COMPETITIVENESS AND INNOVATION SYNTHESIS IN THE INTEGRATED GLOBAL ECONOMY

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Abstract. *The article aims to show that the main and most important prerequisite for successful business development in the integrated global market becomes improvement of the competitiveness of countries and business firms finding new ways for economic growth and prosperity. Theoretical and empirical researches highlight the importance of competitiveness in a national framework for business growth and development in the current era of globalization. The article examines how the challenges of competitiveness and innovation interrelate and how their synthesis links with economic growth. Therefore, gaining competitiveness through innovativeness, the capability to be innovative is one of the most important prerequisites for creating successful businesses, sophisticated products and production processes and raising the standards of living.*

Key words: *integrated global economy, competitiveness, innovations*

Introduction

Globalization as a concept can be defined as an integration of economic, financial and technological systems across national boundaries, with integrative cultural, social and political effects as well. Responding to the global environment challenges, national economies are rapidly merging into the integrated global economy where interdependent economies of the world's nations are regarded as a single economic system. Global economic integration is widely thought to improve the allocation of resources, promote technology transfer, and enhance living standards. Globalization gives firms access to wider markets and consumers' access to a greater variety of goods and services. Therefore, the integrated global economy refers to the increasing integration of previously fragmented national markets for goods and services into a single global market. In addition, firms will face new challenges in creating products that meet heightened consumer expectations.

Understanding the key ingredients of economic growth and prosperity brings with it a number of new competitiveness and innovation issues and demands conditioned by contemporary globalization processes. Competitiveness and innovativeness are a central preoccupation of both advanced and developing countries in the increasingly open

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and integrated world economy. The globalization of business has created changes in the skills and knowledge, needed by business enterprises, and efforts to manage the new challenges created by globalization processes. At the same time, it has resulted in the emergence of totally new opportunities as well as threats to business enterprises and nations. There are a lot of measures to evaluate competitiveness, the best known being the Global Competitiveness Index (GCI), a highly comprehensive index that captures the microeconomic and macroeconomic foundations of national competitiveness as well as detailed profiles for each of the economies covered.

There is common ground to state that if the core issue of integration lies in the ability to share the information flows of the new technologies and products, innovations can provide answers to the needs of integration in a manner better than the past. Being innovative means to be characterized by, tending to, or introducing innovations. In this article, our definition of innovation includes the notion of creativity: the conception, adoption and implementation of new goods, services, knowledge, lifelong learning or ideas. In the global market, enterprises may source from one country, conduct research and developments (R&D) in another country, take orders in a third country, and sell wherever there exists demand regardless of the customer's nationality.

The article has served as a benchmarking tool for identifying barriers to improved competitiveness, advantages and disadvantages for the Baltic countries, analyzing the results for Lithuanian competitiveness as they follow from the GCI, and proposing a specific application for business innovation activities. Requirements to be competitive by participating in the integration processes, stemming from the new forms of cooperation as R&D, innovations, educational support, etc., are essential for long-term sustainable advantages.

The aim of the article: to carry out a theoretical research of competitiveness through innovation and strategic partnership to support innovation; to evaluate the importance of innovations as pillars for competitiveness improvement.

Object: competitiveness and innovations of Lithuanian enterprises.

Methods: analysis and synthesis, comparison and interpretation of theoretical and statistical sources.

Contemporary approach to competitiveness and innovation concepts and their synthesis

Globalization is a process by which nations, businesses and people are becoming more connected and interdependent across the globe through increased economic integration and communication exchange, cultural diffusion and travel (Stonehaus et al., 2004; Melnikas, 2008; Gylys, 2008). Globalization gives all nations of the world access to the same information, technology and markets; a nation's ability to utilize those resources in a fast and innovative manner will dictate who wins and who loses (Friedman, 2000). Despite the fact that economic integration is a dominant feature of globalization, other di-

mensions are also of significance, including the social, cultural, political and institutional realms. While discussing the peculiarities of the global economy, it is useful to evaluate how it opens new markets, provides extensive choice of the human and other resources, activates the process of partnership and creates a competitive pressure (Kučinskienė, Jatuliavičienė, 2002). Therefore, the main and the most important prerequisite for a successful business development in the era of globalization becomes improvement of the competitiveness of countries and business firms in the global market. However, this concept is not very well defined in economic terms because the determinants of competitiveness are numerous and complex. The notion of competitiveness is normally applied to "bloc" economies, entire countries, regions within countries, industry sectors, individual firms, and even to individual products and services of firms.

The concept "competitiveness" leads to much confusion and misunderstanding between academics and non-academics (media, politicians and business executives), especially because of confusion between the competitiveness of firms and the competitiveness of nations. To explain and evaluate the concepts and measures of competitiveness at each level of aggregation, there are different measures, or indicators, of competitiveness. They vary in what they imply about the present and future economic success or well-being of a firm, industry or nation. Some concepts of competitiveness are applicable at one level of aggregation but not at another (Table 1).

Many of the definitions of competitiveness are mainly based on the capabilities and offerings of firms in relation to the competitors. This includes sustained success in international markets without protection or subsidies. For a country, the objectives of

TABLE 1. **Competitiveness levels and terms of performance**

Competitiveness levels	Researchers	Terms of performance
Firm (micro)	Porter, 1999; Porter, 2003; Huggins, 2003; Beniušienė, Svirskienė, 2008	Market share and profitability. Measures of cost and quality. Market share in the local, regional and international markets.
City	Beg, 1999; Gordon, 1999; Kostiainen (2002); Piliutytė, 2007; Simmie, Carpenter, 2008	Competitiveness of city products. Attraction of successful firms. Rising income of local population.
Industry/Sector (meso)	Yip, 1995; Porter, 1998; Ohmae, 2000; Britton, 2000; Jin, Moon, 2006	Overall profitability. Cost and quality. R&D environment. Trade balance. Balance of FDI (outbound and inbound).
Regional	Porter, 1998; Sternberg, 2000; Carlson, Eliasson, 2001; Wood, Valler, 2004; Cox, 2004	Standards of living. Productivity. FDI. Regional specialization. Innovation. Clusters. Skilled labor and investment. Attraction of successful firms. Export-oriented clusters.
Country (macro)	Porter, 1990, 2003, 2004; Dicken, 2007; Porter, Ketels, Delgado, (2007), The global competitiveness… 2008–2009; 2009–2010	Level and growth of the nation's standard of living. Productivity, Productive FDI.

