The Global Financial Crisis and Trans-Siberian Railway Transportation

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Introduction

The global financial crisis originating in the failure of Lehman Brothers in September 2008 sped around the world in the twinkling of an eye, and has also rippled out to the economies of the countries of Northeast Asia. The crisis, which made its first appearance concentrated in the financial sector, expanded into the real economy, and the macroeconomic activity of Russia and others, which had been showing signs of overheating up to the summer of 2008, rapidly lost speed from autumn on. Consequently, the chain of such losses as the contraction in production, consumption, trade and employment came to shake the economies of every country.

At the time of writing at the end of June, the voices are in the ascendant which say that the financial crises of the countries of the world have passed through their worst phase. It appears that the public spending and financial-stabilizing measures of each country and territory have worked and economic conditions and share prices are on the upturn globally. In Northeast Asia expectation can be heard that the recovery of the Chinese economy will lead the world, and there are signs that the ROK economy is also on the up.

The financial sector, however, has suffered a serious blow, and the Russian economy, which has been thrown into a credit squeeze, is in a state where it can't extricate itself from the slump. Regarding Russia's economy, the production and consumption, and trade sectors have slowed, and the decrease in trade is bringing a sharp decrease in cargo transportation volumes. In the forecasts of the Ministry for Economic Development of the Russian Federation, Russian Railways' volume of traffic in 2009 could fall by 19% on 2008. The cash flow has worsened and measures to cut the workforce have also been planned at the company.[1]

Trans-Siberian Railway (TSR) transportation[2] – international container transportation utilizing the Trans-Siberian Railway – is also no exception, and at the container storage yards of Vostochny Port too, which is the eastern entry point of the Trans-Siberian Railway, empty spaces have become noticeable. With a sea-change from the unprecedented economic boom to being battered by the waves of the recession, it can be seen that the fragile constitution of the TSR route has been laid bare.

This piece shall make an analysis, based on data and hearings, of the current status of TSR transportation, which, affected by the financial crisis, is in a slump. In addition to fathoming the competitiveness of the TSR transportation route, I shall acquaint you with a handy theoretical model. Finally I want to lay out recovery scenarios to the operating organs on the Russian side. And yet more: the serious downturn via the financial crisis has still not ceased, and at the current point in time I shall allow myself an interim report.

1. The Volume Transported on the TSR Route: Turning the Rapid Increase to a Loss of Speed

Freight transportation is a barometer of business climate. In Russia, where the economy has slowed from the fourth quarter of 2008 on, the decline in volume of freight transportation is apparent in all modes. The freight handled by Russian Railways in the first four months of 2009 fell 26% on the same period for the previous year. In particular, the decreases in the transportation volumes of construction materials (-47.5%), coke (-40.2%), and ferrous metals (-33.4%) were pronounced.[3] It is estimated to be due to construction throughout Russia being inhibited, automobile production having slumped, and Russia's exports of resources and steel having slowed down.

Cargo movements of container freight have slowed also. For the container volume handled at all Russian ports for the whole of 2008 there was an increase of 26% on the previous year, but for the first quarter of 2009 was down 38% on the same period for the previous year.

TSR transportation continued rapid growth with 420,526 TEU in 2006 and 620,831 TEU in 2007, and although the increase slowed from autumn 2008 on, it ended at 709,672 TEU (up 14%) for the whole year (Figure 1). Within this are included the freight connecting East Asia with western Russia/Central Asia, the freight connecting Finland, Eastern Europe, and the Baltic States with Russia and the countries of Central Asia, and the freight passing onto the Trans-Siberian Railway via the interior rail route from China.

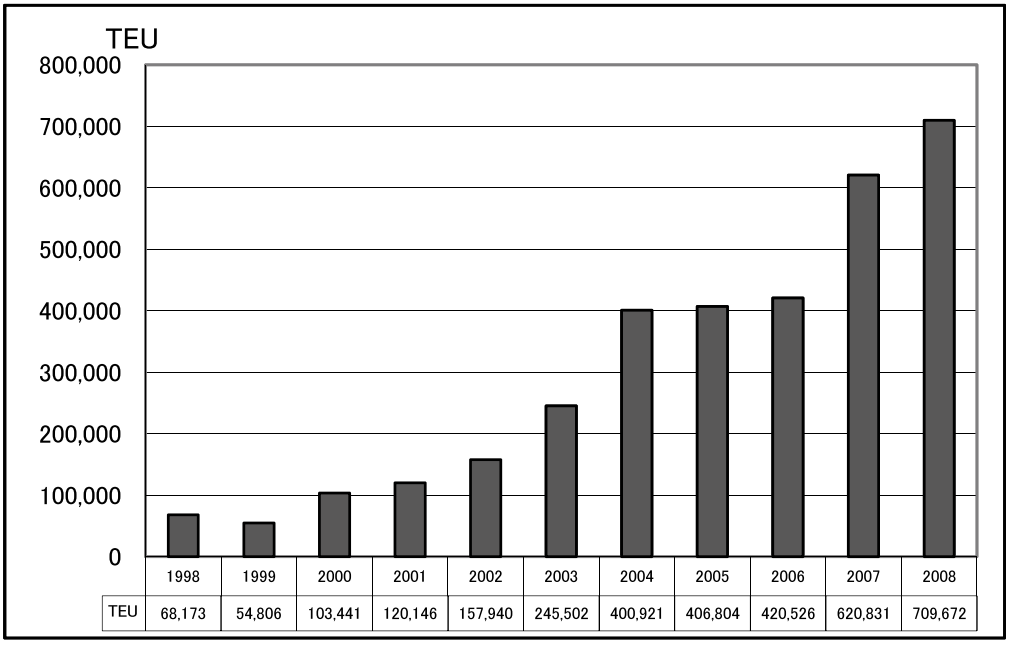
In the first quarter of 2009, however, it fell sharply, 57% down on the same period the previous year. In particular the decreases for imported freight (-68%) and ROK freight (-75%) are pronounced. Meanwhile, when one compares the changes in container volume handled

[1] According to Russian Railways, 180,000 employees are laid off, and there is a plan to make 53,700 redundant during 2009. www.rzd-partner.com/news/2009/06/19/341882.html

[2] The international multimodal transport which takes place combining the Trans-Siberian Railway and maritime transportation is called "TSR transportation", and in comparison with other routes is called the "TSR transportation route" or the "TSR route". The maritime transportation route via the Suez Canal, the rival route to Europe, is called the "Deep Sea route".

