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THE CONSOLIDATED MEASUREMENT OF THE FINANCIAL MARKETS DEVELOPMENT: THE CASE OF TRANSITIONAL ECONOMIES

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Abstract. The principles and models for the quantitative measurement of the financial markets development at macro level (primarily in cases of transitional economies) are reviewed. The assessment is based on expert evaluation of the identified primary indicators, as well as on determination of the selected indexes of a group of development indicators and financial markets' development index. Its main criterion is the financial markets development influence on the State competitiveness. Based on the exclusive indicators of global state competitiveness (WEF), four groups of essential primary indicators are considered. They determine the extent of financial markets development (including its sophistication) as expressive partial criteria. The SAW multicriteria evaluation method is also applied as the quantitative modeling instrument. The three-stage system proposed by the authors was realized by assessing the development stage of financial markets in Lithuania.

Keywords: financial development, market sophistication, groups of primary indicators, quantitative assessment, multicriteria methods.

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1. Introduction

The creation of a modern knowledge-based economy and the enlargement of its competitive ability are the priorities of the development in the transitional economies of the new EU member-states. It means that the transformation process in macrofinance as well as in financial markets, representing new competitive advantage-oriented changes, is an important part of sustainable macroeconomic development. It seems this approach to the above process may be defined as an important object of scientific research. The topics of the research

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and the consolidated measurement of national financial markets are determined by some important aspects.

It should be noted that the research and evaluation of a competitive advantage on the State level tend to gain an increasing significance, first of all, when validating the strategic public finance management decisions (including the tasks to attract foreign investors). The pillars determining global State competitiveness consist of competitive advantage and disadvantage exclusive indicators according to the World Economic Forum practice (below WEF, The Global ... 2009). This competitive advantage involves the development level of financial markets (parallel to such WEF pillars as institutions, infrastructure, macroeconomic stability, goods market efficiency, market size, business sophistication, innovations, etc.). It is necessary to improve the level of financial markets development and agree on its strategies based on new global challenges. The disadvantage indicators usually prevail when determining the sophistication of financial markets in newly developing countries (The Financial … 2009).

Another aspect concerns the research of a macrofinance system as business macroenvironment itself which is especially important as it helps both to reduce the negative effect of macroeconomic indicators and to use its changes (together with the revealed new opportunities) to acquire (or retain) a competitive advantage. The qualitative analysis of macroeconomic environment often related to the SWOT analysis is most frequent especially when it is performed together with the analysis of surrounding dynamics and changes in the related scenarios (Verdu, Gomez-Gras 2006). As a result of qualitative analysis, the indicators with a forecast positive effect are usually determined, as well as the indicators with a forecasted negative effect and (qualitative) a comparative strength of distinguished indicators. However, recently the significance of a quantitative analysis of the social processes is especially accented so the tasks of the complex evaluation of business macroeconomic environment are also equally relevant (including the macrofinance system and the financial markets). The principles of socioeconomic evaluation and conceptual models were formulated in our previous research (Žvirblis, Buračas 2009). In general form, they reveal the dependence of macroeconomic environment components on the totality of primary indicators determining task groups (Žvirblis, Zinkevičiūtė 2008; Žvirblis, Buračas 2009). The indicator groups determining the effectiveness of financial markets may be formed taking account of the complex evaluation principles presented before. The application of quantitative methods prevails at the level of choosing the priorities for the national economic and/or macrofinance development programs. The increase of State economic competitive advantage determined by the levels of its constituent components is one of strategic tasks as well (Vasiliauskas 2007). Many publications reveal the importance of quantitative (multicriteria) evaluations in the formation of development programs a/o determining the strategic decisions (Ginevičius, Podvezko 2009; Žvirblis, Buračas 2009). After all, the algoritmized quantitative evaluation may be incorporated into the general system of public sector management (i.e. the validation of strategic solutions).

