**MOTIVATIONS, PREFERENCES, AND BARRIERS TO GOING ABROAD:**

**RUSSIAN HIGH-TECH START-UPS AND SMALL INNOVATIVE ENTERPRISES**

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 *Настоящая статья посвящена изучению мотивов, предпочтений и барьеров на пути выхода за рубеж российских высокотехнологичных стартапов и малых инновационных предприятий (МИП), принявших участие в “Startup Village”, проведённом в инновационном центре «Сколково» в мае 2019 года. Рассматривая создаваемый ими новый продукт, процесс или бизнес как капитальный товар или потенциальный актив для зарубежного инвестирования, для целей подобного изучения были проанализированы возможности как теоретико-модельного инструментария, так и эмпирические методы социологических исследований. Поскольку, в силу ограниченности возможностей неоклассических теоретических подходов, корпоративная мотивация на микроуровне не поддаётся точному количественному описанию, был использован метод анкетирования и интервьюирования топ-менеджмента участвующих предприятий. Всего было опрошено около 100 участников, каждый из которых заявил о своём намерении заниматься внешнеэкономической деятельностью, причём половина из них уже имеет собственный опыт зарубежной деятельности. При этом, 44% намерены продать свой бизнес или права на инновационный продукт и только 12% готовы к сотрудничеству в рамках совместного предприятия.*

*На основе анализа полученных результатов, были оценены корпоративные мотивы выхода за рубеж российских стартапов и МИП в традиционном формате поиска рынков (17,3%), эффективности (20,0%), ресурсов (40,0%) и стратегических активов (22,7%). Это существенным образом отличается от сделанных UNCTAD на рубеже 2005/2006 гг. усреднённых оценок мотивации выходящих за рубеж компаний из развивающихся и переходных экономик, соответственно, 51%/22%/13%/14%. На их фоне, российские инновационные предприятия выглядят значительно более ресурсо-ориентированными и сильнее заинтересованными в поиске стратегических активов. Вместе с тем, менее заинтересованными в поиске эффективности и минимально - в поиске рынков.*

*Их предпочтения значительно различаются, выбирая в качестве желательных партнёров страны СНГ (главным образом Беларусь и Казахстан) и БРИКС (прежде всего - Китай), а также развитые экономики ЕС (с предпочтением Германии). Среди основных барьеров - недостаток собственных финансов и прочих ресурсов и недостаточность государственной поддержки в выходе и продвижении российских компаний за рубежом.*

*На основе полученных результатов сделаны адекватные рекомендации  правительству РФ по усилению инвестиционной мотивации российских инновационных предприятий в международной кооперации БРИКС, в форме совместных глобальных цепочек стоимости, на базе собственных объектов интеллектуальной собственности.*

***English***

*This article is devoted to studying the motives, preferences, and market entry barriers for Russian high-tech start-ups and small innovative enterprises (SIE) that took part in the “Startup Village” event held at Skolkovo Innovation Centre in May 2019. Due to limitations in neoclassical theories, corporate motivation at the micro-level cannot be accurately quantified. Thus, this work uses survey and interview methods to gather primary data directly from top representatives of participating enterprises. In total, about 100 participants were interviewed. Every respondent expressed intentions to engaged in foreign economic activity; half of them already have experience operating outside of Russia. Further, 44% intend to sell their business or intellectual property rights outright, with only 12% ready to cooperate in a join venture.*

*Based on the analysis of the results, the corporate motives of Russian startups and SIEs going abroad is in seeking: new markets (17.3%), improved efficiency (20.0%), resources (40.0%), and strategic assets (22.7%). This is diverges significantly from the average estimates made by UNCTAD in 2005/2006, where they found motivation from foreign companies in developing and transition economies to be 51%/22%/13%/14%. Against this background, Russian innovative enterprises appear far more resource-oriented and more interested in finding strategic assets. However, they are notably less interested in acquiring new markets or efficiency gains.*

 *Additionally, the preferences in foreign partners by Russian enterprises exhibit some variety. Many choose the CIS countries (mainly Belarus and Kazakhstan) and BRICS nations (primarily China) as desirable partners. Most also express interest in developed economies in the EU (namely Germany). Among the main barriers to establishing foreign relations is the lack of personal finances and other key resources, as well as a lack of state support in promoting Russian companies abroad.*

*Based on the obtained results, impactful recommendations are offered to the government of the Russian Federation to strengthen the investment motivation of Russian innovative enterprises. Also, recommendations are given to advance the international cooperation of BRICS in the form of joint global value chains (GVCs) using their own innovative capability.*

***Keywords:******BRICS, startups, global value chains, Russia, FDI, globalization, corporate motivation, drivers, determinants, and barriers***

**Introduction**

 The movement of startups and small innovative enterprises (SIEs) into international markets is one of the most promising ways for integrating Russia into the world economy, as well as deeper into partnerships with BRICS member states. Startups have different options for going abroad, largely relying on their capacity for innovation and novel research. One form is through the commercialization and direct export of intellectual property (IP) through the full or partial sale of relevant rights to their technology or designs. This method is favored by international trade advocates and is prevalent in many leading theories. Another form is in industrializing and developing attachments with partner companies via investments and the creation of joint ventures (branches). Lastly, they can engage more broadly in international innovative-industrial societies through global value chains (GVCs) on a multilateral basis. Both the industrializing and multilateral paths are most often associated with international business due to their emphasis on transnational corporations (TNCs) who engage in foreign direct investment (FDI) activities.

These TNCs and their subsequent role in GVCs are of particular interest as the most common form of integration for national economies in the era of globalization, primarily for developing countries like the BRICS members. This was recognized by the BRICS group in their joint Declaration following the 10th anniversary summit in Johannesburg on July 26, 2018. However, early economic thinkers such as John Dunning (1979, 1981, 1986, 1988) have long studied the impact of TNC investment decisions using econometric tools. Largely, these observations identified a number of heterogeneous factors – from objective macroeconomic variables (determinants) to more dynamic political, economic, and institutions regulatory variables (drivers). He also gave consideration to more nuanced subjected internal corporate variables (motives). As a rule, many of the works incorporating these three factors have been developed on the basis of empirical material summarizing the experiences of TNCs from developed Western countries. Still, even in these cases and under similar macroeconomic conditions, the investment behavior of different corporations can be significantly different.

These differences are even more pronounced when analyzing TNCs from developing and transition economies, a trend, which evolved in the 2000s as said countries entered the world capital markets en masse. Unusual movements and FDI began to grow along ‘South-South’ and even ‘South-North’ dimensions. A new economic reality has thus emerged, represented by an increasing number of developing TNCs that emerge out of nowhere, referred to as ‘TNC Dragons.’ This reality has given rise to a question of whether or not these new global players fit into the narrow ‘behavioral’ framework laid out previously by the traditional neoclassical approaches (Mathews 2006). Already the current decade has seen works confirming the limited applicability of existing theories and models of FDI that fail to adequately describe the complex investment processes at play in global industrial and innovation networks (Seniuk 2012).

In response to this shortcoming in the existing theoretical tools, UNCTAD proposed a novel methodological approach based on a system analysis of structured empirical data. Such structuring is based on grouping objective, relatively static macroeconomic indicators (determinants) and more dynamic political, economic, institutional, and regulatory prerequisites (drivers). Both are considered alongside subjective corporate motives of management decisions taken at the micro-level of individual TNCs. At the same time, sociological research and interviewing of top TNC management provides a practical means of accurately studying such investment motives; these motives are extremely important for modeling the investment activity of corporations (UNCTAD 2006). Results from these studies show significant differences between the motivation of TNCs from developed economies and from developing and transition economies.

