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**Title: Industrial modernisation through institutional upheaval in a transition economy**

by

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**Abstract**

**Purpose** – The purpose of this paper is to examine the effects of Russian institutional upheavals on industrial development.

**Design/methodology/approach** – The paper uses a longitudinal case study analysis of three Russian pharmaceutical firms exploring the role of state support in developing a self-sustained competitive innovation-dependent industry.

**Findings** – Russia's shock therapy transition to a newly liberalised economy the 1990s without a supportive institutional framework led to severe setbacks in its modernisation process. A weak institutional context was not conducive to development of its fledgling organisations. In late 2000s, Russian government initiated large-ranging institutional support in favour of strategic industries. This resulted in a shift from short-term profit-seeking arbitrage strategies to long-term investment strategies towards vertical integration, R&D and human resource development. Findings indicate countries that wish to forge competitive industries need to develop a strong supportive institutional mechanism that allows targeted industries to modernise and compete on a global scale. To ensure the effectiveness of execution of strategic policies, coherent communication channels and collaboration between the industry and the State is necessary.

**Originality/value** – While research on large emerging economies such as China and India is extensive, research on Russia and surrounding states is sparse. Most of the research on Russia is based around large resource-sector organisations. This study is novel in its uncovering various phases of development of an innovation-dependent industry.

**Keywords:** State-led industrialization; Resource curse; Transition economies; Emerging market firms; Pharmaceutical industry; Russia

## Introduction

Emerging economies are often characterised by turbulent institutional environments, wrought by sudden privatisation, deregulation and liberalisation. In the Russian case, much criticism has been raised about the ‘shock therapy’ approach to transition under neoliberal policy regimes. Abrupt liberalisation resulted in complete disregard for the rule of law, and the neglect of macroeconomic stabilisation due to internal political power struggles (Aslund, 2004; Murphy et al., 1992; Stiglitz, 1999a). The biggest and the fastest privatisation in history resulted in a dozen oligarchs acquiring not only the largest organisations in Russia but also gaining inordinate political clout (Goldman, 2004; Guriev and Rachinsky, 2005; Hedlund, 2001). Institutional voids created room for a shadow economy, organised crime, non-payments, tax avoidance, among other infirmities (Black and Tarassova, 2003; Gans-Morse, 2013; Goldman, 2004; Hedlund, 2001; McFaul, 1995; Stiglitz, 1999b).

Russian transition has received some academic attention especially during the 1990s and was dubbed as one of the biggest failed transition experiments (Murphy et al., 1992; Stiglitz, 2003; The World Bank, 1997). A number of authors examined the Russian transition during 2000s when the government centralised control and enforced a number of reforms (Aslund, 2009; Goldman, 2008; Ledeneva, 2009; Puffer and McCarthy, 2011) with often divergent viewpoints on the quality of governance.

Despite recent attempts at uncovering the phenomenon, the literature is somewhat deficient in conducting detailed empirical, especially longitudinal, studies on how institutional changes in emerging economies drive industrial development (Hoskisson et al., 2000) — particularly in countries where institutions are opaque. Lack of transparency and openness in the Russian and the Commonwealth of Independent States (CIS) context is one of the reasons for scant research on these countries. Due to relatively recent political and economic developments, little research has been conducted in the context of the latest push for diversification of the economy. Furthermore, there is lack of comprehensive analysis of the extended Russian transition experience that began in 1990s and continues till today with its many twists and turns of strategic directions.

This paper aims to address a pertinent question: ‘how do institutional shifts affect strategic choices of firms in innovation intensive industries’? We depict key institutional reforms that took place in Russia and analyse the influence of the institutional changes on strategic choices of innovation-dependent, strategic Russian firms. We chose the Russian pharmaceutical industry through its various phases of institutional reforms as the subject of analysis in this study. An extensive in-depth investigation into how firms and industries navigate through pervasive institutional transition is undertaken through case study analysis of three Russian pharmaceutical companies. The first phase between 1990 and 1999 is marked by the country following prescriptions of the neoclassical economists and adopting a shock therapy approach to transition, the largest privatisation in history (Aron, 1998; Hedlund, 2001; The World Bank, 1997). The second phase is between 2000 and 2008 when changes in the head of state ushered in centralisation of power and the much needed formal institutional reforms. The third phase begins in 2009 when the government laid out ‘roadmaps’ to development of the economy through import substitution (ISI) and diversification. We map the strategies utilised by firms in these three phases of transition.

## Institutional political economy

Institutions defined as “humanly devised constraints that structure human interaction” (North, 1990, p.3) include established and prevalent rules, norms, schema, and routines that structure political, economic and social interaction (Hodgson, 2006; Newman, 2000; North, 1991) and become accepted as guidelines for social behaviour (McCarthy and Puffer, 2016; Scott, 2001). Institutions are key factors behind accumulation, innovation and accommodation of change.

Institutional changes vary from regulatory changes to all embracing ideological restructuring as in transformation from a communist to a capitalist state. Institutional theory investigates how institutions emerge, diffuse and become adapted over time. Scott (2001) further divided institutions into formal and informal. Formal being regulative in nature i.e. laws, regulations and rules set by authorised

bodies such as governments, ministries, councils, supranational bodies and the like. Informal institutions divide into normative and cultural-cognitive. Normative institutions are created through players of a particular context forming norms, values, beliefs and actions that are prescribed upon individuals and organisations of the said context. Normative institutions establish expectations, and the rights and obligation system for groups and individuals (Chang, 2002a; McCarthy and Puffer, 2016). The cultural cognitive institutions refer to implicit, taken-for-granted assumptions that guide the behaviour of individuals or organisations (Scott, 2001, 2005). Cultural-cognitive institutions tend to endure and imbibe substantive path-dependent elements, and is particularly important when analysing transition economies since it views institutions beyond the more obvious regulative and normative ones. Cultural-cognitive institutions are particularly important in addressing glaring weaknesses in those more formal institutions (McCarthy and Puffer, 2016). Such weaknesses have been termed *institutional voids* (Palepu and Khanna, 1998) which reflect the institutional deficiencies of formal rules-based institutions. Institutional voids are described as weaknesses in the transactional guidelines between buyers and sellers, later works included voids in other formal institutions such as government and related bureaucracies, the courts, and law enforcement bodies (Puffer et al., 2010).