The researches confirms that the functioning of a macrofinance system significantly determine macroeconomic growth (Levine, Zervo 1998; Deidda, Fattouh 2005; Lakštutienė 2008). The comparative advantages of banking models or capital market-based structures show the importance of their impact on the analysis of the GDP (Levine 1997). In other publications (Le-

vine, Zervo 1998; Rajan, Zingales 2003; Rutkauskas *et al.* 2008; Madura, Ngo 2008; Teresienė 2009), the main factors that influence the stock price volatility, the financial market activity and efficiency, also essential finance indexes determining them are analyzed. This attribution determines the application of multifactor regressions (Levine 1997; Lakštutienė 2008). In essence, only the quantitative indexes of macrofinances, such as government debt, central bank assets, bank deposits, market capitalization rate, are included; part of them are components of macroeconomic stability pillars when evaluating the global competitiveness. At the same time many other qualitative indicators important for the evaluation of State competitiveness are not taken into account, in particular, the legal regulation of markets, protection of this regulation, innovativeness, sophistication and so on (The Global ... 2009). Also the integrative activity and globalization impact have to be included as the factors determining the dynamic influence of the financial sector effectively changing the national macroeconomics. Besides, the development of every national macroeconomics especially in transitional countries (as well as in their financial systems) has a particular specificity. So, the currency board model is used in some states, and the floating exchange rate model is functioning in others. In this context, the complex evaluation of the financial systems is problematic in the transitional countries of the EU continuing to change where the same valuation principles invoked by more developed countries cannot be applied adequately.

In summary, the continuation of analytical research is necessary when determining the measurement of financial markets as a business macroeconomic environment component. The orientation to global competitiveness index pillars at the country level proposed by the WEF and to the indicators determining them is also relevant. The exclusive approach to sophistication of markets and consolidation of the innovation potential as well as the measured intellectual capital is integrated. This article, focusing on the totality of primary indicators of newly developing economies under review, as a result, has to be widened significantly, and the indicators have to be grouped by specific criteria. The measurement principles, methods and adequate models have to be created, in particular taking account of the specificity of functioning of the prospective finance management systems, also is necessary to investigate the application of the multicriteria Simple Additive Weighting (SAW) method (MacCrimmon 1968). The scientific originality of the work is determined by the principles of the consolidated measurement of financial markets development level in transitional economies, also by the holistic approach to its influence on economic competitiveness; the multicriteria measurement methods are investigated on the basis of created evaluation models.

2. The main principles and methods of consolidated measurement

The development of the financial markets may be described by such main variables as: quantitative growth, qualitative advancement, financial stability, creation and implementation of innovations, dissemination of new value-added and quality standards, etc. The amelioration of the significances of these variables is undoubtedly connected with the amelioration of the State's macroeconomic indicators, especially in cases of the expected synergetic effect. It is important to develop the system of consolidated quantitative measurement according to the holistic approach to changes in the financial markets, to the markets potential, covering the

interaction of factors determining them, also taking account of effectiveness of the downstream sources of the value-added. It is necessary to cover unconditionally all indicators important for the determination of finance market development. These preconditions, in turn, determine a respective theoretical and methodological approach, and it is necessary to apply analogous conceptual principles of solving such tasks of financial markets valuation as a component of the business surrounding (Hao 2000; Žvirblis, Zinkevičiūtė 2008; Žvirblis, Buračas 2009). The consolidated measurement of financial market development must also follow these general principles when it is oriented to the criteria of their impact on the country's economic competitiveness. In this case, the purpose is to group the different primary indicators (as primary criteria) into task groups and to measure quantifiably the indexes of each of them as partial criteria. In its turn, the totality of those partial criteria would determine the generalized measure of the respective quantitative evaluation.

In this context, the methods of multicriteria evaluation may be applied such as SAW – Simple Additive Weighting (MacCrimmon 1968), COPRAS – COmplex PRoportional ASsessment (Zavadskas, Kaklauskas 1996) and TOPSIS – Technique for Order Preference by Similarity to Ideal Solution (Hwang, Yoon 1981). They applied by many other authors (Parkan, Wu 2000; Zhang, Yang 2001; Zopounidis, Doumpos 2002a, 2002b; Dombi, Zsiros 2005; Podvezko 2008; Ginevičius *et al.* 2008; Zavadskas *et al.* 2009; Ginevičius, Podvezko 2009). In particular, the SAW method reflects the criteria values and their weights integrated into a single magnitude and may be applied when evaluating principally different primary indicators (both quantitative and qualitative) i.e. their compound value. The values of primary indicators must be normalized. This method is suitable in case of all factors being independent in the system and when their interaction is not significant for integral dimension (as observed in the case study). The sum of significance of all factors (primary indicators) in every group must be equal to 1 (or 100%).

