

CHOICES TO DIVERSIFY: EU'S REGULATIONS, SANCTIONS AND RUSSIA'S GAS POLICY*

Elena SHADRINA**

ABSTRACT

Russia's choice for gas export diversification has been precipitated by sundry factors. Most of all, it has been a result of combined ramifications of (adverse for Russia's state-intensive economic system) changes in the EU regulation of its intra-regional gas markets, which started in 2009 and were taken even further in 2015; imposed in 2014 by the developed economies sanctions targeting mostly Russia's vitally important energy sector; and the collapse of oil prices in the global market in 2014, which after a certain lag affected gas prices. Centring on the first two groups of factors as being relatively more controllable by Russia, this article seeks to examine whether Russia's diversification strategy can be instrumental in overcoming the negative effects of the imposed by the West economic sanctions and the weakened institutional similarity as relates to Russia-EU gas relations. The diversification infers the rerouting of Russia's traditional gas links with Europe to eliminate transit via Ukraine and the expansion towards new markets in Asia. The article reviews theoretical assumptions relating to the external drivers for institutional changes and the effects of economic sanctions on a targeted economy. Drawing upon available empirical evidences, the effects of the two groups of factors on Russia's diversification strategy are delineated. The payoffs of the diversification strategy and the avenues for its optimisation are discussed. The article concludes that while it is too early to assess comprehensively the effectiveness of Russia's course towards pipeline gas export diversification, further research is indispensable in order to assist all the sides concerned to improve the outcomes of their interactions.

Keywords: Russia, Pipeline Gas Export, Diversification.

Introduction

Before 2014, the phrase “diversification of Russia's gas export” would unambiguously have been understood as a shift towards Asia. Contemporary notion, however, involves the shifts along both European and Asian dimensions. Interestingly enough, if previously it was Russia's pipeline gas exports to Europe that could have been characterised as relatively stable or at least predictable, the

* This paper was presented at IX ICCEES World Congress, Makuhari, Japan, 3-8 August 2015.

** Assoc. Prof. Dr., Meiji University Graduate School of Governance Studies (shadrina@meiji.ac.jp)

current EU's macroeconomic dynamics and regulatory reforms of intra-regional gas markets, as well as an array of Russia's recent rather surprising moves - scrapping the South Stream for the Turkish Stream (TS) in December 2014 and announcing the Nord Stream-2 (NS-2) in June 2015 - have largely changed that. In rough features, in pursuance of pipeline export diversification vis-à-vis Europe, Russia may follow one of the scenarios: Russia's Gazprom (together with other companies interested) may construct the Turkish Stream and the Nord Stream-2; alternatively, only one of these two pipelines may be implemented; or (and this is also probable) none of the pipelines may be built and Russia-EU will continue to rely on the existing infrastructure, including transit facilities in Ukraine. In Russia's view, the former two scenarios are preferable as they help eliminate/ lessen the risks of transit via Ukraine and establish new export (business) model compatible with the EU's gas markets harmonisation reform.

The goal of expansion into the Asian gas markets has been articulated in Russia's Energy Strategies 2020 and 2030 (adopted in 2003 and 2009, respectively) (Shadrina 2014a). The draft of Russia's new Energy Strategy to 2035 (to be adopted in 2015) sets ambitious goals for Russia's gas exports to the Asian markets: 31 per cent of Russia's total gas exports by 2035 from the current level of about 6 per cent (Shadrina 2015c). Importantly, the idea of energy export diversification towards Asia is partially informed by the concern about domestic economic dynamics (or, more accurately, a lack thereof) and is incorporated into a broader vision of Russia's eastern regions economic development (Karaganov et al., 2012, 2014, 2015; Shadrina 2014a). This reasoning together with the necessity to counter the negative ramifications of the introduced by the developed economies targeted sanctions in 2014 and the (adverse as relates to Russia's state-intensive economic system) changes in the EU regulation of its gas markets since 2009, have prompted Russia to intensify its efforts in Asia. On May 21, 2014, Russia eventually reached the agreement with China to construct the Power of Siberia (PoS) pipeline, which symbolised the beginning of long-awaited Asian era in the history of Russia's pipeline gas exports. Later that year, mutual interest to resume negotiations over the Altai gas pipeline was reaffirmed adding credibility to Russia's diversification plans. However, Russia's recent initiatives signal that diversification does not imply shifting away from Europe,¹ it rather signifies Russia's attempt to develop more geographically balanced pattern of pipeline gas export.

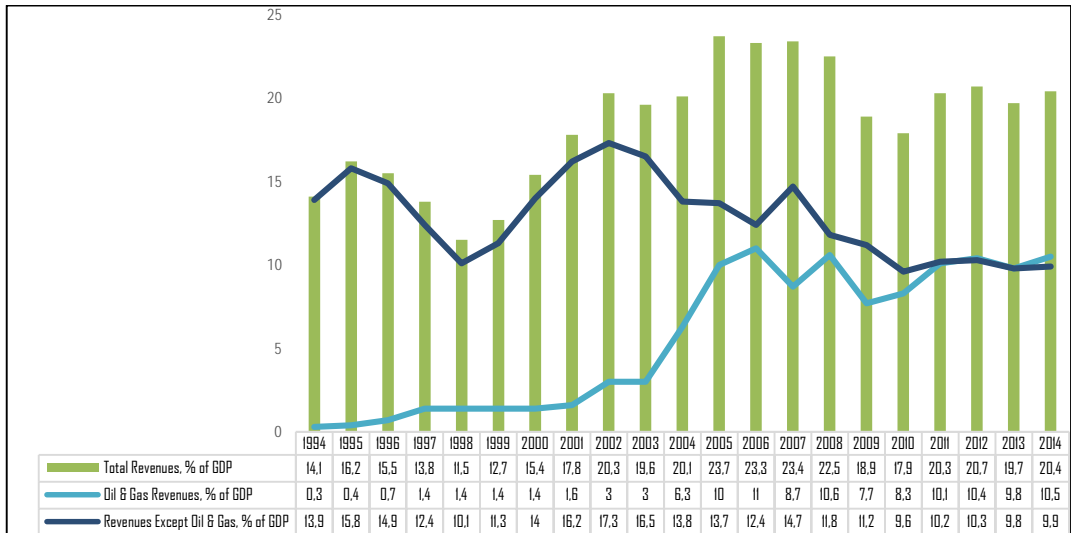
¹ Медведев: поставки газа в Китай не обесценят сотрудничество с Европой, *Oil Capital*. July 24, 2015 (<http://m.oilcapital.ru/export/271607.html>, retrieved July 24, 2015).

The article concerns to develop a framework for the analysis of Russia's gas export strategy as relates to its post-2014 transformations. Drawing on the earlier work (Shadrina 2014ab, 2015 a), this article treats sanctions and the EU's Energy Union developments as external triggers that change institutional environment and institutional arrangements of Russia's gas policy. These, in turn, weaken the existing Gazprom's gas export model and inform additional impetus for diversification.

The primary question the article addresses is whether Russia's diversification strategy can be instrumental in overcoming the negative effects of the imposed by the West economic sanctions and the weakened institutional similarity as relates to Russia-EU gas relations. In doing so, the article reviews theoretical assumptions relating to the effects of economic sanctions on a targeted economy and the external drivers for institutional changes. Drawing upon available empirical evidences, the effects of these two groups of factors on Russia's choice to diversify are examined. The payoffs of the diversification strategy and the avenues for its optimisation are discussed. It is an exploratory article, which does not aim to answer the main question empirically, rather it intends to draw a sketch of how such an inquiry can be structured. Even though it is too early to assess comprehensively the effectiveness of Russia's strategy for gas export diversification, a research of this kind is indispensable in order to assist all the sides concerned to better assess potential outcomes and improve the payoffs of their interactions.

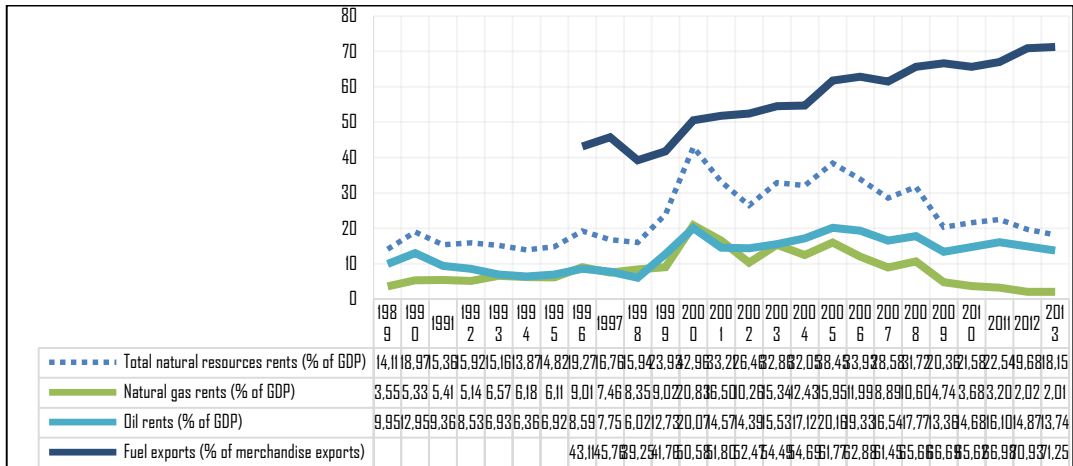
Russia's Choices to Diversify

Natural resources, most of all oil and gas, play vital role in Russian economy. Relatively insignificant in the early 1990s, the dependence on energy resources has been growing steadily; measured through the share of oil and gas revenues in Russia's budget, it exceeded 50 per cent in 2014 (Figure 1). Traditionally, Russia's oil sector has been making larger contributions to the revenues than the gas industry. In 2014, the latter is accounted for 11.58 per cent of oil and gas total revenues, which is nearly unchanged from 12.29 per cent in 2013 and 10.86 per cent in 2012.

Figure 1: Russia's Budget Revenues, % of GDP

Source: Composed based on Исполнение федерального бюджета и бюджетов бюджетной системы Российской Федерации за 2014 год (предварительные итоги). Министерство финансов Российской Федерации. Москва, апрель 2015 (<http://www.minfin.ru/common/upload/library/2015/04/main/kniga%202014%20kolleg.pdf>, retrieved July 30, 2015).

The share of oil and gas in Russia's total exports grew from just over 40 per cent in the early 1990s to over 70 per cent in 2014 (Figure 2). Yet, using the indicator of natural resources rents, except for the period of 1993-2001, Russia's oil sector has been much more efficient compared with the gas segment. Lately, natural gas rents have declined especially dramatically.

Figure 2: Russia's Oil and Gas Rents² and Fuel Exports, % of GDP

Source: Composed based on World Development Indicators (<http://databank.worldbank.org/data/reports.aspx?source=2&series=NY.GDP.TOTL.RT.ZS,NY.GDP.PETR.RT.ZS,NY.GDP.NGAS.RT.ZS,NY.GDP.COAL.RT.ZS,NY.GDP.MINR.RT.ZS,NY.GDP.FRST.RT.ZS#>).

Gas plays a special role in Russia's economy. To ensure certain support to vulnerable low-income households and improve the competitiveness of domestic producers, the government continues to regulate gas prices. Therefore, the external demand helps Gazprom – the dominant producer and export monopolist – to compensate for the costs and limitations of such an uneconomic nature of the industry. Hence, Russia's pipeline gas export has been traditionally oriented to the West. The history of (Soviet) Russian pipeline gas exports to the European markets dates back to the early 1980s. By the 2010s, however, various changes have stipulated the need for diversification.

In this article, *diversification* is understood as Russia's deliberate course intended to change the geographical composition of its pipeline gas export with the purpose to reduce the *risks* in the environment of enlarged *uncertainty*. Defining risk as fulfilling two conditions - there must be uncertainty about the potential outcomes from an event; and these outcomes must have utility³ - this study views Russia's risk in gas export as originating from overdependence on the European markets. Declining absolutely and as relates to Russia-origin-gas demand in Europe signifies

² Natural resource rent is the total revenue, which can be generated from the extraction of the natural resource, less the cost of extracting the resource (including a normal return on investment to the extractive enterprise).

