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THE IMPACT OF GLOBALIZATION ON THE SELECTION OF FINANCIAL MARKETS

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Abstract. In this paper author emphasizes investment concept and argues, that it is inadequate to determine **Abstract.** The authors distinguish the concept of financial markets and their mutual relationships. Great attention is given to the influence of the globalization on financial markets. The optimization of utility function is used for setting opportunities offered by market. There is submitted a logical model for selection of financial markets and explored one of its stages - selection of financial markets using the utility function.

Keywords: investment, globalization, utility, uncertainty, risk, financial markets.

Introduction

Financial markets, integral component of globalization, which in turn is intersection of variety reasons and contingencies, for their understanding requires assessment knowledge and skills of fundamental market behavior under uncertainty.

The chunky capital of financial markets is a dominant interest in the whole world interest; therefore the globalization process occurs driven by global capital interests (Held *at all* 2002). The driving force of globalization is the globalization of financial markets, so it is important adequately recognizes the movement of capital forms and motifs in financial markets. Capital travels accompanied by advanced capital solutions and individual emerging interest.

Financial markets are the leaders of the ongoing process of globalization. The number of investments is increasing due to the growing scale of investment, also the interest of investments are growing among population, companies and states, while at the same time the number of investment management companies is increasing in global markets. So, there is a need to ensure a sustainable investment return and develop the conceptual investment foundations and methods in global financial markets.

The main purpose of this paper – to propose a logical model for the selection of financial markets under the process of globalization.

The concept of financial markets, their mutual relations

Many Lithuanian and foreign financial analysts and researchers submit different definitions of financial markets. The analysis of scientific literature and articles allowed compiling the table of financial markets definitions (Table 1):

Table 1 The definitions of financial markets (compiled by authors).

The author	The definition
L. Juozaitienė (2007)	Financial market – is a market that is not tied to a specific location and which involves exchanges of financial assets.
Cyril Pat Obi (1999)	Financial market - a system that includes trade with financial capital and which does not require any particular area.
Mishkin (2000), Fabozzi (2008)	Financial market - a market where is exchanged financial assets.

G. Kancerevyčius (2009)	Financial market – one of the most important parts of the state's financial system, which plays the important economic function - redistributes temporarily idle funds.
I. Pekarskienė, J. Pridotkienė (2010)	Financial market – is a part of financial system, where financial resources are allocated in order to get the maximum efficiency of their using.

The main mission of financial markets is to open the way for financially active population to actively participate in the management of finance in making financial decisions.

The significance of financial markets for every financial system of the state is one of the most important because the functioning of other economic sectors depends on its success. Financial markets play the special role of creating the conditions for financial resources to move where their efficiency utilization would be the greatest.

In this way the financial markets help to increase the production and its efficiency. Financial markets also influence the welfare of consumers because it allows to them acquire what they need in time. What would happen if the connection between entity and deficit – running entity will break? In this case the sources of investment funding would disappear; technical progress and business development would stop. So, it would lose opportunity to reduce unemployment or create new jobs. Stopped technical progress hinders the growth of production volume and all of these things lead to slower growth of economy (Rutkauskas, Kvietkauskienė 2013).

It is very important to note the process of financial integration. The main reasons of this process are production and trade internationalization, the cross-country financial liberalization. Many scientists explain correlation between open economy and financial liberalization, but the influence of financial globalization is smaller, because on number insider risks (Martinaitytė 2008).

In recent decades the phenomena of globalization found themselves in the center of academic community and the public media spotlight. The necessary information for management decisions accumulates by responsible assessment of positive opportunities and inventorying the causes and conditions of globalization.

Influence of globalization of financial markets

Many of scientists understand and define globalization as a process, taking place in the social environment and covering the variety of public, state and social structures areas of activity and their environment that occurs with intensification of mutual relationship and movement of time and the flow globally.

Beck (2001) put forward the idea that globalization is not choice of business, countries or organizations choice, it is therefore necessary analyze not only the economic effects of globalization, but also political and cultural. If globalization will be compatible with all institutions in each country, then all her influenced results will be unpredictable and unstable, so it is necessary to examine the nature of globalization.

Many scientists in their work emphasizes that globalization is an irreversible process, which is often presented as a huge international market, the information revolution, universal promotion of human rights, the global industrial culture, polycentric international policy for influence of people's daily lives. This is the core moments of the positive effects of globalization.