From a cultural-cognitive perspective in transition economies, it is reasonable to question whether chaotic institutional upheavals can allow economic actors to make sufficient sense of their situation in which they can act coherently under conditions of uncertainty (Puffer et al., 2016; Thagard, 2000). The very concept of an economy in transition presupposes that both — where one is coming from and where one is heading toward are known in advance. However, institutional change often takes the form of ‘serial replacement’, in which institutions repeatedly undergo abrupt and wholesale transformation.

Gradual change is most appropriate in a strong institutional environment (such as those in most advanced industrialised democracies), in which the core rules of the game (i.e., political regime, legal system) are entrenched, and actors expect that existing rules will endure and be regularly enforced. In weak institutional environments, actors do *not* necessarily expect existing rules to endure (and may expect them to fail), *displacement* – the ‘removal of existing rules and the introduction of new ones’ (Mahoney & Thelen, 2010, pp. 15-16) is expected. Emerging market firms battle the pressures of the rapidly changing economic, political, cultural and technological changes or institutional displacement characterised by uncertainty and volatility which make long term investments in innovation and upgradation difficult (Lall, 1992).

In a context of reforms, institutional voids develop, particularly in the regulatory domain as establishment of rule-based institutions and norms take longer to develop. Informal institutions can become salient in rapid transitions, when regulatory and normative institutions have yet to develop (Doh et al., 2017). This results in instability and leads to reliance on informal institutions such as networks (Ahlstrom and Bruton, 2006; Boisot and Child, 1996; Klarin and Ray, 2019; McCarthy and Puffer, 2008). For example, utilising social capital through networks to facilitate such necessities as obtaining licenses or permits to build facilities, winning government contracts, and securing financing from government-owned banks can become commonplace in the absence of rule-based institutions and norms.

As a means of preventing institutional voids developing during transition, scholars including Kuznetsov & Kuznetsova (2003, p. 911) propose that the state should perform a pivotal role of driving the process of institutional change. This is because “the ‘natural’ evolution of institutions is not an option as this would mean ignoring available international experience and wasting time and resources rediscovering institutions that have already proven their worth in countries with greater market experience” (p. 911). The argument is that a strong state — which enjoys legitimacy and holds a clear vision of the institutions required for growth — can act as the driver of change. This is similar to the view of institutional political economists who maintain that actors need to be galvanised together to lead changes that are intended (Chang, 1995).

In the Russian case, the state as an institution in its current form (post-socialist state) has been shaped, in large part, by the one that preceded (socialist state) through the pervasive influence of enduring

elites, and is an embedded element of the wider institutional setting (Kalantaridis, 2007). Hanson & Teague (2005) argue relationship between the state and the private sector is such that state power is increasingly used to ensure private sector support for the party of power and existing policy, a view advanced further by Yakovlev (2006). In other words, state policy does not exist in isolation of the interests of different groupings. Entrepreneurs and other economic actors can influence institutional change through direct attempts to set the course of the political and legal environment (Kalantaridis, 2007).

The widely referenced Peng & Heath (1996) paper finds institutional constraints influencing firm growth in transition economies and show cultural cognitive based network-based institutions to be the most viable option for sense-making by enterprises. Empirical evidence suggests that entrepreneurs are able to provide meaning as an interpretation of the superimposed market institutions upon the original institutional setting. Due to relative high levels of ambiguity and structural uncertainty, cooperation between and strong relationships with key stakeholders (buyers and suppliers) emerge as a means of enforcing contracts, given the weakness of formal institutions (Kalantaridis, 2007). Indeed, network capitalism is the dominant perspective when analysing Russian firms' strategies (Danis et al., 2009; Ledeneva, 2009; Michailova and Worm, 2003; Puffer and McCarthy, 2007).

This study moves beyond the static conceptions of institutional theory towards a dynamic analysis of how serial institutional change affects strategic choices of firms. In contrast to Peng's paper (2003) that examined general strategic choices of firms in early periods of transition, this study focuses on the patterns of firm strategies in the dynamic phases of the transition. Puffer and McCarthy (2011) draw conclusions on unsustainability of the current informal institutional framework that is prevalent in Russia. This study expands on these arguments by showing that there is a greater development of formal institutions in the past several years and posits that informal institutions were a necessary step for the actors of these institutions to make sense of the environment and create competitive advantages. Elsewhere, Ledeneva (2009) describes the emergence of the super state centralisation that is prevalent in Russia and CIS countries and the inherent risks and drawbacks that it brings. Here, it is argued that this power centralisation has a potential to drive key strategic industries and economic development as witnessed in emergence of Asian biggest industrialisers such as Japan, Korea, Taiwan, Singapore and China (Amsden, 1997; Lall, 2013; Wade, 2003). Chadee and Roxas (2013) have shown that innovation capacity of Russian firms is negatively affected by the current regulatory quality, rule of law and persistent corruption. This research goes beyond these elements and provides a comprehensive list of institutional reforms and factors that affect firm innovative behaviour. Guriev and Zhuravskaya (2010) as well as other studies including McCarthy et al. (2014) express doubts about the ability of the current Russian regime in facilitating a strong business environment that would encourage firm growth and innovative development. This research offers evidence of strengthened and optimistic innovation-dependent pharmaceutical industry that thrives under the current developments in Russia. Finally, studies that examined the Russian push for diversification of the economy from the resource sector to innovation-related industries (Belkin, 2012; Gokhberg and Kuznetsova, 2011; Klochikhin, 2012) have not been able to provide a consistent picture of the results and the progress of the transition. This research provides a detailed outlook on the institutional reforms that facilitate this transition, and firm behaviour in response to the changes in the environment.

