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Is optimal industrial policy possible for Russia? Implications from value chain concept

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## **Abstract**

The possibility to implement industrial policy alternative both to "traditional" selective support and to "no industrial policy" option became one of the central problems in Russian economic policy, keeping in mind the low and decreasing competitiveness of the main part of manufacturing industries. In this context the search for conceptual framework to design industrial policy is one of the challenges to Russian economists and policy makers.

The paper explores the ability of value chain concept to play the role of such conceptual framework. Three questions are under analysis. The first is about the explanatory power of value chain concept towards the determinants of non-competitiveness of Russian manufacturing industries. The second is in what extent the basic principals of optimal industrial policy are applicable to the Russian manufacturing industries and which obstacles would the attempt to implement industrial policy based on value chain concept face with. The final question is how considerable is the difference between the implications of liberal economic policy ("no industrial policy option") and industrial policy based on value chain concept in the specific context of Russian manufacturing industries.

#### 1 Introduction

Industrial policy in Russia (both in the Russian and the foreign expert community) is still a point of issue between the supporters of two opposite views. "Paternalists" consider that the government should outline a range of industries – locomotive power of economy and support them. "Liberals" believe that the objective of the state policy consists only in creation favourable investment climate, and industrial policy, in its turn, leads only to waste of resources, which is not even ineffective but also creates negative externalities for other sectors of economy. It has been a problem for the Russian policy lately that the first point of view was supported mainly by the people oriented on the soviet system of management at best. At worst, the proponents of industrial policy were openly rent-seeking. That is why the liberal positions are defended not only by those who are sincerely confident of impossibility of the effective industrial policy, but also by the ones who believe in its potential in principle and at the same time don't expect positive effect form "the industrial policy in the Russian manner".

The choice in favour of no industrial policy option seems more and more surprising taking into consideration the increasing role of the Russian state in the economy. The increase of the state share as an owner in economy besides its interest in the control over the most beneficial activities should have profited been accompanied by connected with the rise of opportunities in industrial policy.

The discussion of the principles of effective industrial policy in relation to value chain concept (VCC hereafter) allows us to go beyond the limits of the vicious circle of the opposition between the "traditional" and the "liberal" industrial policy (Schmitz H., 2006). This discussion seems to be rather actual taking into account the increasing role of regional (in contrast to federal) industrial policy in Russia. To discuss the principles of industrial policy in relation to VCC in the context of our task is to answer the question whether they can be applied to the present-day Russian industry. Such analysis will reveal to what extent the implementation of the efficient industrial policy in respect to VCC is hampered by the peculiarities of the Russian industries, and to what extent – by the absence of the necessary policy instruments.

Besides the methods of industrial policy, separate industries will also serve an object for the discussion. We will examine three industries, in which potential

competitiveness is undermined by the problems of value chain governance, and we will also analyze to what extent the applied measures of the policy in given industries correspond to the criteria of effectiveness in respect to VCC.

It is necessary that one more preliminary observation on industrial policy should be made before turning to the main analysis. We fully agree with the criticism of industrial policy as of the main tool to promote economic growth. We realize negative externalities of industrial policy on adjoining economic spheres. At the same time we consider it unacceptable to discuss the problems of industrial policy in respect to its results in comparison with those of an ideal market. On an ideal market (free from market failures, negative externalities and developed in evolutionary way under the perfect mobility of resources, etc.) industrial policy will always lead to non-effectiveness. On the market with the exogenous allocation of resources and the restrictions on their mobility, industrial policy may turn effective, i .e. its positive results will outnumber the negative ones.

At the same time, the market imperfections themselves do not advocate *any* industrial policy. It is easily possible that in spite imperfections are present, the results of industrial policy aimed to overcome them will lead to decrease not to increase of the result however the latter is measured – by social welfare, competitiveness or the development of given industries. In this context the industrial policy could be effective or ineffective depending on the adequacy of tools implemented to the objectives and economic and institutional environment of policy implementation. In this respect the goal of the paper is to analyze the power of VCC to explain the low competitiveness of Russian manufacturing industries, to assess the instruments of industrial policies already implemented and to design the new concept of industrial policy.

## 2 Value chain concept: the principles of optimal industrial policy

## 2.1 Competitiveness in the chain

In respect to VCC the idea of competitiveness is a bit different from common understanding competitiveness, as well as in relation to the cluster concept<sup>1</sup>. The VCC approach implies that competitiveness means advantages only within the given chain and their specific character. The differences from the traditional approach appear because the chain is not only the way from raw material to the customer, the chain has a specific institutional setting. One and the same product can be highly competitive within one chain and low competitive within another one. When manufacturing furniture, for instance, within a vertically integrated chain, an important advantage is the ability to produce a wide variety of items. Within the modular system of management this ability doesn't create an advantage, because the range is diversified on the global buyer level, and not on the manufacturer level. The matter may concern one and the same type of furniture. Such factor as a well-known brand, which is traditionally viewed as the most important source of competitiveness in the market-organized chain, is absolutely of no importance in modular or captive chains as the final product is sold under the brand of the global buyer.

So, from the VCC perspectives there are two important questions to identify the level of competitiveness of a certain producer (cluster of producers). First, to what extent is the value chain the producers participate in competitive? Second, is the buyer competitive for the given chain and for the given location within it?

VCC has one more important peculiarity. It is a clear understanding of the fact that competitiveness (meeting the two above mentioned conditions) does not guarantee high profitability of business. Even in a value chain which produces highly competitive products the value added by a given cluster of producers and the possibilities to upgrade for those producers may be small enough (Kaplinsky 2004, Bair 2005). The result of the effective value chain entry may consist in the fast growth of mass production with rather low profitability.

The performance and abilities to upgrade for the participants inside the value chain depend on what stage of the chain is responsible for the rent created. The rents are

<sup>&</sup>lt;sup>1</sup> Thorough comparison of value chain and cluster concept is made in (Humphrey, Schmitz, 2002).

associated with the stages at which entry barriers are the highest. These barriers are not static but dynamic; they are associated with the property rights on specific resources, both because of scarcity of natural resources, and because of uniqueness due to successful innovations. So, for the barriers and rent inside value-chain the Schumpeterian-type process of *creative destructions* is typical. All the value chains are divided into two types: driven by the producer and driven by the buyer. The 'driving force' imposes some type of governance for the chain participants. The governance includes setting of standards (as legislative governance), monitoring the compliance of activity to these standards (as judicial governance), and assisting suppliers to meet the standards (as executive governance) (Kaplinsky 2004). Therefore, the whole chain is affected by the policy of driving segment. Usually the participants who are able to govern value chain also appropriate rent. Here an important effect arises: on the one hand, rent is due to the use of specific highvaluable resources, on the other, driving force in the value chain may prevent other participants from upgrading and, therefore, may protect the ability to appropriate rent. The combination of these two effects, according to value chain approach, explains many features of modern international labor division and income distribution, including the puzzle why the participants of efficient value chains may have very bad financial performance and prospects to upgrade (Kaplinsky 2004).

