

ДОХОЛЯН СЕРГЕЙ ВЛАДИМИРОВИЧ

д.э.н., профессор, главный научный сотрудник ФГБУН
«Институт социально-экономических исследований ДНЦ РАН»,
e-mail: rpre@mail.ru

ПЕТРОСЯНЦ ВИКТОР ЗАВЕНОВИЧ

д.э.н., профессор, главный научный сотрудник ФГБУН
«Институт социально-экономических исследований ДНЦ РАН»,
e-mail: vpetrosjanc@yandex.ru

ДЕНЕВИЗЮК ДМИТРИЙ АЛЕКСАНДРОВИЧ

к.э.н., ученый секретарь ФГБУН
«Институт социально-экономических исследований ДНЦ РАН»,
e-mail: deneviz@yandex.ru

САДЫКОВА АМИНАТ МАГОМЕДХАНОВНА

научный сотрудник ФГБУН
«Институт социально-экономических исследований ДНЦ РАН»,
e-mail: amika_sm@mail.ru

ОСОБЕННОСТИ ИСПОЛЬЗОВАНИЯ ИНСТРУМЕНТОВ СТРУКТУРНОЙ ПОЛИТИКИ ПРИ ФОРМИРОВАНИИ ЭФФЕКТИВНОЙ ЭКОНОМИКИ¹

Аннотация. *Цель работы.* Комплексное исследование методов проведения структурной политики (в частности секторноориентированных инструментов) на примере некоторых восточно-азиатских стран (Япония, Южная Корея). *Метод или методология проведения работы.* Теоретической и методологической основой исследования явились научные труды отечественных и зарубежных ученых-экономистов в области эволюционной институциональной теории, структурной политики и исследования проблем структурных сдвигов. *Результаты.* Рассмотрены инструменты структурной политики, особенности их использования на примере стран Восточной Азии, возможности использования применительно к российской экономике. Степень селективности при выборе инструментов структурной политики в большей степени зависит от уровня технологического развития экономики страны. Секторноориентированные инструменты в большей степени предпочтительны, например, когда имеет место стратегия догоняющего технологического развития, то есть при малой вероятности ошибки выбора приоритетов. Если имеет место развитие такого характера, как пионерская модернизация или как показала структурная политика в Восточно-азиатских странах догоняющая модернизация первого типа, то приоритет отдается функциональным инструментам. *Область применения результатов.* Результаты проведенного исследования могут представлять определенный интерес для органов государственной и региональной власти в процессе реализации государственной региональной политики при проведении структурных преобразований в экономике. *Выводы.* Результаты настоящего исследования позволили сделать следующие выводы. Рассмотренная в Восточно-азиатских странах структурная политика отличалась своей гибкостью, реализация которой дает возможность осуществлять сдвиги в сравнительных преимуществах страны в сторону высокотехнологичных секторов. Обращается внимание на серьезные угрозы при резком переходе: амбициозные

¹ Исследование выполнено при финансовой поддержке РФФИ проект № 16-02-00093-ОГН

цели при проведении структурной политики на первоначальном этапе могут привести к негативным последствиям в дальнейшем и в стратегическом аспекте ухудшить экономическое положение страны.

Ключевые слова: структурная политика, страны Восточной Азии, Япония, Южная Корея, инструменты, методы, рыночные институты, промышленное производство, налоговые льготы, налоговые «каникулы», ускоренная амортизация, инвестиции, эффект.

DOKHOLYAN SERGEY VLADIMIROVICH

Doctor of Economic Sciences, Professor, Chief Research Associate of FSBIS
“Institute of Social-Economic Studies of DSC of the RAS”,
e-mail: rppe@mail.ru

PETROSYANTS VICTOR ZAVENOVICH

Doctor of Economic Sciences, Professor, Chief Research Associate of FSBIS
“Institute of Social-Economic Studies of DSC of the RAS”,
e-mail: vpetrosjanc@yandex.ru

DENEVIZYUK DMITRY ALEXANDROVICH

Candidate of Economic Sciences, Academic Secretary of FSBIS
“Institute of Social-Economic Studies of DSC of the RAS”,
e-mail: deneviz@yandex.ru

SADYKOVA AMINAT MAGOMEDKHANOVNA

Research Associate of FSBIS “Institute of Social-Economic Research of DSC of RAS”,
e-mail: amika_sm@mail.ru

THE FEATURES OF UTILIZING THE TOOLS OF STRUCTURAL POLICY IN BUILDING AN EFFECTIVE ECONOMY

Abstract. Purpose of work. A comprehensive study of structural policy methods (in particular sector-oriented instruments) in some East Asian countries (Japan, South Korea). **Method or methodology of the work.** The theoretical and methodological basis of the study was the scientific works of domestic and foreign scientists and economists in the field of evolutionary institutional theory, structural policy and research of structural changes. **Results.** The tools of structural policy, especially their use on the example of East Asian countries, the possibility of using in relation to the Russian economy. The degree of selectivity in the choice of structural policy instruments depends more on the level of technological development of the country's economy. Sector-oriented instruments are more preferable, for example, when there is a strategy of catch-up technological development, that is, with a low probability of error in the choice of priorities. If there is a development of such a character as pioneer modernization or, as shown by the structural policy in the East Asian countries, catching up with the modernization of the first type, the priority is given to functional tools. **The scope of the results.** The results of the study may be of some interest to the state and regional authorities in the implementation of the state regional policy in carrying out structural reforms in the economy. **Summary.** The results of this study have led to the following conclusions. The structural policies considered in the East Asian countries were characterized by their flexibility, the implementation of which makes it possible to make shifts in the country's comparative advantages towards high-tech sectors. Attention is drawn to serious threats in a sharp transition: ambitious goals in the implementation of structural policies at the initial stage can lead to negative consequences in the future and in the strategic aspect to worsen the economic situation of the country.