### **Longitudinal case study analysis**

The newness effect of the investigation, its longitudinal nature and highly complex set of events warrant the need for an exploratory case study research method (Baxter and Jack, 2008; Eisenhardt, 1989; Yin, 2009). Furthermore, an interview-based multiple case study approach was chosen as it builds the framework to understand the development of the industry over its two-and-a-half decades of transition. Interview-based studies are particularly well suited for conducting exploratory and theory-building research, or for conducting research into a topic that cannot be meaningfully examined by quantitative methods (Maxwell, 2004; McClintock, Brannon & Maynard-Moody, 1979; Yin, 2009).

This study opted for semi-structured interviews as it allowed coverage of a largely unexplored setting within a specific context. The interviews were conducted during 2014 to 2015. Interviewees were nine senior managers that were personally involved in making key strategic decisions over operations of their respective companies. Two senior managers, one from Pharmstandard and one from Protek have joined the company within two years of the interview being carried out. It was principally important to interview senior management involved in decisions over strategic paths of organisations during the institutional shifts. Senior management are more attuned and aware of the strategic paths of organisations, thus making them particularly valuable interviewees (Bonn, 2006; Bruns and McKinnon, 1993; Myers and Newman, 2007). The interviewees from each company were asked a set of questions, and, unsurprisingly, the responses were uniform among members of the same organisation. Data was triangulated utilising primary data from interviews along with information obtained from a variety of sources. These included specialist pharmaceutical journals, magazines, newspapers, websites, and selected business press, internal documents of firms such as annual reports, company announcements, organisational charts, consultants' reports and supplier related information. Such documentary evidences acted as a method to cross validate information obtained from interviews. In this way, the corroboration of multiple information sources increased the validity and reliability of the qualitative research (Baxter and Jack, 2008; Creswell, 1998; Jick, 1979).

Based on the previous literature about strategic choices of emerging market firms (EMFs)—specifically Russian firms — data analysis followed an exploratory case study research techniques (Baxter and Jack, 2008; Yin, 2009) to identify firms' strategies during the two phases of transition. Furthermore, we carried out a detailed analysis of strategic decisions and actions through the narrative accounts of interviewees, field notes and archival documents. This brought forth a vivid picture of 'what is going on' in every case (Wolcott 1994, p. 16). A continuous movement back and forth between the empirical data and theoretical literature on strategic choices was necessary when constructing the taxonomy of strategies (Miles and Huberman, 1984).

The choice of the Russian pharmaceutical industry — particularly Pharmstandard, Protek and Biotec as case studies — was driven by several factors. First, the pharmaceutical industry is part of the healthcare network, a key strategic sector in the Russian economy. The government realises the need to support the domestic manufacturing industry to sustain self-sufficiency of the country in medicines and boost innovation and development. This results in inter-industry diversification into the knowledge-based sector, reducing the over-reliance on the natural resources sector. Second, although the industry is strategic, it is fully privatised — unlike natural resources, manufacturing and agricultural sectors that are partially state-owned (Baker & McKenzie– CIS limited, 2016). This creates a spotlight for the pharmaceutical industry, which represents private firms that are strategic to the state. As such, it is difficult to find a better industry to relate business performance and political connections. Third, the pharmaceutical industry is one of the fastest-growing industries in Russia and in the world. The industry is driven by innovation and technology, and can be characterised as fast-paced and responsive to institutional changes. Finally, the three chosen firms were unique in the way they rose to become top pharmaceutical performers. Their development shows there are commonalities in strategic choices, specifically the need to maintain connections to administrative resources.

### **Russia's attempted laissez-faireism of the 1990s: Pharmaceutical industry**

The shock therapy caused the collapse of the value chain of the industry as institutions and firms struggled to survive in the new unsupported environment. Earlier, the Soviet State disintegration led to the disruption of trade between the 'bulk substance' manufacturing enterprises located in Russia and the finished goods pharmaceutical companies in the newly separated countries. Among other factors in decline of domestic manufacturing were — financial constraints, asset stripping by management, and opening up to FDI and imports (Balashov et al., 2009; Chibilyaev, 2011; Dorofeev, 1995; Sidorov, 2008). The problems of Soviet industry were, however, deeper, and can be traced to the existing formal structures that predominated in Soviet times, wherein the organisational separation of applied science from enterprises and the presence of bureaucratic barriers meant that scientific research was out of touch with innovation activity (Filippov, 2011a; Gokhberg, 2004). Elements of



the national innovation system — the scientific and technological sphere, enterprises, innovation infrastructure — existed in isolation from each other. Domestic science was distinguished by three specific characteristics: it was very large, it was centrally directed, and it was almost 100 percent government financed (Gokhberg, 2004). The imbalance had a negative effect on the productivity and quality of research, as well as on the technological level of manufacturing and other sectors of the economy, the state of production facilities, and, in the final analysis, on the competitiveness of domestic products (Gokhberg, 2004; Kassel and Campbell, 1980).

At the beginning of the transition, the most prospering firms were ones that found new ways of entrepreneurship as trading and distribution of imported medicines. For example, Protek, a pharmaceutical company established in 1990 began as an importer of Hungarian goods and later shifted to specialisation in ready-to-use medicines to meet the acute demand for quality medications. Through the company connections in Hungary, the entrepreneurs started distributing medicines in Russia eventually becoming the biggest wholesaler of pharmaceuticals by 1998 and one of the top twenty companies in Russia. In its wake, another organisation, Pharmstandard took advantage of the unstable environment by leveraging connections with power brokers. Likewise, Biotec, utilised its CEO's connection with the government to fill the gap left by the rapid disintegration of supply-chains of medicines to government-run hospitals and the military. The first manufacturing investments were made in 1996 to a packaging and market distribution of mostly foreign medicines plant called MFPDK Biotec. Biosintez (Biotec subsidiary) being one of the rare survivors of the Soviet to Russian transition, had gone through major changes from originally established as a substance manufacturer in 1951 to one of the leading ready-to-use drug manufacturers. In the 1990s, even after the loss of its main customer base in other CIS states, the company tripled the portfolio of medicines in five years by providing cheap day-to-day generic medicines to satisfy the demand of the population.

