

The new industrial policy: A chance for the BRICS countries

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Abstract

This paper is aimed at investigating the ways of overcoming imbalances concerning competition and industrial policies. The central principles of combining industrial and competition policies have been formulated on the basis of a discussion of challenges and opportunities for interaction in the field of industrial and competition policies in developing countries in general and BRICS in particular. When setting priorities, it is essential to pay attention to those sectors that demand highly qualified resources and that are characterized by relatively strong competition; industrial policy design should be more competition- and innovation-friendly, which, in its turn, means orientation at supporting companies on an equal basis instead of favoring one specific company; industrial policy should be based on a pragmatic approach that involves a cost-benefit analysis of providing assistance to a particular sector.

Keywords: antimonopoly law, Austrian economics, competition policy, economic regulation, industrial policy, mechanisms of governance, new institutional economics, resource abundance.

JEL: B53, D02, L5, O25.

1. Introduction

Economic growth as a consequence of accelerated development of a number of industries is one of the major justifications for the implementation of industrial policy where it is necessary to prove its legitimacy by explaining its importance, necessity, and even

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inevitability. It is expected that anticipated outcomes of industrial policy – the multiplier effect, debottlenecking, creating a favorable business environment – will ensure accelerated growth of the entire economy.

In some cases, providing such a justification for industrial policy is quite easy, for example, when it is presented in the context of economy mobilization. Indeed, introducing a complex of measures to adequately address the clearly defined challenges (mainly, external ones) is an explicit solution. In other cases, it is harder to realize, as there also exists a number of alternative measures based on the same idea of picking specific spheres for accelerated development. Those measures may seem more attractive if they involve less government interference. Anyway, the question is whether the *ex ante* justification satisfies the *ex post* results and what follows if there is an obvious inconsistency.

It is assumed that indispensability of industrial policy is especially acute in developing economies which need structural adjustments (Cherif & Hasanov, 2019). At the same time, the changing global conditions and mixed previous outcomes led to a significant revision of industrial policy approaches (Rodrik, 2004, 2009). Competition is regularly proclaimed now as one of the main pillars of the new industrial policy (Tirole, 2017; Aghion et al., 2015). However, the normative consequences of competition policy and its relationship with industrial policy have yet to be specified.

Theoretical justification of competition and competition policy is directly linked to the idea of economic growth, or, being more accurate, to the idea of innovation-based economic growth. In accordance with Schumpeter's ideas, it can be seen as a search for new combinations: producing new goods, utilizing new resources, and creating new markets, as well as new market organization types (Schumpeter, 1942, 1949). Following this logic, industrial policies may be considered as incentive-distorting activities due to their probable inconsistency with rewarding best combinations. In this scenario, it is almost impossible to give a single and simple answer to the question: What should and can be the relationship between competition and industrial policies?

This paper is aimed at investigating the ways of overcoming imbalances concerning competition and industrial policies. Our research is focused on the identification of balanced industrial policy approaches for developing economies (first and foremost, the BRICS countries with rather big and progressing economies) which face specific challenges on their path of industrial development, as well as on their path to competitive markets.

The first part of the article suggests working versions of industrial and competition policies definitions in the context of industrial policy historical review. The second part is dedicated to the subject of resource endowment when applied to competition policy and industrial policy as separate areas. The third part covers different variants of competition and industrial policy interrelation and interaction in the context of governance structures. In the fourth part of the article, the authors discuss opportunities and ways of shaping industrial policy, especially in the BRICS countries, on a new basis that includes political and economic aspects, whose importance is expressed in one phrase: "Being evident is not equal to being feasible". The main findings are presented in the conclusion.

2. Industrial and competition policies: Composition, structure, interrelation

A constructive discussion of competition and industrial policies involves not just defining differences between the approaches used by various research directions or groups of interests, but reaching an agreement on the following issues: the basis, possibilities, directions, instruments and possible consequences of industrial policy in countries at different stages of development. The discussion is aimed at answering a number of key questions, in particular:

- (1) What is industrial policy?
- (2) What is the relationship between industrial and competition policies?
- (3) What is the best possible combination of industrial and competition policy tools and how to find it?¹

Sometimes it seems that it is not worth the time to develop or even establish working definitions used in discussions on economic problems, as the context of the discussion speaks for itself. In most cases, it is true. However, it is not true when it comes to the definition of “industrial policy”, in which economic history and the history of economic thought are closely intertwined.

The definition of industrial policy itself could hardly appear two or three hundred years ago. It was related not so much to the lack of measures that could be interpreted as a part of industrial policy but to the state of economic studies – at that time, economics (as a separate area of research) was only in its infancy. One obvious early historical example is the state’s priorities in the hydraulic societies: construction of complex irrigation systems. At the same time, those systems were one of the key elements of the reproduction of Eastern despotism.

