

Over a Century of Political and Industrial Changes: How to Overcome Path Dependence in Japan–Russia Trade? †

Andrey BELOV *

* *Fukui Prefectural University, Japan; abelov@fpu.ac.jp*

Abstract: Since its commencement in the late 19th century, trade between Japan and Russia has gone through numerous distinct stages. Despite there being obvious historical differences between the two countries, during each of these stages, political dynamics strongly influenced trade relations; additionally, each country's share of bilateral trade was extremely low, and Japan mostly supplied manufactured goods in exchange for Russian raw materials. These characteristics of Japan–Russia trade restricted options vis-à-vis further economic development, and can thus be seen as illustrating path dependence. This study argues that the initial years of the 2010s have brought significant changes to the traditional model of trade. Namely, market forces have replaced politics as the primary driver, the amount of trade has surpassed previous records, and Japan's investment in the Russian energy sector and participation in automotive manufacturing have provided Russia with the capital and technology it has needed to undertake high value-added production.

Keywords: international trade, Japan-Russia economic relations, foreign investment, international business

JEL Classification Numbers: F10, F14, F21, F23

1. Introduction

Regular trade and economic relations between Japan and Russia were established in the late 19th century. However, it has been only in the last 100–120 years that such trade has begun to play a significant economic role. This long interval can be divided into the initial (1858–1945), postwar (1946–1991), and contemporary (1992 to the present day) periods.

It is easy to imagine the diversity of social and political environments involved in the development of economics and trade relations. However, despite obvious historical differences between Japan and Russia, during each of these periods, their trade and other economic relations had at least three common characteristics. First, political dynamics strongly influenced economic relations, in either positive or negative ways. Second, individual shares of bilateral trade were extremely low: typically, ranked by share in total bilateral trade for Japan, Russia was somewhere in the lower end among the second set of 20 partners. Finally, Japan mostly supplied manufactured goods in exchange for Russian raw materials, in spite of there being constant changes in the actual commodity structure.

Some static features of Japan–Russia trade can be explained by geopolitical, natural, geographical, and other well-understood factors. These factors include the balance of power in Northeast Asia,

comparative advantages (i.e. the availability of mineral and biological resources on the Russian side, and Japan's strong manufacturing base), the physical proximity of the two countries, and both the small population and resource-dependent economy of the eastern Russian region. Therefore, these aforementioned features of bilateral trade are based on solid political and economic foundations. Not surprisingly, these features have remained unchanged for more than a century.

However, over time, both countries have made various political decisions on several occasions, and these have resulted in ups and downs in their economic ties. Japan and Russia have repeatedly expressed dissatisfaction with the state of their economic cooperation, as the actual volume of bilateral trade has always lagged behind its potential, and trade patterns have changed more slowly than did either partner's economic structure. Moreover, the aforementioned natural and geographical factors can only partially explain this gap between expectations and reality. It seems possible that Japan–Russia relations depended heavily on previous historical events, which formed a stable path of development and restricted options so as to create more effective cooperation. If this hypothesis is correct, then we can assert the existence of path dependence and recommend measures by which to improve the trade situation, principally through the application of institutional theory.

This study works to verify the hypothesis and examines the possibility of bringing Japan–Russia economic relations onto a more efficient path. The remainder of the paper is organized as follows. While the second part provides the relevant theoretical background, the third, fourth, and fifth parts analyse the main historical stages of the economic interaction between the two countries. The sixth part explains current trends in terms of path dependence, and the final part proposes measures by which to improve cooperation.

2. Theoretical notes

The assertion that 'history matters' is widely used in the historical, social, and economic sciences. However, the scientific terminology and analytical apparatus used in such research have been developed only within the last 25–30 years. David (1985) coined the term 'path dependence' to analyse the spread of technological innovation. Subsequently, he defined it in terms of both game theory and in the absence of mathematical concepts, asserting that some systems can evolve as a consequence (function) of their own history (David, 2007). The broad interpretation of path dependence has provided a foundation for several research avenues in this area. Since the early 1990s, this theory has become a standard tool used in historical and social research; some scholars even argue that a number of important sociological phenomena could be described only in terms of this theory (Aminzade, 1992; Isaac, 1997; Somers, 1998).

The possibility of explaining both the past and present, social development and the formation of institutions, and random events and long-term trends has been particularly appealing to experts in transitional and developing economies. In particular, Stark and Bruszt (1998) suggest that decisions

made during the collapse of a system can determine the paths of future development; the legacy of the past also influences these decisions. Russia provides significant empirical evidence in support of this broad interpretation of path dependence. Over the last 20 years, the concept has been applied to the analysis of Russian history and modern politics, public choice, land legislation, and federal relations, among many other areas.

Despite there being a large number of publications in this vein, the empirical results are ambiguous. Not surprisingly, along with the broad interpretation of ‘path dependence’, a number of experts have tried to narrow its scope so as to deepen understandings of this phenomenon. Arthur, one of the founding fathers of the theory, made the first attempt in this direction. As early as 1989, he mentioned that, in a way, any kind of development depends on previous experiences. However, to be ‘locked in’ by historical events has a narrower meaning of being ‘locked in to something bad’—or, at least ‘locked out of something better’—when superior alternatives exist and the costs of switching are not overly high (Arthur, 1989). Sometimes it is possible to ‘correct’ a situation by making small but precise interventions. According to Liebowitz and Margolis (1999), this possibility of low cost and easy correction is one of the most attractive features of path dependence theory.

Taking further Arthur’s idea about being ‘locked in to something bad’, Liebowitz and Margolis (1999) argue that path dependence exists mostly in cases of inefficient resource allocation—namely, in cases of market failure. Mahoney advances an argument useful in terms of the practical application of the theory; he suggests considering as path dependent only those parts of evolution located between the ‘critical junctures’ (‘bifurcation points’). Development in critical junctures themselves depends weakly on initial conditions and may derive from accidental and minor events (‘butterfly effect’). Path dependence occurs when some events during the critical juncture trigger a subsequent sequence that follows a deterministic pattern, which can be either self-reinforcing or reactive in nature. These two types of sequences within a chain of events constitute the decisive feature of path dependence (Mahoney, 2000).

For the practical study of bilateral economic ties, it makes sense to combine the harmonious elements of the aforementioned interpretations of the theory. The thesis of Stark and Bruszt (i.e. the influence of historical experience on decisions at critical moments defines the future trajectory) makes possible the analysis of history as a single process containing a number of turning points that allow for a shift from an inefficient track, at the lowest cost. Arthur’s idea of being ‘locked in to something bad’ contains the broadest interpretation of effectiveness, such as the suboptimal distribution of resources or market failures (as seen in the work of Liebowitz and Margolis). The proposition of Mahoney (i.e. there are self-reinforcing or reactive sequences of events between critical junctures) offers a simple and intuitive framework for defining path dependence.

A brief theoretical overview provides a foundation on which to formulate research questions for analysing Japan–Russia trade. First, can we prove the existence of path dependence, and such features as market failure, or self-reinforcing or reactive sequences, in a chain of events? Second, which time intervals can we identify as critical junctures that allow for relatively simple changes in a historical path?