The COPRAS method may be ordered in case when the research is oriented both to maximizing and minimizing criteria within systemic approach. This method assumes direct and proportional dependence of the weight and utility degree of investigated versions on a system of attributes adequately describing the alternatives with values and weights of the attributes (Zavadskas *et al.* 2009). If only maximizing criteria are used (as in that case), the measurement may be fulfilled by the SAW method (Ginevičius, Podvezko 2009). The SAW method in this investigation is used when determining the value of the financial markets development level and evaluating the primary indicator groups (as some partial criteria). The possibility to include the additional primary indicators must be acceptable. An assessment may comprise the scenarios interpreting different government macroeconomic policies, the alternatives of state financial markets development and other comparative environmental challenges. Thus, the conceptual essence of a three-stage system proposed by the authors for the consolidated measurement of State's financial markets development level is as follows:

Stage 1. The identification as well as the (quantifiable) assessment and ranking of primary indicators (as primary criteria) determining the objective groups on the basis of expertise;

Stage 2. The quantitative assessment by the SAW method of objective indicator groups (as partial criteria) using a level index;

Stage 3. The calculations of the financial market (as a whole composition of objective indicator groups) development level index as a generalized measure.

The basic valuation is presented taking account of the multicriteria methods when determining the values of partial criteria and the index of financial markets development. Under provided methodology, a 10-point system of the primary indicators is suggested below in the place of standard normalization procedure (10 points correspond to the exclusive level of primary indicator, 7–8 points mark a very high evaluation, 6–7 points – a highly favorable evaluation, 5–6 points – an average evaluation, 4–5 points – a weak/irretentive evaluation, 3–4 points – a poor evaluation). As a significance parameter, a non-dimensional expression of this measure is also acceptable. These values may be determined by applying the theoretically based methods such as the expert evaluation, in any case, by summing-up its numbers in a row, by obtained concordance, etc. The necessary reliability of expert evaluation was achieved so as the value of the coefficients of concordance W amounted to 0.7–0.8 (Kendall 1979). The expert evaluation of the primary indicators here is treated as a first stage of the consolidated quantitative measurement. The values of indexes calculated for objective groups and level of financial market development are graduated adequately to the 10-point system as above. The typically consolidated evaluation process using multicriteria methods is schematically shown in Fig. 1; this process was algorithmically represented as a precondition for the applying of computer-added valuation and management systems (Zavadskas *et al.* 2003).

3. The primary indicators arranged by objective groups

As was shown, it is useful to form the indicator groups (expressive partial criteria) determining the development level of the financial markets at national level. The coverage of extended totality of primary indicators is expedient for the research of the common development level of transitional economies; so it is necessary to detail the framework of their groups. Correspondingly, the indicators are recommended to be grouped according to markets with inclusion of specific indicators determining a competitive advantage/disadvantage, and in this way the strong and weak sides of separate markets may be revealed. The group of separate financial market indicators is excluded according to their sophistication degree as the most idiosyncratic parameter. So, it is reasonable to form, by expert way, the following indicator groups: market sophistication, securities exchanges, banking sector, insurance sector. The sets of primary indicators (some of these indicators may be mentioned as defining the status of a country according to stage of evolution) describe these groups are presented in Table 1.

The first group (besides separate markets sophistication indicators) included also market subjects and marketing sophistication indicators, financing through local equity market and strength of investor protection indicators as common to securities exchange, banking sector and insurance markets. The market infrastructure and legal regulation levels, innovativeness, availability to risk capital, restriction to monetary flows may be mentioned among other market indicators. These groups may be expanded with the inclusion of other indicators specific to transitional countries and indicators identifying them by expert evaluation on the listing stage.