[3] www.rzd-partner.com/news/2009/05/07/340097.html

Figure 1: Volume of TSR International Container Transportation



Source: CCTT (Coordinating Council on Transsiberian Transportation)
Note: Includes empty containers

Table 1: Handled Container Volume in the First Quarter of 2009

	2008 (TEU)	Increase on previous year (%)	Qtr 1 2009 (TEU)	Compared to same period in previous year (%)
All Russian ports	3,772,826	26	548,288	-38
TSR international containers	709,672	14	53,183	-57
Imports	358,416	13	22,803	-68
Exports	322,221	21	26,832	-45
Transit	29,035	24	3,548	-54
Russia-China	274,385	17	38,812	-39
Russia-ROK	224,085	9	12,906	-75
Vostochny Port	400,724	8	39,233	-58
Saint Petersburg Port	1,983,110	17	282,260	-38

Source: CCTT data
Note: Includes empty containers

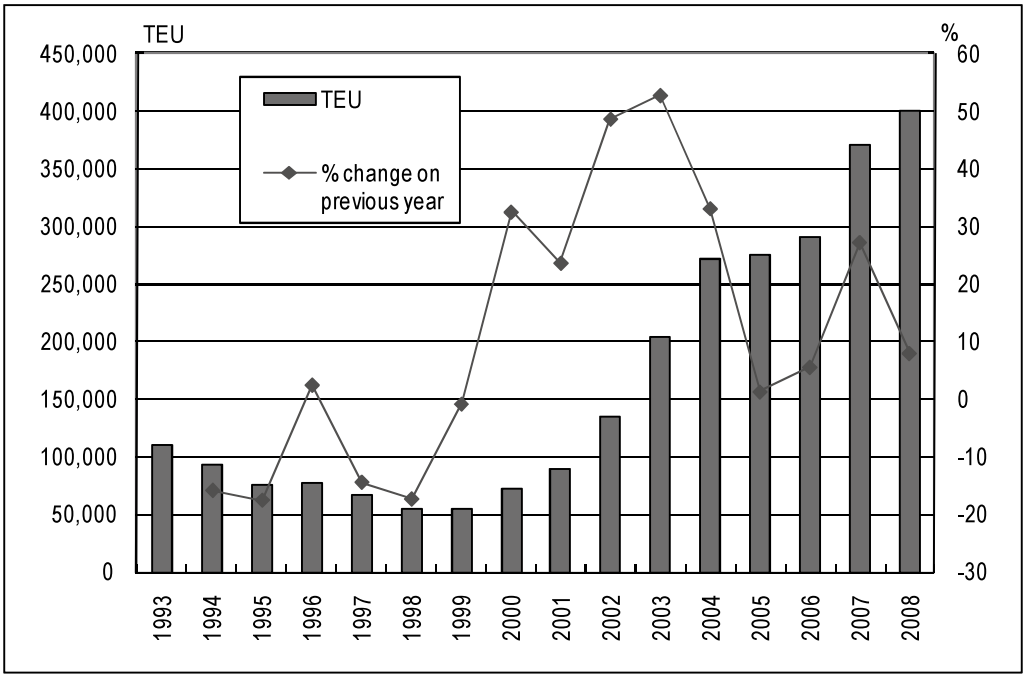
at eastern and western ports, the slump was severe for Vostochny Port in the east (-58%) compared with Saint Petersburg Port (-38%) in the west (Table 1 and Figures 4 and 5).

The container volume handled at Vostochny Port, reflecting the healthy cargo movements up to October 2008, was for the whole year 400,724 TEU, an increase of 8% on the previous year (Table 1 and Figure 2), within which filled international containers were 258,950 TEU (+4%). When one observes the breakdown for filled international containers, the imbalance continues in the ratio of westbound to eastbound of 85:15. By destination Russian imports were 79%, Russian exports 15%, bound for Central Asia 6% and transit 0% (Figure 3). By country of origin and destination the ratio for the ROK, China and Japan follows the established pattern, at 66:31:3. In this data, however, freight headed for Russia with transshipment in Busan and originating in Japan and China is treated as ROK freight, and in actuality the freight shares of Japan and China can be considered to be higher than these values.

The volume of containers handled at Vostochny Port decreased sharply from November 2008 on, and in March 2009 there was a 65% decrease on the preceding March (Figure 4). When one examines the pictures taken of the port in April, empty space is conspicuous, with the containers single or double-stacked. At Vostochnaya Stevedoring Company (VSC), which handles loading and unloading at the port, they took a desperate measure in April for utilizing the left-over space, importing finished cars.[4]

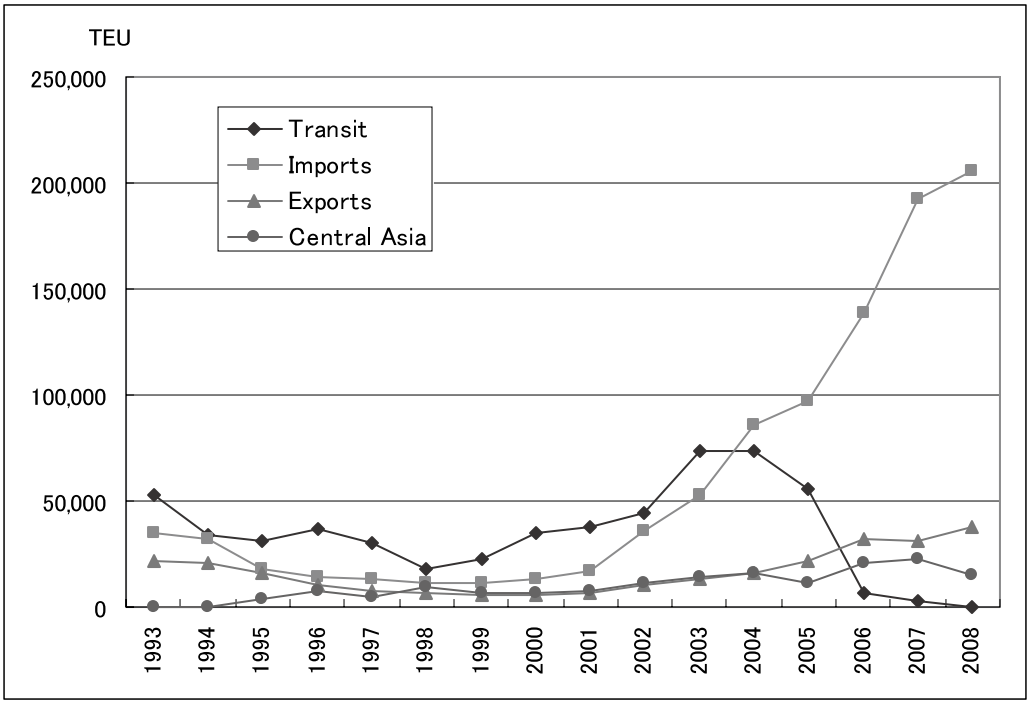
[4] Introduced in Hisako Tsuji, "The Situation of the Transportation of Automobiles bound for the Russian Market" (*Russian-Eurasian Economy*, June 2009 edition).

Figure 2: Handled Container Volume at Vostochny Port (by calendar year)



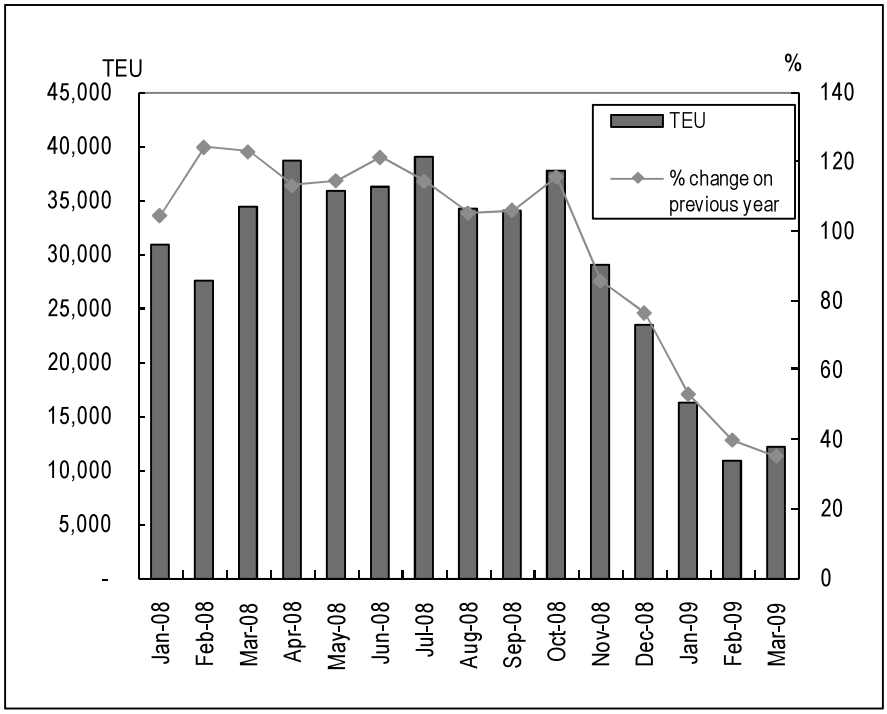
Source: VSC
Note: Includes empty containers and international freight