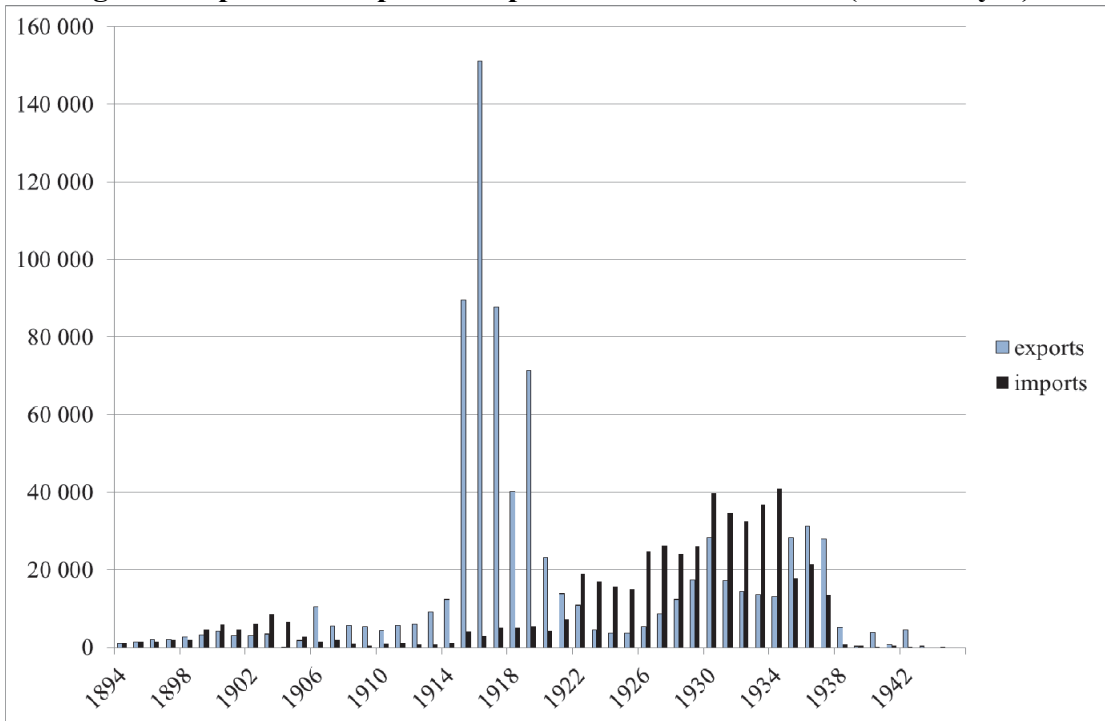
Third, what kinds of interventions could lead to the selection of a more rational path? Let us review the trade and economic relations between the two countries, from this viewpoint.

3. Early years of Japan–Russia trade

The early years of trade between Japan and Russia (1858–1945) include, for both countries, the establishment of a modern state and ‘catching up’ in terms of industrialization. This period also includes the Russo–Japanese War, World War I, the Russian Revolution, the Japanese intervention in Siberia, the activities of the Japanese concessionaires in the northern Sakhalin and Okhotsk Sea area, the formation of a puppet state in Manchuria, the first direct military conflicts, the nonaggression treaty, and finally, the Soviet military operation in the Far Eastern Front, and Japan’s defeat. It is easy to imagine just how strongly mutual trade was affected by these fateful political and military events. Indeed, we face a difficult task in distancing our analysis as much as possible from the turbulent history, and in focusing strictly on economics and statistics.

The first treaties and agreements between Japan and Russia were signed in 1855–1867, and they remained in force until 1895. Agreements with Russia contained clauses on mutual preferential treatment; these contrasted sharply with similar documents between Japan and other Western powers that had been concluded at the opening of the country (Wada, 1991). Economic relations with Russia received a powerful boost in 1875, when Sakhalin was exchanged for the Chishima (Kurul) Islands, and Japan acquired legal rights to unrestricted trade, shipping, and fishing in the Okhotsk Sea and around the Kamchatka peninsula. The second boost followed in 1876, with Japan establishing a trade representative office in Vladivostok. However, during the late 19th century, trade between the two countries remained comparatively light: on average, during the 1882–1894 period, Russia accounted for a mere 0.66% of Japan’s exports and 0.85% of its imports. The situation began to change only at the end of the 19th century, when Russia significantly increased its presence in the region and Japan became a major trading nation. Since 1894, Japan’s Ministry of Finance has compiled official data on trade with Russia, making it possible to undertake statistical analysis of Japan–Russia trade relations.

Trade between the two countries gradually and steadily increased at the cusp between the 19th and 20th centuries (Figure 1). Growth continued until the beginning of the Russo–Japanese War in 1904–1905—when, naturally, trade declined sharply. As a result of the postwar settlement, Japan acquired southern Sakhalin and exclusive rights to economic activity in some neighbouring regions. Many Russian products began to flow into Japan through internal (but not external) trade, leading to a reduction in import volumes. In contrast, exports to Russia increased significantly. The Russian government began to pay more attention to the development of the Far Eastern provinces, and Japan expanded sales of food and daily necessities. The bulk of Japanese exports in those years consisted of rice, tangerines, tea, onions, salt, fishing nets, and fishing vessels. Imports from Russia primarily comprised salted fish, oil, kerosene, coal, and various types of timber.

Figure 1. Exports and imports of Japan to Russia in 1894-1944 (thousand yen)

Source: Murakami (1998), based on Japanese customs statistics

The sharpest increase in Japanese exports was recorded in the initial years of World War I. In the early 20th century, Russia purchased from Germany, in large quantities, metals and raw materials destined for use in military production. The war forced Russia to seek a new supplier of copper, zinc, brass, lead, antimony, and other metals; Japan readily took up this role. Russia demonstrated a seemingly insatiable demand for ammunition materials, and by 1915, Russia was the destination of 11.5% (by value) of all Japanese exports. This elevated Russia to third place among Japan's foreign trade partners, after the United States and China. This mutual trade peak has thus far remained unsurpassed.

The Russian Revolution and civil war, as well as Japan's Siberian intervention, led to a reduction in trade. However, from the 1920s, the government of Soviet Russia started to consider the export of raw materials a critical source of foreign currency; for this reason, it began to increase the country's supplies of fish, timber, oil, and coal to Japan. In 1925, the two countries agreed to restore diplomatic relations. The trade agreement was not formally concluded, but economic recovery, rapid industrialization, and resource-oriented concessions created new opportunities for economic exchange. During the 1922–1933 period, Japanese imports from Russia exceeded Japan's Russia-destined exports. Japan's negative net exports turned positive in 1934, when an agreement was reached on the sale of Russian railways in Manchuria; at this point, Japan started to supply industrial equipment, ships, metals, cement,

and food as forms of payment. The last tranche was delivered in 1938; from that point, economic exchanges were reduced to occasional transactions, for political and military reasons.