Another important specific feature of VCC is that type of governance in value chain matters. There are different classifications of governance (Gereffi et al., 2005; Schmitz, 2005), but in the framework of any classification chains differ according to the different abilities and tools of governing link to influence the decisions of agents on subsequent stages of production and marketing. Literature in the filed of VCC concentrates mostly on the influence of governance type on the opportunities and incentives to upgrade not on the determinants of the choice of the very governance type. The exceptions (Gereffi et al. 2005) are extremely valuable and analyzing them we can easily find that VCC closes up new institutional economics (Williamson, 1975) using the characteristics on complexity and frewuency of transactions as well as institutions which influence transaction cost under different types of governance.

Everything said above also means that achievement of competitiveness within a value chain does not mean "long-term competitiveness" in the sense this term is viewed in the present-day economics. The position of VCC representatives is dual: on the one hand, the fact of value chain entry itself and as a result fast growth rate

are considered as effectiveness. However, having analyzed the data about world commerce VCC representatives themselves show that numerical growth can combine (and it is rather characteristic of the subordinate sectors in the chain) with the share in value added and profits.

## 2.2 Industrial policy principles from the VCC perspectives

VCC explains the reasons for the failure of industrial policy in case the chain structure and the character of management within it are not taken into account by policy-makers. This is true for developing countries and we can expect this is also true for Russia (we will turn back to this question later). However, can this approach suggest a well-coordinated conception of industrial policy? The foreword to one of the latest publications dedicated to the application of VCC to elaboration of economic policy runs as follows:

"However, a gap was identified where the insights of value chain analysis could provide useful information for policymakers, at national and local levels, who must take important economic and social decisions, especially in countries who are trying to upgrade their industries" (Schmitz H., 2005, p.iii)

The problem of formulating the principles of effective industrial policy in value chains is complicated by two conditions. First, the value chain concept is rather close to the cluster concept which, in its turn, owing to Michael Porter's contributions holds much more favour in the present-day economic community. Second, as we will demonstrate later, the principles of effective policy in value chains are ambiguous. Unlike the cluster concept, recommendations greatly depend both on the place taken by the given group of sellers within the chain and on the type of management within the chain. As one size does not fit all, there often appears a feeling that the chain concept is concluded with recommendations not inherent to the concept but formulated *ad hoc*.

So, let us turn to the principles of competitiveness in respect to VCC.

1. The source of the global competitiveness is specific advantages of regional and local clusters.

This principle unites VCC with the cluster concept. However, cluster advantages in respect to VCC are not enough, for competitiveness in a value added chain is not deprived of individuality. Competitiveness is a matter of interaction between the main participants of corresponding chains. Conformity with the requirements of the company running the chain creates advantages of low order, which can be easily lost. We will illustrate it by the example of a Brazil footwear cluster.

# Brazil footwear cluster: advantage loss when the position in the chain is subordinate

In 1970-80-s small companies manufacturing footwear and formerly oriented on the Brazilian domestic market having organized several associations of producers could upgrade under the aegis of global American buyers (brand-owners). With the help of direct foreign investment and experienced advisers in industrial engineering, in the choice of production technologies, etc., to the end of 80-s in Brazil there appeared an effective national footwear cluster, consisting mainly of large producers and meeting the best world standards (for instance, the Italian ones). The core of this breakthrough was the active cooperation of the firms (including the elaboration of the program of joint action on international markets), lobbying the national manufacturers' interests (including those at the state level), competent positioning of the national industrial cluster on the world markets.

However, after a period of success, the Chinese producers coming to the USA markets beat down the price considerably, which made the Brazilians look for principle innovations. But the changes made in the organization of industrial engineering did not help them to hold their previous positions on the American market, and the strategies of extending their activity to design and marketing suggested by the local business associations did not meet support of big producers. The participation of the Brazilian government as an intermediary in the negotiations could have changed the situation greatly, but at that time the state refused active industrial policy and laid the whole burden on the private sector.

Analyzing the experience of the Brazilian footwear cluster post factum, we can draw a conclusion that the achieved advantages were non-sustainable. However, in early 1970-s it was impossible to foresee the development of the situation.

Sources: (Bazan, Navas-Aleman, 2004; Schmitz, 1999).

2. Assistance to domestic producers should be demand-oriented, not supplyoriented.

The idea that the goal of support is decrease of entry cost is rather attractive even for those who criticize industrial policy. But the problem is that the market entry of each independent seller is possible only if the chain is organized as "market" interaction, which is not a rule but a comparatively rare exception to it. From this point of view, typical support orientations which seem to be demand-oriented may turn out to be not effective enough. Let us analyze three classical types of such support: financing of participation in exhibitions, of educational tours, of certification (Schmitz, 2005). Participation in exhibitions can promote upgrading only when there is selecting of suppliers at exhibitions. Otherwise the potential effect of such participation is rather low. Educational tours according to VCC are useful only when they include all the sections of the chain, which is usually very expensive. Finally, to contribute to upgrading certification should first of all meet all the requirements of the company running the chain, and, secondly, it should be carried out not by a separate producer but of a group of producers.

#### 3. Assuring cooperation in the national chains.

In respect to VCC, to create a competitive national chain (or a section of a chain) it is necessary to assure coordination of producers within the chain. It is "lack of cooperation" and the want of understanding of mutual benefit that caused a decline of competitiveness of producers in the national chain of the furniture industry of South Africa (Kaplinsky et al., 2002). However, this principle is also rather ambiguous. In some cases there is a tension between the creation of a complete national chain and participation of foreign suppliers or buyers in the chain. When the second variant contributes to the creation of a more effective chain (with higher total value added), it is the refusal from the cooperation in the national chain that may lead to a greater long-run benefit.

Analyzing the recommendations formulated in relation to VCC and the possibility for their adaptation in the Russian industry we emphasize the peculiarities of the conditions and the aims of their application. They do mostly for developing countries, feeling a need to rank in the international division of labor.

