論　説

# Revisiting the Big Push Theory for Industrial Development

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Content



## Abstract

Industrial policy has not completely disappeared from the development agenda; in recent years, a major intellectual enterprise has been very active. Drawing upon two strands of arguments in industrial policy, this study proposes a conceptual theoretical framework based on a big push theory for industrialisation. Given the narrow policy space, it is important to offer a major impetus to the promotion of industrial growth. The Kyrgyz Republic will have to adopt more strategic industrial policies in the years to come by selecting national flagships that take competitive advantages and position itself through the development of new market dynamics.

**Keywords:** industrial policy, big push, industrialisation, Kyrgyzstan Republic

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## 1. Introduction

Although it has not completely disappeared from the development agenda, a major intellectual enterprise has been very active in recent years about industrial policy (IP). Two factors strongly influence the renewal of this phenomenon. The first is for emerging countries in the early stages of industrialisation to remain competitive in an increasingly globalised world (Weiss and Tribe, 2015). The other concern deals with poverty-stricken countries, particularly on the African continent, which in common is deindustrialisation (Noman and Stiglitz, 2015)[1). Central to the debate over IP are two polarising ideas, firstly, whether late developing countries should conform or defy their comparative advantages (Lin and Chang, 2009). The second one relates to the question: what should be the role of government and to what extent can it intervene in a narrow policy space under the World Trade Organisation free trade rules (Stiglitz et al., 2013).

Beyond the intellectual and policy debates, lack of access to adequate financing for industrial expansion remains a common problem in developing countries. For small and medium enterprises, it is practically impossible to access finance albeit their role as a growth driver and source of job creation. Let alone the exorbitant interest rates[2) that limit the enthusiasm of entrepreneurs and innovators. It is because of the underdevelopment of financial intermediation that early thinkers of growth proposed substituting development assistance for insufficient savings. However, a critique of the effectiveness of aid in generating growth and reducing poverty emerged in the early 2000s, pointing out that aid to the poor makes them even poorer (see for example: Easterly, 2006).

The Kyrgyz Republic industries collapsed with the fall of the Soviet Union in the early 1990s. Since the backbone of its productive sector has been integrated into the centralised structure, the emergence of new borders and payment systems coupled with the disappearance of the Soviet market have made it difficult to maintain existing industries. Moreover, there were restrictions on the ability to pursue an IP after independence. The newly formed state did not secure sufficient room for manoeuvre to diversify the economic sector. To all appearance, the shock therapy produced an instantaneous effect but in reality, it failed to bring about significant structural change. As a result, the country found itself in an endless spiral of reforms. Politically, the Kyrgyz Republic has been hailed by international institutions as the most democratic country in Central Asia. However, considering economic performance, it has been incapable to catch up with neighbouring countries that have adopted unyielding institutional approaches. In the late 1980s, the conditionalities of the Washington consensus accentuated this initial wave of reforms. Several critical studies, including those by Easterly (2001; 2005) and Stiglitz (2003), examine and comment on the economic impact of these conditionalities on the policies of recipient countries. They underline the stringent restrictions imposed by the Bretton Woods institutions thwarting the ability to overcome economic distortions and achieve good growth.

New thinking of the Kyrgyz Republic's situation is required, taking into account the context of how its evolution (or rather, its stagnation) is unfolding. In this new way of thinking, it is important to stress beforehand that the context after the 1990s until 2005 was conducive to a large-scale institutional reform, a time when everything was set in motion.[3] Policy room post-2005 witnessed significant change. The world has become highly interconnected and globalised. Geopolitical trends, in particular those of Russia, the United States, and China, have reshaped the development of political relations in Central Asia and, on top of that, the economic ties (Rumer, Trenin, and Zhao, 2007). Political spaces have also become more restrained to allow government intervention to promote local industries. It is difficult for late developing countries to follow East-Asian countries in support of industries through the rules of the World Trade Organization (Rodrik, 2004; Chang, 2005; Altenburg, 2011).[4]

The primary challenge experienced by the Kyrgyz economy is the trap of a "no-win situation". The no-win situation is the case when a nation faces decisions that build political and economic ties with a great power, but neither choice offers the nation a net benefit. Its occurrence is similar but not alike to the poverty trap. It is rather complementary to the latter. Throughout time, the outcomes of such traps have become overly expensive to be reversed, limiting the possibility of fundamental change. Notwithstanding the weight of colonial history and the soviet domination, the origins of the "no-win situation" started the following independence with the radical reforms the country has opted for. The reforms are path-dependent and self-reinforcing (Mahoney, 2002). Then, the transformations it has instigated have led to "locked-in" conditions (Sydow et al., 2009) offering only limited options. Over time, the Kyrgyz economy has turned out to be dependent on three external factors: foreign aid, gold exports, and remittances from migrant workers. Creating a chain reaction, the adverse outcomes made the country economically and politically vulnerable.