Still, a correct understanding of the corporate motives of investors is also crucial for the development of the investment strategy of the recipient company and the policy of the host country. It is fundamentally important for the study of TNCs engaged in the export of capital from BRICS countries, as current and future drivers of the development of the world economy, especially in the case of industrial-innovative development via intellectual property and GVCs. The high dynamics of both the global innovation challenges of the fourth industrial revolution and the transformation of world economic relations under its influence carry huge risks for the sustainability of post-crisis development of the global economy. It also informs an urgent need for information on the corresponding changes in motivational trends and the strategic orientation of export capital flows. Despite its importance, information of this kind is limited and quickly becoming outdated in the conditions of advancing globalization processes. It therefore requires timely updating. Further, there is a certain absence in research that unifies micro-level understanding regarding the development of coordinated macroeconomic investment policies of the BRICS countries and corporate strategies of their TNCs. This study is thus devoted to the study of investment motives, preferences, and barriers to foreign aspirations of Russian innovative startups and small innovative enterprises as potential participants in GVCs, primarily between other BRICS countries.

This article is structured in the following way: first, a review of existing literature and methods of studying corporate motivation of FDI is presented. Second, the particular research methodology and strategy used in this study is outlined. Then, survey results gathered from a sampling of innovative Russian startups illustrate current motivations, problems, and prospects for international participation. Lastly, the work concludes with a review of key findings and offers recommendations for improving policy factors that hamper deeper integration in both global and BRICS-centric GVCs.

**Corporate Motivation for FDI: Existing Literature and Methods**

Since the second half of the last century, scholars have been increasingly interested in FDI as a micro-level occurrence in firms. This attention has led to a number of theories and models aiming to better describe investment behaviour. The most prominent of these are illustrated as a sort of family tree in Fig 1.

FIGURE 1. GENEALOGICAL MAP OF THEORETICAL APPROACHES TO MODELING

FDI



Source: Seniuk 2019

As shown in Fig.1, the last half-century has been ripe with various theoretical insights and models. Many are still being developed and improved upon today. Initially, all of these theories are rooted in transaction cost theory (TCT) as envisioned by the classical logic, which gives firms the fundamental choice of “make or buy” (Coase 1937). If intra-firm analysis shows that it will be cheaper for a company to produce the necessary final or intermediate goods/services rather than to buy them on the market, this will become an objectivebasis for using a producer price index (PPI).Since this choice depends both on the target products’ market price and on the firm’s dependence on comparative advantages to minimize production costs, a demand for more in-depth approaches describing the ways of forming such advantages appeared. In general, they can be divided into functional, structural, and institutional approaches. Functional approaches instigated further development of the TCT, both in the classical tradition (Williamson 1985) and in the non-classical approach of corporate management decision-making in the resource-based theory of firm growth (Penrose 1959). This was further followed by its development into theories that allocated a fundamentally new class of “born global” firms, including start-ups (Barney 1991; Cavusgil & Knight 2004, 2015). These theories differed from classical thought in that firms not only “go abroad” almost from the very beginning, but they also do not associate their competitiveness with the localization of specific comparative advantages. Rather, international production theory (IPT) is quite closely intertwined with this approach as they share an interest in early firm globalization in the 90s and early 2000s (Buckley & Casson 1976; Beugelesdijk, McCann, and Mudambi 2010).

Structurally-oriented approaches, both in terms of innovation-based industrial-technologies and global spatial marketing structure, encompass the theory of industrial organization that aims to create a monopolistic enterprise (Hymer 1960), branch (Kindleberger 1969), and cluster for national competitive advantages (Porter 1985). In 1977, a knowledge-based model formed to address the new paradigm of globalization and internationalization in firms’ business activities (Johnson and Vahlne 1977). Perhaps the most comprehensive form of this kind was through a generalized neoclassical approach that developed through the eclectic model of J. Dunning (1977-2009) and through their continued improvements in the works of his followers (Li, Liu, Wright, and Filatochev 2014).

From the culminatin of these various theories and models emerged the institiutional approach, which opened the prospect for systemic integration of heterogenuous approaches into a single descriptive field (North1990; Cuervo- Cazzura, Musacchio, Inkpen, and Ramaswamy 2014). This allowed for a more complex and cumbersome econometric description of investment processes with the allocation of both objective determining economic factors and the introduction of political and regulatory parameters. However, as shown by a more in-depth analysis (see Seniuk 2012), all of these factors performed in the context of the neoclassical logic of the FDI models in its entirety cannot provide a complete description of all observed cases of local companies “going abroad.” For example, Mathew (2006) confirmed these failures in his work concerning the “emerging from nowhere” Chinese TNCs, or “dragons.” Other studies address large state-owned enterprises (SOEs) from emerging economies, including BRICS. Further, many of the capital export processes of these countries are spacitally distributed, non-classical (in the case of clusters, agglomerations, special innovation zones, and other innovative territorial entitities), or “network” post-classical (Global Production or Innovation Networks- GPN/GIN).

As a result of this analysis, it is clear that the aforementioned models and theories based on the experiences of predominantly traditional Western TNCs are rather a special case applicable only to similar, primarily small, private, localized companies in developing and transitioning countries. However, in general, more adequate integrated theoretical and methodological tools are required. This is especially the case when addressing state-owned enterprises and global networks, such as GPNs, GINs, and GVCs. Fig 2 below illustrates possible modes of entry into host countries or global value chains.

FIGURE  2. FACTORS, DETERMINING THE FIRM’S CHOICE AN ENTRY INTO GLOBAL INTEGRATION



*Source: Mroczek-Dabrowska, 2014*

From Fig 2, it can be seen that within such a methodological approach it is theoretically possible to bring together the heterogenous comparative advantages of location, industry, and firms specificity through assessing their impact on transaction costs. As a result, the unit of analysis is not the firm itself, but rather the transaction as a kind of “quasi-firm” (Mroczek- Dabrowska 2014). Meanwhile, it seems unlikely that econometrics can take into account the diversity of objective and subjective components of all three determinants presented in Fig 2, including endogenous and exogenous uncertainty of each transaction.

Taking into consideration that we deal with private high-tech startups and SIEs, the most acceptable theoretical model for describing and predicting their FDI should be carried out in the same conceptual vein as Dunning’s neoclassical approach. A model of ‘industrial development path’ (IDP) was created, which considers the average per capita income in a country as a macro-determinant of its level of development. This presumed level of development thus determines the dominant type of investment activity engaged in by its corporations, namely those of large and medium size (Dunning and Narula 1996; Dunning et al. 1998). In combination with the firm’s comparative location-specific advantages, this predetermines five stages of ‘going abroad,’ wherein a stable motivation to export capital emerges by the third stage when the outflow of FDI outgrows incoming FDI. As a result, the national economy is gradually becoming a net exporter of capital. In the fourth stage, the excess of accumulated FDI abroad outperforms FDI stocks in the country.

 However, the threshold indicators of per capita income and evolutionary investment dynamics incorporated in the IDP model are obtained by generalizing empirical data from companies in developed countries. Many developing and transition economies, including Brazil, China, India, and South Africa are showing significant capital export flows in the first to second stages and at lower income levels (UNCTAD 2006: 145). This highlights the deterministic nature of the IDP model and its inability to confidently predict the choice of recipient countries by TNC investors from less developed countries. Yet, pull-and-push factors, or drivers, also do not provide sufficient explanation for the choice made by corporations from developing and transition economies. Even when taking into account the subjective contextual corporate aspects within their own investment strategies, there is still a discrepancy (ibid: 158). As a result, the methodology developed in the UNCTAD 2006 report is focused on the use of empirical data to identify the determinants and drivers of FDI, but also to study the investment motives of TNCs.

