



CHINA AND FOREST TRADE IN THE ASIA-PACIFIC REGION:

IMPLICATIONS FOR FORESTS AND LIVELIHOODS

中国与亚太地区国家林产品贸易研究

RUSSIAN LOGS IN CHINA

THE SOFTWOOD COMMODITY CHAIN & ECONOMIC DEVELOPMENT IN CHINA

SONG WEIMING
CHENG BAODONG
ZHANG SHENGDONG
MENG XIANGGANG



COLLABORATING INSTITUTIONS

Forest Trends (<http://www.forest-trends.org>): Forest Trends is an international non-profit organization that works to expand the value of forests to society; to promote sustainable forest management and conservation by creating and capturing market values for ecosystem services; to support innovative projects and companies that are developing these new markets; and to enhance the livelihoods of local communities living in and around those forests. Forest Trends analyzes strategic market and policy issues, catalyzes connections between forward-looking producers, communities and investors, and develops new financial tools to help markets work for conservation and people.

Rights and Resources (<http://www.rights and resources.org>): Rights and Resources is dedicated to raising global awareness of the critical need for forest policy and land tenure reform to achieve global poverty alleviation, biodiversity conservation and forest-based economic growth. The Rights and Resources Initiative works with communities, governments and the private forest industry to advance tenure, policy and market reforms. The Rights and Resources Group coordinates the Initiative on behalf of the partners and supporters. In addition, the Group conducts strategic global analyses, collaborates with local partners to advance domestic reforms, strengthens community networks and convenes global and regional dialogues. The Group connects partner institutions to global, regional and community actors to advance the goals, targets and missions of the Initiative.

Beijing Forestry University (<http://www.bjfu.edu.cn>): The College of Economics and Management (CEM) of Beijing Forestry University (BJFU) was established in 1985 and has since become a leader in the field of forestry economics of China. Its Department of Forest Product Trade has been an important center of information for both China's forest product trade and industry policy making. CEM staff members are involved in China's State Forest Administration's Forestry Development Report each year and collaborate with international organizations such as the Food and Agriculture Organization, the International Timber Trade Organization, and the World Wildlife Fund.

AUTHOR CONTACTS

Song Weiming (songwm@bjfu.edu.cn) is a senior professor of BJFU.

Cheng Baodong (baodongcheng@163.com) is a graduate of BJFU.

Zhang Shengdong (zhangssdbjfu@sohu.com) is a graduate of BJFU.

Meng Xianggang (mengxg@bjfu.edu.cn) is a graduate of BJFU.

ACKNOWLEDGEMENTS

The authors wish to sincerely thank Ms. Xiufang Sun, Mrs. Kerstin Canby and Mr. Luke Bailey at Forest Trends and Mr. Andy White, president of the Rights and Resources Group. We greatly appreciate the help given by governmental officials, such as Mr. Su Yujun from Customs General Administration of the People's Republic of China, Mr. Wang Zhuxiong, Ms. Li Nuyun from State Forestry Administration, Mr. Li Hao from Forestry Bureau of Inner Mongolia and Mr. Wang Xinning from China Construction Group, who were a great help in the preparation of this study. We also want to thank Harbin Customs, Suifenhe Customs, Manzhouli Customs, Forestry Bureau of Heilongjiang Province, Forestry Bureau of Shanxi Province, Forestry Bureau of Guangdong Province, Forestry Bureau of Suifenhe, Forestry Bureau of Manzhouli and Xi'an Construction Group for their valuable help in the process of data collection. The recommendations of this working paper reflect the opinions of the authors, and do not necessarily represent the views of Forest Trends, the Rights and Resources Group, Peking University or the sponsoring institutions.

SPONSORING INSTITUTIONS¹



SWEDISH INTERNATIONAL DEVELOPMENT
COOPERATION AGENCY

¹ While the United Kingdom Department for International Development and the Swedish International Development Agency have provided financial support for this publication, the findings and views presented do not necessarily reflect UK or Swedish government policies.

RUSSIAN LOGS IN CHINA: THE SOFTWOOD COMMODITY CHAIN & CHINESE ECONOMIC DEVELOPMENT

by Song Weiming, Cheng Baodong, Zhang Shengdong and Meng Xianggang.

Russian Logs in China: The Softwood Log Commodity Chain and Impacts on Local Economic Development

© 2007 Forest Trends.

ISBN: 1-932928-24-3 / ISBN 13: 978-1-932928-23-5; Reproduction permitted with attribution.

Cover photo by Charlie Pye-Smith.

TABLE OF CONTENTS

INTRODUCTION	VII
CHAPTER 1: BACKGROUND - THE BOOMING SINO-RUSSIAN LOG TRADE	1
CHAPTER 2: THE RUSSIAN SOFTWOOD IMPORT COMMODITY CHAIN.....	6
2.1 BORDER GATEWAYS	7
2.1.1 Manzhouli Gateway.....	7
2.1.2 Suifenhe Gateway.....	8
2.2 IMPORTERS.....	9
2.3 GATEWAY TIMBER PROCESSORS.....	11
2.3.1 Suifenhe Timber Enterprises.....	11
2.3.2 Manzhouli Timber Enterprises.....	11
2.4 MIDDLEMEN	12
2.5 PRIMARY DOMESTIC TIMBER MARKETS	12
2.5.1 Dezhou Timber Market	12
2.5.2 Xi'an Timber Market.....	13
2.5.3 Guangzhou Timber Market.....	14
2.5.4 Shanghai Timber Market.....	14
2.6 END USERS	15
CHAPTER 3: LIVELIHOOD ANALYSIS OF CHINA'S SOFTWOOD TRADE....	16
3.1 GATEWAYS	16
3.2 IMPORTERS.....	16
3.2.1 Business Costs and Profits of Importers	17
3.2.2 Employment by Importers	17
3.3 MIDDLEMEN	18
3.4 GATEWAY TIMBER PROCESSORS.....	18
3.5 DOMESTIC TIMBER MARKETS	19
3.5.1 Dezhou Timber Market	19
3.5.2 Xi'an Timber Market.....	20
3.5.3 Guangzhou Timber Market.....	21
3.6 CONSTRUCTION SECTOR.....	22
CHAPTER 4: CONCLUSIONS AND RECOMMENDATIONS	24
4.1 CONCLUSIONS	24
4.2 A VISION FORWARD	25
4.3 RECOMMENDATIONS.....	25
BIBLIOGRAPHY	27

TABLES AND FIGURES

Figure 1.1: China's Imports of Russian Logs, 1997-2004	1
Figure 1.2: Russian Softwood's Share of China's Total Log Imports	3
Figure 1.3: China's Imports of Russian Logs by Type.....	4
Figure 2.1: General Structure of the Russian Softwood Commodity Chain, 2004.....	6
Figure 2.2: Major Gateways of Russian Logs Entering China	7
Table 2.1: Destinations for Russian Timber Imported at Manzhouli, 2003.....	8
Table 2.2: Destinations for Russian Timber Imported at Suifenhe, 2003	9
Table 2.3: Top 10 Chinese Importers of Russian Logs, 2003	10
Figure 2.3: Major Uses of Russian Softwood Sold at Dezhou, 2003.....	13
Figure 2.4: Major Uses of Russian Softwood at Xi'an, 2003	14
Table 2.4: Russian Softwood Consumption in China by Sector	15
Figure 3.1: Share of Russian Timber Trade in Suifenhe's Total Trade Value, 2000-2003	16
Table 3.1: Ability of Importers to Conduct Business within Russia	17
Table 3.2: Cost Breakdown for a Medium-Scale Importer.....	17
Table 3.3: Cost Breakdown for Dezhou Log Dealers	20
Table 3.4: Cost Breakdown for Xi'an Log Dealers	21
Table 3.5: Cost Breakdown for Guangzhou Log Dealers	22
Fig. 3.2: Cost Breakdown for Gateway Timber Processors	18

INTRODUCTION

Burgeoning domestic consumption and a rapid increase in international demand for China's low-cost manufactured wood products, in a nation with very limited per capita forest resources, has fueled a particularly dramatic rise in China's forest products imports. In one decade, China rose from seventh to second greatest importer of forest products worldwide and is now a top consumer of industrial roundwood.² Of all countries exporting to China, Russia is currently the top supplier of timber products by value as well as volume.

This paper surveys the length of the Russian softwood log commodity chain within China, from the border gateways between Russia and China to the domestic timber markets or ports of export. Today, almost half of China's timber product imports come from Russia, and over 60% of China's log imports are Russian logs. The boom in this trade was facilitated over the years by official governmental policies (particularly municipal) which have encouraged the development of the wood processing industry at some of the border gateway towns: policies on capital investment, land use, taxation and the creation of timber industrial zones. This trade has been particularly crucial for domestic consumption, with an estimated 79% of Russian softwood logs consumed within China itself. About 80% of this domestic consumption is used by China's enormous construction sector, valued at US\$2.34 trillion. The affordability of Russian timber, even after official policies encouraged the substitution of alternative materials, has played a great part in China's economic growth by reducing the cost of the construction boom.

Workers throughout the forest products supply chain in China depend on Russian log imports for their livelihoods. Highly reliant on labor, this timber trade provides many opportunities for job creation. As a particularly labor-intensive industry, timber processing and trade has a great capacity to generate employment opportunities and income for local economies. On the whole, the authors estimate that there are approximately 200,000 workers employed across all domestic timber markets. However, the income that this commodity chain generates is unequally distributed. Clearly, the Russian softwood log trade contributes significantly to the local economy of gateway towns such as Manzhouli and Suifenhe. However, a small number of Chinese middlemen and wholesalers in border cities appear to be capturing most of the logs' traded value. Importers also enjoy benefits but their profit margins vary mainly according to size. There are numerous very small operators working with only a few thousand cubic meters (m³) per year, and they are highly vulnerable to shifts in import prices.

² In 1990, China was ranked seventh among nations in forest product import value. By 2000, it was ranked second, with only the US importing a greater total value of forest products (FAOSTAT 2004).