State policy played an important role in the development of the Industrial Revolution, although in its early stages it was more about instruments of foreign trade, whose focus was not so obvious in the context of industrial policy. For example, despite widespread ideas of protecting free trade, England had one of the highest tariffs on manufactured goods in 1820. The country started raising its tariffs back in the 17th century, mainly for fiscal purposes. Though the goal was not to introduce structural economic changes, tariffs escalation had significant consequences in that sphere. In the United States, the industrial development policy (including protectionism) was formulated in 1791 by A. Hamilton in his “Report on Industry and Commerce” that had a great impact on the principles of American industrial policy in the following century. The policy was expected to be based on moderate tariffs (that would be favorable for commodity import, but not for finished goods import) and industrial subsidies. Moreover, sectoral priority criteria had already been formed (Shafaeddin, 1998).

¹ The relationship between industrial and competition policies is especially important. Some of its aspects, as well as the question of finding balance between industrial and competition policies, have been under discussion in Russia for more than 15 years (Avdasheva & Shastitko, 2003, 2004) and for a much longer period in Western economies (Swann, 1983).

One of the striking examples that can be found in Russian history is how Peter the Great (the Emperor of Russia in the early XVIII century) contributed to the development of industrial policy. This is a good example of how complex the nature of the industrial policy is, which combines the participation of both public and private sectors. The Emperor ordered the Collegium of Manufacturing to deal with manufacturers “not only by negotiating, but by forcing them as well, and help producers by providing guidance, equipment, or in any other way...” (Klyuchevsky, 1904, Lecture 64). Klyuchevsky identified 4 directions of Peter the Great’s industrial policy: inviting foreign masters and manufacturers to visit Russia, sending Russian specialists to study abroad, advocating for industrial activity, and providing financial help (loans, benefits, subsidies).

Perkins (2008) identifies two major directions of industrial policy in China in the late XIX century as “construction of pilot industrial plants” under state protection and sponsorship, especially in the textile industry, and educational reform, including sending students abroad and modernizing domestic schools.

These are examples of how broad and diverse the methods of industrial policy were in the distant past. Nowadays, the set of alternative approaches is becoming even more complicated. This is why it is a hard task to define industrial policy as a range of specific instruments.

There are two papers (Aiginger, 2007; White, 2008) that provide various definitions of industrial policy (though the list is far from exhaustive). Finding the right definition may seem to be a word game. However, in practice, lack of a clear definition may turn into a source of serious problems while coordinating different groups and their actions (from politicians to researchers and experts).

Thus, serious difficulties in the formation of special legislation can arise and are already arising: the industrial policy is understood in a vague and broad way (even though there is a formal definition for it), and that is the reason why the adopted rules have a framework nature. Such a framework nature of the highest order rules is being translated to the lower institutional levels where it becomes less noticeable by public. There is no problem in transferring the micro-norms to the meso-level as it is (Shastitko, 2019). Nonetheless, it may lead to considerable distortions, taken into account that the mechanisms of developing such rules, bringing them up for discussion, and adopting them might differ considerably (in particular, there is no parliamentarian filter or any regulatory impact assessment involving representatives of both business and consumers associations).

Addressing the question of industrial policy goals helps to determine what can and what cannot be considered part of such policy. It is difficult to make such an analysis based solely on the policy tools, as they can be very diverse. Unquestionably, instruments of fiscal (subsidies) and foreign trade policies (tariff and non-tariff barriers to trade) are implemented in industrial policy, as well as anti-monopoly measures that control mergers and acquisitions. Popov is right in paying attention to the importance of monetary policy instruments, at least in respect to maintaining rather low exchange rate in order to stimulate export-oriented industries (Popov, 2014b). The enumerated list of instruments is far from embodying all the industrial policy measures, especially, if the complementary institutional reforms are also to be included in it.

The industrial policy goals are not absolutely explicit as well. Nonetheless, they present a good basis for reaching a quasi-consensus and determining the “battlefield” of industrial policy. It always refers to targeted state support of individual enterprises, groups of enterprises, or sectors of the economy as a whole. Attempts to separate the narrower and the broader order of concentration of industrial policy measures have led to the separation of vertical and horizontal industrial policy types. In this regard, Kuznetsov and Simachev note that measures that have a favorable effect on a broad or even undefined number of spheres might lead to structural shifts in economy (2014, p. 156) or, in other words, to an outstripping development of some spheres and enterprises (we would like to add that these structural shifts are usually predictable and can be the goal of the *de facto* policy). In continuation of this reasoning, we’d like to agree with Polterovich (2014), who denotes it reasonable to use the “degree of selectivity” concept instead of dividing the policy into vertical and horizontal types. It is important to take into account Polterovich’s suggestion when discussing practical aspects of industrial policy implementation, because horizontal industrial policy, which is carried out in accordance with publicly declared intentions, may turn out to be a disguised vertical (selective) one.

In view of the above, we will further use our own definition. *Industrial policy is a sequence of government measures aimed at development of certain industries and, accordingly, correction (maintenance)² of industrial structure via ensuring resource endowment of corresponding subjects in order to stimulate economic growth³.*

It is worth mentioning that in the context of modern discussions, the coexistence of the narrow and broad definitions of the industrial policy is, in fact, possible (or even inevitable), and it is existing along with the distinction between horizontal and vertical (selective) (Rodrik, 2004), reactive and strategic (proactive) (Warwick, 2013, pp. 28–29) industrial policy types. The definition we have proposed corresponds to the broad policy, whereas the narrow definition requires binding to a specific set of sectors that are united by the term “industry”, namely, mining, manufacturing, and utilities.

