencies underwent changes in all three countries.

In Hungary PSZAF is the key regulatory body in charge of financial regulation and supervision. Prior to the crisis the National Bank of Hungary (NBH) was responsible for macroprudential monitoring, but did not have policy tools. Thus, it warned about the risks of foreign currency lending, but the warnings were not translated into regulations. After the crisis two key changes were implemented: PSZAF after long-drawn recommendations of international institutions was granted higher autonomy and regulatory power in the second half 2010 [4] and later NBH was given the mandate for macro-prudential regulation with appropriate instruments on 30 December 2011 and [27]. The governors of three main regulators of the Hungarian financial system – PSZAF, NBH and the Ministry of Finance – form the Financial Stability Board that should ensure co-ordination between them, however, in practice consultations with PSZAF and NBH are often neglected [27].

In the Czech Republic authorities often attribute the good shape of the country's financial system to its institu-

tional structure of financial regulation and supervision that is unified under the CNB. The current mainstream of strengthening the role of the central bank gives them additional ground for praising their institutional model. Although the IMF staff considers CNB an effective integrated supervisory and confirms overall soundness of the Czech financial system [14, 13-14], CNB in line with the IMF's recommendations attempts to extend its macroprudential mandate. Recently, CNB has sent a request to the ECB for an opinion on the draft amending the Law on the Central Bank that among other aimed at strengthening CNB's mandate in macroprudential supervision. In its comments ECB generally supports the CNB's legislative amendments regarding extended macroprudential tasks [8, 6-7].

Poland has not yet undertaken any significant changes in institutional settings of financial regulation and supervision. The Polish financial system was resilient to the crisis, while Polish economy showed the highest growth among EU countries last year. However, the IMF also advised Poland to strengthen its supervision and welcomes the intention of Polish authorities to establish a Systemic Risk Board with a leading role of the National Bank of Poland. The new body is set to be responsible for macroprudential supervision and ensure coordination between financial regulators [15].

Regarding the reform of the European supervisory framework, as in all three countries banks are almost entirely owned by foreign financial institutions, the issue of host/home supervision and more specifically the power of host supervisors is of the greatest importance for the countries. Moreover, regulatory authorities of all three countries expressed concerns and unwillingness for transferring the regulatory power from national to the EU-level [30]. Most vocal was the Czech National Bank, which claimed that the transfer of power was unacceptable and it might weaken the national supervisory authority and rejected the proposal of binding power for the ESFS [30]. Polish authorities were also reluctant to agree on the proposed by the EC European regulatory framework that would "deprive national supervisors of a crucial supervisory competence" [30, 12]. Moreover, Poland, as well as the other countries, tried to extend the powers of host supervisors to ensure the ability of national authorities to supervise subsidiaries and branches of foreign banks.

According to the response of Polish KNF to the Communication from the European Commission Poland generally welcomed the change of EU regulatory framework, but it claimed that national supervisors should be granted a voting right in ESRB; expressed concerns over the binding power of ESFS; asked for additional powers for host supervisors and proposed that the European supervisory committees should take binding decisions not by qualified majority vote, but unanimously. KNF did not support binding power for the committees' decisions in emergency situation and emphasized that the power of the EU regulators should not impinge on fiscal responsibilities of member states [17].

Many Polish concerns went in line with the arguments of other member states, so in the final EU framework the binding power of the committees was softened by the limitations to 'emergency situations' and the prescribed conditions for member states to content the binding decisions of the committees. However, after being enacted the EU-framework is still a concern for the member states. Recently, the Czech National Bank stood against granting new competence of direct supervisory power over financial institutions to the securities committee (ESMA). Polish, the UK and Germany authorities also oppose the expansion of ESMA's power, proving that it is rather difficult to establish truly pan-European supervision in the EU [11], as the attempts face dramatic opposition from both old and new member states.

Thus, the new EU framework largely due to opposition of the EU member states, including the countries under scrutiny, similarly to the old framework lacks leverage over the interests of national member states and does not undermine their fiscal sovereignty. However, the framework can be similarly inefficient in dealing with host/home countries regulation and supervision that is of most concerned for the new member states. According to K.Pistor the new EU framework is also over-inclusive (includes more than 50 regulators from 27 member states) and under-inclusive (does not include regulators of non-member states); due to its governance structure the framework is more favorable to the most influential countries in the EU regardless high risk-exposure of many non-core EU countries to the risks of financial market integration; and it creates no space for the forum that would involve all key stakeholders, including private actors [28]. These drawbacks of the framework may become crucial for the new member states, as the financial crisis was followed by the sovereign debt crisis and troubles for many European banks, including some parent banks of subsidiaries and branches in the new member states.

Conclusions

The global financial crisis induced re-consideration of financial regulatory frameworks for many countries in the EU, as well as an overhaul of the European financial regulation structure. In the Czech Republic, Hungary and Poland no major changes in the institutional structure of the financial regulation took place, as the financial markets of the countries (partly excluding Hungary) have not been much affected. But in line with the new European trend, all the countries considered and implemented changes concerning empowerment of the central bank with macroprudential functions. In Hungary the crisis also enabled previously long-delayed reform of enhancing autonomy of the national financial regulator. Concerning the new EU framework, all the countries, especially the Czech Republic, vocally opposed the possible transfer of more regulatory powers to the EU level as well as a possible weakening of the national fiscal sovereignty. The countries also advocated higher roles of host supervisors in dealing with domestic subsidiaries and branches of the foreign banks. In fact, the new EU framework that is largely a compromise deal of the member states and EU institutions carries deficiencies in its organization that prospectively can prevent from efficient resolution of the difficult issues between home and host supervisors.

Further research is encouraged on the actual efficiency and sufficiency of the national and the EU framework in solving the crisis-related problems of the financial sector in the New Member States.

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IMPORTANT PROBLEMS IN THE FIELD OF FORMING AND EXECUTION OF LOCAL BUDGETS

У статті аналізуються зміни до порядку формування та виконання місцевих бюджетів відповідно до норми нового Бюджетного кодексу; розглядаються основи формування доходів місцевих бюджетів України відповідно до діючої законодавчо-нормативної бази. При цьому робиться акцент на існуючі проблеми, які виникають при розподілі бюджетних ресурсів.

Ключові слова: місцеві бюджети, дотація вирівнювання, місцеві податки, закріплені доходи місцевих бюджетів.

В статье анализируются изменения к порядку формирования и исполнения местных бюджетов в соответствии с нормами нового Бюджетного кодекса; рассматриваются основы формирования доходов местных бюджетов Украины согласно действующей законодательно-нормативной базе. При этом делается акцент на существующие проблемы, которые возникают при распределении бюджетных ресурсов.

Ключевые слова: Местные бюджеты, дотация выравнивания, местные налоги, закрепленные доходы местных бюджетов.

In the article changes are analysed to the order of forming and implementation of local budgets in accordance with the norm of the new Budgetary code; the principles of the formation of the local budgets of Ukraine with the accordance of the present legal basis are studied here. The stress is laid on the existing problems which arise during the distribution of the budget resources.

Keywords: local budgets, smoothing grant, community charges, fastened profits of local budgets.

The institute of local self-government began to be formed in Ukraine with proclamation of independence of the state. A right on existence of this institute is fastened in European Charter of local self-government, to which Ukraine joined in November, 1996. Becoming of institute of local self-government in Ukraine testifies to electing of course on the leadthrough of process of decentralization of financial relations. Realization of the indicated step laid on the state of obligations from re-erecting of the in-plant financial systems.

By a basic question, which appears before territorial societies on this time there is the financial providing of implementation of the programs, attributed to plenary powers of organs of power of local level. For the system of local finances of Ukraine there was characteristic insufficiency of profitable base of local budgets and presence of substantial problems which brake its increase as a result of imperfection of budgetary legislation and insufficient uregulovanosti of interbudgetary relations.

In direction of decision of the indicated failings the row of substantial steps is already done by realization of budgetary reform in Ukraine. Considerable payment in the study of questions of budgetary process, in particular, implementation of local budgets was done by the domestic scientists of Y.Beskid, S. Bukovynskiy, O.Vasilik, A.Epifanov, O.Kirilenko, V.Kravchenko, I.Lunina, V.Oparin, I. Radionova, I.Suncova, M.Romaniv. In connection with the subsequent passing of budgetary reform in Ukraine and origin of new mutual relations in the budgetary system, there is a necessity of the subsequent deepening of study of the indicated questions.

The studies of scientific publications on questions a fiscal policy in the sphere of local finances gave us possibility to examine it as a policy which characterizes development of local finances, providing of recreation of financial resources, fixing of the attained rates of the economy growing, creation of favourable terms, status for the improvement of investment climate.

The purpose of the article is an analysis of problems of forming and implementation of local budgets and determination of basic directions of their reformation.

For today a main problem in a budgetary sphere is a considerable concentration of financial resources at central level, which are in future passed to the local budgets as transfers. Providing of development of infrastructure of regions largely depends on the receipt of grant from the state budget [6].

The analysis of indexes of local budgets enables to come to the conclusion, that at present terms there is a tendency to the increase of part of interbudgetary transfers in the profits of local budgets.

A smoothing grant is the basic type of interbudgetary relations, its volume and specific gravity in the structure of interbudgetary transfers is constantly increased, that transfers from the state budget remain the ponderable instrument of the financial distributing and basic source of forming of profits of local budgets. That touches grants from the state budget of social orientation (on privileges, subsidies, compensative payments a population), they provide realization of obligations of the state, their growth, carries objective character and it is related to the increase of social standards. Considerable dependence of local budgets on subvency of investment character specifies on financial insolvency of local authorities, organs of local self-government, independently to decide questions, related to development of territories [7].

The considerable volumes of transfers in Ukraine testify to the insufficient own profits of local budgets. Swinging majority of administrative-territorial units, which form the budgets of base level, helpless independently to provide the minimum social necessities of the habitants even.

A budgetary code is inculcate dividing of all receipts and charges into such which are taken into account, and such which are not taken into account at determination of interbudgetary transfers. Two is in practice created separate basket.

The size of the first basket is controlled by the higher organ of power. If the amount of the monies accumulated there exceeds a requirement in them, other are subject an exception; when present in this basket money not enough for financing of the planned measures, the budget of the proper administrative-territorial unit has a right on the receipt of smoothing grant.

In accordance with the Budgetary code the state can pass to the organs of local self-government a right on realization of charges only on condition of the proper transmission of financial resources. For today we have a very low level of material well-being of the plenary powers delegated the state the proper financial resources [1].

Thus, the today's state of local budgets of Ukraine is characterized low part of profitable sources which are not taken into account at the calculation of volumes of transfers and which local authorities can dispose of independently, coming from priorities of development of administrative-territorial unit.

There is also a question, related to the grant of tax deductions which diminish the profits of local budgets the state. A release to 2015 year of subjects of space activity and aircraft construction is so foreseen from land-tax on lot lands of the production setting [3].

That touches the grant of subvency from the State budget of Ukraine local budgets, for today the characteristic sign of planning of the proper charges of the state budget is absence of approach of the systems to determination of list of grants, their volumes, order of their use, transparent not enough is and distributing order between regions.

At claim of Law of Ukraine "About the State budget of Ukraine on the proper year" annually grants of capital character remain not up-diffused between regions, the orders of their use do not become firmly established. After the settlement of afore-mentioned questions a money to the local budgets begin to act only in III-IV quarter which does impossible them taking into account the timely use the protracted procedure of bringing of the proper changes to the local budgets in part of claim of charges due to proper grants, leadthrough of tender procedures, making, project-estimate to the document. As a result a money is so needed for development of regions go back into the State budget of Ukraine in connection with completion of fiscal year.

The substantial failing determination in quality the sources of financing of charges is, also, on a grant the local budgets of grants of such profits of the State budget of Ukraine, the planned indexes for which from year to year are not executed.

Coming from the above-mentioned, it is possible to draw conclusion, that considerable dependence of local budgets on transfers from the state budget is a substantial lack of interbudgetary relations, that is why clear legislative determination of permanent and real sources of filling of local budgets is a necessity by own financial resources. The policy of expansion of own profitable base on places will stipulate the general decline of level of transfers, as independent local budgets will be able to do without the centralized support, but will get it only those, who indeed needs herein. Interbudgetary transfers must not level, but only to soften a difference in the budgetary profits of regions [5].

With the purpose of decision of afore-mentioned problems it is necessary how quick all to conduct reformation of local budgets. Budgetary reform must become component part of economic reform, which came to a head today in a country. One of key tasks of budgetary reform there are perfections of interbudgetary relations, which will be instrumental in strengthening of financial bases of local self-government [8].

Basic directions of reformation of local budgets is:

- expansion of profitable base of local budgets by the redistribution of profits between state and by local budgets, to the revision of composition of profits I and II baskets of local budgets, expansion of list of community charges and collections or increase of them, specific gravity in the lump sum of receipts of local budgets;
- indemnifications of losses of receipts of local budgets, related to the grant of privileges the state on payment of taxes;
- stimulation of socio-economic development of territories is by the increase of investment constituent of local budgets (there is an increase of amount of sources of entering budget of development), improvement of order and terms of grant of subvency, from the State budget of Ukraine local budgets: forming of the unique going near distributing of financial resource of the state taking into account the level of material well-being of that or other administrative-territorial unit the objects of social'no-kul'turny sphere, infrastructure and priority directions of develop-

ment, foreseen the local programs; their use simultaneously with claim of Law of Ukraine about the State budget of Ukraine on the proper year; realization of financing of charges on the grant of subvency not later than a III quarter here due to those sources which are really executed;

- forming of stable normatively legal bases taking into account afore-mentioned directions of reformation of the system of interbudgetary relations.

For today Verkhovna Rada of Ukraine is accept new the Internal revenue code of Ukraine and in 08.07.2010 the Budgetary code of Ukraine is accepted in a new release (both entered in an action from 01.01.2011).

The new Budgetary code of Ukraine is foreseen by the row of norms, directed on an assistance the regional economy growing taking into account balancing of national and regional interests, to introduction of new instruments of stimulation of regional development and perfection of interbudgetary relations. But, without regard to positive acquisitions, some questions remained unsolved, that is why there is the field for their subsequent study and decision [1].

Achievement of considerable level of efficiency needs from the leadthrough of budgetary reform, foremost, in equipping with modern amenities of the system of administrative-territorial device, taking into account the level of development of infrastructure of territories, presence, naturally resource to potential and others like that.

As experience of the European countries testifies, territorial societies, capable to provide the proper quality of management and development, must unite 3-5 thousands of inhabitants.

To take into account even circumstance that charges are taken into account Ministry of finance on maintenance of local advices not provided in full financing even of etlings. In this connection on maintenance of vehicles of advices profits which must head for financing of the regional programs are outlaid. The leadthrough of administrative-territorial reform will be instrumental in reduction of quantity of managers on places, that will enable to free considerable part of facilities which can it will be be pointed at development of region [2].

A budgetary code in a new release is foresee a number of measures on the improvement of interbudgetary relationships with the purpose of diminishing of dependence of local budgets from transfertiv from the state budget, creation of the proper terms for implementation of local self-government organs and by the local organs of executive power of the functions laid on them [1].

In particular, with the purpose of increase of financial independence of local budgets by subsequent decentralization of management budgetary facilities first to the local budgets the profits of the state budget are passed, namely: for 50% paying is for using the bowels of the earth of national value, collection, for the special use of water resources of national value, collection, for the special use of forest resources of state value; paying for licenses and certificates, state registration (6 kinds) and others like that.

To the charges of local budgets which will be taken into account at determination of volume of interbudgetary transfers, financing of measures is included on out-of-school education, centers of social rehabilitation, financing of which is presently carried out due to profits which are not taken into account at determination of transfers. A resource is the same disengaged on implementation of own plenary powers of organs of local self-government.

But, it is here necessary to pay regard to that increase of profitable part of local budgets at financing of existent network of budgetary establishments without the increase of financial norms of budgetary material well-being, which are used at the shortchanging by formulas of charges on

the proper industries, will result in the increase of exception of surplus of profits from separate local budgets. A necessity is an increase of norms of budgetary material well-being, which will enable to provide assignments not only financing of the protected items of expenses but also development of material and technical base of budgetary establishments [4].

The new Budgetary code is also foresee the increase of resource of local budgets on implementation of own plenary powers, sources are extended formings of profits, which are not taken into account at determination of interbudgetary transfers. To such profits it is foreseen in full to set off:

- paying for earth, united tax for small business entities (in the budget of development);
- paying for a point-of-sale patent on realization of some types of entrepreneurial activity;
- the fixed tax is on the profits of physical persons from entrepreneurial activity;
- receipt of administrative fines;
- part of income tax enterprises (except for communal enterprises);
- a tax property [1].

Next to it, the put of paying for earth is foreseen only to the budgets of local self-government, in an area and district budgets the indicated receipts absent.

Without regard to a positive change in the Budgetary code in relation to the transmission of profits state to the local budgets, on the profits of regional budget, which are taken into account at determination of transfers, the substantial diminishing of indexes is expected. A regional budget will be adjusted due to the increase of smoothing grant from the state budget, a money, which can it would be pointed at financing of the regional programs, measures of development of territories, will be distracted on financing of the delegated charges.

In addition, the new Budgetary code is foresee diminishing of deductions in a regional budget on collection for contamination of natural environment from 50% to 20%, that will result in diminishing of receipts [1].