Upgrading industries is the way forward to reduce negative shocks from external factors. Moreover, it allows the country to move from low to high-income status. Such challenges are to be carried out within the current institutional framework of the Eurasian Economic Union (EAEU) the Kyrgyz Republic joined in 2015. While the EAEU has faced a great deal of criticism and resistance in its early days, its efforts to promote the industrial development of its Member States as part of its integration are often overlooked. The Eurasian Development Bank (EDB) Integration Barometer (2017), which carried out an opinion survey across the CIS countries, reported how the Kyrgyz respondent changed its view of the Union. While the percentage of reluctant citizens was 30% in 2014, it was 5% in 2017. For example, data harmonization, the agro-industrial complex, and the industrial complex to name but a few (Eurasian Economic Commission, 2015). For the case of the Kyrgyz Republic, contingent funds operated by the Russia-Kyrgyz Development Fund were initiated to launch the process of the modernisation and creation of industries. The EAEU additionally offers the possibility of accessing a vast market estimated at $5 trillion (IMF, 2019). IP featuring a big push is key to address the country's daunting challenge. Nonetheless, such holistic approaches are frequently regarded as precluding the World Trade Organisation (WTO) free trade rules and therefore reducing the room for governments to articulate policies. Many scholars recognize that the development of a wide variety of multilateral, regional, bilateral trade, and investment agreements in recent decades has enabled the developing countries to achieve greater economic liberalization. They point out, however, that these agreements will restrict developed countries' ability to support their domestic industries to varying degrees (Rodrik, 2004; Chang, 2005; Altenburg, 2011).

Over the past two decades, the literature on industrial development has shifted to the global value chain and industrial clusters. Although the IP is back in the agenda, the literature on the industrial development of the past years has shifted from the traditional approach of government-led initiatives and market failures correction to global value-chains and business clusters. WTO rules reduce the government actions to engage in active policy with the restrictions imposed by the Agreement on Trade-Related Aspects of Intellectual Property Rights and Agreement on Trade-Related Investment Measures.

Given the narrow policy space, is there a case for a big push to support industrial development? What form it would take to contribute to the structural change in the Kyrgyz Republic over the forthcoming years? Drawing upon two strands of arguments in IP,[5] this study proposes a conceptual theoretical framework based on a big push theory for industrialisation. In the pages that follow, it will be argued that there is a case for a big push for the Kyrgyz Republic while customisation of the approach is needed. This paper follows a case-study design, with a combination of two pathways: "Conforming" and "defying" comparative advantage. In a case where the Kyrgyz Republic conforms to its comparative advantage, analytical methods such as untapped export potential are used to provide an evaluation using product space. Customisation of IP based on an idea of regional value chain integration is explored for the case it defies the former.

This paper has been divided into five parts: The following section deals with the origins and historical evolution of the big push approach since its first elaboration by Rosenstein-Rodan in 1940. The third part makes a case for a big push in a constrained policy space with two core arguments: industrial upgrading and structural transformation. The fourth section of this paper proposes a framework to deliver the revisited big push approach. The last part concludes.

## 2. Origins and development of the Big push theory

The big push theory stems from the concept of "increasing returns" Adam Smith sketched in the 19th century and Allyn Young (1928) around the beginning of the 20th century. Rosenstein-Rodan (1943) and Ragnar Nurske (1967) seized the idea under the concept of balanced growth. Pioneered by Rosenstein-Rodan in the early 1940s the big push theory is assimilated to an aircraft on take-off. A certain minimum speed must be reached for the aircraft to stay airborne. Rosenstein-Rodan (1961, p. 1) stated that the minimum quantum of investment (though not sufficient) is necessary for the condition of success. The problems that Rosenstein-Rodan is trying to solve are built in three pillars that he calls "indivisibility." First, the indivisibility of the production function or the lumpiness of capital, the indivisibility of demand (or complementarity of demand), and finally the indivisibility of the supply of savings. The indivisibility of the production function, which to wit, nowadays, means the need to build long-term public infrastructure, also described as social overhead capital to facilitate the expansion and the setting-up of firms. Rosenstein-Rodan proposes three measures to overcome its indivisibilities: massive investments, investments in the various sectors of the economy, and the planning of industrialisation. Rosenstein-Rodan also highlights international trade, which can substitute for domestic demand and that the lack of savings can be replaced by foreign investment or foreign aid. However, it was not until the 1980s that the hypothesis of increasing returns became widespread in the dominant economic theory. The most known formalisation is that of Murphy et al. (1989) built on a general oligopolistic equilibrium model. These authors showed how increasing returns have complementarity effects among various firms. The notion of increasing returns was then popularised by Krugman (1997) with the 'high development theory' viewing development as a virtuous circle driven by external economies.

New thinking over the big push appeared in the late 1990s with the advent of the Millennium Development Goals. Economists such as Sachs (2005) and Collier (2007) have become precursors of big-aid for poverty-stricken countries. These economists start from a brand-new approach to development that focuses on poverty traps. Sachs, for example, explains that the lack of savings, international trade, technological reversal, the decline in natural resources, an unfavourable productivity shock, and rapid population growth are responsible for the stagnation of poor countries. These factors frequently lead to the persistence of poverty. Collier, for his part, uses the concept of "Bottom-Billion" and describes the traps as follows. Conflict trap, natural resource trap; landlocked with bad neighbours; bad governance in a small country. Collier argues that it is enough for one of these traps to prevail to qualify a country as a bottom-billion. The two economists agree on the need to use massive international aid to radically curb poverty.

