

# The Notion of Path Dependence in the Regional Economic and Geographical Studies

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## Abstract

The notion of *path dependence*, which is “dependence on the prior development”, appeared in economics as part of the evolutionary approach in the 1970s. Since the 1990s, the term has been used in the evolutionary economic geography. *Path dependence*—dependence on the previous development—makes it structural changes in the economy difficult, and overcoming it requires significant efforts. Economic geographers are studying the regional *path dependence* and “lock-in” of development path, shock phenomena and other sources of the regional *path creation*, the regional technological *path dependence*. Comparative analysis of regions showing *path dependence* is actual as well as analysis of the influence of institutional factors (special zones, territories of advanced development, etc.) on the formation and evaluation of *path dependence*. Some possibilities of applying the concept of *path dependence* are shown in this publication on the materials of the Kaliningrad region.

## Keywords

Path dependence · Lock-in · Path creation · Economic restructuring ·  
The Kaliningrad region

One of the main questions of economic geography is the reasons for spatial heterogeneity of economic processes. The notions pertaining to the nature of economic processes and the development factors play an increasingly important in this field of studies. Therefore. The development of economic geography as a science is closely related to the development of economic theory and the notions and ideas arising in its context. Path dependence belongs to a group of such ideas.

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The notion of *path dependence* has emerged in the frame of the evolutionary approach that appeared in the 1970s in opposition to the then prevailing neoclassical economics (Martin 1999).

Path dependence means that history matters and that current state of affairs depends on the historical development of a territory and is a result of the previous development path.

A. Auzan notes that the emergence of the theoretical background for path development analysis goes back to D. North who received the Nobel prize in economics in 1993 (Auzan 2015). According to D. Horth, path dependence means that decisions once made are difficult to cancel.

The most general definition of the path dependence notion was given by P. David, the founder of the concept: “path dependence is a process of changes in which small events, including those purely dominated by chance or luck, of the process’s own history, leads to an eventual outcome which might not necessarily be the most efficient one. However, the impact is persistent and enduring and, therefore, leads to the state of lock-in” (David 1985).

The hypothesis made by North and David has created frameworks for the understanding of how and why economic development path differ, what reasons are for choosing the path and how it is possible to shift from one path to another. In particular, the consequence of the hypothesis is a rebuttal of the thesis that development is inevitable and that efficiency and profit maximization determine success. Otherwise, the concept of path dependence allows us to study how institutional innovations become possible and why institutional innovations are not always successful.

However, the notion of path dependence is not just a claim or a proof that ‘history matters’. The notion has already been formulated and there is a theory that describes the ‘behavior’ of these systems. The theory identifies the reasons for path dependence, some of which are enumerated below:

- (1) institutional complementarity;
- (2) economies of scale;
- (3) low value of local assets;
- (4) increased returns of technological development;
- (5) imperfection of information (Shiryayev 2013).

Since the mid 1990s research works on path dependence have spread from natural sciences and economics to geography, regional development and planning, other social sciences.

Economic geography deals with uneven spatial distribution of economic activity. The evolutionary approach rests on historic processes that form economic structures in space. From the evolutionary paradigm point of view, time and space are intrinsically linked. Thus, economic geography is inseparable from economic growth because spatial patterns emerge from economic processes laid down in the past.

New concepts and instruments of spatial analyses that economists have started to use led to what R. Martin named ‘geographical turn’ in economics. Following

Krugman, economists discovered economic geography for their research (Krugman 1991). This has entailed increasing diffusion of both sciences and renewed the interest to economic geography. During the last two decades, economic geographers have started to use such evolutionary concepts and metaphors as path dependence, lock-in and co-evolution.

Evolutionary economic geography aims at studying the emergence of spatial particularities of regional specialization, the achieved development level (routines in the economic sense) and its changes. It is especially interesting to use the analyses of the emergence and diffusion of new regional competences (specialization, technology etc.), and the mechanisms of successful competences replication. This change in the approach reflects a more general transition of economic geography from the spatial analysis of capital assets to the analysis of organizational competences, and their anchoring in the local and global economy (Frenken and Boschma 2007).

Most economic geographers employ the concept of path dependence to explain why changes take a particular direction, and how regional industrial patterns vary or fail to change. Research works on regional path dependence focus on the following areas (Henning et al. 2013):

- (1) regional path dependence and lock-in;
- (2) disruptive events and regional path dependence;
- (3) regional technological path dependence and a branching process.

A comparative analysis of regional path dependence, the influence of institutional factors (special economic zones, etc.) on regional path dependence are popular areas of research.

