

China's Wood Furniture Manufacturing Industry: Industrial Cluster and Export Competitiveness

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Abstract

China is the largest furniture exporter in the world. Its wood furniture industry has become an important part of the country's forestry economic development. Hence, investigating China's furniture industry cluster and export competitiveness would benefit the sustainable development of China's forestry industry. Our study indicates that, under the export-oriented strategy of China's reform and opened economy, the country's furniture industry has developed in three large areas over the last 30 years, namely, the Eastern Pearl River Delta, the Yangtze River Delta, and the Bohai Rim Region. As the strategy shifts from an export orientation to a focus on domestic demand, the country's midwestern area will take over China's industrial production. At present, China's furniture products have an important position in the world market. In 2010, furniture exports accounted for 27 percent of the world's total exports, with wood furniture accounting for US\$10.6 billion worth of exports, or 58 percent of China's total exports of furniture. Among the main export markets, the United States accounted for 39 percent of China's total exports. In terms of international furniture trade, an important mutual relationship exists between China and the United States. China's office furniture and kitchen furniture have price advantages, whereas the bedroom furniture lacks price advantages. In particular, the production and export of mahogany furniture may be hampered by raw material shortage because of the protection of tropical forest resources. This challenge puts China's furniture industry in future competition with emerging countries such as Malaysia.

China's State Forestry Administration put forward a strategy for adjusting the forestry industrial structure in 2000. The emphasis of the primary aspect of the forestry industry (primary industry) is ecological forest construction, which protects the environment. The secondary aspect of the forestry industry (secondary industry) is key to the strategic adjustment. Economic growth in this aspect can be achieved mainly by encouraging technological innovation. The development of a tertiary aspect (tertiary industry) uses forestry ecological tourism as a new growth point.¹

The structure of China's forestry industry has undergone continuous improvement in recent years, and the forestry secondary industry has become the pillar of China's forestry economy. In 2010, its output value was more than 50 percent of that of the total forestry industry (Zeng and Nie 2010). As a very important sector of this aspect, the

furniture manufacturing industry has developed rapidly in the past 30 years (Dickson 2011). In 1978, the industrial output value of China's wood furniture industry was less than RMB 1 billion, while in 1988 it increased to 47 billion, and in 2008 it rose to RMB 144 billion (Xia and Yuan 2011). The international competitiveness of furniture has

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Forest Prod. J. 62(3):214–221.

¹ In China, the forestry primary industry mainly includes the planting and lumbering sectors. The forestry secondary industry includes six categories of forestry processing and manufacturing: sawn wood and chips, panels, wood products, paper and pulp, wood furniture, and others. The forestry tertiary industry mainly includes ecological tourism and forestry service sectors.

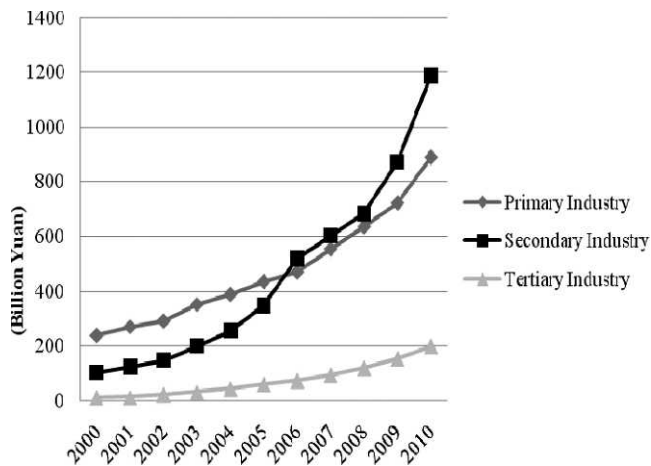


Figure 1.—China's forestry industrial output value (2000 to 2010).

clearly been significantly enhanced, and by 2000, China had overtaken Canada as the world's largest furniture exporter (Cao et al. 2004). Against the background of China being the world's largest furniture producer and exporter, study of the cluster distribution, export structure, and price advantage of China's furniture industry is necessary. The results of this study will help analyze and predict the future development potential of China's furniture industry, which is important for the development to be sustainable.