Keywords: Structural policy, East Asian countries, Japan, South Korea, tools, methods, market institutions, industrial production, tax incentives, tax holidays, accelerated depreciation, investment, effect

Direction and pace of transformation processes largely depend on the forms and methods of implementing the structural policy of a nation. The structural policy of a nation in developed countries includes a system of actions of the government that is targeted at reallocating the resource potential of a nation to create, develop and ensure the qualitative improvement of an economic base for growth. The system is built on the basis of formulating the national priorities of structural changes in the industry and designing regulation methods to ensure resource and capital accumulation in priority areas [1].

Any measure of the government policy that entails unequal conditions for the functioning of various sectors of the economy could be classified as a structural policy tool. The main characteristic of the structural policy in terms of tools and instruments utilized is the fact that the structural policy solely relies on instruments that various types of policies of economic policy might utilize. Moreover, it could be stated that the latter ones are considered methods of carrying out the structural policy.

The instruments of this policy could be divided into the following groups:

- Institutional: tools and policies that are targeted at building market institutions that help mitigate and/or correct for the selective market failures;

- Measures: these measures compensate for the lack of well-established market institutions, economic instruments, namely.

The preference needs to be given to building market institutions, *ceteris paribus*, since it could substantially replace the government interference in markets in the future, thus preventing government failures. Meanwhile, building market institutions is not without limitations and/or setbacks, since even the most well-developed and established market could face a “fiasco”.

Specific measures that institutions could carry out are not associated with the cost of resources spent to profit the beneficiaries of the structural policy (industries, producers, etc.). The followings could be classified as such measures:

- Clearly defining and protecting private property rights, since ambiguous rules force entrepreneurs to be focused on short-term gains, and hence impeding the development of technology-intensive industries. This applies to intellectual property rights, in particular;

- Various measures targeted at removing information asymmetry²;

- Measures ensuring the enforceability of agreements that are specifically central to advanced technology chains.

Economic instruments could be divided into the following measures:

- Sector-oriented measures;

- Measures that don't focus on specific sectors, although these measures could be of some “selective effect” (functional).

Sector-oriented instruments could be utilized in such cases when the chances of choosing the wrong priority are rather low (the case of technology “catch-up” development). The second group of measures is recommended to be utilized when sector prospects are hard to identify (new technology transfer and utilization process). In this case, measures such as building specialized infrastructure (e.g. techno-parks), investments in research and development (R&D) and human capital, policy supporting and favoring small and medium-sized enterprises (to achieve economies of scale) are more effective.

In our opinion, it is quite reasonable to divide economic instruments into the followings:

- Measures that mitigate and/or correct for specific market failures (targeted and/or concentrated);

- Measures that affect several market failures simultaneously (universal).

This classification is rather important if it allows to clearly identify these failures, and to utilize this or that group of instruments selectively.

The table below illustrates the possible instruments of the first type.

²“Transparency” requirements for investment projects, designing national and regional databases on various goods and services.

In the Eastern Asian countries, the governments acted as the main agents forcing and motivating producers to exchange with the information, thus increasing the impact of positive externalities. The governments were rewarding “cooperative” and punishing “uncooperative” players.

Table 1.:

The selected market failures and the possible ways for thereof elimination

Factors responsible for the market failures	The possible ways of government intervention
Static economies of scale	Subsidies for entering the sector (or achieving the minimum required level of production)
Strategic support and/or assistance to third countries in entering the market	Subsidies for entering the sector to achieve a producer surplus and on macro (state) level
Positive externalities of investing in R&D	Subsidies for private R&D investments: To assist companies in internationalization process of positive externalities of carrying out the R&D to invent and/or design new technology by setting up joint ventures for carrying out the R&D
Intra-sectoral (associated with the positive externalities within the industry)	Production subsidies dependent on the size of the externality
Investments in human capital, workforce development (including on-job training)	Support to workforce development, subsidies for preempting underinvestment in human capital
The failure of coordination	Creating funds for insurance of investment risks
Discrepancies between the public and private prices of capital (in the case when the behavior of the creditors is not rational enough)	Subsidies for getting loans if lending interest rates are high. Subsidies for the guarantors or tax compensation to minimize the risk of “unguaranteed” losses if the risk-aversion is quite high. Such subsidies and tax incentives need to be available to all the investors in all sectors of the economy if market does not systematically discriminate among the specific types of economic activities
Asymmetric information	Subsidized interest rates by the Government- only when these subsidized interest rates are available to selected firms (based on market mechanisms), unattractive from the public viewpoint
Perception of the quality of a product as a barrier to enter the market	Differentiated incentives for the production of the high-quality products (e.g. minimum quality standards)

We discuss several sector-oriented methods on the example of the above-mentioned East-Asian countries.

Subsidizing the priority sectors can be either direct or indirect. The direct subsidization is funded from the state budget. The indirect subsidization is carried out through the tax mechanisms and/or extra-budgetary funds.