competitiveness are to maintain and improve the standard of living of the population concerned. The most widely used indicator of the standard of living is a country's per capita gross domestic product (GDP) adjusted to purchasing power parity. States compete striving to improve their competitive position and to capture as large a share as possible from the gains from trade. They also compete to attract productive investment to build up their national production base which, in turn, enhances their competitive position (Dicken, 2007). Porter (2004) argues that "national prosperity is strongly affected by competitiveness, which is the productivity with which a nation uses its human, capital, and natural resources. Competitiveness is rooted in a nation's microeconomic fundamentals, manifested in the sophistication of its companies and the quality of its microeconomic business environment". To a large extent, it is thus an expression of the dynamism of domestic firms, their capacity to invest and to innovate both as a consequence of their own R&D and of a successful appropriation of technologies developed elsewhere (Dicken, 2007). The Global Competitiveness Report 2008–2009 also defines competitiveness as "the set of institutions, policies, and factors that determine the level of productivity of a country". In other words, more competitive economies tend to be able to produce higher levels of income for their citizens. The productivity level also determines the rates of return obtained by investments in an economy.

The competitive basis of nation states is derived from a complex set of sources. In reality, competitiveness involves also many different factors, including issues as diverse as levels of education, the level of corruption, and the macroeconomic environment, also other "soft" attributes of the standard of living. During the last decade, there has evolved congruence among mainstream growth theorists about the importance of sound microeconomic fundamentals if an investment and innovation-friendly environment is to be created, which is conducive to sustainable growth.

Competitiveness is, by definition, inextricably linked to globalization, because it is assessed for nations (as well as for firms) in the global context. While the benchmarks for national competitive advantage would be other nations, firm-level competitiveness is assessed in the context of competitors in the global industry. To be successful in the international business development, a firm must enter the game, or compete. Therefore, participation alone does not guarantee success; it depends on the competitors.

Porter's (1990) theory tries to look at the immediate business environment that is surrounding and influencing the competition process. A particular combination of conditions within nation states has an enormous impact on the competitive strengths of the firms located there. Focusing attention on the key competitive parameters of a country, four distinct national stages in competitive developments are delineated: three-factor-driven, investment-driven and innovation-driven where advance may take place, and the fourth, wealth-driven, where a decline is probable. Therefore, economic development is a sequential process, and the stage of development greatly influences the country's

competitiveness. There are likely to be industries or firms in all major economies that are operating at each of these stages.

Macroeconomic issues are important, but the competitiveness of firms could be impinged by microeconomic inefficiencies linked to distortions of the competitive process. In today's competitive environment, enterprises require a dynamic ability to respond rapidly and flexibly to meet the diverse needs and demands of their customers. From a more microeconomic perspective, the need to be competitive forces enterprises, especially small and medium-size ones, to be innovative in all areas of business activities. (Jatuliaviciene, Kucinskiene, Garuckas, 2007). The capacity for innovation is thus a critical factor for individual firms' success as well as for improved national performance in today's global integrated economy.

Based on the studies of J. Shumpeter (1934), P. F. Drucker (1994), D. Jonhson 2001, F. Zhao (2005) and others, the new concept of development, embracing capacities of innovative organizations, could be defined as follows:

- the ability to search for and identify innovative opportunities;
- the ability to create a technological environment that fosters innovation;
- the ability to develop effective plans an support systems to implement innovation and commercialization procedures;
- the ability to integrate research, design, and market information to convert new ideas and inventions into commercially viable innovations;
- the ability to develop effective and realistic procedures for the evaluation of R&D projects in terms of innovation, quality, and commercial value.

Innovation is a broad term that encompasses virtually any new development in firms. Challenges of the integrated global market demand that firms innovate to raise resource productivity – and this is precisely what the new challenges of global competition demand. It can involve creating or re-engineering products to meet new market demands. A truly competitive firm, industry and country are more likely to take up a new standard as a challenge and respond to it with innovation.

Innovation theory states that three factors are required for innovation to happen (Ashford, 2002). *Willingness* is determined by a firm's capacity to change and the extent of its knowledge that change is possible, especially through cooperative efforts, which also influence willingness and opportunity. *Opportunity* involves both supply-side and demand-side factors. On the *opportunity* supply side, technology used in a particular firm for innovations exists or could be adapted or adopted (known as diffusion or incremental innovation, respectively), or technology in a particular firm for innovation could be developed (i.e. major or radical/disruptive innovation). On the demand-side, four factors could push firms towards technological change: regulatory requirement; opportunity to save costs or add to profits; worker demands and pressure arising from industrial relations or public concerns. *Capacity* includes knowledge about better techniques and the level of skill base at the a company. Current capacity allows defining the degree of

possible innovation and a distinction between radical and disrupting innovation to be implemented. Technical capacity or capability can be enhanced by both increases in knowledge or information about innovation opportunities and partly through serendipitous or intentional transfer of knowledge from suppliers, customers, trade associations, unions, workers and other firms, as well from other sources, and improving the skill base of the firm through educating and training its operators, workers, and managers on both a formal and informal basis.

Innovation is a key factor determining productivity growth. As a response, striving to enter into the area of new integrated global economy, innovations through collaboration (partnership) extend possibilities for business enterprises to achieve competitiveness at a lower risk. Becoming a learning organization through partnership requires creative thinking. Thinking strategically means being able to embrace innovation; however, it is right to suggest that the process of innovation is complex. Innovations by themselves do not bring positive results. They must be combined with the R&D, education, research and in this way to form a triangle framework as a means for a complex system (see Fig. 1).