First of all, it means that it is a question of industrial policy concerning industries on the technological base. Surely, in this context the implementation of the idea to switch from the supply-oriented to demand-oriented support is becoming clear. It is assumed that new enterprises do not face the problems, inherited from the allocation resources in a previous economic system. In relation to most Russian enterprises this assumption is incorrect. In the industries whose restructuring could be guided by VCC (producing consumer goods), most enterprises are run on the outdated technological basis; many of them are still burdened with excess assets. An additional problem is a high level of vertical integration, but as we will show later, this problem in respect to value chains appears to be not exogenous, but endogenous. However, applied to the Russian companies, the principle of demand-oriented instead of supply-oriented support is ambiguous.

Secondly, VCC is oriented on competitiveness in the global and not in the domestic market, for a limited number of industries (clusters of companies). Accumulation of the state effort supposes only selective support, that is, with reference to interindustry comparison, the creation of inequality of competitive conditions. As it is well-known, the effectiveness of such methods of support is rather susceptible to lobbying and rent-seeking behavior. With a complicated economic structure it is difficult to plan and carry out such selective support for political reasons.

Thirdly, as a prior condition, VCC recommendations provide for favorable conditions for some "normal" rent sharing within the chain. Recommendations connected with the support of solidarity between the national and local chain participants are guided by the idea that they are in the long run oriented on the cooperation themselves.

We mean a standard setting of the problem of strategic interaction, when the participants (players) can choose between the "cooperation" strategy and "predatory" strategy. The strategy "to cooperate while the others cooperate" is of less benefit in short run, but this benefit is of the long run (the growth of the total gain subject to division can also be included in the assumption). The "predatory" strategy provides a higher gain but only once. What strategies will form equilibrium according to Nash depends on the subjective discount factor. If the cooperation participants consider the subjective discount factor as being rather low, they will choose the predatory strategy, despite all the advantages of cooperation.

In this context, marketability of VCC recommendations is based on the idea that cooperation in the long run is more preferable than the predatory strategy. This is very important since the improvement of the participants in the chain creates quasirent, which the participants at successive stages can seize. That is why in VCC upgrading as a better result exceeding other participants' better results is opposed to improvement.

At last it should be mentioned that VCC makes great demands on specific knowledge. To work out the conception of a certain industry development it is necessary to have a clear understanding of what chains (there can be several of them) include the enterprises of this industry, who govern these chains, what demands the governing company makes on its suppliers/counteragents (in the traditional sense, price, quality, time from order to delivery, punctual delivery, flexibility and innovative design) and what prevents the target group of these enterprises from meeting these requirements. Finally, it is necessary to know what methods of support will help the target group to meet the requirements for the chain entry, and in which way the company managing the chain can be convinced of the success.

## 3 Low competitiveness in Russian industries in the framework of value chain concept

VCC approach accounts well for the low competitiveness of enterprises of Russian industries. This explanation is trivial enough: most Russian markets structure was formed under socialist economic system, when decisions concerning the construction of new enterprises, their location and specialization were made without taking into account possible place of the Russian producers in the international division of labor. Even when the central planning committee was trying to solve some particular problems of optimization on distribution of resources, the conditions of these problems were so different from the conditions of a problem a businessman would solve, that this difference predetermined fundamentally different decisions.

As a result, after liberalization many industries turned out to be "locked-in" in their value chains, with low competitiveness within the chain. VCC suggests that it can be explained not only by the fact that enterprises are not able to produce competitive goods (with the good correlation of price and quality), but also by the fact that the company managing the value chain can redistribute the rent created within the chain for its own benefit. Let us analyze some examples of Russian industries and clusters of enterprises, which in their value chains found themselves "in an unfortunate place at an unfortunate time".

## 3.1 Furniture industry

Special investigation was held to analyze value chains in the Russian furniture industry. One of the reasons for low competitiveness (more than half of the furniture sales on the home market are made up of import goods) is the structure of the incentives of Russian producers.

Nowadays most producers are vertically integrated. They try not only to produce and assemble furniture and to make semi-manufactured articles, but to cover wholesale and retail trade. The enterprises strategies are determined by the fact that now the only alternative to the vertically integrated chain within one company is participation in the modular chain run by IKEA. The chain managed by the traditional furniture stores gives the manufacturer neither incentives nor opportunities for upgrading.

However, IKEA firstly makes a limited demand for the Russian production. Secondly, for the enterprises themselves the choice in favor of restructuring as IKEA suppliers goes together with high opportunity cost. This choice is irreversible, and the chosen way of development is risk-bearing, since there is no other market participant/competitor in Russia making demand for the production supplied by IKEA. The case of the Russian furniture industry illustrates the problem of raising of competitiveness when the industry represents a brownfield as opposed to a greenfield.

## 3.2 Cluster of state-owned enterprises in the Russian printing industry

Sales volume of printing in Russia makes up less than 2 billion euros, that is about 1 % of the world market volume. Extremely low entry barriers made this market attractive for new participants, so that the industry became the first among other Russian industries at entry intensity: there is an annual increase in the number of participants of 300-350 enterprises. Printing market is characterized by a high intensity of competitiveness, due to which production profitability does not exceed 3-4%.

Among the participants of the industry a group of state enterprises stands out, including about 60 enterprises belonging to the Russian Federation and about 850 belonging to other subjects of the Russian Federation. The first group (federal printing enterprises) has become a reason for the government's anxiety as most of these enterprises belonging to the first-rate producers of the industry make a zero profit and demonstrate no upgrading activity. The reasons for that can be different.

Most federal enterprises inherited the size and the structure which do not allow them to be competitive. First, the enterprises are too large in comparison with their more mobile competitors, they are burdened with old assets and social obligations. Second, they are often located within city boundaries and even in the centre of Moscow and St. Petersburg, occupying vast areas, and therefore pay much for tenement. Besides structural factors, one can't avoid noticing that the structure of the state unitary enterprise and wide powers of the general manager along with the lack of real responsibility did not contribute to the effective development. As a result of all these factors, the federal enterprises share in the output of printing industry has

lowered three times since 1998, from one third to 12% in 2005. At the same time federal enterprises still print 40% of newspapers and 65 % of books in Russia.