It is said that direct subsidization had a minor impact on the development of Japanese industrial production. It is further noted that the stagnating sectors – agriculture, forestry, fishery and coal mining were allocated about 90% (an even higher) of cumulative direct budgetary subsidies after 1955, however only the food processing industry managed to produce more than 0.1% of the GDP [10]. In other words, the subsidies were allocated to support the ineffective sectors. Almost all other industrialized countries were also utilizing the direct subsidies as a tool to support stagnating sectors. From the aforesaid, it could be concluded that the government needs to specify strict rules and conditions as specific requirements for improving certain company performance indicators in subsidizing recipient industries or using the subsidy to modernize the production.

The indirect subsidies are allocated through the following two main channels: interest rate subsidization or tax system. The most essential source of extra-budgetary funding in Japan was the Fiscal Investment and Loan Program (FLIP) amounting to the 50% of the state budget. The loans were allocated to the priority sectors with below market rates. Furthermore, the rationing of the resources was implemented through both direct and indirect methods. Notably, the highest impact of the loans was at the beginning of the sector-based policies (from the post-war period to 1955), when more than 14% of FLIP was allocated for the support of the industrial sector. Nevertheless, by 1980, credits allocated for industrial support decreased up to 3% [10].

The experience of the “tigers” reaffirms that the importance of the borrowed capital is high especially when the own capital lacks. In Japan, in 1950-60s, in the composition of attracted external financial resources commercial bank loans and credits prevailed, accounting for 80% of the overall

amount [2]. This pattern remained till 1997 when the bank loans amounted to 150% of the GDP, exceeding the same indicator of the USA (50%) three-fold, however, the cumulative own capital of all the firms was only 75% of the GDP (vis-à-vis 110% in the USA)[9]. Such heavy dependence of the non-financial companies from borrowed funding was called “excessive borrowing” (the given phenomenon increases the dependence of the commercial banks from the Central Bank)

The Bank of Japan implemented a policy of tough regulations on interest rates of the time deposits, all kinds of loan transactions and even guarantees terms with respect to securities. The peculiarity of Japan is that such policies were implemented through the administrative means and throughout several decades. Notably, from the beginning of 1947 to 1948 (and afterward, in fact, when the banks were heavily dependent upon the loans of the Central Bank) all the financial institutions had to allocate up to 50% of the new loans to the enterprises of the priority sectors and production [2]. For every bank or financial quantitative resections on loans were set up that had to be directed to the priority sectors of the economy. From 1952 to 1960 more than 2/3 of the gross capital investments were concentrated in seven industries that were deemed as priorities. Nevertheless, the state funding of the investment programs was comparably limited and it started diminishing from 74% in the period of 1949-51 to 6.9% in 1960; however, in the priority sectors, the funding could comprise about 34-35% [2]. It once again proves that the highest impact of the structural reforms in Japan was reported during the first decade of the post-war period. Such reforms enabled Japan to perform more flexible policies, i.e. the timely change of the methods of regulation as the economy was put on the sustainable trajectory of growth.

In the 1970s, public financial institutions with the aim to fund the large-scale projects were established in South Korea as well. The commercial banks were instructed to fund the strategic programs on the preferential basis. At the end of the 1970s the share of the so-called political loans, i.e. the loans directed to the sectors preferred by the government increased up to 60%. Those loans were allocated with negative real interest rates and the annual rate of the bank loan interest subsidies increased from 3% of GDP in 1962-71 to 10% in 1972-79 [10]. It is noteworthy to mention that the intensity of the structural policy decreased from that time on.

The aforementioned practice can be successfully applied with respect to the modern Russian economy as financial indicators of a number of its credit institutions are not very sound, thus making the latter more dependent upon the Central Bank. Moreover, the considerable part of the Russian commercial banks was either entirely or partly established due to the public funds. It is justified that loans are the major source of financing the companies as the stock market is not yet fully developed in our country.

The second way of indirect funding, as the experience of the “tigers”³ shows is first and foremost, reasonable to apply for fostering the investment activities in the priority sectors. The followings could be classified as such measures:

- Tax incentives;
- Tax “holidays”;
- Reduction of the tax rates ([⁴]);
- Accelerated amortization which was widely used in Japan. It was of a particular importance for subsidizing the certain types of investment products⁵.

In 1968, vehicle manufacturing (including shipbuilding, car production and the manufacturing of the airplanes) was second to mining in terms of receiving capital subsidies. It reaffirms the conclusions of certain scholars positing that Japanese structural policies were mainly aimed at supporting the stagnating sectors (at least the automobile industry revived anew). The flexibility of this policy is best evidenced in the reduction of implicit subsidies in the manufacturing of the vehicles by 1984.

The accelerated amortization was implemented in case of purchasing digital products with automated control, computers, industrial robots, etc. Special tax incentives still exist for the software pro-

³ By saying “tigers” we refer to Japan, South Korea, Taiwan, Singapore, and Hong Kong.

⁴ In South Korea, in 1970s, it is estimated that in the priority sectors special tax policies have reduced the marginal tax rate on corporate income from 50 to 20% [10]

⁵ “Cheap” loans had higher impact than accelerated amortization. However, besides mining and non-ferrous metallurgy capital investment-to-subsidies ratio was 5%. It seems that it allows us to make judgments on their significance. However, it’s not fully correct. Although in the overall sum of investment the subsidy of the interest rate is not very high, however if investment elasticity of interest rate is high, the overall pattern is changed. In other words, in case of absence of the subsidies, it is possible that the investment projects will not be implemented at all.

ducers. Priority sectors (computers and robot manufacturing), also received assistance from the Japanese Bank of Development and from the Financial Corporation of small business (for small business). Furthermore, Japanese companies are granted tax incentives for leasing if they purchase home-made equipment. Notably, the subsidies for the computer manufacturing in the 1970s, as well as research contracts on the technologies of the next generation in the 1980s, were of a primary importance [10].