In the shock therapy years, Russian business leaders preferred to make short-term profit at the expense of long-term investment in their productive facilities and innovation (Estrin and Prevezer, 2011; Filippov, 2011b). This inclination to avoid long-term capital investment was due to uncertainties about the future. Limited competition in the domestic market also reduced the push for efficiency through investment in innovation (Filippov, 2011a). Insufficient investment in innovation also indicated a lack of trust in the Russian business environment, a lack of management expertise inside Russia, or even belief that competitive products often do not guarantee growth (Filippov, 2011a).

#### **Pharmaceutical industry during institutional strengthening: 2000-2008**

The financial crisis of 1998 gave Russian manufacturers an edge over imported medicines in that local manufacturers were able to produce and distribute cheaper non-branded generics due to the weakened national currency and the resultant increases in imports (Balashov, 2012; Trofimova, 2006). By stimulating the diversification of the economy, the administration intended to create self-sufficiency in strategic goods and services, and stimulating the competitiveness of the high-tech sector (Yegorov, 2009). Import substitution was intended to divert capital from the raw-materials sector to the processing industries and attract FDI (Bevan et al., 2004).

Leveraging factor costs and strong domestic demand, the three large pharma conglomerates, Protek, Pharmstandard and Biotec were able to establish their own production bases that guarantee higher profit margins rather than wholesale distribution that required little specific knowledge. Due to weaknesses in their own research & development capabilities, companies engaged in extensive acquisitions of Soviet-developed formulas and other firms that possessed the rights to these. In 2005 Protek upgraded its manufacturing from a packaging and distribution contractor into a full scale GMP and ISO standards compliant manufacturing facility. Protek became one of the top five domestic pharmaceutical manufacturers in Russia with continuous improvement in innovation and efficiency establishing production of high-quality substances in 2003 and acquiring a biotech company, Protein-Contour in 1998. Furthermore, it established links with several government research institutes in production of innovative clinical immunology products. Enterprises that managed to opportunistically align their strategies with market demand duly backed by owner's capital became



engaged in acquisitions and take overs. The importance of knowing the right people meant access to auctions and the right to bid for vouchers or shares of companies.

Similarly, Pharmstandard invested in production facilities of much needed cheaper generics in early 2000 and gained economies of scale that resulted in increased competitiveness. It also began a series of acquisitions, most notably Masterlek, which had several successful drugs such as Arbidol that became number one sold drug in Russia for several consecutive years. Finally, a takeover of a Cyprus registered firm, Donelle, in 2009 which owns an extremely successful antianxiety medication Afobazol concluded the end of the successful decade for Pharmstandard. The new program of additional medicinal supply in 2005 by the government saw Biotec growth spike to 75 percent in one year through its government relations.

Successful government tenders and cooperation allowed Biotec to purchase supplier factories- Biosintez and Marbiopharm in 2005. With the new-found success, the company immediately invested in modernisation of freshly acquired factories to the strict GMP standards that coincided with the needs of the company to increase its foreign presence.

The favourable economic growth and strengthened institutional frameworks were the key factors behind the growth of the industry that grew on average of 19 percent in the period of 2001 to 2010 (Finansovaya gazeta, 2012). The companies having found a great potential of the market and confident forecasts invested in modernisation of existing physical capital and practices. Firms further engaged in heavy acquisitions of patented formulas from the Soviet research as well as acquisitions of companies that had such assets and/or capabilities. Investments into their own R&D remained non-existent or minimal due to greater benefits gained from modernisation of plant and equipment to enhance the efficiency of operations, as well as acquisitions.

Strengthening formal institutions, along with being a strategic industry in Russia, meant the pharmaceutical industry faced complete overhaul in the late 2000s (Balashov, 2012). Major changes included strengthening specifics of operations by introducing “On the circulation of medicines” in 2010, replacing an outdated 1998 legislation—“On medicines” (State Duma, 2010). Introduction of new bodies including Roszdravnadzor in 2004 responsible for licensing and control of drugs in the country, Department of State Regulation of Medicines responsible for registration of new medicines, and Rospatent was given clearer responsibilities and powers (Balashov, 2012). Furthermore, the government supplied on average of 3.6 percent of GDP to the industry from 2011 in government grants, subsidies, tax breaks and other incentives, which amounted to US\$1.8 billion annually (Peterburgskiy pravovoy portal, 2015), creating the new phase of state-led industrialisation.

#### **Pharmaceutical industry during state-led industrialisation: 2009 to present**

During the Global Financial Crisis, Russia shifted its priorities of industrial development towards ISI. At the outset of the Global Financial Crisis (November 2008), the Russian Government introduced ‘The Concept of Long-Term Socio-Economic Development of the Russian Federation until 2020’ (hereafter referred to as ‘the Concept’). The Concept consisted of two main stages. The first stage included the consolidation of competitive advantage (2009–2012) in ‘traditional sectors’, adaptation to the crisis in the world economy, preparation for further innovative development and investments in people, capital and infrastructure. The second stage included ‘innovation breakthrough’ (2013–2020), that is the increase of competitiveness based on the technological base, structural diversification of the economy and the conclusion of modernisation of the infrastructure sectors and ‘softening’ social and regional diversification (Gerasimenko, 2012; Ministry of Industry and Trade of the Russian Federation (MIT), 2017). The Concept identified a list of five sectoral priorities for the economic modernisation of Russia, namely, medical technologies, increased energy efficiency, nuclear technologies, telecommunications and space industries, and IT and software. Agriculture, construction, food and textile (light) industries, the pharmaceutical industry and the automotive industry were considered by the government as prospective targets in terms of import substitution industrialisation and domestic demand expansion (Gerasimenko, 2012). The intention was to reduce dependence on natural resources and made considerable top-down measures to promote innovation by

establishing clusters (such as Skolkovo), providing direct funding of innovative SMEs, revising the regulations that govern high-tech businesses and supporting key strategic industries.