It is also necessary to mention that the group of federal printing enterprises is not homogeneous. There are enterprises with a really low prime cost and those profiting from wholesale orders. The most remarkable examples are Smolensk, Saratov printing industrial complexes, Tver printing industrial complex of children's literature. These enterprises (with the exception of unprofitable Saratov printing industrial complex) even get a quite good profit, sale profitability of Smolensk industrial complex is about 7%, of Tver industrial complex about 13%. However, it is difficult to assess the results of their activity for the last 15 years positively, since these enterprises first of all use out-dated equipment and do not even attempt to upgrade their production.

The situation seems paradoxical, as the enterprises are oriented on the most promising segment of the printing market, on educational literature publishing. Its turnover is increasing and there are factors which can lead to the further development of the market (the necessity to renovate university libraries, the boom of the system of education alongside with the heavy expenses of the population on textbooks and the implementation of national programs in this sphere).

What is the position of the enterprises in respect to value chains? Can the lack of incentives to upgrading be explained? Printing enterprises are included in the chain run by the buyer (by the publishers as in this case). The main part of the profit is generated within the publishing houses. High competitiveness on the printing market makes it unprofitable for the enterprises to invest in reequipment, to upgrade the equipment, for as the result of the investment competition between the suppliers will change the price and the profit will become lower. In their turn, printing industrial complexes governing the value chain and therefore concentrating most part of the profit are not promoted to invest in the assets which do not belong to them. In the end, the lack of investment makes a bad impact on the long-run competitiveness of the printing chain.

From the point of international experience the comparison of the printing management in Russia and abroad goes as follows. In the international practice printing industrial complexes can be divided into two groups: small (printing houses) and big ones (printing industrial complexes). Printing houses working in the markets

with low profitability prevail in number. Printing industrial complexes are usually included in the vertically integrated companies, or at least are bound with them by time contracts.

For instance, the American printing industry includes about 45 thousand companies (1.1 million people), but at the same time 5 biggest companies have cumulative market share about 25%. In the EC countries there are about 80 thousand printing companies (960 thousand employees) but 85% of the companies are small firms employing no more than 20 people. In Britain, for example, 12 thousand printing houses employ about 185 thousand people, but 90% of printing houses employ less than 20 people.

For printing houses price competitiveness is of much importance whereas for printing industrial complexes non-price competitiveness plays a greater role. In the latter case, the source of non-price competitiveness is not only the ability of the enterprise to control quality at the stage of production, but also high incentives to invest in technical reequipment of the printing segment. It is the second type of relations in the chain that is not present in the Russian printing industry.

## 3.3 Agricultural producers in Russia

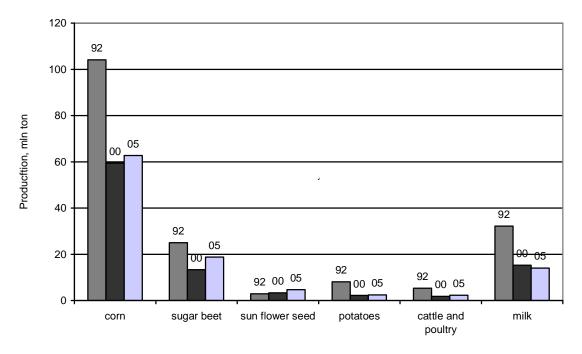
Despite the revival of the recent years, the scale of agricultural production in Russia has not run up to the pre-reform level (fig. 1), which was not at all high owing to the notorious low effectiveness of use of resources in the Russian agriculture. In this respect, agricultural producers are a classical example of the participants of chains run by the buyers, supermarkets or processors.

The replacement of domestic goods by the foreign ones in the first half of 1990-s and the slow reconstruction of agriculture that followed is explained mostly by the problems of reconstruction of the destroyed value chain which is complicated as it is.

At the beginning of liberalization Russian agricultural producers faced the problem of rent appropriation by the participants on the adjacent stages of the value chain. It looked like "monopoly power" associated with rent extraction (Serova, Melyukhina, 1995). During almost ten years participants in the value chain which can govern it were oriented on short-term gains only and at the same time few of them were

competitive enough to provide for agricultural producers the ability to sell increasing output with decreasing profitability. The available option was only decreasing profitability with decreasing demand, when domestic products were crowding out Russian markets by foreign ones.

Figure 1 Output of some agricultural products in Russia, comparison between the years 1992, 2000 and 2005.



Source: Federal statistical agency's data http://www.gks.ru/free\_doc/2006/b06\_11/15-06.htm

The processes of vertical coordination in different forms accompany the development of agriculture practically in all the sectors not only in Russia (Fingrain, 2006; Swinnen, 2005, Swinnen et al., 2006) but throughout CIS (Lorentz, 2006). The present-day vertical contracting is viewed as an indispensable condition to create adequate incentvies to restructuring on the level of agricultural producers. The report of the World Bank experts dedicated to the problems of vertical contracting is not accidentally entitled «When the market comes to you – or not» (Swinnen, 2005).

## The problem of the buyer-driven chains: a typically Russian problem and limitations to its solution

It is not difficult to notice that all the above given examples have to do with the buyerdriven value chains. This situation can be easily explained if we remember the development of the Russian industries producing consumer commodities for the last twenty years.

- 1. In the Soviet system of production and selling off buyer-driven value chains were lacking. Scarcity of overwhelming majority of consumer goods, on the one hand, and sale prices regulation/administration, on the other, cut out any present-day market incentives. Selling arrangement in the legal sector of the Soviet economy was of no much importance, as the payment of those involved was fully regulated. The main result of such system was low competitiveness not only of manufacturing industry producers, but also, and to a greater extent, of independent system of sale. Most of these organizations were used to working in the conditions of scarcity accompanied by the ever growing demand, which meant that personal income of those working for sale organizations was generated mainly in the illegal sector owing to the margin between the demand price and the much lower fixed price of the producer or importer.
- 2. As the result of the reforms at the beginning of 1990-s the population and manufacturing industry were confronted with the more urgent question of survival and not of competitiveness. It was followed by a number of consequences for value chains development. Firstly, the demand for the cheapest production practically irrespective of its quality was kept for a long time (and has been kept even up to now to some extent). Against this background, the development of value chains from the consumer to seller didn't take place but, on the contrary, there occurred a bloom of selling forms excluding dedicated sale system (selling at the enterprises, retail and wholesale markets, etc.). Suffice it to say, by the end of 1990-s the share of self-service stores in retail circulation according to the data of the report *Unlocking Economic Growth in Russia*, was about 1% and only to the middle of 2000-s it rose up to 25%. Secondly, there were no domestic participants in the economy who were able to organize chains of modern type. Overwhelming share of marketing sector included start-ups not connected with the former active wholesale and retail trade

organizations. To develop chains of modern type domestic companies needed investments the sources of which most of those interested in the development of this sphere didn't possess.

