

## Dynamics of the Russia–China Forest Products Trade

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**ABSTRACT** Relying primarily on English language scholarship, this paper seeks to highlight the dynamics of China's economic integration beyond its borders as Chinese economic actors extend their search for commodities—in this case into the Russian Federation for timber products. The paper considers the shifts in the political economy of Russian forestry exports from a predominantly domestic and Japan-focused trade during the 1947–1991 Cold War era to a north–south trajectory increasingly emphasizing trade with China from 1993 to 2010. Chinese and Russian bilateral trade data, acting as a barometer of national forestry-related policies, highlight the economic convergence and benefits brought to both the Russian and Chinese timber sectors over the past two decades. Far from being an environmentally deterministic process—one based on the physical geographic characteristics on the ground in both of these states—this binational commodity trade shows that the geography of the Russia–China forest product trade is highly dynamic, temporally variable, and intimately intertwined with national political and economic considerations.

### Introduction

The dissolution of the Soviet Union's centralized planned economy in 1991, coupled with the liberalization of the Chinese economy in the mid-1990s, marks a significant change in the long-standing political *modus operandi* of two of Asia's most powerful states. As Russia and China have taken distinct routes away from centralized planning, their economies have become increasingly integrated (Lotspeich 2010:83). During this period, China began to liberalize its trading regime and move toward an open economy (Naughton 2007:388) and as a result, foreign trade began to increase dramatically and take on new explanatory relevance in Sino-Russian relations.

Nevertheless, although both Russia and China have moved away from centrally planned economic systems over the past 20 years, “the legacy of a strong degree of control over economic affairs by both central governments persists” (Lotspeich 2010:87). This persistent Russian-centralized control has complicated political relationships between Moscow and more distant Russian regions, such as Siberia and the Russian Far East (RFE)—two vast, timber-rich regions of Russia that are geographically more proximate to Beijing than to Moscow. The former Soviet system encouraged a focused economic structure within the RFE. Ironically, the current focus on natural resource harvesting today appears to be meeting the needs of foreign economies as much (if not more than) meeting the needs of Russia's own economy. As Simeone (2012:585) has noted, global interest in Russia's natural resource wealth did not fully emerge until the collapse of the Soviet Union in 1991.

Since the late 1990s Chinese–Russian border regions have undergone a dramatic and unprecedented increase in binational timber trade that has made Russia the largest log supplier for China's

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expanding wood industry sector. The main reasons behind this trend include severe, domestically imposed constraints on China's domestic forests, the proximity of the world's largest boreal forest resources in the RFE and Siberia to China's forestry processing industries, China's open trade policies, and demand from both national and European, Japanese, and U.S. consumers for affordable Chinese wood products (Tian 2008:iii). The Russian–Chinese border helps set the stage for increased present-day integration. As Ryzhova and Ioffe (2009:348) explain, “economic and political reforms preceding and following the disintegration of the USSR have made the border between China and the independent Russian Federation somewhat or considerably more ‘permeable’ (depending on what is moving across it), although it continues to be distinguished by a special regime reflecting the specific conditions prevailing in the two countries and in the regions adjoining their common border.”

Although the future of China's international economic integration with Russia is far from certain, given the waning of Moscow's central dominance over its more outlying regions, after 1989 “the decline of Russia's own power in the region, fundamental changes in the relationship between the center and periphery within the Russian Federation, and the swift transition to an open frontier are also issues which threaten to upset stability in the area” (Garnett 1996:2). China's rapid and large-scale economic development—both in terms of sheer size and geographic expanse—has challenged the traditional notion of statehood as defined by territorial borders. The reason for this is that China's manufacturing-intensive economy—the key component of China's governing party's political legitimacy—depends on primary resource imports from resource-rich trading partners. Koopman, Wang, and Wei (2008) stated that on average, Chinese products are composed of approximately 50 percent foreign content. Gilboy (2004:34) found that “Chinese firms continue to rely heavily on imported foreign technology and components.”

In light of China's need to procure imported products and natural resources, such as timber and lumber (as inputs for its manufactured goods), China's economic success and continued growth remains heavily dependent on inputs originating beyond China's borders. Contemporary China epitomizes the dependence/reliance relationships highlighted by popular discussions on economic globalization. According to Koopman, Wang, and Wei (2008:1), “China is the archetype of a national economy that is well integrated into a global production chain. It imports raw material, equipment, and intermediate inputs, and then exports a big fraction of its output (on the order of 37 percent of GDP in 2006) to the world market.”

As China's relative economic power has surpassed that of the Russian Federation,<sup>1</sup> worldwide demand for Chinese-made wood products has encouraged rapid and large-scale timber trade flows from Russian forests to Chinese timber mills and manufacturing facilities. Whereas Russian timber in Siberia and the RFE was previously transported on an east–west/west–east trade route to meet the simultaneous needs of the Russian federal governments in Moscow and to meet Japan's fast growing demand for timber (especially during the 1954–1973 period; see Kakizawa 1996), China's recent growth and renown as the “world's factory” over the last two decades has contributed to a shift in timber demand away from European Russia and Japan toward the sawmills of Northeastern China (Katsigris 2004; Newell 2004, 2006; Tian 2008; Zhang et al. 2011). This shift in timber trade flows has proven to be economically beneficial to both Russia and China, and it is this shift in forest product trade toward China that comprises the main research question addressed in this paper.

Although both Russia and China have gained economically from the increase in bilateral forestry trade since the late 1990s, such gains have *not* been shared equally by the forestry industries in both states. With regard to trading timber with China, “trends in timber product data reveal the Chinese economy's increasing capture of the value added of natural resources, as imports enter China in a less processed state” (Sun, Katsigris, and White 2004:228–229). While in Russia, by 2006 “the forestry

sector as a whole contributed less than 3 percent of the Gross Domestic Product (GDP)” (Torniainen, Saastamoinena, and Petrovb 2006:404).

China’s liberal timber-importing regime, with respect to Russian forestry products, has put in place a framework designed to meet the raw material needs of China’s forestry and furniture sectors well into the next decade. According to the United Nations Food and Agriculture Organization (FAO) as “China’s expanding demand for wood products attracts forest enterprises to export to or invest in China—there will be a need for more wood, raw materials and plantations to meet the increasing domestic and global demand for wood products” (FAO 2006 in Wan 2009:3). On the other hand, the Russian government’s increased attention toward value-added forestry processes within Russia’s borders, as a means of strengthening both the Russian timber industrial sector and as an enabler of a broader post-Soviet economic transformation (one still based heavily on the exportation of natural resources), has not gone unnoticed (Simeone 2012).