The big push approach is not unanimously accepted by the community of development professionals, particularly in industrialisation. The fierce contention traditionally focuses on government interventions. The dominant thinking of liberal schools is reluctant to allow the state to interfere unduly in businesses. Devarajan (2016) justifies the failures of IP in three points. To begin with, Devarajan indicated the economies of developing nations are characterised by many distortions. In uncertain circumstances, government mediation to correct market failures can only worsen the situation. Second, state intervention may culminate in political capture, particularly in a country with fragile institutions. Politicians can be tempted to use industrialisation programmes for their own purposes. Finally, Devarajan asserts there is a tendency for policy to focus on sectors and not on firms. Companies undertake economic exchanges. It is the latter that enjoys a competitive advantage over an entire sector where differentiation is limited. Despite the reticence and differences in philosophical and ideological points of view, the big push deserves to be revisited. It will provide an adequate response to the problems of poor countries in their quest for economic prosperity.

For our part, we contend that the Kyrgyz Republic is facing a no-win situation trap. This situation is similar but not alike to the poverty trap in its occurrence. First, the situation is in all aspects an outcome of a path-dependent process resulting from the post-independence policy choices. The reforms were self-reinforcing across time leading the country towards an irreversible political and economic choice (Mahoney, 2000). Undoing these policies is also too costly, which refrains policymakers from applying it. The self-reinforcing process leads to a locked-in mechanism which, with time, becomes a wicked-problem. The locked-in mechanism is also framed on external factors difficult to control (Sydow et al., 2009). For the Kyrgyz Republic, these external factors are the dependence of foreign aid, gold exports, and remittances from migrant workers. The following table summarises the various ideas as follows.

In many ways, we share Rosenstein-Rodan's vision of the need for massive investment and industrialisation planning. However, our analysis revolves around different points of view, focusing on the trap of a "no-win situation." The primary target of this approach should, therefore, be the modernisation of industries and structural transformation. The anticipated outcome is to reduce dependence on the external factors mentioned above. In line with the above, the principle of the revised "big push" approach is based on a trade-oriented policy. Concerning the sequence of policies, there are two steps to explore in detail. First, the path of industrial upgrading in which the combination of policies that conform and challenge comparative advantage is unavoidable. As it will be explained in the following section, the contribution to capital formation resulting from the expansion and trade diversification based on revealed comparative advantage is limited-the need to for a big push in the modern sector is more than needed. The second challenge is to address the issue of

**Table 1** The core reasoning of the big push principle

| Major figure | The main focus of analysis | Policymaking approach |
|---|---|---|
| Rosenstein-Rodan (1943); (1961); Nurkse (1953) | Indivisibility[1] of the production function, i.e., lumpiness of capital, especially in the creation of social overhead capital | Massive investment; investment in different sectors; large-scale planned industrialisation |
| | Indivisibility of demand, i.e., the complementarity of demand | The necessity of government intervention |
| | Indivisibility of savings, i.e., twist in the supply of savings | Market imperfections make it necessary to coordinate actors (and often public intervention) |
| Murphy et al. (1989); Krugman (1992); Gans (1998) | Synergy: Industry is profitable if and only if other industries operate | Increasing returns, learning by doing, and coordination failures[2] |
| Sachs (2005); Collier (2007) | Lack of saving, absence of trade, technology reversal, natural resource decline, adverse productivity shock, population growth; | 0.7 per cent of rich nation's gross domestic product for foreign aid. The role of the G7 |
| | Conflict trap; natural resource trap; landlocked with bad neighbours; bad governance in a small country | |
| *Author* | No-win situation trap; difficulty for industrialisation | Identification of normative industrial policy<br>Investment in bearing sectors and supporting sectors<br>Organising the industrial upgrading<br>Pushing structural transformation<br>Reducing dependencies |

Source: Author's
Note: 1. Physical inability, or economic inappropriateness
2. When certain desirable activities fail to take place because of limitations within the economic system, coordination failure means they fail to coordinate the plans

structural transformation, which requires a big push. Correcting the trajectory of the structural transformation should be explored in detail to avoid a reverse path, i.e. shift from the modern sector back to agriculture or resource-based sectors.

## 3. Is there a case for a big push to promote industries in the Kyrgyz Republic?

To understand the need for a big push, it is necessary to explain the process of industrial upgrading. The notion of industrial modernisation is initially based on the classical theory of structural transformation (Schlogl and Sumner, 2020). This is reflected in the reduc-

**Table 2** process of industrial upgrading

| | Process upgrading | Product upgrading | Functional upgrading | Inter-sectoral upgrading |
|---|---|---|---|---|
| Trajectory | → | → | → | → |
| Demonstration | OEA → OEM → | ODM → | OBM → | Movement in the chain |
| Value added | increased value → | | | |