Thus, strengthening of profitable base of budgets of villages, settlements and cities, due to poslablennya of financial stability of regional budgets negatively will affect financing in the general lines of the regional programs.

In relation to indemnification of losses of profits of local budgets as a result of grant of tax deductions the state, it should be noted that the Budgetary code is foresee an additional grant on the indicated purpose.

In relation to an order and terms of distributing of grant of subvency it follows notices from the state budget local budgets, that the new Budgetary code provides for:

- basic principles of grant the local budgets of subvency are on implementation of the investment programs (projects): principle of objectivity and openness – the recipient of subvency is determined after transparent procedures; principle of unity – distributing of money must provide realization of the system of national values and instrumental in diminishing of differences in even lives of population of different regions of country; principle of the having a special purpose use of money – grant is used exceptionally on a certain goal, taking into account the programs of socio-economic development of country and proper territory, government having a special purpose programs;

- a list of basic principles of grant the local budgets of subvency is on implementation of the investment programs (projects): economic efficiency of achievement of aims with bringing in of minimum volume of budgetary facilities; level of material well-being establishments of socio-cultural sphere; level of development of travelling and communal economy; possibilities of subsequent maintenance due to

the money of local budgets of objects of community property but other

- realization of distributing of investment subvency is on the basis of the formalized parameters;
- an order and terms of grant subvency which is first certain a law on the State budget of Ukraine becomes firmly established Cabinet Ukraine not later than 30 days from the day of going into effect them.

Observance of afore-mentioned principles in practice, introduction of formul'nikh calculations, forming of sufficient resource of the state budget, on the grant of subvency local budgets will be instrumental in providing of gradual socio-economic development of regions.

For perfection of the budgetary system on all levels, providing of its stability a necessity is perfection and expansion of legislative base on questions a budget, taxation, regional development, methodological base, after all directions of reformation [5].

Realization of foregoing measures will be instrumental in strengthening of financial bases of activity of organs of local self-government, providing of steady socio-economic development of territories, increase of social defence and welfare of citizens.

Thus, basic directions of reformation of local budgets is:

- expansion of profitable base of local budgets by the redistribution of profits between state and by local budgets, to the revision of composition of profits I and II baskets of local budgets, expansion of list of community charges and collections or increase of them, specific gravity in the lump sum of receipts;
- indemnifications of losses of receipts of local budgets, related to the grant of privileges the state on payment of taxes;
- it is stimulation of socio-economic development of territories by the increase of investment constituent of local budgets (there is an increase of amount of sources of entering budget of development), improvement of order and terms of distributing of grant of subvency, from the State budget of Ukraine local budgets;
- leadthrough of administrative-territorial reform taking into account the level of development of infrastructure of territories, naturally resource to potential and others like that;
- it is forming of stable normatively legal bases taking into account afore-mentioned directions of reformation of the system of interbudgetary relations [6].

The new Budgetary code of Ukraine, accepted in 08.07.2010, foresees a number of measures on the improvement of interbudgetary relationships with the purpose of diminishing of dependence of local budgets from transfer from the state budget, creation of the proper terms for implementation of local self-government organs and by the local organs of executive power of the functions laid on them. In particular, with the purpose of increase of financial independence of local budgets by subsequent decentralization of management budgetary facilities first to the local budgets the profits of the state budget are passed, the increase of resource of local budgets is foreseen on implementation of own plenary powers, sources are extended formings of profits, which are not taken into account at determination of interbudgetary transfers.

But, without regard to positive acquisitions, some questions remained unsolved, that is why there is the field for their subsequent study and decision.

Realization in practice of positive innovations and account of remarks in the new Budgetary code, concordance of operating normatively legal acts, which regulate budgetary relations and acceptance of new will provide maximal efficiency of the use of budgetary resources, will be instru-

mental in upgrading grant of public services, steady socio-economic development of regions.

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FINANCIAL GLOBALIZATION IMPACT ON THE CEE BANKING STABILITY

Стаття присвячена оцінці умов та тенденцій фінансової глобалізації, її впливу на банківську діяльність. Дається оцінка позитивному та негативному впливу фінансової глобалізації. Досліджуються міжнародні фінансові потоки та банківські зв'язки, що впливають на банківську стабільність країн ЦСЄ та України.

Ключові слова: фінансова глобалізація, міжнародні фінансові зв'язки, іноземні банки, національні банки.

Статья посвящена оценке условий и тенденций финансовой глобализации, ее влиянию на банковскую деятельность. Дается оценка позитивного и негативного влияния финансовой глобализации. Исследуются международные финансовые потоки и банковские связи, которые влияют на банковскую стабильность стран ЦВЕ и Украины.

Ключевые слова: финансовая глобализация, международные финансовые связи, иностранные банки, национальные банки.

The paper is to assess the financial globalization conditions, trends and their implications on banking. It evaluates the financial globalization positive and negative impacts. International financial flows and banking linkages which influencing on CEE countries and Ukraine banking stability are studied.

Keywords: financial globalization, international financial linkages, foreign banks, domestic banks.

Introduction.

Financial globalization and cross-border capital flows are one of the key drivers of the international economy. But global financial linkages and interdependence have caused the banking and financial crisis spillovers from the USA to Europe and other countries in 2008-2009. Since 2010 the European debt crisis and Eurozone instability also triggering contagion to international financial markets, developed and emerging economies. It became obvious that financial globalization has played controversial impact on the markets and economies. The financial globalization could not manage current cross-countries asymmetries and instabilities, such as sovereign debt and budget crises, currencies and asset prices volatility, structural changes of international capital flows.

National and international banking systems of transitional and emerging economies have been one of the most dynamic areas of financial globalization in the past decades, especially in the Central and Eastern Europe (CEE), CIS countries. Financial globalization has showed a differentiated impact on the banking systems. Financial linkages with EU and CEE countries are most influential for the Ukrainian banking sector internationalization.

The research aim is to study the interaction between financial globalization and national banking systems. The objectives are to estimate channels of financial globalization influence on the CEE and Ukrainian banking. It requires assess the post-crisis interaction of financial globalization, capital flows changes, current trends on banking markets.

Research methodology and results.

The research methodology is based on the application of international macro- and microeconomic approaches as well as structural comparative analysis. A study is focused on financial globalization structural features and outcomes, its impact on changes in international capital flows and the CEE and Ukrainian banking international linkages with respect of their implications on banking stability.

A nature of financial globalization is related to the expanding internationalization of domestic financial and banking systems, broader access of countries and economic

agents to international financial markets as to A.Greenspan [5] and P.Lane etc [8]. Such processes are leading to the growing integration of different financial markets, interdependence of national and international financial systems. The classical economic approach gives a vision that growing integration and interdependence should pursue effective and stable functioning of financial markets. As have been mentioned by the former chairman of the Federal Reserve System A.Greenspan, financial globalization should enforce "global financial stability and effectiveness of the global financial markets" [5, p.249]. But financial globalization now is demonstrating an integration and differentiation co-movements.

Financial globalization could not be considered as a homogenous process due to the set of systemic and structural differences between markets and countries as studied by R.Calvo [1], M.Kose, E.Prasad and K.Rogoff [7]. Financial globalization in different markets and countries could be explained based on several research approaches such as:

1) A model of the national economy and finance inclusion into global. Researchers are applying different models of interaction of the national and global financial economies. From one side, models based on the dominance of global finance and economy over national could be considered as globalist ones. From the other side, models known as an open-market economy are focusing on interaction of external and internal factors of the countries' trade and finance linkages. The international financial linkages in such models are considering differently.

2) Study of liberalization as financial globalization driving factor. Liberalization means lifting limitations on the cross border capital flows and banking transactions. It plays a different impact on countries. Liberalization is more positive for developed economies which have open access to international financial markets. For developing and emerging economies with less institutional and regulatory strength liberalization often bring negative impact such as capital outflows, domestic banking dependence on foreign capital. Therefore differences in financial liberalization across countries may influence on financial globalization extent.

3) Institutional and structural approach to financial globalization. It is based on the major structural issues such as capital flows structure, foreign capital in banking and financial sector, cross-border M&A in banking, a harmonization of banking and financial regulation.

Financial globalization could be defined as a complex process of increasing interdependence of the national financial systems with international, deeper structural integration of financial institutions and markets, broaden access of economic agents to international financial markets, growing influence of the global forces to the national finance.

International capital flows and stocks of foreign assets and liabilities are reflecting a scale of cross-countries financial linkages, therefore playing a key role for financial globalization. Financial globalization extent and effects for different countries could be influenced by combination of systemic financial and macroeconomic conditions such as:

- 1) Type of financial system – market-based or bank-based; liberalized market-based systems are more open to capital flows and broader access to international markets.
- 2) Developed economic and financial systems would be a background of effective allocation of financial liquidity.
- 3) Economic and financial system capacity to absorb external financial shocks, regulate capital inflows and outflows will pursue balanced external financial linkages and stability.
- 4) Political stability and institutional development, including rule of law and contracts enforcement, will insure foreign investor's rights and external debt settlements.
- 5) Effective fiscal and monetary policy should support the domestic financial balances and currency stability.
- 6) Flexible exchange rates regime and capacity to withstand international currencies fluctuations would absorb speculative financial attacks.
- 7) Coordinated development of foreign trade and capital flows should support financial stability.

Financial globalization under noted conditions would bring positive effects. Benefits of financial globalization are for balancing cross-countries financial linkages, effective utilization of external financial resources. Major effects of financial globalization could be considered in connection with national banking and financial systems development, preserving financial stability:

- 1) More effective allocation of financial liquidity through competitive access to international markets gives a possibility to overcome the liquidity constraints of the domestic banking system in terms of the debt provision (size, maturity, interest, risk hedging).
- 2) Debt and liquidity risks diversification through the hedging and transfer to international markets via securitization.
- 3) Better conditions of international borrowing would support national economic growth.
- 4) Domestic financial infrastructure development in line with the international.
- 5) IT and financial technologies transfer to national banking systems, access to international payment and securities trading systems.

Financial globalization benefits are focusing on additional financial liquidity from the international markets on more competitive conditions in comparison with domestic. But it also sets the certain dependence from the international funding which may turn into risks if international markets will go into excessive volatility or crisis.

Therefore along with its benefits, a financial globalization risks should be considered such as:

1) Contagion and international spillover are a specific mechanism of cross-border transposition of the national or international financial markets distresses – fluctuations, shocks, crises, risks, value change of financial assets, exchange rates change – to other national financial markets or other segments of international financial markets.

2) Markets speculative movements – changes of financial assets prices or investors preferences resulting from the international markets behavior which targeting short-term gains and not run by the market fundamentals.

3) Monetary and macroeconomic impact of capital flows: large capital inflows could cause the excessive monetization of the host country economy, credit boom and finally inflation and exchange rates changes. In turn large capital outflow may slowdown the economy and put devaluation pressure on domestic currency.

4) Home countries macroeconomic problems such as economic depression or banking credit crunch may call for capital reversal or divestment – recall the invested capital, which may affect slowdown the host country economy.

5) International markets liquidity problems may limit availability and price of debt and equity capital demanded by specific country, put strict conditions for accumulated debt servicing and restructuring.

Financial globalization impact would be studied while an appropriate measuring could be applicable. Different studies are suggesting a financial globalization measuring using a country capital flows or external investment position as a basic indicators. For example, an approach suggested in the IMF working paper by P.Lane and others could be considered as a most acceptable [1]. Such methodology provides calculation of financial globalization index as a country international investment position (a sum of external assets and external liabilities) divided to GDP, all nominated in the current US dollars.

It could be considered a few methodological issues related to such index. First, external assets and liabilities could be measured as a value in balance prices (mostly historical) and do not reflect their price change. But GDP could be measured in current US dollars and reflect actual prices. Second, the international investment position could be balanced, or positive, or negative. The last case would reflect the dominance of external liabilities, which may be considered primarily as a negative result of globalization. Third, such index most suitable for the relatively stable periods of international and domestic financial development, Index changes may be influenced by the both emergency external borrowing and GDP slowdown during the crisis times.

Financial globalization trends and their implications on the banking systems could be studies using an example of several CEE countries and Ukraine. Poland, Czech Republic and Hungary could be selected among the CEE countries due to the following reasons: geographical neighbouring, comparable level of economic development, comparable type of economies as finished transformation and currently as emerging market economies, similar bank-based financial systems, comparable structure of international capital flows.

Financial globalization index calculated for Poland, Czech Republic and Hungary using the methodology of P.Lane and others [1], shows few similarities and differences:

Table 1. Financial globalization indexes for selected CEE countries

	2005	2006	2007	2008	2009	2010
Poland	1,03	1,18	1,30	0,97	1,37	1,31
Czech Republic	1,50	1,63	1,79	1,48	1,80	1,72
Hungary	1,74	3,01	3,86	4,06	5,40	5,10

Source: calculations based on IMF data [6]

Few similarities in financial globalization index movement across countries could be explained as the following:

1) The financial globalization indexes for all three countries have shown a general uphill trend since countries have joined EU in 2005. But index level and the trends extent are different in all countries.

2) The financial globalization indexes for countries (except Hungary) have relatively decreased in 2008 while peak of the global financial crisis and more increased for all countries in 2009 after crisis. The last move could be explained as a combination of external debt growth during the crisis and slowdown of GDP (except Poland).

3) The financial globalization indexes in 2010 are slowly decreased back to pre-crisis level which could be caused by the tightening the external debt policies and respective slowing of external liabilities.

Indexes differences looks more related to the overall economic and financial situation in respective countries then by financial globalization impact. First, financial globalization indexes for Poland and Czech Republic have a moderate volatility and grew up in a relative range of 15 to 30 % in 2010 to 2005 level. Second, the index increased for Hungary in a range of around 300 % in 2010 to 2005, which could not be explained only by globalization impact.

Third, for Hungary the largest increase of index has been occurred in 2006-2007 before the global financial crisis. Most believable it could be explained by the massive emergency lending from the EU and international financial institutions to Hungary at that time in response to the country's budget and financial crisis. Forth, the global crisis influence to Hungary have pursued EU and IMF for additional emergency lending, results of which has been reflected in the further substantial growth of foreign liabilities and financial globalization index in 2008-2010.

The case of Hungary shows that financial globalization index does not eliminate an influence of pure domestic economic and financial factors, which causing the unbalanced growth of external liabilities and negative international investment position. Therefore the financial globalization index should be studied in combination with the net balance and structure of the international investment position.

An assessment of the factors of the financial globalization index for Ukraine went to similar conclusions. The index movements are influencing by both capital flows and increasing of external liabilities.

Table 2. Financial globalization indexes for Ukraine

	2005	2006	2007	2008	2009	2010
Ukraine	1,06	1,24	1,49	1,40	2,25	1,98

Source: calculations based on IMF data [6]

For example, an increase of index in 2006-2007 may be explained by the large inflow of capital mostly due to foreign acquisitions of the shares of the large Ukrainian banks. It could be attributed to financial globalization and reflects interdependence of domestic and international banking. But index movements in 2009 have been caused by the emergency IMF lending and respective increase of foreign liabilities at the time of crisis-driven large GDP decline.

Financial globalization influence onto the CEE and Ukraine banking developments would be studied in several directions while taking into consideration rebalancing of cross-border financial flows, foreign capital penetration in the banking sector, structural changes in banking, external financing of the foreign affiliates, Eurozone debt crisis impact.

Capital flows trends in 2009-2011 would be considered as rebalancing because the substantial changes in value, composition, major forms and directions. Asset prices bubble which stimulate FDI, stock and debt market excessive growth was preceding the global crisis. Since 2009 capital flows have declined in volumes and changed in patterns.

Rebalancing of the international capital flows could be considered such as:

- financial assets value change due to the international financial markets slowdown and financial risk hedging cost;
- changing balance of inflows and outflows of capital, increased outflow of foreign portfolio and short-term capital;
- switch from capital inflow in some countries to "sudden stop" of capital movement during global crisis;
- spread of negative equity as result of drop down of some assets price below the related liabilities, such as real estate market price below residual mortgage debt, underlined assets value decrease in case of securitization;
- post-crisis slowdown of capital flows in developed economies and growth from the emerging economies;

- raising cost of the foreign-currencies denominated external and domestic debt servicing for the economies with devaluated currencies and less demand for external debt;

- bad assets on the banks' balance sheets.

External financial shocks and capital flows structural changes have affected the countries' balance of payments, international investment position, exchange rates volatility, national banking systems stability.

National financial and banking systems stability could be considered as a capacity to allocate effectively financial resources from savers to borrowers, to manage financial risks and to absorb external financial and economic shocks. Banking stability is a systematic capacity which largely dependable on the banks capitalization, assets quality and liabilities management. Financial globalization influencing on the national banking systems stability foremost via presence and performance of the foreign owned banks.

Foreign capital penetration in the banking sector of the CEE countries and Ukraine are considering as a key form of financial globalization and European financial integration. But foreign capital penetration is different.

The European Central Bank estimate a foreign branches and affiliates share measured by the assets in 2010 are in Hungary – 58 %, Poland – 69 % and Czech Republic – 92 % of the respective banking system [2, p.20]. Comparing such data with financial globalization index, it can be seeing that foreign capital penetration looks opposite. For example, Czech Republic has much smaller financial globalization index then Hungary, but the highest level of foreign banking penetration in 92 % comparing with much lower 58 % in Hungary.

Foreign capital share in the national banking systems of the European emerging economies, new EU member states and CEE countries have not a same extent and trend, but specific for each country. Foreign capital recipro-

cation in the each country banking system have been influenced by the speed of economic reforms, privatization pace, historical and socio-economic conditions etc.