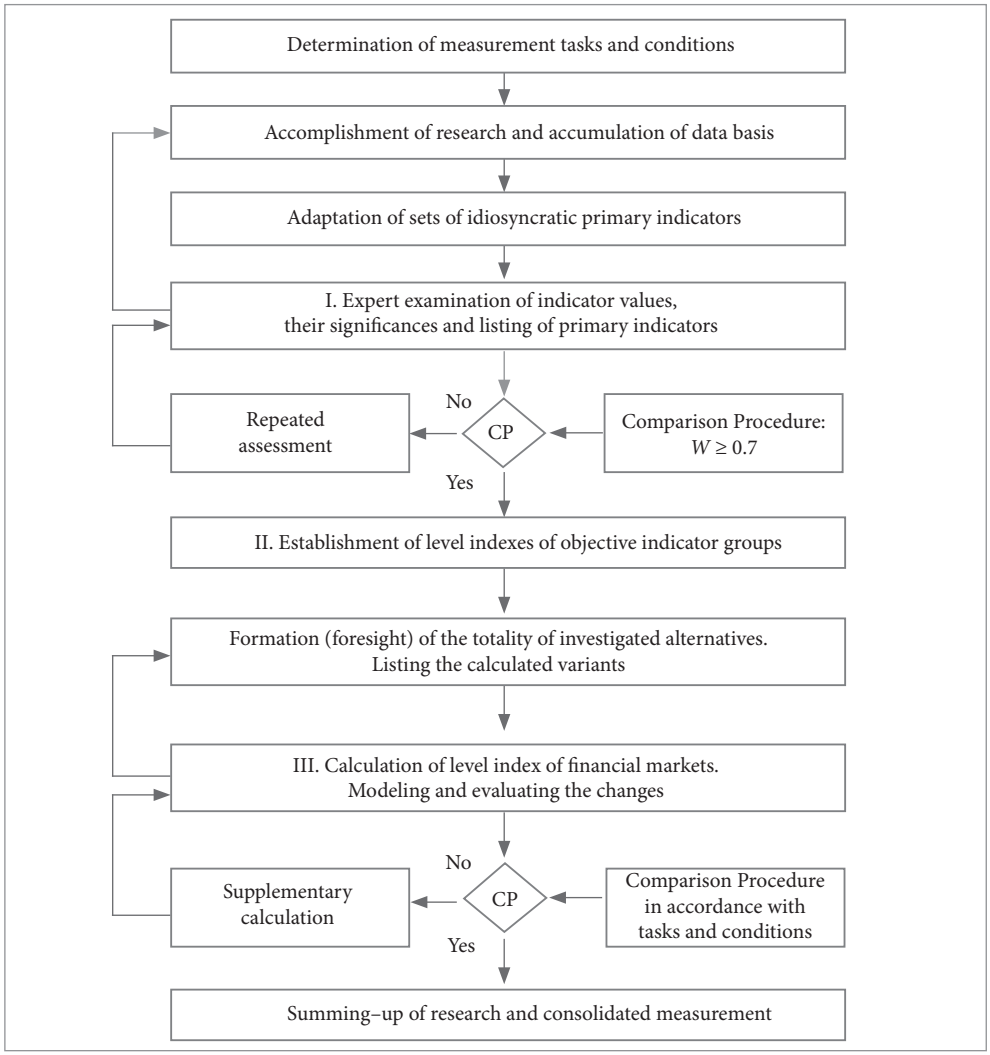

Fig. 1. Principal scheme of the measurement of financial market development at national level

4. The basic models for the multicriteria assessment of financial markets development

The basic models for consolidated quantitative measurement of separate indicator groups (including models evaluating the group of market sophistication indicators, the group of securities exchange indicators, the group of banking sector indicators, and the group of insurance sector indicators) as well as for the measurement of a country's financial markets development level were developed on the basis of previous principal provisions. The index

Table 1. The selected groups of the primary indicators (not ranked)