Source: Kaplinsky, R., Morris, 238 handbook of value chain research 2001

tion of the share of agriculture in GDP and employment. Then there is a movement of workers to modern sectors, coupled with a transition from the countryside to the cities. Another observable feature is the improvement in life-expectancy rates and the reduction of infant mortality (Timmer, 2009). With a global economy that has gradually become integrated, another dimension has developed in the context of the structural transformation. The linkages within production chains and their integration have given a new impetus to what is then understood as the "modern sector". In the academic circle, there has been a tendency to link industrial modernisation with the integration of global value-chains. Gereffi (2014), one of GVC's leading figures, describes industrial modernisation as follows: "Industrial upgrading refers to the process by which economic actors - nations, companies, and workers - move from low value-added activities to relatively high value-added activities in global production networks". Gereffi uses the framework of global commodity chains to highlight these proposals. Consequently, late developing countries should help their companies to progress on the following four paths: original equipment assembling (OEA), original equipment manufacturer (OEM) then to the original design manufacturer (ODM), and finally to the original brand manufacturer (OBM). OEM is the act of reselling products or parts of a product from another company while placing them under the brand of the vendor. An ODM, i.e. the design and manufacture of products marketed and sold under the name of the OEM. OBM is a company that sells its own branded products, whether whole products or components manufactured by a second company. They sell the products under their own brand to add value. An excerpt from enterprise upgrading is presented in the table above.

Without the big push, it will be challenging for the Kyrgyz Republic to modernise its industries. This limited capacity can be captured by two measures: product space and untapped export potential. Both show the country's level of know-how and the opportunities it has to diversify and promote industries based on the goods and services it enjoys comparative advantages. As far as the product space is concerned, the concept builds on the work of Hausmann and Rodrik (2003), Hausmann et al (2007), and Hausmann and Klinger (2006; 2007). These theoretical and empirical studies have highlighted the crucial importance of export diversification for growth. Hidalgo et al. (2007) initiated the extension of the concept using a graph and network with the notion of economic complexity. Not only does the method make it possible to measure the actual capacity of countries to produce certain types of goods, but it also provides an opportunity to outline future projections with the notion of product proximity.

**Export sophistication**

The Kyrgyz Republic produces and exports very few sophisticated products. The country's dependence on mineral resources with little value-added creation and less employment-generating activities has led to stagnation. Studies conducted by Usui and Abdon (2010) using product space methods have highlighted this argument. These authors note that the level of the country's export basket stagnated from 1993 to 2004 and gradually improved until 2006. The results of this study also highlight the fact that the Kyrgyz Republic has a less sophisticated product than neighbouring countries such as Kazakhstan and Uzbekistan. An extract from these sophistication indices is presented in the following table.

With the evolution of the product space, we also get an insight into the sophistication of Kyrgyz products. In this case, we show data from four different periods: 2000, 2010, 2015, and 2017. The idea of the product space can be conceptualised as follows: consider a product as a tree, and the collection of all products as a forest. A country is made up of a set of companies - by analogy, monkeys - that exploit products or, here, live in trees. For monkeys, the growth process means moving from a poorer part of the forest, where trees bear little fruit, to a better part of the forest. To do this, monkeys must jump distances, that is, redeploy capital (physical, human, and institutional) to make new products.

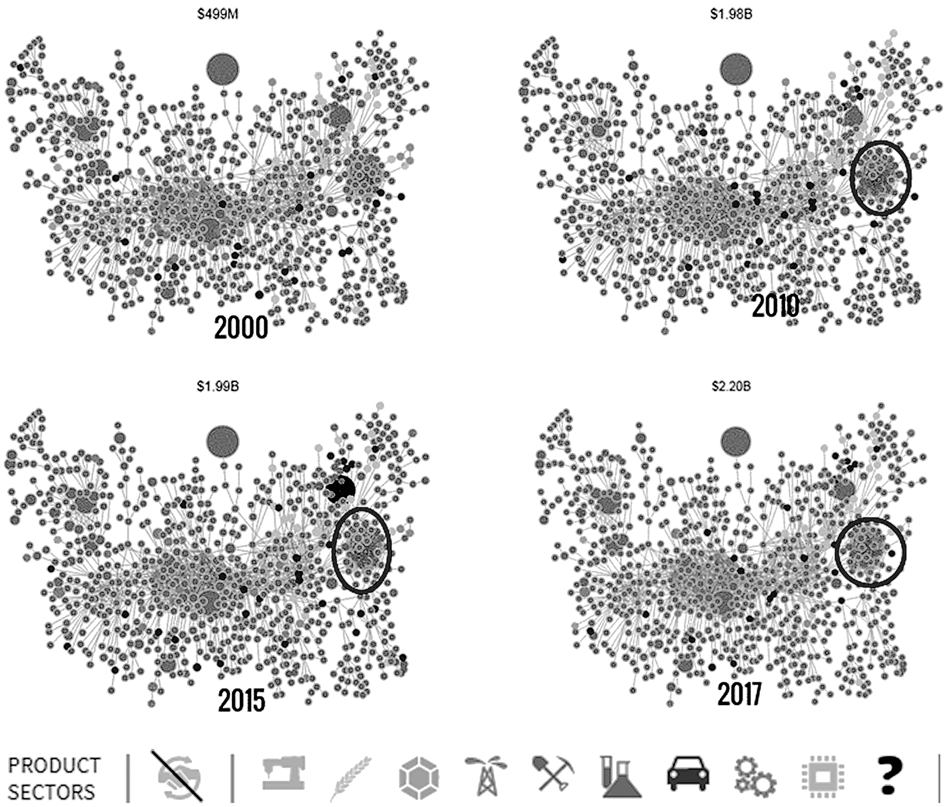
The breakthrough for the Kyrgyz Republic cannot be observed in the complexity of the product spaces we represent above. Similar activities are too scattered. And textiles, where there has been a concentration (or cluster), no longer have a comparative advantage. While the road to industrial upgrading may not be linear, the following trends have been identified for developing nations by both Humphrey (2004) and Gereffi (1991): original equipment assembly (OEA) to original equipment manufacturing, own product manufacturer (ODM) and, eventually, own brand manufacturing (OBM). Hidalgo et al. (2007), in analysing the links between industrial upgrading and the type of product manufactured by a country, find that economies develop by upgrading the products they produce and export. Successful countries have managed to slowly change the product space by developing products closer to those they currently produce. The Kyrgyz Republic fails to manufacture goods similar or identical to the textile sector it produces today, according to findings from its product range. This is a sign of stagnation of industrial upgrading.