³ Holton, Glyn A. (2004). Defining Risk, *Financial Analysts Journal*, 60 (6), 19-25.

a prospect of lessening export revenues for Russia, which can result in smaller budget revenues. Hence, Russia's risk of pipeline gas export diversification concerns its ability to secure export revenues of value larger than prior to the diversification. In turn, uncertainty is linked with a problem of incomplete and/ or asymmetric information, which makes it hard to predict the sequence of events and the associated outcomes. Uncertainty is greatly contributed by the sanctions, developments involving the EU's Energy Union (EU) and oil price dynamics. The scope of this study embraces the former two.

When compared with the former Soviet economies, the European consumers in the far abroad⁴ purchase by far the most significant volumes of Russia's gas (Figure 3). In 2014, Russia's pipeline gas exports were 72.4 per cent far-abroad-bound and 56.7 per cent EU-oriented⁵ with the transit via Ukraine at its lowest. Russia's gas composed 30.2 per cent in EU's gas imports in 2014.⁶ However, while Turkey showed robust 7 per cent growth in import of Russia's gas in 2014, European purchases declined by 11.5 per cent in the same year.⁷ Responding to sluggish demand in its major market – Europe, Gazprom produced 443.9 bcm of gas in 2014, significantly underusing its annual production capacity of 617 bcm.^{8,9}

⁴ This is commonly used by the Russian official statistics terminology; near abroad vs. far abroad to distinguish between the former Soviet republics and the rest of the European countries.

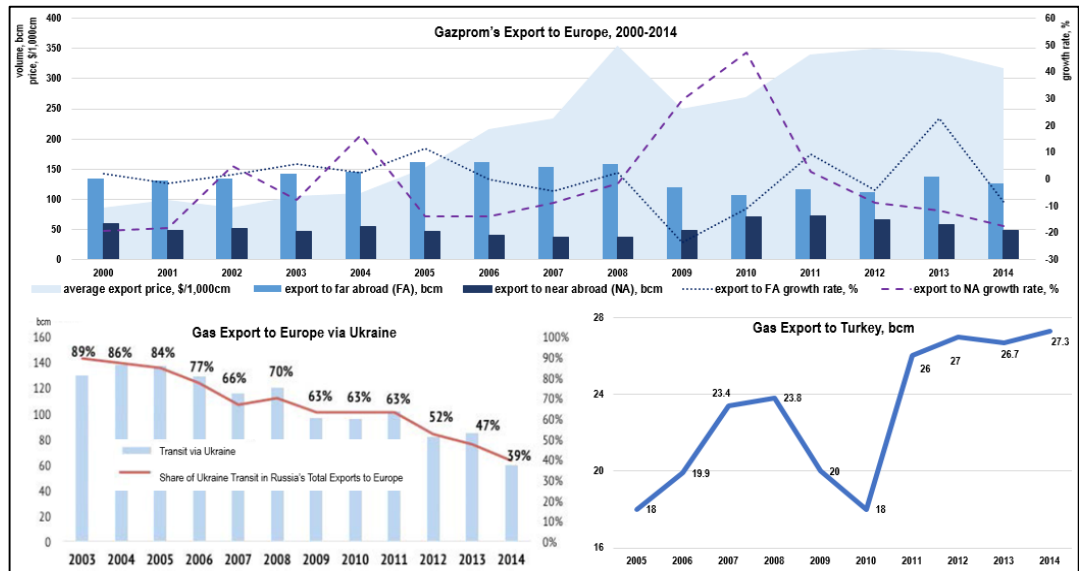
⁵ Web-site of the Central Bank of Russia.

⁶ "Gas Export and Enhancing Reliability of Gas Supply to Europe", Gazprom's Press Conference, June 9, 2015 (<http://www.gazpromvideo.ru/en/gazprom-press-conferences/2015/export/>, retrieved 26 June 2015).

⁷ Web-site of Eurogas.

⁸ Полунин, Андрей (2015). Туркмения пытается вытеснить "Газпром" на восточном направлении, *Caspian Barrel*, 11 июля (<http://caspiabarrel.org/?p=32352>, retrieved July 11, 2015).

⁹ Добыча «Газпрома» в 2015 году упадет до минимума в истории компании – Минэкономразвития, *Интерфакс*, 28.07.2015 (<http://www.vedomosti.ru/business/news/2015/07/28/602445-dobicha-gazproma-v-2015-g-upadet-do-minimuma-v-istorii-kompanii---minekonomrazvitiya>, accessed July 29, 2015).

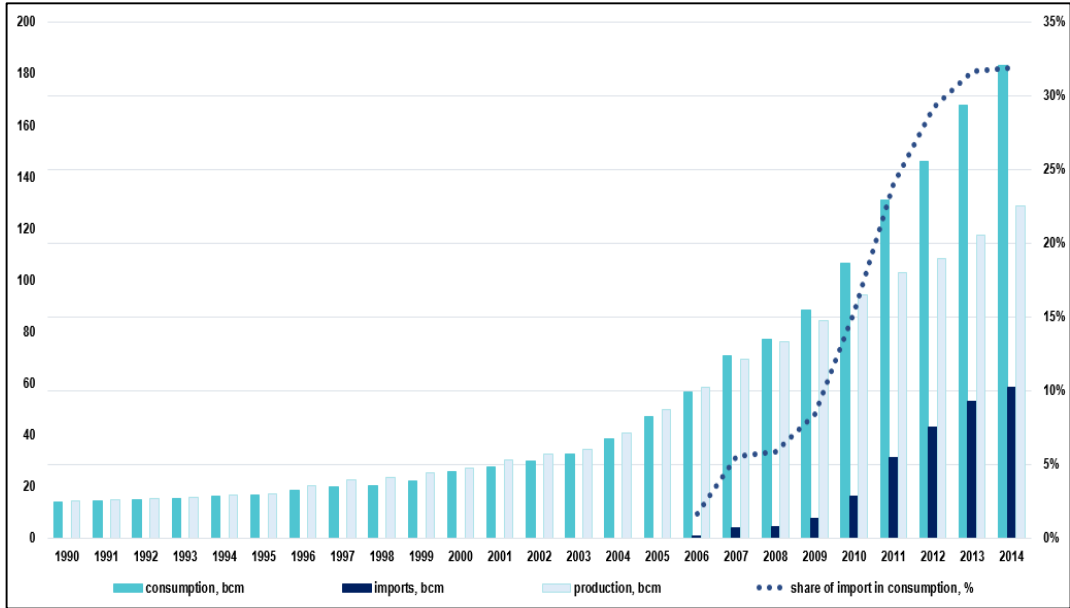
Figure 3: Gazprom's Gas Export to Europe

Source: author, based on <http://www.gazprom.ru/f/posts/38/513195/gazprom-investor-day-presentation-2015.pdf> and http://www.cbr.ru/statistics/print.aspx?file=credit_statistics/gas.htm&pid=svs&sid=vt3

As far as the Asian markets are concerned, Gazprom, as is known, has no export pipeline facilities there, but plans to build such, targeting first of all China.¹⁰ China's gas demand has been growing rapidly (Figure 4) owing to economic growth and, more recently, because of the increasing role of natural gas in the country's energy mix as part of the government's vigorous efforts to tackle the problem of air pollution. However, China's gas demand is certain to demonstrate declining growth rates to match its "new normal" rate of economic growth.

¹⁰ "Gazprom in Eastern Russia, Entry into Asia-Pacific Markets", Gazprom's Press Conference. June 16, 2015 (<http://www.gazpromvideo.ru/en/gazprom-press-conferences/2015/pacific-rim/>, retrieved 26 June 2015).

Figure 4: China's Gas Production, Consumption and Import, 1990-2014 (left-hand axis – bcm, right-hand axis - %)



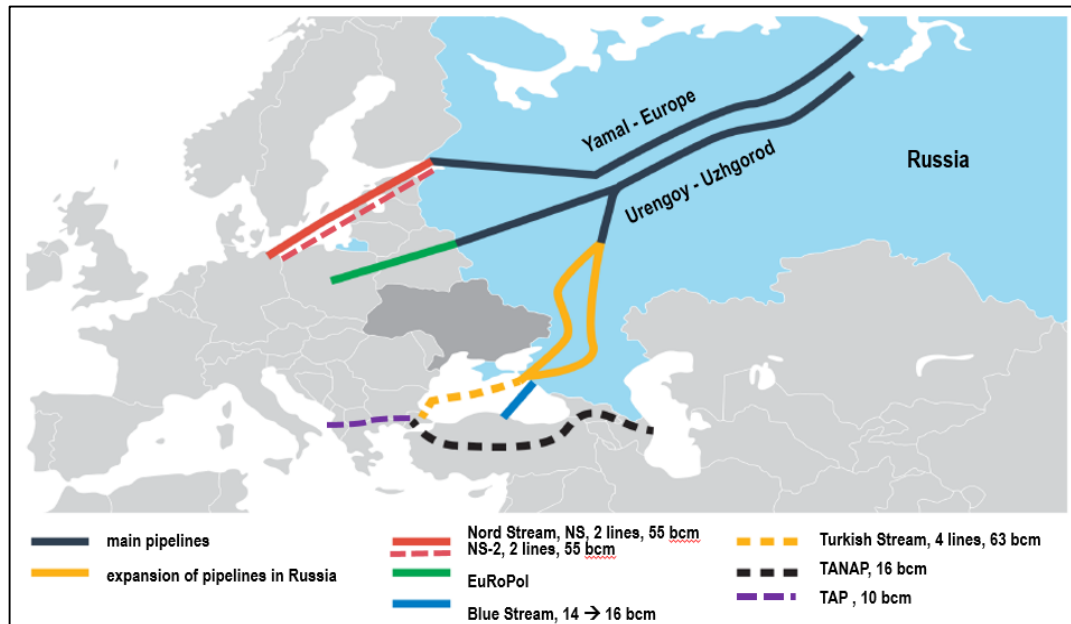
Source: author, based on BP Statistics and other sources.

Concerned to address commercial risks associated with the EU's pursuance of (disadvantageous for Russia) import diversification, as well as the risks of transit via Ukraine, and seeking new large and potentially growing markets, Russia has initiated the rerouting of its traditional pipeline links with Europe and the expansion towards new markets in Asia (Table 1, Maps 1 and 2). The former involves the construction of four lines of the TS, or, and what appears more likely to happen, only one line to serve Turkey's demand exclusively; and the NS-2 to bring Russia's gas directly to Germany. The latter implies building the PoS and PoS-2, with the probability being high for the second project to be postponed until China sees clearer its western provinces' gas needs. Combined, these efforts in both west and east are believed to be instrumental in establishing Russia's Eurasian gas pipeline network.

Table 1: Russia's Recent Gas Pipeline Initiatives

Europe	Asia
<p>Turkish Stream (TS) proposed December 1, 2014: Gazprom and Botaş Petroleum Pipeline Corporation 63 bcm/ 15.75 (for Turkey) + 15.75 *3 (for Europe); €15.5 bn (\$17.2 bn); 1st line – end of 2016 910 km (offshore)+180 km (onshore, Turkey) Russia (Russkaya) – Turkey (Kıyıköy) – Turkey/Greece (İpsala)</p>	<p>Power of Siberia (PoS) agreed May 21, 2014: Gazprom and CNPC 38 bcm/y (→ 61 bcm); \$55-70 bn, 1st stage – end of 2018 3,177 km (3,968 km, after Kovyktinskoe is linked) (Kovykta, later stage) – Chayanda – Lensk – Aldan – Olyokminsk – Neryungri – Skovorodino – Belogorsk – Blagovezhensk (→China) – Birobidjan – Khabarovsk – Daljnerechensk (→China) – Vladivostok – (→South Korea - ...) Chayandinskoe field – start 2018; reserves 1.2 tcm; gas extraction – 25 bn cm/y; Kovyktinskoe – start 2021; reserves 1.9 tcm, helium 3 tn cm, gas condensate 77 mn t; gas extraction – 30-35 bn cm/y</p>
<p>Nord Stream -2 (NS-2) announced June 18, 2015: Gazprom and E.ON, Royal Dutch Shell, OMV; 1,224 km along NS; 2 lines 55 bcm; end of 2019</p>	<p>Altai (PoS-2) confirmed May 8, 2015: Gazprom and CNPC 30 bcm/y; \$14 bn; 2018 2,622 km: deposits in Yamal Nenets and Khanty Mansiisk Autonomous District, Tomsk and Novosibirsk Region, Altai Krai – Republic of Altai – Xinjiang region, Western China – West-East gas pipeline (Novosibirsk – Barnaul – Biisk – Gorno-Altaiisk → China) main field Yurubcheno-Tokhomsкое (reserves 709 bcm) and fields in Nadym Pur Taz region</p>

Source: Author, based on Gazprom's official web-site information.