Introduction to China's Forestry Industry

From 2000 to 2010, China's forestry economy maintained fast, steady development (China State Forestry Administration 2011). The industrial output value of China's forestry grew from RMB 355.6 billion to RMB 2,277.9 billion, a 6.4 times increase (Fig. 1). In 2000, the respective output values of the primary, secondary, and tertiary industries were RMB 238.9 billion, RMB 103.5 billion, and RMB 13.2 billion, with proportions of 67.2, 29.1, and 3.7 percent, respectively. The forestry economic development of the secondary and tertiary industries seriously lagged behind the primary, thus there was significant potential for growth in these areas.

China's forestry industrial structure has undergone continuous improvements and upgrades since 2000. The improvement of the structure of China's forestry industry refers to the advanced development and rationalization of the process (Yang and Nie 2011a). The primary industry was the pillar of the forestry sector in 2000. From 2000 to 2010, it developed slowly and stably, with an average annual growth rate (AAGR) of 14 percent. On the other hand, the secondary industry developed rapidly, with an AAGR of 27.6 percent, and its annual industrial output value reached RMB 1,187.7 billion in 2010. The figures indicate that the secondary industry has passed the primary and has become the largest part of China's forestry economic development. The tertiary industry has the fastest development rate, despite its relatively low output value in the entire forestry industry. From 2000 to 2010, the annual output value increased at an AAGR of 31.3 percent and reached US\$200.7 billion. These changes have resulted in the proportions of industrial output value of the primary, secondary, and tertiary sectors of China's forestry industry

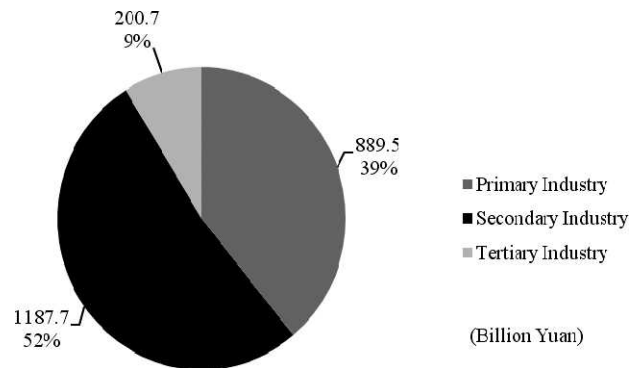


Figure 2.—Composition of China's forestry industrial output value in 2010.

changing to 39, 52.1, and 8.9 percent, respectively, in 2010 (Fig. 2).

To achieve the development of the forestry industry, China has continuously protected and fostered forest resources, ensured the stable development of the basic primary industry, offered key support to the secondary industry by establishing the processing as the leading component, and promoted the growth of the tertiary industry. Through these measures, China has achieved the goal of improving the forestry industrial structure and realized the purpose of shifting the forestry economic growth pattern (China State Forestry Administration 2010).

China's Forestry Secondary Industry and Furniture Manufacturing Industry

Composition of China's forestry secondary industry

As the pillar of China's forestry economy, the secondary industry is mainly divided into six manufacturing categories: sawn wood and chips, panels, wood products, paper and pulp, wood furniture, and others.

According to official statistics for industrial output values in 2000, the panel manufacturing industry accounted for 28.6 percent of the entire forestry secondary industry, whereas wood products and wood furniture industries each accounted for about 15 percent (China State Forestry Administration 2001). As the basic industry directly depends on forest resources, the sawn wood and chips industry accounted for 7.9 percent, while the paper and pulp industry accounted for 6.5 percent.

Under the strategic guidance of the structure adjustment of China's forestry industry, the development of the forestry secondary industry garnered a large amount of support for forestry technology and human resources investment; hence, the internal structure of the industry has gradually been improved (Wang 2011). Among the six manufacturing categories of the forestry secondary industry, the paper and pulp production, which is technology and capital intensive, has had the fastest development rate, and the AAGR of its output value reached 45.8 percent. Until 2010, the output value of the paper and pulp sector accounted for 24.6 percent of the secondary industry output (Fig. 3), highlighting the important position of this technology-intensive sector after the adjustment of the industrial structure. China's wood furniture industry is resource and labor-