While not a focus of this paper, concerns about the sustainability and legality of Russia's forests products industry have the potential to cause supply vulnerabilities and/or reputational risks for entrepreneurs based in China who wish to re-export to environmentally conscious consumers in Japan, Europe and North America where public procurement policies stipulate independent verification of legality. The complexity of the softwood supply chain – with logs being sold 4-5 times with involvement of numerous intermediary salesmen – could present a serious obstacle to implementing chain-of-custody controls and other wood tracking systems that could help to verify the legal origins of Russian timber entering China. However, the fact that only 60 trading companies in Northeast China control over 80% of the Russian-Chinese timber trade could present an opportunity to facilitate wood tracking at least to the border gateways.

On the supply side, while Russia's forests are so vast that one could easily believe that they harbor an inexhaustible supply of timber, there is currently only a small amount of commercially valuable timber remaining within economically accessible zones. Degraded forests dominate the current forest landscape which are increasingly susceptible to fire and other damages due in part to poor logging practices. At current harvesting rates, the Russian Far East could be logged out in 20 years. At the same time, Russian policy makers are increasingly calling on regulations to promote the development of value-added processing on the Russian side of the border such as log export taxes or tariff reductions for the import of processing equipment. As incentives grow for Chinese to develop processing capacity within Russia and rising Russian log export taxes make logs more costly vis-à-vis processed timber exports, the processing enterprises already on the Chinese side of the border will be forced to adapt.

This research builds on detailed analyses published separately by Forest Trends, the Rights and Resources Group, the Center for Chinese Agricultural Policy and the Center for International Forestry Research (CIFOR) which are summarized in a joint publication entitled, *China and the Global Market for Forest Products: Transforming Trade to Benefit Forest and Livelihoods*. This report and the background reports – including several focused on Russia-China trade issues, are available at http://www.forest-trends.org/programs/pacific_rim.php. Official statistics are used whenever the data was available. Where they were not available, the authors relied upon field investigations, site visits, and interviews with customs officials, border control agents, importers, retailers, processors, and workers as the main sources of information.

CHAPTER 1: BACKGROUND - THE BOOMING SINO-RUSSIAN LOG TRADE

China's rapid economic development and export-oriented growth has led the country's demand for forest products to outstrip domestic production capacity of wood materials. By 2004, China's imports of timber³ and timber products accounted for 35.55% of national total timber supply (SFA China Forestry Report 2005: 95). In a February 15, 2006 interview with the People's Daily, China's National Development and Reform Commission (NDRC) projected that the gap between domestic production and total demand will reach 150 million m³ by 2010 (People's Daily 2006). Imports are expected to continue to rise into the near- and medium-term (Forest Trends 2006: 7).

Despite recent efforts to boost production with fast-growing plantations, per capita forest resources remain limited. China has more plantation coverage than any other country in the world, but its performance lags far behind. The average yield of a Chinese plantation is 35 m³/ha, while the world average is 100 m³/ha. Another factor also constricting domestic supply is the Natural Forest Protection Program (NFPP), a conservation policy initiated by the Chinese government in 1998 which resulted in a 15% reduction in timber production because of regional logging bans.

To complement this program the government also implemented a substitution policy to encourage the use of steel and cement in construction projects in place of wood. These programs were successful and the proportion of timber relative to other construction materials fell sharply. Nonetheless, the construction industry remains a major timber consumer— in 2004 about 50% of all industrial-grade timber in China went into construction (SFA 2004) with much of it imported from Russia.

Part of the reason for the dramatic boom in the trade of wood products between Russia and China can be accredited to favorable trade and development policies, such as:

- *Small-scale border trade policy:* In 1996, the Chinese government promulgated a policy to encourage small-scale border trade; since then it has been renewed every two years. The policy reduces all import-related taxes by 50% for enterprises engaged in small-scale border trade. In addition, log and lumber value-added tax (the largest portion of import taxes) is reduced to 6.5%, creating great incentives for importers. The volume of imports of Russian timber - and thereby the taxation income of gateways - increased after the policy was first implemented. In 2003, timber importers were supposed to have paid 3.6 RMB (US \$0.40) to the local government at border town of Suifenhe for each m³ of the 5.3 million m³ of timber, raising about US \$2.1 million in tax revenues.

³ Once it reaches China, there are no significant difference between different species of Russian logs and lumber in terms of import patterns, transportation patterns, and distribution flows within China. Therefore, the term "Russian timber" will be used to denote both softwood and hardwood species in this report, except when discussing end users. Softwood and hardwood logs do have different applications in their final use.

- *Re-export policies:* In order to promote timber processing at gateways, the State Forestry Administration (SFA), Ministry of Commerce (MofCOM) and the General Customs Administration authorized two important border towns Suifenhe and Manzhouli as re-export gateways of processed imported logs in 2001 and 2002 respectively. The policy stipulates that lumber processed from Russian logs are not subject to the export quota. In addition the local governments of these two cities drafted preferential policies regarding the taxation, capital and land use of timber enterprises. For example, the costs of leasing land are discounted as much as 30% off the benchmark price.

- *Favorable governmental investment in infrastructure:* Government investments in infrastructure also helped to boost the profitability of the Russia – China timber trade. Chinese governmental investment in railways tends to revolve around gateways. In one instance, the Chinese government invested 300 million RMB (US \$38 million) in the Suifenhe railway expansion project which was successfully completed at the end of 2003. Suifenhe's transportation capacity has now reached 10 million tons per year. Meanwhile, the central government also invested about 398 million RMB (US \$50.3 million) in Manzhouli's railroad system, raising its annual transportation capacity to over 11 million tons. This expansion has bolstered the confidence of importers and greatly improved the attractiveness of gateways to investors. At present, Suifenhe's railways can handle 400 train wagons of Russian timber per day, equivalent to 24,000 m³. Within a few years, Manzhouli is likely to become a transportation hub for Russian oil which may reduce the capacity of the Manzhouli rail system to transport Russian timber. Russian and Chinese businessmen and policymakers have also agreed to increase Chinese investment in Russia. The Russian News and Information Agency reported that in early November 2006 officials and investors signed a series of agreements detailing Chinese investments in Russia totaling US \$800 million. Eight of these were specifically for the timber industry.

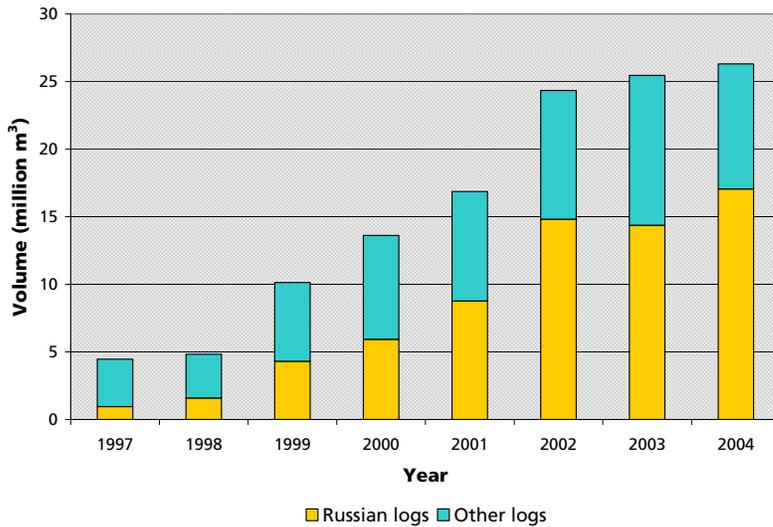
China's construction industry has been a particularly crucial driver of Russia's softwood exports. A large portion of Russian softwood flows directly or indirectly into housing construction— a key industry for China's economy. According to official statistics the gross production value of the construction industry was 18,500 trillion RMB (US \$2.34 trillion) in 2003 and accounted for 42.5% of total fixed capital investment and 6.68% of Gross Domestic Product (GDP). By 2002 the sector's demand is projected to reach 80-85 million m³ (Lin 2000).

With domestic construction commanding a dramatic increase in the demand for wood products and the Natural Forest Protection Program's constraints on forest harvesting, Russian softwood penetrated China's construction sector. Generally composed of inexpensive, small-diameter logs, Russian timber imports are suitable for the construction sector. In recent years, timber prices have remained stable, while other costs of

other construction materials rose.⁴ This indicates that the affordability of Russian logs helped keep down the costs of China's great construction effort and contributed to its sustained growth.

Russia has become the number one exporter of timber products to China supplying approximately 26.4 million m³ (or 48.8%) of China's total timber product imports (Forest Trends 2006: 12). This trade represents 10% of the total trade between the two countries. The majority of Russian timber exports are sent to China unprocessed: 90% of China's timber imports from Russia are logs (Forest Trends 2004b: 17). Russian logs now dominate China's log markets, far surpassing log imports from any other country. Supply has seen an average annual growth rate of 70% since 1997 (Fig. 1.1). By 2004, China imported 17 million m³ of logs from Russia; the proportion of Russian logs imported vis-à-vis other countries reached 65% that year, compared to 21% in 1997 (Forest Trends 2004a).

Figure 1.1: China's Imports of Russian Logs, 1997-2004



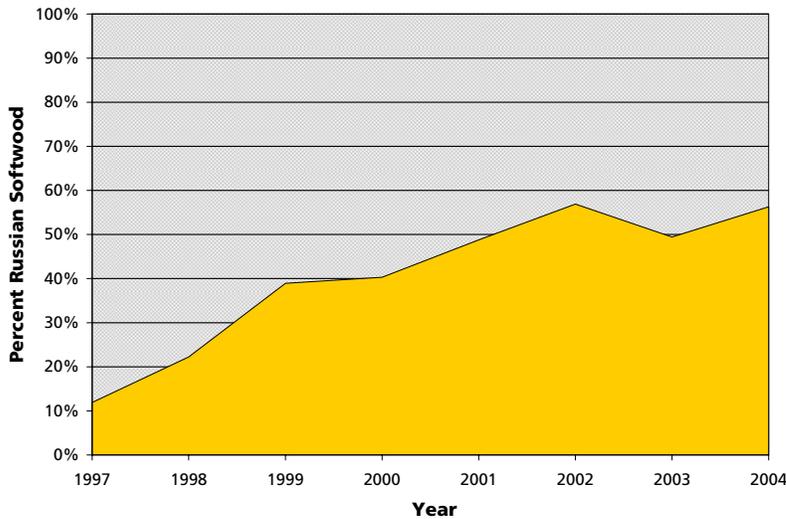
Source: Chinese Customs statistics

Softwood logs account for a portion of this trade. By 2004 softwood logs accounted for 61% of China's total log imports with Russian softwood accounting for over 80% of those logs (Fig. 1.2; Fig. 1.3). Major softwood species imported from Russia include Korean pine, Mongolian pine, white pine and larch. Around 80% of softwood logs brought into China from Russia are used in construction for scaffolding, concrete molds and other purposes. An integral part of China's economic growth, the construction sector relies extensively on Russian softwoods. Other significant uses include decorative carpentry and furniture.