Prospects of further foreign participation in the national banking systems now are dependable to general trends of the European banking integration. Two major trends could be noticed in such respect:

1) Ongoing decrease of the banks cross-border mergers and acquisitions (M&A) in the European financial area. For example, the data of cross-border M&A with participation of the Euro-area banks by the transactions total value was: in 2005 – 30 billions EUR, 2006 – 11 billions, 2007 – 14 billions, 2008 – 52 billions, 2009 – 9 billions, 2010 and 2011 – around 2 billions each year. [3, p.S15] It means, that currently Euro area banks have limited further integration activities and concentrating on the issues of improving of quality of assets, restructuring of balance sheets, further capitalization in line with Basel III requirements. Such measures have to improve banking stability.

2) Actual liquidity limits and need for the recapitalization of the European banks in order to meet Basel III capital requirements, therefore less motivation for other markets expansion.

European banks mostly have used a centralized liquidity provision model to finance their affiliates in the CEE and CIS. Liquidity have been channeled from the parent banks to the foreign affiliates as interbank lending facilities, subordinated loans, syndicated loans, affiliates notes and bonds investments. Low liquidity cost on the European markets have provided an opportunity to raise a higher margins on foreign markets and expand foreign currencies denominated lending. But during the global crisis it have been turned into accumulation of bad loans and asset price deterioration if foreign affiliates.

European banks affiliates in the CEE and Ukraine have been faced with the problem of external financing in order to withstand global financial crisis and Eurozone instability. Such problem has several aspects: 1) foreign-owned banks currency denominated bad loans and bank external liabilities problems; 2) parent banks decrease or withdraw a liquidity provision to foreign affiliates, therefore they should go to other liquidity sourcing; 3) an overall limitation of the banks access to international financial liquidity. Such situation certainly affects foreign-owned and domestic banks performance.

Table 3. Ukrainian banks external loans and bonds – a balance of received and paid amounts a year, mln. USD

	2005	2006	2007	2008	2009	2010	2011
Banks – external loans and bonds balance	1625	4079	10526	7586	-3272	-2010	-3600

Source: compiled based on data [13], [14]

The data shows that amounts of external loans and bonds to Ukrainian banking system have grown significantly since 2005 at the time of the massive development of foreign-owned banks. Capital inflow has fed a rapid credit expansion, assets and real estate prices increase in Ukraine. A trend has changed as result of the global financial crisis and turned to negative balance of capital flows to banks in the country. It has a substantial implication on the banks liquidity and performance, the Ukrainian banking system stability.

The balanced approach to managing capital inflows and outflows, external sourcing of liquidity for the national banking sector, the foreign banks capitalization and performance on the domestic market should be set forth in order to limit negative and support positive impact of financial globalization on the emerging economies' banking systems. The emerging markets banks further capitalization in order to meet Basel II and Basel III requirements should be supported by national regulators in order to assure financial stability under limited accessibility of external liquidity.

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OPTIMIZATION OF QUALITY WITH COST FUNCTIONS AND THE MARKET PRICE

В статті розглядається вирішення проблеми конкурентоспроможності вітчизняної продукції на внутрішньому та світовому ринках, що є головним завданням державної політики на шляху до національного відродження. Створення методів оптимізації витрат виробника на виготовлення конкурентоспроможної продукції повинно бути головним вектором сучасної економічної стратегії національного виробництва. Пропонується математична модель з чисельним розв'язком задачі оптимізації. Функція прибутку виробника досліджується за допомогою регресійного рівняння. Запропоновані методи дозволяють визначити економічно оптимальне зростання якості продукції.

Ключові слова: рівень якості продукції, математичні моделі, функція прибутку виробника.

В статье рассматривается решение проблемы конкурентоспособности отечественной продукции на внутреннем и мировом рынке, что является главным заданием государственной политики на пути к национальному возрождению. Создание методов оптимизации затрат производителя на изготовление конкурентоспособной продукции должно стать главным вектором современной экономической стратегии национального производства. Предлагается математическая модель с численным решением задачи оптимизации. Функция прибыли производителя исследуется с помощью регрессионного уравнения. Предложенные методы позволяют определить экономически оптимальное увеличение качества продукцию

Ключевые слова: уровень качества продукции, математические модели, функция прибыли производителя.

The article considers the problem of competitiveness of domestic products in home and world markets, which is the main task of the state policy towards national revival. The creation of methods of optimization cost producer in the production of competitive products should be the main vector of the current economic policies of national production. A mathematical model with the numerical solution of the optimization problem is investigated. Manufacturer's profit function is studied using a regression equation. The proposed methods allow to determine the economically optimal increase in product quality.

Keywords: level of product quality, mathematical models, manufacturer's profit function.

A decision of problem of competitiveness of domestic industrial products at the home and world markets is the main task of public policy on a way of national revival. Economic aspect is the main from many other achieving high quality commodities problem aspects because quality is not an aim itself that is caused by the reproductive process of competitive production development that is possible only in a case when a commodity brings income for its producer and when quality of competitive good achieves by the most economic way. Creation of optimization methods of producer charges to make competitive products must be the main vector of modern economic strategy of national production on a way of the sphere of the World Trade Organization.

It seems that consistent market demand and stable economic position of producer is determined by the high level of good quality, planned up in a project. But a real situation which is folded under influence of number of external and internal factors is considerably more difficult [1, 2].

To the most strongly influencing external factors belong: sale market conjuncture, presence of competitors and tax policy. Influence of internal factors which determine producer charges: human factor [3], perfection of technological process, quality management process dynamic, damages and losses is important [4].

The main vector of economic strategy of producer is getting of maximal income that, as known, is a difference between the volume of sales and volume of costs. The level of good quality, mainly, determines both the constituents: the volume of sales and volume of charges, because quality is such a feature of good characterized from point of market value and is achieved, as a rule, by loosening of production costs.

The aim of this study is a product quality optimization.

The increase of quality level, unconditionally, conduces for multiplying of demand and income while the proper increase of price will not stop this process. Decline of quality level, accompanied by price reducing, can also cause demand boom by a "cheap billow" until market will not react on an true producer by decrease in demand and his income will not decline automatically [5].

Models and results

Thereby, income is a multiply function of quality level, loss amount and market price that could be describe with functional

$$I(Q, M, n, S_{pr}) \rightarrow \max \quad (1)$$

Q – integral quality level; M – market price of one good; n – sales in units of production; S_{pr} – producer's costs.

Changes of economic features in the phase of market overturn of products takes place in relation to the project level of quality. The change in model quality which produces serially in the process of market overturn substantially does not touch on the project value of quality index, but touches, for example, on additional services, change of guarantee service terms, form, package and other secondary indexes of quality that allows to provide an income of enterprise for a long time under conditions of high level of good qualities.

Picture 1 shows the known graphic model of product quality management that does not have analytical features (parameters) in the phase of market overturn according to functions of producer costs S_{pr} and market value M_{pr}^p [7]. Unlike the known models the best standard of competitor was taken as a base standard which has competitor's charges S_{com} , market value (price) M_{com}^p .

Diminishing of quality level from value Δq_{opt} to value q_1 causes the corresponding reduction in costs on a value A that leads to decline of market value $B > A$. Increase of the level of quality from value Δq_{opt} to value q_2 causes increase of manufacturer costs to value in point to q_3 that more than corresponding increase in market value D . In both cases the manufacturer does not get maximum possible income. The choice of value Δq_{opt} requires a numeral or analytical decision.

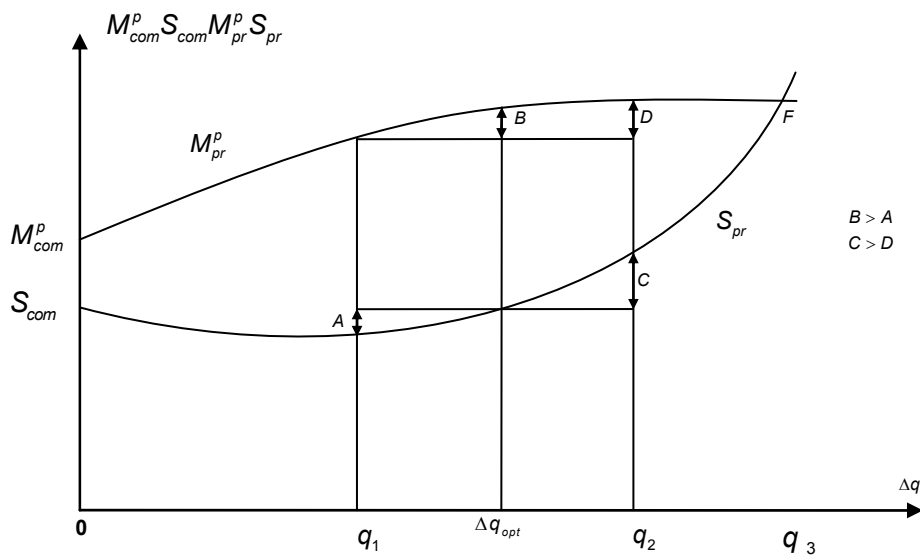


Fig. 1. Graphic model of strategy of market products pricing by enterprise-manufacturer with variation of quality level

Synthesis of mathematical models of optimum quality and their decisions

The existent methods of analytical modeling of market situation and computer models of market demand don't have a practical value because they are burdened by superfluous large errors. We developed the economic-mathematical methods of quality management that should be defined as theoretic-empiric ones. The sense their empiric content is that market demand is determined by statistical treatment of results of sales of experimental parties of manufacturer goods, quality and price of which is varied. Their theoretical content creates methodologies of determination of optimum level of quality which corresponds a maxim income [8].

The important feature of the developed models is their ability to define the dynamics of process of forming of necessary level of quality, consequently, to carry out the prediction of minimum time during which it is necessary to supply products with the new optimum level of quality to the market. This period of time shouldn't override time of decrease of market value till the critical value which corresponds the decline of income to zero.

Model with analytical solution

A market situation is determined by changeability of conjuncture, tax policy and many other factors which present it as extraordinarily difficult object of mathematical modeling. Let's take into account that the constituents of market price are determined, mainly, by the level of quality of good, because a level of quality is a description of good both from point of properties of consumers and from point of necessary achieved producer charges. Thus a maximum of producer charges is some optimum level of quality ac-

cording to his economic and technical possibilities. Its analytical determination was unknown till nowadays.

Let's take to account such increase of charges of manufacturer that is connected with upgrading quality compared to a base model. Let's represent curve of costs function $\Delta S(\Delta q)$ increase displaced from increase of generic quality variable Δq to beginning of co-ordinates in form of

$$\Delta S(\Delta q) = S_b \exp(\alpha \Delta q - 1), \quad (2)$$

where S_b is a manufacturer's base model costs.

On a Picture 2 function (2) is presented by the theoretical line of regression which determined, for example, under LSM from the array of empiric data about the charges of producer on making tentative parties of goods.

Increasing of a market price from a value Δq expressed by a next function

$$\Delta M(\Delta q) = M_{\lim} [1 - \exp(-b \cdot \Delta q)], \quad (3)$$

where $M_{\lim} = \lim f(\Delta M)$ is a boundary value of market price, $\Delta q \rightarrow \Delta q_{\lim}$ proper to boundary by technical possibility maximizing of generalized index of quality Δq_{\lim} .

Let's determine a value M_{\lim} by solving of the following system of equations

$$\left. \begin{aligned} \Delta M_1 &= M_{\lim} [1 - \exp(-b \Delta q_1)], \\ \Delta M_2 &= M_{\lim} [1 - \exp(-b \Delta q_2)], \\ \Delta M_3 &= M_{\lim} [1 - \exp(b \cdot \frac{\Delta q_1 + \Delta q_2}{2})] \end{aligned} \right\} \quad (4)$$

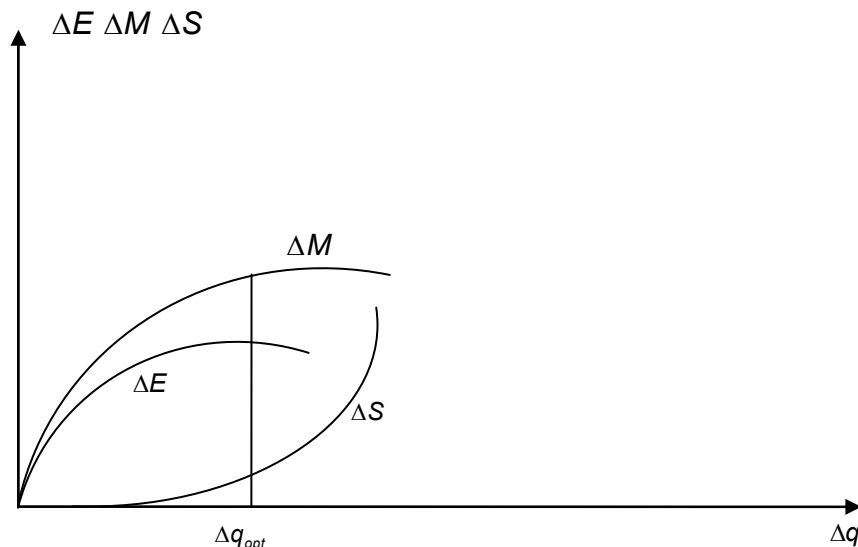


Fig.2. Graphic explanation of conduct of function of income of producer

$$M_{lim} = \frac{\Delta M_1 \cdot \Delta M_2 - \Delta M_3^2}{\Delta M_1 + \Delta M_2 - 2\Delta M_3} \quad (5)$$

Let's accept $y = M_{lim} - \Delta M$ and linearise it:

$$\ln y = \ln M_{lim} - b\Delta q \quad (6)$$

According to least-squares method let's determine the parameter of regression.

Thus, all variables in right part of equation (3) are set.

Let's present the change of income of producer by expression

$$\Delta E(\Delta q) = M_{lim} - M_{lim} \exp(-b\Delta q) - S_b \exp(\alpha\Delta q) + S_b. \quad (7)$$

Now a value Δq_{opt} can be defined analytically [8]:

$$\Delta q_{opt} = \frac{\ln M_{lim} - \ln S_b}{\alpha + b}.$$

Conclusions

Thus, the quality metering methods of optimization of economic strategy of commodity producer were developed in the phase of market overturn of the products let out by him, which allow to solve the problem of choice of modernized model quality level multiplying according to good of serial issue, to get the maximal value of income in the conditions of its destabilization by revolting market factors. If a commodity producer has information about economic and quality metering features of competitor products, the task of economic optimization of multiplying the level of quality of serial good concerning the level of quality of good of competitor becomes more common for analytical solution.

Computer models of market situation in the segment of commodity producer through the great number of influencing factors usually have large errors of sales volumes prediction. The offered methods have considerably accuracy

due to the offered mechanism of receipt of statistical array of data about the market price of experimental portion of goods, the quality level of which is varied by producer according to a serial sample or sample of competitor. An involved feed-back is called "market – commodity producer – market" and must be high-dynamic, because the methods of optimization of market strategy of commodity producer couldn't be realized. Otherwise, high speed of reaction of commodity producer on market conjuncture is needed by producing and sales of experimental parcel with different gradation of their quality. Economic optimum increase of goods quality could be solved with high accuracy according to described methods.

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FINANCIAL SYSTEM STRATEGIC DEVELOPMENT OF THE ECONOMICS OF TRANSITION: INTERNATIONAL ASPECTS

Автор визначає фактори глобальної фінансової нестабільності, які визначають механізми впливу процесів фінансової глобалізації на фінансові системи перехідних економік. Порівняльний аналіз політики трансформації фінансових систем та фінансових ринків у країнах Центральної та Східної Європи виявив особливості моделей їх розвитку. Запропоновані концептуальні підходи у стратегічному управлінні розвитком фінансових систем економік з новими ринками у контексті сучасної системи перетворень міжнародних фінансів.

Ключові слова: перехідна економіка, фінансові системи, фінансова стратегія, монетарна та фінансова політика.

Автор определяет факторы глобальной финансовой нестабильности, определяющие механизмы влияния процессов финансовой глобализации на финансовые системы переходных экономик. Сравнительный анализ политики трансформации финансовых систем и финансовых рынков в странах Центральной и Восточной Европы выявил особенности моделей их развития. Предложены концептуальные подходы в стратегическом управлении развитием финансовых систем экономик с новыми рынками в контексте современной системы преобразований международных финансов.

Ключевые слова: переходная экономика, финансовые системы, финансовая стратегия, монетарная и финансовая политика.

The author marks factors of global financial instability, which determine the mechanisms of influence the financial globalization processes on the financial systems of economies in transition. The comparative analysis of transformation policy by the financial systems and financial market in the countries of Central and East Europe found out the features of models of their development. Conceptual approaches are offered in a strategic management financial systems development of economies with emerging markets in the context of modern system transformations international finance.

Keywords: economics of transition, financial systems, financial strategy, monetary and financial policy/

Financial systems market transformation of Central and Eastern Europe (CEE) countries, so-called emerging Europe, occurs in the environment of regional financial integration. The process of regional financial integration plays a much more important role in determining the nature of the financial globalization for near term. The European Union financial integration involves primarily a single financial services market and the gradual integration in the European Monetary Union, the establishment of common monetary and financial policy. The euro area processes determine the environment condition for national financial systems in terms of regional financial integration. The euro area countries are powerful donor funds and portfolio debt financing for the transition economies. The financial integration process can both get the benefits of participating countries and generate additional risks to destabilize national financial systems through the asymmetric shocks. The inconsistency of strategic policy transformation is to

reduce its positive effects for countries with insufficiently developed (emerging) financial systems. The problem of forming a strategy of financial integration as a set of functional policies in finance provides an analysis practices of emerging Europe.