**Table 3** Export sophistication for the Kyrgyz Republic

| PRODY Class | 1993 | 1996 | 2000 | 2004 | 2006 |
|---|---|---|---|---|---|
| Very High (top 20%) | 16.1 | 7.5 | 3.1 | 1.7 | 4.6 |
| High | 15.1 | 4.6 | 4.4 | 7.3 | 13.9 |
| Average | 41.9 | 18.7 | 5.7 | 4.5 | 10.8 |
| Low | 18.6 | 33.4 | 30.1 | 22.8 | 22.3 |
| Very Low (lowest 20%) | 8.3 | 35.8 | 56.7 | 63.7 | 48.4 |
| Total | 100 | 100 | 100 | 100 | 100 |

Source: Table from Usui and Abdon (2010). PRODY is the export sophistication disaggregated into a different level from very low to very high.[6]

**Figure 1** Product space of the Kyrgyz Republic




Source: The Atlas of Economic Complexity by Harvard, Centre of International Development

**The limits of untapped export potential**

The second indicator which makes it possible to identify whether the Kyrgyz Republic has the possibility to autonomously develop its industries with its own resources is the "untapped export potential". The International Trade Centre (ITC) created this tool among many others to explore new opportunities, diversification, and trading partners. The principle of the untapped export potential is based on the exporting country's supply, demand in the target market, and its access conditions. As an output, this indicator makes it possible to estimate the potential value of exports. This untapped potential is limited for the country. As of 2018, it only represented $301.2 million, 13.69 per cent of its total exports (ITC, 2019).

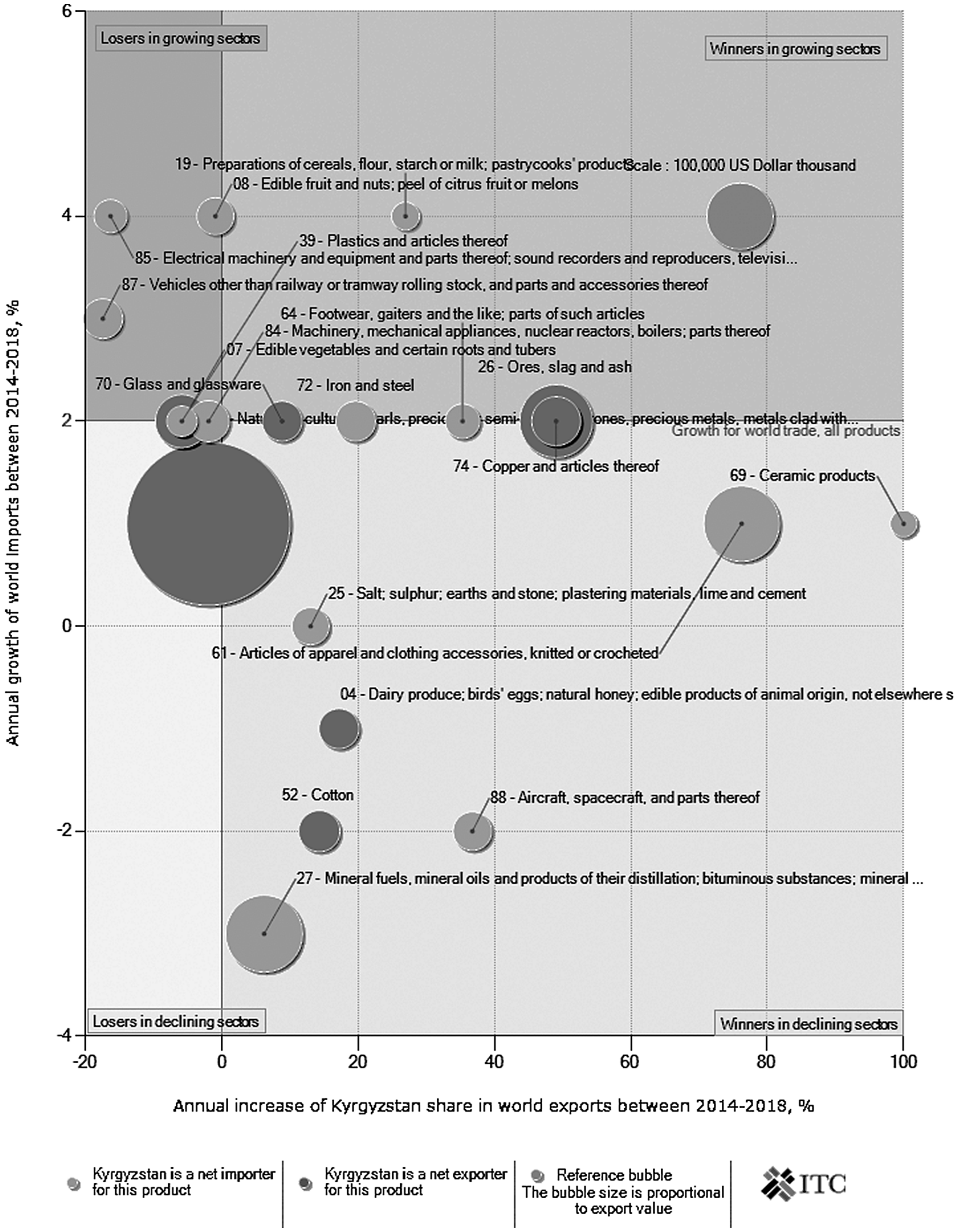
The potential is even very limited considering the different products exported by the country and the evolution of international demand. The following figure, developed by Michael Porter (2012) and adapted by ITC, shows the development of clusters in the Kyrgyz Republic in 2014-2018. The figure highlights the evolution of Kyrgyz exports in relation to the growth of global imports. In the chart, the different products are placed in four quadrants: losers in growing sectors; losers in declining sectors; winners in declining sectors; winners in growing sectors. The graph clearly illustrates that only a few products such as copper and its related ones are in the top tier in growing sectors. Thus far untapped export potential for the agricultural sector is limited to a maximum of $70 million. The textile cluster for its part is estimated at around $35 million.