 This brand of research is carried out by means of sociological surveys and interviews with leading representatives from corporations and investors. In particular, UNCTAD, in collaboration with a number of international organizations and research institutes (FIAS 2005; EDGE Institute 2006) conducted a large-scale sociological study at the turn of 2005/2006 by sending questionnaires to 250 TNCs from developing economies. Among those surveyed were Brazil, India, China, and South Africa. The summary results indicate that on average, 51% of TNCs exhibit market-seeking motivations, 22% efficiency seeking, 13% resource seeking, and 14% created asset seeking (UNCTAD Survey 2006). While this review notes the existence of mixed and other motives, they can still be adequately reduced to the aforementioned ‘big four.’ At the same time, data used for capital exporters from Russia do not contain such quantitative estimates, which limit consideration to qualitative indicators. Most Russian data was gathered from extremely large TNCs, with 60% represented by the oil and gas industry. This situation highlights the insignificant contribution of SMEs to this research (UNCTAD 2005).

 Following this project, the global financial crisis of 2007-2009 saw a sharp increase in investment activity by Chinese TNCs in Europe. This naturally prompted a closer study of their corporate motives and introduced regional and institutional dimensions to their motivational spectrum (Nicholas and Thomsen 2008). Studies show that the market-seeking motives (focused on Western Europe and Africa, much less so in East Asia) continue to dominate. Additionally, there is a significant increase in strategic asset-seeking and global competitiveness, with East Asia as a priority focus and Western Europe slightly lesser-so. When this data is reduced to basic ‘big four’ orientation, even with institutional differentiation, the market-seeking motive is still strongest. Notably, public enterprises (44.1%) are more motivated by market seeking than private ventures (37.8%). Strategic asset seeking was the next most important motivator and operates in reverse – it is more pronounced in private (24.8%) and less in public (22.0%). Efficiency-seeking motives were third and resource-seeking fourth amongst TNCs (Seniuk 2012). Thus, the active expansion of Chinese FDI initially motivated by the financial crisis was strongly aimed at finding new markets for large, state-owned TNCs.

 Large TNCs were not the only corporations driven abroad during this time, but medium and small enterprises were also propelled into the international arena. Published in 2011, the China Council for the Promotion of International Trade (CCPIT) monitored 1024 TNCs between 2008-2010, 2/3 of which were SMEs (CCPIT 2011). This drew attention to the fact that in the crisis years, the combined share of small investment projects worth up to 5 million USD was as high as 81% of total Chinese foreign enterprises in 2009. Micro-projects, with a value of up to 1 million USD, were 61% of these foreign enterprises in 2009. Such data illustrates the significant increase in the role of small businesses in the exportation of capital from China during the crisis and initial post-crisis years. Further, foreign investments of Chinese SMEs in this period also demonstrate clear industry preferences. This contrasts with larger FDI projects, which were primarily invested in raw material and energy assets, in construction and transportation, and in high technologies. For SMEs, manufacturing (42%), agriculture (19%) and retail (15%) are the priority areas, particularly in Europe (Ibid: 18-23). Together, this information reveals the initial stage of mass internationalization of Chinese SMEs that was fostered by economic crisis and in spite of their lack of competitive advantages when compared to Western TNCs.

 The wider global situation is once again having a significant impact on economic processes by deepening contradictory processes. On the one hand, globalization 4.0 and the fourth industrial revolution are rapidly linking national economies and global markets. On the other hand, protectionist sentiments are on the rise in leading industrialized countries. These conflicting situations and the concurrent need to shift the world economy to one that favors more sustainable development, in turn, means that information regarding the investment motives of TNCs from fast-growing economies, such as BRICS, is more desirable than ever. Increasingly, research using sociological research methods is being implemented in BRICS countries to study these motives. In 2015, a project analyzing FDI in China was conducted (Yin 2015). Additionally, in 2018 a study surveying joint ventures between China and countries like France was conducted (Gao and Schaaper 2018).

 In this climate, the study of OFDI motives of Russian firms garners much less attention given the absence of work in the field of direct research involving TNC corporate motives. To a large extent this is because many Russian enterprises are in the regional stage of development, save for a few large oil and gas companies. As shown by the results of two studies on the manufacturing industry held from 2005-2009, more firms faced no competition at all from foreign companies (20%) than faced foreign competition (13%). The share of enterprises participating in competition with foreign companies coincides closely with the share of FDI in Russian capital markets (10%) (HSE 2010: 26). As for other industries, and mainly for SMEs, the economic scale of their activities does not go far beyond the border of the inner region in the Asian part of Russia and the closest neighboring regions of Russia’s European border. Largely, such extension depends on the availability of large investment projects aimed at modernizing the regional economy (decree. Op: 65). Insights are also available into the priorities pursued by these Russian enterprises in response to global economic crisis. The most strategic solution was through market expansions, primarily in sales markets of foreign countries. Others initiated large investments in the development of production to increase their own efficiency (ibid: 65-66).

 Larger TNCs in the pre-crisis years were able to increase their capital flows directly from Russia, increasing their share of foreign assets in own stocks from 16% in 2006 to 21% in 2008; the absolute increase in capital value abroad during this period was 79% against 35% domestically (Kuznetsov and Chetverikova 2009). In general, this trend allowed Russia to increase its global participation in the OFDI stock from 0,26% (19,2 billions of dollars) in 2000 to 1,66% (363,3 billions) in 2010. However, in the post- crisis phase, this share relatively decreased to 1,11% (344,1 billions) in 2018 (WIR 2019). Nevertheless, fluctuatingly growing Russian capital flows required their analysis at the micro level of investing enterprises. The focus of their analysis was primarily concentrated on the largest TNCs, included in the top 20 short-list (Bulatov et al. 2016). These companies occupy a monopolistic or oligopolistic position in Russia or play a leading role in the industry with sufficient financial resources to invest abroad (Panibratov 2017). As a rule, their investments were made in the form of mergers and acquisitions (M&A) (Ermolaeva and Panibratov 2018) and their analysis was based on information from corporate reports, press and specialized industry overviews (Kuznetsov 2017). This approach allowed authors to structure the information extracted from theses sources concerning applied corporate strategies and investment motivates. For example, in such manner there were highlighted 10 motives, which, however, could be mainly grouped into merket-seeking and resource-seeking ones (Liuhto 2015). Moreover, as it turned out, strategic asset-seeking motives were inherent only for machinery companies outside the top 20, while efficiency-seeking ones are more characteristic for medium-sized enterprises (Kuznetsov 2013). However, the same kind of studies on the analysis of investment motivations of Russian high-tech startups and innovation SMEs are practically absent, as well as the direct sociologist research of their motives to invest abroad.

 Meanwhile, such sociologist approach has been actively used by the state statistics of Russia to assess the investment motives of Russian enterprises and notable factors limiting them. Namely, the Russian Statistical Yearbook uses nine components to study such goals, seven of which are attributed to efficiency seeking. Over the period of 2000-2017, the most critical goal was the replacement of outdated machinery and equipment followed closely by automating existing production processes. Other critical concerns are in energy savings and reducing production costs, both outlets of efficiency seeking behavior. Studies of investment motivation for Russian enterprises must also assess the obstacles to investment. Consistently a hindrance is the uncertainty of Russia’s domestic economic situation, which has only grown since 2000 under sanctions imposed by the West. Predictably, lack of personal funds and a high percentage of commercial credit also weigh heavily on enterprises, particularly SMEs (RFE 2018: 292). All of these factors indicate a high objective interest in FDI by Russian enterprises. This reduces their global competitiveness in terms of ascending to existing GVCs and in potential GVCs created by BRICS countries.