1. The CEE countries financial integration process trends

The EU's significantly contributed to the development of national financial systems the CEE countries during the pre-accession period. Poland received from 412 to 485 million euros a year to address the external debt during 1990-2006. Currently among the CEE countries most intense financial flows directed to Hungary, the Slovak Republic, Bulgaria and Slovenia. Debt forms of financial flows prevail in countries with emerging financial systems, indicators of investment cooperation is more uniform in distribution (see Table 1).

Table 1. Indicators of financial integration the CEE countries and euro area, 2011 (% of GDP)

Countries	External debt	Foreign direct investment
Hungary	34	50
Slovak Republic	45	35
Bulgaria	36	58
Slovenia	22	21
Romania	21	21
Poland	15	25
Estonia	3	22
Lithuania	3	10
Latvia	8	6

Source: Data of EBRD – <http://www.ebrd.com>

Analysis of the transition economies financial integration processes allows to distinguish a number of trends. The financial sector transformation has an unstable character. Countries showing a rapid rate of change in integrating some regression, inhibition processes of increasing maturity of national financial systems. Hungary, for example, practically eliminated the 2-tier pension system in autumn 2010. According to estimates by EBRD experts Hungary worsened the condition of the financial services, Slovenia – banking and financial services sector, Slovak Republic – sector of small and medium enterprises financing in post-crisis period. The market transformation process is characterized as fragmented – some components of financial system develop

more rapidly. The predominance of banks-oriented models of financial system is the result of uneven development of financial system, which makes the country vulnerable to banking crises of the financial integration area.

Poland as example demonstrated the positive effects of balanced development of all sectors of the financial system. Polish companies used stock arrangements to mobilize the necessary financial resources during the banking sector destabilization as a result of European debt crisis. Polish financial market remains one of the most mature among the countries with transitive economy of the region through the post-crisis period (see Table 2).

Table 2. The financial sector transformation rates of transitive economy countries*

Countries	Banking		Insurance and other financial services		MSME finance		Private equity		Capital markets	
	2010	2011	2010	2011	2010	2011	2010	2011	2010	2011
Bulgaria	3	3	3+	3+	3-	3	3-	3-	3	3
Latvia	3+	3+	3+	3+	3	3	2+	3-	3	3
Lithuania	3+	3+	3+	3+	3	3	2+	2+	3	3
Poland	3+	3+	3+	4-	3	3	2+	3+	4-	4-
Romania	3	3	3+	3+	3-	3	2+	2+	3	3
Slovak Republic	4-	4-	3+	3+	3+	3+	2+	2+	3-	3
Slovenia	3+	3	3+	3	3	3	2+	2+	3-	3
Hungary	3+	3+	4-	3	3	3	3	3	3+	3+
Estonia	4-	4-	3+	3+	3	3	3-	3-	3-	3

Source: Data of EBRD – <http://www.ebrd.com>

* Estimates of parameters given by scale from 1 to 4 +, where 1 is the almost complete absence of any departure from a rigid centrally planned economy and 4 + means to achieve the standards of a market economy, typical of industrialized countries.

Despite the dynamic growth of the financial market they remain extremely vulnerable to external shocks. The scale of the fall of the national stock market index during the time of crisis can be indicator of financial stability. The fall of the national stock indices reached 61% in Poland, the Czech Republic – 64%, Hungary – 62%, and indices of Romania and Bulgaria – 80% and 85% respectively at the crisis.

Development of subregional forms of financial integration. Relations banks eurozone and CEE countries have high concentrated spatial character. Bulgaria, for example, 50% of the capital of foreign banks accounts for Greek banks that is the one of the reasons inhibition post-crisis recovery [1]. The largest creditors of Latvia – a Swedish banks that own the country's assets totaling \$23.2 billion (according to the Bank for International Settlements) [2]. Gravitational forces make the strategy of parent banks an important factor that affects the recipient countries. It is estimated EBRD Bulgaria and Romania have the highest index of vulnerability of national economies of countries PIIGS transitive among countries through closer cooperation with financial institutions of this group of countries [3].

Institutional factors are an important factor of deepening financial integration of transition economies. Institutional failure of political institutions to overcome market failures hamper, reduces the efficiency of integration. According to reports the European Commission published May 2012, Poland remains a significant problem of shadow economy, which reaches 25% of GDP while the average in EU at 15.2%. Bulgaria has one of the highest levels of corruption in the EU according to Transparency International's 2010 Corruption Perceptions Index, making it second only to Greece [4].

These characteristics of the transformation process is the formation factors of financial stability of the CEE. Financial stability – the ability to serve as the mobilization and redistribution of financial resources under conditions of destabilization of the environment. Transitive countries can be classified by this criterion and to distinguish three

groups of countries: countries with stable financial system with respect to external shocks (Poland, Czech Republic, Estonia), the country's financial system with moderate resistance (Hungary) and countries with fragile financial system (Romania, Bulgaria) .

3. Analysis of the CEE countries's monetary and financial policies

A powerful factor in the development processes of financial regionalization is the policy of financial sector development in the countries. The political process in this area is transformed from national policy to use the harmonized common policies. A powerful factor in the development processes of financial regionalization is the policy of financial sector development in countries. The political process is transformed from national policy to use the harmonized common policies in financial area. The criterion for evaluation of the policy effectiveness should be to create opportunities to increase the synergy effects and create a fuse from transmission of crisis infection, which allows countries to quickly restore its position in the post-crisis period. The main components of the strategic financial policy are systematically linked a monetary policy, debt policy, investment policy and policy development of the financial markets.

Sphere of currency regulation is the least harmonized to the group of the CEE countries as a result of the transitive nature of their economies and different economic potential. Economic integration makes appeal export-oriented model of economic growth for the CEE countries that has allowed these countries to maximize the positive effects of integration in the EU common market. The Independent exchange rate policy allows these countries to get positive effects from participation in the EU common market, to support macroeconomic stability.

The CEE countries strategic monetary policies are using the models of early and the late EMU membership (see Table 3).

Table 3. The CEE countries model of monetary integration

Model	Exchange rate regime	Countries
Early EMU membership	floating	Slovenia (2007), Slovak Republic (2009), Estonia (2012)
Late EMU membership	fixed (to the euro peg)	Bulgaria
	ERM II of $\pm 15\%$	Latvia (2005), Lithuania (2004)
	managed floating	Czech Republic, Romania
	floating	Poland, Hungary

Source: based on Data of IMF – <http://www.imf.org>

There are many fundamental and situational factors determining the choice of the exchange rate regime in the

CEE countries connected with strategic objectives the monetary integration: the scale of the economy, the nature

of its openness, the depth of the internal market, the state of the environment. The small and open the CEE economies with international capital mobility expected to have the benefits of EMU accession due to reached of macroeconomic stability, more trade and low interest rates. Slovenia, the Slovak Republic and Estonia entry into the monetary union after users of exchange rate regime fixation of the national currency.

Monetary policy is an important means of achieving monetary stability for the CEE countries in conditions of integration into EU common market. They can not afford to use monetary levers to maintain external competitiveness. The currency regime managed floating allows the Czech Republic and Romania to maintain monetary stability through inflation targeting. Managed floating regime involves the use of central bank currency intervention of the country, which requires adequate official reserves. Politics of Czech crown appreciation has created additional incentives for capital inflows into the country that helped to achieve external balance of the economy in the post-crisis period. Poland's economy is one of the largest in Central Europe, it has considerable export potential, which leads to the expediency of a floating exchange rate regime. Rate policy of Hungary during the transformation period has evolved from the regime currency basket peg to the regime of crawling peg and floating exchange rate regime for inflation targeting.

Bulgaria and the Baltics countries preferred model of fixed exchange rate but in different way: hard pegs to the euro and nominal appreciation within the ERM II limits. Lack of needed macroeconomic flexibility increased vulnerability of these economies to asymmetric shocks. Under conditions external pressure on the national currency measures of macroeconomic stabilization leads to a decrease in business activity, which has resulted in delays in post-crisis recovery. Thus, although Latvia plans to targeting an EMU member-

ship by January 2008, it so far can't meet the criteria due to budget deficit and inflation. Fixed exchange rate regime has limited opportunities to promote structural changes in the economy. Politics national currency peg to the euro has become one of the factors preserving low productivity of Bulgarian economy, low competitiveness and thus its peripheralization. Monetary policy fixed rate fully demonstrated fundamental flaws the model of fixed exchange rate for so-call economic catch-up process, and not the optimality of early accession to the peripheral countries.

The devaluation of national currencies allowed to reach the external balance, determining the available benefits of monetary independence under the crisis conditions. A significant devaluation of national currencies of Poland, Hungary, Romania, the Czech Republic and allowed to balance the economy. Thus, the Polish zloty has fallen by a third against the euro, the Hungarian forint has fallen by 23% and the Czech crown – at 17% in summer 2008. For example, the Polish zloty has fallen compared with its peak last year against the U.S. dollar by 76%, the Hungarian forint – by 63%, the Czech crown – at 46%, Romanian lei – 45% in April 2009. At the same time this currency back almost pre-crisis level beginning in 2010.

An early EMU membership, escalating monetary integration, in fact, can be considered as the valid reason for destabilize the economy both the euro area and countries with economies of transition. The level of real GDP transitive countries in 2010 was very different – transitive countries of Central Europe have made the rate of 105,9% (Q1 2008 = 100), transitive countries of South-Eastern Europe – 98.8%, and the Baltic countries – lowest level in 88.2% [5]. Takes place divergence of the integration space. As a result, the CEE countries postpone EMU membership at a later period than expected in the pre-crisis period.

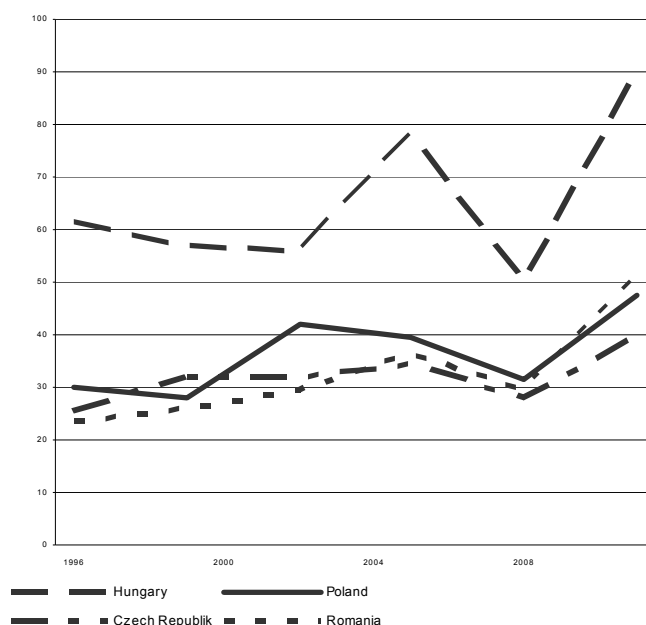


Fig.1. The dynamics of external debt (end of year, % of GDP)

Source: based on Data of IMF – <http://www.imf.org> [7]

There are a number of factors stimulating the growth of external debt in the CEE countries: a trade deficit, monetary instability and inflation, low national savings, the deficit of public finances. Underdeveloped domestic financial sys-

tems leads to dependent of transitive economies from foreign sources of financial resources. Although the total CEE countries debt (the six countries most indebted) does not exceed the amount of Spain debt, the problem of external

debt and effectiveness of debt policy are vital to their development [6]. The CEE countries with economies in transformation using different models of strategic debt policy: moderate and expansion (see fig. 1).

However, Poland, the Czech Republic implemented a reasonable debt policy and used the instruments restrictions on foreign borrowings by banks, have tightened the requirements for the management of external debt. CEE countries debt policy demonstrated – a country that selected economically feasible debt policy priorities, in particular, hindered the development of consumer credit, avoided excessive debt burden and reduce the damage from the effect of capital outflows.

Poland has demonstrated the benefits of a strategic approach in developing and implementing the debt policy. The Polish authorities has adopted a "Strategy for Public Debt Management in 2006-2009". The strategic objective of debt policy defined the reduction of external debt. The main directions for achieve the specified strategy goal is development of domestic financial market, the introduction of a funded pension system and capital market reforms, the growing role of institutional investors, including private pension funds. The use of internal sources of financial resources allowed Poland to lead the process of post-crisis recovery of the group. The effective debt policy was that the presence of a number of macroeconomic factors to stimulate debt included restrictions on the size of external debt and optimization of structural characteristics of debt, including the maintenance of a safe level, the share of short-term debt, regulation of uses of borrowed funds. Limits on the size of external debt correspond to flexibility criteria and orientation on economic growth. Poland actively used monetary policy instruments to reduce interest of market participants on foreign borrowing. Economic efficiency model strategic debt policy has been recognized by international institutions. International rating agency Moody's and S&P assign high ratings Poland and the Czech Republic, which is indicating the reliability and ability to perform state debt, including the timely repayment of interest and principal loan [8]. Formation of stable financial systems in these countries is the result of policies introduced in the countries. Proof of financial capacity in Poland is the decision of €6 billion IMF loan in 2011. The Czech Republic gave the IMF credit €18.9 billion to assist countries affected by the global financial crisis in early 2009, it is planned to allocate about €1.5 billion IMF in May 2012, according to the decision of the G20 summit of mobilizing \$ 1 trillion for fight the global crisis [9].

At the same time policy escalation of external debt was a factor destabilizing the economy of Hungary. Hungary model economic transformation provided substantial government spending. The country financed sizeable social spending and the public finance deficit at the expense of external sources. Hungarian pension funds absorb 10% of total government liabilities. The production decline has reached 17.4% with 10% unemployment in 2009, so the

anti-crisis measures Hungary also had to finance through EU and international organizations loans: \$15.7 billion provided from IMF, \$8.3 billion – EU, \$1,3 billion – the World Bank [10]. EU assistance in the crisis period, certainly indicates the presence of integration advantages for the country. However, country's long-term model expansionist debt policy, provided better access to resources, led to a significant destabilization of the country's financial system and slowed its development. Hungary received "BB +" rating in 2011, characterizing it as lacking a stable financial system [11].

Significant threat that generates inefficient debt policy is threatened exhaustion of national savings as a result of the need to service debt and return, removing them from the economic process. The Hungary financial strategy combined debt expansionary policies and appropriate investment policy of large-scale involvement of foreign capital in the national economy. Weakness of such strategy due to environment instability through global transformations. The international financial system becomes unstable and poorly predictable. Financial strategist countries with transitive economy should include complex measures of risk management. They should be more flexible and accommodative.

The financial strategy of the CEE transitive economy contains investment policy as a systemically important component. The process of financial convergence defines the goals of transformation of financial systems emerging Europe (in particular Maastricht criteria). Under conditions of economic catch-up process, the efficiency of monetary policy reduced and potential investment policy as a mechanism for achieving convergence increases. The CEE countries used an extensive system of encouragement for foreign investors during the transformation process: the liberalization of foreign exchange restrictions, granting customs privileges, tax exemptions for foreign investors (mainly in Poland and Hungary), the establishment of special zones with preferential tax regime. Due to the use system of monetary, fiscal, administrative tools create a favorable investment environment and the level of foreign capital in the corporate sector in Hungary reached 50%, in Poland – 23% in the end 2009. The foreign investment played a role the prime drivers of growth and modernization financial sector, its harmonization with EU's finance standards (the qualification requirements of market participants, supervision, accounting operations, investor protection, taxation etc.). The share of foreign capital in the bank sector in Slovakia reached 90%, Slovenia – 31%, Latvia – 66%, in Poland – 76% in Bulgaria – 80%. However, lack of necessary preventive measures (the regulatory and supervisory measures according to the EC's experts) has led to negative consequences and reduced the positive effects of FDI in Latvia [12].

Despite the dynamic growth of FDI in the run-up prior to the crisis the countries have demonstrated the different effectiveness of their investment strategy in the process of integration (see Table 4).