The name of a group	The primary indicators of a group
1. Group (*F*) of consolidated sophistication of financial markets indicators	1.1. Securities exchange sophistication 1.2. Banking market sophistication 1.3. Insurance market sophistication 1.4. Market subject sophistication 1.5. Strength of investor protection 1.6. Extent of marketing complex sophistication 1.7. Financing through local equity market 1.8. Other indicators
2. Group (*E*) of indicators of securities exchanges development	2.1. Level of legal stock exchange regulation 2.2. Legal regulation of currency markets 2.3. Restriction on securities flows 2.4. Level of markets infrastructure 2.5. Legal rights of shareholders 2.6. Other indicators
3. Group (*S*) of banking sector development indicators	3.1. Level of legal banking sector regulation 3.2. Capacity for innovation 3.3. Value chain breadth 3.4. Venture capital availability 3.5. Restriction on capital flows 3.6. Soundness of banks 3.7. Ease of access to loans 3.8. Other indicators
4. Group (*A*) of insurance sector development indicators	4.1. Criteria of legal insurance market regulation 4.2. Intensity of local competition 4.3. Extent of provided services 4.4. Penetration into markets 4.5. Value chain breadth 4.6. Capacity for innovation 4.7. Other indicators

$G_j(I)$ for some indicator group (as a partial criterion) may be determined by the SAW method as follows:

$$G_j(I) = \sum_{i=1}^{m} p_{ji} R_{ji}; \quad \sum_{i=1}^{m} p_{ji} = 1, \tag{1}$$

where p_{ji} – significance parameter of i-th primary indicator at j-th selected group determined by expertise, R_{ji} – the value of listed essential i-th primary indicator (m – number of listed indicators into j-th group).

For separate indicator groups, the basic evaluation models are determined taking account of (1).

The group (*F*) of indicators of financial markets' consolidated sophistication for the evaluation of level index $F(I)$ may be defined as follows:

$$F(I) = \sum_{i=1}^{i=r} g_i F_i; \quad \sum_{i=1}^{i=r} g_i = 1, \tag{2}$$

where g_i – the coefficients of direct significance of primary ranked indicators F_i (securities exchange sophistication, banking market sophistication, strength of investor protection etc.) on level index $F(I)$.

The group (E) of securities exchange development indicators for the evaluation of level index $E(I)$:

$$E(I) = \sum_{i=1}^{i=n} b_i E_i; \quad \sum_{i=1}^{i=n} b_i = 1, \tag{3}$$

where b_i – the coefficients of direct significance of primary ranked indicators E_i (level of legal securities exchange regulation, restriction on securities flows, level of markets infrastructure etc.) on level index E(I).

The group (S) of banking sector development indicators for the evaluation of level index $S(I)$:

$$S(I) = \sum_{i=1}^{i=m} c_i S_i; \quad \sum_{i=1}^{i=m} c_i = 1, \tag{4}$$

where c_i – the coefficients of direct significance of primary ranked indicators S_i (venture capital availability, restriction on capital flows, soundness of banks etc.) on level index $S(I)$.

The group (A) indicators of insurance sector development for the evaluation of level index $A(I)$:

$$A(I) = \sum_{i=1}^{i=s} f_i A_i; \quad \sum_{i=1}^{i=s} f_i = 1, \tag{5}$$

where f_i – the coefficients of direct significance of primary ranked indicators A_i (intensity of local competition, extent of provided services, capacity for innovation etc.) on level index ($A(I)$.

The value of financial markets development level index $FM(I)$ is determined on the basis of previously determined values and significances of partial criteria as follows:

$$FM(I) = k_f F(I) + k_e E(I) + k_s S(I) + k_a A(I); \quad \sum_{i=1}^{i=n} k_i = 1, \tag{6}$$

where k_f, k_e, k_s, k_a – the weights of partial criteria indexes $F(I)$, $E(I)$, $S(I)$, $A(I)$ determining the value of financial markets development level index $FM(I)$; values k determined by expert way.

When applying these basic models, the specific primary indicators according to the real state of transitional and new EU member countries in every particular group are taken into account.