Map 1: Russia's Gas Pipelines and Azerbaijan's TANAP and TAP for Europe

Source: Adapted from VYGON Consulting.

Map 2: Russia's China-oriented Gas Pipelines

Source: <http://rt.com/business/203087-putin-china-gas-deal/>

Having attached “1” to denote the implementation of a respective proposed project and “0” to indicate the opposite case (Table 2), it is possible to realise the extent of uncertainty involved with Russia’s diversification plan;¹¹ suffice it to say that there are 256 possible scenarios. Moreover, new initiatives to establish cooperative schemes (such as joint construction and exploitation of pipeline export infrastructure, co-exporting, swapping and so on) with other pipeline gas suppliers from the Caspian Sea region and Central Asia may make some corrections into Russia’s currently pursued vision of “independent” diversification.¹²

¹¹ Серов, 2015; Lossan, 2015.

¹² Создаётся азербайджано-российский газовый альянс [Sozdayotsya rossiisko-azerbaidzhanskii gazovyi aljyans], *Caspian Barrel*, July 12, 2015 (<http://caspianbarrel.org/?p=32366>, retrieved July 12, 2015).

Table 2: Matrix of Scenarios of Diversification

		Asia		
		PoS	PoS-2	PoS & PoS-2
Europe	TS	[1,0] [1,0]	[1,0] [1,0]	[1,0] [1,0]
	TS,1	[1,0] [1,0]	[1,0] [1,0]	[1,0] [1,0]
	NS-2	[1,0] [1,0]	[1,0] [1,0]	[1,0] [1,0]
	TS & NS-2	[1,0] [1,0]	[1,0] [1,0]	[1,0] [1,0]
	TS,1 & NS-2	[1,0] [1,0]	[1,0] [1,0]	[1,0] [1,0]

Source: Author.

Elements of the Analysis

In the following, we rely on the notions of institutional environment (IE) and institutional arrangement (IA) (Davis and North, 1971: 6-7), understanding the former as a set of more fundamental political, social and legal rules that create the basis for production, exchange and distribution,¹³ and the latter as the ways in which economic actors interact. Alternatively, IE can be analogised to formal institutions and IA to informal ones.

Formally speaking, institutions can be static or dynamic. The latter undergo transformations in two different ways: via evolution and spontaneous changes or via designed and managed processes (Williamson, 1996; North, 2005; Vatn, 2005). For institutional transformation to take place, the relationship between the scale of unanticipated shock and the size of accumulated institutional capital is crucial (Moriguchi, 2000:8). Institutional capital serves to preserve the continuity of IE, which tends to converge to a given equilibrium. The players accumulate knowledge and skills that reinforce and stabilize the existing IE. This is called the *self-reinforcing process* of institutional development. Unanticipated shock, however, generates a shift in the strategic responses of the players. If a shock is sufficiently

¹³ Contract law and property rights are the examples of the IE.

large relative to the size of accumulated institutional capital, the IE is likely to shift towards a new equilibrium causing institutional transformation.

When engaged in the course of institutional change, the actors typically seek either improvement of efficiency or protection of their interest. Consequently, institutional changes are often analysed upon theoretical framework of transaction costs and vested interests. Institutions serve to reduce the transaction costs, more precisely, the *ex post* costs that result from the contracting. “Transaction economics is always ... an exercise in comparative institutional analysis, comparing two or more feasible forms of organisation.” The efficacy of a form of organisation (market, hybrid, hierarchy or public bureau) “is examined in relation to the attributes of transactions” (Williamson, 1995: 185, 175). Transactions can be characterised by frequency (with which transactions recur), uncertainty (to which transactions are subject to), the degree of asset specificity and the ease of measurement. In transaction economics, mutual dependence between exchanging partners may cause opportunistic behaviour, unless they reflect the relevant contractual hazards (originating in assets specificity) in the terms of the exchange (price reflecting hazards and safeguards). As asset specificity increases and the needs for cooperative adaptation rise, markets give way to hybrids, which in turn give way to hierarchies (Williamson, 1995).

Importantly, similar institutions (both political and economic) lead to similar policy preferences, and therefore less conflict (Souva, 2004). Institutions in Russia’s state-intensive economic system based upon “an institutionalised monopoly of the state, a ruled-ruler regime with a maintained rent appropriation” (Cohen, 2009: 40) display little similarity with those in the EU, but appear to be more compatible with those in China (Shadrina 2014a, 2015a; Karaganov et al., 2014).

The article concerns Russia’s gas export diversification induced by institutional transformations relative to imposed economic sanctions and evolution of the EU’s intra-regional gas market regulations.

Economic Sanctions and Associated Changes in Institutional Environment

Russia’s gas policy evolves in response to the changes in IE (Shadrina, 2014a, c, 2015a). Introduced in 2014 by the developed economies sanctions¹⁴ can

¹⁴ For details see: Санкционные списки против российских граждан и компаний. RiaNovosti (<http://ria.ru/politics/20140718/1016514535.html>, retrieved July 23, 2014); Санкции в отношении России. RiaNovosti. July 31, 2015 (http://ria.ru/trend/eu_russia_sanctions_14032014/, retrieved July 23, 2014); and Ukraine-related Designations; Sectoral Sanctions Identifications. U. S.

be treated as a multi-factor parameter affecting IE of Russia's gas export strategy (Shadrina, 2015e).

Sanctions serve to express maximum disapproval of the target nation's policies and are anticipated to weaken the military and/or economic potential of a targeted nation. In essence, sanctions serve to help transmit/impose policy preferences of one nation or group of nations (senders) on a target nation. Whether sanctions are imposed is a matter of costs - benefits equation as relates to both a target and a sender. Sanctions can be understood as resulting from incomplete and/or asymmetrical information.

Galtung defines sanctions "as actions initiated by one or more international actors ("the senders") against one or more others ("the receivers") with either or both of two purposes: to punish the receivers by depriving them of some value and/or to make the receivers comply with certain norms the senders deem important" (1967: 379). While both purposes can be present, it is yet possible to distinguish which one is dominant. The term "economic sanctions" has no commonly agreed definition. Hufbauer, Schott, Elliott and Oegg define economic sanctions as the "deliberate, government inspired withdrawal, or threat of withdrawal, of customary trade or financial relations" (Hufbauer et al., 2007: 3).

Sanctions literature is diverse. *The domestic politics/ symbolic approach* focuses on the politics within the sender and target countries (Kaempfer and Lowenberg, 2007). *The signalling approach* (Drezner, 2000; Pape, 1997) argues that in a world of imperfect information, substantial costs incurred by the sender (e.g., military expenses) can signal the intent that threats will be carried out. *The conflict expectations model* argues that if the sender and the target are adversaries, the target will be more reluctant to acquiesce under the pressure of economic sanctions because its concessions represent a transfer of political leverage to the sender, magnifying the long-term impact of the concession in the target's eyes (Drezner, 1999). Application of *political economy approach* enables employment of concepts of trade sanctions and disinvestment (Miyagawa, 1992; Kaempfer and Lowenberg, 2007), interest group and game-theoretic constructs (Tsebelis, 1990). The voluminous literature is devoted to sanctions' *effects* and *effectiveness* (Galtung, 1967, 1996; Hufbauer et al., 1985, 1990, 2007; Drezner, 1990, 2011; Lopez and Cortright, 1995; Carim et al., 1999; Collins and Bowdoin, 1999; Kaempfer and

Lowenberg, 2007; Tsebelis, 2009; Farzanegan et al., 2015 and so on).

In the 1990s, the sanctions practices evolved to embrace the idea of *targeted*, or *smart*, sanctions, which include the freezing the offshore assets of the individual members of the target nation's ruling elite, travel bans on government officials and wealthy business elite, restrictions on commercial transactions between the target nation's companies in certain sectors with the outside world and so on. Smart sanctions are believed to be instrumental in putting pressure on a specific issue within objectionable behaviour group. Kaempfer and Lowenberg (1998, 2004, 2007) applied public choice theory to examine the effectiveness of targeted sanctions. Game-theoretical framework has been used to estimate the incentives for both the sender and the target nation, examine scenario(s) and evaluate the payoffs of the two players involved (Tsebelis, 1990; Lacy and Niou, 2004; Hovi et al. 2005).

Although targeted sanctions are designed in order to avoid significant humanitarian consequences, the empirical studies confirm that prolonged sanctioning practices unquestionably result in certain damage for the extended population (Hufbauer et al., 1997; Drezner, 2011; Farzanegan et al., 2015). The effects of targeted sanctions surpass the imaginary borders of political circles and business elite to toughen ordinary peoples' lives. Quite logical, for instance, that oil embargoes and financial and technological sanctions on oil sector of an oil-exporting economy eventually undermines the population's well-being. Trade sanctions' impact on economy is largely defined by price elasticity (Kaempfer and Lowenberg, 2007), and general economic equilibrium depends on elasticity of substitution and elasticity of transformation (Farzanegan et al., 2015). Economic decline in the targeted state impoverishes the lower classes and weakens the middle classes, while the regime shields and rewards the elites that support it. Sanctions typically cause the emigration of the intellectual elite. Sectorally, sanctions affecting transportation and financial sectors trigger profound consequences (Biersteker, Eckert and Tourinho, 2012). Between trade and financial sanctions, the latter are found to be much more potent (Hufbauer et al. 1990, 2007). Hence, economic sanctions have various effects on a target economy. Measuring the effectiveness of sanctions, however, is harder. Almost invariably, sanctions research confirm that targeted sanctions hardly succeed in coercing the receiver into making concessions (Galtung, 1967) and even if initially present, the negative effect tends to weaken after two years of sanctioning and eventually disappears due to the target economy's adjustment to a new equilibrium (Dizaji and Bergeijk, 2013). Therefore, economic sanctions are generally seen as ineffective (Kampfer and Lowenberg, 2007; Nincic, 2011). It is evidenced that while the targeted nation is often able to adapt to new

economic circumstances, popular discontent with sanctions more often translates to animosity toward the senders rather than the domestic leadership, producing the so-called rally-around-the-flag effect (Galtung, 1967; Kampfer and Lowenberg, 2007). Similar effects of sanctions are observed in contemporary Russia.¹⁵

Sanctions are not new to the Russian energy sector (Богатуров и Шаклеина, 2003; Борисова, 2014). In the early 1980s, the US initiated sanctions, which were, like nowadays, designed to target the Soviet Union's (SU) fuel energy complex. Similarly to what is taking place now, the US have found the means to persuade Western European nations and Japan to join the punitive trade, financial and technological restrictions despite the fact that halting energy cooperation with the SU was against Europe's and Japan's commercial interests. If not for the US's sanctions, the SU could have its first LNG plant constructed in Sakhalin by several decades earlier (杉本, 2015).

In the course of the Ukrainian crisis, Russia-EU relations have significantly deteriorated across wide range of aspects, including energy. Condemning Russia's position vis-à-vis the situation in Ukraine and seeing Russia responsible for the deepening Ukrainian conflict, the EU, as well as US, Canada, Australia, Norway, Japan and some other countries launched punitive sanctions against Russia in March 2014. Initially, Russia's gas sector was not targeted, which seems tenable given the role Russia plays as the EU's gas supplier. However, some measures to restrict the activity of certain gas producing companies and businessmen were eventually imposed by the EU in September 2014.¹⁶

Contemporary sanctions include trade, financial and technological restrictions (Table 3), which undoubtedly increase the transaction costs and result in various inefficiencies.