Table 4. The dynamics of inward Foreign Direct Investment, 2001-2011 (% to GDP)

Countries	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Bulgaria	5	3,8	10,1	13,4	13,6	23,5	29,4	19	7	4,9	3,5
Czech Republic	8,8	10,8	2,2	4,4	9	3,7	5,8	2,9	1,5	3,4	2,5
Estonia	8,6	3,9	9,4	8	20,6	10,7	12,4	7,2	9,6	8,1	0,8
Latvia	1,6	2,8	2,7	4,6	4,4	8,4	8,1	3,8	0,4	1,6	5,5
Lithuania	3,6	5,1	1	3,4	3,9	6	5,1	4,1	0,2	2,1	2,8
Hungary	7,5	4,5	2,6	4,4	7	6,6	2,9	4,1	1,2	1,4	3
Poland	3	2,1	2,2	5,1	3,4	5,7	5,5	2,8	3,2	1,9	2,8
Romania	2,9	2,5	3,7	8,5	6,5	9,2	5,8	6,8	2,9	1,8	1,4
Slovenia	1,3	3,9	3,6	2,1	2,3	1,6	3,8	3,6	-1,3	0,8	2,2
Slovak Republic	7	15,5	6,5	7,2	5,1	8,4	4,8	5	0	0,6	2,2

The difference in the quality of the investment environment has led various rates of recovery. The investment policy's sectoral priorities are the key factors that produce a positive effect for economic growth. Investment policy in the Czech Republic, for instance, included tax breaks, government grants for technical equipment areas, creating jobs and improving the quality of human capital. Permit investment policy involved the use of a number criteria that directed FDI flows in accordance with the regional and industrial policy objectives. The inflows FDI into all the CEE countries declined dramatically in the post-crisis period. The largest decrease was in Bulgaria (in 2008 FDI inflows reached 19%, while in 2011 only 3.5%), significantly reduced investment in Romania – from 6.8% in 2008 to 1.4% in 2011 [13]. One of the factors that led to this situation is unfavorable investment environment in these countries, market failures (corruption among the highest in the EU). Among the countries that do not have a significant reduction in FDI inflows – Poland and the Czech Republic. Only Latvia have in FDI inflows performance better in 2011 than during the pre-crisis period. Thus, as a result of the crisis the country faced the effect of asymmetry of access to financial resources, threatening the financial divergence [14]. Under these circumstances there are processes stratification of emerging Europe, the formation peripheral zone. The elimination of institutional factors peripheralization can be considered as the leading direction of adjustment of strategic goals of financial strategies transitivity of "south".

4. Conclusions

Summarizing the above remarks it should be noted that the financial integration strategy allowed to benefit: increasing maturity of the financial system, development of financial markets by introducing new tools, the transition to modern standards of financial activities; access to additional financial resources to overcome limitations resource base of their own financial systems. Implementation of financial convergence criteria contributed to financial stability. At the same time, the process of integration through openness and vulnerability to instability of the integration space increase the divergence of transitive economics due to lack maturity financial system. Under circumstances loss of financial sovereignty the price of false solutions to common policies raises. Due to the institutional weaknesses of the emerging Europe may upgrade adverse ef-

fects. Strategic financial policy as a combination of functional policies in finance should target reduction the vulnerability national financial systems. The global transformation and a new stage development of regional integration cause instability of the external environment emerging Europe. Under these circumstances, as practice of the most financially stable transitive economics has shown, for the CEE requires a risk-oriented strategy. Such strategies should include a complex of specific for transitive economics indicators for identification the threats to financial stability.

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APPLICATION OF COMPETITION POLICY IN TELECOMMUNICATIONS SECTOR

Ця стаття пов'язана з аналізом взаємодії політики змагання та регуляторної практики у мережевій промисловості як, наприклад, телекомунікації. Мета статті – виявити внутрішню узгодженість політики змагання та специфічного для сектору регулювання як в теоретичному, так і практичному вимірі, служучи інструкцією для майбутнього політичного розвитку.

Ключові слова: політика змагання, регулювання, мережева промисловість.

Эта статья связана с анализом взаимодействия политики соревнования и регуляторной практики в сетевой промышленности как, например, телекоммуникации. Цель статьи – выявить внутреннюю согласованность политики соревнования и специфического для сектора регулирования как в теоретическом, так и практическом измерении, служа руководством для будущего политического развития.

Ключевые слова: политика соревнования, регулирование, сетевая промышленность.

This paper deals with the analysis of the interaction of competition policy and regulatory practice in network industries such as telecommunications. The purpose of the article is to reveal the inter-coherence of competition policy and sector-specific regulation both in theoretical and practical dimensions while acting as a guide for future policy development.

Keywords: competition policy, regulation, network industries.

Traditionally, the network industries (i.e. telecommunications, post, electricity, gas, etc.) had mostly been organized as vertically integrated monopolies. In Europe, most of

them were held in state ownership, on the contrary to the United States, where most of them were privately owned and subject to sector-specific regulation. Over the past

three decades these sectors both in Europe and the US have undergone the significant technological as well as economical changes. While in different speed and depth all network industries have gone through the processes of privatization, liberalization and deregulation with the target to introduce competition into the sectors historically referred as "natural monopolies". Competition has been gradually introduced by following the specific guide loops defined in the directives, providing for the purposes and stages of this process in the EU [1, p. 2]. Member states have certain discretion to adapt it in the process of application.

At the same time the economic and political world experienced the development of competition policy. In Europe at first it was focused on establishing rules on restrictive practices interfering directly with market integration. Later however the focus moved more to ensuring effective competition by detecting and stopping cross-border cartels and maintaining competitive market structures [2, p. 43]. The latter aspect indicates the need both of *ex ante* and *ex post* interventions the former of which is also the attribute of the sector-specific regulation.

The analytical starting point of the paper is the observation of industry-specific deviations from the concept of perfect markets. From the economical point of view where markets are perfect, efficient outcomes can be expected. This standard result of economic theory is based on quite rigid assumptions. In real markets, there are important deviations which give rise to market failures and inefficient market equilibrium. Economists argue that in the network industries, most regulatory interventions can be explained by market failures: in particular, natural market power, incomplete markets, and asymmetric information which are sound rationales for market interventions [3]. Respectively it is believed that proper interventions are needed to tackle these failures.

There are two main public policy instruments to guarantee effective competition in the network industries that is sector-specific regulation and competition policy applied simultaneously. However this dual application does not always result in the most effective outcome.

The purpose of the paper is twofold. On the one hand it is aimed to reveal the inter-coherence of competition policy and sector-specific regulation both in theoretical and practical dimensions. On the other hand it seeks to identify possible ways of utilise the synergy of both practices, acting as a guide for future policy development. The paper deals with the telecommunications sector as the representative of network industries as it has gone through rapid developments in recent years both in economical and technological sense.

The paper is organised as follows. Following a brief sketch of the rationale behind the market interventions, the paper enters into a systematic discussion and case study of the different characteristics together with the comparative advantages and disadvantages of the two policy regimes, a set of issues that arise when competition policy and to sector-specific regulation apply to a given industry at the same time according to the different experience in the EU and the US, as well as in Lithuania. The last section summarizes.

Rationale for intervention

At its most basic, market is a mechanism for allocating resources. Well-regulated, competitive markets can maximize consumer welfare, and, by raising economic growth, also increase total welfare. When markets work well, firms thrive by satisfying consumer needs better and more cost-effectively than their competitors. As such, effective competition provides significant benefits for consumers through greater choice, lower prices, and better quality goods and services. Competition also provides strong incentives for

firms to be more efficient and innovative, thereby helping raise productivity growth across the economy [4].

Left to their own devices, however, markets will not necessarily deliver the best outcomes for consumers, companies or Government. Public authorities aim to maximise the welfare of their citizens and markets are supposed to be the best means to ensure such welfare maximisation. Thus governments can and should intervene when the mere functioning of the markets does not deliver this objective (governments also intervene in the markets to achieve other policy goals (political: health care, education; national security, etc.). In this case economists distinguish three types of market failure:

Excessive market power. The presence of excessive market power (like a monopoly operator) may lead to excessive price or too little innovation. Excessive market power is caused by legal and economic entry barriers or by anticompetitive behaviours.

Externality. The presence of an externality (like network externality or tariffs-mediated externality) may lead to under-consumption in case of positive externality and over-consumption in case of negative externality. For instance, less than the optimal number of customers may decide to join a network if new customers are not compensated, when joining the network, for the increase of welfare they create to the already existing customers.

Information asymmetries. The presence of information asymmetries (e.g. the absence of knowledge of the price) may lead to under or over consumption. In telecommunications, the two first categories lead to the standard distinction between the one-way access (or access model) which concerns the provision of bottleneck inputs by an incumbent network provider to new entrants and two-way access (or the interconnection model) which concerns reciprocal access between two networks that have to rely upon each other to terminate calls) [5, p. 65-66].

In addition, each type of market failure may be structural and result from the supply and demand conditions of the market, or may be behavioural and artificially (albeit rationally) executed by the firms. These two types of market failures are closely linked together and structure may influence conduct as much as conduct may influence structure. However, it remains possible (and useful when choosing between the different instruments of public intervention) to identify the causes of the non-efficient market results and to distinguish between structural and behavioural market failures.

Competition policy versus regulation: theory

To tackle the above mentioned different market failures, public authorities dispose of several legal instruments that they must combine in the most efficient way: in particular competition law, sector regulation, consumer law [5, p. 67]. Specifically to find the appropriate balance between competition policy and sector regulation, governments seek to determine the main differences between both instruments, confront them with the market failures to be dealt with and accordingly decide which instrument is the most efficient in solving the market failure. It is important to stress the same purpose of all the instruments.

Many authors consider that the main difference between competition policy and sector regulation is that the former aims at maintaining the level of competition whereas the latter aims at increasing the level of competition. However, it is not always the case in merger decisions which sometimes are aimed at strengthening the level of competition in the market. Also the type and level of regulation could differ. For theoretical framework that explains why sector-specific regulation implemented in network in-

dustries differ both from other industries as well as among the various network industries see Jaag and Trinkter [6, p. 4].

The two principal and related substantive differences between competition policy and sector regulation are that sector regulation mainly deals with unsatisfactory market structures whereas competition law deals with unsatisfactory firms' behaviours, and the burden of proof for sector regulation to intervene on the selected markets is lower than competition policy.

Because of the first difference related to structure and behaviours, it is efficient that sector regulation deals with structural market failures and competition policy deals with behavioural ones. Because of the second difference related to the burden of proof, it is efficient that the factor

used to select markets for regulation is set at a very high level because once a market area is selected, intervention is relatively easy. In other words, the regulation should focus on market where the risks of false condemnation errors are low and the risks of false acquittal errors are high. Taking both arguments together, any possible regulation should be limited to structural market failures due to excessive market power and externalities.

The other differences follow the two principals identified above and involve institutional design, requirements for the information and nature of remedies imposed. Table 1 summarizes the differences between competitive policy and sector specific regulation.

Table 1. Differences between the competition policy and sector-specific regulation

	Competition policy	Sector-specific regulation
General approach	Ex-post, harm based approach	Ex-ante, prescriptive business conduct
Institutional design	Horizontal institution: lawyers and economists	Sector-specific institution: sector-specific engineers and economists
Amount and nature of information required	Only information on the allocated abuse	General and detailed information on the sector
Nature of the remedies imposed on undertaking	Structural remedies addressed to specific conduct	Detailed conduct remedies requiring extensive monitoring
Nature of public intervention	Permanent based on general competition policy principles	As competition is more effective, part of sector specific regulation replaced by competition policy

Source: Authors based on Buigues P. [7]

Because of the unanimous goal (that is effective competition) and taken the profound level of the regulation introduced it could be argued that there is no space and possibility for competition authorities to intervene into the regulated sectors, especially when pricing is directly regulated. In practice, however, competition policy interventions are possible even in a case of state monopoly. As suggested by Cave and Crowther [8], in practice the boundaries between what is considered *ex ante* regulation and *ex post* competition policy are blurred.

Competition policy versus regulation: practice

Though debated between the academics and policy makers [6, 7, 8] the topic of the role of the competition policy in the regulated sectors was held outside the practical implementation until recently when important and controversial judgements were handed both in the EU and the US. In particular in the EU the discussion started on the eve of the introduction of the new regulatory framework for telecommunication sector while following the American Supreme Court's decisions in the *Trinko* [9] and its successor the *Linkline* [10] cases. In Europe the debate culminated in 2008 when the Court of first Instance (now General Court) handed down the *Deutsche Telekom* judgement [11]. Similar logic was also applied in *Telefonica* case [12].

The General Court in Europe and the American Supreme Court in the US reached two opposite conclusions as to the relationship between competition (or antitrust) policy and sector specific regulation. Roughly speaking the American Supreme Court opted for an "hands-off" approach as long as competition policy considerations are built-in the regulatory scheme, whereas the General Court held that the concurrent application of the two set of rules is possible notwithstanding the fact that the regulatory framework is competition policy driven and incorporates competition law concerns. As the purpose of this article is not to analyze in depth the details of the competition law claims in the particular cases (i.e. margin squeeze and refusal to supply), we focus on the theoretical framework concerning the relationship between competition policy and regulation.

EU perspective. In brief, the facts of *Deutsche Telekom* case were as follows. *Deutsche Telekom* (hereinafter DT) had an obligation to unbundle the local loop to allow competitors to offer competing services and the wholesale price for this was approved by the regulation authority, so resulting in a price squeeze. One of DT's arguments was that it had relied on the regulator's directions and so assumed its pricing policies were lawful. This argument was quickly cast aside by the Commission (and later by General Court) by concluding that: "the competition rules may apply where the sector-specific legislation does not preclude the undertakings it governs from engaging in autonomous conduct that prevents, restricts or distorts competition." [11]. It was also concluded that the only way for DT to avoid the infringement of Competition law was to increase the retail price for the customers, thus giving the priority to the competition and respectively consumer benefit in the long term.

Also in assessing the impact of the sectoral regulation, the General Court drew a distinction between situations where the restriction of competition is wholly attributable to the regulatory regime, and situations where it is merely encouraged or facilitated by the regulatory regime, also allowing some scope for autonomous conduct by the firm concerned. Under the former scenario, the competition rules are not applicable, because they apply directly only to the conduct of undertakings—essentially a state or regulatory compulsion defence. In the latter case, however, any scope for autonomous behaviour by the relevant firm can be examined to determine whether it is in conformity with the competition rules [11].

The analogous approach was adopted by the courts and competition authorities in the *Telefonica* case where the incumbent telecommunications operator in Spain was held to have committed an abusive margin squeeze between its retail and wholesale prices for high speed internet which were broadly subject to price regulation by a national authority. While this position has been criticised [13] it is judged that a regulatory or antitrust duty to supply is not required for margin squeeze liability.

US perspective. The American Supreme Court ruled the judgement in *Trinko* and *Linkline* cases in 2004 and 2009 respectively. The facts of the *LinkLine* case were remarkably similar to those of *Deutsche Telekom* and *Telefonica*, relating to the local loop unbundling: an antitrust suit was brought against a monopolist, alleging *inter alia* an anticompetitive margin squeeze. However the notion of an anticompetitive spread between wholesale and retail prices, embraced so emphatically by the EU courts, was dismissed absolutely in *LinkLine*. Finally, *LinkLine* confirmed the *Trinko* approach with respect to the effects of sector-specific regulation on the application of the antitrust rules, and indeed may have strengthened the *de facto* antitrust immunity for regulatory activity resulting from that judgment. The Supreme Court in *Trinko* took the view that the existence of a regulatory duty to deal removed any scope for imposing an antitrust duty to deal in the market concerned.

Both *Trinko* and *Linkline* cases relied upon the earlier judgement of the margin squeeze case in electricity sector which argued that "where regulatory and antitrust regimes coexist...antitrust analysis must sensitively "recognize and reflect the distinctive economic and legal setting" of the

regulated industry to which it applies." [14]. Respectively the ultimate result in *Trinko* and *LinkLine* was the same: the presence of economic regulation precludes any finding of breach of the antitrust policy and laws.

To summarize, in the EU, the presence of sector-specific regulation – even intrusive regulation that mandates entry and sets prices – does not prevent the application of competition policy (and the margin squeeze concept), provided the vertically integrated firm retained some scope to avoid the squeeze, even if it can only do so by raising retail prices. By contrast, in the US, the *ex ante* economic regulation of a sector appears to remove it from the purview of competition policy, so that only regulatory duties can arise and regulatory remedies be imposed.

Competition policy versus regulation: practice in Lithuania

The similar cases are common in the smaller markets too. Table 2 represents the total number of investigations carried out by the Competition Council of the Republic of Lithuania in the telecommunications sector excluding investigations concerning the breach of Advertising Law.

Table 2. Activities by the Competition Council in telecommunication sector from 1999-2012

Period	Decisions made	Terminated investigations	Refusals to investigate
Prior liberalisation	2	1	1
After liberalisation	1	4	7

Source: Authors based on Competition Council [15]

As indicated in the table above during the period from 1999-2012 there were 16 activities carried out by the Competition Council involving TEO LT AB (hereinafter TEO), the dominant firm and the previous incumbent in Lithuanian telecommunications market. The number itself indicates the fact that the sector-specific regulation does not guarantee the appropriate level of competition protection and also can be influenced by the liberalization of the sector after the 1 January 2003.

The main details of three activities ending with the decisions and penalties imposed are discussed below. The main focus is put on the reasoning both by the Competition council and TEO rather than to the specific details of the cases.

In 2000 TEO (then Lietuvos telekomas AB) technically blocked the use of the analogous telecommunication lines for the transfer of double-sideband signals for TEO's client firms. TEO argued that these circumstances are not regulated (what is the responsibility of the regulator) and TEO can act according to its business needs. Competition Council concluded that TEO infringed the Competition Law by extending its legal monopoly in fixed telephone market to the familiar market.

In 2002 TEO (then Lietuvos telekomas AB) blocked the ISDN and fixed telephone lines for its client firms which were offering the voice transfer by internet services as violating TEO's exceptional rights of legal monopoly. TEO referred to the licence issued by the Ministry of Transport and Communications (then regulator) and concluded that TEO as incumbent cannot be incriminated as first and foremost it is a responsibility of the regulator to consider and act upon the circumstances of the case. Also TEO argued that Competition Council has no discretion to act and issue decisions affecting the situation of incumbent before the liberalisation which was scheduled next year. All arguments were denied by the Competition Council. Both above mentioned cases were appealed by TEO to the courts but were left unaltered.