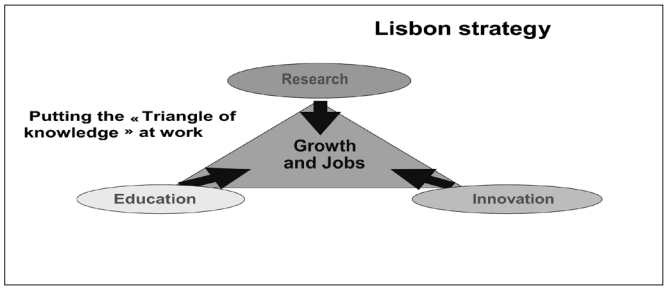

FIG. 1. **The main determinants for implementation of Lisbon strategy**

Source: 7th EU Framework Programme [checked 12 January 2010]. Available on Internet: <http://www.eclo.org/pages/EU%207th%20Framework>

The Lisbon strategy is a response to the challenges of the global economy. The Lisbon process is intended to move the European Union towards a dynamic and focused connection at the level of national and global economies. What allows enterprises to be innovative is not only the sophistication of the enterprises themselves and how they compete, but also the business environment within which the enterprises compete. The process of economic development is about improving this environment so that firms can attain successively higher levels of achievement and productivity. Successful firms build internal and external partnerships to accomplish better their overall goals. The best organizations, many of which are not certified in their own right, work co-operatively in partnership with their clients and suppliers to introduce competitive products to the global competitive environment. As Kucinskiene points out, small and medium enterprises can join into different groups (parks) the members of which are not related by the ownership/

property relations and in such a way to cooperate in the global market. Such a cooperation is also possible for enterprises located in the same region, and not necessarily they must be based on local capital (Kucinskiene, Alternatyva, 2008).

Partnership arrangements represent a means through which senior managers can find ways how to innovate and at the same time place innovation within the context of sustainable development. Therefore, the perspective for long-term competitiveness in the modern globalization environment calls for innovation management (Kucinskiene, Jatuliaviciene, 2006). Organizations that join into partnership enhance their strategic capabilities in a creative and sustainable manner through the process of organizational learning that incorporate an integrated decision-making approach. Environmental assessment showed that cultural, economic, social, technological factors are likely to push to co-operate more enterprises than those immersed in an individualistic culture (Chatman, Spataro, 2005). Cooperation allows standing against the increasing pressures of the global economy. As the level of partnership (co-operation) rises, both formally defined networks and informal networks emerge.

Technological innovation and trade drive national economies in different ways. The former exploits a nation's innovative potential and the latter its excess production capacity. Innovation-based performance is enhanced by technological innovation and changing product markets in the integrated global economy, characterized by fluid, competitive production. Innovation-based *performance* competitiveness presents opportunities for skill enhancement and building optimal human–technology interfaces. Different national strategies might be pursued, reflecting different domestic preferences and culture, but there are further implications depending on the extent to which trade drives the economy.

The changing world economy, however, presents challenges to all nations. From the perspective of competitiveness, these require implementation of the right to know, the right to participate, and the right to benefit from integrated global economy transformations.

Global competitiveness index as an integrated micro- and macro-environment evaluation tool

The Global Competitiveness Report is the world's most comprehensive and respected assessment of countries' competitiveness, examining the factors enabling national economies to achieve long-term prosperity, and revealing the key ingredients of economic growth and prosperity. Since 2005, the reports include the World Economic Forum's GCI, a highly comprehensive index which captures the microeconomic and macroeconomic foundations of national competitiveness, as well as detailed profiles for each of the economies covered and data tables displaying relative rankings for more than 100 variables.

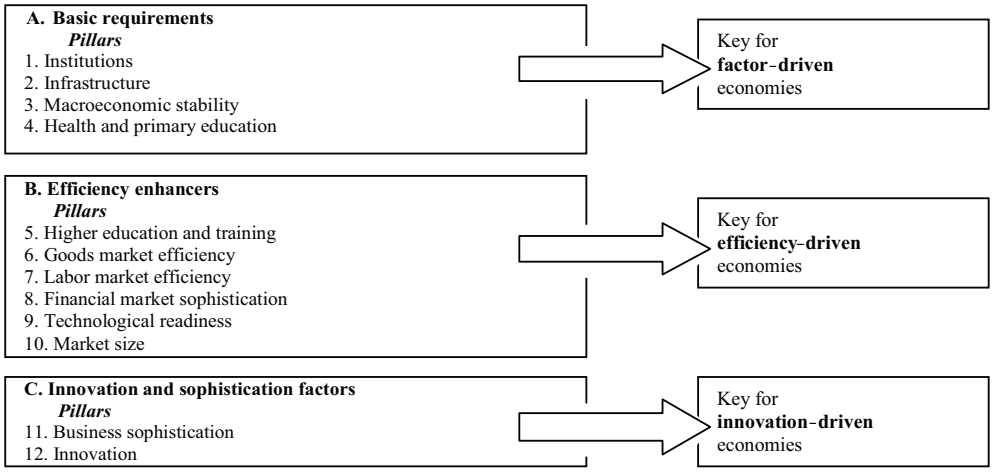

FIG. 2. **The 12 pillars of competitiveness**

Sources: The Global Competitiveness Report 2008–2009. [checked 19 January 2010]. Available on Internet: <http://www.weforum.org/documents/GCR0809/index.html>; Porter, M. E. (1990). *The Competitive Advantage of Nations.* The Free Press: New York. The Global Competitiveness Report 2009–2010 [checked 23 April 2010]. Available on Internet: http://www.weforum.org/en/initiatives/gcp/Global%20Competitiveness%20Report/index.htm

That is where the Porter's theory of national competitive development stages comes in (Porter, 1990). Regarding the Global Competitiveness Reports, they adapted Porter's definitions of the stages of development by presenting also the main pillars of competitiveness (see Fig. 2).