⁴ From November 2003 to April 2004, steel increased by 37.7%, from 2651 RMB (US \$335) per ton to 3650 RMB (US \$460); cement rose by 7.9%, from 303 RMB (US \$38) per ton to 326 RMB (US \$41) per ton; on the other hand, timber's price only increased by 3.4%, from 1,003 RMB (US \$127) per m³ to 1,037 RMB (US \$131) per m³ (National Bureau of Statistics Survey 2004).

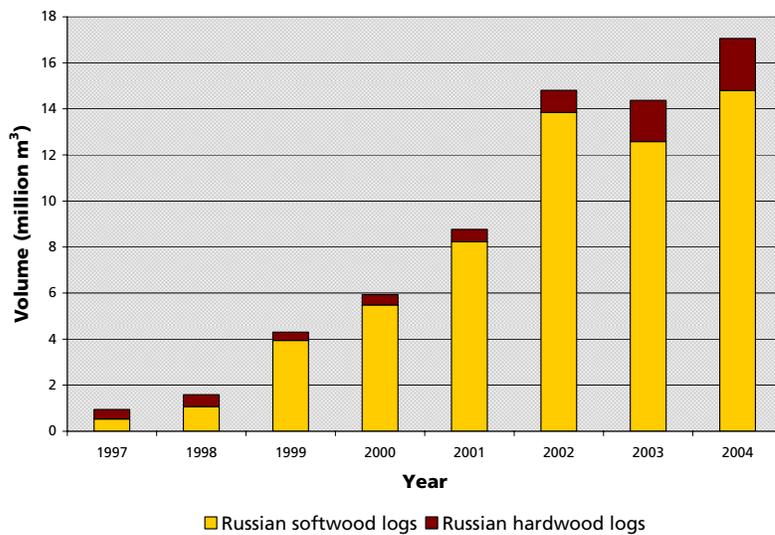
Russian lumber imports also grew rapidly, although the total volume remains small compared to logs. Lumber imports rose more than 7,000% between 1997 and 2004, from 11,000 to 799,000 m³. In 1997, Russian processors supplied just 1% of China's imported lumber, but by 2004 they surpassed 13%. This trend can be expected to continue, as Russia's government reacts to the lack of value-added processing capacity within its borders. In early 2006 the government levied export taxes on raw logs to incentivize in-country timber processing. Nonetheless Russia's log exports clearly outpace its lumber exports.

Figure 1.2: Russian Softwood's Share of China's Total Log Imports



Source: Chinese Customs statistics

Figure 1.3: China's Imports of Russian Logs by Type



Source: Chinese Customs statistics

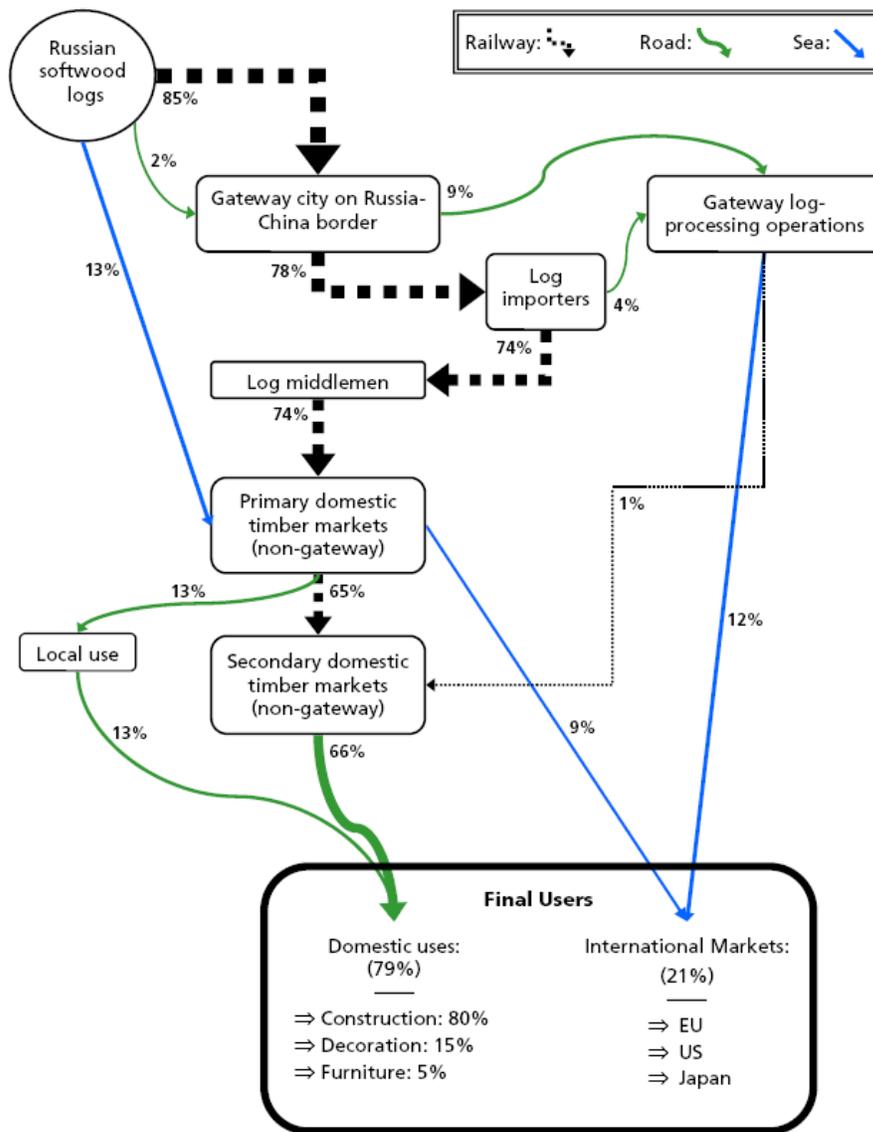
In a relatively new development, Chinese cities on the Russian border now specialize in processing these Russian logs and their economies are booming. As recently as 2000 these “gateway” cities were simply transfer points for incoming forest products from Russia distributing them to downstream manufacturers. However, as imports of Russian softwood increased, both Chinese and international enterprises began investing in the Chinese side of processing operations at the border. Hundreds of sawmills have sprung up, from small-scale family-owned businesses to large firms that are involved in logging operations within Russia. Gateway cities such as Manzhouli and Suifenhe have grown tremendously because of the Russian log trade.

This paper provides an overview of the commodity chain process of Russian softwood logs once they enter China, focusing on softwood as the dominant forest products traded from Russia to China. The research then details the economic and social impacts of this trade on local Chinese economies and livelihoods.

CHAPTER 2: THE RUSSIAN SOFTWOOD IMPORT COMMODITY CHAIN

The vast majority of Russian wood brought in through the gateways (approximately 90%) passes immediately from professional importers to the major wholesale timber markets in the interior of China. From there, most timber continues on to local consumers or secondary timber markets. Only 10% of the logs are processed by mills at the gateway. This output is generally exported directly to Japan, Korea, U.S. and Europe. The majority of imported Russian softwood logs and lumber is consumed within China itself, mostly in three sectors: construction, decoration, and furniture making (Fig. 2.1).

Figure 2.1: General Structure of the Russian Softwood Commodity Chain, 2004



Source: Authors' estimates

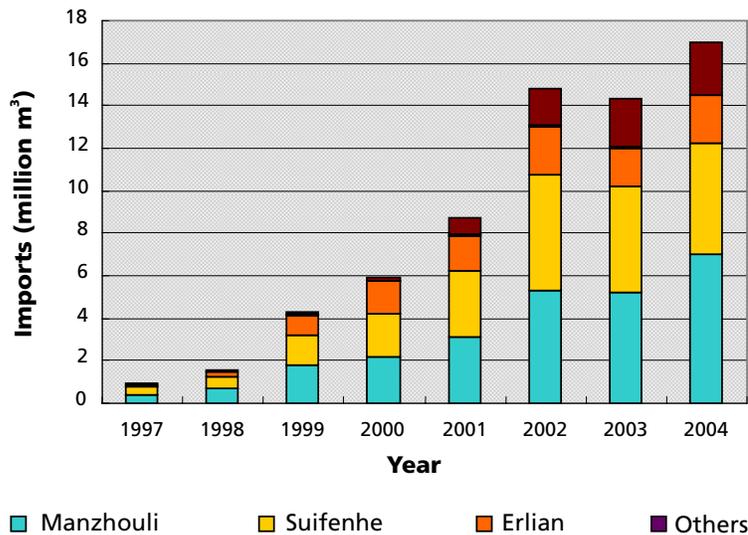
Note: The transportation types indicated by the arrows represent the primary mode of transportation used to move logs from one node to the next. Percentages show the authors' estimates of the share of total Russian softwood log imports using that pathway, for all transport types.

Railways transport about 85% of Russian logs into China. Ocean shipping has increased in recent years, but still accounts for only 13% of imports. Overland trucks carry only 2%. Railway is also the dominant transportation mode for distributing Russian logs throughout China.

2.1 BORDER GATEWAYS

The border provinces of Heilongjiang and Inner Mongolia have become the major nodes of Russian timber imports (Fig. 2.2). The cities of Manzhouli (Inner Mongolia) and Suifenhe (Heilongjiang) are the two largest gateways and account for over 70% of China's total imports of Russian logs during 1997-2004. This study focuses on timber brought into China through these two border crossings.