The 2006 case happened already in a liberalised market was analogous to the above mentioned *Deutsche Tele-*

kom, *Telefonica*, *Trinko* and *Linkline* cases: margin squeezing in DSL retail market. This time TEO agreed to the incriminations and were adjudged. The total penalties for the infringements in three discussed cases amounted to 1.5 million Euros.

To summarize the Competition Council in Lithuania has not departed from the path stimulated by the European Union. It has strictly applied competition policy and laws in the telecommunications sector despite the specifics of the sectoral regulations.

Conclusion

The concurrent application of the competition policy and sector specific regulation in the network industries poses the three sets of issues. Firstly, the need of both types of intervention is questionable. Secondly, if it is the case, it is not clear whether the competition policy is fully applicable in the areas where sectoral regulation is in place. Thirdly, if the competition policy is applicable, it is not clear to what extent is the anticompetitive behaviour attributable to the regulatory regime rather than the dominant firm's conduct and does this shield the dominant firm from liability under the competition rules.

Going back to the essentials, if the ultimate goal is the effective competition then there is definitely a ground and need of competition policy and laws to act. However competition policy itself cannot create competition. Because of its *ex post* nature its main goal and approach is to prevent and limit the effects of certain activities restricting the freedom of competition. In a case of unsatisfactory market structures in network industries, there is a need of proactive or *ex ante* intervention. Respectively in a case of network industries there is a rationale both for competition policy and sector regulation to coexist.

On the other hand if the competition is an ultimate goal, the consensus view seems to be that less regulation and more competition policy is better. Formally, at least, neither EU nor US practice contains a bright line rule regarding the application of the competition policy within regulated sectors. Nonetheless, after *Deutsche Telekom* case (also sup-

ported by the practice in Lithuania), the scope for reliance upon the state compulsion defence seems minimal, while in US the immunity of competition policy was treated as *de facto* automatic in the presence of sectoral regulation. In these circumstances the EU gives a strong preference to the industrial policy over the benefits for the customers or to the long-term over the short-term objectives, i.e. possibly the higher retail prices because of the need to foster competition. While the US experience raises the doubts whether the automatic regulatory immunity afforded in *LinkLine* will be challenged going forward, given that the expansion of economic regulation will result in a correlating elimination of competition policy.

In the EU the concurrent application of the competition policy and sector-specific regulation and relevant issues can be explained by the different way of the implementation. In the EU the competition law is the law of the constitutional level and is directly adopted and applied in national legislation of the member states. Whereas the regulation (emerging from the liberalization framework) is implemented through the directives and member states has a certain level of discretion to alter it when applying to the local sectors.

In this respect the tough application of competition policy may seem necessary to finish the liberalisation of network sectors and attempt to create an internal market. As the application of competition policy and law is fundamental there is a need to adapt the regulatory policies respectively. Accordingly a more active involvement of competition authorities to the regulation activities may seem beneficial. One of the possible solutions would be implemented

firstly by aggregation of different sector regulators to one institution. The next step further would be the merger of sector regulators and a competition authority (already implemented in some countries).

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THE SOCIAL CONSEQUENCES OF THE PUBLIC DEBT INCREASE IN THE DEVELOPED AND EMERGING ECONOMIES

Досліджено основні соціальні наслідки збільшення державного боргу в залежності від рівня економічного розвитку країни і рівня заборгованості. Виявлено нелінійний зв'язок між рівнем заборгованості та обсягом державних витрат на охорону здоров'я й освіту як в розвинених країнах, так і в країнах, що розвиваються. Рівень фінансування системи охорони здоров'я в них зменшуються, коли державний борг перевищує 90% та 60% ВВП відповідно. Обсяг державних витрат на освіту починає скорочуватись, коли рівень заборгованості досягає 60% ВВП. Проаналізовано вплив державного боргу на рівень безробіття.

Ключові слова: державний борг, рівень безробіття, державні витрати на охорону здоров'я та освіту.

Исследованы основные социальные последствия увеличения государственного долга в зависимости от уровня экономического развития страны и уровня задолженности. Выявлена нелинейная связь между уровнем задолженности и государственными расходами на здравоохранение и образование как в развитых, так и в развивающихся странах. Уровень финансирования системы здравоохранения в них уменьшаются, когда государственный долг превышает 90% и 60% ВВП соответственно. Объем государственных расходов на образование начинает сокращаться, когда уровень задолженности достигает 60% ВВП. Проанализировано влияние государственного долга на уровень безработицы.

Ключевые слова: государственный долг, уровень безработицы, государственные расходы на здравоохранение и образование.

Certain social consequences of the government debt increase are examined depending on the income and debt-to-GDP ratio level of the country. Nonlinear link between the government debt and the public expenditures on healthcare and education are revealed both in the developed and emerging markets. The public healthcare spending starts to decrease when the public debt exceeds 60% and 90% of GDP in the emerging and developed economies respectively. The expenditures on education diminish after debt-to-GDP ratio reaches 60%. The unemployment rate augments with the growth of the state debt.

Keywords: public debt, unemployment rate, public health expenditures, public expenditures on education.

The purpose of the paper is to provide detailed analysis of the influence of public debt on the government expenditures on healthcare and education as well as its correlation with unemployment rate.

The government debt increase may result in reduction of the public expenditures on education, healthcare and other social services by creating additional burden on the state budget related to the debt servicing. Many factors define the existence of such influence and the degree of its intensity. First of all it is the level of country's economic development and the level of public debt. The way in which those factors are matched defines, in turn, the cost of debt service and

new borrowings, the interest and tax rates, the volume of foreign direct investments inflow etc. Therefore the analysis of the social consequences of the public debt increase should be performed for the various country groups, classed by their economic development and public debt level.

There is a wide range of literature dealing with the influence of the public debt on the national economies. Among the main channels through which high debt adversely affects the economy are: capital accumulation and growth constraining via higher long-term interest rates [1, 9]; future distortionary taxation [3, 7], inflation [2, 5, 13].

Despite these studies, the impact of the high public debt on government's capability to provide social services (education, healthcare, housing etc.) has not been systematically analyzed. The purpose of the paper is to provide detailed analysis of the influence of public debt on the government expenditures on healthcare and education as well as its correlation with unemployment rate.

Countries are grouped into four categories by debt-to-GDP ratio: 30 percent (low debt), 30–60 percent (medium

debt), 60–90 percent (high debt), and above 90 percent (very high debt). Such grouping is made for both developed and emerging markets and includes data on 33 countries over the period of 1980–2010 and 69 countries over the period of 1990–2010 respectively. Table 1 contains arithmetical averages of the main indicators of the social and economic development for all groups of countries.

Table 1. Dependence of the main social and economic indicators on the public debt level

Developed countries				
Public debt, % GDP	< 30	30-60	60-90	> 90
Public health expenditures, % GDP	5,26	6,14	6,18	5,45
Public expenditures on education, % GDP	4,91	5,64	5,59	4,49
Unemployment rate, %	5,89	6,75	6,72	7,64
Emerging markets				
Public health expenditures, % GDP	2,78	2,97	2,7	2,26
Public expenditures on education, % GDP	4,41	4,73	4,63	3,75
Unemployment rate, %	7,5	9,66	10,89	9,92
Average years of total schooling, age 15+	6,5	7	6	5

Source: calculated by author using World Economic Outlook Database, World Development Indicators & Global Development Finance statistics, Barro-Lee Dataset

The link between the government debt and the public expenditures on healthcare and education is estimated to be nonlinear both in the developed and emerging markets. Nevertheless there are significant differences. The most sensitive to the growth of public debt is the volume of healthcare expenditures in the emerging economies (figure 1, left scale). It decreases drastically when the public debt exceeds 60% of GDP.

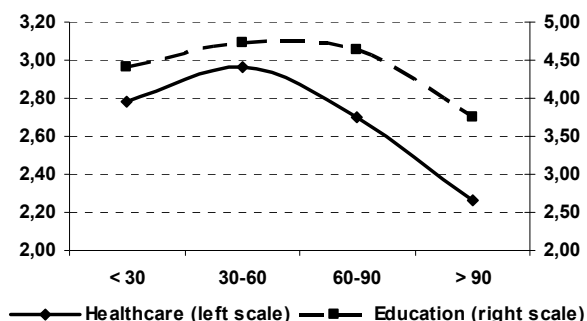


Fig. 1. Public spending on health and education depending on the state debt level in developing and emerging markets

Source: World Development Indicators & Global Development Finance, Barro-Lee Dataset, authorial calculation

Figure 2 shows that advanced countries' government healthcare expenditures start to decline when the debt level exceeds 90% of GDP. It is remarkable that even in the highly indebted developed countries healthcare expenditures stay at higher level than in the countries with low debt.

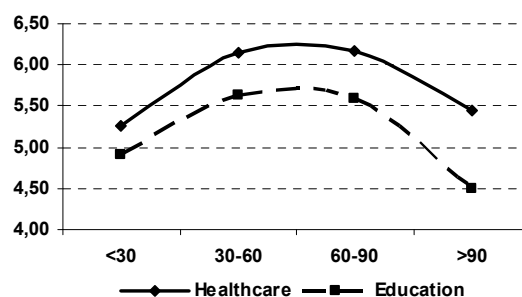


Fig. 2. Public spending on health and education depending on the state debt level in advanced economies

Source: World Development Indicators & Global Development Finance, Barro-Lee Dataset, authorial calculation

Changes in the level of the public debt affect the government spending on education in the same way for both the developed and emerging economies: they increase till the public debt reaches 60% of GDP and start to diminish afterwards. Countries from the very high debt level group demonstrate the least government spending on education. There is direct correlation between the level of the public debt and the average years of total schooling in the developing countries that indicates the lack of financing of their education systems. The average duration of total schooling in the most indebted developing countries is equal to 5 years.

It is remarkable that public spending on education is larger than on healthcare in the emerging economies and vice versa in the developed countries. It may be explained by the differences in the demographic structure of these groups of countries. For example, the average share of children under age 14 was equal to 43% of the total population in the heavily indebted poor countries in 2010, whereas the share of people over 65 was only 3%. In the developed countries the percentage was 17,5% and 15,6% respectively.

The influence of the public debt on the employment rate is negative as well. Moreover in developing and emerging economies such influence is much stronger. Countries of this group with the state debt at level of 60-90% of GDP are characterized by the maximal rate of unemployment.

Meanwhile the states with the maximal debt burden and consequently the lowest rates of economic growth and living standards typically have rather lower unemployment rates (see fig. 3). This can be explained by the readiness of the population to work under any conditions and for any salary as the social security system is unable to ensure

normal existence for unemployed. Taking into consideration that such problem does not exist in the most developed countries the unemployment rate there is directly correlated with the public debt level and consequently inversely correlated with the economic growth.

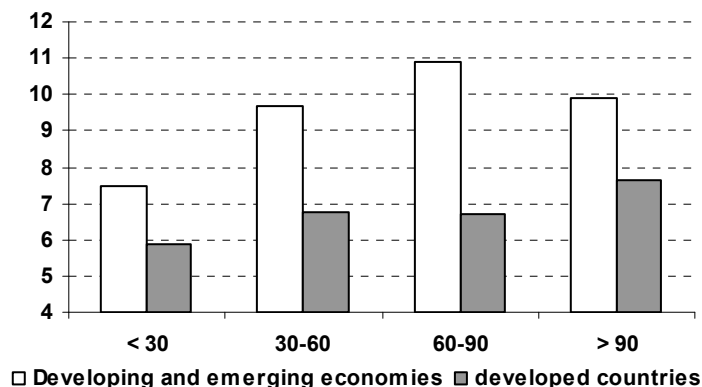


Fig. 3. Unemployment rate depending on the public debt level in emerging and advanced economies

Source: calculated by author using World Economic Outlook Database, World Development Indicators & Global Development Finance statistics

The influence of the state debt on the salary D.W. Elmendorf and N.G. Mankiw relate to the reduction of the capital accumulation: "With less capital available, the marginal product of capital will be higher, raising the interest rate and the return earned by each unit of capital. At the same time, labor productivity would be lower, thereby reducing the average real wage and total labor income". [9, P.12] It may be assumed that decrease of the actual wages caused by the increase of the public debt stimulates great number of employees in the economically developed countries to quit their job: they prefer unemployment compensation and free time to the full employment and the low labor income. The situation can also be explained by the fact that the increase of the debt burden compels the governments to augment tax rates. This in particular negatively influences small and medium businesses which in contrast to corporations do not have the possibilities for the effective tax management. At any case the unemployment rate in the economically developed states with the different levels of the state debt ranges within 1.75 percentage points. Meanwhile for developing and emerging markets this indicator is 3.4 p.p. meaning that the employment sensitivity to the changes of the level of the debt burden for this group of countries is almost twice as much.

Conclusions. The public debt negatively influences the social and economic indicators of the states with the different levels of economic development. The intensity of such influence depends on the debt level. The expenditures on the healthcare are the most sensitive to the increase of the state debt in developing and emerging economies. By contrast in the economically developed countries such expenditures increase along with the state debt. Lack of funding for the educational system in developing countries related to the high cost of the debt servicing is manifested in the reduction of the average years of schooling. The unemployment rate

augments with the growth of the state debt, meanwhile in developing and emerging markets with the debt burden of over 90% of GDP it slightly decreases that can be explained by the poor social security for unemployed.

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MACROECONOMIC EFFECTS OF FISCAL POLICY TRANSMISSION MECHANISM UNDER FINANCIAL CRISIS

Досліджено вплив елементів трансмісійного механізму бюджетно-податкової політики на реальний сектор економіки. Висвітлено головні підходи до виокремлення елементів передавального механізму бюджетно-податкової політики та дієвості впровадження відповідних заходів. Запропоновано формалізований опис впливів фінансальних імпульсів на основні макроекономічні показники. Вказано на необхідність застосування виваженої макроекономічної політики з метою виходу з фінансово-економічної кризи. Застосовуючи логічний метод та порівняльний аналіз, автор здійснив спробу сформулювати головні принципи оподаткування, здійснення державних витрат та управління державним боргом. Окреслено основні шляхи розробки фінансової політики.

Ключові слова: трансмісійний механізм бюджетно-податкової політики, оподаткування, державні витрати, сукупний попит, бюджетний дефіцит.

Исследовано влияние элементов трансмиссионного механизма бюджетно-налоговой политики на реальный сектор экономики. Высветлены основные подходы к выделению элементов трансмиссионного механизма бюджетно-налоговой политики и действенности внедрения соответственных мер. Предложено формализованное описание влияния фискальных импульсов на основные макроэкономические показатели. Обоснована необходимость применения взвешенной макроэкономической политики с целью выхода из финансово-экономического кризиса. Используя логический метод и сравнительный анализ, автор попытался сформулировать главные принципы налогообложения, осуществления государственных расходов и управления государственным долгом. Очерчены основные пути разработки финансовой политики.

Ключевые слова: трансмиссионный механизм бюджетно-налоговой политики, налогообложение, государственные расходы, совокупный спрос, бюджетный дефицит.

The paper focuses on specific effects of each of the element of fiscal policy transmission mechanism on real economy sector. Key approaches to fiscal policy implementation and fiscal transmission channels definition are highlighted. A formalized description is suggested as to the effect of fiscal impulses on main macroeconomic indices. A necessity of implementing of macro-prudential fiscal policy aimed to meet the financial crisis is emphasized. Using logical method and comparative analysis, the author made an attempt to formulate general principles of taxation, expenditure, and government debt management. Crucial ways to design financial policy are outlined.

Keywords: fiscal policy transmission mechanism, taxation, government spending, aggregate demand, budget deficit.

The current crisis, which started in the housing and financial sectors, has led to a strong fall in aggregate demand, reduction of output, and increase in unemployment. A successful policy package should address these appearances of financial crisis. During past two decades fiscal policy was a second-rate (compared to monetary policy) macroeconomic measure. The reasons were: skepticism about the effectiveness of fiscal policy (connected with Ricardian equivalence), lags in the implementation of fiscal policy, large variety of fiscal policy instruments, thus a complexity of its design and implementation.

The crisis has returned fiscal policy to center stage as a macroeconomic tool for two main reasons: first, to the extent that monetary policy, including credit and quantitative easing, had largely reached its limits, policymakers had little choice but to rely on fiscal policy. Second, from its early stages, the recession was expected to be long lasting, so that it was clear that fiscal stimulus would have ample time to yield a beneficial impact despite implementation lags [1, p. 9].

Range of issues concerning fiscal policy transmission mechanism was researched by a great number of scientists: V. Bazylevych, O. Baranovskyi, R. Barro, O. Blanchard, Ch. Blankart, A. Chuhno, V. Fedorov, V. Lepushynskyi, I. Lunina, G. Mankiw, R. Musgrave, V. Mishchenko, V. Oparin, I. Radionova, D. Romer, A. Socolovska, A. Somyk, O. Vasylyk et al.

The purpose of this paper is to demonstrate how fiscal policy transmission mechanism influences a real economy and to draw attention to the necessity of macro-prudential fiscal policy implementation under financial crisis.

Fiscal policy is governmental influence on economy through taxation, amount and structure of government expenditures aimed at securing full employment, avoiding and reducing inflation and disruptive influence of economic fluctuations [2, p. 690].

Effects of fiscal policy transmission mechanism were highlighted at least two research paradigms – neo-

classical (A. Hansen, J. Hicks) and Keynesian (J. M. Keynes, G. Mankiw, R. Mundell).

Keynesians claim that fiscal policy can have strong effect on aggregate demand, output and employment when the economy is operating below full capacity national output, and where there is a need to provide a demand-stimulus to the economy.