However, in another side of the visible and the negative effects of globalization on the lives of people all over the world - global pollution, international cultural conflicts, natural disasters.

Together in scientific literature with particular attention it is trying to reveal the way by which interest intensifies globalization.

According to Held (2002), the chunky capital of financial markets is dominant in the interests of all over the world, therefore, the process of globalization taking place on global equity interests.

Whereas the passing force of globalization is globalization of financial markets, it is important to know the adequate form of capital movement in the financial markets. Capital travels accompanied by innovative capital solutions and emerging individual interests. Therefore, it is particularly important to understand the anatomy of the decision becoming in global capital market.

In many scientific works can be found the arguments which identify globalization as phenomenon which leads to substantial changes in the world and create a new business environment where a business or economy entities re-take the leading business solutions (Dicken 2009; Held *et al.* 2002, Bhagwati 2007).

But the main thing is that here you can look for what you can win after cognizable globalization revealed opportunities in financial markets.

Globalization is an exclusive feature of modern financial markets because around the world is created general investment environment and a rapid development of integration between national markets. Currently, investors are not confined to opportunities of their own country markets, using the extensive opportunities of information technologies and the development of financial institutions; they also effectively operate with their resources in international markets.

Searching for interactions of globalization with the development peculiarities of global regional and national financial systems, the process of globalization can be structured on the basis of D. Held et al. (2002), submitted thoughts about three main schools of hiperglobalists, skeptics and transformationalists. These schools can not be equated with traditional affinities but the definition of globalization in this work is defined on the basis of each school approach to:

- concept;
- driving forces;
- socio-economic implications;
- influence for state power and governance;
- historical perspectives.

Of course the influence of globalization is more important to the financial markets of developed countries. Increasing impact of financial globalization can promote the imbalance for all the countries of the financial markets and lead to financial crises.

There is used a wide different set of indicators to determine the extent and consequences of globalized finance. There are mentioned the international financial flows.

Since the prevailing interest groups in the world touch one of the main highways - the global financial market, it is important to correctly identify their arguments. According to Held *et al* (2002) provided ideas of three schools, which interact in the context of globalization, it is identified the prevailed interest forms in the world - hiperglobalists, skeptics and transformationalists.

Hiperglobalists and skeptics submit their arguments that existence of functioning global capital markets has leaded the equalization of return on financial assets around the world. Various empirical studies allows to set that in the group of the largest national economies exist global (real) interest rate with a small and static risk premia for different countries (Held *et al* 2002). As a result, it can be concluded that long-term interest rates emerges in the developing global capital market, despite the fact that interest rates do not level out. The formation of real global interest rates indicates the global credit demand and supply. This means a relatively high level of world financial centers interfaces and growing financial integration (Walter 1993).

Table 2. The attributes, causes and consequences of globalization (compiled by authors, based on Held *et al* 2002).

The aspects of procpects	**Hiperglobalists**	**Skeptics**	**Transformacionalists**
1. Neutral concept	**Globalization is what is happening today**		
2. Exclusive feature of globalization	This is the creation of market in absolutely dominating of capital and the domination of prestigious finance	This is a cross-regional, trans-national communication intensification based on the sustainable development needs and financial integration of the logistical capacity	This is stochastic stratification result in approach of architecture, consequences and possibilities, when the effects of uncertainty grows
3. The dominant force	Global capitalism, the finance focused on maximizing the benefits of capital	The synergy of developmental sustainability, the maximum exploitation of financial potential	The laws of global capitalism and sustainable development
4. The power of national countries	Endangered	More universal and determinant	Inconstant but persistent
5. The potential negative consequences	Inevitable cross-regional and global conflicts	Insufficient level of competitiveness, low efficiency of resource utilization	Unacceptably high uncertainty management costs
6. Historical trajectory	Global dictatorship of capital	The pursuit of global performance	The knowledge to live in uncertainty
7. The simplified image	**Globalization - is the preparation of world housing, where will be enough (not enough) places, obviously, for everyone**		

Globalization is an exclusive feature of modern financial markets because around the world is created general investment environment and a rapid development of integration between national markets. Currently, investors are not confined to opportunities of their own country markets, using the extensive opportunities of information technologies and the development of financial institutions; they also effectively operate with their resources in international markets.