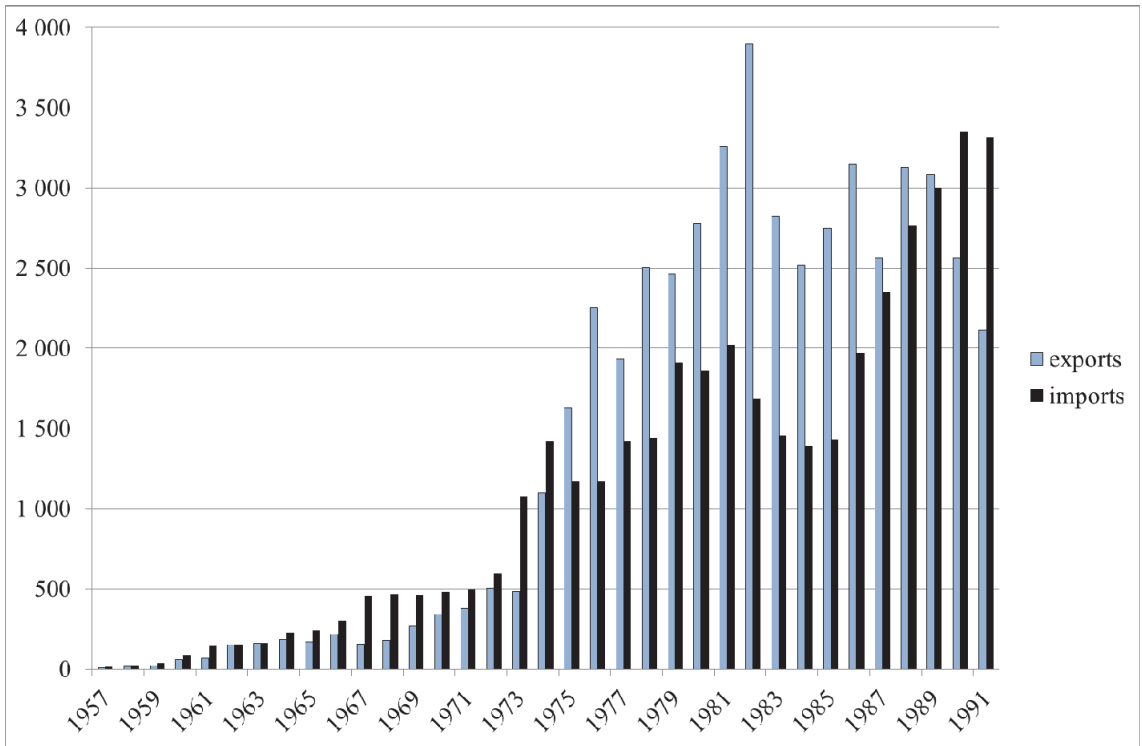
In the early years, trade between Japan and Russia was highly dependent on political relations (e.g. the Russo–Japanese war, the concessions in northern Sakhalin, and the sale of the Manchurian railways). Second, the share of each country in the partner’s trade volume was relatively low (i.e. for Japan, Russia accounted for only 0.5–2% of trade turnover, excluding rapid growth during World War I). Third, the trade model was based on the exchange of Russian raw materials (fish, timber, oil, and coal) for Japanese manufactured goods (consumer products in the late 19th and early 20th century, and investment supplies in the 1920s and 1930s). In addition, the Trans-Siberian railway was actively used by Japan for passenger travel and postal communications with Europe. These trade characteristics survived for several years (Murakami, 1998).

In the early period, trade relations between Japan and Russia passed through several critical junctures, such as wars, international power shifts, and redistribution in the spheres of influence. After each of these junctures, one can see a self-reinforcing chain of events that determined the state of bilateral trade. For example, the acquisition of fishing rights in the Okhotsk Sea following the Russo–Japanese War in 1905 led to a drastic increase in Japan’s fishing quantities, thus triggering the depletion of natural fisheries resources and forcing the construction of Japanese fish-breeding factories on Russian soil. The purchase of metals and chemicals for military production in 1915–1917 resulted in imports of related machinery from Japan. Concessions in northern Sakhalin in the late 1920s and early 1930s enhanced the exchange of coal and oil for drilling and mining equipment. Nevertheless, economic factors remained relatively weak and were neither independent of politics nor stabilizing influences with regards to political relations. The resulting trade model restricted opportunities to more sustainable forms of cooperation. This self-reinforcing sequence of events between several critical junctures shows that the first signs of path dependence started to appear during the earliest stages of Japan–Russia economic relations.

4. Trade between Japan and the Soviet Union in the postwar period

The two countries resumed trade only after the Soviet–Japanese Joint Declaration of 1956, which restored diplomatic relations and legally terminated the state of war between the two countries. The following year, the Soviet Union and Japan signed a trade and payment agreement, accorded each other ‘most favoured nation’ status, and opened regular transportation links and settlement banking accounts. These measures created the institutional framework needed to reset bilateral trade (Figure 2).

Thereafter, both countries faced the even more difficult task of creating an atmosphere of trust needed to sustain long-term cooperation. The policy of peaceful coexistence initiated by Khrushchev, as well as Japan’s positive reaction to it, helped somewhat in overcoming the alienation of the past. At the cusp between the 1960s and 1970s, Japan actively participated in the development of natural resources and

Figure 2. Exports and imports of Japan to the USSR in 1957-1991 (million USD)

Source: ROTOBO (2005)

transport infrastructure in the Russian Far East and Siberia. The Japanese and Soviet governments concluded a series of so-called ‘packaged deals’ (PDs), under which the Soviet Union received private loans earmarked for the purchase of Japanese equipment; it then proceeded to pay them off with timber, coal, oil, and metal produced through the use of the acquired machinery. The first PDs were implemented in 1968, in forestry and in the production of pulp and cellulose.

The PDs not only stimulated an increase in trade volume; they also created a unique mechanism by which major projects could be implemented between centrally planned and market-based economies. However, perhaps the most significant result of the PDs was a significant contribution to the construction of Far Eastern mining and transport infrastructure, which even today is intensively used. Unsurprisingly, from 1967, Japan ranked first among the Soviet Union’s industrialized foreign trade partners; it yielded this position to West Germany, only in 1974. At the time, Japan’s share of Soviet foreign trade turnover hovered around 2.5–3.5% (Goskomstat SSSR, 1990).

Following a visit to the Soviet Union by Prime Minister Tanaka in 1973, Japan decided to participate even more actively in Siberia’s development; this participation eventually received ‘national project’ status in Japan (Murakami, 1989). The importance of new sources for raw materials and markets for

industrial equipment led to Japan's decision to finance transactions with the Soviet Union by using government-backed loans from the Export–Import Bank of Japan. Such a solid foundation made possible the development of South Yakutia deposits of coal and natural gas (1974) and the exploration of offshore oil and gas fields in northern Sakhalin (1975). These advances led to certain changes in the trade structure. Mining equipment and wood-processing machinery topped Japan's exports, with coal, petroleum, pulp, and wood chips constituting the bulk of the imports.