Figure 2.2: Major Gateways of Russian Logs Entering China



Source: Chinese Customs statistics; Lu & Yamane 2003

2.1.1 Manzhouli Gateway

Manzhouli is the most important point of entry for Russian log entering China. 41% of Russian logs (6.9 million m³) enter here. Approximately 98% of this volume is softwood with Mongolian pine accounting for 80% of total imports of Russian logs followed by larch (6%), white pine (6%), Korean pine (5%), oak 2% and ash 1% (Manzhouli customs, 2003). Railway transportation carries 97% of the logs that enter through Manzhouli.

Historically, Manzhouli has always served as a distribution center for Russian softwood. Manzhouli is a wholesale-only market. Most of the Russian softwood that passes through Manzhouli is subsequently sold to domestic log markets rather than exported directly. Inner Mongolia (other than Manzhouli), Heilongjiang, Jilin, Shandong, Liaoning, Hebei, Guangdong, Jiangsu, Xi'an and Beijing are the significant primary destinations of Russian logs passing through Manzhouli (Table 2.1).

Table 2.1: Destinations for Russian Timber Imported at Manzhouli, 2003

Rank	Destination Provinces	Volume (thousand m ³)
1	Inner Mongolia (except Manzhouli)	1100.84
2	Heilongjiang	920.76
3	Jilin	700.99
4	Shandong	560.13
5	Liaoning	440.77
6	Hebei	180.23
7	Guangdong	180.15
8	Jiangsu	110.82
9	Xi'an	70.50
10	Beijing	50.50

Source: Manzhouli railway sector statistics, 2003

2.1.2 Suifenhe Gateway

Receiving 31% of China's imports of Russian logs or 5.3 million m³ in 2004, the Suifenhe gateway is almost as important as Manzhouli. Log imports through Suifenhe have increased dramatically since 1999. Species imported included white pine (39%), larch (31%) and Mongolian pine (7%).

With a more developed processing industry than Manzhouli, an increasing portion of Russian logs are being processed in Suifenhe and exported as finished products. From 2001 to 2003 the volume imported at Suifenhe averaged 4.8 million m³ each year with 75% sold to other parts of China and the remaining 25% processed locally. By 2005 imports continued to grow with an increasing portion processed locally.

Major destinations of imported timber imported via Suifenhe include Liaoning (Dalian in particular), Beijing, Heilongjiang (Harbin), Xi'an and Jinan in Shandong Province (Table 2.2). Suifenhe is the largest gateway for China's imports of Russian hardwood timber (not the focus of this study), with nearly 80% of all Russian hardwood timber imported there in 2004. As with Manzhouli, railway has been the dominant mode of transportation into Suifenhe. Road transportation represented less than 1% of the trade.

Table 2.2: Destinations for Russian Timber Imported at Suifenhe, 2003

Rank	Destination Provinces	Volume (thousand m ³)
1	Liaoning	1252.23
2	Beijing	1167.76
3	Heilongjiang	410.48
4	Xi'an	264.08
5	Shandong	250.58
6	Henan	140.82
7	Guangdong	100.98
8	Other	30.25

Source: *Suifenhe railway sector statistics, 2003*

2.2 IMPORTERS

In general importers base their operations at border gateways such as Manzhouli and Suifenhe. Historically, China's timber imports were conducted by a few state-owned trading companies with government-issued import permits. As part of ongoing trade liberalization, timber import permits were phased out in 1999, leading to a dramatic increase in authorized importers.

While numerous companies that import Russian logs are scattered across China, the available data does not specify those which deal in softwoods. Nonetheless, customs statistics show that at least 426 companies were importing Russian logs in 2004. Independent research estimates over five hundred Chinese importers in 2002 (Forest Trends 2005: 28). Table 2.3 shows the list of top ten importers according to both Russian and Chinese official data. Official Russian data statistics show discrepancies with Chinese official data due to differences in declared volumes and faulty translations of Chinese company names. In the official data, the importing parties are mostly export-import trading companies ranging from state-owned trading corporations with hundreds of employees (mainly provincial but to a lesser extent prefectural), to collectives or individually owned private companies.

About 160 importers were active at Manzhouli in 2004 – mostly small-scale businesses handling tiny amounts such as 20-30,000 m³ per year. Approximately 60 such trading companies in Northeast China control over 80% of the Russian-Chinese timber trade (Forest Trends 2005: 27). As small-scale operations, these importers lack the capacity to engage in harvesting and processing activities within Russia. In 2004, there were 150 importers based out of Suifenhe. While the average importer in Suifenhe brings in about 30-50,000 m³ per year, most are much smaller than the importers in Manzhouli, importing only 8,000 m³ per year. A few import 600,000-700,000 m³ per year. Importers in Suifenhe have undertaken a high business risk, due to the fluctuations of timber prices. This combined with increased competition has forced some small importers out of business.

Table 2.3: Top 10 Chinese Importers of Russian Logs, 2003

Importer	Location	Chinese Data Series		Russian Data Series	
		Import volume (m ³)	Ranking	Import volume (m ³)	
Huaqiang Foreign Trade Ltd.	Manzhouli	787,211	1	1	794,693
Longjiang United Import & Export Ltd.	Suifenhe	552,556	2	3	479,524
Futong Trade Ltd.	Suifenhe	445,459	3	4	447,954
Yunchou Industry Trade Ltd.	Erlianhot	426,934	4	2	585,130
Jintai Trade Ltd.	Erlianhot	424,624	5	5	414,236
Tiansheng Trade Ltd.	Manzhouli	318,028	6	6	312,271
Qihong Trade Ltd.	Dongning	291,939	7	8	268,038
Huayong Trade Ltd.	Manzhouli/Erlianhot	287,638	8	7	278,512
Tianyang Trade Ltd.	Manzhouli/Suifenhe	282,450	9	10	255,737
Hulunbuer Trade Ltd.	Manzhouli	266,390	10	n/a	n/a
Xiaolong Economic Trade Ltd.	Tongjiang/Manzhouli	n/a	n/a	9	256,503
Total imports of Russian logs from top 10 importers in 2003		4,083,229			3,836,095
Total imports of Russian logs in 2003		14,367,681			14,207,672

Source: Chinese customs statistics (cited in WWF China 2005); Forest Trends 2005

Note: The rankings changed in 2004 according to Chinese customs statistics. Since 2004 Russian data was unavailable the authors chose to use 2003 data here to allow for comparison.

2.3 GATEWAY TIMBER PROCESSORS

Before 2000 the local processing capacity on the Chinese side of the gateways was limited. In recent years, however, increasing imports, comparative advantage in resources and preferential policies have enticed a number of enterprises to invest in processing mills at the gateways. Currently 90% of Russian logs entering at the main Chinese gateways pass on to domestic timber markets through importers and/or middlemen while the remaining 10% is processed near the border.

Most enterprises at gateways are small-scale with only 30-40 employees. Primary processing and lumber is the major output. Log costs dominate the total cost of production (Figure 3.2) – a factor that will increasingly be controlled by Russian export policies. Labor comprises the second largest component of total cost (15%).

The Chinese central government encourages value-added processing for Russian logs within China leading to the establishment of several timber industrial zones in Manzhouli and Suifenhe. Local governments are also eager to develop and invest in timber industrial zones to spur economic development. With cost advantage in production, plus a re-export policy for roughly processed imported logs, most timber enterprises focus on exporting to markets in Japan, South Korea, and Europe. However, these enterprises will be forced to adapt as incentives grow for Chinese to develop processing capacity within Russia and Russian log export taxes make logs more costly vis-à-vis processed timber exports.

2.3.1 Suifenhe Timber Enterprises

Four timber industrial zones exist in Suifenhe: Sunjiagou, South, Jianhua, and Kuanggou. The municipal government has crafted several policies on capital investment, land use and taxation to encourage wood processing. As a result, many timber processing enterprises from different parts of China have expanded into Suifenhe from areas such as Harbin and Yichun of Heilongjiang province, Dalian of Liaoning province, Fujian province and Hong Kong.

In 2005, there were over 300 timber processing enterprises in these industrial zones, with an annual production capacity of 3 million m³ and investments totaling over 400 million RMB (US \$50 million). Sawn logs represented most of their production. More advanced processing has been on the rise recently, with production mounting for semi-finished and finished wood products such as flooring blocks, decorative moldings and pinewood dining sets. Virtually all of these manufacturing enterprises are export-oriented with Japan capturing 50% of their total exports, followed by South Korea and Europe each with 25% of the market.

2.3.2 Manzhouli Timber Enterprises

There are about 160 enterprises in total at Manzhouli; 14 of them were located in the special timber processing zones in 2005. The mean capital scale of these enterprises is about 50 million RMB (US \$6.2 million) per year. Their average output around 40,000 m³, 80% of which is Mongolian pine. Field investigations revealed that virtually all of the imported timber processed in these zones originated in Russia. Due to the frequent price changes in Russian softwood of recent years, smaller enterprises have occasionally gone bankrupt. These enterprises have targeted the international market in particular, which accounts for more than 80% of total output.

2.4 MIDDLEMEN

Field investigations conducted in 2005 revealed that there are approximately 400 middlemen nationwide, 90% of which are male. Most are located at the major gateways including Manzhouli and Suifenhe. Many have been involved in the Russian timber import business for 5 or 6 years. 80% come from Putian County in Fujian province; the rest are mostly laid-off workers from the state forestry enterprises in Northeast China. With significant experience and powerful bargaining skills, these middlemen purchase and re-sell around 85% of the softwood logs traversing the border.

2.5 PRIMARY DOMESTIC TIMBER MARKETS

After passing through importers and middlemen, Russian timber imports pass onto the wholesale timber markets located in each province throughout China. Most are large-scale timber distribution centers established in provincial capitals and transportation hubs such as Dezhou in Shandong province and Dalian in Liaoning province (WWF 2005). Secondary domestic timber markets have developed to serve end users. While these secondary markets are normally small-scale and located in small cities or counties, some have developed near the large primary timber markets.