Figure 3: Handled Container Volume at Vostochny Port (by destination)



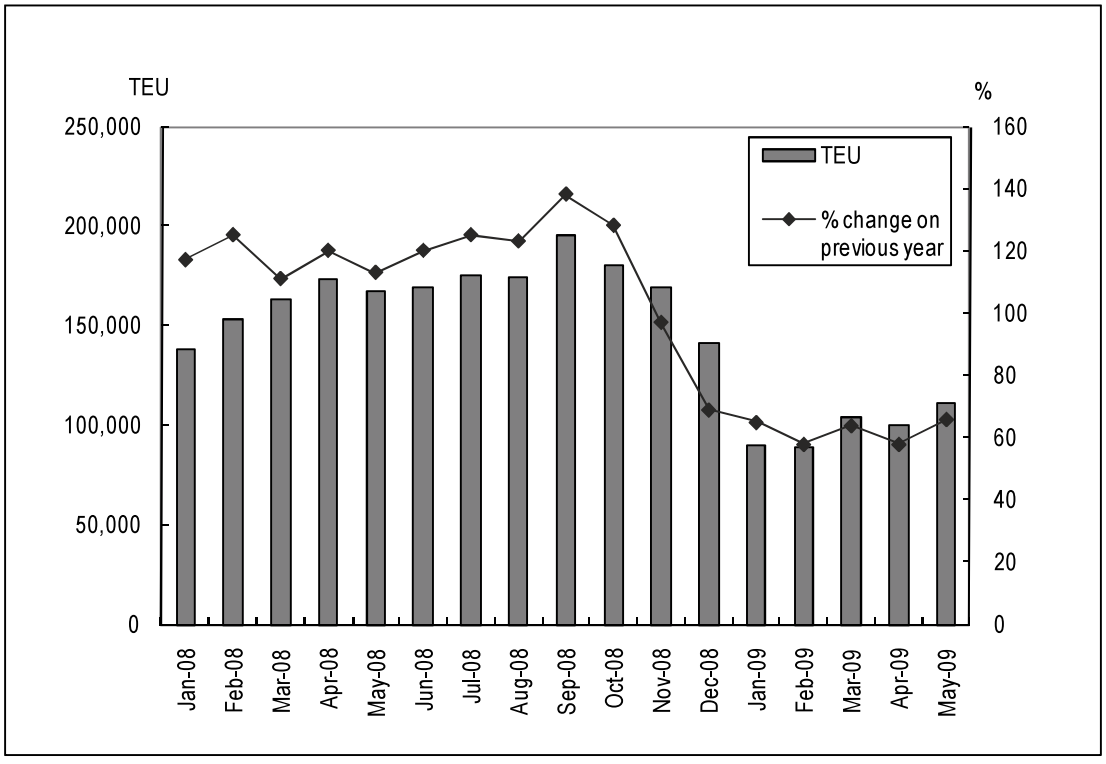
Source: VSC
Note: Loaded international containers only

Figure 4: Handled Container Volume at Vostochny Port (by month)



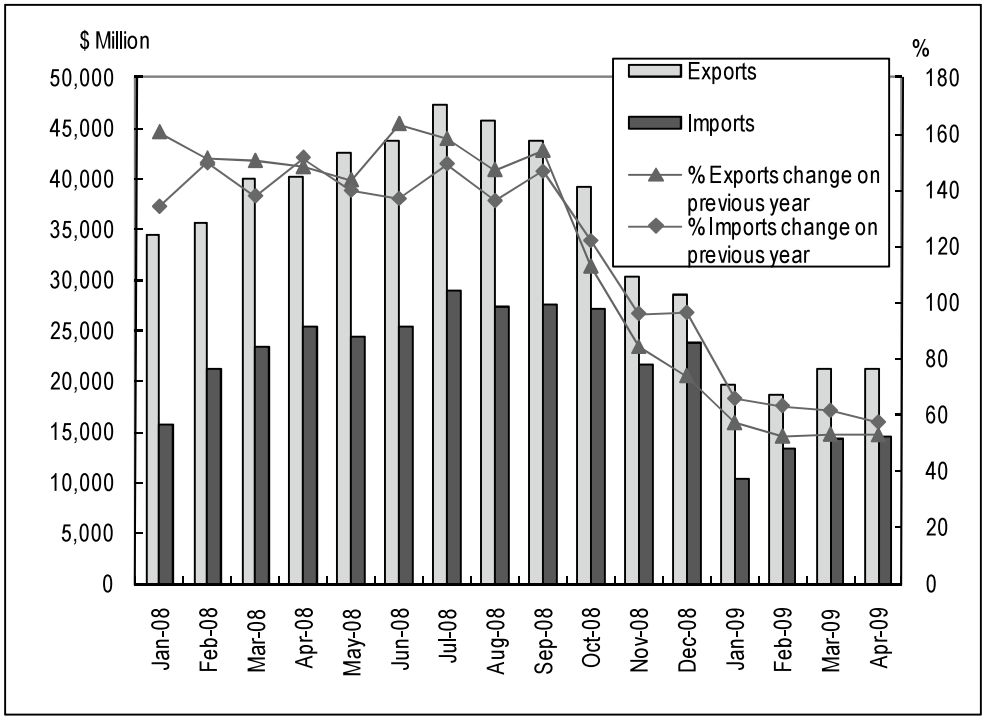
Source: VSC and other published data
Note: Includes empty containers and international freight

Figure 5: Handled Container Volume for the Port Authority of Saint Petersburg (by month)



Source: Port Authority of Saint Petersburg website (www.pasp.ru)

Figure 6: Changes in Russian Trade



Source: Federal State Statistics Service

Accompanying the decrease in the volume of TSR transportation freight, maritime freight charges have also dropped, and the shipping companies owning the feeder ships which operate between Busan and Vostochny/ Vladivostok have been thrown into rough straits. There were also shipping companies which were driven into bankruptcy, like Dongnama (renamed C&Line) and MCL (Magistral Container Lines).

On the other hand there has been the emergence of new shipping companies, and as of June 2009 FESCO, HMM (Hyundai Merchant Marine), Sinokor Merchant Marine, APL, CMA CGM, CK Line, KMTC, PC Shipping and Mitsui O.S.K. Lines have called at Vostochny Port. Meanwhile, in addition to FESCO, HMM and Mitsui O.S.K. Lines, Maersk Line also began to call at the Commercial Port of Vladivostok.

2. The Causes of the Slowing of TSR Transportation

(1) The Contraction in Russian Trade

The first cause of the slowing of TSR transportation is the decrease in trade freight via the economic crisis. With the emergence of the financial crisis in autumn 2008, the financial institutions of Russia that had been dependent on other countries for funding got into the deep water of a lack of liquidity from the withdrawal of overseas capital. What has directly been affected by the credit squeeze in the financial sector is the automobile market. As the essential loans for purchasing cars can't be offered, the purchase of automobiles has been checked, and the import of cars from Japan, etc., has rapidly fallen. Foreign automobile manufacturers carrying out complete knock down (CKD) production in Russia have also been forced, from the drop in sales, to make adjustments such as dropping their rate of operation.