However, a number of studies have examined the hidden potential of agriculture and textile sectors job creation and the expansion of exports. The FAO (2018) while analysis agro-food value chain stated pointed out the lack of functioning market infrastructure, few innovative technologies are being utilised in the production and few scientific and research principles are being adopted. Furthermore, the report pointed out the lack of processing sector which engenders a loss of potential income for local farmers. The conclusions of the studies conducted by the OECD (2014a) suggest the constructions of warehouses; the provision of market information particularly on agricultural production and price; improvement of banking sectors to support agricultural development. However, in the absence of large-scale support, it will be difficult for the country to develop and promote this sector.

Various studies have also identified the potential of textiles for cluster development, particularly in the context of market expansion within the Eurasian Economic Union. Birkman et al (2012) have indicated the possibility of creating clusters in the clothing sector. In line with these suggestions, the OECD (2014b) highlights recommendations such as the creation of cooperatives to improve the organisation of industry, the strengthening of trade promotion, and the revision of the investment campaign as well as the improvement of production equipment. However, similar to the case of textiles, these transformations will not happen if the Kyrgyz Republic is left to its own devices, powerless and ineffective in the way it intervenes. Given the limited potential, combining a strategy of complying and defying comparative advantage is the way forward.

Upgrading along the value-chains for agribusiness underlines a move towards upgrading standards to match foreign markets; logistics to store and carry the products overseas. The second form of upgrading will be the creation of industries in the agricultural inputs

**Figure 2** Growth of national supply and international demand of products for products exported by the Kyrgyz Republic



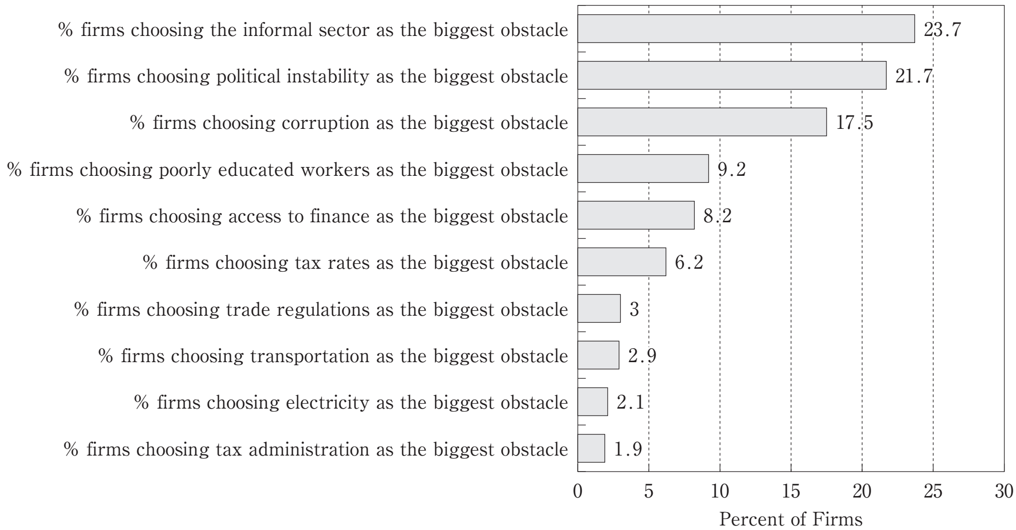

Source: International Trade Centre (2019) sectors (seeds and chemicals) as well as the machinery. Upgrading textile sector among the value chain means, processing the raw materials it imported from China for its re-exporting business. The limits of the Kyrgyz product space and export potential, as well as the possibility for government intervention, lead to the conclusion that there is a case for a big push in late developing countries. However, this being said, it requires some consideration in the way it will be implemented.