Primary markets are found throughout China, in the north, west, south and east. For purposes of this paper, one representative market was selected from each of these regions:

- Dezhou, Shandong province (North)
- Xi'an, Shaanxi province (West)
- Guangzhou, Guangdong province (South)
- Shanghai (East)

While not selected as one of the representative markets, the Dalian timber market (Liaoning province, northeast China) also merits attention due to its importance as an ocean port for imported Russian timber and a well developed railway connection to Suifenhe and Manzhouli. Dalian handles an increasing volume of Russian logs each year. Unlike most other wholesale markets, Dalian has a well developed processing sector. Many of the Russian logs here are either processed for domestic consumption or re-exported to foreign markets as finished or semi-finished products. Many Russian logs are either directly shipped from Russia to Dalian or are transported there from Manzhouli or Suifenhe.

2.5.1 Dezhou Timber Market

With the implementation of China's Natural Forest Protection Program in 1998, the flow of timber from Northeast China became tightly restricted. Since then, the Dezhou market has gradually switched to sourcing its timber from Russia.

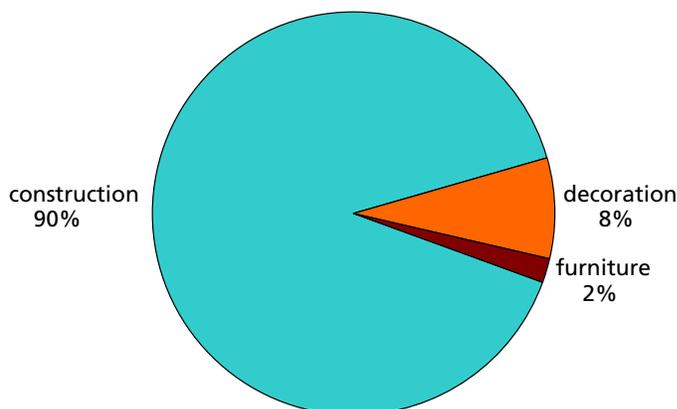
With relatively low prices and good business credit, Dezhou has become one of the most important timber distribution centers in China. The trading volume of the timber market here is approximately 1 million m³ per year. Only 10% by volume of Russian softwood traded in Dezhou was used locally in 2003. The important uses of this wood were construction (90%), interior decoration (8%) and furniture manufacturing (2%) (Table 2.3). Neighboring provinces and cities are the major destination for Russian logs. Each year about 90%

of Russian logs are sold from Dezhou to other provinces or cities: around 29% goes to neighboring cities within the province, about 30% to the neighboring province of Hebei, another 30% to Henan province and the rest to the east coastal Jiangsu province.

Dezhou railway station serves as a transit point for timber and other goods being transported from the north to the south. The species traded here are Mongolian pine (80% of the total trade volume), larch and white pine (17%) and Korean pine (3%). In 2003, 80% of import timber came from Manzhouli, 10% came from Suifenhe, 5% came from Erlian and 5% came from other northeastern regions.

There are about 300 small dealers involved in the Russian softwood trade. The largest businesses sell about 60,000 m³ per year but the average volume remains low at only 3,000 m³. Most dealers are laid-off workers from state-owned enterprises.

Figure 2.3: Major Uses of Russian Softwood Sold at Dezhou, 2003



Source: Authors' estimates

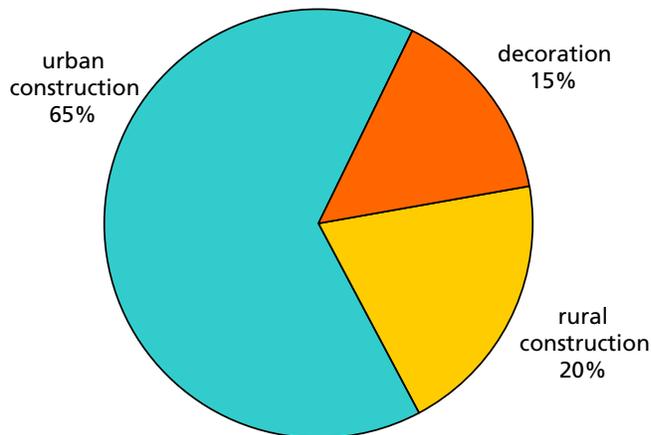
2.5.2 Xi'an Timber Market

The implementation of a development strategy for western China and the Natural Forest Protection Program has caused the market share of Russian softwood in Xi'an to increase greatly. Xi'an has developed faster than other cities in Shaanxi province and adjacent provinces with the result that Xi'an's timber demand has increased and more wood is sold locally. Only 20% of the timber is further distributed to the neighboring provinces such as Gansu and Shanxi. Over 80% of the timber in Xi'an timber market is used locally for urban construction (65%), rural building (20%) and decoration (15%) (Table 2.4).

Pine from Russia has captured nearly the entire market at Xi'an. In 2001, 40% of imported timber was shipped from Suifenhe while 60% came from other locations in northeast China. By 2003, 90% of timber sold at Xi'an came from Suifenhe. The main species traded is white pine, accounting for 98% of volume in the last three years. About 90% of Russian timber from northeast gateways to Xi'an market was transported by trains.

There are about 80 businesses dealing Russian timber in Xi'an with an average annual sale of 2,100 m³ each. Unlike Dezhou, lumber rather than roundwood is the major trading product in Xi'an accounting for 88% of total Russian timber traded. As such, most Russian logs sold in Xi'an are first processed at the border gateways.

Figure 2.4: Major Uses of Russian Softwood at Xi'an, 2003



Source: Authors' estimates

2.5.3 Guangzhou Timber Market

80% of the timber sold at the Guangzhou timber market is imported from regions including Southeast Asia, West Africa, Australia and the Pacific Islands, including New Zealand. Before 2001, Russian softwood did not exist in the Guangzhou timber market. With the rising price of radiata pine imported from New Zealand, however, the volume of imported Russian softwood increased sharply in the Guangzhou market.

Over the past three years, about 90% of Russian logs in the Guangzhou market came from Suifenhe, facilitated by convenient shipping and railways connections and strong relations between the two cities. 60% of this timber from Suifenhe was transported by sea through Humen port with the rest transported via rail.

There are about 20 dealers involved in the Russian softwood trade in 2003. They averaged an annual trading volume of 5,000 m³ and a total trading volume of 100,000 m³; 90% of which was lumber. Most of Russian softwood in Guangzhou market is sold either locally or to other cities within Guangdong Province (in 2003: Zhongshan, 25%, Guzhen 25%; other neighboring cities such as Foshan or Zhaoqing received the remaining 50%). According to the authors' field survey, municipal construction consumes 80% of the timber used locally as cement forming and supporting materials, 15% goes into interior decoration such as wooden doors or moldings and the remaining 5% is used in furniture making.

2.5.4 Shanghai Timber Market

In recent years the annual handling volume of imported timber in Shanghai market has been about two to four million m³. Russian timber accounted for one third of the total annual volume of 600,000-700,000 m³. The Shanghai timber market serves Shanghai and its surrounding regions. In 2003, statistics showed that 75% of all Russian timber handled in the Shanghai timber market was used locally; the rest was shipped to neighboring provinces such as Jiangsu or Zhejiang province.

Roughly 80% of Russian softwood at the Shanghai timber market comes from Manzhouli; the remaining 20% arrives from Suifenhe. About 60% of Russian softwood is transported to Shanghai by railway, 40% is shipped by sea via Dalian port. Like other regions and cities, the Shanghai market primarily supplies Russian softwood to the construction industry (80%), but also for interior decoration (15%) and furniture (5%).

Table 2.4: Russian Softwood Consumption in China by Sector

Sector	Construction (60%)		Interior Decoration (15%)		Furniture (5%)	
End use	Urban construction: concrete molds, scaffolding, support structures	Rural construction: framing, wooden doors, and window frames for residences	Arches	Moldings	Framing for upholstered furniture	Others: solidwood bedroom furniture, dining room furniture
Percentage	80%	20%	50%	50%	98%	2%

Source: Authors' estimates

2.6 END USERS

The statistical data currently available is unable to directly connect China's imports of Russian logs to their end-use consumers in China or its export markets. Industry sources indicate that a growing number of Russian logs are used in manufacturing furniture and floorboards for exports. Within China itself, field interviews and literature reviews suggest that final users of Russian softwood logs are mainly three sectors: construction (80%), interior decoration (15%), and furniture (5%) although this distribution varies between regions (Table 2.4). The authors expect that furniture manufacturers will employ a greater amount of Russian softwood in the near future, as pine is an increasing accepted material in this sector. IKEA China stocks many pine tables and chairs and birch picture frames, but it is impossible to tell whether this wood originates in Russia or China.

As shown in Table 2.4 Russian softwood serves as and moldings with equal importance for interior decoration; while in the furniture sector softwood is mainly used for upholstery support. Most softwood timber is used in urban construction, serving as concrete forming or supporting materials.

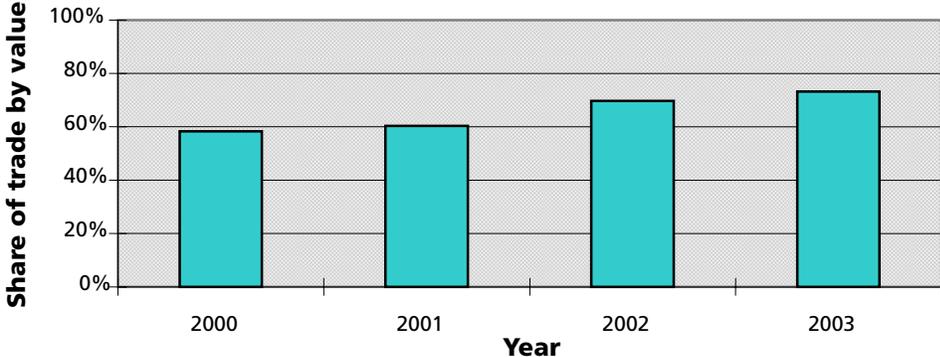
CHAPTER 3: LIVELIHOOD ANALYSIS OF CHINA'S SOFTWOOD TRADE

Russian softwood log trade impacts livelihoods within China throughout the commodity chain both directly and indirectly. Analyzing these impacts better informs China's central and provincial governments about the impacts of the policies on the trade. It also helps to provide an understanding of the impacts of potential Russian limits on log exports. High-level policymakers in the Russian Federation - including President Putin – have lent their support to measures such as log export taxes in order to foster investment in processing and infrastructure in the Russian Far East, thereby boosting the value of exports and expanding job opportunities.