5. The consolidated assessment of Lithuania's financial markets development and its comparison with other Baltic States

The expanded sets of primary indicators (Table 1) were adapted for the assessment of Lithuania's financial markets development level (listed indicators presented in Table 2) and based on the measurement system evaluated quantitatively (in a 10-point system) by an expert

group. According to the expert method application, a higher accuracy of expert estimations of a few (in that case 4–6) primary indicators at a group were achieved by a research team of 5 to 9 competent experts (Burinskienė, Rudzkienė 2009). The expert group was formed from 7 professionals including Lithuania's securities exchange specialists (4) and researchers in finance and investment management (3). The primary indicators were valuated (with rejection of the best and worst evaluations of every indicator) with account of both *status quo* (I) and prospective trend (II) situation in financial development. The necessary evaluation reliability was achieved as the concordance coefficients value W amounted to 0.7–0.9 (68 percent of $W > 0.8$, the W significance $\chi^2 = 16.38 – 28.70$ (in table $\chi^2 = 9.488 – 12.592$, i.e. acceptable, as the pre-selected level $\alpha = 0.05$; $n < 7$). The significance of primary indicators were evaluated by analogy (concordance interval $W = 0.65 – 0.82$; 80 percent of $W > 0.73$, the W significance $\chi^2 = 15.54 – 27.65$ (in table $\chi^2 = 9.488 – 12.592$, i. e. acceptable, as $\alpha = 0.05$; $n < 7$). The averaged weights were established later on this basis for listed indicators by every group. The weights k_f, k_e, k_s, k_a of partial criteria were evaluated adequately ($k_f = 0.3$, $k_e = 0.2$, $k_s = 0.3$, $k_a = 0.2$). The groups of listed indicators were evaluated accordingly (I) and (II) by the SAW method on the basis of the (2)–(5) equations. The financial markets development level index in (6) was calculated by analogy according to the two situations. The results of expert evaluation of idiosyncratic primary indicators, their weights, calculation of indicator group indexes as well as final results of the determination of the development level index of Lithuania's financial markets are given in Table 2.

The other comparative variants may also be analyzed and simulated in the process of multivariate calculations according to the process presented in Fig. 1 above. In particular, it is possible to imitate quantitatively the decisive indicators using SWOT analysis for evaluation of their significance or for the case when uniform significance is attributed to all primary indicators and/or partial criteria (for example, $k = 0.25$). In such cases, the expert evaluation procedure of the significances of those indicators or weights of partial criteria is unnecessary. The simplified solutions are possible when the comparative analysis is necessary (in particular, if one compares the Baltic States to other countries – new EU members). The imitative quantitative modeling is possible when evaluating the real changes monitored, also the alternative scenarios of the development of financial markets at national levels.

The results obtainable from calculations (with adapted *MS Excel* program) for Lithuanian financial markets may be interpreted in the following way. The highest index was received for the insurance sector development – 4.9–5.2 points (at average level). The banking sector (3.9–4.3 points – a poor evaluation) and markets sophistication (4.1–4.5 points) indicator groups are among those most unfavorable, including such problematic primary indicators as the conditions to access credits, soundness of banks, and financing through local equity market. It was determined that Lithuania's financial markets development level can be evaluated respectively by 4.3 (I) and 4.6 (II) points (irretentive evaluation).

These results can serve as additional guidelines for the directed sustainable development of national financial markets and in the context of macroeconomic perspectives. They may be also useful for the associated business structures interested in valuation and forecasting the influence of macroeconomic surrounding factors.

Table 2. The results of assessment of essential (listed) indicators, their weights, and determination of indicator group indexes as well as development index of Lithuanian financial markets