Although these development stages are close in their spirit to that of Porter, there are some important differences. One difference is that the exact elements that are important at each stage are not the same. A second difference is that Porter sees the second stage as driven by the ability and willingness to invest, while the Report sees it as being driven by efficiency (The Global Competitiveness… 2008–2009). The main criterion allocating countries to stages of development is the level of GDP per capita at market exchange rates. The precise thresholds are shown in Table 2.

TABLE 2. **Income thresholds for establishing stages of development**

Stage of development	GDP per capita (in US$)
Stage 1: Factor driven	< 2,000
Transition from stage 1 to stage 2	2,000–3,000
Stage 2: Efficiency driven	3,000–9,000
Transition from stage 2 to stage 3	9,000–17,000
Transition from stage 2 to stage 3	9,000–17,000

Source: The Global Competitiveness Report 2008–2009 [checked 10 January 2010]. Available on Internet: <http://www.weforum.org/documents/GCR0809/index.html>

According to the Report, countries falling inbetween two of the three stages are considered to be "in transition." For these countries, the weights change smoothly as a country develops, reflecting the smooth transition from one stage of development to another. By introducing this type of transition between stages into the model, i.e. by placing increasingly more weight on those areas that are becoming more important for the country's competitiveness as it develops, the GCI can gradually "penalize" the countries that are not preparing for the next stage.

The determinants of competitiveness are numerous and complex. The ranking is based on 12 pillars of competitiveness, providing a comprehensive picture of the competitiveness landscape in countries around the world (see Fig. 2). Although the 12 pillars of competitiveness are described separately, this should not obscure the fact that they are not independent: not only are they related to each other, but they also tend to reinforce each other. The concept of stages of development is integrated into the GCI by attributing higher relative weights to the pillars that are relatively more relevant for a country given its particular stage of development.

The pillars are organized into three sub-indexes, each critical to a particular stage of development. The *basic requirement* to the sub-index groups is that those pillars are most critical for countries in the factor-driven stage. Both Porter and the Report stress that, although successful internationally, the industries' competitive position is established largely on prices with their low productivity reflected in low wages and unlikely to lead to a sustained productivity growth. Maintaining competitiveness at this stage of development hinges primarily on well-functioning public and private institutions (pillar 1), well-developed infrastructure (pillar 2), a stable macroeconomic framework (pillar 3), and a healthy and literate workforce (pillar 4).

Progress from this factor-driven stage requires a shift to an investment-driven (Porter, 1990) or efficiency-driven (The Global Competitiveness… 2007–2008) economy when countries must begin developing more efficient production processes and increase product quality. The *efficiency enhancers* sub index includes the pillars critical for countries in the efficiency-driven stage. At this point, competitiveness is increasingly driven by higher education and training (pillar 5), efficient goods markets (pillar 6), well-functioning labour markets (pillar 7), sophisticated financial markets (pillar 8), a large domestic and/or foreign market (pillar 10), and the ability to harness the benefits of existing technologies (pillar 9).

The innovation-driven stage, in which competitiveness is driven by innovation, is of the greatest relevance to the developed economies. Competitive advantage shifts to the complex patterns of differentiation in the total package bought by the customer, productivity rises due to product- and process-driven innovation. As countries move into the innovation-driven stage, they are able to sustain higher wages and the associated standard of living only if their businesses are able to compete with new and unique products. The *innovation and sophistication factors* sub-index includes the pillars critical to

countries in the innovation-driven stage. At this stage, firms and companies compete globally through innovation (pillar 12), producing new and different goods using the most sophisticated production processes (pillar 11). At this stage also foreign manufacturing develops and becomes less sensitive to a country's macro-economic fluctuations.

Recent experience has shown that some governments have been able to engender a climate where enterprises' innovation can flourish, creating a more dynamic economy and greater employment opportunities. At fact, the national climate for private sector innovation has an impact on businesses of all sizes, but public policies and attitudes that constrain creativity, competition, risk-taking and appropriate financial returns on successful ventures can particularly affect small and medium-sized enterprises.

Comparison of the scale and major causes of the EU and Lithuania's economy competitiveness and innovativeness

The Lithuanian economic development is taking place in the broader context of an integrated global economy. Therefore, the competitiveness of the Lithuanian economy is understood as a long-term ability of an open market to withstand international competition (on the domestic, the EU, and the third countries' markets). Also, Lithuania needs to improve its abilities for an effective adaptation to the changing external conditions and achieving a fast, sustainable economic growth resulting in a reduction of the economic, social and technological distance to more developed European Union economies.

To evaluate the competitiveness of Lithuania's economy, it is necessary to make a comparison with other countries in such aspects as the ability to generate, as a result of exposure to international competition, relatively high incomes from the means of production on a solid basis. Lithuania, Estonia and Latvia (henceforth referred to as the Baltic countries) were selected for benchmarking due to their comparability in terms of the historical background, geographic positioning, the number of inhabitants and area. The aim of evaluation was to recognize the major causes and scale of delays of Lithuania's economy competitiveness and innovativeness.

GDP per capita is a broad economic indicator of the living standard and a basic measure of the competitiveness of an economy. Therefore, it is argued that economic growth (increase in GDP per capita) enhances social welfare. Expressing GDP in PPS (purchasing power standards) eliminates differences in price levels among countries, and calculations on a per head basis allows for a comparison of economies even significantly different in absolute size.

Evaluating the competitiveness of the Baltic countries, a cross-country comparison of GDP per capita and GDP at current prices reveals that these indicators show a low level of competitiveness as compared with the same indicators of the EU-27 states (see Fig. 3).