**Methodology**

 A more modern and wholistic understanding requires research into the ‘soft’ investment motivations of Russian startups and small innovative enterprises via direct study and monitoring. Existing research into their foreign FDI motivation is practically absent. Thus, as iterated earlier, this work makes a promising contribution by eliminating this gap in the literature by employing a synthesis of different data collection techniques inspired by the original 2006 UNCTAD methodology. In real terms, a questionnaire and informal, unstructured interviews were primary collection tools. Paper/Digital surveys served as the main source of data, and they were implemented in tandem with supplementary in-person interviews. Further, digital forms of the survey were offered using Google Forms as an alternative to the paper questionnaire. This digital survey was identical to the paper survey to ensure consistency. The research team operated in two-person groups, one administering the survey and another engaging companies with supporting questions to better articulate respondents’ intentions and feelings. The questionnaire was offered in Russian and English, both being prepared by native speakers and compared to ensure question equivalence. Interviews were conducted in a similar manner. Thus, there are no issues with response validity emerging from linguistic confusion. Most of the survey questions relied on a nominal scale and allowed for a degree of specification or variety with the inclusion of an ‘other’ option. Many questions did allow for multiple response data, which provided additional qualitative support to best encapsulate the range of issues highlighted by respondents. A full list of the survey questions is provided in Appendix I. We also compiled names, affiliation, and contact information (including address, telephone number, and e-mail address) for companies wishing to provide this information, although it was not required. Said information was not considered when collating survey results, which was done anonymously.

 In order to find an adequate sample of startups for our study, we chose to implement our survey at Russia’s largest startup event, “Startup Village,” held over two days at innovation centre “Skolkovo” in Moscow, Russia. Here were assembled hundreds of startups representing a wide variety of industries from a wider variety of backgrounds and experiences. This project was conducted during a busy time for the respondents, and we are greatly indebted to the firms for their willingness to participate in this research. As a result of their co-operation, we are able to formulate an accurate representative sampling of the innovative SME environment in Russia.

**Results**

 Overall results of the survey were quite good. The interviewed respondents were extremely willing to speak with the research team about their firms’ intentions and concerns. Such friendliness and openness allowed the research team to go beyond distributing surveys and engage in useful dialogue with the startup representatives to further understand their perspective behind given answers. Unsurprisingly, the startup representatives largely spoke Russian; more than a few spoke an advanced level of English and other foreign languages, such as Chinese. 90% of the surveys were conducted in Russia, and only 10% were answered in English. Many of the respondents were from a wide array of sectors and fields. As illustrated in Figure 3, most of the startups were focused on high technology and innovative industries. Nearly half of the surveyed startups, 47% to be exact, are focused on strategic computer technologies, with one quarter on energy efficiency and energy savings, and half of the last quarter in biotechnology. The remaining businesses represented a smattering of fields from various high-tech industries and consumer goods. Further, questions 3-5 in the Appendix reinforce the diversity of the respondents. In GVC terms, around 60% of startups focused on pre-processing and the production phases, while 40% are involved in services. Of the products and services offered, a quarter of them are original and the rest are imitations or slight variations. In terms of intellectual property, half of the products are protected by patents and trademarks at 46% and 3% respectively. The remainder use intellectual property rights necessary in production, namely know-how- 22%, utility models- 11%, designs- 11%, and licenses- 5%. Thus, the majority of businesses are still small companies in earlier stages of development with varying degrees of protection, as expected from startups.

*Figure 3: Intended Focus of Company/Product*

 *Source: Own Calculations based on Survey Results*

 These results support the notion that Russia has cultivated a diverse startup ecosystem that, one that favours innovation-intensive industries of all sizes. Despite their variations, there is a degree of commonality in the expressed motives for attending the ‘Startup Village’ event at “Skolkovo”. Below, Figure 4 presents a clear breakdown. 65% of startups are motivated primarily by a search for resources, while 20% are driven by foreign asset acquisition and 15% by the desire for new markets. In terms of the traditional ‘big four,’ Russian startups are mainly resource seeking in the form of capital and investments.

*Figure 4: Motivations for Attending Event*

*Source: Own Calculations based on Survey Results*

Such conclusions are consistent in other responses as well, particularly regarding specific challenges they have faced in realizing their businesses. Of the companies who participated in the study, all of them highlighted a number of key difficulties. These are represented in Figure 5. Most notable still are issues of funding; over half of those surveyed attributed a lack of personal savings to their project’s slow growth. 14% of others mentioned the difficulty in obtaining loans from Russian banks. Beyond financing issues, there are many difficulties attributed to operating within Russia. Due to Western sanctions, 17% of startups attribute slow growth to the uncertain economic situation in Russia, which compounds already existing fears by over 20% of companies that the Russian market cannot generate sufficient demand for their product/service. A weak production base and, to a lesser extent, poor government regulations also provide a source of domestic woe. Some of these fears could be abated by extending their businesses to new, foreign markets or opening subsidiary offices abroad for financial and market gains. Yet this too brings challenges. A quarter of respondents say that failure to find an international partner and investor has hampered their growth, with a small amount of 6% specifically noting their own lack of information about foreign markets as limiting their opportunities. In familiar terms, these responses correspond to one of the ‘big four’ motivations for startups looking to go abroad. To draw a more substantive result, 41.9% of respondents seek resources to address their main difficulties, and 23.6% desire strategic assets and information. 19.3% seek to improve the efficiency of the environment and of themselves, and only 15% see new market gain as a primary solution.

*Figure 5: Difficulties Facing Russian Startups*

*Source: Own Calculations based on Survey Results*

The popularity of resource seeking motivations is largely correlated to a direct lack of available personal funds in this study. This becomes clearer when further analysing the breakdown of financing currently available to startups. Figure 6 details the degree to which small Russian firms use different sources of available funding to finance their business. Personal savings and funds make up the largest single source of financing for startups; 71% use personal funds to some degree. This figure is supported further by nearly 20% accepting money from family and friends. Now, private investors do still provide a significant source of funding, more than twice that sourced from family and friends. Still, less than half of startups had access to such funds. Both public crowdfunding schemes and bank loans, surprisingly, contributed very little overall. Such small businesses thus could benefit heavily from alternative sources of public funding or improved access to investors to this reliance. Figure 5 reinforces this point, in that startups are actively looking for outside investments in a range of forms. An equal number of companies are looking to sell their company/product as were looking to find a strategic partner/investor at 44% each. Only 12% were interested in forming a joint-venture, which highlights a self-awareness about their lack of readiness in working closely within multilateral GVCs and the need for further self-development.

*Figure 4: Sources of Reported Funding to Date*

 *Source: Own Calculations based on Survey Results*

*Figure 5: Preferred Mode of Investment*

*Source: Own Calculations based on Survey Results*

 To address the major challenges outlined above, a number of Russian startups have developed linkages with foreign markets. Below, Figure 6 shows that nearly half of Russian startups carry out some kind of foreign economic activity with partners abroad, though it is still slightly less than the amount that do not. Figure 7 more explicitly outlines which countries are the most common partners for Russian startups. Of the 48% of startups that do have foreign partners, most operate within the CIS or EEU, namely with Belarus or Kazakhstan. Respondents highlighted these areas as the easiest environment to operate in due to geographic proximity and shared language. Few also noted the lack of trade barriers in comparison to other areas. Yet, nearly 40% also operate in developed countries in Europe, most commonly in Germany. There are also smaller percentages of companies working in Asia, with around 20% operating namely in China, India, and Vietnam. A similar number have a presence in the Americas, and none have current links to Africa or the Middle East. Such linkages highlight difficulties for Russian businesses to reach new markets outside from those with the lowest barriers for entry and a general lack of interest in the developing world.