- 3. The incentives to invest in the infrastructure of creation of consumer goods chains, oriented on the domestic producer and the home market simultaneously, were very low in 1990-s because of artificially overpriced rouble rate. Imported goods successfully replaced the domestic ones owing to the price advantage/leading. Only after the devaluation of 1998, when the domestic production got considerate price leading, there appeared an incentive to invest into the chains with the participation of the Russian producers. It was the very moment which revealed the problems connected with the lack of chain development—being more competitive in price, the domestic production continues losing in non-price characteristics of competitiveness on many markets.
- 4. Economic agents orientation towards short term results/effectiveness and poor protection of contractual and property rights are two more factors which complicate the development of modern chains in the Russian industry.
- 4.1. Economic agents orientation towards short term indicators, particularly characteristic of early 19990-s, led to the predominance of predatory strategies in chain cooperation. In terms of the institutional theory, the participants aimed at taking hold of as much amount of quasi-rent as possible. In the above analyzed industries, it displayed itself in various forms. Manufacturing enterprises were anxious to pay agricultural producers as little as possible, though in the long-term perspective they were dependent on their supplies/delivery. Publishing houses tried to pay as little as possible to their printing enterprises, in spite of their interest in renovation of the production basis and in printing quality improvement. In the furniture industry timber and splint-slab suppliers strove to charge as high selling prices as possible, though the demand of domestic furniture producers is rather important for them. Specialty furniture stores demanded that the national furniture sellers should give them considerable wholesale discounts, despite the awareness that in that case they deprive the latter of the last financial resources to renovate their production which is important for the specialty stores sellers as well. In relation to VCC, there is no solidarity between successive participants of the chain in most Russian industries (Kaplinsky, 2002).

4.2. Poor protection of contractual and property rights leads to the rise in transaction costs of the organizer of captive model of governance. For instance, Russian engineering enterprises preserve potentials to fill the orders on the basis of subcontracts. However, in Russia such practice is developed to the less extent than expected taking into account availability of high-level services in combination with the excessively low reserve/stand-by price of Russian enterprises. One of the explanations of the lack of development of subcontract relations is non-protected rights of intellectual property, threat of unauthorized passing of specifications, drawings and other terms of an order to competitors. In a more general sense, one of the obstacles to the development of chain management types, holding the interposition between market and hierarchical types is the tendency to nonobservance of the terms and conditions of a contract. Here are the results of the inquiry held by the Russian interregional centre of industrial subcontracting and partnership in 2002. 70% of the inquired subcontractors among the problems pointed out that the customer doesn't keep to the terms of payment, 66% of customers - that contractors don't keep to the terms of delivery, and 51% - that contractor doesn't keep to the assigned quality. Such results give the answer to the question why the system of subcontracts was used by very few engineering enterprises - only 2 thousand out of about 50 thousand registered organizations (Avdasheva et al., 2004, p.35-36).

The last circumstance – poor contractual rights – is very important to explain both the rate and the organization forms of value chains development in Russia. Value chains are very different in the type of governance including, according to one of classifications, market, module, relative, captive, and hierarchical governance (Gereffi et al., 2005). As with the switch from the market to hierarchical governance the scale of explicit coordination rises, the governing company gets wider powers, but at the same time it bears a greater burden of direct coordination.

The choice of the type of governance depends on a wide range of circumstances, the detailed analysis of which goes far beyond the frames of the present work. Their detailed characteristic can be found in two different lines of investigation such as new institutional economy, analyzing the choice of types of transactions governance (Williamson, 1985), and the research devoted to the advantages of subcontracting and outsourcing. Combination of the results of these two lines of investigation makes it possible to formulate the following conclusions. Among the world goods markets

one can distinguish markets on which competitiveness can be achieved only on the basis of using module or captive chains which allow combining the advantages of decentralized economy of industrial costs with the economy on the scale of centralized system of marketing and branding. It is the production of consumer goods of temporary usage. At the same time, one can't exclude the variant when institutional conditions of the country do not allow using successfully the so-called hybrid forms of transactions governance, that is relative, captive and module types of value chains. It is obvious that the national industry of these countries has to fight for the buyer "on its territory" losing resulting competitiveness even if the producers are able to achieve no less effectiveness in production.

Two types of observation are evidence of inefficiency of using hybrid (in terms of institutional economy) or module/captive/relative coordination in value chains, besides the above-mentioned data concerning unprofitableness of subcontracting. One is connected with the fact the in the Russian agriculture, unlike the agriculture of the countries with transitional economy, vertically integrated and not hybrid interactions develop (Swinnen, 2006). As the other we can recollect the only form, which can be referred to the hybrid type of transactions governance, which developed rapidly in the Russian industry - processing or tolling contracts. Processing contracts (or "daval'chestvo" in Russian) are extensively used in Russia as a form of supplying raw materials to be processed at refining enterprises<sup>2</sup>. Under the arrangement, suppliers provide a refinery with inputs (raw materials), pay a tolling fee, and take back the resulting product. The refinery can get the tolling fee (i.e. payment for the "refinery services") in the form of a share of the final product or, alternatively, of the raw materials. From the legal point of view, the supplier of input remains to be the owner of the final product while part of it is transferred to the refinery (the processor). From the economic point, however, refineries are subordinated to the supplier of input and can be treated as belonging to one "economic firm". In the context of VCC, processing contracts represent the modular or captive type of governance inside the value chain.

Typically, a tolling contract envisages one cycle of refinement only (exception is a case when input supplier belongs to the same holding companies as refinery enterprise).

Table 1 Share of goods refined from raw materials supplied by processing contracts in Russian industries (1996-2000, %)

Product/Year	1996	1997	1998	1999	2000
Polyvinylchloride gums	54,19	50,45	54,77	45,70	57,01
Polyethylene and polypropylene	70,58	79,88	76,97	50,20	59,79
Chemical rubber	51,72	42,56	43,31	29,60	41,80
Process lime	77,29	75,05	86,46	89,10	85,00
Automobile petrol	54,65	66,79	81,38	88,20	92,42
Diesel oil	58,08	70,53	88,88	88,20	91,49
Reduced fuel oil	72,79	85,7	89,28	95,10	95,89
Cast iron	79,53	82,51	94,74	88,80	87,50
Steel	79,93	81,12	94,4	94,90	94,49
Electric steel	7,76	9,01	11,43	98,20	97,19
Coke (6% wet)	86,37	82,54	76,81	78,00	82,62
Flour	33,94	39,62	45,4	40,30	41,35
Cereals	55,35	56,7	53,43	48,50	46,76
Vegetable oil	80,54	77,85	75,02	75,70	65,56
Butter	12,65	13,03	15,87	17,90	19,79
Granulated sugar	90,86	89,65	89,3	94,10	93,37

Source: Avdasheva, 2002.