Different interest groups dominated in the world, which influence the behavior of financial markets, regulates the ongoing globalization process. As well as disagreements between different interest groups have negative consequences for the global economy, leads to the global conflicts, the financial markets crisis (Table 2).

The metrics of risk and uncertainty

Risk can be defined as effect of uncertainty on objectives (Hopkin 2010). As it is known, uncertainty is in financial markets, so investors all the time encounter with uncertainty, and in this case take the risk.

When we talk about investments, it should be known that stock markets investments are risky, because stock returns are volatile and uncertain. In highly volatile financial markets – risk and uncertainty are universal features of economic activity. In capitalist economies, uncertainty is paramount. In parts it arises from competition because the profitability of investments depends on the unknown activities of other market subjects (Beckert, Berghoff 2013).

Knight (1921) argues that there is a difference between the concept of risk and uncertainty, where risk is described by randomness that can be measured faithfully. It is very important to note that this difference is important in markets (especially in financial markets). Ellsberg (1961) suggests a more precise definition of uncertainty, in which an event is uncertain or ambiguous if it has unknown probability. For example, the probability of profitability in financial markets is unknown, so we encounter with uncertainty in financial markets. As well as, uncertainty and risk are distinct characteristics of random environments, and they can also affect the individual behaviour of subjects' very differently. Such behaviour is inconsistent with the expected utility model, and this observation has inspired a significant amount of recent research in economics. The main factors of market volatility are unknown factors and these factors shall be referred as market uncertainty.

The optimization of utility function

The selection of multicriteria feature and evaluation of opportunities practical applications are very important problems, which particularly receive strong emphasis on mathematics, mechanics and other "quantitative" science. However, the attention should be paid to social sciences problems, where a large part of the factors examined only qualitatively and therefore direct analysis of multicriteria causes a lot of questions (Rutkauskas 2011).

In this work in order to explore and identify the opportunities, which the market offers for investors, were taken into account the impact of globalization to financial markets and based on the authors previous researches (Rutkauskas, Kvietkauskiene 2012), found on approach, that the rate of return stand on financial assets is possibilities probability distribution.

In order to effectively allocate available resources in the financial markets, it is important to identify the opportunities offered by the markets, profitability and risk level – in this way will be selected markets, where investors, by taking the appropriate level of risk, will receive the complex of utility and reliability.

In this case, in order to achieve successful investment decisions, it should appeal to the survival function, which would allow evaluating each market offered opportunity by the size of possibility and guarantee of this size. This scheme will enable quicker, than with all other models and methods, review market opportunities. The choice of useful options for entity is associated with equivalent recovery of utility function.

Whereas the utility is associated with efficiency, reliability and risk, it is possible to invoke the utility function:

$$U = \frac{f(e) \times f(p)}{f(r)} \tag{1}$$

where f(e) – efficiency, f(p) – reliability, f(r) – risk.

Anatomy of investment portfolio possibilities and technique, how to find the highest efficiency possibilities of efficiency are available in Figure 9.

The circumstances, that affect the possibility with highest probability and possibility with highest efficiency distribution, are two. It is understood that possibility with highest probability is conditioned of objective market conditions and the possibility with highest utility – it is the entity (market participant) expression of objectives and characteristics. Therefore, the parameters of mentioned layout should be a very important argument in choosing financial instruments.

In this work, return p of asset ξ during the period t, starting at t-th moment, asset value during the period τ ratio of the value of the underlying security t-th moment setting the model was chose as setting model:

$$P_t = \frac{\xi_{1+t} - \xi_t}{\xi_t} \qquad (2)$$

Relative size Pt, where all members have the same changes in the course of time, should generate asset prices using market data and comparable with each other indicators that allow obtaining an objective estimate of the underlying security returns over a long period of time. Utility function N with individual possibility can be identified with size X of the possibility and the guarantee, measured by the survival function P {ξ> x} product

$$N(x) = x \times P \qquad (3)$$

Where $P\{\xi > x\}$.

In view of already existing markets possibilities probability distributions, it can be continued further market analysis. Since the possibilities probability distribution of profitability and utility function of each market shows only what the market offers for investors and what is useful, but not necessarily the option with the highest probability will be most useful, it should be examined to find which option is the best if it was considered to its size and guarantee.