The last two decades have seen the build-up of global macro-economic and structural imbalances on a massive scale. After years of buoyant growth, following their accession to the European Union (EU) in 2004, the Baltic countries have been hit by the global eco-

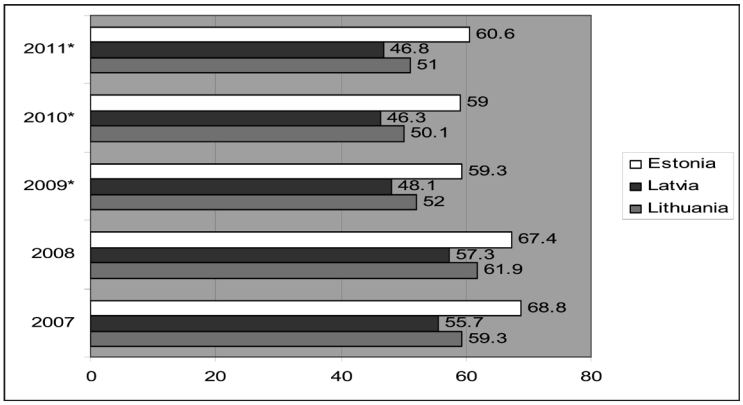

FIG. 3. **GDP per capita in PPS (purchasing power standards) (EU-27 = 100)**

Source: compiled by the authors according to the Eurostat data.

* Forecast.

nomic downturn. Lithuania's GDP per capita accounted for less than 62% in 2008 of the average in the EU-27 Member States, respectively Latvia's 57.3% and Estonia's 67.4%. In this figure, presented are also the objectives adopted as overarching goals, which were regarded as defining the desired level of development to be attained over a definite period. The level of this index, regarded as the most synthetic measure of international competitiveness of the economy, points to a poor competitiveness of Lithuania's economy, especially in the light of unfavourable Eurostat forecasts for the forthcoming years.

According to income thresholds for establishing stages of development, Lithuania, Latvia and Estonia are considered to be in transition from stage 2 (efficiency-driven stage) to stage 3 (innovation-driven) (see Fig. 4).

In such conditions, the socioeconomic performance of Lithuania can in many respects be regarded as good, especially in comparison with Latvia. The previous high rate of economic growth slowed down considerably in 2009, but if the GDP growth continues to exceed that of all other countries, this will continue to improve Lithuania's relative position in GDP per capita terms.

During the Lisbon European Council (March 2000), the European Union set a new strategic goal for the 2000–2010 decade to become the most competitive and dynamic knowledge-based economy in the world, capable of sustainable economic growth. Participating in the processes of economic integration, Lithuanian enterprises acquired particular experience in competing in the global environment, but in the last years the main aim is to achieve the level of developed economies. These demands highlight the need of evaluating the Lithuanian competitiveness issues and to recognize the major causes and scale of delays of Lithuania's economy innovation activities. As a response, increasing attention to the improvement of innovation capabilities, education, research and development and partnership arrangements, energizing efforts for competitiveness enrichment are needed.

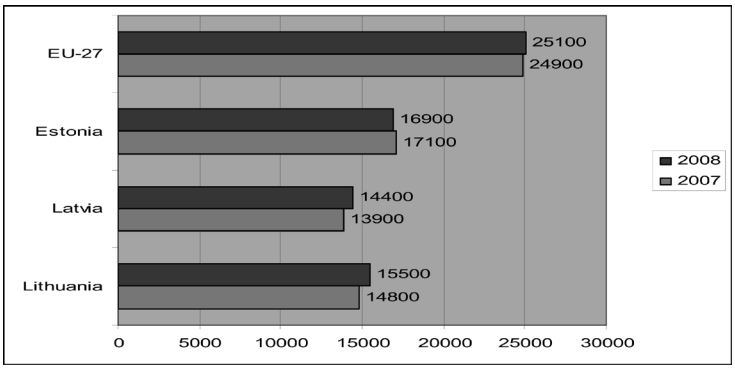

FIG. 4. **GDP at market prices (PPS per inhabitant)**

*Source***:** compiled by the authors according to the Eurostat data.

GDP per capita is intended to give the overall impression of the productivity of national economies expressed in relation to the EU-27 average. The introduction of labour productivity is important because it illustrates the efficiency with which firms, by using labour as a production factor, contribute to GDP. This in turn is an important determinant of the competitiveness of an economy. It should be noted that Fig. 5 suggests a great difference between the Baltic States and the EU-27 countries in the average labour productivity which in Lithuanian and Latvia is much below the EU-27 level.

Because all Baltic countries (Lithuania, Latvia and Estonia) were considered in transition from the efficiency-driven to innovation-driven stage, in Table 1 we present the rankings for sub-indexes and pillars from the Global Competitiveness Index 2008–2009, striving to define the main strengths and weaknesses of these countries (Fig. 6).

In conformity with the Global Competitiveness Index (GCI) 2008–2009, the Lithuanian competitiveness performance can in many respects be regarded as good in com-

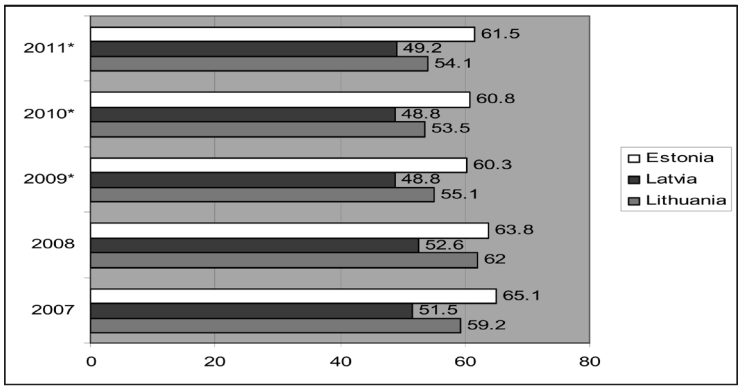

FIG. 5. **Labor productivity per person employed (EU-27 = 100)**

Source: compiled by the authors according to the Eurostat data.

* Forecast.