It is believed that the structural policies in the priority sectors of South Korea created excessive power therein thus exhausting non-priority ones [7]. J. V. Li analyzing the South Korean sectors for 1963-1983, argues that tax stimuli and loan subsidies are not correlated with the growth of manufacturing sector [10]. Unfortunately, the methodology applied in his research is unknown and his conclusions were not endorsed by the vast majority of the scholars.

To promote research in the priority sectors both direct and indirect ways of subsidies may be applied.

In Japan, the direct subsidies were allocated mainly through the research contracts for large-scale R&D projects. However, indirect subsidies such as tax reduction for the expenditures in R&D and tax privileges were also widely applied.

Moreover, preferential loans allocated by the public financial institutions were also widespread in Japan (although they had less influence than the tax privileges). The Japanese experience shows that state support to R&D recorded the best result vis-à-vis all other structural policies implemented. Direct subsidies, however, were a more essential tool for the Japanese government to boost R&D advancement. The overall monetary value of direct subsidies was twice as much as the tax privileges. Notably, this share was rather low, in general⁶. In 1976, vehicle manufacturing was enjoying the highest share of the direct subsidies and in 1984 it was among the top three industries. The history proves that giving priority to that sector was not a mistake.

The same instrument might be applied for surmounting several market failures simultaneously. Among such instruments are an export promotion from the priority sectors (South Korea is one of the brightest examples) and the policy of import substitution. Such methods boost the enhancement of the output (due to the enlargement of the export markets), investments in R&D (due to stricter demands and competition in the global market), investment in human capital (for the same reason), elimination of market failure of coordination (due to the necessity to produce technologically linked products in the country as new suppliers/buyers emerge in the foreign markets), mitigation of the negative impact of the defective final products (as the defective products anyway are exported due to the fostering policies of the government and the given issues is of a lesser importance at the initial stages of new market penetration) at the same time.

The sector-oriented instruments for the promotion of the exports are categorized as follows:

- Subsidizing export-oriented firms according to plans on exports⁷;
- Subsidizing the interest rate and allocating foreign currency to the export-oriented firms meeting the deadlines for the export plans;
- Differentiated taxes and fees for the export-oriented firms;
- Privileges for importing intermediary goods and expenditures on R&D⁸.
- Export insurance and guarantees;
- Overseeing the quality of export products;
- Establishing export cartels.

Administrative sector-oriented measures can also be applied to increase the export volumes. Such methods, inter alia, include:

- Registration requirements;
- Export licensing;
- Export bans;
- Setting minimum prices for export;
- Export quotas;
- Voluntary limiting;

⁶ The states authors state that even in the United States the Government investments in the Research and Development

⁷ In South Korea the electricity price for the transportation via railway system was reduced for export-oriented firms

⁸ It is, for example the special privileges for the exporters importing equipment (South Korea)

The indirect methods of export promotion can be categorized as follows:

- General assistance to export (including assistance for market research)⁹;
- Ensuring access to infrastructure, including human;
- Creation a zone of work for export.

The mentioned non-selective measures minimize the risks connected with the “wrong” priority selection as they contribute to the development of non-priority sectors too.

In South Korea, in the 1960s, export was a yardstick to gauge the success of the firms belonging to the priority sectors and to determine their merits for receiving state support. Such approach expectedly made the firms more export-oriented. Export targets were set on the level of firms and concrete products, branches branch associations in cooperation with the government. Furthermore, sessions were held between the Governmental officials (headed by the President) and the leading exporters on monthly basis. The failure to achieve the goals normally elicited a denial for subsidized loans, and import licenses and tough tax regulations. The governmental officials were also responsible for the achievement of the export goals in their respective fields; hence they had to stay in touch with the entrepreneurs constantly. In addition, regular investigations on the international market conjuncture, major competitors, technology trends and etc. were carried out in the major export fields. South Korea established overseas trade offices serving the needs of the “Chaebols” (as part of their ownership).

The economic competition among private firms as well as between private and public firms may also have its disciplinary effect¹⁰. The core of such competitions was the distributions of the compensations (rewards) for a firm competing with both state and private firms. However, the proper organization of such competitions requires competent and unbiased state officials.

The foundation of the state sectors (with state-owned enterprises) is also among the widely applied mechanisms as it simultaneously eliminates market failures connected with economies of scale, external effects and deficiencies of capital markets and commodities. The state-owned firms may undergo privatization after some time period. In Taiwan, for example, the state-owned enterprises were formed in those sectors where either private investment was virtually nonexistent or the capital market was unwilling to fund mega projects. It is worth mentioning that such activities are fraught with significant risks for the government as the loss of the national wealth in case of failure may be enormous. But such payoffs provoke certain positive effects such as the creation of infrastructure, investment into human capital, the possible elimination of the failure of coordination (due to the formation of technologically linked sectors through the private capital), etc.