Although the relative dearth of population in areas of Siberia and the RFE has been cited by some as facilitating the extension of Chinese influence beyond its borders into Russia (Ryzhova and Ioffe 2009), a confluence of economic and political factors have arisen within Russia and China in the early 1990s that more accurately explains the dynamism of this bilateral relationship. At that time, China began integrating its economy with the global economy and began sourcing raw materials (on a large scale) from natural resource-rich countries. As with the Soviet Union’s reliance on its internal timber resources up until this time, China, likewise, relied on its Yangtze River basin timber supplies to meet its industrial assembly and manufacturing needs.

Although there has been growing research interest in China’s burgeoning demand for commodities to be used toward urbanization, infrastructural, and manufacturing projects, attention has focused on China’s energy, metals, and minerals imports, and less so on its demand for soft commodities, especially those soft commodities feeding into industrial sectors (Kaplinsky, Terheggen, and Tijaja 2011). By examining a lesser known commodity trade flow, the Russia–China forestry product trade (specifically the export of Russian timber and lumber to China), we learn that far from being solely an environmentally deterministic process—one based on the physical landscape characteristics of the ground in both of these states—this binational commodity trade shows that the geography of the Russia–China forest product trade is contingent, highly dynamic, and temporally variable. To illustrate the dynamism inherent in this binational process, this paper is divided into three main sections: 1) Chinese forestry protection policies, 2) Russian forestry and export policies, and 3) developments in the trade pattern as informed by policy discussions.

***Chinese forestry protection policies.*** According to Li (2001), since 1978 China has implemented 10 key ecological engineering programs addressing environmental challenges such as water loss, sand, soil and wind erosion, etc. Six of these programs form the framework for conserving China’s forestry systems (see Table 1). Simultaneously, awareness of the Chinese economy’s interconnectedness with global environmental patterns has also increased, leading to concerns and interest toward extending China’s sustainable development practices (Liu and Diamond 2005). With regard to its domestic forestry resources, “China has embarked on a major plantation forest effort, that should in the longer term allow for greater domestic raw wood production” (Sedjo and Simpson 1999:17).

Among these programs, six have been major forestry/ecology and preservation programs, with one of the most important being the Natural Forestry Protection Program (NFPP). The NFPP has three aims: 1) to completely stop the logging of natural forests in upper Yangtze River Valley and in the middle and upper reaches of Yellow River, 2) to significantly reduce the timber production in

TABLE 1. CHINA'S SIX MAJOR FOREST ECOLOGY ENGINEERING PROGRAMS.

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1. Natural Forests Protection Program
  2. Three north, middle, and lower reaches of Yangtze River shelterbelt forest programs
  3. Conversion of farming land to tree and grass planting program
  4. Prevention and control of desertification in the surrounding areas of Beijing
  5. Wildlife protection and nature reserve construction program
  6. Construction of forestry industrial bases with a focus on fast-growing and high-yielding plantations in key areas
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Source: Adapted from Li (2001).

important state-owned forestry regions in China's northeast regions including Inner Mongolia, and 3) to instruct local governments on how to responsibly protect natural forest resources in other areas of the country.

The main objective of the NFPP is to promote the rehabilitation, regeneration, and development of natural forests in these areas devastated by major floods that occurred in 1998 on the Yangtze, Yellow, Shanguhaji, and Nenjiang rivers in northern China, which led to the loss of thousands of lives and approximately US\$36 billion worth of damage (Sun 1999 in Cohen, Lee, and Vertinsky 2002:5). Although officially authorized in 1998, the Chinese government and associated forestry bureaus had been discussing and debating forestry-related environmental protection measures since the 1950s (see Wang 2010:19–20) when, during the first ever national forest conference, China adopted the guiding principle of “protecting the forest, comprehensively, afforestation in key areas, rational felling and rational utilization of timber” (SFA in Cohen, Lee, and Vertinsky 2002:5–6). This program encompasses 879 counties and includes the forest industrial bureaus of 17 Chinese provinces (Li 2001).

China's NFPP represents the legal culmination of a set of regulations designed to mitigate property loss and human devastation caused during periodic natural disasters including the flooding of China's Yangtze River basin. One of the most devastating floods that occurred in the basin took place in 1998 (Cohen, Lee, and Vertinsky 2002; Lu 1999, 2004; Yamane 2001). The NFPP legally prohibits the felling of natural growth forests by all timber companies (domestic or foreign) in the river tributary systems in China's Yangtze River basin. Despite the importance that the NFPP places on Chinese forest restoration and on the rebuilding of China's domestic forestry industries (through tree farms and other afforestation efforts), little literature exists relating to the relationship between the implementation of forestry protection policies such as the NFPP and variation in trade-related trends relating to the Russia–China forest products.

Although the passage of the NFPP was a clear victory for China's environmentalists seeking to preserve China's forests, the fate of China's domestic timber industry was placed in doubt. According to Yamane, “the most significant reason for the sharp drop in domestic timber production is a recent key national forest policy—the Natural Forest Protection Project (NFPP).” The policy was announced in 1997 and launched in 1998 in order to “accelerate the improvement of the ecological environment in degraded natural forests and, at the same time, to realize biodiversity conservation and the sustainable development for social and economic welfare” (Yamane 2001:5).

Apart from protecting China's forestry resources, the 1998 NFPP is designed to enable China to *simultaneously* develop its timber industry and conserve and replenish its domestic forest resources.

The NFPP encompasses two broad-based environmental goals. The first goal is to preserve more than 60 million hectares of natural forest in the upper and middle reaches of the Yellow and Yangtze rivers by replanting 8.67 million hectares of forest by 2010 and by reducing commercial logging each year by 12.4 million hectares (Yamane and Lu 2000:7). The second goal is to protect and control 33 million hectares of state-owned forests by reducing commercial logging in them by 7.52 million hectares annually (Yamane and Lu 2000:7). Protecting millions of hectares of Chinese primary forests translates into less timber availability for domestic commercial use and consumption. The sustained build-up of Chinese government forestry conservation efforts since the 1950s (Cohen, Lee, and Vertinsky 2002:5) has contributed to a significant shift in timber trade flows from the Russian Federation to China from the early 1990s until 2007.