*Figure 6: Percentage Engaged in Foreign Economic Activity*

*Source: Own Calculations based on Survey Results*

*Figure 7: Countries Already Partnered With*

*Source: Own Calculations based on Survey Results*

 While existing foreign linkages are primarily with countries closest to Russia, there is a clear desire to extend in a more global fashion. Figure 8 illustrates the countries identified as most desirable for future partnership and market access. Nearly 70% of startups felt that accessing the markets of developed countries was the highest priority. Specifically, relationships with Germany, the EU as a whole, and the US received particular attention. Many felt that gaining an entry point in Europe would allow easier access to the EU market which generates more demand and sources of investment. A majority also expressed an interest in expanding through the CIS and EEU, largely because of the reduced barriers to trade and communication. Of particular note was a strong interest in BRICS markets, with 50% of startups mentioning Brazil, India, and China as desirable partners. These BRICS partners were attributed with having vast market sizes, larger production capacities, and as active sources of investment. However, when prompted there was a lesser degree of interest in working with South Africa, largely due to its geographic distance. This is supported by the dearth of expressed interest in developing countries as a whole, with only 25% desiring a presence in Africa, Asia, and South America outside of BRICS.

*Figure 8: Preferred International Markets/Partners*

*Source: Own Calculations based on Survey Results*

Although there is high interest in entering foreign markets, barriers continue to limit the possibility for SMEs, and startups most significantly. Figure 9 summarizes the main issue areas. As highlighted repeatedly in these findings, issues of financing continue to be a burden. The high costs of entering foreign markets and a lack of personal funds were cited as the most significant factors at 44% and 31% respectively. Such issues are compounded by the difficulty for small businesses to access credit. Also an issue was the lack of foreign knowledge in two main areas. Firstly, 22% acknowledge a lack of information about how to find reliable international partners. Secondly, 16% highlight a discrepancy in the demands of foreign markets and the fit of their product/service. Surprisingly, perceived differences in business culture were not seen as a significant impediment, although 22% did identify the language barrier as severe limiting factor. Similarly, as expressed earlier in reservations about working with developing countries, was the acknowledgement of geographic distance as a difficult obstacle to surmount despite a high degree of digitization. More prevalent were barriers regarding the Russian government and bureaucracy. Namely, 28% of respondents noted the disparity between Russian and foreign regulations in terms of technical, health, and safety requirements. This makes it difficult to expand without significant product changes. Similar to the discussion surrounding Figure 3 above, each of these identified barriers can be correlated to a corresponding ‘big four’ motivation. In this case, 38.2% identify resource seeking as a solution, and 21.8% focus on strategic asset gain. Additionally, 20.5% encourage increases in efficiency and, lastly, 19.5% relate to market seeking.

*Figure 9: Barriers to Foreign Development*

*Source: Own Calculations based on Survey Results*

 In sum, Russian startups face a number of challenges in developing both domestically and internationally. While a diverse startup ecosystem has been cultivated at home in terms of innovative capacity, domestic concerns continue to hamper their success. Issues of financing and uncertainty around the Russian market and government concern startups, around half of which who have already begun to internationalize and reap the benefits of international partnership. However, here too barriers limit the ability of all startups to enter foreign markets, especially those of developed and BRICS countries, which are more desired. Despite this, Figure 10 captures an important reality; 100% of Russian firms surveyed are still interested in finding international partners. Thus, steps must be taken to support these startups and, in turn, support Russia’s national economy.

*Figure 10: Interest in International Cooperation and Foreign Partnership*

*Source: Own Calculations based on Survey Results*

**Key Findings and Discussion**

Taken together, the responses gathered in this study can be organized around the “big four” to illustrate the presence of international motivations even at the startup level. To develop a stable and reliable metric, we can take the average of the two questions that correlate quantitative data directly to “big four” motivations, number eight (Q8) and twelve (Q12). Table 1 demonstrates the results and posits them against information available form similar studies.

**Table 1. Comparative motivation of Russian high-tech startups and innovative SME's and emerging economies' enterprises going abroad**

|  |  |
| --- | --- |
| Country |  motives,% |
| market-sseking | efficiency-seeking | resource-seeking | strategic assets seeking |
| Russia | 17.3 | 20.0 | 40.0 | 22.7 |
| Emerging countries | 51 | 22 | 13 | 14 |
| Thailand | 40 | 20 | 19 | 21 |

Source: own calculations based on Survey Results in comparison with estimated data on Thai SMEs participating in GVCs (UNIDO 2019) as well as data from UNCTAD 2006 for emerging economies enterprises

As it seen from the table, 40% of startups are motivated to acquire new resources, namely investments, to offset their own personal lack of funds and the challenges in acquiring credit/loans. Of secondary motivation is the pursuance of strategic assets at 22.7%, taking the form of strategic partners that can provide foreign capabilities, market information and support. Third, at an even 20%, are efficiency gains. These help keep costs down and increase a startups domestic and global competitiveness. Lastly at 17.3% is pure market seeking behaviour in which to sell products/services. These results differ greatly in comparison to data from enterprises in emerging economies, including other BRICS, based on the UNCTAD 2006 Report. Motives also differ, although more mildly, from those of Thai SMEs integrating into Southeast Asian GVCs (UNIDO 2019).

By rearranging the responses to questions Q8 and Q12, as is shown in Table 2, we can estimate the structure of domestic and foreign factors affecting Russian high-tech startups and innovative SMEs ability to go abroad.

**Table 2. Estimated structure of the domestic and foreign factors of Russian high-tech startups and innovative SMEs going abroad**

|  |  |  |  |
| --- | --- | --- | --- |
| Domestic Factors | Contribution,% | Foreign Factors | Contribution, % |
| Lack of internal funds(responses 1,2,6,7) | 55.4 | Barriers to entry into foreign markets(responses 1,3,4,5,6,10,11) | 67.0 |
| Lack of foreign market information and uncertainty of domestic economic prospects (responses 5,8, 9, 10) | 22.6 | Lack of financing for going abroad (responses 2,9) | 19.1 |
| Insufficient domestic market demand (responses 3,4)  | 22.0 | Insufficient foreign market demand (responses 7,8,12) | 13.9 |
| Based on question Q8 | 100.0 | Based on question Q12 | 100.0 |

Source: own calculations based on Survey Results

 The main domestic obstacle to going abroad is the lack of internal financing (55.4%), while the dominant external factor appears to be high entry barriers into foreign markets (67%). Interestingly, demand factors are the lowest concern (22.8% domestically, 13.9% for foreign markets). For more than half of surveyed startups and SMEs, existing financing comes from their own savings (Q6: 44%) and from friends and family (F&F) (11.8%), while over a third (34.2%) have access to private investments from private investors (24.2%) and crowd funding (10.0%). Only 10% rely on forms of venture capital (8.1%) and banks (1.9%).

Most of the proposed technologies/products (Q3: 61%) are in either the pre-production or production phases (29% and 32% respectively), although some are already in global production (16%). Almost a quarter of these innovation proposals are focused on fundamentally new ideas (Q4: 24%), while the reset are oriented towards imitating technologies or products in some way. Moreover, almost half of the proposals are unique inventions or patented technology (Q5: 46%). Others are know-how and utility patents (22%) and industrial designs (11%). Within this context, the immediate goals of the majority of Russian high-tech startups and innovative SMEs is to expand their sales in the coming year (Q9: 58%). This seems quite natural for early-stage businesses. However, the hidden meaning of this interst becomes clear when combined with the intentions of the vast majority of startups to, in one way or another, sell or transfer their business to a buyer or partner (Q7: 88%). Far fewer are interested in a real partnership with prospects for developing their business as a joint venture (12%) than selling outright. This conclusion is affirmed with the conlusion that only around a quarter of enterprises surveyed are going to develop their products in the future (Q9: 26%). Further, very few enterprises intend to hire additional staff in the next year (6%), and none are planning to improve their capacities or managerial skills.