Meanwhile, the drop in the price of the major export commodity crude oil and the decline in demand for resources overseas have reduced the value of exports. Moreover, the fall in share prices and the depreciation of the ruble have had a negative wealth effect, the whole of Russia's trade has decreased from the fourth quarter of 2008 on (Figure 6). Russia's exports and imports for the first quarter 2009 fell greatly, -47.4% and -36.7% (on the same period in the previous year), respectively.

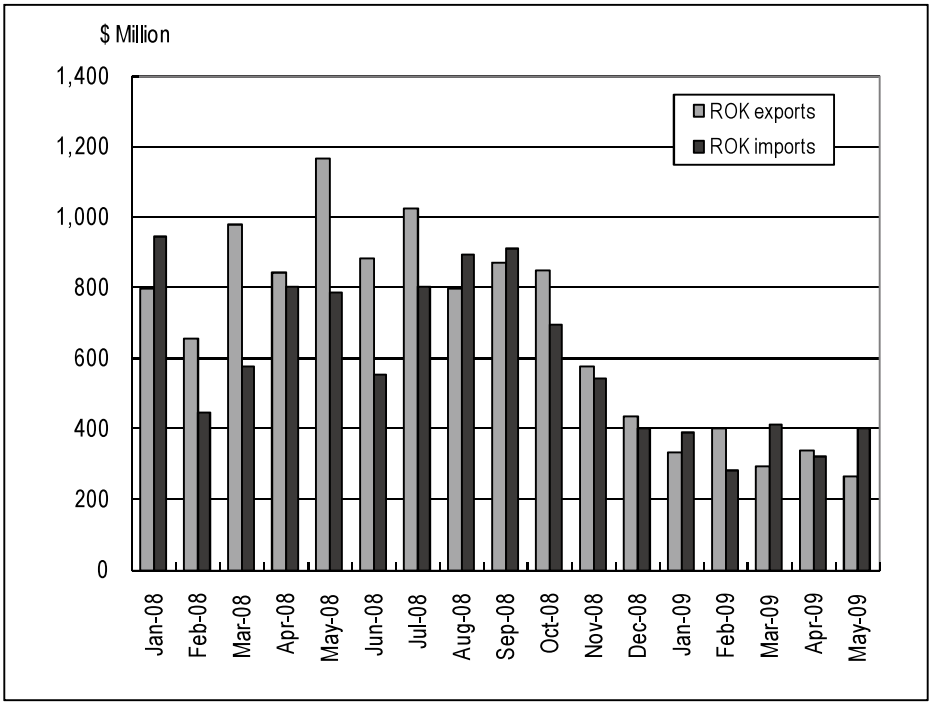
The trade between Russia and the ROK, a primary user of the TSR transportation linking East Asia and Russia, has also greatly contracted (Figure 7). ROK exports (Russian imports) in the first quarter of 2009 dropped -56.3%, together with -44.9% (on the same period in the previous year) for ROK imports (Russian exports). In particular the drop in ROK exports was conspicuous.

The principal export commodities (in 2007) to Russia from the ROK, being automobiles and their components, were affected by the contraction in the automobile market in Russia. Among the exported goods to Russia, those that used TSR transportation were components for automobile manufacture, household electrical appliances, and plastic resinous materials (Table 2).

ROK automobile manufacturers, from around 2006 had regularly transported block trains exclusively loaded with CKD components to their factories in Russia and Central Asia. These were called Project Cargo, and the result of the discount fees which were applied on the premise of large-volume transportation and long-term contracts, was that economic competitiveness was maintained and that it became the driving force for the rapid growth of the route.

With the arrival of the financial crisis, however, the rate of operation in factories in Russia dropped, and because

Figure 7: Changes in ROK-Russia Trade



Source: Korea Customs Service (www.customs.go.kr)

Table 2: Composition of Export Items from the ROK to Russia (2007)

Item	US$ million	Share (%)
Transport machinery	4,571	56.5
Automobiles & components thereof	3,949	48.8
Shipping vessels	622	7.7
General machinery & electrical appliances	1,791	22.1
Plastic & rubber	779	9.6
Others	947	11.8
Total	8,088	

Source: Korea International Trade Association (KITA) (www.kiet.go.kr/)

the inventory adjustment of components for production became necessary, they were forced to slacken off on the block trains. The block trains exclusive to individual companies, that would depart Vostochny Port almost on a daily basis at their height, have vanished, and following the crisis trains, mixing containers of small volume, have reverted to the form operated many years ago.

(2) The Loss of Price Competitiveness

The second cause of the slowing of TSR transportation is the loss of price competitiveness.

First, from around the summer of 2008 preceding the Lehman shock, the maritime freight charges of the Deep Sea route showed signs of softening. The financial crisis sped around the world in a short time, and when the contraction of every nation's trade became conspicuous, maritime freight charges nosedived, mirroring the gap in supply and demand for ship space. In contrast, the TSR transportation route could not keep pace with the sharp movement of maritime freight charges, and became comparatively high in price.

From the conversations of ROK carriers, when one compares June 2008 and June 2009, the maritime freight charges from Busan to Saint Petersburg fell approximately US$1,000 per 40-foot container from US$3,400-US$3,600 to US$2,200-US$2,500. In the Busan to Moscow case, the truck haulage fee (approximately US$1,500 per 40-foot container) to Moscow is added onto the maritime freight charges to Saint Petersburg.

Meanwhile, Russian Railways, which supports the core of TSR transportation, has continued to raise its fees—by 27% in 2006, 21% in 2007, and 20% in 2008[5]—against a background of the healthy growth of TSR transportation. The charges for TSR transportation, following the financial crisis of autumn 2008, have fallen slightly with the changes in exchange rates, and in addition, although Russian Railways, TransContainer, Russkaya Troyka and FESCO cooperated and ventured a modest price-cut, it was a drop in the ocean compared to the large fall in maritime freight charges.

As a result, in the Busan to Moscow case, regarding the disparity in charges between the TSR route and the

[5] Noboru Nagasawa, "The Recent Trans-Siberian Railway (TSR) Route" (Institute for International Trade and Investment, *Report on the Russian Economy and Business Environment in the Financial Crisis*, March 2009).

Table 3: A Comparison of the Charges using TSR Transportation (40-foot containers)

		June 2008	June 2009
Busan to Saint Petersburg (Based on ROK forwarders' information)	Deep Sea	$3,400-3,600	$2,200-2,500
	TSR	$5,000-5,500	$4,500-5,000
Busan to Moscow (Based on ROK forwarders' information)	Deep Sea	$4,900-5,100	$3,700-4,000
	TSR	$5,000-5,500	$4,500-5,000
Japan to Moscow (CCTT data)	Deep Sea	N/A	$4,330
	TSR	N/A	$6,386-6,942

Note: The Busan-based charges were estimated based on information from ROK forwarders.

Deep Sea route which were practically on a level pegging before the financial crisis as of June 2008, the TSR grew to be approximately US$1,000 higher in relative price in June 2009.

In the Busan to Saint Petersburg case, at the stage before the crisis the TSR route was already relatively higher in cost than the Deep Sea route, but after the crisis the difference nearly doubled.

According to the estimates of the Coordinating Council on Transsiberian Transportation (CCTT), as of June 2009, in Japan to Moscow transportation, the TSR route grew to be approximately US$2,000 higher in relative price compared to the Deep Sea route (Table 3).

