

ECONOMICS AND SPACE



RESISTANCE OF THE GREATER BAL TIC REGION STATES TO MARKET CYCLE CHANGES

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A non-linear change process is a specific feature of a poorly regulated market economy. However, many researchers have shown that different economic sectors do not respond to market cycles in a similar way. Regional economic systems are a combination of many sectors, therefore a hypothesis about the correlation between the stability of regional economies and market cycles is examined. The study is conducted using the Baltic countries (hereinafter referred to as Greater Baltic Region, GBR) as an example. GBR countries have been classified into highly stable, relatively stable, unstable, and highly unstable based on the study of the stability of national economies to global cycle processes. The GDP dynamics of the countries were compared to GDP cycles of the US and the EU, which are the main financial centres. To understand the reasons, the sectoral structure of GDP is additionally considered. The results allow the author to classify of GBR countries according to the structure of economic sectors and the stability of the regional economy.

Keywords: market cycles, GDP dynamics, sectoral structure, stability, sensitivity

Introduction

Available country-specific GDP time series make it possible to evaluate changes in the global economic situation from the 1970s onwards. However, in view of the dramatic changes that took place after the collapse of the socialist order and the demise of the USSR, I will not consider time series dating before 1991. Among other things, this approach

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will be instrumental in its way of comparing the old and the new capitalist countries of the Greater Baltic region. This region attracts special interest because the Soviet-time spatial division of labour between disparate economies is being 'digested' at different rates across the area. Moreover, the type of capitalist transition model adopted by a post-Soviet country indirectly points to the features of its national political system.

The problem of economic cycles has been studied for many decades. For instance, in an earlier work (Baburin, 2018), I consider the Juglar-Marx mid-term cycles. Initially 10–11 years long, they now contracted to 5–7 years under the impact of technological change. Other popular concepts include Braudel's secular cycles, the Kondratiev-Schumpeter long waves, and the Kuznets curve. Taken together, they describe the complex multi-cycle character of the GDP curve.

This study relies on the theory of cyclo-genetic dynamics (Yakovets, 1999; Subbeto, 1994; Baburin 2010, 2012, 2014, and others), which, in a certain sense, is a precursor of the path dependence theory. It focuses on the influence of the regions' inherited economic structure on their current development. In this article, I will discuss how regional economies react to the Juglar – Marx cycles.

Soviet economic geography was the product of a rather isolated and self-sufficient economic system, which was planned and thus unaffected by global market cycles. However, Petr Baklanov used the category of fluctuating optimum in considering the uncertainty of location in terms of economic processes. This category reflects the essential impossibility of selecting a location that will be optimal over a long time because the weights of factors at play constantly change.

At the same time, specialisation and exchange in the framework of spatial division of labour have always merited the attention of Russian (and earlier, Soviet) economic geographers. Among them are N.N. Baransky and N.N. Kolosovsky, A.T. Khrushchev, M.D. Sharygin, N. Yu. Gladys and A.I. Chistobaev, O.I. Shabliy, and many other geographers and economists. In the post-Soviet period, when Russia was becoming increasingly integrated into the world economy, a community of experts in regional economics (A.N. Granberg, A.E. Probst, M.K. Bandman, I.V. Grishina, and others) turned to the competitiveness of regions and their ability to bypass depression phases.



Outside this community, the problem has been tackled by Paul Krugman, Masahisa Fujita, Anthony Venables, and others. In particular, Krugman and Venables have shown that the greatest geographical advantage is associated with moderate trade costs. When trade barriers and transport costs are insignificant, the geographical advantage of areas with better access to a market becomes insignificant, and businesses return to the old periphery. In another work, they supplement their model with the concept of the production chain: different manufacturers benefit from operating from the same location, because of a reduction in shipment costs.

Approaches that are very similar to the one used in this article have been proposed by Frankel and Rose (1998) and Gianelle et al. (2017). Both works analyse international trade, specialisation, business cycles, and endogenous cycles within spatial processes.

Imbs (2004), Montoya and de Haan (2007), and Lucas et al. (1977) take their analysis even further by considering not only trade and specialisation but also the financial component and, what is more important, the synchronisation of different cycles, including regional ones.