Political dynamics in the early 1980s strained bilateral relations. Sanctions following the Soviet invasion of Afghanistan, the strengthening of technology export supervision through COCOM, and the reluctance of Japanese manufacturers to sell high-tech equipment led to trade instability and fluctuations. Moreover, significant changes occurred in the economic structure of both countries. The Soviet Union became increasingly dependent on exports of oil and gas, while Japan successfully switched from heavy industries to energy-efficient and knowledge-intensive production, thus reducing its demand for Russian raw materials. In the early 1980s, according to Japanese experts, Japan lost interest in the development of Siberia's natural resources; concurrently, owing to inertia, the Soviets continued to offer, 20 years on, the same PDs—despite there being major changes in the international economic order. In addition, by the mid-1980s, the expansion of machinery exports from Japan was counterbalanced by a lack of investment resources in the Soviet Union. This situation created a 'natural limit' of trade between the two countries (Murakami, 1989).

A new stage in the development of Japan–Soviet relations began in 1986–1988, following Gorbachev's initiatives on cooperation with the Asia–Pacific region. From 1987, the establishment of joint ventures (JVs) became possible, and the Japanese company created the first Soviet JV, 'Igirma-Tairiku', which related to the production of saw timber. New possibilities opened for coastal trade, which quickly became a significant component of Japan–Soviet economic ties. As a result, by the late 1980s, both centrally planned intergovernmental agreements and the semi-market transactions of JVs and cross-border dealers started to influence cooperation. Trade turnover in 1989 surpassed USD6.0 billion, the highest level in the countries' history of bilateral relations (Goskomstat SSSR, 1990). Unfortunately, the growth proved to be unsustainable. In 1990–1991, economic crisis in the Soviet Union and the collapse of intergovernmental trade led to a sharp drop in total turnover.

In the postwar period, foreign economic relations between Japan and the Soviet Union went through several successive stages of rebirth, rapid growth, instability, saturation, and crisis. However, all of these stages included several common features. First, trade between the two countries fluctuated substantially, in line with political dynamics. Even at the 1989 peak, the share of the Soviet Union in Japan's foreign trade never exceeded 1.3%; vice versa, the share was only 2.5%. Finally, the principal pattern of exchanging Russian raw materials for Japanese industrial goods also remained largely untouched, despite some fluctuations in the commodity structure. Consequently, the general trade model between the two countries—which had emerged at the beginning of the 20th century—was resurrected in the postwar years. Neither Japan nor the Soviet Union was satisfied with the situation, and in the late 1980s,

officials in both countries repeatedly expressed concern about the nature and vertical imbalance of trade; the drop in price competitiveness of Japanese products, and in demand for raw materials; weak political support for Soviet business in Japan; and delays in the development of the Siberian provinces. However, the rigid structure of the Soviet economy and the inflexible mechanism of bilateral relations limited choices for more effective options.

At the beginning of each of the 1960s and 1980s, Japan–Soviet trade was advancing to critical junctures. Following the 1960s, the Soviet Union expanded its imports of plant equipment and implemented PDs. These political decisions served as powerful and positive drivers of mutual trade. Nonetheless, import payments with resource export receipts started a self-reinforcing chain of events, and strengthened the traditional ‘resources-for-products’ commodity structure. Subsequently, the lack of structural change became an obstacle to the expansion of trade relations.

The second critical juncture arose with the advent of perestroika in the Soviet Union, when partial liberalization resulted in temporary growth. However, the perestroika reforms proved to be comparatively limited and short-lived in generating long-lasting effects on mutual trade. It seems that the events of the late 1980s followed each other in a reactive sequence (i.e. liberalization, JVs, supplies of Japanese equipment, and the reverse flow of natural resources). The mechanism of cooperation that again emerged increased dependence on political decisions. The bulk of trade, as before, revolved around the exchange of raw materials for manufactured products, and possibilities for growth were hampered by a lack of structural change. Consequently, the political impetus of perestroika did have important implications for the future of the Soviet Union, but it did not significantly affect Japan–Soviet trade.

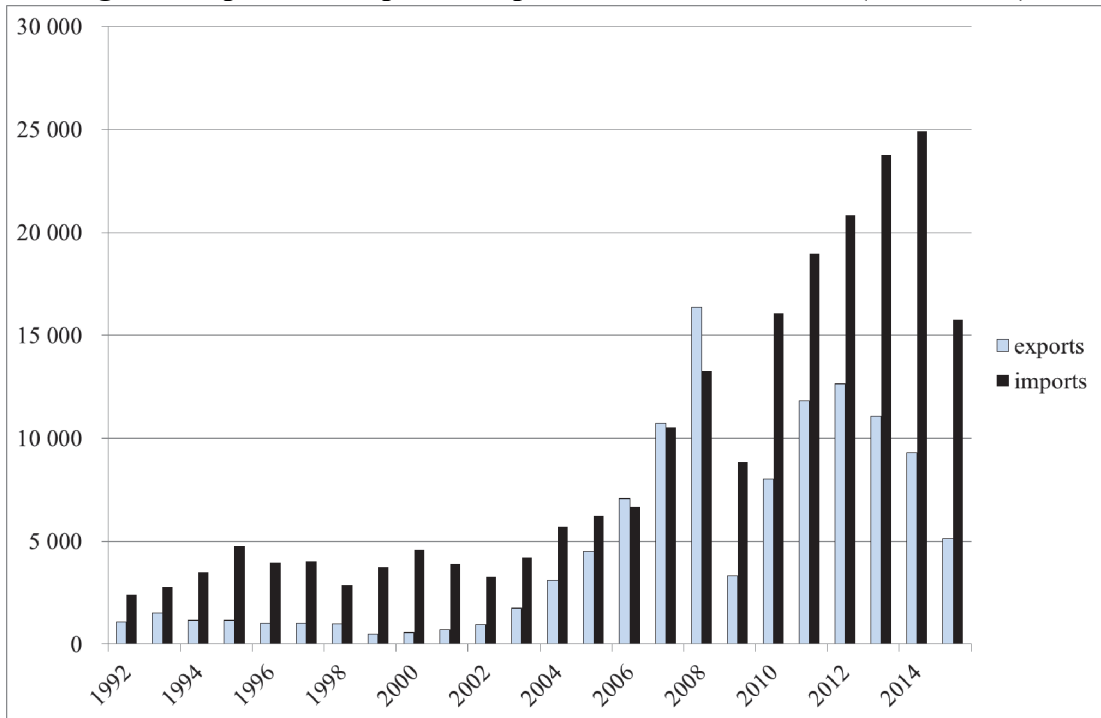
5. Japan–Russia economic relations in the transition following the collapse of the Soviet Union (1992 to the early 2000s)

Following the collapse of the Soviet Union, the foreign economic relations of the two countries underwent major organizational and structural changes. The result was a post-Soviet trade model that lasted until the early 2000s (Figure 3).

In the model that emerged, contracts based on intergovernmental agreements were replaced by the transactions of market-driven private companies. Consumer-oriented products (e.g. cars and consumer electronics) in Japan’s exports took the place of investment goods, in accordance with changes in Russian demand. Some activities are omitted from official customs statistics (mainly fish and crabs from Russia, and used cars from Japan). Nevertheless, the structural and institutional shifts did not increase the share of each country in its partner’s total turnover. In 1992–2003, Russia’s share of Japan’s total trade volume remained at 0.6–0.7%, and Japan accounted for only 2.2–3.5% of Russia’s foreign trade. Among the Japanese companies that traded with Russia, two major groups emerged—that is, ‘macro businesses’ (e.g. Toyota, Sumitomo, and Japan Tobacco) and ‘micro businesses’ (i.e. numerous

small and medium-sized enterprises [SMEs]).