In order to select the utility function, which is actually the most useful, it is necessary to take into account the profitability and reliability. Utility function depends on the efficiency and reliability, and reliability is associated with risk, so from the available data are calculated and plot the so-called survival function. On the basis of calculations and diagrams each market can be ranked according to the investor's utility function approach.

Model of appropriate financial markets selection for investment decisions

Every stock market is closely related to the country economy; therefore the development of its relationship with the country's economic development is reciprocal, because the general improvement in the economic situation together doing more active and the stock market, on the other hand, the development of the securities market, accelerates the country's economic growth. It is estimated that after falling in share prices, we can expect economic stagnation and vice versa, rising stock prices is a sign of potential growth.

Widely is known view that from behaviour of financial markets can deal with the country economic condition. Financial markets show the companies' opinion about the behaviour of national economy in the near future than the most directly exposed, i.e., stock prices are caused by investors' expectations. For that reason usually is examined changes in the stock price, as they reflect the changing economic situation.

Therefore investors frequently change their movement direction of the shares not only observing the equity markets, but also the macroeconomic situation in the country: followed policy of Federal Reserve Bank, public speeches by Central Bank representatives, forecasts of World Bank, even the problems in Greece has influence on stock market situation and investor decisions.

In order to develop a conceptual framework for investment decisions in global financial markets, it is important to establish a logical model for market selection (Fig. 1)

The authors has developed a scheme, according to that, it is possible to analyse the issue of the market value and to select markets that may potentially generate a sustainable investment return. Short description for each phase of model:

Comparison of scenarios, highlighting three periods. The aim of this phase – to choose the long period for market analysis, dividing it into three different market corrections: stable markets period, the recession and the period of markets growth after economic crisis.

Global choice of markets by specific criteria - financial market selection and identification based on the effects of globalization on financial markets.

Analysis of selected market. The aim of this phase – to analyse the estimates of profitability, risk and capitalization of appropriate financial markets; to accomplish the comparison of results in three different periods.

Verification of selected global markets with adequate portfolio. The aim of this stage – to verify the appropriate markets, using the decision-making algorithm of adequate portfolio model.

Adaptation of utility function for streamling the opportunities offered by market. The aim – to determine the possibilities, which the market offer for investor, by using modelling of financial markets.

Identification of probability distribution of the market. It is important to identify the possibilities probability distribution that will be the ground for further market analysis – determining the survival and utility function.

Feasibility study of market. The application of survival function should allow assessing the opportunities, offered by market.

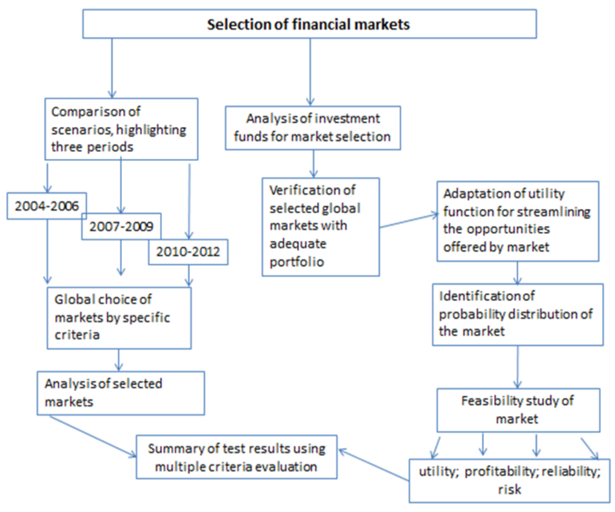

Fig. 1 The model of appropriate financial markets selection (compiled by authors)

Utility; profitability; reliability; risk. These indicators should be identified at the time of evaluation utility function. It should be done the markets ranking, processing and assessing the utility, reliability, profitability and riskiness.

Summary of test results using multiple criteria evaluation. The aim – to choose the multicriteria evaluation method that would allow rationally grouping and assess the previous estimates.

In this paper the authors examined only one stage of model: selection of market, using utility function optimization.

In order to explore and identify, what opportunities the market offers for investors, it has been taken into account the impact of globalization on financial markets and it was based on the previous conducted research (Rutkauskas, Kvietkauskienė 2012), based on the view that assumption of the financial rate of return on assets is the possibilities probability distribution.