Another publication worth mentioning is the contribution of A. P. Wiatrak, who examines the resilience of Polish voivodeships with different specialisation to market economy cycles. According to the study, the most resilient regions are those specialising in agriculture and mining. A number of works has demonstrated that urbanised regions are more similar in their fluctuations to each other than to rural areas, that less developed Eurozone regions have greater amplitudes of fluctuations, and that the cycles of countries connected by close trade ties tend to synchronise. Some publications determine the weights of different factors. Although the contribution of politics is the greatest, the factor of ties becomes decisive for industrially developed countries.

Other works (Zemtsov and Baburin, 2016; Baburin et al., 2016; Baburin, 2018a; Baburin 2018b) examine the influence of the economic and geographical position on the competitive advantages and disadvantages of regions and cities. This influence can be considered as a factor of the resilience of regional economies.

The above proves the relevance of studies into the resilience of spatial socio-economic systems to changes in global economic and social processes.

The **hypothesis** put forward in this study is as follows: there is a dependence between the resilience of regional economies to market cycles (and other factors) and their specialisations. Modelling these processes and identifying spatial natural-historical and socio-cultural systems that maximise the aggregate resilience of regional economies comprise a new area of research for the Russian school of thought.

This area of research requires a combination of methods. The first group of methods is used to calculate the delta between region-specific incremental costs (positive or negative), industry average costs, and the changing demand for the products of companies operating within the regional specialisation (Baburin, 2018). The second group of methods are used to compute time intervals that are optimal for the effective functioning of a certain specialisation against the background of a changing economic situation. However, the information necessary for employing this approach is not always available.

At the first stage, I use the graphical-analytical method to conduct a pilot study into the above-mentioned dependencies. My primary focus is on the reactions of regions that have different industry structures and economic backgrounds. To make the comparison reliable, the GDP dynamics in the EU was used as the 'basic cycle pattern' (fig. 1).

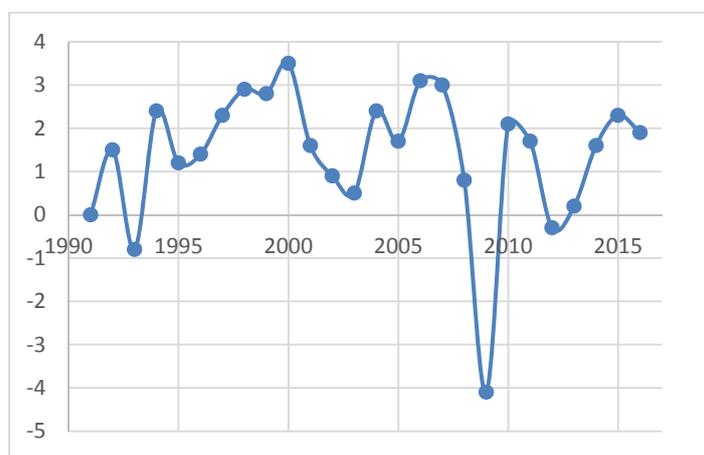


Fig. 1. GDP dynamics in the EU, 1991–2017 (%)

As the chart shows, the economy of the EU experienced several five–seven year periods of growth and recession. Expansions were observed in 1996–2000, 2003–2007, and 2012–2015 and contractions in 1989–1991, 1993–1995, 2001–2003, and 2008–2009, with the amplitude reaching 8 %.

Although the dynamics of the Russian economy has a similar configuration, it is characterised by a significantly greater amplitude (over 30 %) of deviations from average trends. This suggests that Russia's transitional economy remains overly sensitive to the rhythms created by the leading world economies.

As I show in an earlier article (Baburin, 2018), industries differ in resilience to market cycles. The reaction of the power and heat generation and water supply industries to market cycles is rather weak, whereas mining is more sensitive. The least resilient are manufacturing industries, with the amplitude reaching 28 %. This amplitude is almost three times that of mining and six times that of heat and power generation and water supply. Similar industry-specific studies show that the least sensitive industries are agriculture (or the primary sector in general), transport, and state services. Commercial services are the least resilient.

These patterns suggest a dependence between the reaction of regional economies and their specialisations.

The Greater Baltic region includes four Nordic countries (Finland, Sweden, Norway, and Denmark), Germany and Poland (they border the Baltic Sea in the south), the Baltics, and three Russian regions (the Kaliningrad and Leningrad regions and Saint Petersburg).