Figure 3. Exports and imports of Japan to Russia in 1992–2015 (million USD)



Source: ROTOBO (2005), RONIS (2016)

Finally, in the 1990s, a number of pressing issues arose in Japan–Russia relations that could not be solved solely through the use of market mechanisms. For example, the Eastern Siberia–Pacific Ocean (ESPO) oil pipeline was constructed along the most expensive and longest possible route, to prevent the emergence of China as an exclusive buyer and to distribute export risk. Imports of Russian marine resources to Japan and exports of Japanese used cars to Russia led to the emergence of a sizeable ‘black market’ sector, which negatively affected some people living in the Japanese port cities. These phenomena can be considered signs of a buyer monopoly (monopsony), a shadow economy, and negative externalities. Economic theory classifies these as cases of market failure that prevent efficient resource allocation—something that is otherwise based on market signals and requires government intervention (Belov, 2005). In other words, after a critical juncture of restructuring and market reforms, Japan–Russia trade was once again locked into a long-term path of exchanging raw materials for finished products and being dependent on state intervention. The ‘lock in’ was followed by the appearance of the informal sector, and other market failures. Indeed, this case of traditional path dependence had acquired a very distinct character that can be comprehensively explained by theory.

6. Current stage of Japan–Russia trade, from the perspective of path dependence

Major changes in Japan–Russia trade initiated in 2004. Trade turnover between the two countries grew continuously, to record highs. Cars and spare parts became Japan’s largest export item to Russia, following the Russian consumer boom in the mid-2000s. Japan’s imports consisted of aluminium, palladium, coal, oil, round timber, and marine resources. The demand for raw materials increased during the 2001–2006 period of economic growth in Japan—a period that proved to be the longest in country’s history, although the growth rate was relatively low and did not exceed 1.8–2.5% per year.

During the 2006–2008 period, Japan’s exports surpassed imports, owing to high demand in Russia for imported cars. However, the situation changed dramatically after the 2009 crisis. The Russian car market imploded, import duties on used cars were increased to protect ailing domestic sales, and exports of cars from Japan fell by 85%, compared to those in the previous year. Subsequently, following some recovery in recent years, these exports have not reached even one-third of the historical peak level. In addition, in the early 2010s, Russian buyers started to change their preferences from used to new cars. Reflecting this shift in demand, Japanese exports in 2014 comprised mainly transport machinery (67.6%), including new automobiles (51.7%).

On March 18, 2009, the first Russian plant for liquefied natural gas (LNG) was launched, in Sakhalin. This plant was built with the participation of Japanese firms, and within six weeks, the first delivery of LNG arrived in Japan. From this point, imports from Russia included a new item that rapidly grew in terms of demand. As a result, the distinct structure of ‘cars-for-fuel’ trade arose between Japan and Russia, with large energy imports (73.5% in 2014) and comparatively small vehicle and equipment exports. Similar features are persistent in Japan’s trade with many oil-producing Gulf countries.

We next review the basic features of Japan–Russia trade in the early 2010s. First, total turnover continued to grow, reaching USD34.2 billion in 2014 (USD9.3 billion in Japanese exports and USD24.9 billion in imports). Russia’s membership in the World Trade Organization (achieved in 2012), government policies regarding Siberian development, and surging demand for fossil fuels in Japan have had a long-term and positive influence on trade. Unfortunately, in early 2015, the export of energy-related equipment to Russia began to slow, owing to declining investment demand and sanctions adopted in response to events in the Ukraine.

Second, new automobiles have clearly dominated exports, and fossil fuels have contributed significantly to imports. These types of products are usually supplied by large, reputable companies known for their commitment to social responsibility and which focus on mutually beneficial business. Therefore, the general atmosphere in trade between the two countries began to be defined by Toyota and Gazprom, rather than by hundreds of small companies involved in the questionable exchange of crabs for used cars. SMEs continue to play an important role in foreign trade, but their activities substantially changed during the 2000s, when both countries tightened their controls on fishing, customs clearance,

and the transport of crabs and used vehicles. As a result, SME business has become much more transparent.

Third, Japanese investment has a positive influence on mutual trade. As mentioned, the launch of the Sakhalin LNG plant promoted a sharp increase in energy imports from Russia. Another signal was sent by Toyota and Nissan, who built car assembly factories and brought in several car-parts suppliers. Since then, the supply of essential equipment and spare parts has become an important export item. In 2013, cumulative Japanese investment in Russia was valued at USD9.9 billion, and these capital transfers have had a profound effect on bilateral cooperation.

Fourth, in 2015, the weaker economy caused a significant drop in trade. Total turnover went down by nearly 38.9% (45% for exports, and 36.6% for imports), compared to 2014. The main reasons for that decline were a sharp drop in prices for imported fuel and an overall downturn in market demand for exports of vehicles and industrial equipment.

Nevertheless, in the last 10 years, Japan–Russia trade has undergone major changes. That trade clearly demonstrated a high correlation between trade volume and domestic demand. The largest and most respected companies on both sides have become dominant drivers of this trade. Many of the pressing issues typical in the 1990s have been successfully resolved, and revived political ties have helped expand investment and finance development projects in the Siberian regions. These can all be considered evidence that Japan–Russia cooperation is capable of turning onto a more efficient path. To illustrate, we present a critical analysis of two leading sectors in mutual trade—namely, exports of cars and imports of fossil fuels.

6.1. Changes in ‘crabs-for-cars’ trade

In the 1990s, imports of crabs and exports of used cars occupied the largest shares in regional trade between Japan and Russia. These areas also allowed abundant opportunity for the growth in unofficial trade. The fish and crab business in Russia has long been synonymous with widespread poaching, tax evasion, and the violation of customs clearance and taxation rules. According to some estimates, the amount of illegally harvested and exported crabs in 1994–2002 may have reached several billions of US dollars (Belov, 2004). The intensity of this situation can be gauged by the World Wildlife Fund’s (WWF’s) observation that ‘over the past decade, the level of overharvest due to illegal crab harvesting was... causing grave concern about the sustainability of several Russian Far East crab species’ (WWF, 2014). The problem of overfishing has somewhat eased in recent years, following a number of Russian crackdowns; however, in 2013, it still accounted for 28% of the total catch (Zibrova, 2014). Applying this estimate to the 2003–2015 period suggests that the cumulative amount of illegally harvested crabs imported by Japan in these years were valued at USD1.8 billion, at a minimum.

The most effective step in fighting crab poaching was taken in December 2014, when the two governments finally signed an agreement to prevent illegal fishing. The Japanese side thus started demanding Russian customs declarations from Russian vessels calling at ports in Hokkaido and Honshu,

allowing for a crosscheck of documents. This immediately led to a drop in the supply of Russian crabs and higher prices on the Japanese market. At the same time, in December 2015, ‘the large-scale deliveries of poached crabs to ports in Japan were virtually ceased’, and the problem of illegal crab exports was largely resolved (Fishnet.ru, 2015).