The NFPP has also had clear ramifications for variation and integration of Russian timber imports. Since the implementation of the NFPP, Russian timber imports have played an increasingly large role in enabling China to simultaneously protect its forest ecology and contribute to the economic stability of its domestic forestry sector. According to one source that “most of the quadrupling in China’s imports between 1996 and 2004 merely offset reductions in production within China attributable to the Natural Forest Protection Plan” (Global Timber.org).

The growth of the Chinese timber industry has been facilitated by increasing amounts of Russian timber imports. This has enabled China’s leadership to promote its own domestic timber industries (in Northeastern China)—industries that would otherwise be forced to shut down by the passage of the NFPP, which prohibits the felling of natural Chinese forests in the Upper Yangtze river valley, among other places within China’s territorial borders. China’s leaders are aware of the economic costs that come with environmental devastation (Economy 2004). The NFPP is one very clear sign of the Chinese leadership’s movement toward balancing national economic growth with domestic environmental protection. This is especially true given that acquiring sufficient natural resource inputs, such as timber, is key to maintaining the continued output of many industries (i.e., construction and furniture making) in China. This connection makes China’s relation with Siberia and the RFE especially timely and important for the future mutual development of China’s and Russia’s timber-producing regions.

Another way in which the Russia–China timber trade process is characterized through its dynamism can be seen by examining the forestry product trade flows and volumes from Russia into China from 1993 to 2010. Since 1993, Russian timber exports have represented more than 10 percent of total Chinese timber imports. By 2000 Russian timber represented more than 20 percent of total imports, surpassing 30 percent by 1998, surpassing 40 percent by 1999, surpassing 50 percent in 2001, surpassing 60 percent in 2002, and reaching an all-time high of 68.39 percent in 2007 (see Figure 1).

One of the main factors driving this rapid increase in timber demand is the growth of China’s furniture manufacturing sector. “The annual output value of the Chinese furniture industry has grown fast since 1990. Having maintained a steadily increasing momentum over the decade, it was valued at \$14.5 billion in 2000, up 15.4 percent on 1999. In 2001, there were over 50,000 furniture enterprises registered, with about 5.5 million employees. Wooden furniture dominates the market, and various wood-based panels have become the major raw materials for furniture making” (ITC/ITTO 2005:99). In addition, because of forestry protection and promotion policies such as the NFPP, an associated increase in Chinese employment and the reduction of environmental decay have been projected. According to Shen, Liao, and Yin (2006), “the NFPP will expand the annual output of the forest sectors by 5.8 billion yuan and the whole economy by 8.9 billion yuan by 2010. Employment will increase by 0.84 million in the forest sectors and by 0.93 million in the whole economy.”

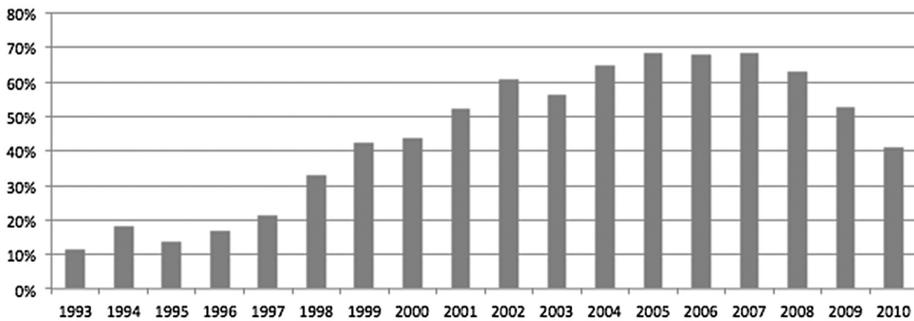


FIGURE 1. PERCENTAGE OF CHINA'S IMPORTED TIMBER FROM RUSSIA, 1993–2010.

Sources: Compiled and structured by the author from annual issues of the *China Customs Statistical Yearbook* (1993–2008) and the *China Forestry Statistical Yearbook* (2003–2010).

**Russian forestry and export policies.** In the 1990s, the Russian Federation, the country with the world's largest forestry reserves became China's largest timber supplier. According to the World Wildlife Federation (WWF), "Russia accounts for over 20 percent of the world's forested area and 25 percent of its estimated standing timber volume" (WWF Russia 2007). Russia's 2001 agreement with China entitled the "Treaty of Good-Neighborliness and Friendly Cooperation Between the People's Republic of China and the Russian Federation" improved bilateral relations, encouraged economic development and resolved border issues (Crowley 2005:426) and played a useful policy role in liberalizing forestry policies and marketing Russian resources (such as timber) for sale to Chinese buyers. In addition, in September 2009, the presidents of Russia and China met in New York to sign the Russian–Chinese Cooperation Program on joint development of Siberia and the RFE that will be in effect until 2018 (Lee 2012). Although Russian domestic economic development is clearly the main impetus for Russian economic integration with China, both Russian and Chinese government interests are aware of the growing negative environmental implications that China's growing demand for timber resources will have on Russia. As Stone (2006:332) observed, "This influx of outside timbers means that while China is healing its landscape, it is potentially shipping environmental degradation to other nations."

Despite the potential environmental drawbacks, the benefits of investing and upgrading Russia's own domestic timber industry have caught the attention of the Russian government. After 2004, the Russian government began to recognize "that it could benefit greatly from investments, as domestic processing could generate benefits and spillovers, capturing value added, job creation, skill upgrading, and increased competitiveness" (Simeone 2012:587). To this end, in 2007, the Russian government instituted a value-added tax (VAT) on unprocessed log exports. The implementation of this timber export tariff is not only a direct revenue generating mechanism for the Russian state but has also been viewed as one of the ways of encouraging foreign investment in the Russian forest industry (Helsingin Sanomat 2009). According to Simeone (2012), the 2007 Russian export tax on unprocessed logs shows the importance the Russian government places on the forest industry and on its hopes of using the domestic timber industry to accelerate the Russian economy—especially in regions such as Siberia and the RFE, regions which are far from the seat of the Russian central government in Moscow. In June 2012, the Russian and Chinese governments initiated a joint fund (The Russia–China Investment Fund) for investment in Russia that would make its initial investments in timber, among other industries (Hille and Anderlini 2012).