The CCTT, against a background of high charges for the TSR route originating in Japan, has pointed out that there is a problem with the handling cost at Japanese ports (US$450 per 40-foot container) and the maritime freight charges to Vostochny Port (US$2,600) being too high. To be sure, when compared to the maritime freight charges between Busan and Vostochny, which are said to be approximately US$1,000, the maritime freight charges for the direct services (JTSL[6]) from Japan to Vostochny Port are more than US$1,000 higher. Recently, due to the drop in Deep Sea charges, there has occurred the strange phenomenon of the JTSL freight charges being higher than freight charges from Japan to the principal ports of Europe.

For JTSL, the establishment of a route which circles Honshu, the frequency of services of two per month, and the setting of uniform charges have been pointed out as "non-user-friendly." In actuality, it is widely held that transportation via transshipment at Busan is cheaper than transportation to Vostochny by direct service, and the route via Busan, where there is no difference in the number of days for transportation from ports on the Sea of Japan to Russia, is being used for the most part.[7]

When the sense of the relatively expensiveness of the TSR transportation route became conspicuous, the freight that had hitherto been transported by the TSR route shifted to the Deep Sea route. According to the industry's information, the ROK's major home-electronics manufacturers changed the transportation of their products bound for the Moscow market from the TSR route to the Deep Sea route. Meanwhile, it seems the components bound for the Kaluga plant of an ROK home-electronics manufacturer have also gone over to transportation by Deep Sea, going via Saint Petersburg, and then by truck haulage.

When the destination, originating from Japan and the ROK, is Saint Petersburg, because the TSR route is clearly more expensive, the Deep Sea route has been used, except for the cases where the former is used in an emergency. The components for production for the local plants of Japanese and ROK automobile manufacturers have also come to be unloaded at Saint Petersburg Port.

For the freight whose destination is situated east of Moscow, however, the TSR route is used. For example, the TSR route is used for the plastic resin to Nizhny Novgorod and the components for the automobile assembly plant in Izhevsk originating in the ROK, or the transportation to Yelabuga where Japan's Isuzu Motors Ltd. is jointly carrying out truck assembly.

At this point in time, the watershed for both routes appears to lie somewhat east of Moscow and Kaluga.

(3) The Improvement of the Competing Routes

Against the background of the TSR route gaining attention in Japan from around 2007, there was expansion into Russia by Japanese companies, including Toyota. The Japanese automobile manufacturers all decided on an expansion into Saint Petersburg or Kaluga, near Moscow.

Saint Petersburg Port, close to the plants of each company, has boasted the largest freight volume handled for Russia, and the volume handled has increased annually. The results for handling in 2008 reached approximately two million TEU (Table 1). The weak-points have been pointed out, however, of a processing capacity that can't keep up with demand through increasing decrepitude, the narrowness of sea routes and winter freezing, the occurrence of waiting offshore, and constraints on access into the city, etc. Given this, the TSR route, as an alternative transportation route to the western part of Russia, has gained attention, and trials of the transportation of components from the ROK and Japan have been undertaken.

Recently, however, improvement has been seen for Saint Petersburg Port, and the dissatisfaction of shipping firms has come to be something not much heard.

Firstly, because the container volume handled at the

[6] Jointly operated by FESCO and Mitsui O.S.K. Lines.

[7] As of April 2009, in terms of the maritime charges from Niigata to Vostochny, JTSL was ¥70,000–¥100,000 more expensive per 40-foot container than Busan transshipment (information from Rinko Corporation).

port has declined with the influence of the recession from autumn 2008 on, the congestion has eased (Figure 5). It is said that the waiting of container ships offshore and of trucks at gates has practically vanished.

Be that as it may, if, accompanying the recovery of the Russian economy, the operating of peripheral automobile plants gets into full swing, then the inflow of containers will probably increase once more.

Consequently, the enhancement of the processing capacity for containers is underway. Each of the companies of the First Container Terminal, Petrolesport, and Moby Dik—the principal three wharves of the port—have tackled the enhancement of terminal facilities, and there is said to be a plan to raise business to a total of 4.4 million TEU up to 2012.[8] Meanwhile, steady progress is also being made on the development of the rail network to connect ports and plants.

Additionally, the construction of the Port of Ust Luga, as a supplementary port to Saint Petersburg Port, is underway.[9] The Port of Ust Luga is a multipurpose port under construction close to the border with Estonia, approximately 160km west of Saint Petersburg. A part of the port is in operation, possessing a coal terminal, a rail-car ferry terminal, an all-purpose terminal, a liquefied gas terminal, and a liquid goods terminal, etc. The construction of a container terminal is underway, and it is planned that services will be commenced in stages from 2009. Operations are planned with an annual processing capacity of 150,000-180,000 TEU in 2009, and 500,000 TEU in 2010. Ultimately it is a project that will become the biggest container terminal in Russia with an annual capacity of 3,000,000 TEU, as well as the foremost in Europe, with the construction planned of seven berths.

The water at the Port of Ust Luga is deep, and there is the attraction, which Saint Petersburg Port does not have, of there being undeveloped land galore in its hinterland. On the downside, access to the port is not in place, and is under construction in the form of railway lines and roads.

For the TSR route the enhancement of western rival ports becomes a threat.

3. Examination relating to the Watershed

(1) The Watershed Concept

In the case of transportation from Japan and the ROK to western Russia, the main factor which determines whether entry is from the Far Eastern ports in the east or from the ports of the northwestern region in the west is the charges. For the TSR route, however, which transports goods by rail entering from the east, there is the plus of speed, adding a slight premium.

For transportation costs, in theory, the further east the destination the TSR route has the greater advantage, and the further west the Deep Sea route has the greater advantage. Consequently, where the so-called "watershed" lies—where entering from the east and entering from the west compete on an equal footing—is the subject of discussion.

Tracing back through history, in the Siberian Land Bridge's heyday of the 1970s and 1980s, the watershed was in Europe, having leapt clear of Russia. Subsequently, when Russian Railways entered the turbulent period in the 1990s, the watershed is estimated to have shifted east to the vicinity of Irkutsk. From 2000 on, because of the relative relationship in the charges of the Deep Sea and TSR routes, the watershed is believed to have moved to the vicinity of Moscow.

(2) The Theory for Determining the Watershed

For the theorization I shall assume the following:

I shall suppose a case of the transportation of 40-foot containers from Japan to their destination along the Tran-Siberian Railway (the distance between Nakhodka[10] and Saint Petersburg: K = 9,713km), and I shall define the following two routes:

(1) The TSR Route: Maritime transportation from Japan to Nakhodka, then transportation by rail to the point of destination Xkm from Nakhodka. The railway fees are proportional to the distance of transportation.

(2) The Deep Sea Route: Maritime transportation by Deep Sea transportation from Japan to Saint Petersburg, then transportation by truck from Saint Petersburg to the point of destination ($K - X$ km). The truck haulage fees are proportional to distance.

The result of selecting the route with the lower transportation cost to a point of destination was that the places where the overall transportation costs are the same for both routes (points Xkm from Nakhodka) give the watershed.

a = Maritime freight charges from Japan to Nakhodka (US$)
X = The distance from Nakhodka to the point of destination (km)
b = Railway fees (US$/km)
Y_R = Overall cost of the TSR route (US$)

c = Maritime freight charges from Japan to Saint Petersburg (US$)
K = The distance from Nakhodka to Saint Petersburg (9,713km)
$K - X$ = The distance from Saint Petersburg to the point of destination (km)
d = The truck haulage fees from Saint Petersburg to the point of destination (US$/km)
Y_D = Overall cost of the Deep Sea route (US$)

The transportation costs for both routes were defined as follows:

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[8] See the special feature "For Investment into Russia, Now is the Time for Preparation: Saint Petersburg's investment environment", in *JETRO Sensor*, July edition, 2009

[9] You shall need to refer to Takafumi Nakai, "Petersburg Port and the Port of Ust Luga: Russia's container transportation hub", *Russia & NIS Business Monthly*, April 2009 edition.