The peculiarity of tolling contracts of processing is that the type of governance is much closer to hierarchical than to hybrid (captive, module). Manufacturing enterprises keep minimum of economic independence, they hardly ever enter the markets of final products and raw materials. At the same time tolling contracts are a kind of indicator of how low the final product seller (and the supplier of raw materials for processing simultaneously) estimates either the abilities of a manufacturing enterprise to purchase raw materials on its own and at rather low prices, or its availability to meet contractual obligations under another design of the contract. Otherwise, tolling contracts would have been replaced by crediting of manufacturing enterprises for purchasing raw materials.

Let us make conclusions in relation to value chains development and competitiveness of Russian enterprises. The problem is two-sided. On the one hand, Russian producers continue losing the competitive advantages because, among other reasons, they are not included into value chains. On the other hand, it is not beneficial for most global sellers to orient seriously on the Russian producers of consumer goods.

<sup>&</sup>lt;sup>1</sup> Unfortunately there is no official data on the scale of use of processing contracts since 2000. Rosstat treats this information as confidential and it has not been open for the public for the last five years. Meanwhile there is every reason to believe that the share of processing contracts in refinement of raw materials remains about stable.

60 50 Share in industrial output, percents 40 30 20 10 0 1999 2000 2001 2002 2003 2004 2005 2006 (Jan-Sept)

Figure 2 Industries included in producer-driven and buyer-driven value chains: share in industrial output<sup>3</sup>

■ Industries in the chains governed by producers ■ Industries in the chains governed by buyers

Source: Federal statistics agency data, 2006, http://www.gks.ru/scripts/db\_inet/dbinet.cgi?pl=1204003.

\*Transition to new OKVED classification since 2005, as it is clearly seen in the fig., led to incomparability of the data, at least in relation to the industries included in producer-driven chains.

As a result, manufacturing enterprises tend to lock themselves in narrow geographic and food segments of markets orienting on the unscrupulous buyer for whom the main criterion when choosing a buyer is his price (Kadochnikov, Yesin, 2005).

The described above problems are not characteristic of the enterprises of all the industries. The participants of the producer-driven chains, to which most raw materials industries belong, do not come across these problems. These industries demonstrate rather high level of competitiveness and stable growth. It reflects a stable growth of their share in industrial output in Russia (Fig.2).

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<sup>&</sup>lt;sup>3</sup> For "all-Russia classification of industries of the economy" (OKONH) (1999-2004) among the industries included in producer-driven value chains are power industry, fuel industry, ferrous and non-ferrous metallurgy; among the industries included in buyer-driven value chains are pulp and timber, light and food industries. Chemical industry, engineering industry and building materials industry can be related neither to the first nor the second groups. For "all-Russia classification of economic activities" (OKVED) (2005-2006) among the industries included in producer-driven value chains are the following kinds of activity: CA "Mining of fuel-energy mineral resources", DF "Production of coke and oil products", DJ «Metal manufacture and finished metal articles production", E "Generation and distribution of power, gas and water"; among the industries included in buyer-driven value chains are – DA "Food industry, including beverage foods and tobaccoes", DB "Textile and clothing manufacture", DC "Manufacture of leather and leather goods and shoe making", DD "Woodworking", DE "Pulp and paper industry, publishing and printing activities".

Imperfections of value chains has an opposite influence on the inner structure of Russian companies. Russian companies preserve high degree of vertical integration, and in some cases continue including successive steps of technological chain (Avdasheva, 2006).

So we showed that the lack of mature value chains is not a single case in the Russian industry. It is characteristic of almost all the industries to a greater or lesser extent. The difference of the producer-driven industries is only in the fact that in this very case Russian companies get the highest rent.

## 5 The perspectives to increase competitiveness in the chain: Evaluation of industrial policy in Russia

The Russian government faces the problem of decreasing competitiveness of manufacturing industry, on the level of economic policy formulated as the task of diversification of the structure of economy and getting rid of the dependence on raw materials export. Irrespective of global competitiveness increasing, this aim is too important to maintain employment. Besides, in the industries oriented on the final market there are segments which can ensure labor productivity necessary for the competitiveness on the world market. Some individual success stories prove the perspective of productivity growth.

VCC may prove to be very useful for working out the industrial policy in two cases:

- (1) if the conclusions of the concept allow to give the right estimation of factually applied measures of supporting of the Russian producer;
- (2) if the logic of the concept allows to work out new methods of supporting competitiveness of the producer which have not been used up to now.

The first variant of the analysis is rather easy to realize, anyway, for those industries which were studied above – furniture industry, agricultural engineering, and printing industry. It is a bit more difficult to analyze possible measures of industrial policy which have not been taken yet. In the given case we have to restrict ourselves and analyze not the measures but the principles and possibilities of their successful application in Russia.

When analyzing the measures of industrial policy we point out the comparison of the recommendations which can be suggested on the basis of VCC with the traditional recommendations for the state within the liberal approach to the industrial policy (no industrial policy option).

## 5.1 Furniture industry

In the Russian furniture industry the following measures which can be assessed as a components of industrial policy are applied:

- agreement with global buyer about the access on Russian consumer market in exchange to obligation to procure a certain share of stock from Russian furniture enterprises;
- 2. applying a custom duty on the furniture on the level of 20%. In the nearest future the custom duties for furniture on the one hand and for component parts on the other will be matched. This will create additional protection of furniture producers from the competition of import suppliers. This measure is important because many importers declare non-assembled furniture as components in order to evade custom duties;
- low level of custom duties (5%) for the accessories to compensate the inability of Russian furniture companies to buy accessories of satisfactory quality in domestic market;
- 4. free of custom duties import of furniture machinery;
- 5. demand-oriented support of furniture producers: financing of participation in exhibitions in Russia and abroad, additional education for managers etc.