In its turn, *competition policy is defined as a sequence of government measures aimed at creating new markets and ensuring competition conditions in markets in order to provide economic development⁴.* For further discussion it is important to delimit the protective and active competition policies because that will allow to identify the intersection of industrial and competition policy tools (Avdasheva & Shastitko, 2010). Here it should only be

² We should note that in the framework of the debate on industrial policy, structural changes are usually seen as its goals. However, in practice, industrial policy is usually aimed at avoiding changes, at conservation of a sector’s or the whole economy’s structure. It may refer, for instance, to support of core enterprises, even though it is provided in the short run, as well as done under the pretext of realizing social goals.

³ In reference to the last part of the definition, it is important to recall different economic growth concepts, including those that, for example, address changes in assessment of human impact on the environment. This is the origin of relationship between industrial policy and the “green” economy.

⁴ We should note that this paper is focused on the economic development that has its impact on the quality of economic growth, and on new combinations (according to (Schumpeter, 1942, 1949)) that represent the goals of the economic development.

noted that the instruments of protective competition policy are concentrated mainly in the framework of antitrust policy, including bans on anticompetitive collusions, abuse of dominant position, monopolistic activities involving state and local authorities, as well as control of mergers and acquisitions. However, finding a balance between protecting competition (primarily in domestic markets) and ensuring effective competition of national companies worldwide (Korneeva, 2016) is one of the important perspectives of providing compatibility between competition and industrial policy.

In analytical terms, the fundamental difference between competition policy and industrial policy is the contrast in resource endowment and incentives adjustment. Meanwhile, resource endowment influences the incentives itself. What is more, the nature of its impact largely depends on what was the mechanism that led to the appearance of the resource endowment.

In particular, if resource abundance is not linked to the efforts aimed at finding new combinations of resources, it is likely that the distorting effect on incentives cannot be avoided. According to Schumpeter's ideas, if the resource endowment arises as a result of, or in connection with, the incentives to search for new combinations, then contrasting competition to industrial policies is wrong.

Still, if there were no reservations concerning the use of the above-mentioned fundamental difference in certain situations (in a particular economy, industry, region, or market), then there would be no doubts or disappointments related to the future of the industrial policy. This statement is also relevant to the competition policy: for instance, the Austrian school sees competition as a process of creating new resources and identifying new opportunities to use those that are already well known, as a process that happens through entrepreneurial activities in the market (Hayek, 1989). It may seem that the main point is that an entrepreneur has incentives to identify these kinds of opportunities and use them for making profit (Kirzner, 1997). However, even within the framework of the research area that has negative attitude towards a possibility of government intervention (including intervention in the form of anti-monopoly policy (Armentano, 2005; Boudreaux & DiLorenzo, 1993; DiLorenzo, 1990)), it is recognized that it is almost impossible to create incentives not related to allocation of ownership of resources (Rothbard, 2009, p. 511; Salerno, 2008). In fact, it is an indirect recognition that the institutions matter for both economic agents' incentives and the results of these agents' exchanges.

Note that the resource endowment here should be taken in a broader sense. Industrial policy, which increases resource abundance, is associated not only with distribution of funds or other material benefits in favor of the supported sectors, but also with human resource development, with development of information, transport and business infrastructure, and increase of access to it. In other words, creating resource abundance effects means introducing measures that reduce the costs of enterprises without quantity or quality losses of the resources used in production, or that increase the quantity/quality of resources used at a constant cost of enterprises. For example, establishment of an information system that would provide data on the activities of enterprises or their products can also be considered an industrial policy measure, since this measure

reduces transaction costs of industrial enterprises. Such measures can cause significant positive externalities which may constitute the basis for choosing specific industrial policies in order to promote Pareto-improving internalization (Popov, 2014). To put it sharply, in a number of cases industrial policy measures may be regarded as an option of positive externalities internalization and, consequently, as a way of reaching Pareto-improvement. However, within the framework of the new institutional economics, firstly, there is no basis for making undisputable conclusions about the necessity of such internalization, and, secondly, if the internalization still takes place, it does not necessarily take the form of subsidies (as an opposite version of Pigouvian tax for negative externalities).

One of the attempts to create a systematic view of the industrial policy is proposed by Naude (2010), where its tools are considered in the context of priority functional areas. Protection of intellectual property rights can be mentioned among the instruments that are used for creating necessary economic signals and incentives. This is the issue that is currently being discussed in Russia and all over the world, partly because of the intellectual property rights abuse (Shastitko & Kurdin, 2012, 2015; Kurdin & Shastitko, 2017; Shastitko, 2013). This issue is becoming more specific in terms of the digital transformation of the economy, outbreak of multi-sided markets, platforms, and big data. That is why the problem of balancing industrial and competition policies will also be further considered in terms of protecting intellectual property rights.