## 4. Delivering the industrial development with the big push in the Kyrgyz Republic

In this last section, we discuss how to implement industrial policy via the big push in the Kyrgyz Republic. This implementation stage opens up in the classic scheme of public policy formation, going through several stages. This cycle of public policy formation, in theory and in its most classic form, consists of six steps: 1) placing a problem on the agenda; 2) identifying the problem and diagnosing the situation; 3) defining the objectives of the policy; 4) a priori evaluating and testing alternative solutions; 5) defining and developing the policy; 6) implementing the policy. First, we will see whether an industrial policy is in line with the phases mentioned above. In the second step, problems that have been identified in the existing literature will also be discussed. These include the government's relationship with the private sector, the problem of coordination, and finally the normative frameworks for the provision of funds to support industrial development.

Policies for industrial development are not clearly defined by the Kyrgyz Government. The reading of policy documents shows that industrial policy is part of the Kyrgyz Republic's development plan entitled "National Strategy for Sustainable Development of the Kyrgyz Republic for 2018-2040" (Government of the Kyrgyz Republic, 2018). The Kyrgyz Republic's vision for industries focuses on the development of priority sectors such as agro-industry, light industry, and tourism. There are also sectoral plans for the agro-industry, textile, and energy sectors. However, these plans do not indicate concrete objectives to be achieved. On the part of the government, the identification of problems is not clear and does not provide a good assessment of the needs for industrial development. Nonetheless, other sources of documents (Rovenskaya et al., 2018) exist in the identification of problems related to industrialization. These documents refer to horizontal support, i.e. the improvement of the business environment supported by international institutions such as the World Bank. Other policy documents are also referring to vertical support i.e. targeted interventions in a specific sector such as the financial and technical supports of projects (OECD, 2014a, 2014b, 2014c). The latter is mainly facilitated by Russian-Kyrgyz Development Funds (RKDF), which main objective is to promote economic cooperation between the Kyrgyz Republic and Russia, modernization and development of the Kyrgyz economy, effective use

**Figure 3** Obstacles experienced by private firms in the Kyrgyz Republic




Source: World Bank (2019), Enterprises Surveys

of opportunities arising from the parties' participation in the Eurasian economic integration. Within its objective, the RKDF is also targeting the development of sectors of the economy, which in the short term can create the maximum number of jobs, and in the long run ensure the competitiveness of the economy and occupy its niche in the global economy. The style in which the RKDF is diffused put a strong emphasis on the support of the Government and development partners for the adaptation of domestic business to the rapid change of economic environment. Although the country has a number of supports in both vertical and horizontal dimensions, the lack of clarity of what it wants to achieve is an obstacle to the development of its entire industrial sector. This also limits the possibility to deliver a big push for the country.

In addition to this lack of clarity, there are three problems inherent to the implementation of industrial policy. These issues are resulting from the complex relationship between the public and private sectors, the problem of coordination with the government, and finally, the frameworks that govern the allocation of public funds (Page & Tarp, 2017).

**Relations between the public and private sectors**

Private sector relations with public institutions are not always well established. This phenomenon is particularly marked by the results of the 2019 World Bank enterprise surveys (World Bank, 2019). The report shows, among other things, that the informal sector, political instability, and corruption are a barrier to doing business. Indeed, Yasser (2013) estimates the informal sector accounts for 26-39 percent of GDP.[7] The informal sector undermines the private sector's confidence in good business conduct.

The informal sector is also due to a mentality that was inherited from the time of the

Soviet Union where people hid their assets for fear of having violated the basic rules of communism. After the informal sector comes political instability. the Kyrgyz Republic has changed its government 20 times since its independence, i.e. one government every 1.4 years. The problem in this change is continuity and coordination. Finally, there is the problem of corruption in all its forms without which things are not moving.

**Coordination problem**

Coordination can be defined by who does what and when. It includes the leadership dimension, i.e. a political figure to lead the project; and the sequencing dimension, which concerns the questions: what policies and actions should be implemented when and with what support. Put in an abstract way, the problem appears to be simple, but in reality, it hides important issues that can facilitate or complicate the process of industrialization. Who does what in the Kyrgyz Republic remains unclear. There are indeed agencies whose mission is to attract foreign direct investment (FDI). There are also the five Free Economic Zones for Investment. Let alone the roadmaps stipulating strategies for sustainable development. Besides, there is also the availability of funds such as the Russian Kyrgyz Development Fund. The problem in all this is coordination. With political instability, there is no leading figure with whom the company can have meaningful discussions.