Measures (1), (3), (4) and (5) look almost ideal from the point of view of good industrial policy based on VCC. Only protection of domestic producers (supply-oriented support) contradicts the ideas of VCC, since VCC is oriented on global competitiveness, not on the competitiveness in domestic market. The expected results of furniture market protection from import are ambiguous. On the one hand, it can make sense, because domestic demand on the furniture is high enough and growing during last years. On the other, protection from import competition preserves the existing production and organization structures in the furniture industry.

In fact, till now all the support measures do not provide the expected impact on the restructuring and modernization of Russian furniture producers (Avdasheva, 2006). Along with narrow-specialized producers which use comparative advantages in the framework of modular type of governance there are many enterprises remain to operate in the framework of vertical integrated governance, which is inefficient in the long-run due to small size.

In this context we can see vicious circle "bad structure" (excess vertical integration and diversification) limits the scope of demand-oriented industrial policy. The clusters of specialized suppliers which could be the recipients of demand-oriented support are absent. In it's turn feeble demand-oriented support does not provide expected impact on the competitiveness of the industry.

However it is impossible to identify if the preservation of inefficient industry structure is due to the failure of VCC-based or due to the fact that the effects of supply-oriented support exceed the effects of demand-oriented one.

## 5.2 Printing industry

Till now there is no consistent industrial policy towards state-owned printing enterprises. That is why we can only assess the future plans. In 2006 special "Concept on printing industry development" was scheduled. This main tool to be applied according to the concept is consolidation of state-owned printing companies except those to be privatized in four holding company groups: the first group is to be specialized on newspapers, the second group will include companies specialized on textbook publishing, and two other regional groups will consist from medium-sized printing enterprises with no narrow specialization.

It is the second group which is of interest for us. It should became vertically integrated including biggest and most productive printing enterprises as well as two state-owned publishing houses "Prosvescheniye" ("Education") and "Vysshaya Shkola" ("Higher School"). In spite of the total share of state-owned publishing houses in the market of textbooks during last eight years decreased almost twice, it is still more than one third. The "Concept" assumes that profit generated by the publishing houses should be used to finance the re-equipment of printing enterprises.

From the VCC point of view this decision could be reasonable if the system of governance within the holding company group is able to provide proper incentives for decision-making. In contrast to publishing house alone, holding company group could be interested to invest in printing capacities in order to increase the competitiveness of final products. Keeping in mind the growth of the market for textbooks the reorganization of industry could result in additional profit.

## 5.3 Agriculture

Support of agricultural production in Russian could be considered as an evident example of how ignorance of governance in value chain leads to choice of inadequate measures, which do not provide remarkable impact on the recipients of support.

Measures to support Russian agricultural producers include among others subsidies on agricultural machinery, fertilizers and fuel purchase. These are typical tools of supply-oriented support. Their effectiveness is extremely low not only because they are not designed to improve the productiveness of agriculture but also because all the additional gains are expropriated by the agents in the related industries. This takes the form of price increase on machinery, fertilizers and fuel, and also on the services of institutes designed to organize state support.

# Leasing of agrarian machinery in Russia: supporting of agricultural producers, producers of agricultural machinery or institutions of support?

Leasing of agrarian machinery in Russia is typical as a form of agricultural producers' support. The process of leasing is regulated in details, including distribution of centralized funds, quotations of supply, forms of documents, orders and leasing payments. State created special state-owned leasing fund financed by Ministry of Finance RF and regional budgets. State's agents in leasing policy are special authorized companies which receive this status by tender procedure. These agents provide agricultural producers with preferential credits; co-finance the pay-back of credits. In many cases the precondition to receive financial support is to buy domestic equipment.

The central role in the Russian agrarian leasing system is played by "Rosagroleasing" (State Leasing Agro-Industrial Company, RF) including network of "Rosagrosnab" (State Agromachinery Supply RF). The whole procedures are highly administered. On the one hand, administrative rules are justified, since public funds are in use. On the other hand, the system is far from being efficient because leasing deals are converted to centralized credit.

In 1994 State Leasing fund was established. Using budget funds Rosagrosnab buys agricultural machinery and provides it to agricultural producers on beneficial credit terms. This program account for about 10% of the part of federal budget assigned for assistance of agricultural production.

Rosagrosnab ordered agricultural equipment on domestic machinery plants and distributed it among regions. Regions, in their turn, distribute machinery among agricultural producers. Product lines and items to be bought are determined in centralized way, so it is not rare case that they do not meet the requirements of given agricultural companies. Repeatedly the funds were spent on machinery produced by the biggest Russian machinery building company Rostov Agriculture Machinery Company (Rostselmash) in order to support it.

Private company Rosagrosnab received exclusive power in the market of agricultural machinery. Mark-ups of it's regional branches in the first year of the activity of Leasing Fund increased to 30-40%, while the mark-up in Russia was 10-12% in average. Besides, Rosagrosnab imposed machinery producers with 5% charges "for marketing services". Rosagrosnab established own insurance company where all recipients had to insure equipments received. The insurance contributions to this company were substantially higher than in Russia in average. In the periods when Rosagrosnab should spend their funds suppliers of agricultural machinery increased selling prices on about 20%. Administrative procedures which accompany leasing deals led to corruption. As a result, state leasing program do not considerably facilitate the purchase of machinery for agricultural producers. Pay-back indicators of the program are rather low. For example, only one third of payments to date in 1999 were really paid.

In 2001 Russian government established state company "Rosagrpleasing" with the capital financed by all the budget resources assigned for state support of leasing. It inherited most part of problems were evident in the "Rosagrosnab" activity. Till now there is disparity between agricultural producers' demand on equipment and supply in the framework of state leasing program. So, federal leasing program generates distortions. The most beneficiaries are not agricultural producers and even domestic producers of agricultural machinery but the institutes which are assigned to provide support.

Source: Serova, 2005.

The failures of supply-oriented support in agricultural could be linked with the traditional problem of asymmetry of bargaining poser between large suppliers of machinery, fertilizers and fuel, on the one hand, and small agricultural producers, on the other. This problem is characteristic for all chains with dispersed production on the one stage, including agricultural one. At the same time it seems that the inefficiency of governance in the chain provides an additional negative contribution. In the efficiently organized chain producers can benefit from the growing sales even if it combined with low profitability. Under these circumstances producers have incentives to upgrade. In contrast, in the inefficiently governed value chain supplier have to work on the decreasing demand. It is so in the market segments where domestic agricultural products are crowding out by foreign ones.