Two Russian language resources are especially helpful in clarifying the Russian government's perspectives and initiatives with regard to the future of Russia's domestic timber-processing industry. The first is the Russian government's national forestry initiative, the *Strategy for the Development of the Forest Complex to 2020*. This document clarifies the formal intention of the Russian government to develop its national timber-processing industry in order to spur domestic economic growth (MINPROMTORG 2008). This strategy lays the foundation for the Russian government's formal position with regard to its domestic timber industries and supports the 2007 export tariff that the Russian government instituted to try to keep value-added timber processes from taking place in Russia itself. The 2007 export tariff on Russian logs has resulted in official log exports to China decreasing dramatically (Figure 1). Interestingly, although "Russia's accelerated log export tariffs have greatly increased the price of logs and have in this way had a great impact on China's wood products industry" (Wan 2009:2), prices for Russian timber exports are likely to decline steadily with Russia's August 2012 WTO accession (Simeone 2012).

The second Russian language resource that is helpful in understanding Russia's official policy toward the development of its timber industry and associated international trade is the 2006 Russian Forestry Code.<sup>2</sup> The 2006 Russian Forestry Code stipulates forest development and protectionist measures. In practice, however, large distances from Russian federal forestry authorities coupled with lack of other established economic-incentivizing institutions, particularly in regions such as Siberia and the RFE, have resulted in Russian forests comprising up to 68.39 percent of China's timber imports (in 2007). These Russian forests are thereby playing a substantial role in meeting China's timber-processing input demands.

In spite of the changed geopolitical landscape characterizing Sino-Russian relations, during his presidency, Dmitry Medvedev called for "intensified talks" with China (and Finland) to discuss raw timber exports, emphasizing the need for Russia to develop its own domestic wood products industry. Casting the blame on the underdevelopment of Russian forestry industries for domestic purposes, former President Medvedev recently stated that "we continue to ship raw timber for export and processing isn't being developed. To a great extent this is the result of the position of our neighbors" (in Sommerauer 2009). More recently, Russia has attempted to develop its own wood-processing industry and move away from its traditional role as a supplier of commodities such as oil, gas, bio-resources, and timber (Helsingin Sanomat 2009). Nevertheless, Russian geographic proximity and high forest density help explain the continued "pull factors" relating to strong Chinese timber demand.

***Developments in the trade pattern as informed by policy discussions.*** It is likely that the rise of Chinese domestic timber output after 2002, in spite of the NFPP's enactment, was spurred by both Chinese manufacturing demand and by Russia's 2007 adoption of a Russian log export VAT. In order to highlight the linkages between Chinese timber demand and Russian forestry supply, this section examines Chinese and Russian government reporting of bilateral trade flows from 1993 to 2011—a dynamic growth period for this commodity flow and one in which both sides instituted forestry regulations that would significantly impact bilateral timber trade. Focusing on bilateral trade data not only acts as a barometer of annual measurements that are useful in gauging Russian–Chinese economic integration (Lotspeich 2010:83) but more specifically highlights the utility and effectiveness of international trade policies. The following bilateral timber trade data are examined in this section: timber trade data reported to the Statistics Division of the Food and Agricultural Organization of the United Nations (FAOSTAT) by Russian and Chinese authorities, the *China customs statistical yearbooks* (1993–2008), the *China forestry statistical yearbooks* (2003–2010), and the *China forestry development report* (2005) as well as China timber trade flow data collected by Forest

Trends, a U.S.-based forest conservation and research nonprofit organization. These data highlight the dynamism inherent in the Russia–China timber trade over the last two decades (and especially since 1998) and, as presented here, serve to illustrate the way in which Russian and Chinese policy decisions effect political, economic, and environmental considerations with regard to this regionally significant, international commodity flow.

Before examining this bilateral trade data, it is first useful to acknowledge that prior to 1998, Indonesia and Malaysia represented China’s major timber sourcing partners after which point Russia became and has remained China’s largest timber exporter. With the passage of the NFPP in 1998, however, Russia gradually became the preferred sourcing location of choice for China’s domestic timber-processing industries. Table 2 illustrates the key “pivot years” (1997–2002) for Chinese forestry imports showing the shifting of reliance away from Indonesian and Malaysian timber imports. This shift in timber export dominance pivots away from Southeast Asia toward Russia after 1998—the year in which China’s NFPP was signed into law—essentially banning the felling of Chinese natural growth forests.

Table 2 is also instructive in reminding nonexperts of the variety of timber sourcing locations from which China draws its forestry resources. Although Zhu, Taylor, and Feng (2004) make clear that in spite of the biodiversity of tree species that exist in geographically distinct world regions, the vast majority of timber resources imported into China from countries as diverse as Australia, Gabon, and Thailand come in the form of unprocessed logs (timber). Although it is well known that the Gabonese Okoumé tree species, for instance, is of a weaker durability than pine trees of the RFE, the former tree species is nevertheless valued most by Chinese logging companies in its unprocessed log form (Zhu, Taylor, and Feng 2004:38). It is clear that not all timber-exporting countries have the same product profile.

Another way in which Russia and China have progressively moved toward integrating their economies with respect to their timber trades and accepted international reporting mechanisms is illustrated in Figure 2. Figure 2 shows the convergence of Chinese and Russian government timber import and export data and highlights the overall growth in legal timber trade between these two countries, despite the trade downturn starting in 2007 due to the Russian value-added log export tax. Employing data from the Statistics Division of the Food and Agricultural Organization of the United Nations (FAOSTAT), this figure clarifies the high-level Russian–Chinese bilateral timber trade flows from 1997 to 2010, and reveals *high levels of consistency in reporting* of international timber trade with very little discrepancy in the annual data. Although much work exists in examining the illegal nature of this bilateral timber trade (e.g., Teplyakov 2011; Vandergert and Newell 2003), these data are also important in that they clearly reveals a growing trend of increasing *legal* timber trade from 1997 to 2006 as reported by Russia and China. The complementarity of Russia’s and China’s bilateral timber trade figures from 2005 to 2010 can be seen as one way in which China and Russia are both trying to “play by the rules” and gain international legitimacy by standardizing their data reporting within the United Nations’ FAO framework.

### **The Geography of Russian Timber Entry Points into China**

In focusing on the Russian–Chinese timber trade, natural forest abundance and geographic proximity help explain China’s interest in Russian forests. Although these geographic characteristics exemplify important features of this trade, they are inherently static. Geographically concentrated forest resources within Russian provincial-level entities (republics, oblasts, krajs) located in Siberia and in the RFE (Figure 3) make up the majority of Russia’s total timber exports. In 2005, 13 Chinese

TABLE 2. CHINA'S TIMBER PRODUCT IMPORTS (VOLUME IN CUBIC METERS, ROUNDWOOD EQUIVALENT).