The evolutionary approach in the Russian economic and historical studies gained attention during the last decade. The most impressive research works were written by the scholars from the Russian Academy of Science (V. Polterovich), M. Lomonosov Moscow State University (A. Auzan) and State University High School of Economics (R. Nureev). Economic studies in path dependence theme are mainly concentrated on questions of institutional traps of the Russian economy and socio-cultural aspects of economic transformations in Russia. From the beginning of 2010, a number of articles on path dependence have been written by geographers from Moscow State University (A. Fetisov) under the general title “evolutionary geography” (Fetisov 2011).

Their works are especially important for the Kaliningrad region, Russia’s exclave in the Baltic Sea region, as the economy of the region requires serious changes due to continuously changing external and internal factors of its development. The prevailing regional specialization makes this process difficult.

A retrospective analysis shows that the of the Kaliningrad region has been subjected to restructuring several times during a short historical period of its development due to changes in the external environment (Gareev et al. 2005; Gimbitskii et al. 2014; Gareev 2014). Every time the region had to overcome its path dependence with significant difficulties.

- I. In the second half of 1940s, at the time of the regional economy formation, the main difficulties were related to the necessity of transformation of market (capitalist) economy, which used to be part of Germany's economy, into centralized administrative (socialistic) economy of the Soviet Union. In the new conditions, many industries remained economically effective only because of the then existing industrial assets (the pulp and paper industry, mechanical engineering and machine building). Their economic effectiveness was beyond any doubt. Small-scale settlement system corresponded to a network of small private agricultural enterprises and small towns. This system existed during the Soviet period. Even now small settlements and towns prevail in the region.
- II. During 1950–1970—the period of the region's extensive growth through the creation of new industries—a strong maritime and food processing complex was formed and several precision machinery enterprises were built. The agriculture of the region (dairy and meat production, pig and poultry farming, and the production of fur) was rather effective for the USSR. Land management played an auxiliary role compared to the production of milk, meat and vegetables for the population of the region. Kaliningrad sea ports were rapidly developing. The role of the region as a centre for recreation and tourism was increasing. Another direction of the region's specialization was defense. It was during this period that a big navy base was built and a large number of troops were deployed in the region.
- III. Since the second half of the 1970s an attempt to reform Russia's economy in general and that of the region, in particular, was made. The reforms were aimed at raising labour productivity and stimulating economic growth. However, the path dependence effect was still strong because of the high costs of the earlier built capital assets, the structure of the labour market and the professional qualification of the labour force, etc. the main reason was the tradition to develop in an extensive way, to create new jobs that didn't differ a lot from those that already existed. New machines and equipment replaced obsolete assets extremely slowly. The administrative command economy and lack of innovations played an extremely negative role. Attempts to develop the economy of the Kaliningrad region intensively failed.
- IV. The second half of the 1980s was a period of the so-called *perestroika*—an attempt to modernize socialism and among other things to introduce a decentralized market economy. During this period, path dependence affected USSR as a whole. Opposition to the old state order was so strong that it led to the collapse of the Soviet Union. The Kaliningrad region became Russia's exclave on the Baltic.
- V. The 1990s were characterized by a global qualitative change of the previous path. This change turned out to be even more profound for the Kaliningrad region than for Russia as a whole. There was very little left from the former economic specialization of the region. The most radical changes were caused by the Special Economic Zone regime in the Kaliningrad region and

the process of privatization particularly regarding capital assets of the maritime industry (sea vessels were privatized and sold or re-registered under a flag of convenience). The reform of the political system facilitated the formation of a new regional economy.

- VI. Since the end of the 1990s, a new economy of the region has been forming based on the effect of the Law “On the Special Economic Zone in the Kaliningrad Region” (1996). Industries based on partial import replacement have been created; they use imported parts or semi-finished goods to produce new products to be exported to other Russian regions. A radical reform of the previous economic system was an indispensable condition for that wiping out the previous path dependence effect.
- VII. The adoption of a new law on the Special Economic Zone (2006) was aimed at attracting large investments and a new restructuring of the regional economy. Extending the period of custom preferences allowed Kaliningrad exporters to sell their goods in other parts of Russia enjoying the benefits of the Special Economic Zone. Import-based goods having low added value were an illustration of a new path dependence: the previous form of the economy would not be coming back. That is why when the custom preferences regime was cancelled on April 1, 2016, the Russian Government had to allocate considerable sums to compensate for the losses.
- VIII. In 2017, many enterprises, which appeared during the Special Economic Zone of 1996, still existed. Political and economic relations between Russia and Western countries worsened. Russian countermeasures to Western sanctions have negatively affected the industries processing import agriculture produce (especially meat). But path dependence is still visible: it makes it more difficult to form a new economy, which is less dependent on import and logistics costs and is more innovation-based and less energy intensive. By the end of 2017, the State Duma adopted changes to the Law on the Special Economic Zone to stimulate new industries. There is a new strategy of the social and economic development of the region that can lock-out the regional dependence path and bring in new economic patterns.

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