Summing up the discussion in this section, we might stress the following:

- (1) The concept of industrial policy is not only significantly heterogeneous by meaning but much younger than state's priorities to be discussed by this evolving concept.
- (2) There is a wide range of industrial policy instruments specific in time and place.
- (3) Those instruments can be classified based on wide and narrow definitions of industrial policy.
- (4) For a better understanding, industrial policy might and should be related to competition policy issues.
- (5) Sources of resources endowments are important for considering competition and industrial policies as complements or substitutes.

3. Resource endowment

Before discussing in more detail options of relationships between industrial and competition policies, it would be appropriate to clarify the position on the issue of resource endowment that was formulated in the context of industrial policy problems (Shastitko, 2014b). An explanation of resource endowment concept is closely related to the approach of institutional studies that are based on the ubiquity of institutions' coordination and distribution aspects (Shastitko, 2010, pp. 137–142; 2011, pp. 32–40), as well as on the existence of a meso-level in economic research (Menard, 2017; Shastitko, 2019).

Further we consider the resource endowment issues regarding transaction as a basic unit of research within the framework of transaction costs economics.

In economic research, the meso-level is usually associated with the specifics of an object – regional or industrial one. However, not a long time ago, it was proposed to correct the approach based on Williamson’s three-level (“institutional environment – institutional arrangements – individual”) scheme (Williamson, 1996) focusing on meso-institutions. In general, development of such an approach can be seen as recognition of the fact that “details matter”. On the one hand, adoption of framework rules is not enough and, on the other hand, concretizing rules may not only inhibit macro-level changes, but absolutely distort them as well (Menard, 2017; Menard et al., 2018; Shastitko, 2019, 2020).

Governmental resource endowment of certain market actors as well as their success in reaching the same results because of the regulatory burden reduction is only one of available options of providing resources.

Another option is acquisition of resources based on a company’s competitive advantages that were formed by incentives to look for the best known ways of using resources and to discover new resources. The availability of resources, which is the other side of resource endowment, is an important condition that allows to expand the circle of effective firms as a consequence of making profit and having better access to debt financing.

Nonetheless, in this second case, resource endowment, being a consequence of competition (if it is really a situation of competition), has one important peculiarity: regulators and market participants learn about it post factum. Absence of a predetermined winner is an important characteristic of the competition.

In this regard, it is important to pay attention to the lack of a straightforward connection between the competition and the effect of resource abundance. We cite two examples to illustrate it.

Firstly, there is the example of “the winner’s curse” problem (Kagel & Levin, 1986; Thaler, 1988). The problem was identified in different areas after organized auctions for the right to use scarce resources (a segment of the radio frequency spectrum, mining areas, etc.) which initially were in state ownership. The auctions were seen as a way to adequately ensure competitive conditions. As a result, the auction winners could lose their opportunity to develop their own business for a while due to the high price paid for a limited resource. Such a situation could have led industries to a slowdown, though the budget could have obtained significantly more funds.

Secondly, there is the example of new measures that concern intellectual property rights (IPR). A company can lower its production costs by means of innovative processes. However, there may be an obstacle that will not let us to conclude that there is an effect of resource abundance. This obstacle is a fixed (and probably very significant) amount of resources that is needed to introduce the innovation. Omitting that fact, it is easy to come to equivocal conclusions regarding the appropriateness of controlling the right holders who play an active role in the markets with intensive use of IPR (Shastitko & Kurdin, 2014; Shastitko, 2015).

Strictly speaking, *ex ante* and *ex post* resource endowment reflects two branches of industrial policy – the selective (vertical) policy and the horizontal policy.

The selective policy implies *a priori* choice of winners (selecting those who will gain support). Those “winners” might be even announced *in advance* as “national champions” (with no championship but the one oriented at determining the most successful rent-oriented agents). Of course, in practice, this selection is not arbitrary and is based on a number of criteria that include government support on the grounds of accomplishing the objectives of state programs or preserving the state control either over industries or over their segments. For example, granting state-controlled oil and gas companies exclusive rights to explore and develop offshore fields of Russia *a priori* increases their resource abundance, but at the same time creates certain guarantees that help prevent opportunism of operators, which can have dangerous consequences in this area.

Horizontal industrial policy does not imply *a priori* selection of a champion and loosens resource constraint on an industry or a range of industries as a whole, which, however, does not mean that all the enterprises are equally endowed with resources. For instance, granting subsidies or preferential loans to enterprises of a certain industry may be done on competitive basis, or be based on the fulfillment of a set of particular requirements (otherwise a company will be obliged to refund the subsidy). Probably, companies’ benefits will be unevenly distributed and some of them will even become “losers”; however, such an allocation is not defined in advance, and there are no enterprises (including those that have been recently established, or those that are being established) that could be left without such support (or, so to say, set aside). Such support makes companies more focused on searching for internal reserves that will help them create value instead of gaining distribution benefits through rent-oriented behavior. There is no doubt that contest design is important, as it determines to what extent the access to resources will be based on competition and what form it will take. Rent-oriented behavior can also be interpreted as competitive. Nonetheless, it will not increase companies’ efficiency from the positive social effects point of view.