[10] There are such ports as Nakhodka and Vostochny within the city of Nakhodka.

$$Y_R = a + bX$$
$$Y_D = c + d(K - X)$$

To find the point of destination, X, where $Y_R = Y_D$:

$$a + bX = c + dK - dX$$
$$X = \frac{c - a + dK}{b + d}$$ which gives the watershed.

To find the relationships between the parameters and the watershed:

$$\frac{\partial X}{\partial c} > 0$$

The more expensive the Deep Sea fees, the further the watershed moves to the west.

$$\frac{\partial X}{\partial a} < 0$$

The more expensive the Japan-Nakhodka maritime freight charges, the further the watershed moves to the east.

$$\frac{\partial X}{\partial b} < 0$$

The more expensive the Trans-Siberian Railway fees, the further the watershed moves to the east.

$$\frac{\partial X}{\partial d} = \frac{K(b+d) - (c - a + dK)}{(b+d)^2}$$
$$= \frac{bK - c + a}{(b+d)^2} > 0 \quad \text{If} \quad bK + a > c$$

As long as the cost of transportation via the TSR route to Saint Petersburg ($bK + a$) is higher than the cost of transportation via the Deep Sea route to Saint Petersburg (c), then a rise in truck haulage fees will move the watershed to the west. Hypothetically, regarding transportation bound for Saint Petersburg, if the TSR route were cheaper than the Deep Sea route, there would be a situation where the watershed ceased to be inside Russia, as it is thought all freight would use the TSR route.

Figure 8: Watershed Concept Diagrams

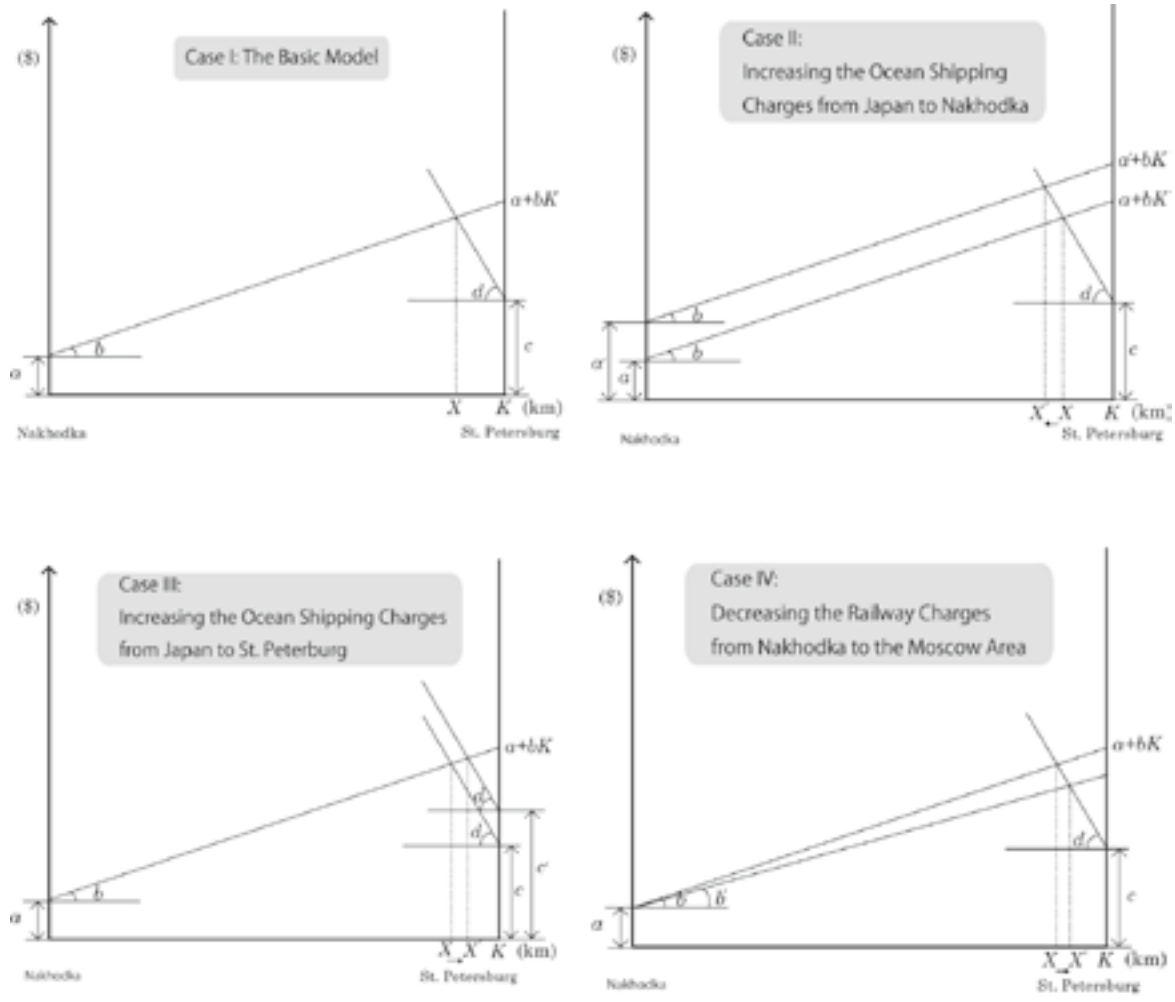


Table 4: Simulation Results

	a	*b*	*c*	*d*	*X* (Distance from Nakhodka)	Distance from Moscow
I	$1,000	$0.43/km	$2,500	$3.75/km	9,072km	242km east
II	$2,000	$0.43/km	$2,500	$3.75/km	8,833km	481km east
III	$1,000	$0.43/km	$3,500	$3.75/km	9,550km	236km west
IV	$1,000	$0.38/km	$2,500	$3.75/km	9,182km	132km east

(3) Application for Speculative Measures

Within this model it is possible to carry out simulations, putting in postulated values (Table 4).

Case I (Basic Model): Assumes values of US$1,000 for the maritime freight charges from Japan to Nakhodka (*a*) and US$2,500 for the Deep Sea charges to Saint Petersburg (*c*). For the railway fees, the 9,314km between Nakhodka and Moscow is taken as costing $4,000, meaning that *b*= US$0.43/km. For truck haulage fees the 400km between Saint Petersburg and Moscow is taken as costing US$1,500, meaning that *b*= US$3.75/km. Under these assumptions *X*= 9,072km and the watershed lies 242km east of Moscow.

Case II: When the maritime freight charges from Japan to Nakhodka (*a*) are raised from US$1,000 to US$2,000, the watershed moves to a point 481km east of Moscow. Japan-Nakhodka maritime freight charges are widely held to be approximately US$1,000 more expensive than those between the ROK and Nakhodka, and if all other conditions are equal, it can be considered that the watershed for Japan lies further east than is the case for the ROK.