In the pharmaceutical industry in 2009 the Ministry of Health introduced ‘Strategy of pharmaceutical industry development up to 2020’. The strategy is essentially one of many that were introduced by the various ministries by the end of 2000s to develop innovativeness of and import substitution by domestic products (Makarkina, 2013). This phase can be termed as the beginning of guided market or state capitalism (Klochikhin, 2012) in Russia. It also marked the end of the availability of Soviet off-the shelf formulas creating the need for import substitution. The government began to encourage cluster creation, private research institutes and dedicated industrial bodies working closely with pharmaceutical companies.

At the beginning of the program in 2011, 93 of 567 (16.4 percent) of vital and essential drugs (VEDs) were manufactured locally (DSM group, 2013). By the end of 2017, 84 percent of 699 VEDs were produced locally (Dobrovolskiji, 2017). The government push for localisation of production resulted in a wave of inward FDI by Big Pharma companies from AstraZeneca, Novartis and Novo Nordisk that established wholly-owned subsidiaries. Notable foreign and local collaborations included Abbott and Veropharm, GlaxoSmithKline and Binnopharm, Pfizer and ChemRar, Merck and Akrikhin, Roche and TeaRx that localized production and collaborations in Russia (Van Arnum, 2011; Phillipidis, 2011; Rubin and Blackbeard, 2013; Stanton, 2015). The government introduced various schemes in preferential treatment of local producers in government procurement programs. It also created clusters with preferential policies in terms of tax, and reimbursed companies for innovation and modernisation investments. More importantly, it integrated academic and industry collaboration and communication with the industry to promote development. It is difficult to predict whether the comprehensive government support will enable the industry to become globally or at least regionally competitive. The interviewed officials and archival research (e.g. Deloitte CIS, 2017) shows an increase in industry confidence in the short-to-mid-term future.

The strategy for the pharmaceutical industry development aims to increase the market share of domestic producers to fifty percent in value terms in 2020 (from the 2017 figure of twenty percent), and gain an eight-fold increase in exports compared to 2008. More ambitious is Russia’s target of increasing the share of innovative products to sixty percent in value terms, and providing safety in supply of VEDs as well as increase the production of substances within to supply fifty percent of ready-to-use medications and eighty-five percent of VEDs (MIT, 2009). The development of the Russian pharmaceutical industry is comparable to experiences of other developing nations and their increasing attention to this strategic sector (Angelino et al., 2017; Spigarelli and Wei, 2014). The case studies further emphasise a general increased inclination to invest in R&D facilities, sponsoring clinical trials of potential breakthrough medicines, enhancing technological capabilities and rapidly expanding local share of the vital medicines.

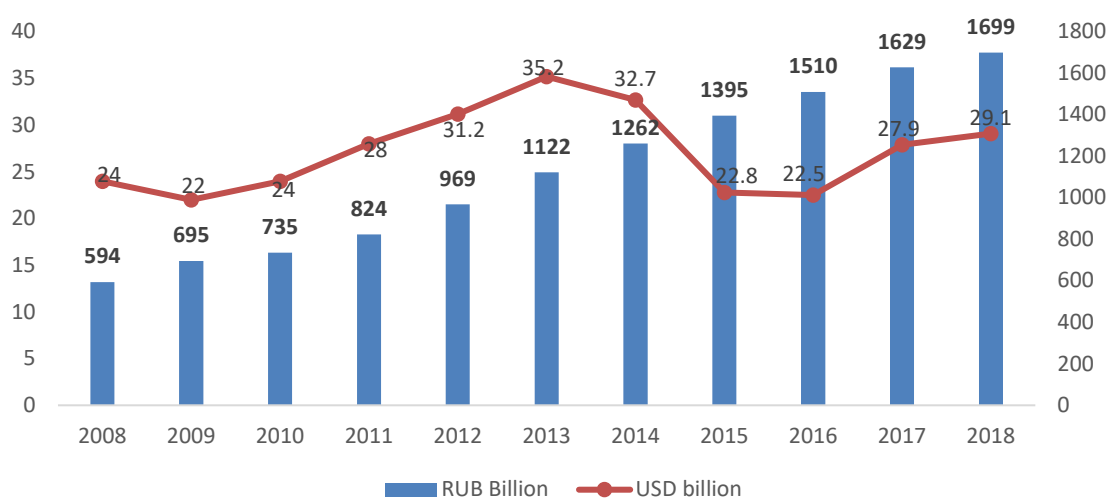
An objective outlook on the performance of Russian pharmaceutical industry can be provided by assessing some performance indicators of the industry as in Table 1, and in Figures 1, 2 and 3. An average growth rate of 17 percent exceeded the world average (Table 1) in 2000s, with further strong market dynamics from 2008 to 2018, Figure 1. Domestic producers’ growth has been impressive as demonstrated in Table 1 in the size of the market and export growth. Since the implementation of the Pharma Strategy 2020, there has been a steady growth of domestic manufacturers’ share between 2011 and 2017 as seen in Figure 2. Figure 3 supports the notion of a strengthened domestic industry due to government support as measured in the ratio of exports to imports growth from under 3 percent in 2010-2011 to 6-7 percent in 2016-2017. Finally, the Russian pharmaceutical market has shown a rise in the global rankings moving from 17<sup>th</sup> to 14<sup>th</sup> place in size from 2014 to 2017, with the Economist Intelligence Unit predicting a further growth in sales by 31.4 percent for Russia between 2018-2022 (Deloitte CIS, 2015, 2017)

**Table 1.** Russian pharmaceutical market dynamics

	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	Trend
<b>Pharmaceutical industry growth rate, %</b>	10	16	19	27	35	28	6	25	18	9	12	12	7.8	Average growth rate 17%, exceeds world average
<b>Domestic production, USD billion</b>	1.09	1.08	1.23	1.31	2.12	2.60	2.82	3.35	3.35	4.19	6.2	7.53	n.a.	As above
<b>Domestic producers' growth in %</b>	24	-11	16	14	28	18	8	22	29	33	48	21	n.a.	Government support in later years results in rapid growth
<b>Export in USD mil's</b>	89	117	193	172	192	227	298	308	309	309	330	638	583	Russian producer's competitiveness drives export
<b>Domestic share of total in %, monetary value</b>	n.a.	24.2	24.6	24.8	25.4	24.3	24.7	24.6	26.4	26.7	28	27	n.a.	Expected to rise as number of contracts are established with local manufacturers
<b>Average price per pack, USD</b>	n.a.	0.97	1.07	1.27	1.63	2.1	2.4	3.07	3.73	3.77	4.23	4.47	n.a.	Price increases above the inflation rate show evolution of the Russian pharmaceutical market

Sources: Exportery Rossii (2014); Finansovaya gazeta (2012); Kunev & Kuneva (2014); Parfenteeva (2012); Pharmstandard (2014); RosnanoMedInvest (2012), United Nations (2018).