In practice, there are cases that are even more difficult to identify: establishment of holdings with state participation consisting of all or most of the companies that function in one area (that enhances their resource endowment due to increased bargaining power in relation to resource providers, as well as buyers of their production); export cartels (or export monopolization); support of enterprises operating in certain territories (in Russia some of them are known as territories of advanced development, monotowns (Shastitko & Fatikhova, 2015; 2016; 2019)).

We do not have a universal normative answer to the question: How exactly should the resource endowment originate? At the same time, it is barely possible to abandon the use of assumptions that define the algorithm for comparative analysis of discrete structural alternatives. In particular, it is possible to state the priority of horizontal policy instruments in a milder form – relying on the presumption of impracticability of selective methods if they are not proved to lead to better results (those that could be obtained with the help of other structural alternatives). This statement is founded on the idea that, *ceteris paribus*, simple mechanisms of governance are preferable. The decisive question is whether we can

trust the comparative analysis measures and, if the answer is yes, under what conditions it should be done⁵.

Discussion of the resource endowment issue and the effects related to it allows to outline one more aspect that shows a possibility to interpret the selective industrial policy in terms of economic regulation. In its turn, this formulation provides a basis for considering different components of industrial policy in comparison with competition policy in the context of governance structures (Williamson, 1996; Shastitko, 2010).

4. Options of the relationship between industrial and competition policies

The relationship between industrial and competition policies is sometimes seen as conflicting or, at least, quite tough (White, 2008, p. 1). It is explained by the fact that both of them are following the same goal: to correct the structure of the national economy. However, both policies see the same goal from different points of view, and their instruments differ distinctly.

Speaking about the structure of a national economy, we focus on the structure of its elements – in particular, its industries and separate enterprises, as well as relationships between them. Indeed, the result of implementing industrial and competition policies instruments is a change in the structure of the economy's elements (let us assume we are talking about introducing a new industry or removing entry barriers for new firms) or/and a change in relationship between them (for example, creation of a new market or, vice versa, termination of inter-firm relations within one integrated organization). However, from competition policy's point of view, the structure of the economy can hardly be described in terms of forecasts that give specific parameters and proportions. It is explained by the fact that market equilibrium (as well as comparative statics as a succession of equilibriums) is a side and unpredictable result of economic agents' interaction (meanwhile, these agents have their own plans and expectations and information about them is hardly accessible or not accessible at all to the regulators).

Studying the structure of economics, Williamson (1998) suggested a well-known four-level system of social analysis which is applicable to the economic policy directions. According to the system, the first (lowest) level represents issues concerning price, as well as production and sales volumes optimization, while the fourth (highest) level deals with traditions and culture.

On the second and the third levels of Williamson's system, we find optimization of governance mechanisms (i.e. organization of relations between enterprises) and

⁵ In this regard, we should think of one more aspect of resource abundance that is related to such occurrence of perverse incentives as corruption. Indeed, it is one of the main arguments against selective policy along with information-founded arguments regarding the basis of sectoral priorities choice. Correlation between resource abundance and publicly announced results is, in fact, the question of institutions' quality as requirement for achieving the set goals by correcting economic structure. Corruption here appears to be an obstacle that affects the extent to which actual results deviate from the expected results, which estimates (presumably) correspond to the capabilities of resource provision.

distribution of property rights. The structure of national economy is shaped precisely at these levels, and it is these levels that are influenced by the intervention of structural policy (represented by industrial and competition policies) that implies intentional government intervention in the already existing property rights and relations between enterprises. Herewith, in contrast to the first level, the time gap at the second and the third levels is measured by many years or even decades, and this requires different decision-making and projecting conditions, including those that concern institutions.

In recent decades, the reason for the opposition between competition and industrial policies was that the former had competitive market as the main benchmark, and that market seemed to form itself, requiring only protection from opportunistic behavior. The latter was considered as supporting the ideas of market abandonment in favor of the state hierarchy. Bianchi and Labori note: “Until 1980s, the term (industrial policy) meant direct government intervention in the economy, direct government control over most of the production and a set of political measures aimed at market constraint...” (2006, p. xvi).

Indeed, in such a context, these two policies may seem controversial. However, two facts changed the whole paradigm of the industrial policy. The first one was that competitive markets could not originate on their own and that such markets demanded active interventions (post-socialist transformation was important for understanding that fact). The second one was that government interventions, however efficient, had too many limitations, and one of the most important limitations was lack of incentives.

Bianchi and Labori further note that now the policy of industrial development is the core of industrial policy. It consists, first, in creating new competition rules (including both anti-monopoly policy and property rights protection) and, second, in increasing competitiveness of companies via science and education, innovation policy, development of inter-company and cross-sectoral relations, and so on (2006, pp. xvi–xvii).

Research in the field of development economics is also focused on convergence and, if not synthesis, at least close mutual influence of industrial and competition policies. Lin specifies three “waves” of structural policies development. The first “wave” that emerged during the first post-war decades was focused on targeted structural changes realized through government interventions. The second “wave” (1970s – 1980s) declared the priority of spontaneous structural changes under the impact of market powers. However, the timely third “wave”, also called “new structural economics”, suggests a new central role of the market in what concerns resource allocation, with active state interventions in the structural adjustments. Representatives of the third “wave” are Rodrik, Hausmann, Spence, Aghion and a number of other leading economists (Lin, 2012).