Such behaviors are reflected in the regional priority areas highlighted by the respondants. Developed economies (OECD, EU) garner the most interest (Q10: 33.5%), as they can provide consistent investment and knowledge to startups. Close behind are the CIS and EEU (29%) states, which fit in with normative expectations due to the cultural and linguistic ties. There is also a higher likelihood of spillover effects. BRICS countries attract less interest (25%) due to their economies not providing a major source of investment, except for China. Additionally, the BRICS advantage of growing market size, huge investment absorption potential, and impressive scope for industrialization and innovation are of great importance. In particular, the view of their SMEs’ market scale can be obtained from the table shown in Figure 11.

**Figure 11. The SME landscape with BRICS member countries**



Source: Gearing BRICS SMEs for global competitiveness. Financial Services Sector Working Group. The Role of BRICS in stimulating SME growth. National Empowerment Fund. May 2018.

 As can be seen in this table, the SMEs in BRICS economies make critical contributions to GDP (from 9% in India to 60% in China), and even more so in employment in member countries (from 25% in Russia to 80% in China). A key factor in the economic growth of SMEs is in innovation technologies and products as proposed by high-tech start-ups. For all these enterprises, and not only those in Russia, it is often difficulty to access private financing; the majority lack such financing at all. Globally, as follows from Figure 12, the majority of such funds are internally sourced (72-74%). About a combinted quarter of all financing is through banks (14%), supplier credit (5%), and equities or stock sales (4%).

**FIGURE 12. Global funding sources for SMEs**



Source: Gearing BRICS SMEs for global competitiveness. Financial Services Sector Working Group. The Role of BRICS in stimulating SME growth. National Empowerment Fund. May 2018.

The contrasting picture of financial security for Russian high-tech start-ups and innovative SME is a serious challenge to the sustainability of Russia’s economic growth. This points to one of the most important priorities of the BRICS interstate policy. Governments of the member countries are paying more serious attention to this area of joint funding cooperation. Starting from 2017, there are developing mechanisms for mutual export supporting and coordination. In particular, there are preparations to sign a Cooperation Agreement on the BRICS insurance and reinsurance collaboration as a basis for cooperation between their export credit agencies. In 2018, a Memorandum of Understanding between the BRICS Business Council and New Development Bank (NDB) has been signed to expand effective access to international financing for Russian SMEs. The BRICS Financial Service Working Group (FSWG) has developed a number of projects to establish an SME Fund by the NDB and SME crowd-funding digital platform for promoting their innovation activity and infrastructural cooperation (BRICS 2018). These efforts also aim to create a joint rating agency, international payment card, insurance support, and SME inclusive financing systems, as well as mechanisms for promoting and coordinating sovereign fund communications between member states (BRICS 2019).

Such steps would contribute both to the growth of OFDI potential for Russian innovation businesses and to lowering the barriers to entry into domestic markets of other BRICS member countries with the intention to make better use of each other’s complementary advantages. This is shown in Table 3.

 **Table 3. Comparative advantages of BRICS countries**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Country Input rank |  Brazil | Russia | India | China | South Africa |
| 64 | 41 | 61 | 26 | 51 |
| Factor | score | rank | score | rank | score | rank | score | rank | score | rank |
| Institutions | 58,9 | 80 | 60,9 | 74 | 59,5 | 77 | 64,1 | 60 | 65,9 | 55 |
| Human capital | 36,0 | 48 | 48,3 | 23 | 33,5 | 53 | 47,6 | 25 | 30,4 | 65 |
| Infrastructure | 46,8 | 64 | 47,1 | 62 | 43,0 | 79 | 58,7 | 26 | 41,1 | 83 |
| Market Sophistication | 44,2 | 84 | 49,4 | 61 | 56,3 | 33 | 58,6 | 21 | 58,6 | 19 |
| Business Sophistication | 37,6 | 40 | 40,0 | 35 | 31,0 | 65 | 55,4 | 14 | 32,7 | 55 |
| Knowledge&Technology outputs | 23,0 | 58 | 27,1 | 47 | 33,5 | 32 | 57,2 | 5 | 23,9 | 57 |
| Creative outputs | 22,8 | 82 | 25,1 | 72 | 23,5 | 78 | 48,3 | 12 | 20,8 | 91 |

Source: Global Innovation Index 2019, pp.233,242,268, 317, 325

 The main advantage of BRICS economies is in the total capacity of their domestic markets, reaching almost PPP $44 trillion using the data from which Table 3 is compiled. Each member country has its own specific mutually complementary global competitive advantages. China leads the world in terms of market size (over PPP $25 trillion), growth rate, patents, utility models, industrial designs, high-tech and cultural creative net exports, business investment in R&D, etc. India is a global leader in ICT infrastructure and ranks highly in terms of domestic market scale (3rd), growth rate (4th), easy to protecting minority investors (6th), graduates in science and engineering (7th), and in government’s online service (9th). South Africa leads globally in market capitalization (over 300%) and ranks well in terms of domestic credits to private sectors (9th), opening new businesses (12th), and intellectual property payments (13th). Brazil has a reasonably sized mrket (PPP $3.8 trillion) and ranks highly in intellectual property payments (10th), E-participation (12th), and education expenditures (18th). This landscape is well complemented by the strengths of the Russian economy, such as its large market size (about PPP $4.2 trillion), global place in number of utility models (8th), ranks in secondary education (15th), tertiary enrollment (17th), knowledge-intensive employment (18th), patents (20th), human capital and research (23rd - the best in BRICS) and mobile app creation (26th). Such compatibility creates potential prerequisites for eliminating weaknesses in which Russia has the worst rankings in BRICS: investment (102nd), regulatory environment (95th), innovation linkages (93rd), cluster development (89th), creative goods exports (77th), ICT business model creation (69th), high-tech manufacturers (43rd) and imports (39th) (GII2019).

Tremendous opportunities could be opened for Russian innovative enterprises through their participation in BRICS environmental and clean energy projects. For comparison, India alone will attract approximately $2.5 trillion by 2030 to achieve its climate goals under the Paris Agreement. As a whole, the BRICS economies between 2020 and 2030 will mobilize a total of $975 billion in green financing, where China’s share is about $622 billion, India’s about $157 billion for India, and $120 billion for Brazil (BRICS 2018). However, one of the most promising emerging areas and top priorities for member countries, integrating all the studied possibilities of Russian high-tech startups and SMEs,  are correlated with a new vision of public health and healthcare. Chandrajit Banerijee, Director General of the Confederation of Indian Industry in a foreword to the Report on Global Innovation Index 2019 (GII2019) stated: “Healthcare is a sector of critical importance in India, encompassing an array of areas, including hospitals, medicines, medical devices, clinical trials, outsourcing, telemedicine, medical tourism, health insurance, and medical equipment.... Since India’s innovative healthcare delivery initiatives must function across a wide spectrum of geographical, agro-climatic, socio-economic, and cultural diversity, the initiatives are adaptable and easy to replicate in India or any other country “ (Foreword: ix).

Similarly, Banerijee’s Brazilian colleagues, Robson Brada de Andrade, President of the National Confederation of Industry in Brazil, and Carlos Melles, President of the Brazilian Micro and Small Business Support Service, assert: “ Brazil could be a significant player on the international market for healthcare. A majority of population - approximately 210 million people - is covered by the public health system. The county spends over 9% of its GDP on health, with an aging population, this percent is expected to increase.... Today innovating in health means a great deal more than just developing new medicine. In means creating equipment capable of assisting in the diagnosis of diseases, developing medical devices for health monitoring and treatment, and conceiving customized treatments and protocols for each patient. Innovation goes beyond technological innovation - taking multiple forms that improve medicines, vaccines, and medical devices and that consider prevention, treatment, and the broader health care delivery and organization” (Foreword: xiii).