Case III: Using the Basic Model as a starting point, when the maritime freight charges from Japan to Saint Petersburg (*c*) are raised from US$2,500 to US$3,500, the watershed shifts to a point 236km west of Moscow, and Moscow is included within the market for the TSR route. It can be thought that supposing there had been a difference in the Deep Sea charges of approximately US$1,000 before and after the emergence of the global financial crisis, the watershed would also have moved eastward with the influence of the drop in Deep Sea charges. Conversely, supposing the Deep Sea charges were to rise when economies subsequently return to favorable conditions, the possibility that the watershed would again move west is high.

Case IV: Using the Basic Model as a starting point, when the railway fees between Nakhodka and Moscow are lowered from US$4,000 to US$3,500, the watershed moves 110km to the west of Case I, the Basic Model, to 132km east of Moscow. A reduction in the charges of Russian Railways has the effect of moving the watershed to the west.

These calculations, exploiting a doggedly simplified model with postulated figures inserted, do not necessarily describe reality. By giving a framework, however, for considering the effects of fee increases and reductions, isn't it just so useful for discussion on fee policies?

4. Expanding Options

The options for cargo owners considering container transportation to Russia do not stop at the two routes of entering the Eurasian continent from the east or entering it from the west. Even for entering from the east several routes via Russian Far Eastern and Chinese ports are in contention, and competition has already commenced. At this juncture I shall acquaint you with the current situation of and prospects for the alternative routes.

(1) The Russian Far Eastern Ports

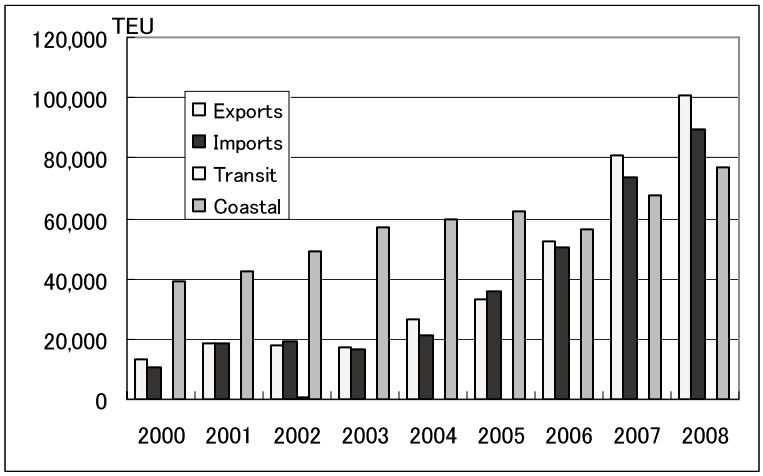
Ever since TSR transportation was started in the 1970s, Russia's Far Eastern point of entry had been Vostochny Port. Well-endowed geographically, it is possible to undertake the conjoining of railways smoothly, due to the adjoining marshaling yards. Even at present it boasts the Far Eastern region's largest container-handling results, with almost all the containers handled at the port being international freight, of which approximately 90% is transshipped to the Trans-Siberian Railway and transported on all over the country.

At the container terminal at Vostochny Port, however, which has virtually monopolized TSR transportation, the company that owns it has changed at a dizzying pace, Western capital established back in 1995 has already beaten a retreat, and the company name has also been changed from VICS to VSC.[11] The capital structure as of June 2009 was Global Ports Investment Plc. (N-Trans) with 75% and DP World (UAE) with 25%. Pursuant to that, the deterioration in recent years in the areas of services and charges has been highlighted, and calls demanding alternative ports have come from the cargo owners of the countries concerned, carriers, and Russian Railways, etc.

The foremost of the alternative ports is the Commercial Port of Vladivostok. The port has the Russian Far East's second largest container-handling results, which have increased year on year, and the results for containers processed in 2008 were 267,277 TEU (up 20% on the previous year). Having problems in infrastructure, however, including the superannuation of facilities, narrow yards, single lead-in lines, and a location close to the city center, it has been seen that there are limits to its potential for development. In addition, the situation continued from 2007 to 2008 where coastal services made up approximately 30% of the handled containers, the imported and exported containers were also largely transported by truck to all parts of the Russian Far East, and some 15% were loaded onto

[11] For an overview of Russian Far Eastern ports, you shall need to refer to Daisuke Saito, "An overview of the State of the Principal Ports of Russia's Primorsky Krai", *Russia & NIS Business Monthly,* April 2009 edition.

Figure 9: Handled Container Volume at the Commercial Port of Vladivostok



Source: Commercial Port of Vladivostok
Note: Includes empty containers

the railways (Figure 9).

On the other hand, the Commercial Port of Vladivostok became a subsidiary of the FESCO Transportation Group in 2007, and through FESCO's active steps, measures have been hammered out one after another to convert the port into a new gateway port for TSR transportation.[12] In 2008, the expansion of the container terminal via the conversion of conventional berths, the bringing-in of new STS cranes, and port calls at Vladivostok by FESCO-operated feeder-boats, etc., were carried into effect one after another. Through this, feeder-boats (JTSL) originating in Japanese ports, which until then had called at Vostochny Port only, came to call at Vladivostok.

Further, entering 2009, Russkaya Troyka of the FESCO Transportation Group moved the departure point for the greater part of the block trains it operates from Vostochny Port to the Commercial Port of Vladivostok. Additionally, in the area of service—such as the lowering of the fees for using the port, the holding-down of customs inspection costs, and the extension of the period for free holding of containers at the port—they have been attempting to tackle differentiation from Vostochny Port.

To one's chagrin, amid the back-draft of total freight falling with the global financial downturn, the results for handled containers at the Commercial Port of Vladivostok in the first half of 2009 have fallen well below those for the previous year.

After economic recovery, at a time when freight has returned, a new competition with Vostochny Port will probably begin. In addition, with the topographic limitations, such as the small area of its hinterland and its road congestion, the challenges are many, including whether the conversion of the inconvenient Commercial Port of Vladivostok will get into full swing, and whether rail access will be improved.

In Vladivostok, the Marine Fishery Port Vladivostok, situated on the opposite side of the Golden Horn, has also been engaged in container handling in recent years (Vladivostok Sea Container Terminal). The port, whose port usage fees are low,[13] and has an established reputation for fast customs clearance, is popular among ROK firms. ROK ships regularly call at the port, but the rail access is bad, and the actual situation is that it plays a secondary role.

There are also construction projects for containers terminals at other ports in Primorsky Krai, including the Marine Fishery Port Nakhodka and the port of Zarubino (Troitsa). Under the influence of the downturn, new demand can also not be seen, and firms planning development have run into a lack of funds and their projects have been put on ice.

Meanwhile, the concept to construct a container terminal at Rajin port in the DPRK and connect it to the Trans-Siberian Railway by rail, which became a topic of conversation in autumn 2008, has not advanced for a variety of reasons.

In comparison with the large-scale upgrading of the ports underway in northwestern Russia, such as the Port of Ust Luga and Saint Petersburg Port, the upgrading of the eastern gateways regrettably appears meager.

(2) The Potential of the Routes via Chinese Ports

The route from the ports of China's northeastern region (Dalian and Tianjin, etc.), via Harbin, Manzhouli and Zabaykalsk by rail and joining the Trans-Siberian Railway, has received attention among logistics industry people in Japan, China and the ROK. The route had already been being used for transportation to Russia originating in China, and recently activity has been seen where Japanese and

[12] For developments in the Commercial Port of Vladivostok and the FESCO Transportation Group, you shall need to refer to Yohei Misaki, "The TSR, Aiming to Reinstate Itself", *CARGO*, November 2008 edition, and Yuko Adachi, "FESCO, Continuing its Expansion: From a maritime company to a multimodal transport company", *Russia & NIS Business Monthly*, March 2009 edition.