Indicator groups and determining idiosyncratic (listed) indicators	Agreed marking	Assessment in points		Averaged weights
		I	II	
***Group of indicators* (*F*)**				
Banking market sophistication	F_1	3.6	3.9	$g = 0.23$
Securities exchange sophistication	F_2	4.4	4.8	$g = 0.18$
Strength of investor protection	F_3	4.7	4.8	$g = 0.16$
Insurance market sophistication	F_4	4.6	4.9	$g = 0.15$
Financing through local equity market	F_5	3.6	4.0	$g = 0.15$
Extent of marketing sophistication	F_6	4.1	4.5	$g = 0.13$
Level index *F*(*I*)		4.1	4.5	
***Group of indicators* (*E*):**				
Legal rights of shareholders	E_1	4.6	5.0	$b = 0.29$
Level of legal stock exchanges regulation	E_2	5.0	5.4	$b = 0.26$
Level of markets infrastructure	E_3	4.1	4.6	$b = 0.24$
Restriction on securities flows	E_4	4.5	4.8	$b = 0.21$
Level index *E*(*I*)		4.6	4.8	
***Group of indicators* (*S*):**				
Soundness of banks	S_1	3.8	4.1	$c = 0.26$
Level of legal banking sector regulation	S_2	4.6	4.6	$c = 0.20$
Conditions to access credits	S_3	3.7	4.1	$c = 0.19$
Restriction on capital flows	S_4	4.2	4.7	$c = 0.18$
Venture capital availability	S_5	3.4	3.9	$c = 0.17$
Level index *S*(*I*)		3.9	4.3	
***Group of indicators* (*A*):**				
Extent of provided services	A_1	5.1	5.3	$f = 0.33$
Criteria of legal insurance market regulation	A_2	5.0	5.3	$f = 0.26$
Intensity of local competition	A_3	5.2	5.4	$f = 0.21$
Capacities for innovation	A_4	4.3	4.7	$f = 0.20$
Level index *A*(*I*)		4.9	5.2	
***Consolidated level index FM*(*I*)**		**4.3**	**4.6**	

The consolidated financial market sophistication indicators for Lithuania in comparison with those of other Baltic States within the global competitiveness index (The Global ... 2009) are presented below. They are even more optimistic (Table 3) so as they have taken into account only part of the depressive changes in 2008–2009. So, in the last three years the rankings of all the Baltic States were falling among about 130 states according to the global competitiveness index. Within it, the financial markets sophistication for Estonia was on a higher rank than some other pillars (except financing through local equity market indicators), while soundness of banks and ease of access to loans for Latvia were on exclusively low rank. At the same time, the financial market indicators for Lithuania in the global competitiveness index were comparable with our evaluations in Table 2 (except for venture capital availability).

Table 3. The comparative results of assessment of global competitiveness indexes and financial markets sophistication indexes for the Baltic States

Global indexes and comparable financial indicators	Lithuania		Latvia		Estonia	
	rank	score	rank	score	rank	score
Global competitiveness index 2009–2010	53	4.3	68	4.1	35	4.6
Global competitiveness index 2008–2009	44	4.4	54	4.3	32	4.7
Global competitiveness index 2007–2008	38	4.5	45	4.4	27	4.7
Macroeconomic stability*	57	4.7	99	4.2	47	4.9
Innovation*	58	3.3	88	2.9	37	3.6
Business sophistication*	56	4.2	82	3.8	48	4.3
Aggregated financial market sophistication*	72	4.2	60	4.3	29	4.8
*Group of financial markets indicators:**						
Financing through local equity market	73	3.8	95	3.1	62	4.0
Ease of access to loans	73	2.8	100	3.6	36	2.6
Venture capital availability	73	2.7	79	2.6	21	3.7
Restrictions on capital flows	63	4.6	34	5.1	7	6.0
Strength of investor projection	71	5.0	42	5.7	42	5.7
Soundness of banks	63	5.4	115	4.3	34	5.7
Regulation of securities exchanges	51	4.6	79	4.2	32	5.0

*Scores for 2008–2009: 1 = ineffective; 7 = effective (by WEF ranking).

The global competitiveness indexes of Lithuania and Latvia that are much worse compared to Estonia were determined by retardation in innovations, lower macroeconomic stability as well as by substantial differences in restrictions on capital flows, in access to loans, venture capital availability, and soundness of banks (as the indicators of consolidated financial market sophistication) within these Baltic States.

6. Conclusions

1. The research and evaluation of State financial markets is important not only for the validation of the strategic public finance administration decisions, especially in transitional economies, but also for the country's global competitive advantage influenced substantially by the development level of financial markets and their structures.

2. Of late, the holistic approach to financial markets development requires taking into account their sophistication, innovations, potential of intellectual capital and other significant indicators (they not included into the quantified macrofinance list. This fact, in turn, determines the need for a new theoretical basis and methodological approach.