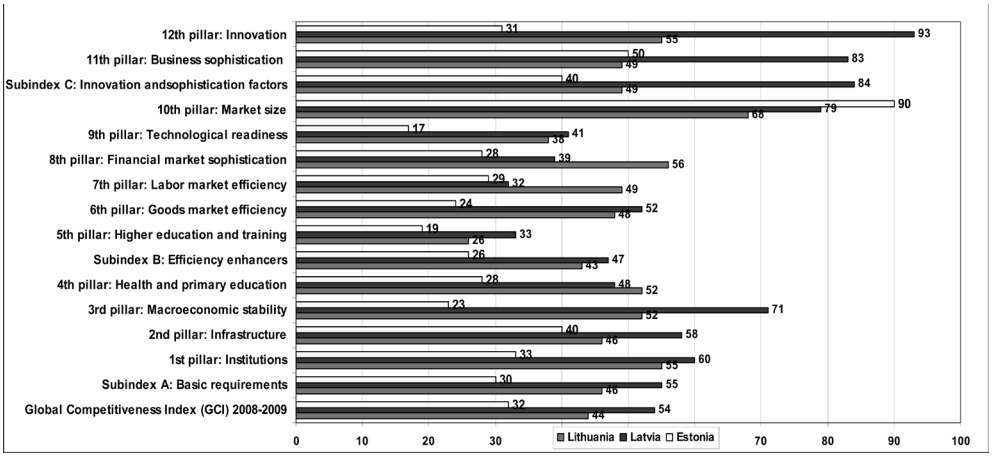

FIG. 6. **Comparison of Lithuanian competitiveness with Latvian and Estonian rankings (The Global Competitiveness… 2008–2009)**

Source: compiled by the authors according to the Global Competitiveness Report 2008–2009 [checked 19 January 2010]. Available on Internet: <http://www.weforum.org/documents/GCR0809/index.html>

parison with Estonia and Latvia. The GCI in global competitiveness ranked Lithuania 44th in the world among the total of 134 listed countries. Analysis shows that the ranking is best for the sub-index of efficiency enhancers (43rd), and the country is ranked 26th for the quality of higher education and training pillar, followed by the technological readiness pillar. Lithuania's competitive disadvantages stem primarily from its relatively small domestic market size, and particularly those related to financial market sophistication and macroecomic stability continue to pose a risk to the country's overall competitiveness. Lithuania's perennial problems of inflation, inefficient government bureaucracy and restrictive labour regulations were the main reasons for the further decline in the country's competitiveness ranked as 38th in 2007–2008.

Latvia was ranked the worst (54th) among the Baltic States in this year's GCI and was down 9 places in comparison with the previous year ranking (54th). Latvia's strengths stand on the higher education and training pillar (34th) and labour market efficiency (37th). Three areas of particular concern remain: a lack of stability in the macroeconomic realm (71), innovation (93rd) and the business sophistication (83rd). The most problematic factors for doing business are the increasing inflation and government inefficiencies related with bureaucracy, tax regulations and corruption.

Estonia (32nd place), in comparison with the 27th ranking in 2007–2008, lost some ground mainly because of the high inflation, inadequately educated workforce and restrictive labour regulations. However, with this highest ranking among the Baltic States, the Estonian economy showed more than ever its ability to withstand exogenous shocks and overcome the perverse effects of the global financial crisis. From the Baltic countries, Estonia benefits from the highest level of macroecomic stability (23rd). The coun-

try had a number of competitive advantages, including its well-educated labour force (ranked 19th), respectively, on the higher education pillar) and goods market efficiency (24th) On the other hand, Estonia's main competitive disadvantage stems primarily from its small domestic market size. Nevertheless, the country continued to be characterized by efficient innovation factors (31st) and a strong uptake of new technologies (17th), the highest rankings among the Baltic countries.

All Baltic countries got good marks for the quality of the educational system. This has buttressed the Lithuania's and especially Estonia's innovation potential. On the other hand, Lithuania's technological readiness and innovative potential lag behind Estonian ones. The productivity of companies is also inextricably intertwined with the external environment in which they operate. The highest-quality business environment ranking was given to Estonia. However, a number of weaknesses of Lithuania and Latvia in the quality of the national business environment continued to pose a risk to their overall competitiveness position.

The productivity of a country is ultimately set by the productivity of its enterprises. The productivity of companies depends on the sophistication with which companies compete. Among the Baltic countries, Estonia and Lithuania derived competitive advantages from the sophistication of their businesses (ranked respectively 50th and 49th). Competitiveness is a dynamic concept. Countries can increase their absolute and relative prosperity levels if they can improve their business environment and company sophistication faster than other nations.

In conformity with the newest Global Competitiveness Index 2009–2010, Lithuania and Latvia are remaining in transition from the efficiency-driven to the innovation-driven stage, while Estonia is already positioned in the innovation-driven stage (The Global Competitiveness … 2009–2010). Competitiveness rankings of the Baltic countries are affected to different degrees. Out of 133 countries, Estonia moved down only 2 places this year (to 35th), while Lithuania and Latvia were down by 9 and 14 places (to 53rd and 68th, respectively).

The best way to improve Lithuania's competitiveness is not the same as for the countries in the factor-driven or innovation driven stages. Therefore, striving to enter the innovation-driven stage, the main efforts should be targeted to improving the innovation and sophistication factors, i.e. the 11th and 12th pillars. Business sophistication requires efforts in developing the quality of a country overall business networks and of individual firms' operations and strategies and is conductive to a higher efficiency in the production of goods and services. At the same time, innovation is a must in the frontiers of knowledge and in designing and developing cutting-edge products and processes to maintain a competitive edge.

To sum up, Lithuania will have to continue the reform process if it is to attain a higher growth path. Therefore, striving to enter the innovation-driven stage, innovations are the main tool for achieving a better competitive position both for the country and for business

enterprises. In the successful growth of Lithuanian economy and business enterprises, innovations play the central role for acquiring new forms of competitive advantage.

Based on their innovation performance across 29 indicators, the EU Member States, according to the European Innovation Scoreboard 2008, fall into the following four country groups: innovator leaders, innovation followers, moderate innovators and catching-up countries. Estonia belongs to the moderate innovators group with innovation performance below those of the innovation leaders but above the EU average, while Lithuania and Latvia belong to the catching-up countries with innovation performance well below the EU average.

Evaluating the progress in innovative activities, analysis was based on the Innobarometer, 2009 and Lithuanian Department of Statistics surveys of the 2006–2008 period as well on the Eurostat yearbook 2009. In the analyzed period, 38.8% of EU-27 enterprises were considered to be innovative.