This modern wave is still based on the idea of “good” and “bad” industrial structures from the development perspective (Reinert, 2007; Matsuyama, 1992), though now it is more sophisticated. One of the still influential approaches was developed by Hausmann, Hwang and Rodrik (2007); they introduced the measure of export sophistication (EXPY) showing similarity of a country’s export basket to the structure of rich economies’ exports. Export diversification is another indicator of “good” industrial structure, at least for big developing economies (Cherif & Hasanov, 2019).

At the same time, the idea of direct structural regulation is irrelevant to this modern direction of industrial policy thinking. As such, the repeated references to the importance of industrial policy are completed by recommended priorities, presumably leading to indirect structural improvements. Protection of competitive environment is considered to be one of such priorities. Tirole (2017) supports it not only due to its contribution to innovative activity and efficiency but also because of its restrictive effects on rent-seeking (often accompanying industrial policies). Aghion et al. (2015) empirically prove that industrial policy instruments are more efficient in industries with more intense competition. Cherif & Hasanov (2019) confirm that so-called Asian economic miracles were underpinned not only by the sound state support of specific export-oriented industries, but also by a fierce domestic competition. However, they emphasize that government failures (including poor institutional basis for competitive markets and, consequently, weak competition) and market failures⁶ (including the development by the free market of a “wrong” industrial structure without any intervention) should be necessarily compensated together. From our point of view, it means that the *combination of competition policy and industrial policy matters*.

From a theoretical perspective, it is possible to outline five types of relations between industrial and competition policies:

- (1) mutual exclusion, including (1a) only industrial policy without competition policy, (1b) only competition policy without industrial one;
- (2) complementarity based on (2a) one set of transactions, or (2b) different subsets of transactions, (2c) overlapping sets of related transactions.

Depending on how industrial and competition policies are defined, it is possible that option (1b) is not feasible at all, especially in emerging market economies, if two components of competition policy – protective and active – are taken into account. Minakir cites a good example of post-war Japan and comes to an important conclusion that “time matters” for industrial policy (2014, pp. 180–181). It means that industrial policy measures are not invariants of the stages of economic development and external conditions. The same is valid for the relationship between industrial and competition policies.

What is more, the relationship between industrial and competition policies is also not invariant for the economy sector⁷, in particular, because of numerous transactions with different characteristics – frequency, uncertainty, and degree of resource specificity. In its turn, complementarity of different subsets of transactions reflects the common principle of differentiated attribution of transactions to different governance mechanisms, taking into consideration their comparative advantages (Williamson, 1996; Shastitko, 2010). Complementarity based on one set of transactions implies, for example, that mergers and acquisitions control may combine approval of deals under

⁶ This interpretation differs from the conventional definition of market failures.

⁷ Of course, the characteristics of each economy sector also change over time along with technological development, which, in turn, determines the adjustment of industrial policy. For more information, see (Dementiev, 2014).

the pretext of supporting export-oriented high-concentrated sectors together with corrective conditions designed to protect consumers in local markets. For example, they may take the form of price control in the context of behavioral remedies as part of a regulatory contract between a merging firm and antimonopoly authority, or they may take a broader form – through the design and approval of trade and marketing policy with anti-monopoly regulator.

What is the basis of the industrial and competition policies' supposed mutual exclusion? First of all, it is the idea of incompatibility of industrial policy with the incentives that are necessary to maintain competition in the markets and that force companies to put their effort in improving the quality of production and in reducing costs by adopting methods allowing them to make profit without breaking any rules.

In this regard, one of the most common arguments against such measures of industrial policy is their negative impact on competition and incentives, including negative impact in the form of regulatory capture, rent-seeking behavior that is supposed to be based on *a priori* assigning a winner in one form or another (Kuznetsov & Simachev, 2014, pp. 170–171; Motta, 2004; Aghion et al. 2011, p. 2). However, this involves the implementation of vertical (or selective) industrial policy instruments. As already mentioned, under such a policy, resource endowment is provided *ex ante* in relation to transactions that create value.

Along with the pro-competitive argument that gives reasons to the above mentioned mutual exclusion, there is an essential pro-industrial argument: local enterprises' need to compete on a global scale in the absence of a global antitrust authority or a coordinated antitrust policy of national (and supranational) antitrust authorities (Avdasheva & Shastitko, 2012; Shastitko & Pavlova, 2019). Imposition of competition policy measures on local companies without any opportunity for the domestic regulator to do the same in relation to foreign companies in the world market or, sometimes, even in the local market (for example, the anti-monopoly authority can prohibit a merger of local companies, but it will be quite difficult to do the same in relation to international ones) might make matters a bit worse for the local enterprises. In perspective such imbalances may only withdraw national companies from the market, which will result in further negative consequences for domestic consumers.

This pro-industrial argument is usually mentioned when advocating for “national champions”, i.e. selective industrial policy. However, a milder form is also possible: national companies in foreign competitive markets create sources of income for market players who are final consumers in other markets.