3. The essence of the proposed principles of consolidated evaluation is the grouping of primary indicators determining the global development measure according to the common criteria of market sustainability, also the application of adequate multicriteria evaluation methods for the determination of various group indexes as well as the generalized measure – State's financial markets development index. It is expedient to distinguish the groups

of markets sophistication indicators, also those of securities exchange indicators, banking sector indicators and of insurance sector indicators.

4. The analysis of the quantitative methods was found expedient to apply for the multicriteria evaluation though the promising methods of quantitative evaluation are used but rarely. The SAW method is suitable for making the measurement of each separate group of idiosyncratic indicators (as partial criteria) and is applicable in that case by determining the financial markets development level index.

5. The valuation system is based on the models created taking account of justified multicriteria evaluation methods for quantitative assessment of indicator groups (for markets sophistication, securities exchange, banking sector, insurance sector groups) and for assessment of the generalized measure – consolidated markets development level index. It permits one to analyze the multivariate development of the country's financial markets in the comparative SWOT analysis context and to model more sensitively the alternative scenarios of the development.

6. The proposed three-stage consolidated evaluation system includes the initial expert evaluations of both primary indicators and their significances (as the first stage of quantitative assessment), posterior determination of indicator group indexes and development level index on the basis of proposed models. The formation of the evaluation system for indicator groups is applicable for the review of various possible conditions and solutions concerning countries – new EU members. It may be incorporated into the validation system of strategic finance management decisions at national level.

7. The investigation and measurement of Lithuania's financial markets development (its sophistication) for *status quo* and trend situations show that the insurance indicator group has the best index (4.9–5.2 points, at average level). The banking sector (3.9–4.3 points – poor evaluation) and markets sophistication (4.1–4.5 point) indicator groups were evaluated as unfavorable. The financial markets development level index was respectively at 4.3 and 4.6 point (i. e. irretentive evaluation), and the possibilities to determine its sustainability depends first of all on problematic primary indicators (these groups) evaluated most unfavorably.

8. The global competitiveness indexes of Lithuania and Latvia compared with Estonia were much worse according to the component analysis published by the WEF. The situation was determined by retardation in innovations and lower macroeconomic stability in Lithuania and Latvia as well as by the substantial differences in restrictions on capital flows within these Baltic States, access to loans, venture capital availability, soundness of banks as indicators determining the consolidated financial market level.

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KONSOLIDUOTAS FINANSŲ RINKŲ IŠSIVYSTYMO VERTINIMAS: PEREINAMŲJŲ EKONOMIKŲ ATVEJIS

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Santrauka

Kompleksinis finansų sistemos vertinimas yra itin aktualus nagrinėjant pereinamojo laikotarpio valstybių, daugiausia naujųjų ES šalių, teorinius bei taikomuosius darnios plėtotės nustatymo aspektus. Šiame straipsnyje apžvelgiami finansų rinkų išsivystymo (pirmiausia rafinuotumo prasme) vertinimo principai bei modeliai, sudaryti orientuojantis į pagrįstų daugiakriterinio vertinimo metodų taikymą. Bendruoju kriterijumi imamas valstybės finansų rinkų išsivystymo lygio poveikis ekonominiam konkurenciniam valstybės pranašumui. Suformuotos keturios esminių pirminių indikatorių grupės – rinkų rafinuotumo, vertybinių popierių, bankininkystės ir draudimo rinkų grupės, kaip daliniai kriterijai, lemiantys bendrąjį finansų rinkų išsivystymo lygį. Vertinimas apima ekspertinį pirminių indikatorių kiekybinių reikšmių (balais) ir jų reikšmingumų nustatymą, dalinių kriterijų indeksų bei finansų rinkų išsivystymo lygio indekso analitinį įvertinimą. Pateikiami Lietuvos finansų rinkų išsivystymo lygio vertinimo rezultatai taikant šią trijų pakopų vertinimo sistemą.

Reikšminiai žodžiai: finansų rinkos išsivystymo lygis, rinkų rafinuotumas, esminių indikatorių grupės, kiekybinis vertinimas, daugiakriterinio vertinimo metodai.

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