J. M. Keynes was the first who described fiscal policy effects. Government expenditures increasing and tax decreasing are main tools of expansionary fiscal policy aimed to extend aggregate demand (including customer and investment demand) and effective demand as a convenient way of macroeconomic stabilization.

$$G \uparrow (T \downarrow) \rightarrow AD \uparrow \rightarrow C \uparrow, I \uparrow \rightarrow AD^{\text{eff}} \uparrow \rightarrow AD = AS \rightarrow Y \uparrow \rightarrow U \downarrow \rightarrow L \uparrow \rightarrow U = U^* \quad [3]$$

A formalized description of fiscal impulse was provided for the first time within IS-LM model [4]. J. Hicks takes into consideration a multiplier: increasing of government expenditures equal to ΔG will extend output by $m_G \cdot \Delta G$:

$$G \uparrow \rightarrow AD \uparrow \rightarrow Y \uparrow.$$

The following deficit in the money market raises an interest rate. Accordingly, investment and output fall:

$$Y \uparrow \rightarrow i \uparrow \rightarrow I \downarrow \rightarrow AD \downarrow \rightarrow Y \downarrow.$$

As we can see, there is a crowding out effect because of money market which reduces multiplicative effect.

According to Mundell-Fleming model, fiscal policy is effective under fixed exchange rate [5; 6].

Monetarist economists, on the other hand, insist that government spending and tax changes can have only a temporary effect on aggregate demand, output and employment. They also affirm that monetary policy is a more effective instrument for controlling demand and inflation. They do not support relying on fiscal policy as a counter-cyclical measure.

To sum up macroeconomic effects of fiscal policy according to different theoretical models we can use the table below.

Table 1. Predicted effects of an expansionary fiscal policy on main macroeconomic indices

Model	L^S	L^D	L	Y	W	C
Standard neoclassical	↑	=	↑	↑	↓	↓
Enriched neoclassical	↑	=	↑	↑	?	↑
Standard new Keynesian	↑	↑	↑	↑	↑	?
Enriched new Keynesian	↑	↑	↑	↑	↑	↑

Notes: ↑ signifies an increase, ↓ signifies a decrease, = signifies no change, ? signifies an uncertain change.

Source: [7].

Fiscal policy transmission mechanism is not exhaustively examined yet. That is why there is no generally accepted point of view on the issue of the elements of such a mechanism. For instance, E. Alimpiev discerns two key channels:

- budget channel: $G \uparrow \rightarrow AD \uparrow \rightarrow Y \uparrow$;
- tax channel: $T \downarrow \rightarrow Y^D \uparrow \rightarrow C \uparrow \rightarrow AD \uparrow \rightarrow Y \uparrow$ [8, p. 24].

G. Riley pays more attention to tax side of fiscal policy. Therefore he distinguishes the following elements of expansionary fiscal policy [9]:

- $T_{\text{personal income}} \downarrow \rightarrow (Y-T) \uparrow \rightarrow C \uparrow \rightarrow AD \uparrow \rightarrow Y \uparrow$;
- $T_{\text{indirect}} \downarrow \rightarrow P \downarrow \rightarrow ((Y-T)/P) \uparrow \rightarrow C \uparrow \rightarrow AD \uparrow \rightarrow Y \uparrow$;
- $T_{\text{corporate}} \downarrow \rightarrow \text{"Post tax" profits} \uparrow \rightarrow I \uparrow \rightarrow AD \uparrow \rightarrow Y \uparrow$;
- $T_{\text{on interest from saving}} \downarrow \rightarrow (Y-T) \uparrow \rightarrow C \uparrow \rightarrow AD \uparrow \rightarrow Y \uparrow$.

As we can see, each of these element acts through disposable income ($Y-T$) or disposable profit (not through propensity to consume).

E. Baldacci, A. L. Hillman, N. Kojo discern channels of fiscal policy transmission mechanism using as basis intermediate link of such a mechanism. The key channels are:

- factor productivity, which is anticipated to be the principal transmission channel for expansionary fiscal adjustments in low-income countries
- investment, which is a channel prospectively linking fiscal policy and growth. Sustained reductions in government budget deficits increase private investment through reduced real interest rates and enhanced price and external stability [10].

Assume that there are two types of fiscal policy interventions: firstly, changes in government expenditures, secondly, changes in taxes. Each type of intervention has a different way of affecting the economy, thus – a different results of such an influence (equal amounts of tax cut and expenditures increase have different transmission mechanism and different changes in the level of output).

Borrowing is a measure to make up the excess of government expenditures and lack of tax revenues as a result of stimulating economy. However, government debt management is a certain fiscal policy instrument, thus deficit and government debt assumed to be a discrete fiscal transmission channel.

In turn, government expenditures can be split in government purchases, government investment, social transfers and government debt servicing cost. Certain elements of government expenditures differ in their influence on key macroeconomic indices.

A direct influence of social transfers on average income level within households: $Tr \uparrow \rightarrow Y \uparrow$.

Government purchases influence aggregate demand through commodity market: $G \uparrow \rightarrow AD \uparrow \rightarrow Y \uparrow$.

Government investment affects resources owners' incomes through resource market: $G \uparrow \rightarrow I \uparrow \rightarrow (K, L)^D \rightarrow Y \uparrow$ [11].

Debt servicing costs can be really huge to involve a country into a debt crisis: $Def \uparrow \rightarrow B \uparrow \rightarrow G_{\text{debt servicing}} \uparrow \rightarrow Def \uparrow \dots$

Changes in taxes take the form of lump sum taxes (their amount doesn't depend on revenue: land tax, real estate tax) and distortionary taxes (labor taxes, corporate taxes, value-added taxes, assessments to social funds).

Subject to way of implementing fiscal policy instruments can be divided into discretionary and automatic.

Discretionary fiscal changes are intentional changes in taxation and government spending. They include lump sum taxes (amount of which can be regulated by tax rate altering), government purchases and investment. Discretionary fiscal policy has two shortcomings: firstly, it suffers from implementation lags, including a political decision-making process influenced by multiple (possibly contradictory) considerations; secondly, discretionary policy is not automatically reversed when the economic cycle improves, giving rise to a potential deficit bias.

Automatic fiscal changes are changes in tax and government spending arising automatically as the economy moves through decline and growth of the business cycle. Automatic stabilizers of fiscal policy consist of automatic changes in tax returns under progressive tax system, in unemployment benefits and social transfers are parts of automatic stabilizer. The automatic stabilizers reflect revenue and some expenditure items that adjust automatically to cyclical changes in the economy. Built-in automatic stabilizer is an economic mechanism, which reacts to changes in macroeconomic situation automatically, without any governmental decision-making process.

Automatic stabilizers do not suffer from the shortcomings of discretionary fiscal policy. Their implementation is well-timed and gradual as tax and expenditure respond in a countercyclical way. No political decisions are required. That means implementation lags are minimized. As for fiscal sustainability, automaticity also provides a timely turnaround of a fiscal expansion; videlicet the fiscal loosening during a recession is automatically followed by a tightening on the rise. This may enhance the impact of a fiscal expansion on demand with respect to discretionary action, as the latter may raise solvency concerns and affect interest rates [12].

As for tax policy, it seems possible to boost consumption by increasing propensity to consume due to tax reducing as consequence of automatic stabilization:

$$T \downarrow \rightarrow c \uparrow \rightarrow C \uparrow \rightarrow AD \uparrow \rightarrow Y \uparrow.$$

While choosing fiscal stimulus instrument it is necessary to take into consideration the fact that government purchases multiplier is larger than tax multiplier. This statement is proved theoretically (for instance, [13, p. 80 – 83]) and confirmed empirically [14, 15]. Thereby economy (including Ukrainian economy) is more responsive to increasing in government spending (especially purchases and investment) than to tax cut or social transfers. An explanation is as the follow. Government purchases and investment directly influence aggregate demand (taking into account a corresponding multiplier): $G \uparrow \rightarrow AD \uparrow \rightarrow Y \uparrow$. However there is a caveat: the scale of waste in the public sector is high.

Tax cutting and social transfers' assignment leave assets within households where they could be split in consumption, saving for investment and precautionary saving.

The last one reduces an amount of assets disposable in economy, thus causes inefficiency:

$$\begin{cases} C \uparrow \rightarrow AD \uparrow \rightarrow Y \uparrow \\ T \downarrow, Tr \uparrow \rightarrow (Y-T) \uparrow \rightarrow S \uparrow \rightarrow I \uparrow \rightarrow AD \uparrow \rightarrow Y \uparrow \\ S_{precaut} \uparrow \rightarrow S > I \rightarrow Y < Y^* \end{cases}$$

Indirect taxes act through price level: $t \downarrow \rightarrow P \downarrow \rightarrow (M/P) \uparrow \rightarrow C \uparrow \rightarrow AD \uparrow \rightarrow Y \uparrow$. Nevertheless indirect tax changing causes consumption distortions, consequently a risk of excess tax burden is high in this case.

In a case of debt financing of budget deficit the transmission mechanism will be the next.

$$\begin{cases} I^D \downarrow \rightarrow K \downarrow \rightarrow MPL \downarrow \rightarrow W \downarrow \\ G > T \rightarrow Def \uparrow \rightarrow B \uparrow \rightarrow i \uparrow \rightarrow MPK \uparrow \rightarrow Profits \uparrow \\ I^F \uparrow \rightarrow q \uparrow \rightarrow NX \downarrow \rightarrow AD \downarrow \rightarrow Y \downarrow, TB < 0, BP > 0 \end{cases}$$

Government borrowing provokes interest rate boosting aimed to cover extra risks. On the one hand, domestic investment falls so far as the money is more expensive. Thereby reduced amount of capital in economy incites marginal productivity of labor decreasing and marginal productivity of capital rising. Consistent simultaneous wage cutting and profits increasing aggravate economic inequality in society.

On the other hand, foreign investment increasing and domestic currency revaluation provoke aggregate demand falling in the part of net export. In addition, imbalance between trade balance and balance of payment favours flight of capital out of a country.

The resulting higher debt burdens may have long-term consequences which are far worse than the short-term increase in GDP. Analysis shows that the crowding-out effects of government debt are substantial, both at home and abroad. Fiscal deficits lead to a substantial deterioration in the current account, about half the size of the decline in the revenue-to-GDP ratio, during the entire period of fiscal loosening [16, p. 43].

Conclusion. To sum up, we frame certain principles of macro-prudential fiscal policy.

Firstly, to choose fiscal instrument, it is necessary before to estimate and compare benefits from multiplied effect of government purchases and detriments from implicit waste rates.

Secondly, it is required to elect the more effective tax instrument: lump sum taxes influence disposable income (so, this is a derivative fiscal stimulus), while automatic

stabilizers affects propensity to consume causing however customer choice distortions.

Thirdly, the policymakers should weigh positive multiplier and negative crowding out effects.

Fourthly, to weigh tax revenues and excess tax burden before new tax imposing.

Ultimately, concerning debt policy, to evaluate short-term benefits from budget balancing and long-term loss connected with a debt burden.

These theoretical generalizations require future empirical evidence and corresponding detailed models of macro-prudential fiscal policy.

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LAND MARKET FORMATION IN UKRAINE: KEY OPPORTUNITIES AND THREATS

В статті досліджено можливий вплив формування ринку землі на українську економіку. Зазначено ключові можливості та загрози для ринкового регулювання землеволодіння та землекористування. Визначено головні проблеми концентрації та централізації на ринку землі. Запропоновано способи запобігання монополізації на ринку землі.

Ключові слова: ринок землі, ціна землі, землеволодіння, землекористування, концентрація земель.

В статье исследовано возможное влияние формирования рынка земли на украинскую экономику. Указаны ключевые возможности и угрозы для рыночного регулирования землеуладения и землепользования. Обозначены главные проблемы концентрации и централизации рынка земли. Предложены способы ограничения монополизации на рынке земли.

Ключевые слова: рынок земли, цена земли, землеуладение, землепользование, концентрация земель.

The paper examines possible effects of land market formation on Ukrainian economic system. Key opportunities and threats are pointed out for market regulation of land tenure and land use. Major problems of land market concentration and centralization are identified. Ways for avoiding monopolization on land market are suggested for governmental policy.

Keywords: land market, land price, land tenure, land use, land concentration.

Land market formation can be considered as a final stage of national economy liberalization. Therefore, this process can lead to serious problems in land ownership and land redistribution, while decreasing role of government in land use regulation. Moratorium on land sale will soon be repealed in Ukraine and agricultural land market will start functioning [1]. Sure enough, legal basis, land

condition, as well as the condition of land improvement systems and facilities should have been well prepared by that time – which is still arguable question. Uncertainty about results of land market formation in Ukraine causes necessity for detailed research of possible consequences, opportunities and threats of land reform.

Problems of land use and land market formation considered in scientific papers of Pavlo Sabluk, William H. Scofield, Stephen K. Wegren, Jim Higgins, Emery N. Castle. Wide range of issues concerning land tenure and land distribution was researched by Edward F. Renshaw, Frank H. Maier, Robert Innes, William G. Murray.

Land market formation in Ukraine aimed for more efficient agricultural land use by redistributing land to more efficient landowners. Meanwhile current economic situation demonstrates negative trends in land tenure and land use. Ukrainian capitalism model creates favorable conditions for land concentration by financial groups. In other words, there is a possibility of large-scale merger and acquisition between financial, industrial and agricultural capital while monopolizing land market because of market failures, unadjusted by the government.

Land market should establish and defend private land ownership as a traditional triad – full juridical faculty.

Key opportunities for Ukrainian economy in this case are: land legislature improvement, private ownership establishing, formation of system for private ownership defense. Also, Ukrainian economy can achieve serious stimulation of small-scale agricultural business development. In addition, improvement in land use efficiency can boost labor demand in agricultural sector. Cooperation development in small-business sector can lead to credit transmission improvement in agricultural sector [2]. Price discrepancy liquidation and governmental pricing policy offsetting also can be a strong opportunity for further agricultural development. Market infrastructure can be improved with development of land banks and agricultural insurance companies.

Expected threats of land market formation, such as generating a new model of land market – a virtual market, in which planning expectations are unconnected with real current demand and attain an inordinate role, siphoning off capital which will thus become unproductive, or which will be non-taxable if the money is black [3] – should become a subject for governmental regulation. Also, we can add to possible threats next expected results of land market formation: consequently higher rather than lower land prices, and the creation of a highly speculative virtual market of real-estate assets; possible situation, when agricultural land can be turned into urban-use land; land overdevelopment, exhaustion of the soil, decrease in land fertility; landscape demolition; uncontrolled conversed land sales; decrease in qualification of agricultural workers; landowners, uninterested in efficient land use; labor migration from countryside toward cities; agro-industrial concentration and deepened price discrepancy; as a result – establishing of complete cycle conglomerates.

Current situation illustrates controversial trend in Ukrainian economy – land market formation while unprofitable agricultural production. And this problem can't be solved only with mortgage or bankruptcy procedures.

Land market formation may transform to land redistribution to more efficient landowners only whereas fully unadjusted by government land market will be imbalanced with demand-supply land pricing. Meanwhile, land as a strategic resource would be underestimated [4].

Besides that, global financial crisis demonstrates possibility of land market "overheating" with derivative operations and mortgage.

Typical problems of land reform and land market formation are:

- land reform usually conducts administratively and land distribution decisions makes not by the market but by bureaucratic procedures. Therefore, in the rural sphere, for example, farm members can be given equal land shares, irrespective of the recipient's age, ability to use the land, or

skill level. Such approach can lead to inefficient land redistribution and high social and pension costs in agricultural sector, thus creating a heavy burden on agricultural enterprises' budgets and exacerbating their financial condition;

- non-use of rights conferred on land owners (taking into account previous problem, we must admit, that right to sell land shares is often not utilized for a variety of reasons). One reason is that in most cases land shares remains little more than a paper entitlement. Another reason is related to the demographic problem discussed above: persons of pension age often do nothing with received land shares, thus freezing the land reform process. Moreover, even if a person obtains physical possession of a land plot, the tendency is to use it to meet subsistence needs;

- land use is often regulated. Typically legislation creates a number of restrictions on land use – it obligates the land user to meet certain requirements: to cultivate agricultural land and not to let it lie idle, to use agricultural land for agricultural purposes only and to maintain the land's fertility [5];

- possible land use conversion, large-scale transformation of agricultural land into urban or suburban land.

Colossal land improvement program in Ukraine failed to meet the expectations. Therefore, land market formation in Ukraine placed a number of specific problems in front of land improvement, related to such specific features of the sector as natural monopoly, considerable dependence on governmental funding, insufficient development of self-sustaining and contractual relations between water supply organizations and manufacturers.

Moreover, the issues of irrigation cessation of fields in negative ecological state, application of complex reconstruction and modernization of irrigation systems, introduction of progressive cropping systems and the use of A-grade water for irrigation still remain unsolved [6].

Land reform policy in Ukraine also reveals key false beliefs, which can lead to unsuccessful results. For example, the erroneous assumption that land restitution and private ownership of the land could by themselves solve the problems of low labor productivity definitely needs to be compared with foreign experience. The paradoxical resilience of the idea that large farm size is an ideal form of organization of production in agriculture, and the only one capable of capturing economies of scale in agriculture also can lead to numerous mistakes, such as imbalanced infrastructure of agricultural market. The misplaced belief that rural markets, for example, for labor, and capital, were to emerge naturally as a result of the reintroduction of private property rights over land can lead to unreasonable land policy. Another false belief is a compartmentalized view of the economy, with the consequent view that agricultural policies can be designed in isolation from the policies concerning other sectors of the economy [7].