The internal inconsistency of this argument is related to the fact that creating exceptional conditions for specific companies in one industry can lead to serious negative consequences for other industries whose enterprises are suppliers and consumers of these companies. This problem can only be solved by state regulation of all these relationships, which sooner or later can put a significant part of the national economy out of the scope of the market governance. In addition, the functioning of the economy will be hindered due to the limited abilities of the regulator. In this regard, we should note an underlying danger that is, nonetheless, very real: such a system of state control and regulation will

not let the national economy become more complex in terms of both structure and composition.

The mechanism of resource endowment origination reflects the specific nature of economic regulation – unlike the application of anti-monopoly legislation that is oriented on maintaining the price mechanism as a mode of governance. If, in the first case, transactions include agreement conditions that are somehow pre-determined by the third party, i.e. by government (it may concern not only prices, mechanism of price determination, non-discriminatory rules, but also predetermined preferences, for instance, those concerning taxation or crediting), then, in the second case, all the conditions are determined by the actors themselves accurately following existing general norms and eventual *ex post* assessment of market participants' decisions if they are related to monopolistic actions. Thereby, it is possible to make a distinction between the price mechanism and the trilateral mechanism of governance in Williamson's approach (Williamson, 1996).

Moreover, provision of resource abundance may be so closely linked to increased state control that it would actually mean introduction of a hierarchical governance mechanism into the relationship between the government and the recipient of support, or between two recipients of support (for example, between two “national champions”).

The result of such conditions may be an increase or, conversely, a reduction in the number of transactions related to certain spheres or to certain types of resources. The outcome will depend on how the mechanisms of governance (which appear or are imposed) affect the transaction costs of the interacting parties.

Belief in competition and competition policy's opportunities generates the belief that even if we see dynamic imperfections in existing economic relations, their correction should be done through eliminating (but not compensating) these imperfections⁸. As a rule, the total cost of eliminating such imperfections is not discussed. Of course, this issue is quite difficult to solve using only theoretical reasoning, and it is also difficult to carry out a decisive experiment (in accordance with the Lakatos methodology) when discussing competing research programs.

Why then should these issues be discussed? Is it because those who have competitive advantages in using resources are not always able to access them? Is it only due to excessive government intervention? If there were enough grounds for claiming that it happens partly (but not solely) due to the government intervention, then it would be possible to avoid the extremes of market fundamentalism. Nonetheless, how should we understand what is the exact situation that constitutes the subject of the study? Does the answer to this question always depend solely on awareness of specific time and circumstances? There are a lot of other similar questions to ask.

Most of the questions raised here by default have neither negative nor positive answers, as they depend on the above-mentioned circumstances of time and place. Such an

⁸ A good example is the fierce discussions between Austrian economists and representatives of the Chicago tradition – the closest tradition to the Austrian school in the context of research on such issues (Shastitko, 2008, pp. 107–109).

approach can be explained by the gradual penetration of the new principles of institutional economics in discussions on industrial policy problems (for details, see (Shastitko, 2014)):

- (1) Perfect institutions are absolutely impossible as well as perfect economic exchanges with no transaction costs. In fact, it is a reflection of humans' imperfection, of their ability to make decisions and coordinate their will with each other's desires.
- (2) The choice is made from a number of available (but not ready for observation) alternatives that are imperfect by definition.
- (3) It is necessary to take into consideration/identify their comparative advantages and disadvantages.
- (4) The choice, in its turn, does not exclude the search for the best possible option. In other words, the option that maximizes social welfare is not necessarily the most likely one, for instance, because the Kaldor–Hicks–Zerbe criterion (Zerbe et al., 2006) does not work with regard to compensating influential losing groups.

5. New industrial policy: Lessons learned

Analysis of the approach to industrial policy design on the base of comparative analysis of discrete structural alternatives allows us to return to the issues of industrial policy with the lessons already learned and with a new level of understanding of its potential and limitations.

The approach itself is not something unique. In particular, the issues of industrial policy design related to the balance in the field of competition protection were elaborated by Aghion et al. (2011, 2015). The lesson to be drawn from these conclusions is that while government intervention has its disadvantages, it is not sufficient to stop using it (even setting aside relations between different interest groups and political dimension). The same can be applied to market mechanisms: their disadvantages do not constitute enough grounds for government intervention (in contrast to Pigouvian tradition of discussing market imperfections, including externalities internalization)⁹.

The situation in developing economies is too diverse to recommend universal policy implications even just for the BRICS economies. Nevertheless, a brief look at some industrial structures and competition indicators (Table 1) confirms that the BRICS countries are lagging behind the group of developed economies in terms of industrial structure, as well as in terms of domestic competition intensity. In this framework, China seems to be the BRICS leader in industrial structure development and simultaneously this country has achieved the best results according to competition indicators (though by a narrow margin). On the contrary, Brazil has unfavorable industrial structure and shows poor results in domestic competition (though a direct question on competition intensity asked in 2016–2017 gave satisfactory results). Russia is somewhere in the middle of the BRICS group.