What are the characteristics of the Lithuanian business innovations in the era of globalization, the consequences of organizational innovations and the problems facing an organization while implementing them? What are the remedies to overcome those problems? During the study period (see Fig. 7), evident progress has been achieved in the growth of the number of innovative enterprises.

About one third of all Lithuanian enterprises (28.8%) regarded themselves as innovative-active. Among enterprises with the size class above 250, this proportion stood at 62.8% versus 60.6% in 2002–2004. Almost the same situation in the structure of other size classes remained during 2002–2006. Regrettably, the number of innovative SMEs noticeably falls in the size class 10–49.

Comparison with the EU shows that Lithuanian enterprises lag behind the European Union ones not only in the number of innovative enterprises, but also in introducing different types of innovation which increase the productivity and turnover. Almost half of EU companies have reported that they are introducing each type of innovation included in the survey (e.g., improved products, services, processes, marketing strategies *or* organizational changes, etc.); over 80% of companies have reported that they have introduced at least one type of innovation of those surveyed.

Lithuanian innovation-active enterprises have either introduced new or significantly improved products into the market or implemented new or significantly improved internal processes or carry out innovation activities. While during the analyzed period 10.3% of all firms have introduced product and process innovations, 7.9% were process innovators by introducing new or significantly improved methods of manufacturing and producing goods or services. Only 1.9% innovation-active enterprises introduced new or significantly improved products, whereas. 7.5% implemented only organizational and marketing innovations.

The strategic approach to sustainable partnership development induces EU and Lithuanian enterprises to enter into co-operation relations while implementing innovations as

a tool for competitiveness improvement. In terms of strategic partnership, they are particularly active within the supply chain: with suppliers (42%) or with specific (presumably large or important) customers or clients (39%). Strategic links with educational (24%) and research organizations (15%) were less frequently reported.

Amongst Lithuanian innovators, almost 49% of enterprises engaged in some co-operation arrangements. The most common co-operation arrangements were with suppliers (32% of innovators), followed by partners, clients or customers, other enterprises and consultants. Only 12.3% of innovators had co-operation arrangements with higher education institutions and 9.1% with research institutions.

Comparison with the EU shows that Lithuanian innovative enterprises lag behind the European Union ones. Striving to meet the requirements raised in the Lisbon strategy, it is necessary to employ new forms of competitiveness improvement that are based on the utilization of distinct capabilities that are managed adequately. An empirical study shows that Lithuanian enterprises should much deeper employ their innovational potential by enhancing their partnership agreements and thus enhance their strategic capabilities in a creative and sustainable manner through the process of organizational learning which incorporates an integrated decision-making approach.

Improving innovativeness in Lithuanian enterprises would enhance their competitiveness both in domestic and international markets. In turn, this would benefit the development of productivity efforts and boost domestic production, international business transactions and thus facilitate the response to challenges of the integrated global economy. Also, it should be noted that a continuous monitoring of the competiveness and innovations should be undertaken to help maintain a clear picture of the status quo and the possible evolution of competitiveness and innovations. Efforts should be directed to strengthening

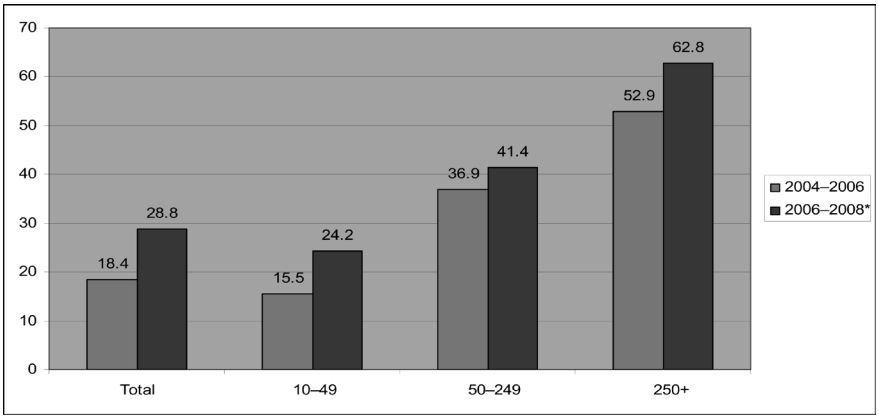

FIG. 7. **Lithuanian innovative enterprises by their size class (per cent of all enterprises)**

Source: Innovation activities of enterprises [checked 29 February 2010. Available on Internet: <http://www.stat.gov.lt/en/pages/view/?id=2305>

* Preliminary data.

the microeconomic foundations for innovations that should be supported by an integrated approach to partnership development not only in the domestic but also in the EU market. This approach would help to improve innovativeness through a combination of business-friendly policies, world-class infrastructure, and a large pool of highly-trained local labour force. It is imperative therefore that Lithuanian enterprises make a conscious decision to change their attitudes toward the adoption of new advanced technologies to ensure that these innovations allow fostering long-term productivity improvements.

Conclusions

Globalization is a central driving force behind the rapid social, political and economic changes that are reshaping modern society and world order. The increasingly changing global business environment is characterized by integration, rapid technological changes and growing competition and has forced enterprises to find new ways of competing effectively in the integrated global economy. Therefore, new challenges for improved economic growth inevitably raise the issues of competitiveness and innovativeness.

A country's competitiveness and openness to global business activities are inextricably linked to a country's standard of living, determined by productivity, which deploys national resources and the output of the economy. A theoretical study of the current scientific literature shows that competitiveness and development objectives are compatible. Together, they ensure a long-term, sustained improvement in overall performance. The main pillars of competitiveness depend on the country's development stage and define its competitive position in the global market. The intensification of competition, induced by the global economy, is driving businesses to become more innovative. The capacity for innovation is thus a critical factor for individual firms' success as well as for improved national competitiveness in today's global integrated economy.