Year	Malaysia	Indonesia	Gabon	Russia	U.S.	Germany	New Zealand	Thailand	Other	World
1997	3,782,107	2,459,191	1,024,168	970,468	755,058	106,307	202,908	147,701	3,202,094	12,650,000
1998	4,482,272	3,240,321	595,283	1,602,229	673,172	286,466	312,619	267,624	3,153,101	14,613,087
1999	5,301,451	3,054,912	895,994	4,454,778	756,890	938,136	553,354	454,529	4,195,804	20,605,848
2000	5,132,707	3,778,027	1,145,698	6,184,478	618,220	1,359,710	800,166	812,821	5,978,099	25,809,925
2001	3,570,485	4,247,608	1,126,453	9,258,779	795,707	1,055,111	1,233,127	938,148	5,890,322	28,115,740
2002	4,165,190	3,713,365	1,093,564	15,777,731	1,181,182	1,008,883	2,193,790	1,412,894	7,589,544	38,136,145

1999 and 2000 represent the two specific years when Russia surpassed Indonesia and Malaysia, respectively, as China's largest timber provider. Key comparative timber volumes are indicated in grey shading.

Source: forest-trends.org.

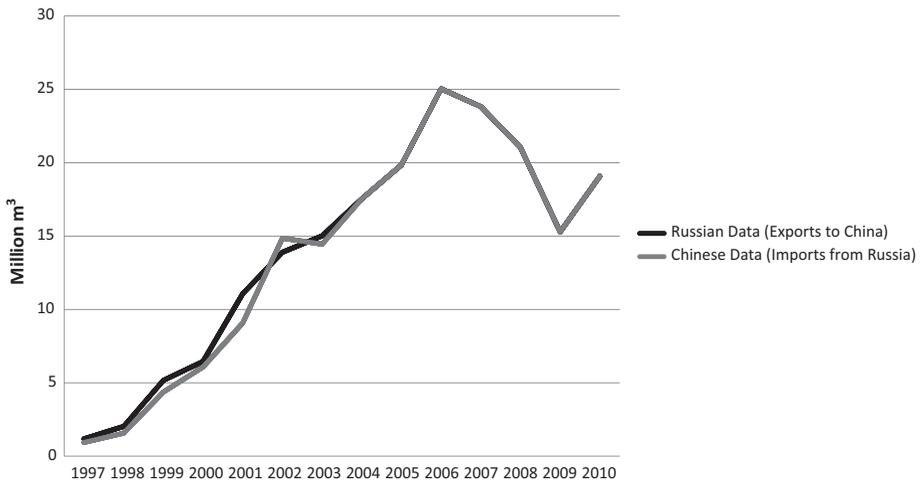


FIGURE 2. BILATERAL TIMBER TRADE FLOW DATA AS REPORTED TO THE FOOD AND AGRICULTURE ORGANIZATION BY RUSSIAN AND CHINESE GOVERNMENTS 1997–2010.  
Source: FAOSTAT.



FIGURE 3. THREE MAJOR RUSSIA–CHINA TIMBER TRADE GATEWAYS VIA RAILWAY.  
Sources: Forest Monitor 2006; Lankin 2005:5–6; Tian 2008:7.

provinces and areas imported forestry products directly from Russia, among which Inner Mongolia and Heilongjiang accounted for 40.4 and 50.8 percent of total Chinese timber imports that year (Tian 2008:6). There are three main, international railway corridors used for Russian–Chinese timber trade: Zabaysk-Manzhouli, Gorodekova-Suifenhe, and Naushki-Elienhot (via Mongolia) (Figure 3). Forest abundance and geographic proximity, coupled with domestic Chinese timber demand and

associating policies facilitating international forestry trade, account for Russia's growing economic linkages with its southern neighbor and help illustrate the dynamism of this international timber trade.

### **Promoting Binational Timber Trade—An Incomplete Convergence**

Although the forestry product trade between Russia and China has experienced a high degree of integration over the past two decades and national Chinese and Russian forestry policies have been developed both in response to current and future economic and environmental demands on both sides of the border, China more so than Russia has been making strides in incorporating environmental protection into its national forestry initiatives. The NFPP is a long-term Chinese forestry initiative aimed at eventually enabling the country to become self-sufficient in meeting its forestry needs. As Lu (2004:27). states:

To reduce the timber supply deficit and the timber imports, the Chinese Government initiated a timber plantation programme in 2000. It is expected that by 2015, the programme could produce 133 million cubic metres of logs annually, which could meet 40 percent of the domestic timber demand. This harvest, together with that from already existing plantations and from natural forests excluded from the logging ban, could enable China to balance its domestic timber supply and demand in the future.

To this end, the United Nations has stated that “the establishment of around 34 million hectares of plantations during the past 20 years gives China the world's largest plantation estate, and provides an opportunity for future large-scale substitution for wood from natural forests. In 1980, China's forest cover was 13.5 percent—the lowest of any of the case study countries. By 2000, however, forest cover had been increased to 17.5 percent—helping to enable the Government to implement a ban on logging of natural forests in the upper reaches of the Yangtze River and the middle and upper reaches of the Yellow River” (FAO 2001:6).

Well aware of the environmental problems that have arisen as a result of China's large-scale and rapid manufacturing boom (e.g., Economy 2004; Watts 2010), the Chinese government is determined to put forward measures to institutionalize the country's environmental protection. Although China, over the past decade, has claimed the title as the world's largest consumer of a variety of products (Gerth 2010), the decisions taken by the Chinese government with regard to its natural forest reserves have been much more focused on conservation, forestry regrowth, and environmental promotion. It is the combination of institutional forces and large-scale Chinese demand that explains this shift in direction of timber resources.

Although policy making and the decisions involved with creating environmental protection are complex and multiple, observing and interpreting bilateral Russian–Chinese timber trade data are instructive in helping scholars to understand the impact of forest protection legislation—in this case China's 1998 NFPP. The environmental protection legislation and the continued timber influx from Russia combine to satisfy Chinese citizens' demands for their desire to live in an appealing environment with their desire to participate and contribute to a growing domestic economy.