⁹ Discussion of these questions is related to the problem of type I and II errors in law enacting and law enforcement (Shastitko, 2010, 2013a).

Table 1. Competition and industrial structure indicators in BRICS and comparator developed economies

	Intensity of local competition (WEF inquiry, 1 (least intense) to 7 (most intense))	Domestic competition (WEF aggregate index (0 – least intense, 100 –most intense))	Distortive effects of taxes and subsidies on competition (WEF inquiry, 1 (most distortive) to 7 (least distortive))	Export sophistication (log EXPY*)	Export concentration (HHI for product groups)
Year	2016–2017	2018–2019	2018–2019	2018	2018
Brazil	5.3	45.0	2.5	9.63	0.578
Russia	5.0	55.2	3.8	9.74**	0.637
India	4.7	56.9	4.0	9.78	0.471
China	5.5	57.5	4.1	9.94	0.403
South Africa	5.4	53.1	3.6	9.73	0.543
USA	6.0	70.2	4.5	9.97	0.24
Germany	5.9	69.7	4.7	10.05	0.311
Sweden	5.5	64.9	4.4	10.03	0.357

Note: * counted by WITS following the methodology by Hausmann, Hwang and Rodrik (2007), usually its values lay between 8 and 10; ** 2017 data.

Source: World Economic Forum (WEF). Global Competitiveness Report 2017; World Economic Forum (WEF). Global Competitiveness Report 2019; World Integrated Trade Solution (WITS) // <https://wits.worldbank.org/faqs.html>

Anyway, we can conclude that the BRICS countries have neither achieved presumably sustainable and desirable industrial structure, nor established competitive market environment. Consequently, neither competitive nor industrial policy can be set aside. On the contrary, their combined application might bring considerable synergies.

Following the pattern of industrial policy principles formulated by Aghion et al. (2011), Tirole (2017), Cherif and Hasanov (2019) and extending it to the area of competition policy, we suggest following the next basic principles of combining industrial and competition policies in developing economies:

- (1) when setting priorities, it is essential to pay attention to those sectors that demand highly qualified human resources and that are also characterized by relatively strong competition;
- (2) industrial policy design should be more competition- and innovation-friendly, which in its turn means focusing on the support of companies on an equal basis, rather than favoring one specific company;
- (3) industrial policy should be based on a pragmatic approach that involves a cost-benefit analysis of providing assistance to a particular sector.

Thus, consistent implementation of the above principles helps to achieve the set goals without experiencing great difficulties. We should note that the goals and instruments of competition and industrial policies do not contradict one another. Industrial policy almost in all its forms does not necessarily imply competition restriction. Similarly, competition policy by default does not imply access restriction to resources for any sector of economy or company, or introduction of rigid economy for them.

Moreover, in the long run, it is the complementarity of the two policy directions that will allow us to find the optimal balance between type I and type II errors in law enactment and enforcement. As a reminder: errors of type I and type II in law enforcement mean, respectively, wrongful prosecution of an innocent person and evasion from prosecution of a lawbreaker. Regarding the law enactment: a type I error is superfluous prohibition/regulation, while a type II error is the opposite.

In other words, using the instruments of both policies will, on the one hand, prevent resource scarcity in domestic industries that are important for social welfare. For example, applying active competition policy to companies that compete with importers may restrict national enterprises' development potential, but these enterprises may be supported by industrial policy measures.

On the other hand, combining industrial and competition policies creates enough incentives for those sectors that receive support within the framework of industrial policy. Integrating competition principles into the set of industrial policy instruments (for instance, such measures as competitive selection of companies that will get support) will make business environment more rigid and force companies to look for new incentives to introduce innovations.

In this sense, the new industrial policy resembles a hybrid by analogy with the basic structural alternatives of governance modes proposed by Williamson. If competition policy is analogous to a price mechanism, then traditional (selective) industrial policy is analogous to a hybrid institutional agreement which is known to combine the advantages of strong price mechanism incentives with the benefits of collective adaptation of hierarchies, but remains highly vulnerable to uncertainty (Williamson, 1996; Menard, 2004; Shastitko, 2010). That is why the issue of composing a new industrial policy should be accompanied by the issue of feasibility and effectiveness of this kind of policy.

6. Conclusion

Basic correlation between industrial and competition policies is quite straightforward. While the first policy is described in terms of resources endowment effect, the second is described in terms of incentives to searching for new opportunities to use already known resources and find new resources. However, a detailed analysis shows the following:

- Time (*ex ante* vs. *ex post*) and predictability (competition for leadership vs. appointment of champions) of resource abundance matter from the economic development perspective
- Industrial and competition policies have their own structures. Consequently, their interrelation is complicated. The evidence of this complexity is provided,

in particular, by the combination of antimonopoly merger control as an element of protective competition policy, on the one hand, and industrial policy directed on supporting national companies' competitiveness worldwide, on the other hand

- Time and place should be taken into account to distinguish horizontal and selective industrial policy in practice, although the conceptual difference is almost obvious
- Perspectives of the new industrial policy depend on preventing the transformation of competition policy into economic regulation.

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