Russian crab catchers in Japanese ports were often paid in cash, which was widely used to purchase used vehicles and other consumer products. It is little wonder, then, that used cars were a leading export item in Japan–Russia trade from the mid-1990s; this area has also become one infamous for illegal trade, but of a different kind compared to crab poaching. Vehicle thefts were extremely rare in Japan until the early 1990s, but started to rise and peaked in 2003, with 64,233 cases reported. According to some estimates, in the same year, about 60,000 cars were illegally taken out of the country by international criminal organizations (Otake, 2004). As Russia was buying one-third of Japan’s used cars exports, it is reasonable to suggest that it was also a major destination of stolen vehicles. This situation prompted the Japanese government in the mid-2000s to regulate the trade of used cars. In particular, exports were concentrated in major ports, special parking areas were designated for cargo loading, and tighter controls were introduced for used car circulation on the domestic market. These measures resulted in a five-fold reduction in car thefts relative to the peak year (i.e. 13,821 reported cases in 2015), as well as a dramatic decrease in the volume of illegal exports (about 13,000 in the same year). The tightening of controls was conducted gradually and did not lead to a drop in sales. Exports of used cars to Russia peaked in 2008, at just over 517,000 vehicles; Russian demand only started to fluctuate thereafter.

Since the mid-2000s, Russian companies have begun to actively penetrate Japan’s used car market. In 2004 and 2005, in the port city of Fukui (on the coast of the Sea of Japan), two Russian companies were established that engaged in the export of used cars and spare parts. Apparently, strong ties with Russian distribution networks have constituted their most important competitive advantage. By 2008, they dominated the export of used cars in the area; in line with Russian domestic demand, sales were unstable, and by 2015, no companies survived. At the same time, field studies of these companies in 2007–2015 have shown that within only a few years, they became effective dealers equipped with the latest information technology and acted strictly within the legal framework.

The used-vehicle market within Russia itself has changed. Sales of both imported and domestically produced cars, the spread of internet auctions, the emergence of large wholesale companies, and foreign investment in dealer networks from Japan in the 2010s have changed the face of the industry, first in the Far Eastern port city of Vladivostok and then in many other major cities. As a result, this sector has seen growth in private SMEs, in the absence of any support from the state and under constant attempts not only to restrict the influx of cheap used cars, but also to limit competition that was constraining domestic production.

Japanese companies became major players in the Russian automotive market. In 2014, motor vehicles accounted for 54.3% of Japan’s exports to Russia (45.4%, new vehicles; 8.9%, used cars, buses, and trucks), and Russia assumed third place among export destinations for made-in-Japan cars. In that

year, Japanese brands accounted for 21.3% of new and 20.9% of used cars sold in Russia. The automotive industry had clearly become critical to economic exchange between the two countries.

Regarding domestic production, since the early 2000s, modernization in Russia's automotive industry has been mainly about introducing large and technologically advanced foreign companies. The endpoints were to lower prices, increase the technical level, and gradually increase the share of Russian-made components through a local supplier network. This policy has been implemented since 1999; by mid-2015, investments made by Japanese Toyota and Nissan, Renault–Nissan, Peugeot–Mitsubishi, Sollers–Mazda, Mitsui Bussan–Toyota, and Komatsu have laid a solid foundation for cooperation between Japan and Russia in the automotive industry. Japanese investors have continued to increase the local production of parts. Several difficulties exist in the current development of the automotive industry in Russia, but most of them relate to domestic problems and the dynamics of consumer demand, rather than to the activities of Japanese companies. Therefore, the contribution of Japan to the modernization of Russia's automotive industry should not be underestimated.

The analysis undertaken here confirms that the Japan–Russia automotive trade, the Russian car market, and the domestic assembly industry have partially changed the historical path, broken the dependence on political dynamics, increased the importance of bilateral ties, and helped eliminate black markets. Nevertheless, a complete overhaul will require further dramatic changes. For Japan, these include the application of experience gathered in the used car trade to other sectors, and expanding regional economic ties. From the Russian perspective, the arrival of the world's leading manufacturers should mark a starting point for deeper modernization of the automotive industry and related markets. This work has just begun, and its full manifestation will require much more time and effort.

6.2. Import of fossil fuels from Russia

The Japan–Russia energy trade has also seen substantial new developments. In 2015, about 80% of Japanese imports from Russia comprised oil and oil products, LNG, and coal. These three types of fossil fuel have taken a prominent place in Japan's domestic market. In terms of value, Russia accounts for 8.6% of all Japanese energy imports (Table 1).

Table 1 Japan's imports of fossil fuels (2015)

	Total imports		Imports from Russia		Share of Russia %	
	value *	volume**	value *	volume**	value	volume
Petroleum	8,183	195.4	727	17.1	8.8	8.7
LNG	5,537	85.0	474	7.5	8.5	10.0
Coal	1,971	190.6	164	16.8	8.3	8.8

* Billion yen; ** Petroleum – million kiloliters, LNG and coal – million tons

Source: Zaimusho, 2016

Russia was the source of 5.9% (by volume) and 7.0% (by value) of oil deliveries to Japan; those numbers for coal were 10.4% and 11.3%, respectively, and about 76–78% for LNG (FCS, 2016). However, detailed analysis of the Japan–Russia energy trade is largely outside the scope of this study; we would like to concentrate on just two critical moments that have determined the paths of cooperation in the field of oil and gas over the last 15 years.

The first moment pertains to the route selection procedure for the ESPO oil pipeline. Near the end of the 1990s, intense competition flared between Japan and China for access to the East Siberian oil fields. Each of the two competing countries proposed its own routes for transporting Russian crude. China's proposal for a very short pipeline became the basis of a general agreement between oil extracting companies, signed in 2002. Japan's suggestion for a longer route was advanced in 2003, and supported by generous financing options. Considering its available alternatives, the Russian government decided in 2004 to build a pipeline along an 'extra-long' course, effectively combining the proposals put forward by both China and Japan. The 4,740-km trunk line with a branch in China was laid in 2006–2012, in two phases. The capacity of the first phase (ESPO-1) at the beginning of 2015 reached 58 million tons/year, while that of the second phase (ESPO-2) came to 30 million tons/year, with some plans for capacity expansion. In 2014, 16 million tons of oil were delivered to China, and 24.9 million tons went to several Asian countries. As of the end of 2012, the cost of construction had exceeded RUB700 billion, or approximately USD22.5 billion (Transneft, 2015).

Selecting the ESPO route became a most difficult task for Russia, in terms of the country finding its place in the Asia–Pacific region, setting a strategy for territorial and sectoral development, and laying infrastructure foundations for a regional energy market. The situation with the pipeline at the beginning of 2003 took the form of a monopsony (i.e. buyer's monopoly) on the part of China—something that is widely considered an example of a market failure. Government intervention in the route-selection process has allowed Russia to add Japan as an alternative oil consumer, and as a likely partner in oil deposit development and construction financing. Russia has acquired alternative destinations for sale, while Japan has acquired long-desired access to Siberian oil. However, deliveries to Japan were transacted on the spot, while long-term contracts were being awarded to China. By mid-2014, it became apparent that Russian export commitments to China would leave very little free oil for sale on the spot market; this situation will inevitably lead to a decline in deliveries to Japan (Sakaguchi, 2014). This combination of positive and negative results suggests that after arriving at a critical point in oil market development, Japan–Russia cooperation reached a more efficient equilibrium, but it has not veered radically from the historical path.