¹⁵ See results of regular public polls: <http://www.levada.ru/>.

¹⁶ The US introduced a larger scale of energy sector targeted sanctions as early as in July 2014. For more detail see: <http://ria.ru/politics/20140718/1016514535.html#3> and http://ria.ru/trend/eu_russia_sanctions_14032014/ (retrieved July 21, 2015) and Cwiek-Karpowicz et al., 2015: 113-150.

Table 3: Sanctions-Triggered Changes in IE for Russia's Gas Policy

Type	Measures → Effect	Counter-measures
Trade restrictions	Products under the EU's deep water oil exploration restrictions => increasing technical and technological limitations	Substitution by domestic supplies ^{17, 18} and imports from non-(sanctions)senders
Financial transactions restrictions	Gazprombank, VTB Bank, VEB, Eximbank of Russia, Far East and Baikal Region Development Fund OJSC, Federal Center for Project Finance, etc. => lack of financial resources to fund exploration and production activity	National Wealth Fund (NWF) funding, ¹⁹ re-orientation towards financing from non-senders
Bans on transactions with sanctioned entities	Gazprom, Gazprom Neftj, Rosneft, Transneftj, Surgutneftegaz, Lukoil, Novatek, SJSK Vankorneftj, PJSC Verkhnechonskneftegaz, OJSC Angarsk Petrochemical Company, etc. => impossibility to continue wide-range cooperation with IOCs	Diversification towards non-senders
Restrictions in technology transfer	Gazprom, Gazprom Neft, Lukoil, Rosneft, Surgutneftegas => increasing technological insufficiency, especially in the segment of offshore "green fields" and non-traditional reserves	Substitution by domestic supplies and imports from non-senders ²⁰
Industry sector sanction list	Line pipe, oil well drill pipe, mobile drilling derricks, etc.	Substitution by domestic supplies ^{21, 22} and imports from non-senders
Travel restrictions	Igorj Sechin (Rosneftj), Arkady, Boris and Roman Rotenbergs (Stroygazmontazh, etc.), Gennady Timchenko (Gunvor), etc. => limitations on companies' transactions	Re-orientation towards non-senders

Source: Author.

¹⁷ Импортозамещение обойдется в 1,5 трлн рублей [Importozameshchenie Oboidyotsya v 1.5 Trilliona Rublei], *Известия*. April 2, 2015 (<http://izvestia.ru/news/584888>, retrieved June 2, 2015).

¹⁸ Лабькин, 2015.

¹⁹ Лалетина, 2015.

²⁰ Российская "нефтянка" не может жить на западном обеспечении, *Национальная Ассоциация нефтегазового сервиса*. 12 июля 2015. (<http://nangs.org/news/industry/rossijskaya-neftyanka-ne-mozhet-zhit-na-zapadnom-obespechenii-1055>, retrieved July 21, 2015).

²¹ Об утверждении плана мероприятий по импортозамещению в отрасли нефтегазового машиностроения Российской Федерации [Ob Utverzhdenii Plana Meropriyatii po Importozameshcheniyu v Otrasi Mashinostroeniya Rossiiskoi Federatsii]. Министерство Промышленности и Торговли Российской Федерации. Приказ № 645. 16 марта 2015 (<http://minpromtorg.gov.ru/common/upload/files/docs/645.pdf>, retrieved June 2, 2015).

²² Самофалова, Ольга (2015). Санкции помогут вернуть в Россию производство нефтегазового оборудования", [Sanktsii pomogut vernutj Rossii proizvodstvo neftegazovogo oborudovaniya] *Взгляд*, 11 марта (<http://www.vz.ru/economy/2015/3/11/733772.html>, retrieved March 12, 2015).

EU's Harmonisation for Gas Market Regulation and Changes in Institutional Arrangements

Specificity of assets in the energy sector has particular bearings because the inflexibility of the party which endures most of sunk costs creates a problem known as a *hold-up* problem. Gas disputes between Russia and Ukraine in 2006 and 2009 are telling illustrations of this very nature. Lucidly, the only way to eliminate a hold-up problem between the contracting parties is to jointly bear the sunk costs, thereby creating an authentic incentive for sharing the risks associated with the transactions with the asset. Transactions are embedded into uncertainties, both with respect to the behaviour of the contracting parties and with respect to the market developments. Because the frequency of interactions is inversely related to transaction costs, for the purpose of ease of regular dealings, the contracting parties create certain routines and implicit mutual understandings that reduce the need for formal enforcement mechanisms. Frequency is a quality of long-term (or at least long-term-oriented) relationship where *ex ante* – *ex post* gap is non-existent, negligible or manageable. In other words, to commit a long-term relationship the contracting parties need either to have homogeneous or very compatible formal and informal institutions or be ready to attune their differences to a mutually acceptable extent.

Following this line, Russia's diversification away from the European gas markets and towards the Asian consumers appears to be rational. As Russian supplier – Gazprom - faces growing uncertainties of demand in traditional European gas markets following the adoption of the EU's Third Energy Package (TEP), it restructures its export portfolio to include Asia. Especially, Gazprom's long-term contacts with the European customers have been increasingly challenged by the changing IE of the EU's gas market.

Starting from 2009, when the EU developed the TEP,²³ Russia's gas policy has been at sharp contrast with the EU's course to harmonisation of regulation and integration of intra-regional gas markets. Gazprom's business model for Europe has become incompatible with the proclaimed principles of strengthening the independence of regulators; establishment of the Agency for the Cooperation of Energy Regulators (ACER); development of cross-border cooperation between Transmission System Operators (TSO) and the creation of European Networks for

²³ Market Legislation Energy, European Commission (<https://ec.europa.eu/energy/en/topics/markets-and-consumers/market-legislation>, retrieved July 12, 2015).

TSOs; and pursuance of transparency in retail markets to benefit consumers. In February 2015, the EU moved further and announced the creation of the Energy Union (EU) based upon such key pillars as energy security through solidarity, an integrated European energy market, increased energy efficiency, decarbonisation of the economy and intensified innovation. Gazprom realises that it needs to revise seriously its current business model for Europe, because such liberalisation and harmonisation of European intra-regional markets will certainly depress the EU's demand for Russia's gas if not immediately then over the medium to long term.

Overall, progressively dynamic process of institutional changes towards integrated liberalised gas market in the EU has been contrasting with Russia's incremental and path dependent statist approach to its gas policy. Indeed, although the introduction of bi-modal gas policy in December 2013 (Shadrina, 2014a) partly liberalised the segment of LNG exports,²⁴ the monopolistic status of Gazprom in the pipeline gas sector and, in particular, in export of pipeline gas has been preserved.

For a number of reasons, but mainly because of economic downturn and competition from new suppliers, Gazprom faces decreasing demand in Europe. Moreover, the European Commission makes it clear that if Gazprom intends to continue its exports to Europe, it shall transform its business model built upon long-term contracts (LTCs), destination clauses, and oil indexation, in line with the EU gas market regulatory framework. In addition, the EU has been signalling that more constructive gas relations with Ukraine are very much anticipated.²⁵ Initially Gazprom was rather firm about discontinuing the transit via Ukraine after the current contract expires in 2019,²⁶ but recently it has been disclosed that the company examines the possibilities beyond 2019.^{27, 28}

Attempting to retain its market share in Europe, Gazprom has been

²⁴ "Russia Approves LNG Export Liberalisation Law", *Argus Media*, December 2, 2013. (<https://www.argusmedia.com/News/Article?id=877545>, retrieved December 2, 2013).

²⁵ EU Condemns Russia's Plans to Ditch Gas Transit through Ukraine by 2019, *RT*, July 15, 2015 (<http://www.rt.com/business/273898-european-commission-ukraine-gas/>, retrieved July 15, 2015).

²⁶ "Russia Has no Plans to Renew Contract for Gas Transit via Ukraine After 2019", *Oil & Gas Russia*, April 14, 2015 (<https://www.oilandgaseurasia.com/en/news/russia-has-no-plans-renew-contract-gas-transit-ukraine-after-2019-%E2%80%94minister#sthash.12Z7XOG0.dpuf>, retrieved July 12, 2015).

²⁷ "Putin Instructed Gazprom to Conduct Talks with Ukraine on Gas Transit after 2019", *Caspian Barrel*, June 29, 2015 (<http://caspianbarrel.org/?p=32053>, retrieved July 12, 2015).

²⁸ Lossan, Alexei (2015). "Why Gazprom became so flexible?", *Russia beyond the Headlines*, July 6, 2015 (http://asia.rbth.com/business/2015/07/06/why_gazprom_became_so_flexible_47497.html, retrieved July 20, 2015).

demonstrating particular flexibility in pricing mechanisms. If, a result of adjustment of its business practises, Gazprom's gas is transparently priced and competitive, there is no economic reasoning for the European consumers to reject these offers over the Eurasian pipeline gas and LNG imports from Qatar, Australia or the US.

Effects of Sanctions and EU's Gas Market Harmonisation on Russia's Gas Sector

The St. Petersburg Economic Forum (Forum) in June 2015 revealed a wary attitude of western business to the Russian economy under sanctions. The total value of the deals concluded at the 2015 Forum was estimated at \$5.4 bn, or by \$2bn less than in 2014. The sanctions exposed especially critical dependency of Russia's energy sector on foreign technology. Ministry of Energy assesses the share of Russia's own technologies for the development of traditional oil and gas deposits at 80 per cent, for hard-to-extract hydrocarbon resources - at 40-60 per cent and for shelf (offshore) resources at less than 20 per cent.²⁹

Under the sanctions, Russian energy companies have been hoping to receive the national government support through the means of the NWF (not much was actually allotted³⁰), as well as via the funding for import-substitution programs managed by the Ministry of Economic Development (Shadrina 2015e). Also, domestic energy companies themselves have been inventive in their attempts to bypass the imposed restrictions.³¹ Yet, the combined effect of sanctions, EU's reforms and declining energy prices can be clearly sensed through the progress of recently proposed gas projects (Table 4).

²⁹ Лабькин, Александр (2015). "Долгий путь к своим" [Dolgii Putj k Svoim]. *Эксперт*, March 14 (<http://expert.ru/expert/2015/12/dolgij-put-k-svoim/>, retrieved June 23, 2015).

³⁰ Минфин затягивает выделение средств ФНБ нефтяным компаниям, *Пронедра*, 3 июня 2015 (<http://pronedra.ru/oil/2015/06/03/minfin-ekonomit-denigi-fnb/>, retrieved July 3, 2015).

³¹ Лабькин, Александр (2014). "В санкциях полно лазеек" [V sanktsiyah polno lazeek] *Эксперт*, № 40 (917), 29 сентября (<http://expert.ru/expert/2014/40/v-sanktsiyah-polno-lazeek/>, retrieved February 12, 2015).