The state support to establishing conglomerates¹¹ can also decrease the likelihood of the following market failures at the same time: economies of scale, all kinds of externalities (except the intra-branch externalities), shortcomings of the capital market. One of the pivotal strategies of South Korea was the establishment of the huge private conglomerates also known as Chaebols [8]. The promotion of such conglomerates can be done, inter alia, through the following measures¹²:

- Weakening the competition in certain fields including the extensive application of cartels (Japan and South Korea);
- Creation and direct support to the conglomerates by the government (South Korea);
- Limiting the entrance of transnational corporations into the national markets to support capital-intensive and technology-intensive sectors to produce products for export (South Korea)
- Tax incentives for the firms in the priority sectors (Japan and South Korea);
- Discounts for importing innovative commodities and foreign technologies for the conglomerates in the priority sectors (Japan and South Korea);
- Promotion of the close cooperation of the “giants” of the financial and industrial sectors for the elimination of the glitches in the capital market (Japan and South Korea)¹³;

In the East Asian states, export promotion was coupled with the policies aimed at limiting the imports. The import substitution was accomplished both on the national level as well as in selective

⁹ For example through the agency JETR in Japan and KOTRA in South Korea. The foundation of the centers of promotion was an important tool for all the Eastern Asian “tigers”

¹⁰ The brightest example is Japan

¹¹ Conglomerate- a group of companies being part of a holding and its subsidiaries [3].

¹² The examples of Japan or South Korea

¹³ For example through cross-investments in the shares

fields. Notwithstanding this, the highest drop of protectionist policies was in the transport (from 45.4 to 1.4%) and mechanical engineering (from 27.3 to 7.2%). This proves the growth of efficacy in those sectors which is partly due to effective structural policies as both sectors were prioritized for a long time.

In Taiwan, an interesting measure was adopted to protect the domestic production from the foreign competitors. The producers seeking for the government support had to justify their abilities to compete with the foreign firms. Moreover, the protected firms were subject to price control which obliged them to decrease the prices by 5% every year.

The control over the export and import of the technologies is among the elements of foreign economic policies. Some researchers deem the Japanese government as a “gatekeeper” determining which kind of technologies shall be entered into or exported out of the country [5]. It was also acting as a monopolist while making the contracts with the foreign suppliers of technology. Goto and Vakasugi bring the following example: importing the Austrian technology for steel production to Japan through the mediation of Ministry of Economy, Trade and Industry cost a license fee amounting to 1 Cent per ton of refined steel for the Japanese firms and 35 Cents for the American firms. [6]. The same method was applied to the import of foreign technologies from the United States during the 1960-70 time span.

The administrative methods include any kind of government intervention, both formal and informal, enforcing or banning the entrance of the firms into concrete sectors (or leave them). Besides the aforementioned direct methods for export, the government may also implement the following indirect ones:

- Regulating the labor relations with the aim to make the restructuring of the sectors free of cataclysms (South Korea). This is an extremely important instrument of the structural policies as the reformation of the sectors (sub-sectors, industries) may require the dismissing of a big number of employees and thereof training. Apparently, even the developed countries, mindful of such hazards, refrain of policies and support the “depressive” sectors through the long-run protectionist measures.

- Price control;

- Investment regulations. The massive money flow to the priority sectors and the application of tax privileges is fraught with the over-accumulation of fixed capital. This phenomenon can be prevented by the regulation and coordination of investment activities in the priority sectors. In Japan, it is performed through various methods[2]:

- Licensing the industrial capacities based upon social laws (done with respect to electricity and oil refinery);

- Direct administrative control (for instance in cement production);

- The coordination of investments (in particular in steel production);

- Setting quotas for distinct companies for new production capacities and volumes of certain types based upon informal agreements between the government officials and the representatives of the sectors (in petrochemistry, artificial fiber production). The state coordination of investments was also widely used in South Korea. It was perhaps inevitable at the primary stage of industrialization; however, by 1970 the growth of the “Chaebols” decreased the importance of such coordination.

As the market failures are diverse, the ways of the state support should also be diverse to obtain optimal effects. Putting à la Bhagvati, in 1971 every tax (subsidy) different from the optimal one entailed higher costs for the economy. Even if interference is needed, the application of the suboptimal instrument may decrease the overall welfare level of the society.

It is important to note that the selection of more acceptable instruments depends upon various conditions, and especially on the nature of the interaction of the producers within the industry¹⁴.

When it comes to the foreign trade, the state has to take into account the onerous measures implemented by the partners. It is explicated by the fact that competition for the global market is deemed as a zero-sum game. The danger of retaliation perhaps decreases if the share of the internal market

¹⁴ Let's consider the case of competition of two oligopolies in the international market –domestic and foreign supposing that they're not trading in the domestic market. If the competition is mainly based upon the prices (according to the Bertrand game) than the best intervention by the government would be the reduction of the export duties which is formed as a certain share of price. However, if the oligopolies are competing based on the quantities (according to the Cournot game) then the best strategy would be export subsidizing which is calculated based upon the unit of production. Hence, the stimulating instrument should eliminate concrete market failures as much as possible.

increases vis-à-vis the global market.

If the economic measures of the structural policies are implemented, the problem of the usage of the limited state resources arises. The elimination of the market failures in certain sectors should not be at the expense of potentially more effective ones. Putting differently, not only the selection of the optimal methods is important, but also optimal levels of their application.