In the early 2010s, the regional gas market entered a critical development stage. Russia, as it did with oil in the early 2000s, tried to ignite competition among prospective buyers; however, this has proved to be much more difficult with gas than with oil. Difficulties emerged from changes in the political and economic environment, as well as from dissimilarities of business models for pipeline gas and LNG. The competition for these two types of gas requires, if possible, the creation of different and costly

infrastructure that does not currently exist.

Given the geographical locations of gas fields and consumption centres, Siberian gas supplies destined for the North-western and North-eastern parts of China can be feasibly delivered only through pipelines. The decision to lay two major gas pipes (the 2,600-km 'Altai' line, and the 4,000-km 'Power of Siberia' line) was reported in 2014. In spite of several reported problems with project implementation, it is obvious that by the end of the 2010s, China will emerge as the main Asian market for Russian pipeline gas. Japanese experts have a generally positive view of this trend: the construction of the pipelines could lead to an increase in supply and a drop in demand, thus leading to lower prices for the LNG purchased by Japan. In addition, expanding ties with China should stimulate Russia to more actively search out alternative partners in developing Siberia and the Far East, which will naturally benefit Japan–Russia economic relations (Motomura, 2014).

The situation appears to be much more complex in Sakhalin, where Russia has far-reaching plans to construct a complex network that features both pipelines and LNG facilities. Japan has unconditional priority in the development of Sakhalin, with Russia's first LNG plant being built there in 2009, with the participation of Japanese companies; additionally, there has been a focus on the Japanese gas market. In 2014, 10.8 million tons of LNG was produced and shipped, of which 79.5% went to Japan, 18.1% to South Korea, 1.2% to China, and 0.6% to Taiwan and Thailand (Sakhalin Energy, 2015). Plans for the development of LNG facilities in the region include the expansion of the existing Sakhalin-2 plant (Prigorodnoye-3) and the construction of two new venues, tentatively named 'Vladivostok LNG' and 'Far East LNG'.

The main competitive advantage of Sakhalin's projects relates to its convenient location near major international LNG markets and its low transport costs, as well as the positive experiences with and great advancements in the development of the oil and gas fields. However, the list of unresolved problems is also very impressive. The first problem seems to be a lack of available gas deposits needed to justify the construction of all three proposed plants, particularly in view of growing internal consumption and export commitments to China. Unsurprisingly, the projects' participants are starting to compete with each other over access to resources. In particular, considerable media attention has focused on the clash of such Russian economic and political powerhouses as Gazprom and Rosneft. For many years, Gazprom has tried to control the supply of gas from the Rosneft's Sakhalin-1, and either reserve it for domestic consumption or redirect the flow to its own Vladivostok LNG project. The same rationale lies behind Gazprom's 2008 ban on the construction of Rosneft's export pipeline from Sakhalin to China, and the refusal in 2013 to grant Rosneft access to Sakhalin gas pipelines. According to some experts, even such a world-renowned but monopolistic company as Gazprom may not properly assess prospects for market development (Aslund, 2012). The results of a brief analysis of Russian LNG supplies destined for Asian markets underscore the risk inherent in creating excess capacity and undue project competition. Again, this situation can be described as a market failure that requires government intervention. Therefore, from a theoretical and practical viewpoint, it would be highly reasonable for the

Russian government to ensure the coordination of Gazprom and Rosneft in Sakhalin, if it is to take into account all the surrounding factors and choose a priority project.

The second problem in expanding LNG capacities relates to high costs and narrow price boundaries with respect to acceptable profitability levels. According to some estimates, given the price levels in early 2014, only one of the aforementioned projects (i.e. the third train of the existing LNG Sakhalin-2 plant in Prigorodnoye) is considered economically feasible (Bradshaw, 2014). A more detailed analysis points to the existence of a narrow ‘corridor of profitability’ for Sakhalin projects. The upper and lower bounds of that corridor seem to be defined by the price formula—based on either oil or alternative LNG—and the price levels of oil and gas. These price levels depend on many interrelated factors. In particular, increased oil prices in recent years have led to the expansion of production and to a reduction in price of shale gas in the United States. The latter can be supplied to Japan and provide an alternative benchmark for LNG prices. In 2012–2014, oil prices fluctuated between USD80 and USD100 per barrel for Japan customs-cleared crude or Japan crude cocktail (JCC); the price of gas on the US Henry Hub (HH) terminal hovered around USD4–6 per million British thermal units (USD/mln BTU). This narrow price range sets the boundaries for acceptable profitability (Sun, 2015). However, in December 2015, the JCC oil price dropped to USD43.5 per barrel, and in February 16, 2016, the HH gas price hit USD1.95/mln BTU, diving far below acceptable levels. These price movements have greatly worsened the economic feasibility of Sakhalin’s LNG projects and complicated decisions concerning their implementation. Therefore, in late 2015, the ‘Vladivostok LNG’ project was effectively shelved and the ‘Far East LNG’ was indefinitely postponed, by their respective operating companies.

The third problem relates to sanctions against Russia, which have complicated the search for investors and technology donors in constructing LNG plants. Assessing the precise impact of sanctions is quite difficult. Quite likely, the only clear point may be increased attention to the pipeline alternative for the transport of Sakhalin gas. The construction of the Sakhalin–Japan gas pipeline has been considered from a technical viewpoint at least twice, in 2001 and in 2012–2013. The first time, the project was rejected for economic and environmental reasons, and a number of Japanese companies explicitly called for the import of LNG. The second time, the pipeline appeared among the measures by which to reduce the purchase price of LNG, which soared after the Fukushima accident. The project was approved by a group of Japanese parliamentarians, presented to Prime Minister Abe, and passed to Gazprom. As compensation for the possible decrease in export revenues, the Japanese side proposed that Gazprom participate in the development of LNG degasification facilities and power generation in Japan, but the Russian company did not respond to this seemingly attractive proposal (Labykin, 2014).

The construction of the Sakhalin gas pipeline once again attracted the attention of Tokyo Gas advisor Muraki, in May 2015. He proposed stretching the pipeline for 1,500 km, and that it would possess a capacity of 8 billion m³ per year and cost USD3.5 billion to build. These characteristics should make its construction highly justified, both technically and economically (Topalov, 2015). The statement by Muraki can be considered the first direct manifestation of interest by the largest Japanese gas company in

pipeline gas supplies. The main interest of Japan obviously relates to the lower import prices for cheaper pipeline gas; however, in this case, Japan's intentions could come into direct conflict with the commercial interests of the Russian companies. As the history of Russia–China talks on gas issues would imply, this conflict of interest may delay construction for several years and require significant political intervention.