Table 4: Principal Developments in Russia's Gas Sector (as of the end of July 2015)

Company	Region	Started	High Probability of Implementation	Scrapped* or Post-2020	Recent Developments under Sanctions
Gazprom (GP)	East	PoS gas pipeline, 5 bcm/a commissioning 2018	PoS-2 (Altai) 3 rd train LNG plant Sakhalin II, 5 Mt/y	Vladivostok, LNG plant, 5 Mt/a (→15 Mt/y)	PoS construction started in September 2014; CNPC started its part of PoS in Heihe in June 2015; PoS cost \$55-70 bn; GP's possibility to fund out of \$25bn of CNPC's advanced payment; negotiations on Altai (PoS-2) continue, agreement expected within 2015; Sakhalin-2 is the world's most efficient LNG project (111% capacity) ³² . GP and Shell signed agreement on Sakhalin-s 3 rd train on June 18, 2015. GP retains monopolist position in pipeline sector; GP's main strategy is expansion of exports to China
	West		TS, 1 line (15.75 bcm), 2016 NS-2, 1 line (27.5 bcm), 2019	the South Stream* NS-2, 2 nd line; TS 2-4 lines Baltiisky LNG 8Mt/y	TS: GP, Botas and others; GP started and stopped some construction works along former South Stream route; funding of \$17.2 bn (€15.5bn) for the TS is unclear; NS-2: GP and Royal Dutch Shell (together with Germany's E.ON and Austria's OMV) to fund 30% of \$11.2bn (€9.9bn) and 70% - via bank loans.
Rosneft (RN)	East			Dal'nevostochny LNG plant 5 Mt/a (→15 Mt/y)	RN sought access for its 8 bcm/y gas from Sakhalin I to GP infrastructure, but failed to receive it; RN sold 10% equity in Vankor to CNPC and offered 10% to ONGC; RN agreed with BP on 20% equity (approx. \$700m) in Taas-Yuryakh Neftegazodobycha, (JV) to further develop Sredne-Botuobinskoye oil field (SPBEF-2015); affected by sanctions RN is less likely (compared to the prior to the sanctions) to succeed in its LNG strategy; oil may remain RN's major business in the short-term; China is RN's major and growing oil importer;
	West and East			(cooperation with Alltech Group) Pechora LNG 10Mt/y	RN seeks trial liberalisation of gas export from 2016; price liberalisation and export liberalisation with some elements of government regulation by 2019-2022; full liberalisation, including gas export by 2022-2025 ³³
No-vatek (NT)	West and East	Yamal, LNG plant 16.5 Mt/y	Arctic LNG 1, Arctic LNG 2, Arctic LNG 3		3 new Arctic LNG export projects approved 13.10.2014; affected by sanctions NT is yet likely to proceed with its LNG business; NT concludes 23-yr 1 Mt/y contract with France's ENGIE (f. GDF SUEZ) June 2, 2015

Source: Author.

³² Производство СПГ России объявлено самым эффективным, 24 июля 2015 (<http://icontrade.ru/information/news/?id=1083>, retrieved July 25, 2015).

³³ Серов, Михаил и Папченкова Маргарита (2015). «Роснефть» хочет разделить «Газпром» и полностью лишить его экспортной монополии. *Ведомости*, 23.07.2015 (<http://www.vedomosti.ru/business/articles/2015/07/23/601845-rosneft-hochet-razdelit-gazprom-i-polnostyu-lishit-ego-eksportnoi-monopolii>, retrieved July 25, 2015).

In the west, Russia faced serious setbacks in negotiations with Turkey over the TS. After the Parliamentary elections Turkey's domestic political environment changed making it clear that the country will not accept a role of a mere transport corridor for the Russian gas. If any Europe-oriented project with Russian gas is to be implemented on the Turkish land, it would demand more profound engagement allowing Turkey to fulfil its longstanding aspirations for becoming a gas hub.³⁴ Manoeuvring to strengthen its negotiating position vis-à-vis Turkey, in June 2015 Gazprom has announced that Royal Dutch Shell and its long-time gas buyers in Europe – Germany's E.ON and Austria's OMV – had agreed to build the NS-2 project. The 9.9 bn euros (\$11.2 bn) NS-2 is said to be financed in a manner similar to the NS: 30 per cent came from shareholders and 70 per cent - from the bank loans. Supported by the European energy companies, the latter, however, has no backing from the European energy authorities, which set a target of no more than 25 per cent of gas from one supplier as one of the criteria for geographical diversification.

Gazprom is interested to maintain cooperation with its international counterparts. At the 2015 Forum Gazprom announced the agreement with Shell, which envisages an expansion of the firms' joint \$20 bn Sakhalin II LNG plant in the form of 3rd train of annual capacity 10 Mt, as well as global upstream asset swaps.³⁵ Yet, Total decided to return Gazprom its 25 per cent share in Shtokman Development AG, created in 2008 to develop the first phase of the Shtokman gas field. Sanctions is one of the reasons for such decision. Total is said to have received permission from the French government to work only on three projects in Russia: Yamal LNG, Kharyaginsky and Thermokarst deposits. Another reason for Total's pullout is the overproduction of gas in the American market, for which the Shtokman gas was originally intended. Experts believe that the project may regain international relevance in 5-7 years.³⁶

As far as gas cooperation with China is concerned, the PoS construction started in Russia's Yakutia in September 2014, but the negotiations over the PoS-2 (Altai) seem to have slowed down. The latter is largely affected by two factors: the

³⁴ Abay, Emre Gurkan (2015). "Major Obstacles Stand in way of 'Turkish Stream'", *Anadolu Agency*, July 23, 2015 (<http://aaenergyterminal.com/newsRegion.php?newsid=5913464>, retrieved July 23, 2015).

³⁵ "Russia's Gazprom Building Global Alliance with Shell", *Moscow Times*, 23 June 2015. (retrieved from <http://www.themoscowtimes.com/business/article/russias-gazprom-building-global-alliance-with-shell/524289.html>, 26 June 2015).

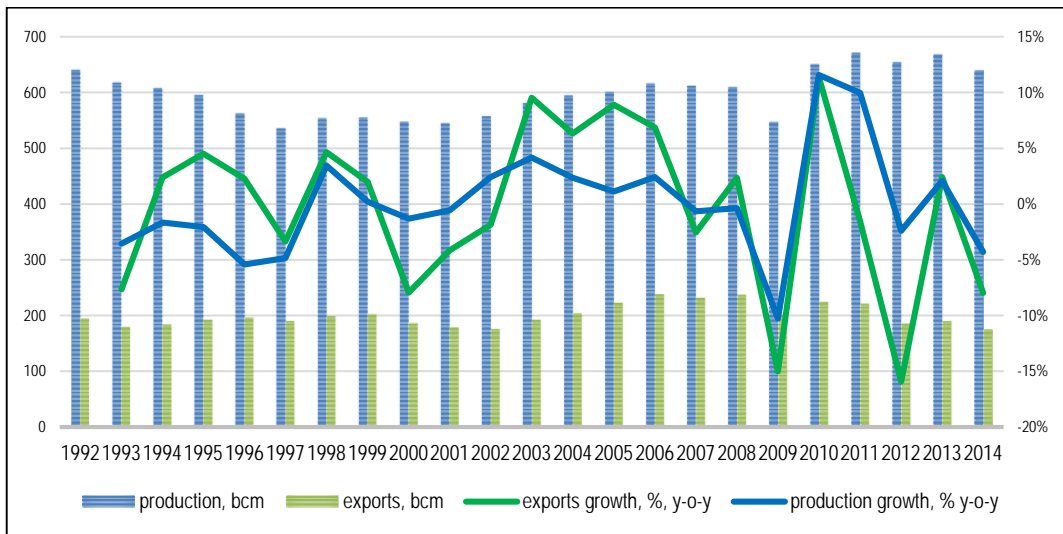
³⁶ "France's Total to Return 25% Stake in Shtokman Gas Field Project to Gazprom", *Sputnik News*, 24 June 2015 (retrieved from <http://sputniknews.com/business/20150624/1023774908.html#ixzz3e4e91U5V>, 25 June 2015).

uncertainty of gas demand in the circumstances of China's decelerating economic growth; and the uncertainty about the future dynamics of energy prices. China appears to be willing to wait until these trends reveal more clarity.

(How) Can Russia Optimise its Strategy for Gas Export Diversification?

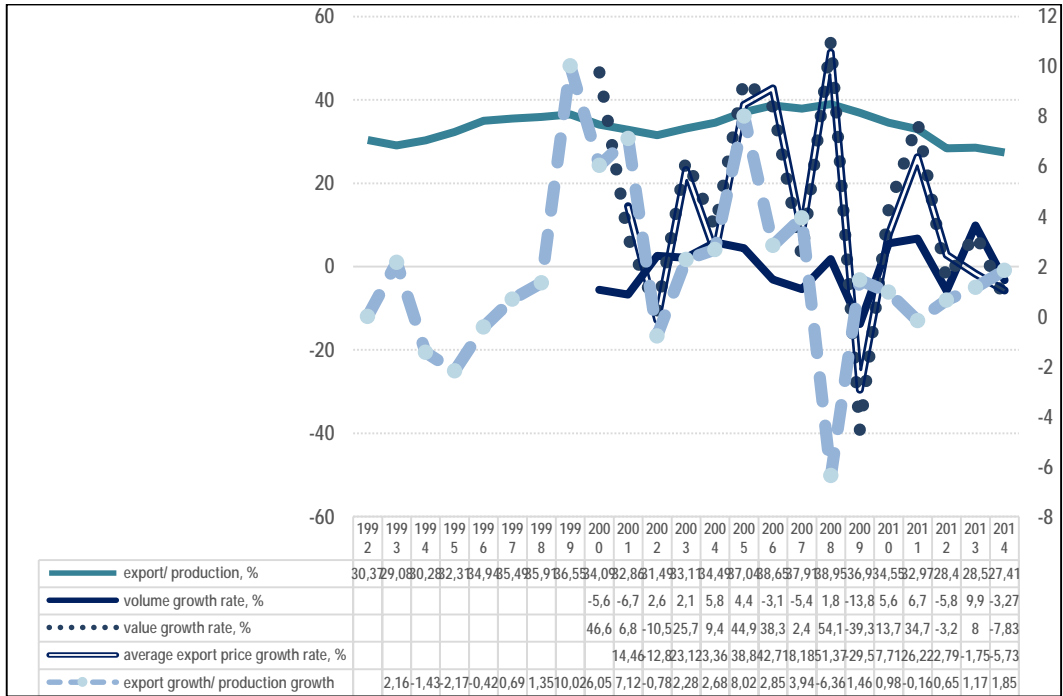
Figures 5 and 6 demonstrate fluctuations in Russia's gas export. The volatility is especially significant for the indicators of value of export. Also, while the share of export in production remains relatively stable, the parameter "export growth/ production growth" displays great variability.

Figure 5: Russia's Gas Production and Export (volume, bcm and growth rate, %)



Source: Author, based on <http://minenergo.gov.ru/activity/gas/> and http://www.cbr.ru/statistics/print.aspx?file=credit_statistics/gas.htm&pid=svs&sid=vt3.

Figure 6: Indicators of Volatility of Russia’s Gas Production and Export (% , left-hand axis and times, right-hand axis)



Source: Author, based on and http://www.cbr.ru/statistics/print.aspx?file=credit_statistics/gas.htm&pid=svs&sid=vt3.

Given that pipeline gas is entirely Europe/West-oriented, two principal aspects seem to be especially relevant for the optimisation of Gazprom’s diversification strategy; these are: improving cost efficiency and embracing competition.

Several facts and figures may help assess the scale of the problem of efficiency. Most recent Russia’s gas policy and Gazprom’s decisions have at times been dubious, to say the least. Gazprom, for instance, has spent RUR 51.7 BN (about \$880 mn) for simply keeping the Italian Saipem ready for the construction of, initially, the South Stream and later on of the TS. After Gazprom eventually terminated the contract in July 2015, Saipem intended to seek some penalty for the cancellation of the contract. What is more, Gazprom has already endured tremendous expenditures on the expansion of the domestic pipeline infrastructure to link with the TS (the Southern Corridor). These are assessed at RUR 279.2 bn (\$4.66

bn) in 2011-2014 with a plan for 2015 at RUR 278 bn, which is currently put on hold. On total, Gazprom is said to have wasted RUR 2.4 trn (approximately \$400 bn) on unfeasible undertakings,³⁷ this equals to current capitalisation of Rosneft.