Using data from 1994 to 2010, Figure 4 illustrates the gradual decrease in Chinese domestic log output starting between 1998 and 2002 along with the simultaneous increase of imported logs. Figure 4 highlights the move toward convergence of Chinese timber production and Chinese timber imports. Because of the convergence of these two trend lines, these data serve to strengthen the effectiveness of Chinese and Russian Forestry policies. It is important to note that after 2002 the rate of growth for both Chinese domestic timber output and foreign timber imports remains constant. From 2002 onward, convergence of domestic timber production and foreign timber imports has

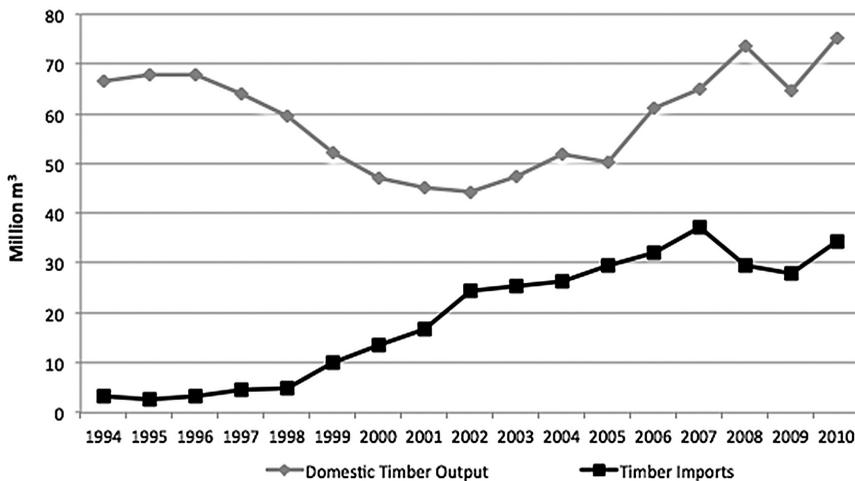


FIGURE 4. CHINESE DOMESTIC TIMBER PRODUCTION VERSUS IMPORTED TIMBER, 1994–2010.

Sources: Compiled and by the author from annual issues of the *China Customs Statistical Yearbook* (1994–2010), *China Forestry Development Report* (2005), and *China Forestry Statistical Yearbook* 2010.

stopped with the most dramatic deviation of these two trend lines occurring in 2007, most probably in response to Russia's implementation of an export tax on unprocessed logs.

Despite the protective intentions of China's NFPP, convergence of rising Russian timber imports and lowering Chinese domestic timber production has ceased beginning in 2002 and again in 2005. This relates to Chinese-projected future demand for timber (see, for instance, Goodman 2007). According to a Forestry Outlook Study prepared by China's State Forestry Administration, "it is pre-estimated that the whole country's timber demands in 2020 will be 450–470 million m<sup>3</sup>, the supply of commercial timber will be approximately 304 million m<sup>3</sup>, and the gap between timber supply and demand in China will be around 150–170 m<sup>3</sup>. So a shortfall between supply and demand will still exist" (SFA 2009:7–8).

As Figure 4 clearly illustrates, complete convergence between Chinese domestic timber production and foreign timber imports has not occurred. Such a convergence would suggest a truly effective NFPP. This can be explained due to the fact that current and projected demand for timber in China cannot be satisfied solely by foreign supply—in spite of the fact that RFE forests represent the largest contiguous remaining tracts of natural growth boreal forest in the world and border China's northeastern provinces. By carefully considering the economic and environmental benefits of domestic forestry protection and regeneration, Chinese leadership has crafted legislation that represents the "best case" scenario for sustainable development planners from both a short-term and long-term perspective.

This binational timber trade also serves to highlight two often overlooked concepts relating to the rise of China: first, the crucial role that imports play in contributing to China's economy and second, the reality that, China is highly dependent of timber imports which in and of themselves are not sufficient to meet growth projections and timber demand. Likewise, Russian forestry institutions, such as the 2007 forestry export tariffs, represent a keen awareness on both sides of the border of the value of natural forests and the need to price wood commodities at financially viable levels in order to promote and maintain a both states' domestic forestry economies.

## Conclusion

The findings in this study show that the increased amounts of Russian timber imported into China from 1993 to 2010 (with the trend reaching its zenith in 2007) have coincided with the Chinese government's decision to protect its domestic forestry resources as codified by its NFPP. Through this legislation, the Chinese government is able to protect China's natural forests and continue to develop its forestry industry by relying more heavily on Russian timber resources as the country's primary manufacturing inputs.

At the same time, Russian and other international experts agree that the implementation of the NFPP not only marks perhaps the single most important achievement of the Chinese state environmental policy but also is concerned about the rapidly growing Chinese footprint within Russian forests both for political and economic reasons. An examination of the Russia–China timber trade highlights the need to move beyond “the territorial trap” (see Agnew 1994), which so often characterizes international regimes and relations by explaining processes within the confines of agreed upon state borders at the expense of understanding international economic and environmental processes and flows. At the same time, however, the success of the NFPP has helped draw attention to one of the ways in which China is actively addressing its environmental challenges while seeking to maintain its momentum helping to promote economic growth.

In assessing China's role in its bilateral timber trading relationship with the Russian Federation from 1993 to 2010, two broad conclusions can be made. First, updated trade data from international, Russian, and Chinese sources reveal an increased degree of harmonization and complementarity between Russian and Chinese data reporting. This illustrates both countries' desires to “play by the rules” and harmonize their trading regimes within the internationally recognized WTO framework. Harmonization with this internationally recognized trade organization can assist in contributing to Russian and Chinese leaderships' legitimacy in the international system of states.

Lastly, both China and Russia have realized substantial economic benefit from China's increasing demand in forestry products during this period. This demand has had significant policy implications on both sides of the border. China has maintained its ability to be one of the world's major furniture producers while increasing the protection and future development strategies for its forests resources. Russia, through its increased sale of legal forestry products to China, has stimulated economic activity of federal subject regions (Siberia and the RFE) as well as the national government, which has struggled with increasingly difficult national integration challenges given Moscow's geographic isolation (and China's geographic proximity) to major Russian timber resources in Siberia and the RFE.

## NOTES

1. According to the World Bank, China's 2011 gross domestic product (GDP) was US\$7.3 trillion more than three times Russia's 2011 GDP of US\$1.9 trillion.
2. Adopted by the State Duma on November 8, 2006. To read an English language translation of the 2006 Russian Forestry Code, please see <http://www.fire.uni-freiburg.de/GlobalNetworks/BalticRegion/ForestCode-3rdReading-061108-eng.pdf>.