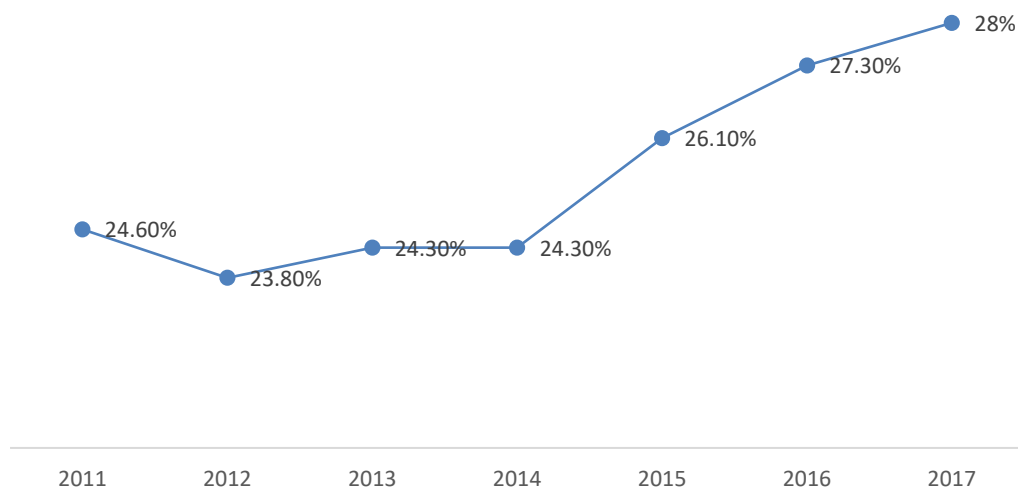
**Figure 1. Market size dynamics (RUB billion and USD billion\*)**



\*Note: The sharp devaluation of the Russian Ruble to the major currencies in 2014 by around 40% caused the USD figure to dip.

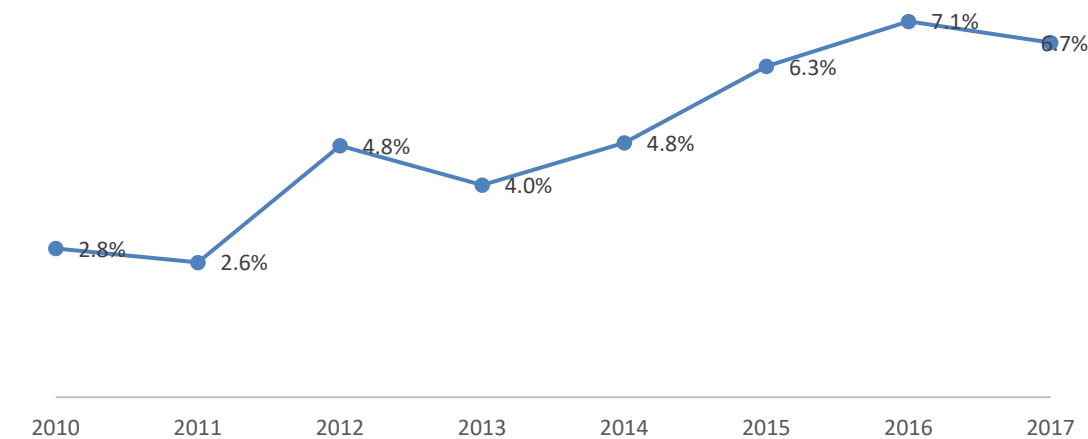
Source: Deloitte CIS (2017, 2018)

**Figure 2. Share of local medicines over 2011–1Q2017 in monetary terms**



Source: Deloitte CIS (2017)

**Figure 3.** Import to export ratio of the Russian pharmaceutical industry



Source: United Nations (2018)

Protek rapidly expanded its production base returning higher profit margins of up to 30 percent. In 2011, it made acquisitions of AnviLab with a portfolio of 42 trademarks, 13 inventions and 11 contracts. With acquisitions and scale building Protek became a vertically diversified pharmaceutical company.

Working closely with the government in R&D and distribution of drugs within the vital list of medications it ensured alignment of its production lines, strategies and operations with the current institutional environment. Similarly, Pharmstandard invested in further stages of development of potential breakthrough medicines such as treatment of HIV with a legacy of formulas from public research institutes (Sheridan, 2010). The biggest innovation push was establishment of an R&D facility NauchTekhStroy Plus in 2010, involved in developing human antibodies and other pharmaceutical innovations. A year later Pharmstandard also invested a key stake in a scientific research centre — Generium, an international biotechnology centre as part of the Strategy 2020 program to increase market share of domestic drugs, decrease imports and gradually increase the share of innovative products from the current 30 percent compared to generics. The focus shifted from production of over-the-counter (OTC) drugs to government procurement, contract manufacturing, sales of equipment, and prescription medications as these became priority. The company spun-off the OTC part of the company for increased efficiency of separated parts due to specialisation and attractiveness to investors.

Biotec became fully involved in government programmes as three-fourths of its production were devoted to essential drugs for the Russian markets. The strategic choices through the three periods of institutional transition are summarised in Table 2.