Speaking of transit, it needs to be understood that even if Gazprom eliminate Ukraine as a route for pumping natural gas to Europe after 2019, it will still need to cover about \$1 bn in annual transit fees to Slovakia and Bulgaria with which it has contract till 2028 and 2030, respectively. The fact that Ukraine's Naftogaz, earned about \$2 bn in transit fees from Gazprom in 2014, which is equal to about 6 per cent of Ukraine's budget revenues (Gazprom generates about 8 per cent of Russia's GDP) needs to be attended with more consideration by all the parties interested in finding a better solution for the European gas supply security. Also, Ukraine's role in transit of Russia's gas may require more impartial analysis, because the available data suggests that Gazprom spent \$43 to ship each 1,000 cubic metres via the Nord Stream in 2014 compared to \$33 via Ukraine.³⁸

To enable the Asian vector, Gazprom relies on the Russian government's fiscal incentives.³⁹ Starting from January 1, 2015, there is, for instance, zero severance tax rate for natural gas from the fields in Yakutia and Irkutsk Region for 15-year term since the start of commercial production with further severance tax growth from 0.1 to a full rate during ten year. There is also zero corporate property tax rate for gas trunklines and constructions being their essential process part, gas production facilities, helium production and storage facilities located in Yakutia, the Irkutsk and Amur Regions until January 1, 2035. The total value of tax exemptions associated with the implementation of the PoS pipeline is estimated at \$1 bn (Shadrina 2015a).

Without a doubt, Gazprom has commercial interests to continue gas business in the European markets. The company has certain advantage here owing to geographical location. The Soviet era built infrastructure is operated at relatively low costs, while the extensions and new routes are gradually constructed. Since the end of 2014, both Russia and the EU have engaged into a marathon of new pipeline projections. Gazprom needs to understand that any project based upon the traditional

³⁷ Серов, Михаил (2015). «Газпром» пострадал от мании добычи. *Ведомости*, № 3883. 29.07.2015 (<http://www.vedomosti.ru/business/articles/2015/07/29/602559-gazprom-potratil-24-trln-rub-na-nevostrebovanie-proekti#.VbhUZ2Flwa0.facebook>, accessed July 29, 2015).

³⁸ Golubkova et al., 2015.

³⁹ On the Amendments to the Law of the Russian Federation on Subsoil Resources and Individual Legislative Acts of the Russian Federation. Federal Law No. 364-FZ. November 30, 2011.

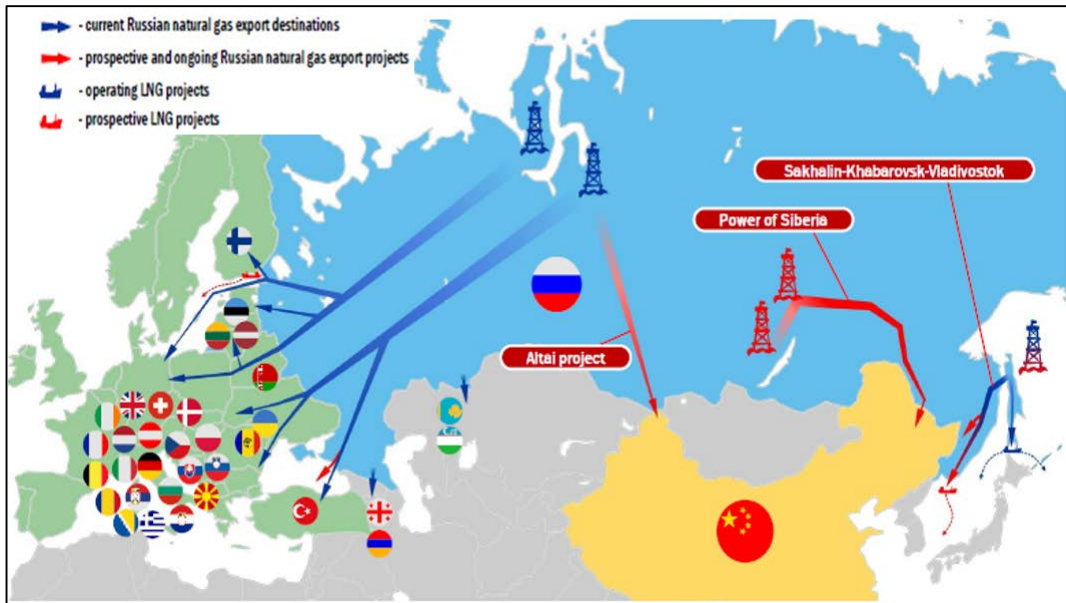
business model has no chance to succeed in Europe. On the other hand, the EU needs to realise that fulfilling its target of “diversification away from Russia’s gas at any cost” is highly irrational as it requires building new infrastructure, especially in Eastern Europe, where the density of pipeline network is relatively low and the capacity of LNG terminals is insufficient. When counting the costs associated with the construction of new re-gasification terminals, long-distance pipelines to bring gas from Azerbaijan, Turkmenistan and possibly even from as far as Iran and Iraq, Russia’s supplies are more price competitive for European consumers. In addition, it is obvious that it will take some time for the alternative supplies to reach the volumes comparable with the current Gazprom’s exports. The rational way of doing business is to attempt to find mutually acceptable solutions for the institutional divergence.

Despite higher production costs in Russia’s east, geographical proximity to the Asian consumers makes transportation costs relatively lower, which in turn promises certain price competitiveness. Overall, if, Russia-based gas producers (national and international) are seriously interested in developing their Asian portfolios they are likely to find export opportunities in both pipeline and LNG segments.

Touching upon the issue of competition, a result of financial and technological sanctions on Russia’s largest energy companies as well as Russia’s LNG export liberalisation, the competition in the domestic gas sector is intensifying. Gazprom’s monopoly is increasingly challenged by the aspirations of its principal rivals to export to the European markets (Novatek, LNG) and Asian markets (both Novatek (LNG) and Rosneft (LNG and pipeline gas)). So-called independent gas producers are also steadily gaining their share in Russian gas sector. It appears that Gazprom, which is accustomed to operate in monopolistic market, has no choice but to prepare itself for the transformations that competitive market demands from a supplier. In Europe, while attempting to pursue its new undertaking - Turkish Stream – in compliance with the EU’s Third Energy Package (TEP) regulations, Gazprom will first compete with Azerbaijani SOCAR promoting its TANAP and TAP gas pipelines and later on with more producers from Central Asia and beyond, which are likely to follow suit. By concluding the PoS gas pipeline deal with China’s CNPC, Gazprom proved its competitiveness vis-a-vis Central Asian exporters. The developments on the PoS-2 (Altai) pipeline will demonstrate whether Gazprom’s competitive advantage is sustainable. Even though China’s gas imports growth rates are declining gradually due to modest economic growth coupled with success in indigenous gas (coalbed methane and shale gas) development, the country depends

for over 30 per cent on imported gas (Shadrina 2014c). Importantly, the development of LNG receiving infrastructure does not defy the prospects for pipeline gas imports. China's wariness concerning the security of sea-lanes is one of the determinants behind its decision to create a pipeline link with Russia. Central Asian supplies do not undermine Russia's prospects in China, because as China expands its domestic West-East Pipeline (WEP) network, more gas is needed for its less developed provinces in northeast and northwest. No less important, Central Asian producers have also realised the benefits of export diversification and now are willing to direct some of their supplies to the European markets.

Map 3: Gazprom's Gas Export Destinations



Source: <http://www.gazprom.ru/f/posts/38/513195/gazprom-investor-day-presentation-2015.pdf>.

Overall, the competition in the European and Asian markets does not bar Gazprom from entry into the markets. As diversification has become the principal strategy of all the players involved, every actor has a chance to succeed in a chosen market. The payoff is to be determined by the timeliness and efficiency of strategic moves. The most critical matter Gazprom needs to address, and this is equally vital for both European and Asian markets, is development of a business model that can help the company adapt to the ongoing gas market transformations. Although gas business is not a genuinely global market, it has certainly become more globalised with the supply-demand dynamics overcoming purely regional limits, which in turn

informs the expectations for a more transparent price (free from arbitrage component) and efficient pricing systems. In the west, Gazprom's task is to adjust its business model to enable the continuation of gas relations with Europe in the long-run, while in the east the company needs to establish an effective strategy for the Chinese and even broader for other Asian markets.⁴⁰ In either case, the success is to be defined by the capability to operate in the environment of intensifying price competition. Given Gazprom's poor financial performance in 2014 and the beginning of 2015, the company needs to focus on strategically prudent investment decisions, financial discipline and cost-effective solutions.

Conclusion

The sanctions inflicted damage to Russia's energy sector (and broader, spreading to the rest of its energy-dependent economy) and induced further transformation in Russia's gas policy towards Asia (Shadrina, 2014b, 2015e). Diversification has been the dominant strategy for the EU's and Russia's energy policy even prior to the sanctions. What sanctions have brought is a significant change in the IE, which is why albeit not the cause of energy policy transformations, sanctions may yet be seen as facilitator of the latter.

Asia's role in Russia's gas exports is projected to grow dramatically turning the region into Russia's key market. Yet, Russia's understanding of diversification does not exclude Europe. In the meantime, Russia and the EU appear to have engaged in the diversification rush at any cost, casting commercial reasoning and profit-maximisation logic aside. Russia's determination to commence with the construction of the TS gas pipeline in the beginning of 2015 was not supported by feasibility studies, preparatory contractual work and in absence of an intergovernmental Russia-Turkey agreement. Uncertainty has been lingering about every aspect of the project. The EU, on the other hand, has been hurriedly negotiating supply terms with alternative pipeline gas exporters who possess the potential to ship not more than 10 bcm/y to the South European markets not earlier than by 2020.

The TS appears to be expedient for Russia for several reasons (Shadrina, 2015d). One of the most important impacts of the TS is that it can help Russia conduct a realistic Eurasian gas policy. Objectively, in a more competitive

⁴⁰ Серов, Михаил (2015). Алтайскую трубу некуда тянуть. *Ведомости*, № 3878. 22.07.2015 (<http://www.vedomosti.ru/business/articles/2015/07/22/601621-zaklyuchenie-vtorogo-gazovogo-kontrakta-s-kitaem-otkladivaetsya>, retrieved July 24, 2015)

environment, Gazprom needs to engage in cooperation with the Caspian and Central Asian, as well as with other possible suppliers for the Southern Gas Corridor (SGC) project. In turn, such cooperation among Russian and Central Asian exporters is likely to define the terms of their competition in the Chinese market while helping to determine the parameters of Russia's Asian pipeline gas policy. This may prove to be the very way to transform the existing disconnected regional gas markets into a more coordinated marketplace with a more uniform price.

Thus, the materialisation of diversification strategy requires certain institutional changes in the realm of Russia's gas policy: more specifically, a transformation towards more genuine liberalisation of gas business in Russia, so that Gazprom would become more prepared to compete in the international markets.⁴¹

Speaking beyond the scale of particular projects, the year 2015 has revealed an array of new opportunities for improving institutional cohesiveness in Asia. Russia, China and other members of the Shanghai Cooperation Organisation and BRICS have declared that energy cooperation becomes one of the area for coordinated policy and cooperation.⁴² The BRICS initiative for the New Development Bank and China's Asian Infrastructure Investment Bank are vital for the financial support of such multilateral initiatives.

⁴¹ Минэнерго выступило за сохранение монополии «Газпрома» на экспорт, 28.07.2015. *Интерфакс/Ведомости* (<http://www.vedomosti.ru/business/news/2015/07/28/602483-minenergo-vistupilo-za-sohranenie-monopolii-gazproma-na-eksport>, accessed July 29, 2015).

⁴² Лидеры стран БРИКС договорились о расширении сотрудничества в области энергетики и энергоэффективности. [Lidery stran BRIKS dogovorilisj o rashirenii sotrudnichestva v oblasti energetiki i energoeffektivnosti] Министерство Энергетики. 9 июля 2015. (http://minenergo.gov.ru/press/min_news/2935.html, retrieved July 10, 2015).

BIBLIOGRAPHY

Baldwin, David (1985). *Economic Statecraft*, Princeton, N.J.: Princeton University Press.

Bapat, Navin A., Tobias Heinrich, Yoshiharu Kobayashi and T. Clifton Morgan (2013). "Determinants of Sanctions Effectiveness: Sensitivity Analysis Using New Data", *International Interactions: Empirical and Theoretical Research in International Relations*, 39 (1), 79-98. (<https://scholarship.rice.edu/bitstream/handle/1911/70806/Determinants%20of%20Sanctions.pdf?sequence=1>, retrieved June 20, 2015).