In addition, there is interesting evidence that the development of modern supply chains in agriculture in transition countries is not accompanied with the expropriation and crowding out of small producers (Swinnen et al., 2006). Advantages of large suppliers of agricultural products for big buyers (refineries and supermarkets) although theoretically evident are not so obvious in practice. In this context demand-oriented support of agricultural producers should be important.

Finally, there is evidence of relatively successful support measures in Russian agriculture those partially compensate the disadvantages originated from the asymmetry in bargaining power. For example, the very dissemination of information on purchasing prices of milk plants allowed to increase prices due to the fact that price elasticity of milk supply increased (Serova, Melyukhina, 1995).

## 5.4 Is new design of industrial policy possible?

So we have shown that the support of the producers in the above-analyzed Russian industries does not correspond to the idea of a good policy in respect to VCC. However, it is necessary to mention that the attempts to introduce such a policy meet considerable restrictions. The main of them is obstacles in the way of the development of module, captive and relative governance in chains. That is why the success in the given industries is connected with the vertical integration both virtually (in agriculture) and in reformers' plans (printing industry). These restrictions include:

- 1. Heterogeneity of the producers, some of them being "old" and "very old" from the point of view of both production and governance techniques and the range of goods. It is known that upgrading inside value chains is more effective for the sellers entering the world market with a new product (Schmitz, 2005, p.7), than for the companies with great manufacturing experience of the traditional product.
- 2. The type of commercial production placing throughout Russia. It is very rare that we can speak about the possibilities of regional clusters' development (important exceptions are textile industry in Ivanovo region, timber industry enterprises and enterprises of wood processing in North-Western region). At the same time a good industrial policy in respect to VCC should be oriented not on individual producers (which is the main defect of the traditional industrial policy) and not on industries but on the concrete clusters of enterprises.
- 3. Incompleteness of technical regulation reform. There still exists a great difference in technical specifications in the Russian and foreign industry, which creates extra barriers connected with the confirmation of correspondence for the manufacturing industry produce. At the same time the indispensable condition for manufacturing enterprises to enter the world value chains is the availability of product and production processor certification.

If we aim at answering the question in which way the restrictions for the industrial policy can be eliminated, we will come to paradoxical conclusions concerning the correlation of the industrial policy with relation to VCC and the liberal economic policy:

- 1) The problem of heterogeneity of enterprises should be solved by creation of incentives for market exit and by the cut of exit barriers. This presupposes a change of both aims and methods of the state industrial policy and the employment policy, and also elimination of restrictions on the way of capital flow. The latter is the keystone of liberal economic reforms.
- 2) Negotiation of the consequences of the socialistic model of commercial production placement also requires cutting of market entry and exit barriers. Compensatory measures in the long-term outlook will only further conservation and aggravation of this problem.

3) The reform of technical regulation should be completed in accordance with the concept accepted several years ago. This concept is not free from drawbacks, however, a successive system of technical regulation which should be created as a result of its realization, is much better than the present transient state. After the reform is completed it will become clear which certification expenses should be born by enterprises or their chain partners and which of them can be born by the state as demand-oriented support. The successive completion of the reform of technical regulation is on the agenda of any program of liberal reforms.

In such a way, problems specific for the analyzed industries to a great extent should be solved in the frames of implementation of traditional liberal economic policy. However, it turns out that the same conclusion can be made in relation to more general problems of competitiveness of buyer-driven chains in the Russian industry.

- 4) Property and contract rights' protection is the first item on the agenda of liberal reforms. The same can be related to IPR reforms.
- 5) The market participants' orientation on the short-term gains as such can't be negotiated only with the help of economic policy measures, however, it is doubtless that property and contract rights' protection will also lead to the raising of the subjective estimation of future gains and, therefore, to the increase of the role of the long-term gains.

#### 6 Conclusion

The goal of the report was to analyze to what extent policy recommendations worked out on the basis of value chain concept (VCC) may be a successful competitor both to paternalist model of industrial policy and liberal "no industrial policy" option. To achieve this goal the explanatory power of VCC to assess the determinants low competitiveness of Russian manufacturing enterprises and the effectiveness of policy measures already implemented. The possibility of VCC to serve as a base of a completely new design of industrial policy was also under consideration.

The results of our analysis are mixed. On the one hand, VCC is perfect in explaining the (non)competitiveness in a number of manufacturing industries especially those are included in the buyer-driven value chains. In this paper we tried to explain why weaknesses of Russian manufacturing industries were not get out during last fifteen years.

VCC approach is also very fruitful to assess the measures of industrial policy implemented in the industries under analysis (furniture, agriculture, and printing). The effectiveness of economic policy in these industries is quite different. In the furniture industry the policy measures implemented look satisfactory in the VCC concept. Actions in the Russian printing industries can be justified, at least part of them. On the contrary, agriculture is the industry where implemented supply-oriented measures are extremely ineffective. Gains resulted from the state support are almost completely expropriated by the actors on the subsequent stages of technological chain and in some cases – even by the very institutions created in order to provide support.

Meanwhile even in the cases when support is consistent with the criteria of good industrial policy in the framework of VCC, the results of the measures implemented are modest. It is difficult to say to what extent this is due to the fact that demand-oriented are inconsistent and combined with supply-oriented support, and to what extent due to the constraints to the effectiveness of demand-oriented measures in the Russian industries.

There is a little doubt however that the limitations of the effectiveness of industrial policy based on VCC, are important in the Russian industries. There are very few

objects to implement cluster-oriented policy due to the fewness of regional industrial clusters. Orientation of the market participants on the short-term gains doesn't allow to prevent the expropriation of rent by the participant in the chain with the higher bargaining power. High level of vertical integration and diversification of Russian producers prevent them from using the comparative advantages due to core competence on the level of firm and restrict the effectiveness of demand-oriented policy measures. In the context of unaccomplished reform of technical regulation it is difficult to choose the type of certification economic policy should support. Imperfectness of the contractual and property rights protection decrease the effectiveness of captive, modular and relational types of value chain governance those could be the most available option for Russian producers to upgrade in the global value chains.

Analyzing the constraints of the industrial policy efficient in the framework of VCC we found that the interrelation between industrial policy and liberal "no industrial policy" option is non-trivial. Implementation of the key liberal recommendations such as property and contractual rights protection, creation the incentives for the efficient use of resources on the level of firms, - is at the same prerequisite to apply policy measures developed in the framework of VCC. Efficient industrial policy derived from the VCC cannot substitute but complement liberal economic policy, the latter is the condition *sine qua non* for the effectiveness of the former.

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