[13] In the information from ROK enterprises, it is held to be US$200–$300 per 40-foot container cheaper compared to the Commercial Port of Vladivostok.

ROK freight, added to that originating in China, is being loaded onto this route via Chinese ports. Infrastructure development is underway, including that where TransContainer was to construct transshipment facilities in Zabaykalsk in autumn 2008.

According to information from the Port of Dalian which is promoting this route, transportation on the Japan/ROK-Port of Dalian-Manzhouli-Moscow run takes at the shortest 20 days, and the fees are also lower than via Vostochny.[14]

In the information from ROK firms, for ROK-Moscow transportation the route via Dalian-Manzhouli is cheaper than the TSR route, and there is the potential of the length of time being shortened, but the problems of the supply of wagons and customs clearance at Zabaykalsk, etc., remain as challenges.

In the case of transportation from Japan, the advantages of maritime routes are large. Japan-Vostochny maritime routes are of low frequency (two services monthly) and inconvenient with their high charges, and in the case of transshipment at Busan, although it increases the points of discontinuity, high-frequency direct services to Dalian/Tianjin become a possibility. Additionally, there is also the expectation that Chinese ports are easier to use than Russian ports in the area of services, such as customs clearance. If the supplying of wagons and customs clearance at Zabaykalsk became able to be carried out smoothly, it would be possible to expect its full-blown use.

(3) Japanese Company Developments

From around 2007, the interest in the route for TSR transportation by Japanese firms had increased, spurring the expansion into Russia of the Japanese car industry. The decrease in freight volume from the downturn, the fall in price competitiveness, and in addition the improvement of competing routes have, however, mounted up, and it appears that many Japanese firms have returned to their original disinterest. Amid all this, the subset of Japanese firms which believe in the potential for development of the Russian economy from the long-term perspective, have designated it a time for preparation, and are going ahead with research and trials.

Isuzu Motors Ltd., in its transportation of components to its joint-venture plant in Yelabuga located in the interior of Russia, uniquely and solely among Japanese firms, has operated block trains on the TSR route. It commenced transportation in December 2007, expanded to transport 600 FEU a month of Project Cargo in autumn 2008, and had planned to transport 1,000 FEU a month in 2009. Just then, however, there was the visitation of the financial crisis, and they were forced to cut production. As for transportation of components from Japan, the volume supplied of those items which continue to be transported using the TSR route has declined.

Toyota Motor Corporation, in its transportation of components to its Saint Petersburg plant which commenced operation in December 2007, assumed the utilization of the TSR route as advantageous in lead time, and several times undertook test transportation runs. As a result technical difficulties, such as the contrivance of packing specifications, have been cleared, but there was a decrease in production with the downturn from autumn 2008, and the volume of components supplied came to fall greatly below that initially planned. Moreover, on the cost front, because the Deep Sea route has the advantage, the use of the TSR route has been shelved for the foreseeable future.

Regarding the sole regular service (JTSL) directly connecting Japan and the ports of the Russian Far East, in autumn 2008, expecting use by Japanese car manufacturers, etc., they had planned an increase in services (weekly services) through moving to two-ship runs. Struck directly at just that time by the financial crisis, moving to two-ship runs was shelved. The results for transportation in 2008 were 10,380 TEU (+6%) including empty containers, and 7,960 TEU (+5%) for filled containers.

5. Recommendations toward the Revival of the TSR Route

The global financial crisis of 2008-2009 had a devastating impact on TSR transportation, and the operators concerned, including Russian Railways, appeared to be having major headaches over measures toward recovery. One has seen the factor of the drop in the business results to date. Next, I shall conclude, bringing together recommendations on such things as: 1) will it be possible to develop the TSR route and what kind of designation will be applied to it following the economic recovery?; 2) will it be possible to maintain its comparative competitiveness with the Deep Sea route; and 3) the points that need improvement on the TSR route.

(1) The Target Market: Import and Export Freight

From 2000 on what has supported the dramatic growth of the TSR route is the trade between East Asia and Russia (Figure 3). Even though the volume of trade has slumped with the downturn, if good economic conditions return, then trade freight ought to increase again. The direct investment of Japanese and ROK enterprises and the export of Chinese products also hold promise. The target is import and export freight.

Among the persons concerned of Russian Railways and the CCTT, there are many people who look warmly toward the revival of the transit transportation which flourished in the 1970s and 1980s. In the transportation which links East Asia with Europe using the TSR, however, the hurdle of costs is high, and the speed of the TSR, which requires rail transshipment several times, amongst other things, gets cancelled out. What is realistic is probably the case of extending freight, which is bound for Russia on the interior railways from China, to Central and Eastern Europe. Before mapping out plans on transit transportation from the ROK and Japan, effort should probably be poured into calling back the import and export freight that has flowed to the Deep Sea route.

[14] From the presentation of Sun Hong, Chairman, PDA Corporation, at the Japan-China Economic Cooperation Conference (in Niigata), June 2008

(2) Examination into the Relationship between Speed and Cost

According to remarks by President [of Russian Railways, Vladimir] Yakunin, with the need for differentiation from the low-cost Deep Sea route there are plans to try and further increase fees, instead of implementing higher-speed operations. Namely, "The Transsib in 7 Days"—a project that aims at being intermediate to maritime and air transportation, shortening the number of days for transportation from the Russian Far East to Moscow from eleven days to seven—is being examined.[15] Although one hears that trial runs have already been carried out on several occasions, for the shortening of the number of days for transportation at scheduled times it is probably necessary to further repeat trial runs in addition to technical improvements. Furthermore, for a reduction of four days, meticulous examination is necessary into the intent as to what level of premium cargo owners and the like will cover. ROK enterprises are cautious regarding this idea, and I have overheard voices that cast doubt on the possibility of its realization.

(3) The Maintenance of Price Competitiveness vis-à-vis the Deep Sea Route

The maritime freight charges on the Deep Sea route change greatly—they are high in the economic good times, and become low in recession. As the changes for rail freight charges are small in relation to this, freight volumes change drastically according to the business tide. That means that the "watershed" moves east or west. When the watershed lies to the west of Moscow, it is possible for the TSR route to take on freight bound for Moscow, but when it moves east of Moscow the TSR route loses freight.

What can consequently be considered is the gearing of the charges for using the TSR route to the Deep Sea rate. Via the changing of fees so that the watershed stays minimally to the east of Moscow, the securing of freight should become possible. At the same time, it will also obtain a sense of security for the cargo owners. To that end some subsidies will probably become necessary in times of recession.

(4) Improvement of Port and Customs-Clearance Services

When one listens to the conversation of Japanese and ROK logistics industry people it is clear that the sense of distrust toward customs clearance in the ports of the Russian Far East is deep-seated. In the scheme which uses the Port of Dalian, goes via Zabaykalsk and flows onto the TSR route, there is also the recognition that Chinese customs clearance is without doubt easier than Russian customs clearance.

In spring 2009 there took place an experiment to transport a container from Nagoya via the Port of Fushiki-Toyama to Novosibirsk.[16] While it was an experiment to measure the reduction in the number of days for transportation, it highlighted as a point for reflection that the customs clearance at the port in Vladivostok took ten days longer than envisaged. If the number of days for customs clearance were reduced, then there should be no need for a reduction in the number of days for transportation by forcedly making the trains run faster. The rationalization of customs clearance is an issue that the Russian government will have to tackle for all its worth.

[Translated by ERINA]

[15] www.rzd-partner.com/comments/2009/05/06/340045.html

[16] Article in the *Kita Nippon Shimbun* [*Northern Japan Newspaper*] dated 26 May 2009