Bergeijk van, Peter A.G. and Muhammad Shahadat Hossain Siddiquee (2015). "Bias and Methodological Change in Economic Sanction Reconsidered", *Discussion Paper No. 2015-33*. May 05, 2015 (<http://www.economics-ejournal.org/economics/discussionpapers/2015-33>, retrieved June 20, 2015).

Bershidsky, Leonid (2015). "Primakov Would Have Run Russia as Putin Has", *Bloomberg View*, June 26, 2015 (<http://www.bloombergview.com/articles/2015-06-26/primakov-would-have-run-russia-as-putin-has>, retrieved June 27, 2015).

Bershidsky, Leonid (2015). "Russia's Pivot to China is Real", *Bloomberg View*, June 25, 2015 (<http://www.bloombergview.com/articles/2015-06-25/russia-s-pivot-to-china-is-real>, retrieved June 27, 2015).

Carim, Xavier, Audie Klotz and Olivier Lebleu (1999). "The Political Economy of Financial Sanctions" in Neta C. Crawford and Audie Klotz (eds.), *How Sanctions Work?: Lessons from South Africa*, New York: St. Martin's Press.

Cohen, Solomon I. (2009). *Economic Systems Analysis and Policies: Explaining Global Differences, Transitions and Developments*, Palgrave, Macmillan.

Collins, Joseph J. and Gabrielle D. Bowdoin (1999). *Beyond Unilateral Economic Sanctions*, Washington, DC: Center for Strategic and International Studies.

Ćwiek-Karpowicz, Jarosław et al. (2015). *Sanctions and Russia*, Polski Instytut Spraw Międzynarodowych: Warszawa.

Davis, Lance E., and Douglass C. North (1971). *Institutional Change and American Economic Growth*. Cambridge: Cambridge University Press.

Dizaji, Sajjad Faraji and van Bergeijk, Peter A.G. (2013). “Potential Early Phase Success and Ultimate Failure of Economic Sanctions: A VAR Approach with an Application to Iran”, *Journal of Peace Research*, 50, 721-736.

Drezner, Daniel (2011). “Sanctions Sometimes Smart: Targeted Sanctions in Theory and Practice”, *International Studies Review*, 13, 96-108.

Drezner, Daniel W. (1999). *The Sanctions Paradox: Economic Statecraft and International Relations*, New York: Cambridge University Press.

Drezner, Daniel W. (2000). “The Complex Causation of Sanction Outcomes” in Steve Chan and A. Cooper Drury (eds.), *Sanctions as Economic Statecraft: Theory and Practice*, New York: St. Martin’s.

Energy Union Package (2015). European Commission, Brussels, February 25 (http://ec.europa.eu/priorities/energy-union/docs/energyunion_en.pdf, retrieved March 1, 2015).

“EU-Turkey Strategic Energy Partnership”, Interview with Mehmet Ögütçü. July 20, 2015 (<http://www.naturalgaseurope.com/mehmet-ogutcu-eu-turkey-strategic-energy-partnership-24605>, retrieved July 21, 2015).

Farrall, Jeremi M. (2007). *United Nations Sanctions and the Rule of Law*, Cambridge University Press: Cambridge.

Farzanegan, Mohammad Reza, Mohammad Mohammadikhabbazan and Hossein Sadeghi (2015). “Effect of Oil Sanctions on the Macroeconomic and Household Welfare in Iran: New Evidence from a CGE Model”, Joint Discussion Paper Series in Economics No. 07-2015 (https://www.uni-marburg.de/fb02/makro/forschung/magkspapers/paper_2015/07-2015_farzanegan.pdf, retrieved June 20, 2015).

Galtung, Johan (1967). “On the Effects of International Economic Sanctions”, *World Politics*, 19 (3), 377-416.

Gas Export and Enhancing Reliability of Gas Supply to Europe. Gazprom’s Press

Conference, June 9, 2015 (<http://www.gazpromvideo.ru/en/gazprom-press-conferences/2015/export/>, retrieved 26 June 2015).

“Gazprom in Eastern Russia, Entry into Asia-Pacific Markets”, Gazprom’s Press Conference, June 16, 2015 (<http://www.gazpromvideo.ru/en/gazprom-press-conferences/2015/pacific-rim/>, retrieved 26 June 2015).

“Gazprom’s Financial and Economic Policy”, Gazprom’s Press Conference, June 25, 2015 (<http://www.gazprom.com/f/posts/57/009788/presentation-press-conference-2015-06-26-en.pdf>, retrieved 26 June 2015)

Golubkova, Katya, Pinchuk, Denis and Lopatka, Jan (2015). “Bypassing Ukraine will be Costly for Russia’s Gazprom”, *Reuters*, July 16 (<http://www.reuters.com/article/2015/07/16/ukraine-crisis-gazprom-idus15n0zv1km20150716>, retrieved July 20, 2015).

Hovi, Jon, Robert Huseby, Detlef F. Sprinz (2005). “When Do (Imposed) Sanctions Work?”, *World Politics*, 57, 479-499.

Hufbauer, Gary Clyde and Jeffery J. Schott (1985). “Economic Sanctions Reconsidered: History and Current Policy”, Institute for International Economics: Washington, D. C.

Hufbauer, Gary Clyde, Kimberly Ann Elliott, Tess Cyrus, Elizabeth Winston (1997). “US Economic Sanctions: Their Impact on Trade, Jobs, and Wages Working Paper Special”, Peterson Institute for International Economics, April (<http://www.iie.com/publications/wp/wp.cfm?ResearchID=149>, retrieved July 13, 2015).

Hufbauer, Gary Clyde, Jeffery J. Schott and Kimberly Ann Elliot (1990). *Economic Sanctions Reconsidered*, 2nd edition, Peterson Institute for International Economics: Washington, D. C.

Hufbauer, Gary Clyde, Jeffery J. Schott, Kimberly Ann Elliot and B. Oegg (2007). *Economic Sanctions Reconsidered*, 3rd edition, Peterson Institute for International Economics: Washington, D. C.

Kaempfer William H. and Anton D. Lowenberg (2007). "The Political Economy of Economic Sanctions" in Todd Sandler and Keith Hartley (eds.), *Handbook of Defense Economics*, Vol. 2.

Karaganov, Sergei, et al. (2012). "Toward the Great Ocean, or the New Globalization of Russia", Valdai Discussion Club Analytical Report. Moscow, July.

Karaganov, Sergei, et al. (2014) "Toward the Great Ocean-2, or Russia's Breakthrough to Asia", Valdai Discussion Club Analytical Report. Moscow, February.

Karaganov, Sergei, et al. (2015) "Toward the Great Ocean-3. Creating Central Eurasia. The Silk Road Economic Belt and the Priorities of the Eurasian States' Joint Development", Valdai Discussion Club Analytical Report. Moscow, June.

Kashcheeva, Mila and Tsui, Kevin (2014). *Why Do Oil Importers Diversify Their Import Sources Politically? Evidence from U.S. Firm-Level Data*", Institution of Developing Economies. IDE Discussion Paper No. 458.

Kashcheeva, Mila and Tsui, Kevin (2015). *Political Influence in Commercial and Financial Oil Trading: The Evidence from US Firms*", Institution of Developing Economies. IDE Discussion Paper No. 491.

Lacy, Dean, Emerson M. S. Niou (2004). "A Theory of Economic Sanctions and Issue Linkage: The Roles of Preferences, Information and Threats", *The Journal of Politics*, 66 (1), 25-42.

Lam, San Ling (1990). "Economic Sanctions and the Success of Foreign Policy Goals", *Japan and the World Economy*, Vol. 2.

Leyton-Brown, David (1987). "Lessons and Policy Considerations about Economic Sanctions", David Leyton-Brown (ed.), *The Utility of International Economic Sanctions*, New York: St. Martin's Press.

Lindsay, James M. (1986). "Trade Sanctions as Policy Instruments: A Re-examination", *International Studies Quarterly*, No. 30.

Lopez, George A. and David Cortright (1995). "Economic Sanctions in Contemporary Global Relations," and Kimberly Ann Elliot, "Factors Affecting the Success of

Sanctions”, in David Cortright and George A. Lopez (eds.), *Economic Sanctions: Panacea or Peacebuilding in a Post-Cold War World?* Boulder, Colorado: Westview Press.

Lossan, Alexei (2015). “Is Gazprom cutting the Turkish Stream in half?”, *Russia beyond the Headlines*. July 17, 2015 (http://asia.rbth.com/business/2015/07/17/is_gazprom_cutting_the_turkish_stream_in_half_47821.html, retrieved July 20, 2015).

Lossan, Alexei (2015). “Why Gazprom became so flexible?”, *Russia beyond the Headlines*. July 6, 2015 (http://asia.rbth.com/business/2015/07/06/why_gazprom_became_so_flexible_47497.html, retrieved July 20, 2015).

Mañosa, Carla C. (2014). “International Sanctions: Legal Basis, Types and Effectiveness Analysis”, European Rim Policy and Investment Council. Report, April (<http://erpac.org/wp-content/uploads/2014/05/economical-sanctions-legal-basis-types-and-effectiveness.pdf>, retrieved June 20, 2015).

Martin, Lisa L. (1992). *Coercive Cooperation: Explaining Multilateral Economic Sanctions*, Princeton, New Jersey: Princeton University Press.

Mastanduno, Michael (2000). “Economic Statecraft, Interdependence, and National Security: Agenda for Research”, Jean-Marc F. Blanchard, Edward D. Mansfield, and Norrin M. Ripsman, *Power and the Purse: Economic Statecraft, Interdependence, and National Security*. Portland, OR: Frank Cass.

Miyagawa, Makio (1992). *Do Economic Sanctions Work?*, New York: St. Martin’s Press.

Morgan, T. Clifton and Schwebach, Valerie L. (1997). “Fools Suffer Gladly: The Use of Economic Sanctions in International Crises”, *International Studies Quarterly*, No. 41.

Moriguchi, Chiaki (2000). The Evolution of Employment Relations in U.S. and Japanese Manufacturing Firms, 1900-1960: A Comparative Historical and Institutional Analysis. National Bureau of Economic Research. NBER Working Paper Series. Working Paper 7939 (<http://www.nber.org/papers/w7939.pdf>, retrieved June 17, 2015).

Nincic, Miroslav (2010). *The Logic of Positive Engagement*, Cornell University Press.

North, Douglass (1981). *Structure and Change in Economic History*, New York and London: W. W. Norton & Company.

North, Douglass (1990). *Institutions, Institutional Change and Economic Performance*, Cambridge: Cambridge University.

North, Douglass (1991). "Institutions", *The Journal of Economic Perspectives*, 5 (1), 97-112.

North, Douglass (2005). *Understanding the Process of Economic Change*, Princeton and Oxford: Princeton University Press.

Nossal, Kim Richard (1999). "Liberal Democratic Regimes, International Sanctions, and Global Governance", in Raimo Vayrynen (ed.), *Globalization and Global Governance*. Lanham, Maryland: Rowman & Littlefield Publishers, Inc.

Ostrom, Elinor (2005). *Understanding Institutional Diversity*, Princeton and Oxford: Princeton University Press.

Pape, Robert A. (1997). "Why Economic Sanctions Do Not Work?", *International Security*, 22 (2), 98-106.

Post-Iran Deal, Azerbaijan Eyes Energy Transit Opportunities. *Natural Gas Europe*. July 16, 2015 (<http://www.naturalgaseurope.com/iran-deal-azerbaijan-energy-transit-opportunities-business-24665>, retrieved July 20, 2015).

Shadrina, Elena (2014a). "Russia's Natural Gas Policy toward Northeast Asia: Rationales, Objectives, and Institutions", *Energy Policy*, 74, 54-67.

Shadrina, Elena (2014b). "Russia's Gas Policy in Asia: The Driving Forces and the Nature of Institutional Changes", *International Journal of Business and Management*, 2 (4), 60-79.