Examining the factors enabling national economies to achieve sustained economic growth and long-term prosperity, in conformity with the GCI 2008–2009, Lithuania's competitiveness performance may in many respects be regarded as good (38th place among 131 countries), but according to the GCI 2009–2010 Lithuania is down to the 53rd place among 133 countries. In conformity with the newest Global Competitiveness Index 2009–2010, Lithuania and Latvia remain "in transition" from the efficiency-driven to innovation-driven stage, while Estonia is already positioned in the innovation-driven stage. Lithuania, falling between the efficiency-driven and innovation-driven stages, must put more weight on its capacity to innovate and on the development of more sophisticated issues.

Analysis of the Lithuanian enterprises' innovative activities and comparison with the EU show that Lithuanian enterprises have fallen behind the European Union level in their application of innovations and belong to catching-up countries as regards its innovation performance. This may prove troublesome in the long run since a correlation between economic welfare and the adoption of technological advances is an established fact.

It is imperative, therefore, that Lithuanian enterprises make a conscious decision to change their attitudes toward the adoption of new advanced technologies to ensure that these innovations allow fostering long-term productivity improvements and successfully implementing the Lisbon strategy. Improving the competitiveness of enterprises through partnership is an essential strategy in globalization processes; therefore, Lithuanian enterprises should much more actively employ their innovative potential while enhancing their partnership agreements in innovative activities not only in the supply chain and in such a way to enhance their strategic capabilities both in the domestic and global integrated market. Additionally, continuous research of the competiveness and innovations should be undertaken to help maintain a clear picture of the status quo and to respond to the changing demands of the integrated global market.

REFERENCES

Ashford, N. A., (2002). Government and Environmental Innovation in Europe and North America. American Behavioral Scientist, 45 (9), pp. 1417–1434.

Beniušienė I., Svirskienė G. (2008). Konkurencingumas: teorinis aspektas. Ekonomika ir vadyba: aktualijos ir perspektyvos, Nr. 4 (13), pp. 32–40.

Begg, I. (1999). Cities and Competitiveness. Urban Studies. Vol. 5–6, pp. 795–805.

Chatman, J. A., Spataro, S. E. (2005). Using self-categorization theory to understand relational demography-based variations in people's responsiveness to organizational culture. Academy of Management Journal, Vol. 48, No. 2, pp. 321–331.

Cox, K. (2004). Globalization and the politics of local and regional development: the question of convergence. Transactions of the Institute of British Geographers, Vol. 29, No. 2, pp. 179–194.

Dicken P. (2007). Global Shift. Mapping the Changing Contours of the World Economy. London: Sage.

Friedman, T. L. (2000). The Lexus and the Olive Tree: Understanding Globalization. Anchor Books, New York, NY.

Gylys, P. (2008). Ekonomika, antiekonomika ir globalizacija. Vilnius: Vilniaus universiteto leidykla.

Huggins, R. (2003). Creating a UK competitiveness index: Regional and local benchmarking. Regional Studies, Vol. 37 (1), pp. 89–96.

Johnson, D. (2001). What is innovation and entrepreneurship? Lessons for large organizations. Industrial and Commercial Training, Vol. 33, No. 4, pp. 135–140.

Jatuliavičienė, G. Kučinskienė, M., Garuckas, R. (2007). Environmental challenges for entrepreneurship and innovations development. Vadyba/Management, Nr. 3–4 (16–17), pp. 56–62

Jin, B., Moon, H. (2006). The diamond approach to the competitiveness of Korea's apparel industry: Michel Porter and beyond. Journal of Fashion Marketing and Management, Vol. 10, No. 2, pp. 195–208.

Kostiainen, J. Urban economic development policy in the network society. Electronics Dissertation. Tampere, 2002.

Kucinskiene, M. Alternatyva. (2008) [checked 26 August 2009]. Available on Internet: *http://www.bernardinai.lt/index.php?url=articles/74823*

Kučinskienė, M., Jatuliavičienė, G. (2006). Konkurencinio pranašumo siekis atviroje rinkoje: globalizacijos kontekstas. International conference "Business development possibilities in the new European area", pp. 21–22, September 2006, Vilnius, Lithuania. Scientific proceedings. Part I. Vilnius University, Faculty of Economics.

Kučinskienė, M., Jatuliavičienė, G. (2002). Globali ekonomika ir antreprenerystė. Ekonomika: mokslo darbai, Lietuvos ekonomika ir globalizacija, Nr. 60(2), pp. 69–78.

Melnikas, B. (2008). Integral economic and cultural space in European Union: Transformation processes in Central and Eastern Europe. Social Research, No. 3 (13), pp. 108–118.

Ohmae, K. (2000). The Invisible Continent: Four Strategic Imperatives of the New Economy. Nicholas Brealey, London.

Piliutytė, J. (2007). Miestų konkurencingumo konpecija ir analizės lygmenys. Viešoji politika ir administravimas, Nr. 19, pp. 81–89.

Porter, M.E. (1998), Clusters and the new economics of competition, Harvard Business Review, Vol. 76, No. 6, pp.77–90.

Porter, M. E. (2003). The economic performance of regions. Regional Studies, Vol. 37 (67), pp. 549–578.

Porter, M. E., Ketels, C., Delgado, M. (2007). The microeconomic foundations of prosperity: findings from the business competitiveness index. In the Global Competitiveness Report 2007–2008 GCI 2007, World Economic Forum.

Simmie, J., Carpenter, J. (2008). Path Dependence and the Evolution of City Regional Economies. London, NESTA.

Sternberg, R. (2000). Innovation networks and regional development – evidence from the European Regional Innovation Survey (ERIS). European Planning Studies, Vol. 8, No. 4, pp. 389–407.

Stonehouse, G., Campbell, D., Hamil, J., Purdie, T. (2004). Global and Transnational Business: Strategy and Management. 2nd ed. John Willey and Sons Ltd.

Zhao F. (2005). Exploring the synergy between entrepreneurship and innovation. International Journal of Entrepreneurial Behaviour & Research, Vol. 11, No. 1, pp. 25–41.