Ways for avoiding monopolization on land market may be included in governmental program, considering governmental protection of economic competition and limitation of agricultural land shares for avoiding land concentration; price regulation, establishing minimal limit for land price, market price stabilization; including agricultural land to the market as equal to urban land. Among the efficient ways for avoiding monopolization are combination of administrative and economic methods of land tenure regulation; avoiding of information asymmetry on the land market; fixing maximum land share for each category of landowners and limitation of transnational corporation expansion on the land market [8]; non-admission of parceling out agricultural land shares and limitation for mortgage and derivative use to avoid land market "overheating".

Also, market concentration can be limited with institutional program, which should contain such constraints as:

- only individuals holding Ukrainian citizenship should own land after land market formation;
- land owned but not cultivated should be a subject to fines and possible loss of the right of use after two years of non-cultivation;
- new landowners should be given two options to organize production: they could farm individually or they could set up associations by pooling together the newly distributed land;
- land should be free of land taxes for few years of market adaptation;
- soil degradation prevention and amelioration should be financed and coordinated largely by the government [9].

In general, strategic role of land market in Ukraine stipulates active governmental participation in land ownership and land use regulation. For example, government should establish special fiscal regimes for agricultural land sales on derivative market and prohibit conversion of agricultural land to urban land, while stimulating exhausted land purchasing. Government should provide sound land cadastre management and monitoring of such indices as: land exhaustion, soil depletion, land development and land reclamation. Also, information system development for registration, arbitrage, controlling of land sale and land lease [10] and avoiding of market shocks, overestimation of assets, fictitious capital expansion, derivative "overheating" of land market should help to stabilize land market.

JEL classification G38

Conclusion. Land market formation in Ukraine strongly influenced by different contradictions such as: liberalization of land market while unprofitable agricultural production, active use of derivative instruments under global financial crisis, total large-scale transformation of agricultural land into urban or suburban land etc.

Private land ownership abridgement, responsibility for improper land use and land conversion, restriction of TNC participation in land concentration is a subject for further researches.

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THE DEVELOPMENT OF FORECASTING METHODS FOR INCOME TAX OF UKRAINE IN THE MEDIUM TERM

Досліджено підходи до розробки методик прогнозування податку на прибуток підприємств при формуванні Державного бюджету України. На основі зарубіжного досвіду та вітчизняного законодавства запропоновано методику розрахунку прогнозу зборів розглянутого податку у середньостроковій перспективі. Запропоновано сценарні підходи для розрахунку прогнозних значень в залежності від впливу зовнішніх та внутрішніх факторів на 2013-2014 роки.

Ключові слова: податок на прибуток підприємств, сценарний прогноз, бюджет.

Исследованы подходы к разработке методик прогнозирования налога на прибыль предприятий при формировании Государственного бюджета Украины. На основе зарубежного опыта и отечественного законодательства предложена методика расчета прогноза сборов рассматриваемого налога в среднесрочной перспективе. Предложены сценарные подходы для расчета прогнозных значений в зависимости от влияния внешних и внутренних факторов на 2013-2014 годы.

Ключевые слова: налог на прибыль предприятий, сценарный прогноз, бюджет.

The approaches to develop methods of forecasting the income tax were researched while forming the Government budget of Ukraine. Based on foreign experience and domestic laws the method of calculating forecast charges was considered in the medium-term. A scenario approach was proposed to calculate predictive values depending on the external and internal factors for the 2013-2014 years.

Keywords: Income tax, scenario forecast, budget.

Fiscal reform remains a key issue of public policy in Ukraine. The Economic reform programs for 2010-2014 identified the necessity for strengthening financial and fiscal discipline, introducing medium-term planning of public finance [1]. It must be noted that planning budget incomes and expenditures as well as funding budget programs is only possible with well-performing forecasts. At present it is of paramount importance to adopt the methods of forecasting in the medium term at the state level and approve them by the regulations.

The problem of medium-term forecasting revenues of budgets in different levels is becoming very actual for scientific research and for practical activities of central government. The use of medium-term budget planning affords an opportunity for participants of the budget process to agree the strategic plans according to the available budget funds

within the framework of the draft budget for the relevant year and for subsequent periods, provide a transition to the formation of long-term budget policy [9]. While implementing the medium-term budget planning and forecasting the task of high priority is to consider new approaches to the formation of budget revenues, the main budget taxes.

The development of medium-term budgeting and making forecasts for the medium-term are considered in scientific investigations of such scholars as G. Akerlof, J. Stiglitz, R. Solow, J. Tobin, T. Efimenko, I. Lunina, I. Luty and others.

The active implementation of medium-term forecasting and planning requires the development of new methods of forecasting, based on overseas experience, adapted to the Ukrainian context and meet the objective of the state economic policy.

The Ministry of Finance of Ukraine with International Bank for Reconstruction and Development provided a joint Project "Public Finance Modernization", which was approved by the Law of Ukraine "On Ratification of the Loan Agreement between Ukraine and International Bank for Reconstruction and Development" (№ 591-VI, 24.09.2008). Under this project a number of methods for forecasting indicators of budget revenues was developed. These techniques were confirmed by the order of the Minister of Finance of Ukraine (№ 1646, 24.12.2010). The methods were used to predict performance of revenues in short-term

period, but the individual components of these techniques can be considered as the basis for a medium-term forecasting methods.

The main budget taxes of the Consolidated budget of Ukraine, which form the dominant part of the tax revenue, are the value added tax (VAT), income tax, tax on personal income and excise tax. In table 1 the dynamics of the Consolidated budget of Ukraine for 2002-2010 is presented. One can see that income tax is about 12-18% of total revenues, taking the third position after VAT and personal income tax.

Table 1. Dynamics of the Consolidated Budget of Ukraine in 2002-2010, mln.UAH.

Index	2002	2003	2004	2005	2006	2007	2008	2009	2010
Tax revenues	45393	54321	63162	98065	125743	161264	227165	208073	234448
Taxes on income and income taxes, taxes on the increase in market value	20222	26759	29375	40789	48963	69189	93753	77533	91388
Corporate Income Tax	9398	13237	16162	23464	26172	34407	47857	33048	40359
Tax on personal income	10824	13521	13213	17325	22791	34782	45896	44485	51029
Taxes on property	587	600	659	833	1085	1355	1558	1538	1905
Fees for use of natural resources	2450	2780	3384	3981	4747	5948	9292	11231	12710
Domestic taxes on goods and services	18192	18561	22739	43366	61164	71914	107037	107683	115933
Value Added Tax	13471	12598	16734	33804	50397	59383	92083	84597	86316
Excise tax on domestic goods	3605	4659	6092	7347	7557	9072	10230	17934	23715
Excise tax on imported goods	493	587	613	599	1051	1496	2553	3690	4601
Taxes on international trade and external transactions	2366	3795	5067	6722	7373	10038	12303	6929	9072
Other taxes	1575	1827	1939	2374	2411	2820	3222	3159	3440
Non-tax revenues	14697	18227	24572	31778	40548	48553	60544	58436	73837
Revenues from capital operations	1101	1788	2534	2804	3218	6373	6702	3653	3143
Official transfers	292	213	418	183	154	105	135	645	180
Trust Funds	472	737	844	1354	2148	3641	3347	2160	2773
Total income (net of intergovernmental transfers)	61954	75286	91529	134183	171811	219937	297893	272967	314506

Source: Prepared according to [6]

The declaration of corporate income tax of the State Tax Service of Ukraine is the basis of the information to calculate corporate income tax according to the method approved. A forecast of economic and social development of Ukraine is the basis for the information of macroeconomic indicators. The information reported to the State Tax Service of Ukraine is used to take account of the impact on forecasted income of tax arrears, provided instalments of tax overpayments and other factors.

The analysis of the methods for forecasting revenues in the medium-term, used in the international practice, has shown that the main methods of forecasting budget-tax of the Republic of Kazakhstan and Ukraine have much in common. Let's investigate the possibility of adapting these methods to the conditions of Ukraine.

The basis of the forecasting methods of the Consolidated Budget of Ukraine in the medium-term must be the principle of affordability, which is realized by using a relatively small number of endogenous and exogenous macroeconomic indicators, most of which are public and declared in such government documents as:

- Basic directions of budgetary policy for the relevant year;
- A Resolution of the Cabinet of Ministers of Ukraine "On Approval of Forecast performance of the Consolidated budget of Ukraine for major revenue and expenditure and financing" for the relevant period;
- Consensus forecasts of the Ministry of Economic Development and Trade of Ukraine;
- Forecasts of the International Monetary Fund and World Bank.

The peculiarity of the developed methods of forecasting is application of such parameter as "effective tax rate". By

this term it is assumed the ratio of total revenues from a particular tax to the value of the real tax base.

Unlike the rates stipulated by tax legislation, effective rate reflects not the value of tax deductions for the potential base, but the amount of tax revenues on real tax base, which is less than the potential due to the exclusion of certain items from taxation. The effective tax rate may differ from the legally established tax rate because of consideration of tax benefits, the use of several (other than standard), tax rates, the availability of tax arrears, avoiding of paying, etc.

Methods of calculating corporate income tax. The **first approach** to the forecasting of corporate income tax is based on the projected gross domestic product by the formula:

$$CIT_t = GDP_t \cdot S_{effect}$$

where CIT_t – income tax in the future forecasted period; GDP_t – GDP in the forecasted period; S_{effect} – the average effective rate.

$$S_{effect} = \frac{CIT_{t-1}}{GDP_{t-1}} \cdot 100$$

where S_{effect} – the average effective rate; CIT_{t-1} – the average amount of corporate income tax for the previous three periods, including reporting; GDP_{t-1} – gross domestic product in the previous period.

The **second approach** uses the information about the charged and the amount paid corporate income tax in terms of large taxpayers subject to monitoring State Tax Service (STS) of Ukraine, the results of annual recalculations of tax declarations.

The forecast for this option is based on estimates of expected income tax on profits from large taxpayers this year and the determined share of income taxes of large taxpayers in the total income tax for the previous three years, including reporting.

Thus one should exclude from the expected income tax such payments as: one-time payments, unsystematic, independent on industrial activity payments, including large size of annual recalculations received by temporary factors (price fluctuations, structural changes) and the amount the same percentage for acts of inspections.

The calculation of the projected amount of corporate income tax revenues as a whole is determined by the formula:

$$CIT_{forecast} = \frac{CIT_{estimated}}{D_{fact}} \cdot V_{temp}$$

where $CIT_{forecast}$ – the forecasted sum of corporate income tax; $CIT_{estimated}$ – the expected tax revenue from large taxpayers in the current year; D_{fact} – the share of income taxes of large taxpayers in total revenue as a percentage; V_{temp} – the rate of growth of gross domestic product for the planned period.

The calculation of expected annual income taxes from large taxpayers should be predicted by the formula:

$$P_{estimated} = \frac{P_{reported} - P_{onetime}}{M_{fact}} \cdot 12$$

where $P_{estimated}$ – the expected income tax revenues of the current year; $P_{reported}$ – income tax revenues for the period of the current year; $P_{onetime}$ – one-time tax revenues; M_{fact} – the number of months in the reporting period of the current year.

However, the calculated values do not include various economic and political impacts that largely determine the efficiency of enterprises, and therefore their profits. There is a need to adjust the forecasts obtained according to the world demand, cyclical economy and other factors. The main difficulty to achieve the required accuracy of medium-term budget forecasting is adequate consideration of significant variability of the Ukrainian economy and its significant impact on parameters of external factors, associated with current trends in the global economy. An important aspect is a strict adherence to the medium-term planning stages, which include budget forecasting and coordination of relevant regulations.

The analysis of progressive international experience shows that medium-term forecasting of budget revenues is conducted by several independent methods. For each of them the selected statistics with different economic nature is used. This enables to level errors and improve the quality of forecasts. In the forecast the risks of change exogenous and endogenous factors are taken into account, which let creation of scenario forecasts.

Scenario forecasts revenues of the Consolidated budget for the 2012-2014 are the main directions of economic development. Design and analysis of scenario forecasts revenues of the Consolidated budget will allow to identify trends in revenues, to outline the set of priority measures to balance the budget, determine the future tax burden, provide quality social protection, choose the effective ways of constructing budget policy, in particular to assess the availability of health care and education, determine the level of social security, to combat and prevent poverty.

Based on practical medium-term budget forecasting, which is supported by the World Bank and tested in some post-Soviet countries, it was developed and proposed a

methodological approach for predicting the main budget taxes in Ukraine.

The peculiarity of the suggested approach is that in predicting tax revenues several different methods are used, including the effective tax rate, which is the ratio of total income of a tax to the value of the tax base in the previous and current periods.

When building a forecast it should be taken into account the basic provisions contained in such documents as:

- the Program of economic reforms for 2010-2014 "Prosperous Society, Competitive Economy, Effective State";
- the Resolution of the Verkhovna Rada of Ukraine "On Main Directions of Budgetary Policy for 2012";
- the Resolution of the Cabinet of Ministers of Ukraine "On Approval Forecast Performance of the Consolidated Budget of Ukraine for Major Revenue and Expenditure and Funding for 2011-2013";
- the Resolution of the Cabinet of Ministers of Ukraine "On Approval of the Forecasts of Economic and Social Development of Ukraine for 2012 and of Macroeconomic and Social Development of Ukraine for 2013 and 2014";
- Tax Code of Ukraine.

Three possible scenarios of the Ukrainian economy were considered: pessimistic, macroeconomic (most realistic) and optimistic.

As for the pessimistic forecast revenues it can be highlighted the following factors, which can have a significant impact on the trend of reduction of budget revenues:

- the possibility of another wave of global financial crisis;
- rapid growth in energy prices and accordingly the cost of production;
- worsening of the external economic situation: regular price fall in the world commodity markets;
- increase of world prices for natural gas;
- strengthening the downward trend in the foreign exchange market and the significant issue to finance the budget deficit;
- spread of insolvency in the real economy, reduction of employment and increase the number of unemployed.

In particular, it is assumed that the reduction of the Consolidated budget revenues from corporate income tax during the forecasted period may be affected by such factors as lowering world prices for products made of metal and iron ore and increase of energy prices. Pessimistic forecast revenues of the Consolidated budget for the 2012-2014 period predicts that the Consolidated Budget of Ukraine in 2013 will grow from 453.2 billion UAH to 461.5 billion UAH in 2014, i.e. an annual growth of these revenues in the period studied is estimated about 3.1%.

The macroeconomic scenario is based on the assumption that the established relationship between budgetary revenues and macroeconomic parameters generally will remain for 2012-2014, i.e., the structural changes will not happen. In this case, the calculation of the forecasts can be made on the basis of macroeconomic factor models. The estimates of macroeconomic parameters approved by the Cabinet of Ministers of Ukraine were used as exogenous variables. According to this scenario in the 2012-2014 it is estimated the economic growth in Ukraine about 4.2%. According to the macroeconomic scenario, the Consolidated Budget of Ukraine in 2013 will amount to 464,4 billion UAH, in 2014 – 483,7 billion UAH.

The optimistic forecast revenues of the Consolidated budget of Ukraine is based on the following assumptions:

- the increase of the efficiency of public investments will remain as well as their concentration to support technological innovation for the modernization of domestic production and infrastructure development;

- the share of investment expenditures of the Consolidated budget to GDP to a level not less than 5% of GDP since 2012 will gradually be increased;
- regulatory framework in investment, innovation and technology transfer will be improved;
- extensive network of technology transfer involving all its subjects will be developed;
- the processes investing businesses in the field of scientific and technological activities on the basis of public private partnership for the production of high-tech industrial products will be activated.

The optimistic scenario assumes that carrying out the sound protectionist policy will increase the share of transport and high-tech equipment in the structure of engineer-

ing. It is supposed that the diversification of external markets will be held, more products will be presented in machine building [8]. The increase revenue of the Consolidated budget for the period 2013-2014 is assumed in average of 5%. Under the optimistic scenario, revenues of consolidated budget of Ukraine in 2013 amount 473.5 billion UAH, in 2014 – 491.6 billion UAH.

Calculations of the Consolidated Budget of Ukraine according to the most probable risks of the national economy and public sector in the medium-term were the basis to form the scenario forecast revenue from the tax on profits of enterprises of Ukraine for 2013-2014 years (table 2).

Table 2. Scenario forecasts of corporative income taxes for 2013-2014 years, UAH bln

Articles revenues	Pessimistic		Macroeconomic		Optimistic	
	2013	2014	2013	2014	2013	2014
TOTAL revenues (excluding transfers)	453.2	461.5	464.4	483.7	473.5	491.6
among them: tax revenues	405.4	409.7	415.2	427.9	422.7	435.0
among them: CIT	57.1	58.5	60.8	64.7	61.7	65.2

The proposed method of forecasting the medium-tax profit of Ukraine, based on the principle of availability in application, increases the transparency of the budget process, increases trust between taxpayers and government managers that control budget funds, and therefore, improves the efficiency of their use.

Thus, the article suggests the method of forecasting the revenues from corporate income tax, depending on the actions of internal and external factors, calculated forecasts of revenues for the period of 2013-2014 using three scenarios of the development of Ukrainian economy. The key feature of the proposed approach is using the effective tax rate, which is the ratio of total tax incomes to the value of the tax base in the previous periods.

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