Below, I will consider the sensitivity of the economies of the Greater Baltic region (GBR) to market cycles, depending on their industry structure (fig. 2).

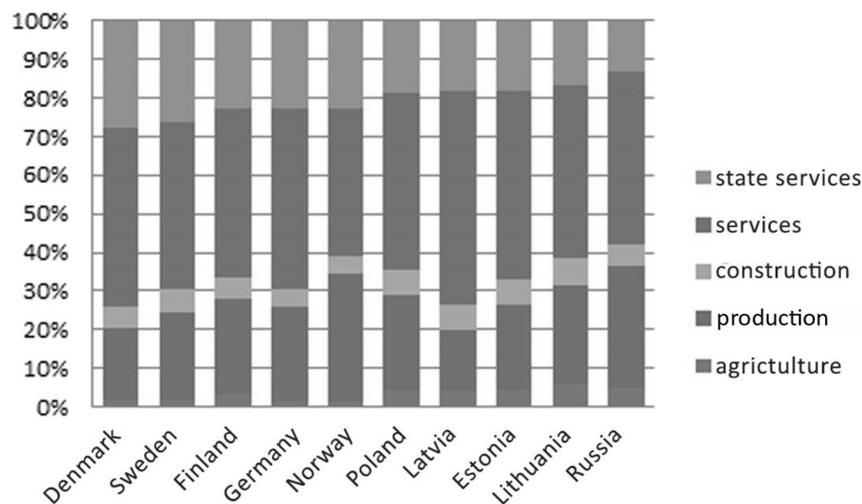


Fig. 2 The industry structure of the economies of the Greater Baltic region



The analysis of the industry structure of the GBR shows that the proportion of the state services sector is the greatest in Denmark and Sweden, being rather significant in the other 'old' EU member states. Commercial services comprise the largest sector in Estonia and Latvia. The proportion of production is the highest in Norway (the oil industry dominates) and the Russian Federation. Manufacturing dominates the economies of Finland and Germany. The proportion of construction is the highest in Lithuania, Estonia, and Latvia.

Below, I will consider the GDP dynamics of these countries in 1998–2016 (fig. 3 and 4) and try to link it to differences in regional specialisations.



Fig. 3 The GDP dynamics of the 'old' EU countries

The chart (fig. 3) clearly shows that Finland's economy is the most sensitive to crises (15%). Significant fluctuations are observed in other countries with a significant proportion of manufacturing. However, in Denmark (9), Germany (9), and Sweden (12), they are partly counterbalanced by the state services sector. Dominated by energy industries, the economy of Norway is the most resilient (5). The results obtained agree well with the hypothesis.

The situation in the Baltics is completely different. The economies of Estonia (dominated by the IT sector) and Latvia react most strongly to market cycle fluctuations (29% and 28% respectively).

This is explained by the excessive role played by commercial services and the production sector dominated by manufacturing in these countries. Heavily influenced by the EU, the agricultural sector cannot serve as a buffer. The reaction of the Lithuanian economy (26 %) in terms of GDP dynamics is more moderate, being the closest to that of the Kaliningrad region (fig. 4).