However, due to both high barriers for Russian high-tech startups and SMEs entering foreign markets and poor awareness of the possible prospects for their potential participation in such highly innovative areas, large western multinationals continue to dominate the global market. For example,  Bernard Charles, CEO of a leading French software development company, “Dassault Systèmes,” said: “Healthcare is at the core of the Industry Renaissance that is emerging worldwide with new ways of inventing, learning, producing, trading and treating. We must no longer think of industry as a set of means of production, but instead as a vision of the world and a process of value creation that embraces all sectors in the economy and society. Today we see new categories of innovators creating new categories of solutions for new categories of customers, citizens, and patients... To achieve this multi scale purpose, we must connect people, ideas, data and solutions. Healthcare today calls for a fresh and collaborative approach to innovation, which cuts across scientific disciplines and breaks down silos to allow education, research, big firms, retailers, and patients to collaborate in real time. Collaborative experience platforms are the infrastructure of this change. They provide a continuum of transformational disciplines to imagine, create, produce, and operate experiments from end to end. This is one of the primary functions of Dassault Systèmes’ 3D EXPERIENCE Platform” (Foreword: xi).

Such an emphasis on big companies is quite traditional for western TNCs. However, alternative GVCs comprised of BRICS members could be formed with active involvement by Russian high-tech startups and innovative SMEs. The formation of such alternatives opens up the prospect of international industrialization for Russian innovations and strategic assets creation, which is nearly unachievable for them in developed economies. Thus, BRICS countries objectively possesses the strategic potential for innovation co-development not only for high-tech businesses, but also for the entire national economy of Russia. Other developing, non-BRICS countries attract minimal attention. They have little to offer aside from growing markets, the least important metric.

In summary, we have addressed the key motivations identified as driving startup internationalization despite their small sizes and early stage of development. Most significant were the “push” effects unique to their Russian origins. Features of the Russian market encourage foreign market seeking behavior due to a number of factors. Firstly, while Russia has a substantial domestic population, it still presents a limited innovation market size. Additionally, other countries are understood as having more efficient production systems, favorable investment climate, and modern regulatory frameworks that support faster growth. Lastly, escaping Russia’s unpredictable economic future for more stable markets provides peace of mind to SMEs who often are hit hardest by shocks. At the same time, there were decisive factors hindering the export of capital and business from Russia. Most significant of these are a lack of personal funds and the necessary capital to enter expensive foreign markets. Relatedly, the difficulty in finding qualified/interested international partners to overcome the foreign entry knowledge gap. There must also be consideration for the broad differences between the domestic and foreign environment in terms of geography, language, and business culture.

**Conclusion**

Thus, some key conclusions can be drawn:

1. The fourth industrial revolution ("Industrialization 4.0") and corresponding "Globalization 4.0" break interdisciplinary, intersectoral, and formal inter-country barriers to radically transform the global economic landscape. Not only has the space of the world economy been made significantly heterogeneous, but also the very geo-economic "system of coordinates" has been altered. Thus, Industrialization 4.0 sets the ultimate depth of processing industrial raw materials through technological innovation, and Globalization 4.0 makes global economic activity possible at any scale through digital infrastructure and institutional innovation.

In turn, the associated institutional transformation leads to the erosion of vertically integrated structures, both in the economy and in politics; this creates the necessary conditions for the formation of horizontally integrated GVCs and network GPNs and GINs. As a consequence, the interdependence of national economic development is increasing, forcing governments to transform their national economic models and foreign economic strategies. Such transformation implies the strengthening of economic liberalization and administrative decentralization within the country alongside a transition from export-oriented or protectionist import-substituting foreign economic policy to modern strategies of multilevel cooperation and inclusive co-development-oriented integration.

 From the point of view of determinants to "going abroad," the current Russian national model actually uses logic founded in "Indusrialization 2.0", with fragments of "3.0" and "4.0"concentrated mostly in the strategic sectors of the Russian economy. Accordingly, in the spirit of "Globalization 2.0," foreign economic policy is built on balancing raw material exports with techno-oriented imports. Given the current geopolitical conditions surrounding Russia, its prospects for active integration into the processes of "Globalization 3.0" ("Production without borders") and "4.0" ("Service without borders") remains rather uncertain. This significantly affects the determinants, drivers, motives, and priorities of Russian high-tech startups and innovative SMEs going abroad.

2. The inefficiency of the Russian economic model results in not only nearly the lowest growth rates among the BRICS countries (after South Africa) and below expected levels of economic development, but also the underdevelopment of its production and technological base. This is a major contributor to the list of domestic business challenges (10.2%), and also results in narrow innovation markets and a lack of demand for products of high-tech startups and SMEs (11.8%). Together with the General uncertainty of the economic situation in Russia (9.1%), these factors account for almost a third (31.2%) of all domestic obstacles to the foreign expansion of start-ups. However, the main problem is still the lack of domestic sources of financing (55.4%).

3. The combination of all these internal factors, combined with the fairly high creative potential of Russia as demonstrated through its high-tech business proposals by start-ups and SMEs predetermines their full (100%) interest in going abroad. However, the dominant focus is on their commercialization (44% are ready to sell the business and another 44% to find a strategic investor), rather than industrialization (only 12% would prefer to spawn a joint venture). As a result, new assets are usually created by foreign TNCs - beneficiaries of Russian intellectual property-rather than by Russia. This has a negative impact on the dynamics of the country's economic growth, leaving Russia as the only BRICS country where this level falls below is expected innovation and creative potential (GII2019).

  4. Russian innovative startups and SMEs are also affected by the low level of their financial, informational, organizational, promotional and cultural readiness to go abroad, as well as by the lack of state support. These factors make the barriers to foreign market entry especially critical for them (67%). In this context, even the extremely sensitive problem of insufficient financial resources for foreign economic activity looks much less significant (19.1%), and even more insignificant is the lack of demand for their products in foreign markets (13.9%). From this perspective, and taking into account commercialization preferences of Russian high-tech SMEs, their focus on partnerships with developed Western countries (mainly EU and US), as well as more familiar post-Soviet markets of the CIS and EAEC, makes perfect sense.

 5. With the exception of China, BRICS partner countries arouse much less interest from Russian innovative enterprises than other countries. Businesses are content with minimal information on current and potential prospects, especially in Brazil and South Africa, and somewhat more-in the case of India. Meanwhile, as the Global Innovation Index 2019 report shows, India and South Africa are the innovation leaders in their regions (Central and Southern Asia, and Sub-Saharan Africa, respectively). A powerful potential market for the introduction of innovative systems, including electronics and public health, is a priority interest for the surveyed high-tech startups and SMEs. First of all, it concerns almost 2/3 of those for whom the prospect of industrialization in their strategic computer developments (47%), biotechnologies (14%) and biofood projects (3%) can be advanced there. The situation is the same with the potential request of BRICS for environmental and energy-efficient technologies (at least 25% more). However, all this becomes possible with effective state and interstate support, and most importantly-with the creation of joint institutions and digital platforms that can consolidate the set of distributed in the global economic space opportunities of SMEs into a single GVC.

6. In General, Russian innovative startups and SMEs are much more resource-motivated (40% vs. 13%) and strategy - oriented (22.7% vs. 14%) compared to enterprises from other BRICS countries and developing economies, but they are much weaker in seeking new foreign markets (17.3% vs. 51%) or efficiency gains (20% vs. 22%). These gaps are somewhat reduced when compared with Southeast Asian SMEs and the investment motivation of Thai businesses, in particular. However, a more detailed comparative analysis is very difficult due to the lack of necessary comparable information on the motivation of innovative SMEs from all BRICS countries. From the point of view of building their own innovation-oriented GVCs, this situation actualizes the request for synchronous conduct in a single format of joint periodic (say, annual) social research on the study of innovation and investment motivation of high-tech startups and SMEs. Such information is critical both for the design of effective national drivers and complementarity of push-and pull-factors for FDI/OFDI, and for the practical configuration and management optimization of joint GVCs based on intellectual property, created within member states.