**Table 2.** Strategic choices in adaptation to the institutional changes

	<b>Pharmstandard</b>	<b>Protek</b>	<b>Biotec</b>
<b>1990-1999- Shock therapy</b> Institutional instabilities & no government intervention <b>Strategic path: Imports and trading – prospecting, networking and key competence focus</b>	Trading and cheap generics  Minimal innovation-modernization of existing investment	Wholesale distribution  Establishment of a packaging facility, first investments into production	Supply state organisations  Packaging facility established
<b>2000-2008- Institutional development</b> Government introduces import substitution for strategic industries and hastens formal institutional development. <b>Strategic path: Vertical integration and expansion – acquisitions, internalization and modernization</b>	Acquisitions; manufacturing and diversification Company becomes the leading pharmaceutical firm	Pharm substances production; vertical integration  Acquisition of Protein-Contour	Established Biodez in 2001 Vertical integration through acquisitions Modernization
<b>2009-2020- State-led industrialisation</b> First industry-specific strategy to 2020- measures in favour of domestic goods, introduction of price ceilings for vital and essential drugs, heavy investments to strengthen R&D and the industry  <b>Strategic path: Innovation – public-private-partnerships, modernization, R&amp;D</b>	Government tenders; reduction in OTC specialisation; R&D  Modernization & GMP	R&D; innovation  Manufacturing development	Substance production  VED production
<b>Prospects for the future</b>	R&D; innovative collaborations; reverse brain drain; state cooperation	R&D investment in the Northern Cluster; efficiency building; services and further diversification	Aggressive competition in export markets and expansion; active government collaboration; VED and core drug development and supply

It is also important to mention the impact of economic sanctions imposed on and by Russia in 2014 as a result of political and economic actions related to the territorial disputes. The industry was excluded from the sanctions due to its strategic placement, thus, the sanctions had no significant effect on the industry (Deloitte CIS, 2017; DSM Group, 2018).

### Discussion

The shock therapy transition in the 1990s and the unsteady record of reforms that followed failed to transform a formerly command and control economy into a market-based one. The sudden and rapid liberalisation resulted in numerous institutional voids that were quickly ‘compensated’ by widespread networking, corruption, shadow, and barter economy (Estrin and Prevezer, 2011; Helmke and Levitsky, 2004). The Russian transition was particularly harsh in depth and duration. De facto decentralisation led to considerable local resistance in some regions to market reform, splashing the political map with large areas of unreformed institutions (Granville and Leonard, 2010). The period between 1999 and 2008 saw the beginnings of strong recovery from a decade-long post-Soviet recession. Recovery has improved the potential for technological change.

Other countries in the BRIC have managed to balance adoption of select parts of the Washington Consensus template while defending and often reinventing the relevance of state-led development policies (Ban and Blyth, 2013). Brazil’s policy elites ‘grafted’ Washington Consensus institutions onto pre-existing traditions by gradual crafting of a so-far sustainable alternative to the Washington Consensus that recovers the importance of the state in development. Deregulation was only selectively pursued in the case of the financial industry and, in defiance of the Washington Consensus

(Ban and Blyth, 2013). Like Brazil, India also institutionalised a hybrid form of economic governance that lies between the Washington Consensus policy paradigm and domestic institutional imperatives. The actual institutionalisation of these ideas by India's state was negotiated with a coalition of industrialists, professionals and farmers, whose political power filtered out some of the key elements of the Washington Consensus (labour deregulation, the removal of farm subsidies, the liberalisation of the retail sector and of sectors considered strategic) (Ban and Blyth, 2013; Lee and Mathews, 2010). In China, correspondence between the Washington Consensus and Chinese policy goals and instruments registers several important local deviations in such areas as exchange rate policy, capital controls, selective privatisation and an industrial policy centred on state-owned industrial champions (Ban and Blyth, 2013; Huang, 2010). Chinese coastal regions have become hotbeds of trade, investment and innovation due to number of factors including the role of the state in creating a supportive environment (Lall, 2013; Di Tommaso et al., 2013).

Stable and effective market institutions are shown to encourage sustained investment in physical and human capital (Acemoglu et al., 2006; Acemoglu and Robinson, 2002). Effective institutions provide stimuli for technical development (Nelson and Winter, 2002; North and Wallis, 1994). However, efficient markets do not spontaneously occur and self-regulate but are products of political and social processes (Kogut and Spicer, 2002).