It has been used the modelling of financial markets (optimization of utility function) in this stage of financial markets' analysis. The historical data (close price of market index) of markets and the percentage data of weekly changes were used for markets' testing by "Simulacion" programme.

The maximum utility possibilities of all markets and possibilities that have the biggest probability in distribution have been described (i.e. obedient to) with sufficient accuracy and reliability by the following continuous and discrete probability distributions: Gumbel, Potencia, Gama Invertida and Uniforme Entera (Table 3).

Table 3. The highest probability distributions of the markets (compiled by author)

Market (index)	Probability distribution
USA (S&P 500)	Gamma Invertida (0.04, 2.00)
Germany (DAX)	Gamma Invertida (0.06, 2.00)
France (CAC 40)	Uniforme Entera (-11.0000, 11.0000)
Switzerland (SSMI)	Gumbel (0.30, 1.03)
Japonija (N225)	Uniforme Entera (-10.0000, 6.0000)
Korea (KS11)	Uniforme Entera (-12.0000, 6.0000)
United Kingdom (FTSE)	Uniforme Entera (-10.0000, 8.0000)
Honkongas (HIS)	Gumbel (0.38, 1.44)

The survival function has been used for markets' analysis. The application of this function will allow asses the opportunities, offered by market, according to opportunities, which are provided by guarantee. It is necessary to take into account the profitability, reliability and riskiness in order to select the utility function, which is actually the most useful. According to the calculations, every market can be ranked according to the utility function of the investor point of view (Table 4).

Table 4. Markets feasibility study, evaluating their efficiency, reliability, profitability and riskiness during 2010-2012 period (compiled by author)

Index	**Utility**	**Reliability**	**Profitability**	**Riskiness**
S&P 500	27	1,49	1,80	0,1
CAC 40	28	1,07	8,34	0,32
DAX	26	1,59	1,88	0,15
FTSE	25.5	1,08	7,06	0,30
HIS	18	0,98	3,10	0,17
KS11	22	1,18	4,06	0,22
N225	20	1,13	3,51	0,20
SSMI	18	1,11	2,43	0,15

Considering to the human factor and estimates of utility function, it can be made the following insights:

- Period of 2010-2012 – the global economy recovers, French, American and German markets were the most attractive for investors, the least attractive - Switzerland and Hong Kong markets.

- According to approved results, the German and American markets were the most reliable for investment, Hong Kong, France and the United Kingdom markets – the least reliable in period of 2010-2012.
- The most attractive according to profitability were able to be: France, Japan and the United Kingdom markets, the least profitable - German, American and Swiss markets.
- French and English markets had the highest degree of risk and the safest could be American and German markets.

Conclusions

1. Investment should be seen as very responsible financial transaction with the future of entity, country or region. Enforcement of this transaction must remain to financial markets, institutions, which may direct for entities investment social and economic balance through the interests of investors. Either financial market should guarantee a rational utilization of the resources for the future.

2. Considering to attributes of market globalization, the markets of Japan, United Kingdom, French, German, Australian, Hong Kong, Korean, and Switzerland was selected for markets analysis. The appropriate markets analysis was done evaluating the capitalization of markets, profitability and risk, given short insights. The German market can be assessed as the most reliable among appropriate markets.

3. Based on results of utility, profitability, reliability and riskiness indicators, the German, French and USA markets was selected for further investment.

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FINANSŲ RINKŲ ATRANKA GLOBALZIACIJOS SĄLYGOMIS

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Santrauka

Šio darbo autorės išskiria finansų rinkų konceptą ir jų tarpusavio ryšius. Didelis dėmesys skiriamas globalizacijos įtakai finansų rinkoms. Rinkų siūlomų galimybių nustatymui naudojamas naudingumo funkcijos optimizavimas. Yra pateikiamas loginis finansų rinkų atrankos modelis ir išnagrinėtos vienas jo etapų – finansų rinkų atranka pagal naudingumo funkciją. Todėl straipsnyje yra pabrėžiama šiuolaikinio verslo prioritetų kaita – pelno tikslo balansas su socialiniais ir ekonominiais tikslais.

Reikšminiai žodžiai: investicijos, naudingumas, neapibrėžtumas, rizika, finansų rinka, globalizacija.