## REFERENCES

- Agnew, J. 1994. The territorial trap: The geographical assumptions of international relations theory. *Review of International Political Economy* 1(1): 53–80.
- China Customs Statistical Yearbook(s) 1990–2010. Beijing: China Customs Publishing.
- China Forestry Statistical Yearbook(s) 2003–2010. Beijing: China Forestry Publishing House.
- Cohen, D., L. Lee, and I. Vertinsky. 2002. China's Natural Forest Protection Program (NFPP): Impact on trade policies regarding wood. Prepared for CIDA with the Research Center for Ecological and Environmental Economics, Chinese

- Academy of Social Sciences, 63 pp. Working Draft of paper. [http://s3.amazonaws.com/zanran\\_storage/www.forestry.ubc.ca/ContentPages/18104175.pdf](http://s3.amazonaws.com/zanran_storage/www.forestry.ubc.ca/ContentPages/18104175.pdf) (accessed October 2012).
- Crowley, R.M. 2005. Stepping onto a moving train: The collision of illegal logging, forestry policy, and emerging free trade in the Russian Far East. *Pacific Rim Law & Policy Journal*, 14. [http://nationalaglawcenter.org/assets/bibarticles/crowley\\_stepping.pdf](http://nationalaglawcenter.org/assets/bibarticles/crowley_stepping.pdf) (accessed October 2012).
- Economy, E. 2004. *The river runs black: The environmental challenge to China's future*. New York: Cornell University Press.
- FAOSTAT. 2012. Statistics Division of the Food and Agricultural Organization of the United Nations. <http://faostat.fao.org/DesktopDefault.aspx?PageID=628&lang=en> (accessed January 2013).
- Food and Agricultural Organization of the United Nations (FAO). 2001. *Asia-Pacific Forestry Commission—Forest out of bounds: Impacts and effectiveness of logging bans in Asia-Pacific—Executive Summary*. Bangkok: Food and Agricultural Organization of the United Nations. <ftp://ftp.fao.org/docrep/fao/003/x6964e/x6964e00.pdf> (accessed March 2011).
- . 2006. The role of emerging countries in the paper and forest products world markets: China, India, Russia. FAO Advisory Committee of Paper and Wood Products. Forth-Seventh Sessions. Rome, Italy. <http://www.fao.org/docrep/009/j8386e/j8386e07.htm> (accessed March 2011).
- Forest Monitor. 2006. Raw log export flows from Siberia and the Russian Far East to China in 2000 (figures for 1999 in brackets) x 100 cu. m. [http://www.forestsmonitor.org/capacityBuildingInRussia/\\_htm/\\_mapIndex-annexes.htm](http://www.forestsmonitor.org/capacityBuildingInRussia/_htm/_mapIndex-annexes.htm) (accessed March 2011).
- Forest Trends. 2011. Who we are. <http://www.forest-trends.org/page.php?id=153> (accessed March 2011).
- Garnett, S. 1996. The Russian Far East as a factor in Russian-Chinese relations. *SAIS Review* 16(2): 1–19. [http://muse.jhu.edu/journals/sais\\_review/v016/16.2garnett.html](http://muse.jhu.edu/journals/sais_review/v016/16.2garnett.html) (accessed March 2011).
- Gerth, K. 2010. *As China goes, so goes the world: How Chinese consumers are transforming everything*. New York: Hill and Wang.
- Gilboy, G. 2004. The myth behind China's miracle. *Foreign Affairs* 83: 33–48.
- Global Timber.org. 2011. China Olympics 2008 dumping illegal unsustainable timber USA furniture. EU plywood finance subsidies import export Beijing Fujian CO2 Carbon Offset plantation. <http://www.globaltimber.org.uk/china.htm> (accessed October 2012).
- Goodman, P., 2007. China's insatiable demand for timber. *Washington Post*, March. <http://www.washingtonpost.com/wp-srv/photo/gallery/070329/GAL-07Mar29-69633/index.html> (accessed March 2011).
- Helsingin Sanomat. 2009. Russia to postpone export tariffs on roundwood. <http://www.hs.fi/english/article/Russia+to+postpone+export+tariffs+on+roundwood/1135250293483> (accessed March 2011).
- Hille, K., and J. Anderlini. 2012. Russia and China to strengthen trade ties. *Financial Times*, June 5.
- ITC/ITTO. 2005. International wooden furniture markets: A review Geneva: UNCTAD. <http://www.fao.org/forestry/23523-0f14bba18f78fa30aed5fceaa0f41f69.pdf> (accessed March 2011).
- Kakizawa, H. 1996. Trends in the Japanese-Russian timber trade and the Japanese sawmill industry using Russian logs. *Research Bulletin of the Hokkaido University Forests* 53(2): 147–155. <http://eprints.lib.hokudai.ac.jp/dspace/handle/2115/21399> (accessed March 2011).
- Kaplinsky, R., A. Terheggen, and J. Tijaja. 2011. China as a final market: The Gabon timber and Thai cassava value chains. *World Development* 39(7): 1177–1190.
- Katsigris, E. 2004. The China forest products trade: Overview of Asia-Pacific supplying countries, impacts and implications. *International Forestry Review* 4(6): 237–253.
- Koopman, R., Z. Wang, and S.J. Wei 2008. How much of Chinese exports is really made in China? Assessing domestic value-added when processing trade is pervasive. *NBER Working Paper Series*, Working Paper 14109. Cambridge: National Bureau of Economic Research. <http://www.nber.org/papers/w14109.pdf> (accessed October 2012).
- Lankin, A. 2005. Forest product exports from the Russian Far East and Eastern Siberia to China: Status and trends. [http://www.forest-trends.org/documents/files/doc\\_108.pdf](http://www.forest-trends.org/documents/files/doc_108.pdf) (accessed March 2011).
- Lee, R. 2012. The Far East between Russia, China, and America. *Foreign Policy Research Institute*. <https://www.fpri.org> (accessed March 2011).
- Li, Y. 2001. Overview of forestry in China and some ideas for development. <http://chinagate.cn/english/1956.htm> (accessed February 2013).
- Liu, J., and J. Diamond. 2005. China's environment in a globalizing world—How China and the rest of the world affect each other. *Nature* 435: 1179–1186.