3.1 GATEWAYS

Softwood has become the most important commodity traded across the Russia-China border and is now critical to the gateway cities' economies. Between 2000 and 2003 the proportion of Russian timber trade in Suifenhe's total trade value increased from 58.3% to 73.2% (Table 3.1).

Figure 3.1: Share of Russian Timber Trade in Suifenhe's Total Trade Value, 2000-2003



Source: Suifenhe customs data, 2003

3.2 IMPORTERS

The size of Chinese importing firms correlates with their ability to initiate business transactions within Russia (Table 3.1). Large-scale importers often lease forest area in Russia and are able to harvest the logs and arrange to transport them directly to Chinese gateways. Some also own wood processing mills in Russia. Others serve as importing agents for smaller importers which do not have import/export permits. A growing number of medium and small companies have already started to establish purchasing points and offices inside Russia to purchase timber locally. For example, Longjiang United Import and Export Ltd. is based in Suifenhe but maintains branches in Vladivostok, Nakhodka and Khabarovsk.

Table 3.1: Ability of Importers to Conduct Business within Russia

Types	Annual Import Volume	Import & Export Rights?	Business Model
Large	Above 250,000 m ³	Yes	Collaborative harvest inside Russia
Medium	Between 100-250,000 m ³	Yes	Direct import
Small	Under 100,000 m ³	No	Indirect import

Source: Authors' site visits

3.2.1 Business Costs and Profits of Importers

As can be expected, importers' costs and profits vary with the scale of operations. Small importers account for about 60% of all importers involved in Russian softwood, but have the lowest profit margin. By engaging in harvesting within Russia itself, large-scale importers are able to obtain a cheaper CIF (Cost, Insurance and Freight) price on imported Russian softwood. In 2005, the average CIF price of these operators was 450 RMB (US \$50.20) per m³, compared to the average 604.22 RMB (US \$76.43) for a medium-sized importer which has to import the material. With a market price of 640 RMB per m³ (US \$81), a medium-sized importer profits about 35.78 RMB per m³ (US \$4.53 per m³) while a larger operator procuring wood within Russia directly gains an additional margin of 115.38 RMB (US \$14.56) per m³ (Table 3.2).

Table 3.2: Cost Breakdown for a Medium-Scale Importer

Item	Cost (RMB/m ³)	Cost (US \$/m ³)
CIF price on average	530	67.05
Value Added Tax	40	5.06
Wood-drying fee	15	1.9
Quarantine fee	1.6	0.2
Measurement fee	1	0.13
Train sterilization fee	1.5	0.19
National tax	6.6	0.83
Local tax	3.6	0.45
Port fee	4.4	0.56
Customs recording fee	0.5	0.06

Source: Authors' site visits

Most small-scale operators are individuals or small partnerships from northeast China. These smaller enterprises commonly import Russian logs through medium to large sized trading companies and must pay an additional 6 RMB (US \$0.76) per m³ in commission fees. Thus, their profits average only to 29.78 RMB (US \$3.77) per m³.

3.2.2 Employment by Importers

Many import businesses and their employees rely extensively on the Russian timber trade for a living. While the majority of importers are small-scale, larger ones have attracted many migrant Chinese workers to both sides of the border. According to interviews with Suifenhe officials, large firms attracted around 15,000 and

9,000 laborers in 2002 and 2003 respectively. Most of these laborers are rural youth from Northeast China, and their average salary is about 750 RMB (US \$95) per month, a little lower than local average monthly salary of 800 RMB (US \$101).

Medium-sized importers generally employ 10 employees or less – many of whom have been laid off from local forestry enterprises. Their average monthly salary is about 1000 RMB (US \$127).

3.3 MIDDLEMEN

Despite the large volume of Russian softwood entering Chinese gateways, there are no fixed timber market places: all transactions are carried out near the railway stations. When a train arrives, importers, middlemen, and buyers all come out to the platforms to inspect the logs and bargain. Those who receive early warning of incoming trains enjoy a competitive advantage. Middlemen – in particular those from Putian County in Fujian Province – have organized themselves to such a degree that they dominate the Chinese gateways.

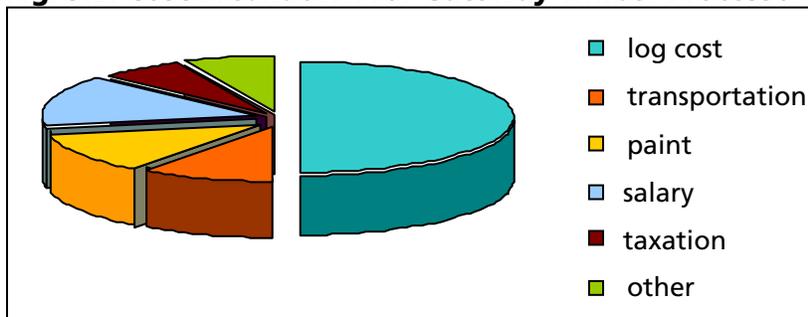
Approximately 80% of the middlemen operating at Suifenhe and Manzhouli come from Putian County, and they control about 70% of the timber transaction at major gateways. Some live near the railway station themselves, or hire elderly men to live near the railway station for the price of 5000 RMB (US \$630) per year to telephone their employer when the trains arrive. The competitive advantage of this early warning system is valued at 20 RMB (US \$2.50) per m³. Currently, the average income of a middleman is 2500 RMB (US \$316) per month – much higher than the local average.

The influx of middlemen from Putian County has triggered social tensions in gateway communities. From rural areas and often without a formal education, they often strain the local rules of social conduct and are regularly accused of disobeying government regulations, particularly family planning policies. Many Putian families are reportedly willing to pay the high penalties levied by the local government for additional children. Many locals disapprove of these *nouveaux riches* with several children and little formal education.

3.4 GATEWAY TIMBER PROCESSORS

As a developing, labor-intensive industry, timber processing has the capacity to expand employment and revenues in local Chinese economies. According to the Suifenhe Forestry Bureau, approximately 300 timber enterprises operate at the gateway cities, employing about 4,500 people. Most employees fall into two categories: technicians or laborers. Technicians in the private sector are generally former employees of state-owned forest enterprises; their experience in the sector provides them with an average salary of 830 RMB (US \$105) per month. Most have long-term labor contracts with timber enterprises as well as health insurance, a retirement plan, and worker's compensation. Laborers are mainly migrants from rural areas, and a large portion - one third - is female. In contrast to technicians, most laborers lack formal employment contracts and insurance; their salaries average only 600 RMB (US \$76) per month.

Fig. 3.2: Cost Breakdown for Gateway Timber Processors



Source: Authors' site visits

While the industrial capacity to add value remains concentrated in other regions, the momentum of localized processing and manufacturing is growing in Manzhouli and Suifenhe. Border cities still rely on trading and resale operations to generate most capital, but timber processing has begun to diversify these economies. This may in turn increase demand for Russian logs, especially relative to sawnwood. The influx of inexpensive Russian logs drives the processing enterprises on the border, which in turn boosts local employment.

However, such businesses have a tenuous hold. Many firms are small-scale sawmills with narrow profit margins, and thus wholly dependent on the low price of Russian roundwood. In the near future, it is plausible that Russia will constrain log exports to China in an effort to foster greater investment in their domestic processing equipment and infrastructure. Higher prices could slow the flow of cheap logs across the border, forcing some Chinese operations to close down. A better understanding of these trade dynamics will inform assessments of the impact of Russian trade policies.

3.5 DOMESTIC TIMBER MARKETS

Impacts of Russian softwood on communities located near the domestic log markets vary according to socio-economic and geographic factors. This case analysis of domestic timber markets clearly demonstrates the localized economic dependence on Russian softwood imports – both in satisfying domestic timber demand and creating employment. The impacts differ across timber markets. On the whole, the authors estimate that there are around 200,000 workers employed across all domestic timber markets. These workers have a higher income level than the regional average. However, most log dealers do not expect to be in the timber trade for long. Many foresee that rising competition amongst these importers and middlemen will decrease the profitability of their operations. Others anticipate that Russia will ban its log exports in the near future, in a bid to support domestic wood product processing. These fears compromise the job security of most workers involved in the trade and inspire timber dealers to seek short-term profits before the log trade collapses.

The following section will focus on three major markets: Dezhou, Xi'an, and Guangzhou.

3.5.1 Dezhou Timber Market

Russian softwood logs account for 80% of total transaction volume in Dezhou timber market. While the Dezhou market serves as a major distribution center for Russian softwood, 90% is destined for secondary

timber markets in Shandong Province and other neighboring provinces, such as Hebei Province, Henan Province and Zhejiang Province. Since there is little processing and purchasing within Dezhou itself, the strongest livelihood impacts are likely to be felt elsewhere. Benefits are distributed in the following manner:

- *Log dealers:* Most log dealers in Dezhou are local family-owned enterprises with an average transaction volume of 3,000 m³ per year. With the average market price of Russian softwood logs 912 RMB (US \$115) per m³, the average log dealer takes an 11 RMB (US \$1.4) profit per cubic meter (Table 3.3). The average annual income of a dealer is about 33,000 RMB (US \$4,175), higher than the income of a typical local family.
- *Truck drivers:* Only approximately 20 people are employed as truck drivers in this timber market. Most have recently been put out of a job and are using savings or small loans to buy a truck. Their business relies on the drivers' own connections with timber buyers. After bargaining for the price, they will transport the timber to its wholesale or retail markets. With no regular working hours, they can log 14-15 hours a day or no hours at all. On average, truck drivers' earn 8,000 RMB (US \$1,011) per year.
- *Measurement workers:* One independent measurement company in Dezhou provides employment opportunities for measurement workers, but income opportunities are small.⁵
- *Relevant government agencies:* Several local government agencies regulate and collect fees or taxes on Russian log sales. The Business Administration Bureau is responsible for business license. The Revenue Bureau levies local tax of 6.67 RMB (US \$0.85) per m³; the Forestry Bureau deals with transportation permit, charging 3 RMB (US \$0.38); and the Quarantine Bureau levies quarantine fees of 1.33 RMB (US \$1.7) per m³.