Various measures of structural policies are more or less interrelated. For instance, the reduction of interest rate partially replaces the measures against the externalities. The major challenge lies in the application of similar interrelated structural policies per se since numerous cause and effect relationships are difficult to handle. Hereby, it is important to study the experience of foreign countries. It is preferable to the studying the impact of each instrument, enabling to implement the more holistic approach.

At least the following questions would arise while studying the experience of the East Asian states:

– Were the structural policies an elixir of the growth or just weak accelerators (in Japan in 1960-90, in Korea and Taiwan in 1965-90)?

– Which aspects of the structural policies were problematic for Japan (since 1990) and South Korea (since 1997)?

The East Asian crisis started in 1997 renewed the interests towards the Asian “miracle” (this term as Pak noticed was included in the dictionary of economic development only recently [11]). Some economists claim that the financial vulnerability unveiled during the crisis was partial because of the earlier attempts of carrying out structural policies that required the commercial banks to provide loans only to the sectors selected by the government. Therefore, banks had bad balance sheets because of the low profitability of those sectors. Moreover, banks were likely to lose part of the lent capital or lose the control over loans provided. From that viewpoint, structural policies were a slow-acting poison for the East Asian countries.

The possible agreement between those scholars that are for the implementation of the structural policies and those who are against is quite complicated as it is challenging to collate and harmonize the opposite interpretations. The main reason is that economic development is a function of multiple factors which are difficult to identify sometimes and even more difficult to find out the causation effects among them. The incomplete data on some countries further exacerbates the issue (with respect to South Korea, for instance).

There are several tests to gauge the impact of the structural policies on various economies. Some of them measure the impact of overall policy and the others merely the impact of certain elements of the policy. An example of the first group of measures is the comparison of the growth rates of the total factor productivity (TFP) during the free trade period and during the implementation of the protectionist policies. It is supposed that structural policies are connected with the limitation of free trade with the external partners. By applying this method the impact of structural policy on both the structure of the economy and TFP growth rates in various sectors of the economy could be measured as well. If the difference is not big enough, then it is deduced that the overall impact of the structural policies is negligible. Such an approach was used by G. Pak [11] for Japan and South Korea respectively for 1960-79 and 1966-85 periods.

In South Korea, the implementation of the structural policies increased the annual growth of TFP by 0.6 points (or about 24%) and in Japan - in 0.99 points (or about 72%). One should note that such assessments are exaggerated as the whole growth of TFP is ascribed to structural policies ignoring the impact of the other intervening variables; nevertheless, the impact of the structural policies on manufacturing especially in Japan is impressive. Notwithstanding this, structural policies contributed to the growth of the manufacturing sector (1/3 of South Korean GDP) in 0.2 points (9% per year). As for Japan, the identical number is 0.3 points (out of 9 possible) which indicates that the structural policies were a weak “hormone” for the growth rather than a “growth elixir” [11]. Nonetheless, at any rate, the structural policies may also generate indirect positive effects such as:

– Domestic production of those intermediate products (with special features) which are unavailable on the international market. Such products indeed increase the productivity of the domestic firms.

– Transition of the educated workforce from the priority sectors to other sectors¹⁵;

¹⁵ The transition of the skills not intrinsic to a concrete sort of production is an external effect of investments in the human capital

– Direct interaction between the domestic producers and the consumers which leads to the adaptation to the domestic products. This decreases the transaction costs of resident economic subjects willing to buy equipment.

All the mentioned three indirect effects were likely to potentially increase the TFP growth in the non-priority sectors. The importance of the non-tradable [¹⁶] intermediate factors depends on how strong the priority and non-priority sectors are linked together. One of the ways to measure such benefits for the non-priority sectors is to calculate the share of the priority sectors per dollar profit earned by the non-priority sectors from the selling of the intermediary products. The more is the share the higher is the likelihood that the non-priority sectors would benefit from the domestic priority producers. Based upon the examples of South Korea (1985) and Japan (1980) one can infer that the share of the priority sectors is not very high 23% and 18% respectively. Moreover, in heavy and chemical industries the bulk of the intermediary products is produced within the industry [¹⁷]. In addition, the import of the non-priority sectors in South Korea, on average is twice as much as purchases from the priority sectors (0.134 vs. 0.068). Hence, our inference is that in both countries the contribution of the priority sectors to the development of the non-priority ones is low. Consequently, the overall policy had a minor role in the development of the non-priority sectors. However, it does not imply that the movement of the labor force among the sectors was not high. For instance, in Japan, once shipbuilding (a sector that used to be among the priorities) became a “depressive” sector, the government initiated retraining of the employees to ensure the smooth movement of employees to the other sectors.

It is concluded from the analysis above that the inter-sector links of priority sectors with the rest of the economy in Japan were tighter than in South Korea. Among the probable explanations is a bigger size of the Japanese economy which enables a higher level of diversification. This example is very important for the Russian economy. It is bequeathed a high degree of diversification from the Soviet planned economy the shortcoming of which (from the perspective of efficacy) may be turned into a benefit for the society in a way of stimulating a tight cooperation among the sectors. However, it is necessary to refrain of “absolutization” while prioritizing the sectors. Especially, it is not recommended to prioritize those sectors where our country traditionally does not have a potential competitive advantage, since it could entail to the endless protectionism of thereof in the future (since weakening of the state support to those sectors could result in social cataclysms).