7. The Russian economic model and existing political and economic practice use large companies, including those with state participation, as the main engines of growth. Special economic zones, industrial parks and clusters, territories of advanced development and other innovation-oriented territorial entities intended for industrialization and scaling of scientific and technological developments and new technologies have contradictory experience, insufficient economic scale and a low level of integration into the global economy, which is why developed and emerging countries do not yet have a comparable impact on the innovative development of the national economy. Innovation center "SKOLKOVO" by virtue of the logic of its creation, development, institutional capacity and available infrastructure of internationalization, must focus primarily on the commercialization of innovations.

    Meanwhile, the key problem for the future of Russia is their industrialization and integration into GVCs. From this point of view, the BRICS space should become a strategic priority for Russian high-tech startups and innovative SMEs for reasons of market potential and prospects for global economic development. They could be considered as the nascent basis of the" new industrialization" of the Russian economy in co-development with other member states. However, in addition to accelerating the implementation referred to in article new mechanisms for the radical improvement of financial, informational, infrastructural, institutional and other supplies to the internationalization of their activities requires the establishment of regional centres and networks monitoring and cooperative outsourcing opportunities national innovative SMEs, and most importantly - the International Institute of BRICS in designing, investing, configure and manage their own GVCs. Such an institution, created on the modern basis of Public-Private Partnership, could be an alternative to the role of lead companies, which today is almost monopolized by large Western TNCs.

 Along with this - the creation of a joint BRICs Institute for training, internship, retraining and intercivilizational adaptation of both new and existing top managers for going abroad high-tech startups and innovative SMEs. A practical start could be the joint development and implementation of an appropriate master's programme on a multilateral basis at the leading universities of the partner countries. Some bilateral Russian-Chinese experience of this kind is being developed with the participation of the HSE. However, the key role of a kind of "trigger" here could be played by the creation of a joint BRICS group to study and monitor the investment motivation of high-tech startups and innovative SMEs. As a result of this kind of monitoring and analysis, critical information for national governments could be obtained to develop effective drivers and complementarity of determinants of innovative-industrial co-development of member states, as well as to create appropriate pull - and push incentives for the formation of innovative business of the participating countries adequate to the challenges of Globalization 3.0 and 4.0 motivation for the international industrialization of innovations. And the upcoming transition of the BRICS presidency to Russia in 2020 creates a good opportunity to implement such recommendations and initiatives at the interstate level.

**Appendix- Questions and Responses**

**Q1. Why Did You Come to Startup Village? (Choose One)**

|  |  |
| --- | --- |
| Attract Investments | 65% |
| Find International Partners  | 20% |
| Promote Products | 15% |

**Q2. What is the Intended Use of Your Product? (Choose One)**

|  |  |
| --- | --- |
| Energy Efficiency and Energy Savings | 25% |
| Space Technology  | 6% |
| Biomedical Technology | 14% |
| Strategic Computer Technology and Software | 47% |
| Food Industry | 3% |
| Geophysical Research | 3% |
| Home Supplies | 3% |

**Q3. Which Production Phase Cycles Does Your Project Target? (Choose One)**

|  |  |
| --- | --- |
| Pre-Production Phase | 29% |
| Production Phase | 32% |
| Post-Production and Service Phase | 21% |
| Global (Virtual) Production, Circulation, Sales and Management | 16% |
| All | 3% |

**Q4. Your Proposed Product (Technology) is: (Choose One)**

|  |  |
| --- | --- |
| New for Russia | 57% |
| Fundamentally New  | 24% |
| Using a Patented Invention | 16% |
| Other | 3% |

**Q5. What Kind of Intellectual Property is the Basis of Your Project? (Choose One)**

|  |  |
| --- | --- |
| Patent(s) for Invention | 46% |
| Patent License for Invention | 5% |
| Utility Model  | 11% |
| Know-How | 22% |
| Trademark | 3% |
| Industrial Design | 11% |
| None of the Above | 3% |

**Q6. How Has Your Business Been Funded So Far? (Choose All That Apply)**

|  |  |
| --- | --- |
| Personal Savings | 71% |
| Friends and Family | 19% |
| Crowdfunding | 16% |
| Private Investor | 39% |
| Venture Capital | 13% |
| Bank Loan | 3% |

**Q7. What is Your Preferred Model of Investment? (Choose One)**

|  |  |
| --- | --- |
| Joint-Venture | 13% |
| Sell-Company/Product | 44% |
| Strategic Partner | 44% |

**Q8. What Difficulties Have You Faced in Realizing Your Project? (Choose All That Apply)**

|  |  |
| --- | --- |
| Insufficient Demand for Your Supply on the Russian Market | 22% |
| Lack of Own Funds | 53% |
| High Percentage of Commercial Credit | 11% |
| Complexity of Obtaining Loans from Russian Banks | 14% |
| High Financial and Investment Risks | 11% |
| The Lack (Poor Quality) of Required Production and Technical Bases | 19% |
| Imperfect Regulatory Framework Governing Implementation | 8% |
| Uncertainty of the Economic Situation in Russia | 17% |
| The Lack of Necessary Foreign Trade Information and/or the Difficulty of Entering Foreign Markets | 6% |
| The Difficulty of Finding and Choosing a Foreign Partner with High Interest in International Cooperation  | 25% |

**Q9. Your Main Priority for the Next 12 Months? (Choose One)**

|  |  |
| --- | --- |
| Product Development | 26% |
| Sales Growth | 29% |
| Improving Management Skills | 0% |
| Improving Technical Capabilities | 0% |
| Hiring Additional Staff | 6% |
| Expanding to New Markets | 29% |
| Raising Funds | 10% |

**Q10. In the Case of Desiring Access to International Markets, Which Countries and/or Groups Would You Prefer? (Choose All That Apply)**

|  |  |
| --- | --- |
| Near Abroad' (CIS, EEU) | 58% |
| Industrialized Countries (OECD, EU) | 67% |
| BRICS Countries | 50% |
| Developing Countries in Asia, Africa, and Latin America | 25% |

**Q11. If You Already Work with Foreign Partners or International Markets, Which Countries and/or Groups of Countries Are They? (Choose All That Apply)**

|  |  |
| --- | --- |
| Near Abroad' (CIS, EEU) | 52% |
| Industrialized Countries (OECD, EU) | 38% |
| Countries in Asia (China, India, Vietnam) | 19% |
| Countries in the Americas (USA, Brazil) | 19% |
| Countries in Africa or the Middle East (Turkey, Egypt) | 0% |

**Q12. What Do You See as Barriers to Working with Foreign Partners? (Choose All That Apply)**

|  |  |
| --- | --- |
| Language Barrier | 22% |
| Differences in Business Culture | 9% |
| Costs of Entering a Foreign Market | 44% |
| Lack of Interest from Foreign Investors | 3% |
| Differences in Foreign Regulations and Standards | 28% |
| Insufficient Demands for Your Product on Foreign Markets | 13% |
| Geographic Distance | 16% |
| Lack of Own Funds | 31% |
| Difficulty in Attracting Credit Resources | 13% |
| Lack of Awareness of Foreign Market Needs and Demands | 16% |
| The Complexity of Identifying and Selecting Reliable Foreign Partners | 22% |
| Insufficient Level of Government Support in Entering Foreign Markets | 13% |

**Q13. Do Your Carry Out Foreign Economic Activity?**

|  |  |
| --- | --- |
| Yes | 48% |
| No | 52% |

**Q14. Are You Interested in International Cooperation and Assistance in Looking for Reliable Foreign Partners?**

|  |  |
| --- | --- |
| Yes | 100% |
| No | 0% |

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