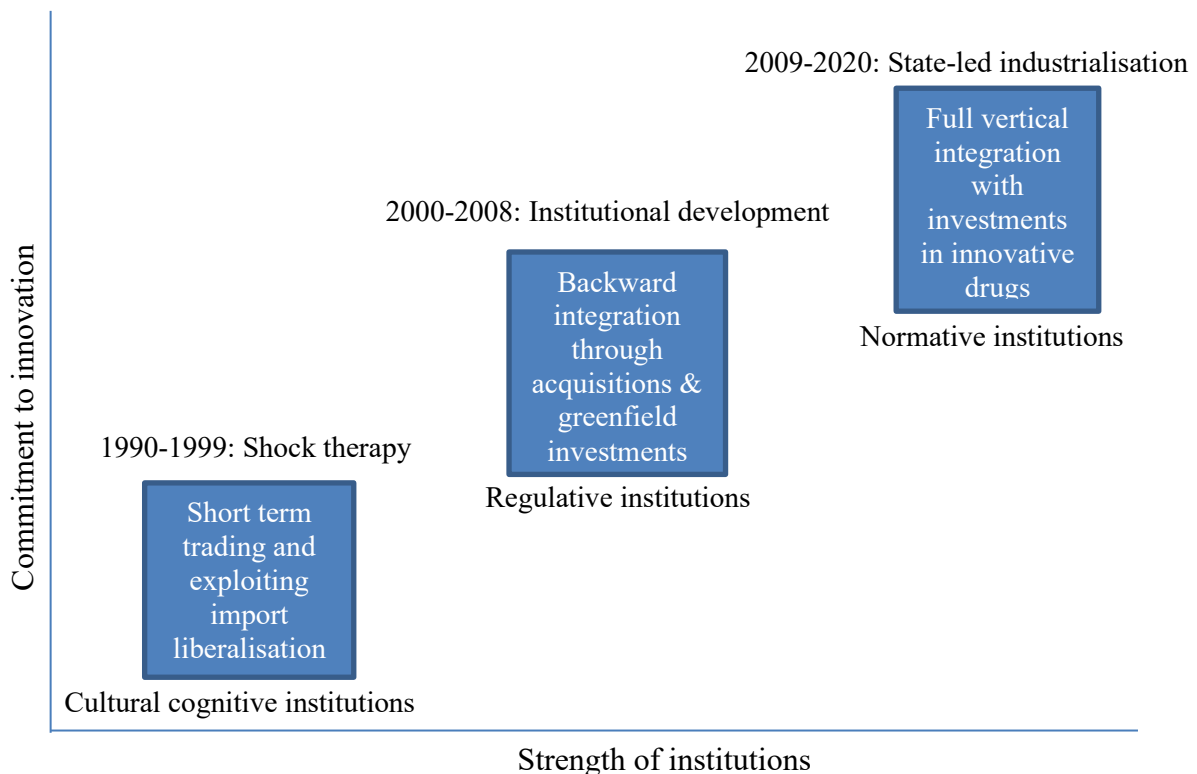
In the Russian case, the state-led industrial policy managed to reverse the trend of ailing Russian pharmaceutical industry. The recovery is somewhat patchy, but there are positive developments within the industry in developing generics and VEDs. It remains to be seen whether the country will be able to create an innovation-based pharmaceutical industry. Nevertheless, domestic manufacturers realise that sustainable development increasingly relies on innovative products, hence, many companies place their resources into pharmaceutical clusters and invest into R&D.

The Russian phases of development highlight the relevance of institutionalist political economy (IPE) perspective as an alternative to the neo-liberal policy approach (Chang, 2002), and offers the prospect of bringing institutions into the analytical core of our understanding of markets and business organisations. The IPE alternative emphasises the role of institutions in affecting individual actions. IPE sees institutions not only as constraining individual behaviour but also as constitutive of human and organisational motivations. The argument has parallels with the evolutionary approach or the gradualism argument that attributes Asian catch-up and development to guided market and government-led transformation. In recent years there has been increasing criticism of and concern with the validity and ethical acceptability of many of the neoliberal premises and assumptions, the most prominent being the Post-Washington Consensus (Stiglitz, 1999b), BeST Consensus (Lee & Mathews, 2010, Huang, 2010), and third way development (Giddens, 2013). While varying in their thrust, these works are unanimous in their agreement about the importance of the state taking the leading role in establishment of institutional mechanisms that guide industries to gain capabilities. Undeniably, strong formal institutions need to be established setting the rules of the game for markets to perform.

The empirical evidence of the three depicted firms backed by an extensive secondary data on Russia, the industry and the firms suggests that the three periods of transition had distinct implications for firms. It shows that formal institutional formation had a central role in creating better business environment that spurred long-term visions of companies domestically and consequently positively affected industrial and economic development of the country. The point of this paper was to demonstrate that the majority of large emerging economies including the BRIC nations have come to the conclusion that some level of government intervention is necessary for the development of the economy. Even as emerging economies like Brazil or Russia are plagued by corruption and move from crisis to crisis, strong regulative institutions that give rise to normative institutions support natural and spontaneous development of industries and the economy. In an ideal scenario, after the process of formal and normative institutional building, a new environment is created whereby cultural-cognitive institutions replace preceding institutional void filling techniques such as informal networking. This allows for a framework to be developed (see Figure 4) on the basis of literature and

the empirical evidence collected. The proposition highlights the Russian experience in transition of institutional change dynamics' influence on innovative development of firms and industries.

**Figure 4.** Russian institutional development and commitment to innovation



Source: Author's interpretation of the Russian innovation development through the phases of institutional changes

### Conclusion and implications

The study explored the influence of institutional shifts on strategic choices of innovation-dependent emerging market firms in a transition economy. Successful catch-up of firms of emerging and developing economies depends on a coordinated approach to boosting modernisation and investments in innovation-related activities driven by Nation-States with cooperation from market players.

The study makes three interrelated contributions to the literature on transition economies. First is the proposition that a well-designed IPE system is fundamental to the progress of strategic industries such as pharmaceuticals. It is the introduction of strong functional institutions followed by public-private partnerships that leads to growth and development of these industries. Second, a documented look on strategic choices of firms during the three distinct phases of the transition is proposed. Finally, proposing a model (Figure 4) that depicts the commitment to innovation through the three proposed stages of institutional development. This model is yet to be tested in further research into other country or region contexts. The study shows that there is a greater development of formal institutions in the past several years and posits that informal institutions were a necessary step for the actors of these institutions to make sense of the environment and create competitive advantages.

It can be concluded that the role of the state and targeted industrial policies have done far more in terms of development of productive industries as opposed to the wholesale and sudden liberalisation that swept the ex-Soviet nations. Thus, the evidence points to the imperatives of building a strong foundation of formal institutions before privatising and liberalising markets. On a final note, the experiences of the Russian transition are similar to those of transitions of a number of CIS countries. This leads to a cautionary tale of the experiences of the Russian transition and the impact it has or



may have on other countries. The observations described and developed in this thesis may thereby apply to other transition economies.

The decline of competitiveness of the ex-Soviet science and technology sectors may indeed be attributed to an institutional framework that was incapable of handling the internal stresses and strains brought on by rapid liberalisation. Development policy was constrained heavily by political struggles within the state in the 1990s. In the final analysis, markets are political constructs, whose rules, norms and practices are formalised through balancing various forces and through the supporting role of policy and non-market institutions. Will the current government be successful in diversifying the economy? From the developments traced so far, Russia has only begun to create capacity for a viable industrial manufacturing structure, even though it means going back to autonomous type (import substitution in key sectors) development experience. Further concerted effort is required before it becomes a truly dynamic and innovative economy.

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