Shadrina, Elena (2014c). "Russia's Dilemmas about China's Gas Market", *The North-east Asian Economic Review*, 2 (2), 39-62.

Shadrina, Elena (2015a). "Russia's Pivot to Asia: Rationale, Progress and Prospects for Oil and Gas Cooperation", *Region: Regional Studies of Russia, Eastern Europe and Central Asia*, 4 (1), 95-128.

Shadrina, Elena (2015b). 「ウクライナ危機がロシアのエネルギー政策に与える影響：北東アジアでのロシアの天然ガス政策を中心に。」 [Ukuraina Kiki ga Rosia no Enerugii Seisaku ni Ataeru Eikyō: Hokutou Ajia de no Tennen Gasu Seisaku wo Chuushin ni, The Ukrainian Crisis: Impact on Russia's Energy Policy and Russia's Gas Policy in Northeast Asia] *ERINA REPORT*. No. 124, June 2015, 21-22, 34 (Japanese).

Shadrina, Elena (2015c). "Turkish Stream for Russia's Pivot to Asia", Presentation at Eurasian Natural Gas Infrastructure Conference, Istanbul, June 9-10 (<http://www.engi-conference.com/Meiji.pdf>, retrieved June 12, 2015).

Shadrina, Elena (2015d). "Turkish Stream for Russia's Eurasian Gas Policy", *EPPEN Analysis*, Institute for Energy Markets and Policies (EPPEN), June 23 (<http://www.eppen.org/en/index.php?sayfa=Yorumlar&link=&makale=188>, retrieved June 25, 2015).

Shadrina, Elena (2015e). "Shifts in Russia's Pipeline Gas Policy: An Insight into Premises and Consequences", *Journal of Siberian and Far Eastern Studies*, 12, 8-43.

Shojai, Siamak and Patricia S. Root (2013) "Effectiveness of Economic Sanctions: Empirical Research Revisited", *International Business and Economics Journal*, 12 (11), 1479-1490.

The EU's Non Energy Union. *Natural Gas Europe*. July 16, 2015 (<http://www.naturalgaseurope.com/iran-deal-azerbaijan-energy-transit-opportunities-business-24665>, retrieved 20, 2015).

"The History of Turkish-Russian Relationship", (<http://enerjiuzmani.blogspot.jp/2015/07/july-08-2015-energy-cooperation-in-8.html#more>, retrieved July 20, 2015).

Tsebelis, George (1990). "Are Sanctions Effective? A Game-Theoretic Analysis", *The Journal of Conflict Resolution*, 34 (1), 3-28.

Tsuki, Saori (2015). “The Need for a Flexible Japanese Approach to the Asian Infrastructure Investment Bank”, Nippon.com, May 26, 2015 (<http://www.nippon.com/en/currents/d00178/>, retrieved June 17, 2015).

Vatn, Arild (2005). *Institutions and the Environment*, Cheltenham: Edward Elgar.

Williamson, Oliver E. (1995). “The Institutions and Governance of Economic Development and Reform”, *Proceedings of the World Bank Annual Conference on Development Economics*.

Williamson, Oliver E., (1996). *The Emergence of Governance*. Oxford: Oxford University Press.

Yafimava, Katja (2015). “Evolution of Gas Pipeline Regulation in Russia: Third Party Access, Capacity Allocation and Transportation Tariffs”, *The Oxford Institute for Energy Studies*. NG 95. March.

Fitch: добыча нефти в РФ может снизиться в 2016 году из-за низких цен на нефть и санкций, *Национальная Ассоциация нефтегазового сервиса*, 14 июня 2015 (<http://nangs.org/news/industry/fitch-dobycha-nefti-v-rf-mozhet-snizitsya-v-2016-godu-iz-za-nizkikh-tsen-na-neft-i-sanktsij>, retrieved July 14, 2015).

Rosneft, Statoil Confirm Technology Partnership. *Natural Gas Europe*, July 14, 2015 (http://www.naturalgaseurope.com/rosneft-statoil-confirm-technology-partnership-24630?utm_source=Natural+Gas+Europe+Newsletter&utm_campaign=170327e01e-RSS_EMAIL_CAMPAIGN&utm_medium=email&utm_term=0_c95c702d4c-170327e01e-307791445, retrieved July 14, 2015).

Бадалова, Айгюн (2015). Открылось первое заседание рабочей группы по Транскаспийскому трубопроводу, *Trend*. 14 июля 2015 (<http://www.trend.az/business/energy/2417012.html>, retrieved July 21, 2015).

Богатуров, Алексей Д. и Шаклеина Татьяна А. (2003). “Системная история международных отношений 1918-2003”, [Sistemnaya istoriya mezhdunarodnyh otnoshenii 1918-2003] Том третий. События 1945 - 2003. Москва (<http://www.obraforum.ru/lib/book3/chapter10.htm#«Стратегия санкций»>, retrieved June 20, 2015).

Борисова, Александра (2014). “Российский ТЭК и опыт американских санкций” [Rossiiskii TEK i opyt amerikanskih sanktsii], 23- 30 в *Энергетика и Инновации на Перекрестках Мировой Политики*. (Мировое развитие. Выпуск 13), Сборник статей по итогам круглого стола «Энергетика и инновации: что ожидает мир в ближайшие десятилетия?» / Отв. ред. Н.В. Тоганова, К.Р. Вода, Е.А. Сидорова. Москва: Институт Мировой Экономики и Международных Отношений Российской Академии Наук.

В “Газпроме” произошли значительные кадровые изменения, в том числе в финансовом и экономических блоках, *Национальная Ассоциация нефтегазового сервиса*, 14 июня 2015 (<http://nangs.org/news/industry/v-gazprome-proizoshli-znachitelnye-kadrovye-izmeneniya-v-tom-chisle-v-finansovom-i-ekonomicheskikh-blokakh>, retrieved July 14, 2015).

Вислогузов, Вадим Дмитрий Бутрин (2015). “Прокрустинвест” [Prokrustinvest], *Коммерсант*, № 95. 2 июня 2015, р. 1 (<http://www.kommersant.ru/doc/2739301>, retrieved June 20, 2015).

Гурин, Максим (2015). “Спорный китайский спрос”, *Сибирский Энергетик*, 26 (<http://www.vsp.ru/economic/2015/06/26/555239>, retrieved 26 June 2015).

Крючкова, Евгения (2015). “В Белом доме оценили экономию” [V Belom dome otsenili ekonomiyu], *Коммерсант*. № 104. 11 июня 2015. р. 1 (<http://www.kommersant.ru/doc/2746215>, retrieved June 20, 2015).

Лалетина, Анна (2015). “Правительство на треть урежет расходы на инвестиционные проекты” [Pravitel'jstvo na tretj urezhet rashody na investitsionnye proekty], *Slon.ru*. 2 июня 2015 (<https://slon.ru/posts/52239>, retrieved June 20, 2015).

Мельников, Кирилл (2015). “Total без свиты” [Total bez Svity], *Газета “Коммерсантъ”*, №110. р. 9. 25 июня 2015 (<http://www.kommersant.ru/doc/2754062>, retrieved June 27, 2015).

Мордюшенко, Ольга (2015). “В евразийство вплелись западные нитки”, *Газета “Коммерсантъ”*, №112. р. 1. 27 июня 2015 (<http://www.kommersant.ru/doc/2756819>, retrieved June 27, 2015).

Об утверждении плана мероприятий по импортозамещению в отрасли нефтегазового машиностроения Российской Федерации [Ob Utverzhdenii Plana Meropriyatii po Importozameshcheniyu v Otrastli Mashinostroeniya Rossiiskoi Federatsii], Министерство Промышленности и Торговли Российской Федерации, Приказ № 645, 16 марта 2015 (<http://minpromtorg.gov.ru/common/upload/files/docs/645.pdf>, retrieved June 2, 2015).

Павлова, Анна (2015). “Налоговая «скидка» на газ”, *Сибирский Энергетик*, 26 июня (<http://www.vsp.ru/economic/2015/06/26/555235>, retrieved 26 June 2015).

Панфилова, Виктория (2015). В Брюсселе обсудили Каспийский транзит, *Независимая Газета*, 21 июля 2015. (http://www.ng.ru/cis/2015-07-16/6_transit.html, retrieved July 21, 2015).

Подобедова, Людмила, Тимофей Дзядко, «Роснефть» покинули еще два топ-менеджера, *РБК*, 21 июня 2015 (<http://top.rbc.ru/business/21/07/2015/55acffc89a794776999e0e1e>, retrieved July 21, 2015).

Серов, Михаил (2015). “Заключение второго газового контракта с Китаем откладывается”, *Ведомости*. 22.07.2015 (<http://www.vedomosti.ru/business/articles/2015/07/22/601621-zaklyuchenie-vtorogo-gazovogo-kontrakta-s-kitaem-otkladivaetsya>, retrieved July 22, 2015).

Сечин, Игорь (2015). “Есть ли альтернатива сценарию «50–60?»” [Estj li aljternativa stsenariyu 50-60?], Доклад президента компании «Роснефть» Игоря Сечина на саммите глав энергетических компаний на Петербургском международном энергетическом форуме. *Эксперт*, №26-27 (950) 29 июня (<http://expert.ru/expert/2015/27/est-li-alternativa-stsenariyu-50-60/>, retrieved June 30, 2015).

Совещание о проекте Энергетической стратегии России на период до 2035 года [Soveshchanie o Proekte Energeticheskoi Strategii Rossii na Period do 2035 Goda], 18 марта 2015. (<http://government.ru/news/17269/>, retrieved June 2, 2015).

輸入代替に賭けるロシア [Yunyūdaitai ni kakeru Roshia, Russia Bets on Import Substitution], *ロシアNIS調査月報(Chōsa Geppō)* 2015年5月号. *ROTOBO. Inside Russia*. pp. 88-91 (http://db2.rotobo.or.jp/members/all_pdf/m201505No.10unlz.pdf, retrieved June 23, 2015) (Japanese).

杉本侃奢 (2015) サハリンの石油天然ガス開発. 日ロエネルギー協力の歴史と期待 「Saharin no sekiryu tennen gasu kaihatsu. Nichiro enerugi-kyouryouku no rekishi to kikai、Development of oil and gas in Sakhalin. Japanese-Russian cooperation: history and prospects. ERINA北東アジア研究叢書4.日本評論社.

真殿 達 (2015)ウクライナ輸出入銀行再建プロジェクトから見たウクライナの真相 [Ukraina yushutsunyū ginkō saiken purojekuto kara mita Ukraina no shinsō, The Real Situation in Ukraine: Vision of Ukraine Export-Import Bank Reconstruction Projects]. 石油・天然ガスレビュー[Ten'nen gasu rebyū]. 7, 49 (4), 19-33.

Russia's Gas Export Statistics

Federal State Statistics Service <http://www.gks.ru/>

Central Bank <http://www.cbr.ru/statistics/?PrId=svs>

Ministry of Energy <http://minenergo.gov.ru/activity/gas/>

Ministry of Finance <http://www.minfin.ru/ru/>

Russian Federal Treasury <http://www.roskazna.ru/svedeniya-o-dvizhenii-sredstv-po-schetam/>

World Development Indicators <http://databank.worldbank.org/data//reports.aspx?source=2&Topic=5>

EU's Gas Export Statistics

<http://www.eurogas.org/statistics/>

<https://ec.europa.eu/energy/en>

Sanctions News, Updates and Public Polls

<http://ria.ru/politics/20140718/1016514535.html>

http://ria.ru/trend/eu_russia_sanctions_14032014/

<http://www.levada.ru/>

Pipeline Projects

PoS and PoS-2: <http://www.gazprom.com/about/production/projects/pipelines/ykv/>

NS: <https://www.nord-stream.com/the-project/pipeline/>

TS: <http://ria.ru/infografika/20150617/1074456782.html>; http://ria.ru/trend/turkish_stream_gas_21042015/

SGC: <http://www.tap-ag.com/the-pipeline/the-big-picture/southern-gas-corridor>