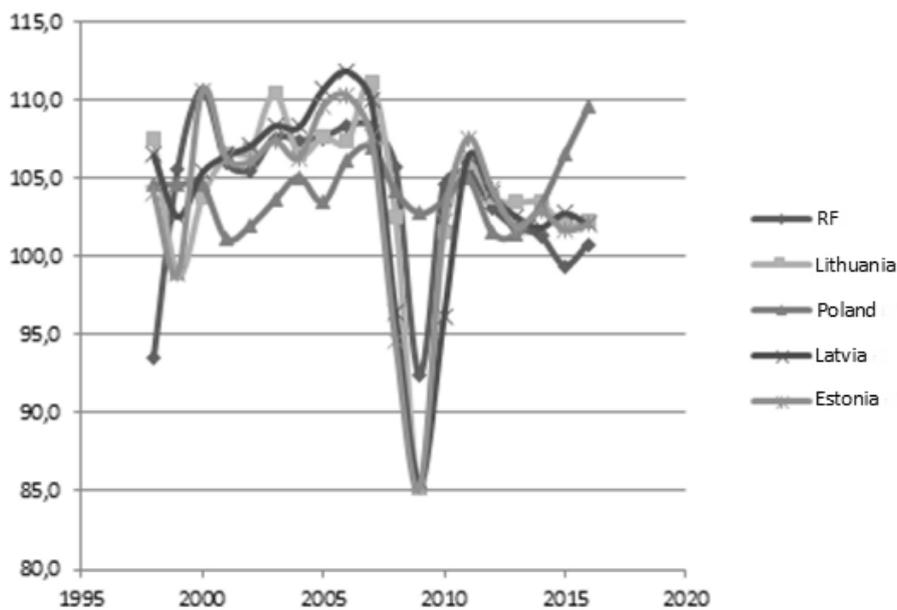


Fig. 4 The GDP dynamics of the 'new' EU countries

Similar fluctuations, although of a smaller amplitude (17 %), are characteristic of the Russian economy. The difference in the amplitudes can be explained by the scale of the Russian economy and the significant proportion of agriculture and mining. A special case is Poland, whose economy is almost insensitive to crises (6 %, constantly growing GDP), regardless of the structure of the economy. The reason is the considerable investment earmarked for Poland by the EU.

Using the approach described above and the analysis of GDP dynamics of the GBR countries and Russia's border regions during four expansions and three contractions, it is possible to produce a typology of regions based on different principles. In terms of resilience of economies to crises, the following types can be distinguished.



Table 1.

**Typology of GBR countries and regions based
on their economic structures and reactions to market fluctuations**

Specialisation	Services and/or manufacturing	Export-oriented production and a small proportion of services
Most resilient	Poland	Norway
Relatively resilient	Sweden, Germany, Denmark	–
Non-resilient	Finland	Russia
Least resilient	Estonia, Latvia, Lithuania	–

Conclusion. The above analysis of the dependence between market cycles and the value-added structure in GBR countries and regions supports the hypothesis that GDP dynamics is affected by specialisation. Overall, the economies of ‘old’ EU countries with developed government regulations systems are more resilient than those of ‘new’ member states are. However, there are two exceptions: Finland, which is closely integrated with the economy of Russia (their amplitudes of fluctuation are almost similar) and has one quasi-corporation (Noika), and Poland, whose economic wonder is sustained by substantial investment from the EU.

The economies of the Baltics are very sensitive to market cycles. This is explained by an excessive proportion of the services sector, a small percentage of state services, and a counterproductive policy towards Russia.

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Reference

1. Yakovets, Yu. V. 1999, *Tsikly. Krizisy. Prognozy* [Cycles Crises Forecasts], Moscow (in Russ.).
2. Subbeto, A. I. 1994, *Sotsiogenetika: sistemogenetika, obshchestvennyi intellekt, obrazovatel'naya genetika i mirovoe razvitie* [Sociogenetics: systems genetics, social intelligence, educational genetics and world development], Moscow, 68 p. (in Russ.).