The data analysis on equipment import shows that the equipment of general usage was largely imported in South Korea. In contrast, in Japan the import of equipment of both types (equipment of general usage and electrical equipment) was very low, which indicates that the priority sectors had a high influence on the development of the other sectors of the Japanese economy via producing equipment not available abroad hence increasing the productivity of other sectors of the economy. Unfortunately, no measurement could explicitly quantify the given effect. Fostering the sectors of the heavy industry, in general, entails enormous positive effects for the entire national economy¹⁸.

Apart from the above-mentioned effects, the investment coordination effect should also be taken into account. Both Japan and South Korea relied on export to minimize the necessity of investment coordination with respect to those industries that require achieving economies of scale in production. In other cases, it had higher significance in heavy industry where a number of priority sectors were making huge purchases. Therefore, the benefits of such coordination are already reflected in the heavy industry in the form of the increase in productivity.

While analyzing the sectoral policies implemented in the East Asian countries, the imperfections of the commodity market should also be taken into consideration. This is especially important while elaborating on structural policies for Russia. It is essential to boost the export of the high-tech products, otherwise, it will take a long time until they appear in the international market and will capture their market share. Indeed, such promotions should be coupled with very tough direct and indirect methods purported to enhance the quality of the exported products. Otherwise, it will exacerbate the situation with respect to the quality of the commodities.

The influence of the structural policies could have an impact on indicators such as the national

¹⁶ Under non-tradable products we mean the products that are unavailable in the international market and can be only purchased from the domestic producers

¹⁷ Chemical industry was a priority sector in South Korea and heavy industry was a priority in Japan

¹⁸ This is the development of R&D, enhancement of the human capital and the elimination of the “failures” of coordination

level of savings and consequently on economic growth. The extremely high levels of such indicators could explain the high return on investments and low risks. This is, by and large, an aftermath of successfully-implemented structural policies.

G. Pak posits that the increase of the overall growth rate (in consideration of all the indirect effects) induced by the measures of the structural policies could reach just 0.5% per year which is almost negligible and cannot be the major reason behind the success [11]. As for Taiwan, the structural policies, according to Pak and Lin, entailed 2% annual growth of the manufacturing production and had a contribution of the GDP growth in 0.6% (out of 10) (by taking into account its share in the GDP equal to 30%). However, such policies make other sectors, namely non-material production highly dependent upon industry. This dependence could be identified because of the inter-branch balance. Therefore, the real contribution of the structural policy was rather high. Unfortunately, such data on the respective countries are not available.

In general, we may deduce that in South Korea the structural policies were implemented even more intensively than in Japan. J. Yu found that the application of credit, tax and trade instruments overwhelmed the heavy and chemical industries with the 80% of the investments made in the sector of manufacturing at the end of the 1970s [10]. Simultaneously, very limited types of economic activities were supported which enabled not to “spray” the limited resources.

Meanwhile, some scholars argue that the comparative analysis between the periods before and after the structural policies is not correct since some scholars believe that the structural policies were never ended throughout the entire time period in East Asian countries. The difference was just the magnitude, i.e. the intensity of such policies. Moreover, both the time lag and the cumulative effect of the structural policies should be taken into account. Thus the side effects of the structural policies may emerge in the period of the liberalization of the economy that might be both positive and negative. The delayed positive externality of such policy, as we think, could be reflected in the self-sustained nature of those types of economic activities that were supported in the initial (embryonic) stages. It is important to gradually decrease the government intervention once the new sectors are becoming more competitive¹⁹. The delayed negative externalities of the structural policies may firstly appear in form of weakening the market mechanisms. It may particularly refer to the financial sector of the country. The cumulative effect of the structural policies implies that the indicators of the economic development in the given period of time depend not only on the current economic policy carried out by the Government but also on the one implemented before. The miscalculation of all those facts is an impermissible simplification of the reality.

While analyzing the impact of the structural policies on the economic development it is important to differentiate between the initiation of its implementation and continuation. The efficacy of such policy is much higher at the initial stage than in the later periods when it acts as catalysts, driving the process of positive structural changes. In the future, the choice of priorities is becoming more complicated; since the country is approaching the intensity level of high-technology utilization and application in leading countries. Moreover, the developing market institutions gradually replace the active structural policies.

It is also supposed that structural policies have a negative impact once the developing country is equating with the developed ones in terms of its intensity of utilization of high-technology and thereof application (as it happened with Japan at the end of the 1980s), since starting from some point only the market has to deal with “defining” the priority sectors. In fact, copying the existing technology is becoming virtually impossible.

It is necessary to highlight that the structural policies in the above-discussed countries were flexible vis-à-vis the other countries. And, apparently, this is one of its main differences from the policies implemented by the Latin American countries. In all the East Asian countries the intensity of the structural policy decreased at the end of the 1980s and was replaced by the market and functional tools. Both G. Pak and L. Vestfol argue that the selective government interventions in South Korea could be successful in the development of the “young” sectors without significant losses in the effectiveness in the earlier steps of the development (from the mid-1960s to the beginning of the 1970s) [11]. Notably, the South Korean and Taiwanese governments had a major role in the initiating the industrial development approximately from 1960 to 1970, however, after the mentioned period, the

¹⁹ For this appropriate indicators must be elaborated that would alarm about the approaching of such periods.

role of the structural policies was negligible. The same can be told regarding Japanese structural policies.

The structural policies in the above-discussed countries contributed to the entrenchment of the comparative advantage in high-tech sectors. At the same time, the abrupt implementation of such policies, as some scholars argue on the example of South Korea, is fraught with many hazards. Hence, the overambitious benchmarks at the initial stages may have a contrary effect, i.e. may worsen the overall economic stance of the country.