By the end of 2015, lower fuel prices, established directions with regards to energy and environmental policies, a decline in the size and number of antinuclear protests, and some nuclear restarts have considerably eased the situation in Japan's energy sector. Under these conditions, long-term incentives for purchasing Russian gas will definitely continue to exist, but rather than be a key country in solving Japan's energy problems—as it was in 2012 (Abiru and Hiranuma, 2012)—the role of Russia will be reduced to that of a backup player, in the event of instability among the other, major suppliers.

Japan–Russia cooperation in the gas sector has a long history and bears fairly good prospects. Only Russia can supply Japan with cheaper pipeline gas, and only Japan can provide both technological expertise and sufficient demand for LNG projects. Bilateral ties contribute to the development of the regional gas market, as well as increases in production and energy consumption. However, an overview of the existing problems shows that Russia has yet to resolve issues of securing gas deposits, coordinating domestic producers, and creating the necessary infrastructure. Japan may face even more daunting challenges, such as forecasting future demand, liberalizing energy industries, and modernizing domestic gas networks. This critical juncture in the development of a regional gas market has not yet passed through, and both sides should undertake balanced and responsible actions, as even 'tiny steps' can affect the situation years into the future. Theoretical analysis from the perspective of path dependence recommends, first, the provision of diverse infrastructure and the elimination of market failure; second, respect for the long-term interests of partners in the process of market formation; and third, a concentration of political and humanitarian relations in confidence-building, to ensure positive outcomes in case political intervention is needed.

7. How to change the path?

For nearly a century, the Japan–Russia economic relationship has followed a stable but not always satisfying model of bilateral ties. Despite the countries' obvious historical differences, during that time, political dynamics strongly influenced mutual trade, individual shares of bilateral trade were extremely low, and Japan typically supplied manufactured goods in exchange for Russian raw materials. Given this legacy, during critical moments in history, cooperation between Japan and Russia has frequently been unable to overcome the acquired inertia and to work in more effective ways. The results of our analysis show that this is a manifestation of path dependence; however, the situation can be improved through the enactment of measures grounded in institutional theory.

Political dynamics can influence economic relations, in both positive and negative ways. In cases

when normal economic activity is impossible (e.g. sales of Manchurian railways in the 1930s), the market economy is nonexistent (e.g. Japan's participation in the planned development of Siberia in the 1970s), or market failures occur (e.g. informal sectors in the automotive–fish trade in the 1990s and 2000s), political intervention appears to be justified. Problems arise, as a rule, when economic instruments are used to apply political pressure (e.g. control of high-technology transfers, as well as sanctions against the Soviet Union in the 1980s, and subsequently against Russia since 2014). The optimal strategy for reducing these adverse effects implies a distribution of risk through the provision of diverse infrastructure and profound institutions, the elimination of monopolies and the shadow economy, an expansion in the range of trade partners, and the creation of possibilities for fair competition. These measures lead explicitly to the development of international markets. In the analysed case of oil and gas supplies, a relevant strategy must be based on the diversification of producers and suppliers, buyers and consumers, export destinations and delivery methods, and financing instruments, as well as on a competitive selection of best options. The market does not eliminate the factor of political risk per se, but it does expand the spectrum of developmental mechanisms that are not contingent on fluctuations in the political climate.

The second characteristic of the Japan–Russia bilateral relationship (i.e. exchange of Russian raw materials for Japanese manufactured goods) can be only partially explained from the perspective of each country's comparative advantages. It is well known that a country's available set of comparative advantages may change in the course of economic development; Japan provides a classic example of such evolution, with a gradual transition from labour-intensive to capital-intensive and knowledge-intensive industries. In Russia, unlike Japan, the resource-dependent nature of its economy has not changed for a century. Modern developmental mechanisms available to emerging economies translates into foreign direct investment and the associated transfer of capital, technology, and manufacturing experience found in large transnational corporations. In this sense, Japan and Russia comprise a pair of almost ideal trade partners. The participation of Japanese companies in the modernization of the Russian automotive industry, the formation of the automobile market, the development of the offshore Sakhalin fields, and the construction of Russia's first LNG plant all deserve the highest praise. The rising tide should be followed by Japanese investment in processing in both the fishery and forestry sectors, upgrading energy facilities and transport infrastructure, and modernizing petrochemical industries, inter alia. These sectors have considerable growth potential and should be highlighted as promising new areas of development-oriented cooperation. Russia is also quite capable of participating in the expansion of gas pipeline infrastructure and power generation in Japan. If Russia and Japan were to lay the foundation for evolution and development through competent and effective industrial policy that provides sufficient infrastructure and stimulates private initiatives, all while relying on comparative advantages, the best interests of both countries would be served.

Japan's share in Russia's total bilateral trade does not exceed 1.2%; vice versa, the number is 4.3%. However, the number increases to 8–10% when speaking solely of fuel supplies, and 10–20% when

speaking of car exports. Japan's Hokkaido and Russian Far East rely heavily on each other. Further trade expansion will most likely become possible beyond these traditional limits. The same is true for their relationships outside the economic sphere: tourism, education, culture, mass media, science, grassroots exchanges, and the intensification of political and military contact could significantly assist in the development of economic cooperation between the two countries. The theoretical explanation for this outcome is underpinned by institutional theory, according to which symmetrical information, positive image, and mutual trust obtain market value by reducing transaction costs. In this area, the two countries would need to travel a long and difficult way to improve the current state of affairs.

In summary, 'market', 'development', and 'diversification' are the most important key words to bear in mind as Japan and Russia work to overcome path dependence, and ultimately to cooperate in a more effective way. In the modern theory of international relations, the focus has shifted from a geopolitical approach to a 'geo-economic' one; economic issues have become more significant, in many cases supplanting political, ideological, and military advantages (Szabo, 2014). The geo-economic approach may facilitate a faster and easier elevation in the status of conventional regional powers, to the level of 'shaping countries'—wherein they would be capable of shaping outcomes and events. Modern Germany is an example of such successful geo-economic growth. The concept of geo-economics helps explain why Russia would be interested in turning Japan into the 'Germany of the East'.

At first glance, this formula is hardly applicable to Japan–Russia relations. The events surrounding the 70th anniversary of World War II showed how long it would take for Asia to achieve a European model of postwar settlement. More importantly, in recent years, both countries have suffered a series of setbacks in the application of geo-economic tools, and they have reverted to using their long-acquired historical tracks. In using energy diplomacy, Russia has failed to achieve its goals in Europe; rather, it has retired to semi-traditional confrontation with the West and partial international isolation. On the Asian continent, Japan has not succeeded in transforming economic power into international influence, and it has followed Washington in a recent reversal of the US–Asian strategy.

At the same time, the early 2010s have brought significant changes to the traditional model of bilateral relations between Japan and Russia. Market forces have started to replace politics as the primary driver, and both Japan's investment in the Russian energy sector and its participation in automotive manufacturing have delivered the financial capital and technological expertise that Russia needs to flourish in high value-added production. This means that recent history does provide positive examples of a transition to a more efficient path. In this sense, bilateral cooperation could teach both countries a key lesson in geo-economics. For this reason, the path-changing efforts in Japan–Russia economic relations could be useful in addressing not only bilateral concerns, but also a broad range of pressing domestic and international issues.

† I am grateful for the Joint Usage and Research Center of the Institute of Economic Research, Kyoto University, for financial support for this article.

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