3. Baburin, V.L. 2010, *Innovatsionnye tsikly v rossiiskoi ekonomike* [Innovative cycles in the Russian economy], Moscow, 216 p. (in Russ.).
4. Baburin, V.L. 2012, The development of territorial natural-economic systems as the basis of the economy, *Vestnik Moskovskogo universiteta. Seriya 5: Geografiya* [Bulletin of Moscow University. Series 5: Geography], no. 5, p. 5–13 (in Russ.).
5. Baburin, V.L. 2014, The relationship of settlement and placement of production, *Regional'nye issledovaniya* [Regional Research], no. 4 (46), p. 5–16 (in Russ.).
6. Baklanov, P.Ya. 1983, *Lineino-uzlovye sistemy promyshlennosti (strukturnye osobennosti i vozmozhnosti ucheta v planirovanii i upravlenii)* [Linear-node systems of industry (structural features and accounting capabilities in planning and management)], Vladivostok (in Russ.).
7. Sharygin, M.D. 2007, Modern problems of the territorial organization of society, *Izvestiya Russkogo geograficheskogo obshchestva* [Proceedings of the Russian Geographical Society], Vol. 139, no. 1, p. 30–36 (in Russ.).
8. Moshkov, A.V. 2008, *Strukturnye izmeneniya v regional'nykh territorial'no-otraslevykh sistemakh rossiiskogo Dal'nego Vostoka* [Structural changes in regional territorial-branch systems of the Russian Far East], Vladivostok (in Russ.).
9. Gladky, Yu.N., Chistobaev, A.I. 1998, *Osnovy regional'noi politiki* [Basics of regional policy], St. Petersburg (in Russ.).
10. Chistobaev, A.I. 1980, *Razvitie ekonomicheskikh raionov: Teoriya i metody issledovaniya* [Development of economic regions: Theory and methods of research], Leningrad, 128 p. (in Russ.).
11. Shabliy, O.I. 1976, *Mezhotraslevye territorial'nye sistemy (problemy metodologii i teorii)* [Interindustry territorial systems (problems of methodology and theory)], Lviv (in Russ.).
12. Granberg, A.N. 1985, *Dinamicheskie modeli narodnogo khozyaistva* [Dynamic models of national economy], Moscow (in Russ.).
13. Probst, A.E. 1982, *Problemy razmeshcheniya sotsialisticheskoi promyshlennosti* [Problems placing the socialist industry], Moscow (in Russ.).
14. Bandman, M.K. 1980, *Territorial'no-proizvodstvennye komplekсы: teoriya i praktika predplanovykh issledovaniy* [Territorial production complexes: theory and practice of preplanned research], Novosibirsk (in Russ.).
15. Grishina, I.V. 2005, *Analiz i prognozirovaniye investitsionnykh protsessov v regionakh Rossii* [Analysis and forecasting of investment processes in the regions of Russia], Moscow, 255 p. (in Russ.).
16. Fujita, M., Krugman, P. 2004, The New economic geography: Past, present and the future, *Papers in Regional Science*, Vol. 83, p. 139–164.
17. Venables, A.J. 1996, Equilibrium Locations of Vertically Linked Industries, *International Economic Review*, Vol. 37, no. 2, p. 341–359.
18. Frankel, J.A. Rose, A.K. 1998, Endogeneity of optimal currency zone criteria, *Economic journal*, no. 108, p. 1009–1025.



19. Gianelle, C., Montinari, L., Salotti, S. 2017, Interregional Trade, Specialization, and the Business Cycle: Policy Implications for the EMU, *Journal of Business Cycle Research*, Vol. 13, no. 1, p. 1–27, May.

20. Imbs, J. 2004, Trade, Finance, Specialization, and Synchronization, *Review of Economics and Economic Statistics*, Vol. 86, no. 3, p. 723–734.

21. Montoya, L.A., de Haan, Ja. 2007, Regional business cycle synchronization in Europe? *International Economics and Economic Policy*, Vol. 5, no. 1, p. 123–137, July.

22. Lucas, R. 1977, Understanding business cycles. In Stabilization of the Domestic and International Economy. In: Brunner, K., Meltzer, A. (eds.) *Carnegie-Rochester Conference Series on Public Policy*, Vol. 5, Amsterdam.

23. Wiatrak, A.P. 1997, Problemy rozwoju regionalnego w Polsce: wybrane zagadnienia. In: *Rozwój gospodarczy i zmiany strukturalne w ujęciu regionalnym*, Białystok, T. I.

24. Zemtsov, S.P., Baburin, V.L. 2016, Assessment of the potential of the economic and geographical location of the regions of Russia, *Ekonomika regiona* [Economy of the region], Vol. 2, no. 1, p. 117–138 (in Russ.).

25. Baburin, V.L., Zemtsov, S.P., Kidyaeva, V.M. 2016, Methodology of evaluating the potential of the economic-geographical position of Russia's towns. *Vestnik Moskovskogo Universiteta, Seriya Geografiya*, no. 1, p. 39–45 (in Russ.).

26. Baburin, V.L. 2018, Total costs as a baseline category for assessing economic activities in the Arctic. *Izvestiya RAN. Seriya geograficheskaya* [Proceedings of the RAS. Geographical series], no. 3, p. 18–25 (in Russ.).

27. Baburin, V.L. 2018, The reaction of the economies of the Baltic region to the cycles of the conjuncture. In: *Baltiiskii region – region sotrudnichestva – 2018: Problemy i perspektivy transgranichnogo sotrudnichestva vdol' zapadnogo porubezh'ya Rossii* [The Baltic region – the region of cooperation – 2018: Problems and prospects for cross-border cooperation along the western frontier of Russia], conference materials, Kaliningrad, I. Kant Baltic Federal University, p. 150–164 (in Russ.).

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