Table 3.3: Cost Breakdown for Dezhou Log Dealers

Item	Cost (RMB/m ³)	Cost (US \$/m ³)	Remarks
Log price	680	86.02	Buying from Manzhouli
Transportation cost	200	25.3	Manzhouli to Dezhou, railway
Log loading & unloading fee	13	1.65	
Local tax	6.67	0.84	Paid by small-scaled dealer
Quarantine fee	1.33	0.17	

Source: Authors' site visits

3.5.2 Xi'an Timber Market

With 80% of Russian lumber sold on the Xi'an timber market sent to local construction projects (e.g. 160,000 m³ in 2003, 90% of which was used as concrete forms), Russian lumber has contributed directly to Xian's economy. Unlike Dezhou, Russian softwood lumber is the major commodity in Xi'an, not raw timber. At present, Russian softwood lumber account for 90% of total transaction volume in Xi'an timber market. 85% comes from timber processing enterprises located in the northeast, particularly Suifenhe.

⁵ The measurement fee is about 13 RMB per m³, but Russian logs are generally inexpensive small-diameter timber so there is little possibility of conflicts on volume dimensions between buyers and sellers.

Financial benefits accrue to the following categories of employees at the Xi'an market:

- *Lumber dealers:* Unlike the Dezhou timber market, Russian lumber dealers in Xi'an are mainly sales agents of sawmills in Northeast China. Most are former employees of state-owned forest enterprises who have their families to live in Xi'an. As agents, they only receive a 10% commission of total sale profits; most profits are sent back to the sawmills. At a market price of 1,300 RMB (US \$164) per m³, the average profit made selling Russian lumber is 115.3 RMB (US \$14.58) per m³ (Table 3.4). This translates to a 10% commission of 11.5 RMB (US \$1.45) per m³. Field interviews indicated the average business scale of Russian lumber dealers in Xi'an market is about 2,100 m³ per year – indicating an average income is about 23,000 RMB (US \$2,909) per year.
- *Truck drivers:* Only 40 truck drivers specifically transport Russian wood. They may work anywhere from 0 – 15 hours per day. They receive on average 0.47 RMB (US \$0.06) per m³ per kilometer. An average income can amount to 2,600 RMB (US \$329) per month and the market charges normally an overhead of 100 RMB (US \$13). Although this income level is relatively high in Xi'an, it usually serves as the only source of income for a whole family and it is a very competitive market.
- *Bicycle rickshaw drivers:* 30 rickshaw drivers operate in Xi'an timber market, mostly rural laborers of Xi'an. They unload Russian lumber from train and transport them to the destination identified by the dealers. According to one interview, they receive 3 RMB (US \$0.40) per m³, or a monthly income of 625 RMB (US \$79), a level inferior to the average salary in Xi'an.

Table 3.4: Cost Breakdown for Xi'an Log Dealers

Item	Cost (RMB/m ³)	Cost (US \$/m ³)	Comments
Lumber price	950	120.75	From sawmills in Northeast China
Transportation cost	222	28.08	Railway
Lumber loading & unloading fee	6	0.76	
Local tax	9.3	1.18	Paid by small-scale dealer
Log yard rental	1.2	0.15	

Source: Authors' site visits

3.5.3 Guangzhou Timber Market

Since 2001, the amount of Russian timber on the Guangzhou timber market has increased, affecting the economy and livelihoods in Guangzhou and Guangdong Province. Nearly half of Russian lumber sold from Guangzhou's market is used locally while the remainder supplies the Pearl River Delta region. As is the case in Dezhou and Xi'an, most Russian lumber in Guangzhou is used by construction sector. Additionally, a small but growing portion of Russian lumber goes to Guangdong's rapidly developing furniture industry. Guangzhou handles large volumes of Russian softwood, mainly due to its affordability. With rising shipping costs and the depreciation of the New Zealand dollar, New Zealand's radiata pine has gradually lost its price competitiveness in Guangzhou - giving an advantage to sellers of Russian timber. However, this advantage is

likely only temporary as the Guangdong timber market will be able to obtain a variety of imported timber from other countries as prices drop. Income from the Guangzhou market accrues mainly to:

- *Lumber dealers:* Similar to the Xi'an case, lumber dealers in Guangzhou are sales agents of sawmills located in Northeast China and the majority of them have been laid-off from state-owned forest enterprises. They live year-round in business offices provided by the Guangzhou timber market, and rely heavily on the sale of Russian lumber. As in Xi'an, dealers get a 10% commission from total sales. With a local market price of 1,350 RMB (US \$171) per m³, the average profit on Russian lumber is about 73.4 RMB (US \$9.30) per m³ (Table 3.5). The 10% commission for dealers is thus 7.34 RMB (US \$0.93) per m³. About 5,000 m³ is sold per year at this market; the average annual income is about 36,700 RMB (US \$4630). This income level is much higher than that of the Xi'an dealers, but due to a high consumer price index in Guangzhou, the actual income level of the lumber dealers in Guangzhou is even lower than in Xi'an.
- *Timber logistics company:* The Guangdong Yuzhu International Market was originally a state-owned processing company. After institutional reform, this company focused instead on timber logistics. The company rents office space for timber dealers (30 RMB or US \$3.80 per m³ per yearly contract), hires security guards, and provides other services such as measuring (for 3 RMB or US \$0.38 per m³) and loading/unloading (10 RMB or US \$1.27 per m³). Yuzhu effectively integrates scattered timber dealers and generates about 3,000 jobs.
- *Dockworkers:* The majority of dockworkers who unload and load Russian lumber are rural Sichuan youth with temporary jobs and loose relationships with the lumber dealers. According to one interview, they receive 3 RMB (US \$0.38) per m³ for an annual income of about 800 RMB (US \$101).

Table 3.5: Cost Breakdown for Guangzhou Log Dealers

Item	Cost (RMB/m ³)	Cost (US \$/m ³)	Comments
Lumber price	950	120.18	To sawmills in northeast China
Transportation cost	300	37.95	To railway
Lumber loading & unloading fee	10	1.27	To loading workers
Local tax	13.2	1.67	Paid by small-scale dealer
Lumber yard rental	2	0.25	Levied by Guangzhou timber market
Business shop rental	1.4	0.18	Levied by Guangzhou timber market

Source: Authors' site visits

3.6 CONSTRUCTION SECTOR

Given that the construction sector's heavy reliance on timber from the Russian Far East, it is pertinent to this analysis to investigate the construction workers whose livelihoods are linked to the Russian softwood trade. According to the 2002 Chinese Construction Yearbook, China's construction sector employed 389,300 laborers. Most are temporary workers from rural areas, without any insurance. According to a survey conducted by the Ministry of Labor and Social Security in January 2004, the average monthly salary of construction laborers is 729.7 RMB (US \$92).

While this is relatively higher than that in other industries, it is also common for construction workers salaries to be defaulted. Huaxia Daily reported in 2003 that the construction industry has defaulted about 17.1 billion RMB (US \$2.16 billion) in laborer salaries. According to this article, 14.6 billion RMB (US \$1.85 billion) of this debt had been resolved through government efforts, while the remaining 2.5 billion RMB (US \$320 million) was still in question. The newly revised Construction Code stipulates that if construction enterprises default labor salaries on purpose, they can be punished by fines of up to 300,000 RMB (US \$37, 950).

The labor conditions of Chinese construction workers are difficult. Normally, workers put in more than eight hours a day in hazardous situations, and must live in temporary tents. The government has taken some measures to secure some basic rights for rural labors. For example, according a notice issued by the Ministry of Labor and Social Security in June 2004, construction enterprises must buy accident insurance for all workers with formal labor contracts. However, from the perspective of laborers themselves, they often do not care to buy accident insurance so long as they are paid on time. There is still a long way to go to put these measures into implementation.

CHAPTER 4: CONCLUSIONS AND RECOMMENDATIONS

4.1 CONCLUSIONS

Russian softwood logs have fed a large portion of China's increasing demand for timber. Almost half of China's massive timber product imports come from its northern neighbor, and over 68% of China's log imports are Russian. This trade is particularly crucial for domestic consumption. The authors' estimates show that around 79% of softwood imported from Russia is consumed within China's borders. About 80% of these imports go to China's enormous construction sector, valued at US \$2.34 trillion and equivalent to over 6.5% of China's GDP. The low cost of these logs has helped keep down the price of construction in China, allowing for further growth.

Concerns over the legality and sustainability of the supply of Russian timber – particularly logs – could force a shift in the Chinese processing industry dependent on these resources. At current harvesting rates, the Russian Far East could be logged out in 20 years, depriving Chinese processing industries of their key source of raw material (Forest Trends 2006: 13). Estimates on the extent of illegal logging depend on the definition and methodology, but experts have stated that it is likely that at least half of the logging in the Russian Far East is illicit (Forest Trends 2004c: 38). This figure is highest for the provinces closest to the Chinese border. Illegal logging results in reputational risks for entrepreneurs based in China, especially those who wish to invest in Russia or re-export to environmentally conscious consumers in Japan, Europe and North America. Government procurement policies in the UK, Japan, and New Zealand already require origin control on government purchases of wood products. This issue becomes imperative as China imports increasing amounts of Russian softwood to manufacture and export furniture and floorboards. Taken together, these concerns mean that forward-thinking firms in China will need to develop systems to prove the legal origin of the timber they procure.