Литература

1. Дохолян С.В. Особенности структурных преобразований в трансформационной экономике / С.В. Дохолян, В.З. Петросьянц, А.М. Садыкова // *Вопросы структуризации экономики. №1*, С. 36-43. 2008.
2. Кравцевич А. Система приоритетного финансирования промышленности / А.Кравцевич // *Японский опыт для российских реформ (Выпуск первый)*. – М.: «Диалог». – МГУ, 1998 – Сб.
3. *Словарь современной экономической теории Макмиллана*. – М.: ИНФРА-М, –1997. 608 с.
4. Bora V. *Industrial Policy and WTO* / V.Bora, P.J.Lloyd, M.Pangestu. – Geneva: WTO Secretariat, Centre William Rappard, 1999.
5. Borras M. *Creating Advantage: How Government Policies Shape International Trade in the Semiconductor Industry* / M.Borras, L.D. Andrea Tyson, J.Zysman // *Strategic Trade Policy and the New International Economics*, edited by P.R.Krugman. –Massachusetts: MIT Press. – P.99-114.
6. Goto A. *Technology Policy* / A.Goto, R. Wakasugi // *In Industrial Policy of Japan*, edited by R.Comiya, M.Okuno, and K.Suzumura. – San Diego: Academic Press, 1988. – P.183-204.
7. Kim J.H. *Korean Industrial Policy in the 1970s: The Heavy and Chemical Industry Drive* / J.H.Kim. -Seoul: Korea Development Institute, 1990. – Working paper № 9015. – P.44.
8. Lall S. *Reinventing Industrial Strategy: The Role of Government Policy in Building Industrial Competitiveness* / S.Lall // *QEH Working Paper Series*. – October 2003. – Working Paper №111. – P.24.
9. Lindsey B. *Revisiting the «Revisionists»: The Rise and Fall of the Japanese Economic Model* / B.Lindsey, A.Lukas // *Trade Policy Analysis*. – 1998. –№3.
10. Noland M. *Industrial Policies and Growth: Lessons from International Experience* / M.Noland, H.Pack // *Economic Growth: Sources, Trends, and Cycles*, edited by Norman Loyaza and Raimundo Soto. – Santiago: Central Bank of Chile, 2002. – P.259.
11. Pack H. *Industrial policy: Growth Elixir or Poison?* / H.Pack // *The World Bank Research Observer*. – Vol. 15. – №1. P.47-67

References:

1. Dokholyan S.V., *Features of structural transformations in the transformational economy* / Dokholyan S.V., Petrosyants V.Z., Sadykov A.M. // *Issues of structuring the economy. No. 1*, pp. 36-43. 2008 (in Russian) (Дохолян С.В. Особенности структурных преобразований в трансформационной экономике / С.В. Дохолян, В.З. Петросьянц, А.М. Садыкова // *Вопросы структуризации экономики. №1*, С. 36-43. 2008).
2. Kravtsevich A., *System of priority financing of industry* / Kravtsevich A. // *Japanese experience for Russian reforms (Issue 1)*. – М.: "Dialogue". – MSU, 1998 – Collection (in Russian) (Кравцевич А. Система приоритетного финансирования промышленности / А.Кравцевич // *Японский опыт для российских реформ (Выпуск первый)*. – М.: «Диалог». – МГУ, 1998 – Сб.)
3. *Macmillan Dictionary of modern economic theory*. – М.: INFRA-M, -1997. 608p. (in Russian) (Словарь современной экономической теории Макмиллана. – М.: ИНФРА-М, –1997. 608 с.).
4. Bora V. *Industrial Policy and WTO* / V.Bora, P.J.Lloyd, M.Pangestu. – Geneva: WTO Secretariat, Centre William Rappard, 1999.
5. Borras M. *Creating Advantage: How Government Policies Shape International Trade in the Semiconductor Industry* / M.Borras, L.D. Andrea Tyson, J.Zysman // *Strategic Trade Policy and the New International Economics*, edited by P.R.Krugman. –Massachusetts: MIT Press. – P.99-114.
6. Goto A. *Technology Policy* / A.Goto, R. Wakasugi // *In Industrial Policy of Japan*, edited by R.Comiya, M.Okuno, and K.Suzumura. – San Diego: Academic Press, 1988. – P.183-204.
7. Kim J.H. *Korean Industrial Policy in the 1970s: The Heavy and Chemical Industry Drive* / J.H.Kim. -Seoul: Korea Development Institute, 1990. – Working paper № 9015. – P.44.
8. Lall S. *Reinventing Industrial Strategy: The Role of Government Policy in Building Industrial Competitiveness* / S.Lall // *QEH Working Paper Series*. – October 2003. – Working Paper №111. – P.24.
9. Lindsey B. *Revisiting the «Revisionists»: The Rise and Fall of the Japanese Economic Model* / B.Lindsey, A.Lukas // *Trade Policy Analysis*. – 1998. –№3.
10. Noland M. *Industrial Policies and Growth: Lessons from International Experience* / M.Noland, H.Pack // *Economic Growth: Sources, Trends, and Cycles*, edited by Norman Loyaza and Raimundo Soto. – Santiago: Central Bank of Chile, 2002. – P.259.
11. Pack H. *Industrial policy: Growth Elixir or Poison?* / H.Pack // *The World Bank Research Observer*. – Vol. 15. – №1. P.47-67