**The rewards without rules or referees**

Consistent with what we have already mentioned, the central debate around an industrial policy is government intervention. The form of incentives characterizes this problem. The question that comes to mind is: what are the selection criteria for companies that have received public funds? And what are the expectations and trade-offs expected by the State? As long as these points remain unclear, it is difficult to implement sound policies. It is therefore essential to find a concrete way to coordinate the way in which these resources are allocated and the actors involved in industrial development. Putting all this in perspective, the establishment of a dynamic industrial policy is still problematic for the Kyrgyz Republic.

**Mechanism of implementation for the big push and policy learning**

The purpose of this last section is to reflect on how the "big push" can be implemented. As a precondition, we shall remind the readers that government interventions are not unanimously accepted in the circles of development professionals. These views are not free from the ideological influence of market fundamentalism that emerged in the late 1980s.

Our proposal is summarised as follows:

- Late industrialising countries are the main target of the new major push. There is a need to develop a methodology to identify and monitor late industrialising countries.

- A platform such as a development fund should be the entry point for the approach-this is to avoid direct government intervention. The Fund should not be managed by planners, but by the involvement of "searchers"[8] and planners. A group of "searchers" and not "planners" should evaluate fund applicants.
- Identify, through a normative IP, the sectors in which the policy should be concentrated. In the case of the Kyrgyz Republic, agro-industry, textiles, energy, and gold (see the chapter of this book on the identification of IP).
- Targeting specific goals: 1. increase in the number of medium-sized enterprises created in the agro-industry and textiles sectors. 2. Increase in the export-oriented industry in agro-industry and textiles. 3. Increase in the percentage of manufacturing value-added 4. Increase in the labour force engaged in the manufacturing sector. 5. Increase in per capita income.
- Aim for a long-term vision: Industrialisation has led to a considerable increase in the population's standard of living. Industrialisation creates new employment opportunities, which to a large extent leads to the eradication of poverty.
- The long-term change expected as a goal of the new big push is to unlock the country's potential to catch-up with other countries.

## 5. Conclusion

This paper discusses the implementation of an industrial policy through the big push. Our analysis in this paper provides an overview of the challenges facing the Kyrgyz Republic. Our analyses show, among other things, that without this massive support, it will be very difficult for the country to develop its industrial potential by relying solely on the pursuit of its comparative advantage. We have also stressed the fact that, even if industrial development is visible in the country's development agendas, there is a noticeable lack of clarity about the objectives that the country is striving to achieve, particularly in relation to structural transformation. This lack of clarity constitutes a major limitation for the country to consolidate the horizontal and vertical supports that already exist. The implications of this lack of clarity are far-reaching because it also manifests itself in the downstream challenge of coordinating the policies to be implemented. This, among other things, puts a cloud over how existing vertical supports are distributed and what is expected from these interventions.

Our work takes a new look at industrial support. In this sense, we share in many ways the importance of seeing the problem of the Kyrgyz Republic through a new prism that takes into account its challenges and limitations. This new way of seeing the country as trapped in a situation of impossibility can contribute to the way development is redesigned.

Our work, although conceptual, certainly has limitations in terms of how to test normative industrial policy. Research on probabilistic simulation is an avenue that could be considered in the future. In this area, methods based on the Bayesian Network Belief using company data can help to model simulations.

## Notes

1) to take away or lose industries, especially those that involve producing things such as steel, coal, cars, and ships, from a country or region.

2) Lending interest rate is 18.99 (as of 2019) according to the World Bank.

3) In 1990 Kyrgyz Republic became independent. After its transformation from a market economy to a free-market economy, the Kyrgyz Republic is one of the few countries to have opted for hard reforms. The Kyrgyz Republic introduced its new currency between 1990-2005, privatized its state-owned enterprises, with a very large disengagement from the Economy (Broome, 2010).

4) Policy space is the room for maneuver that policy makers have to conduct an industrial policy. It could be defined as a mixture of political autonomy and de facto power in domestic policy. The concept of policy space refers to the freedom and ability of a government to implement the most effective combination of economic and social policies.

5) A hard industrial policy consists of tariff and non-tariff measures to support exports, tax exemption for domestic and international companies. A soft industrial policy attempts to establish a mechanism by which governments and businesses can cooperate on initiatives that can directly increase productivity.

6) "Afterwards, the Kyrgyz Republic's EXPY (The potential income level of the export basket of a country) stagnated until 2004, and gradually improved up to 2006. The current level of product sophistication is lower than those of neighboring countries such as Kazakhstan and Uzbekistan, and much lower than those of the successful Asian economies. The country's high dependence on traditional less sophisticated products such as gold (nonmonetary), raw cotton, and electric current, is the key factor of this stagnation". Note from Usui and Abdon (2010).

7) Respectively 23.7; 21.7 and 17.5 percent of the 360 companies surveyed.

8) In the words of Easterly (2006), planners have dominated the aid industry for over 60 years. Easterly (2006) believes that solutions to improve aid are with searchers. People with endowed with special skills. People already experienced in evaluating, finding opportunities, and adapting businesses and overall, capable of making proposals. The idea of *mane no tora*.

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