- Lotspeich, R. 2010. Economic integration of China and Russia in the post-Soviet era. In *The future of China-Russia relations*, ed. J. Bellacqua, 83–145. Lexington: University Press of Kentucky.
- Lu, W. 1999. Recent changes of forest policy in China and its influences on the forest sector. Chinese Academy of Forestry, Beijing. <http://www.iges.or.jp/fc/ir99/4-10-lu.pdf> (accessed March 2011).
- . 2004. China's growing role in world timber trade, 2004. *Unasylva—No. 219—Trade and sustainable forest management*. Food and Agriculture Organization of the United Nations Corporate Depository website: <http://www.fao.org/docrep/008/y5918e/y5918e06.htm> (accessed January 2010).
- Ministry of Industry and Trade of the Russian Federation (MINPROMTORG). 2008. Strategy on the development of the Russian Federation's forest complex to the year 2020 [in Russian]. <http://www.minpromtorg.gov.ru/ministry/strategic/sectoral/12/> (accessed July 2012).
- Naughton, B. 2007. *The Chinese economy—Transitions and growth*. Cambridge: MIT Press.
- Newell, J., 2004. *The Russian Far East—A reference guide for conservation and development*. McKinleyville, CA: Daniel & Daniel Publishers.
- . 2006. Timber in the Russian Far East and potential transborder conflict. In *Russian business power—The role of Russian business in foreign and security relations*, ed. A. Wenger, J. Perovic, and R. Orttung, 239–259. New York: Routledge.
- Ryzhova, N., and G. Ioffe. 2009. Trans-border exchange between Russia and China: The case of Blagoveschensk and Heihe. *Eurasian Geography and Economics* 50(3): 348–364.
- Sedjo, R., and R. Simpson. 1999. *Tariff liberalization, wood trade flows, and global forests*. Washington, DC: Resources for the Future. <http://www.rff.org/rff/Documents/RFF-DP-00-05.pdf> (accessed March 2011).
- Shen, Y., X. Liao, and R. Yin. 2006. Measuring the socioeconomic impacts of China's Natural Forest Protection Program. *Environment and Development Economics* 11(6): 769–788.
- Simeone, J. 2012. Timber export taxes and trade between Russia and China: Development of the forestry sector in the Russian Far East. *Forestry Chronicle* 88(5): 585–592.
- Sommerauer, M. 2009. Russia will not increase roundwood export duties. Sommerauer Forest Sector Advisory Services. <http://forestindustries.eu/content/russia-will-not-increase-roundwood-export-duties> (accessed March 2011).
- State Forestry Administration (SFA). 2005. *China forestry development report*. Beijing: China Forestry Publishing House.
- State Forestry Administration (SFA) People's Republic of China. 2009. *Asia-Pacific Forestry Sector Outlook Study II—People's Republic of China Forestry Outlook Study*. Bangkok: Food and Agriculture Organization of the United Nations Regional Office for Asia and the Pacific. <http://www.fao.org/docrep/014/am256e/am256e00.pdf> (accessed October 2012).
- Stone, M. 2006. China and certification: A questionable future. *Journal of Forestry* 104(6): 332–334.
- Sun, C. 1999. The China Natural Forest Protection Program inside out: A story of challenges presented by China's increasing purchasing power and willingness to pay for environmental services. Research Center of Environmental Economics. Chinese Academy of Social Science, Beijing, China.
- Sun, X., E. Katsigris, and A. White. 2004. Meeting China's demand for forest products: an overview of import trends, ports of entry, and supplying countries, with emphasis on the Asia-Pacific region. *International Forestry Review* 6: 227–236.
- Tepljakov, V. 2011. Current trends in the Russian Far East forest sector. *Forest Science and Technology* 7(3): 103–109.
- Tian, Y. 2008. China's imports of Russian timber: Chinese actors in the timber commodity chain and their risks of involvement in illegal logging and the resultant trade. Forest Conservation, Livelihood and Rights Project Occasional Paper No. 2. Hayama: Institute for Global Environmental Strategies. <http://enviroscope.iges.or.jp/modules/envirolib/upload/1569/attach/1569.pdf> (accessed March 2011).
- Torniaainen, T., O. Saastamoinena, and A. Petrovb. 2006. Russian forest policy in the turmoil of the changing balance of power. *Forest Policy and Economics* 9(4): 403–416.
- Vandergert, P., and J. Newell. 2003. Illegal logging in the Russian Far East and Siberia. *International Forestry Review* 5(3): 303–306.
- Wan, M. 2009. Analysis of China's primary wood products market—Sawnwood and plywood. Helsinki: University of Helsinki. [https://helda.helsinki.fi/bitstream/handle/10138/14804/Analysis%20of%20China's%20Primary%20Wood%20Products%20Market\(Minli%20Wan\).pdf?sequence=1](https://helda.helsinki.fi/bitstream/handle/10138/14804/Analysis%20of%20China's%20Primary%20Wood%20Products%20Market(Minli%20Wan).pdf?sequence=1) (accessed March 2011).
- Wang, Y. 2010. Social impact assessment of the Natural Forest Protection Program on the forest-dependent communities and households in Western China—Case studies in Gansu Province and Chongqing Municipality. Ph.D. Dissertation. Dresden: Technische Universität Dresden. <http://www.qucosa.de/fileadmin/data/qucosa/documents/6404/Dissertation%20fuer%20SLUB%20PDF.pdf> (accessed March 2011).

- Watts, J. 2010. *When a billion Chinese jump: How China will save mankind—Or destroy it*. New York: Scribner.
- WWF Russia. 2007. Russia's boreal forests. [http://assets.panda.org/downloads/russia\\_forest\\_cc\\_final\\_13nov07.pdf](http://assets.panda.org/downloads/russia_forest_cc_final_13nov07.pdf) (accessed March 2011).
- Yamane, M. 2001. China's recent forest-related policies: Overview and background: From the perspective of economic growth and forest conservation. *Policy Trend Report*, 1–12. [http://enviroscope.iges.or.jp/modules/envirolib/upload/370/attach/complete\\_report.pdf](http://enviroscope.iges.or.jp/modules/envirolib/upload/370/attach/complete_report.pdf) (accessed March 2011).
- Yamane, M., and W. Lu. 2000. *The recent Russia-China timber trade—An analytical overview*.
- Zhang, K., Y. Hori, S. Zhou, T. Michinaka, Y. Hirano, and S. Tachibana. 2011. Impact of natural forest protection program policies on forests in northeastern China. *Forestry Studies in China* 13(3): 231–238.
- Zhu, C., R. Taylor, and G. Feng. 2004. China's wood market, trade and the environment. *Science Press USA and World Wildlife Fund International*. <http://www.wfchina.org/wwfpress/publication/forest/Chinawood.pdf> (accessed March 2011).