The complexity of the softwood supply chain presents a particular challenge to any such effort to track this imported timber and verify its source. As evinced by Figure 2.1, Russian logs follow a winding path through China, being sold as many as four or five times before reaching the final consumer. There are hundreds of minor intermediary salesmen participating in the timber trade, many of whom are unregistered in government records, and the market's high risk ensures that the actors involved will vary heavily from year to year. Transactions are informal and decentralized, with no unified recordkeeping. These factors present serious obstacles to implementing chain-of-custody controls and other wood-tracking systems that would verify the origins and legality of the timber.

Compounding these concerns, the Chinese timber processing sector sees another issue looming on the horizon: constraints to Russian log exports, such as calls for a log export ban and log export taxes. The Chinese have become major players in the Russian timber industry, working in almost every forest district within Primorskiy Krai and Khabarovskiy Krai. However, such businesses have a tenuous hold. In the near future, it is plausible that Russia will constrain log exports to China in an effort to foster greater investment in their domestic processing equipment and infrastructure. Many firms are small-scale sawmills with narrow profit margins, and thus wholly dependent on the low price of Russian roundwood. If Russia begins to export higher value forest products, slowing the flow of cheap logs across the border, Chinese operations

may be forced to close down. On the other hand, it may also lead to substantial investment in the Russian timber processors. A better understanding of these trade dynamics will inform assessments of the impact of Russian trade policies, and help plan for a sustainable timber supply.

4.2 A VISION FORWARD

Chinese and Russian stakeholders wanting to ensure a long-term harmonious forest sector development and trade between Russia and China should develop a strategic vision for the future, including regional development plans which would be mutually beneficial to both Russia and China, such as the development of value-added processing within Russia itself. It would provide opportunities for Chinese investment to bring in technologically efficient equipment, promote internationally acceptable systems of voluntary forest certification, and prosecute illegal operations. Clear and transparent laws and regulations as well as appropriate law enforcement would help to create the stable business environment necessary to attract international investment. Guided by a farsighted plan based on mutual concerns of the environmental sustainability and economic stability, softwood exports can remain a robust force in the trade from Russia to China.

As a particularly labor-intensive industry, timber processing has a great capacity to generate employment opportunities and income for communities. The livelihood impacts of the commodity chain that distributes Russian softwood logs through-out China varies from link to link. Clearly, the Russian softwood log trade contributes significantly to the local economy of gateways, especially Manzhouli and Suifenhe. Importers are important intermediaries, since they affect the efficiency of the Russian softwood supply chain. Timber markets are another critical point in the chain as they generate employment. It follows that timber enterprises located at gateways are particularly significant links in the supply chain. On the whole, the authors estimate that there are around 200,000 workers employed across all domestic timber markets.

However, there are deep inequalities in the distribution of the benefits from this trade. Middlemen appear to gain the most, facilitated by their access to up-to-date information.⁶ Importers also enjoy benefits but their profit margins vary mainly according to size: larger importers are encouraged to invest in logging inside Russia while small sized importers struggle, often relying on commissions from larger operators. Smaller importers need to collaborate to improve their profits, but consolidation will likely lead to some small players leaving the market entirely.

4.3 RECOMMENDATIONS

Although market forces have been given free reign in the timber trade, industry associations or governmental players could work to improve the positive effects on local livelihoods by strengthening the function and efficiency of gateways such as:

⁶ Recent research which tracked an illegally harvest Russian log sold at the border for \$140 m³ shows that bribed officials and middlemen reap the majority of the profit-- \$102, while little revenue goes to the coffers of the local government and communities. Half of the wood's value-- \$70-- goes to a single person, the Chinese wholesale dealer in Suifenhe (Pye-Smith 2006: 6).

- *Establishing Integrated Lumberyards at Gateways:* Lumberyards, like those in the Dezhou and Guangzhou timber marketplaces should be established through the agreements with railway stations. With facilities such as special rail lines, workshops, equipment, offices, and a full-time staff, a coordinated lumberyard could ensure smooth and standardized purchases, storage and shipping. Lumberyards can also contain timber of unknown destination and provide a space for business transactions. With close collaboration with domestic timber markets, timber price information can be compiled and publicized at the yard to even out access to market information.
- *Establishment of Timber Trade Associations:* In China, most softwood importers run small-scale operations with little communication between themselves. This practice disadvantages them in their deals with exporters, causing the importers to accept lower quality wood at higher prices than necessary. Moreover, they are sometimes unable to accurately gauge domestic demand, causing them to overstock. Timber trade associations, particularly for Russian timber, should be established in the near future to facilitate information sharing. Trade association can collect domestic demand information more effectively and unify import prices, avoiding the heated competition between importers. In this aspect, China has lagged behind Russia and Japan. One Russian organization, called the Asian-Pacific Research Association, is specifically responsible for monitoring the border trade in the Russian Far East (RFE). In Japan, another timber trade organization works to unify import prices and create comparative advantages through consolidation.
- *Facilitating Equitable Business Relationships:* Dealers of softwood who supply Chinese construction companies could also benefit from coordinating their efforts. Construction companies usually buy wood materials directly from small-scale sellers in domestic timber markets, who often find that the balance of power in the business relationship is heavily weighted towards the larger, wealthier construction agencies. Construction companies usually buy wood materials directly from small-scale sellers in domestic timber markets, who often find that they are not on equal footing with the larger, wealthier businesses in the construction sector. According to Xi'an Construction Group, big construction firms such as Xi'an are able to demand several rounds of bid competition among timber dealers because of the large scale of their operations. These firms are also able to withhold 40% of the payment for timber until after the project has finished, further lowering the softwood traders' margins. Greater collaboration between dealers can unify them to resist coercion from construction buyers.
- *Harmonizing Domestic Timber Markets:* Like the importers described above, most Russian softwood dealers in domestic timber markets are small-scale and scattered. Local governments seeking to standardize these transactions can provide policy incentives, improve infrastructure, and establish timber logistics companies funded by domestic or foreign capital. The Guangdong Dongguan timber market has pursued such improvements. Spurred on by government incentives, the Jilong Company invested 80 million RMB (US \$10.1 million) to establish a modern timber market complete with a central business office, unified measurement service, transportation service and advertising. The centralized market effectively integrated the disparate timber dealers, another example of cooperation and harmonization.

BIBLIOGRAPHY

- Cheng Baodong and Song Weiming. 2004. Thoughts on resource basis of China's timber trade. *Green China* 5:38-39. (In Chinese).
- Dong Bin and Xia Ziqian. 2001. Production and trade of Russian forest products in the 1990s. *Forestry Economics* 1:11-12 (in Chinese).
- Deng Hongkai. 2001. Restrictive measures on log exports in Russia. *Foreign Trade in Heilongjiang* 2:58-59 (in Chinese).
- Food and Agriculture Organization of the United Nations. 2004. *FAOSTAT Agricultural Data*. Rome. Accessed via <http://faostat.fao.org/> on March 12, 2004.
- Forest Trends. 2004a. *China's forest product import trend 1997-2002: Analysis with customs data with emphasis on Asia-pacific supplying countries*. Written by Xiufang Sun, Nian Cheng, Andy White, R. Anders West, Eugenia Katsigris. Washington D.C.
- Forest Trends. 2004b. *Meeting China's demand for forest products: An overview of import trends, ports of entry, and supplying countries with an emphasis on the Asia-Pacific*. Written by Xiufang Sun, Eugenia Katsigris, and Andy White. Washington D.C.
- Forest Trends. 2004c. *Overview of the forest sector in the Russian Far East: Production, industry, and the problem of illegal logging*. Written by Alexander Sheingauz. Washington D.C.
- Forest Trends. 2005. *Forest products exports from the Russian Far East and Eastern Siberia to China: Status and trends*. Written by Alexei Lankin. Washington D.C.
- Forest Trends. 2006. *China and the global market for forest products: Transforming trade to benefit forests and livelihoods*. Written by Andy White, Xiufang Sun, Kerstin Canby, Jintao Xu, Christopher Barr, Eugenia Katsigris, Gary Bull, Christian Cossalter, Sten Nilsson. Washington D.C.
- Jin Xiaoman, Wang Zhaojun, and Yang Yibo. 2000. Forest economy collaboration between China and Russia in a new era. *Forest Enterprise in China* 4:22-23 (in Chinese).
- Lin Fengming. 2000. Analysis of state and respect of forest product in China. *Chinese Forestry* 5:1-3 (in Chinese).
- Lu Wenming and Masanobu Yamane. 2003. *Trends in China's forest-related policies, from the perspective of the growing timber trade*. Policy Trend Report for IGES Forest Conservation Project.
- People's Daily*. 2006. Official: China timber utilization to exceed 65% in 2010. <http://english.people.com.cn/200602/14/eng20060214_242726.html>. Updated February 15, 2006. (Accessed November 30, 2006).
- Pye-Smith, Charlie. 2006. Fell a forest, build a nation. *New Scientist*, August 12, 42-25.

- SFA (State Forestry Administration). 2002. *2002 Forestry Development Report*. Beijing: China's Forestry Publishing House (in Chinese).
- SFA. 2003. *2003 Forestry Development Report*. Beijing: China's Forestry Publishing House (in Chinese).
- SFA. 2004. *2004 Forestry Development Report*. Beijing: China's Forestry Publishing House (in Chinese).
- Shi Chunling. 2001. Characteristics of China-Russia timber trade. *China Logistics* 7:27-28 (in Chinese).
- Song Kui. 2001. Forestry and timber processing industry of Russian Far East. *Market Research of Eastern Europe and Middle Asia* 10:3-4 (in Chinese).
- Song Weiming. 2000. *Strategic thoughts on China's international timber trade*. *Forestry Economics* 5:47-49 (in Chinese).
- Sun Jian. 2001. *State and respect of forest collaboration between China and Russia*. *Forestry Economics* 11:56-57 (in Chinese).
- Sun Longyu. 2002. *How to effectively explore and utilize the timber resource of Russia*. *Foreign Trade in Heilongjiang* 1:56-57 (in Chinese).
- Sun Tuoning. 2001. *Forestry corporation between China and Russia*. *Forestry Economics* 4:57-58 (in Chinese).
- WWF China. 2005. *A partnership to promote responsible forestry*. WWF and IKEA Cooperation on Forest Projects, working paper.