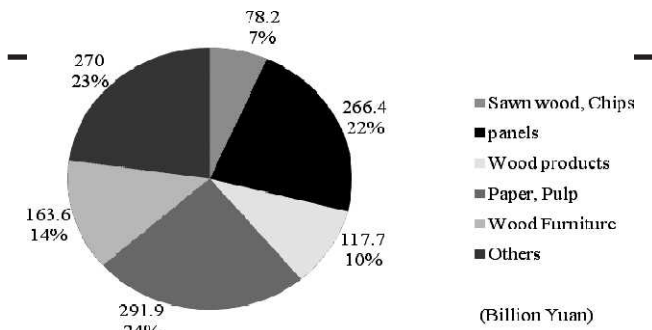


Figure 3.—The industrial output value of China's forestry secondary industry in 2010.

intensive. Owing to its mature technical support and low-cost labor resources, it developed rapidly, with the AAGR of the output value reaching 27 percent in the past 10 years. In 2010, the output value of the wood furniture industry accounted for 13.8 percent of the secondary industry output and played an important role in promoting forestry economic development. To upgrade the industrial structure, the Chinese government has to limit the speed at which the resource consumption-based industry develops. Because the resource-intensive industry panel manufacturing and wood products industries developed relatively slowly, their proportion of the output value declined slightly. Slowing the development of forest resource consumption-based and labor-dependent industries will be a long-term direction for the future structure adjustment of the forestry industry (Yang and Nie 2011b).

Composition of China's furniture industry

According to China's National Bureau of Statistics, the country's furniture industry is mainly divided into metal furniture, wood furniture, upholstered furniture, plastic furniture, glass furniture, and others (National Bureau of Statistics of China 2011a). The industrial output of China's furniture industry has increased every year, and by 2010, it reached 770.3 million sets, 8.6 times the output in 2000.² As the top three major furniture industries, the metal furniture, wood furniture, and upholstered furniture manufacturing industries developed very steadily, and in 2010, the proportions of their output value based on the total output of furniture industry were 55.0, 33.8, and 6.1 percent, respectively (Table 1). The wood furniture industry relies on the resource supply of renewable timber, and compared with industries using nonrenewable raw material, its development has more environmentally friendly features.

Sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their needs (World Commission on Environment and Development 1987). Under China's strategic guidance of sustainable development, the wood

furniture manufacturing industry will play an important role in the development of China's furniture industry (Deng et al. 2004). The development of China's wood furniture industry should consider the sustainability of imported supply and export marketing. The sustainability of imported supply can be achieved by importing legal timber with Forest Stewardship Council (FSC) certification, and the sustainability of export marketing can be achieved through market diversification, which can reduce the risks caused by economic crisis.

Industrial cluster of China's furniture industry

According to national statistics from 2010, the top five regions of China with the largest furniture industry output are Guangdong, Zhejiang, Fujian, and Shandong provinces, and Shanghai. The furniture produced in these five regions accounted for about 81.2 percent of the country's total furniture output (Table 2). Among these provinces, Guangdong and Zhejiang produced 193.9 million and 187.4 million furniture sets, respectively, accounting for about half of the national output.

Based on national statistics for industrial output in 2010, China's top five provinces are Guangdong, Shandong, Zhejiang, Liaoning, and Fujian (Fig. 4). The wood furniture output of these provinces accounted for 76 percent of the country's total wood furniture output, and wood furniture production in the top two provinces, Guangdong and Shandong, amounted to 140 million sets, which accounted for more than 50 percent of the national output.

China's furniture industry is mainly distributed in three large, economically developed core areas, namely, the Pearl River Delta (represented by Guangdong), the Yangtze River Delta (represented by Zhejiang), and Bohai Rim Region (represented by Shandong). The formation of the three industrial cluster areas is affected by various factors, such as local and national laws, resources, and trade, among others (Jin and Zhang 2003). In comparison, the development of the furniture industry in midwest China³ presently lags behind other areas. Since the reform and a more open economy in 1978, the Chinese government has promoted an export-oriented strategy by encouraging foreign investment, allowing foreign investors to set up factories locally, and exchanging market for capital or technology. Because of its geographical advantages and industrial base, eastern China has attracted a large amount of international investment. The development of the furniture industry in the eastern provinces was promoted, and subsequently the present furniture industry cluster gradually formed.

During the period of financial crisis in 2008, exports from eastern China declined severely due to the lack of demand in the United States and other developed countries. Consequently the growth of domestic consumption has gained more attention. In recent years, China's economic policy has gradually changed from being export led to being based on domestic demand (Dong and Zhang 2010). Because the economy of midwest China was less developed than the eastern provinces, the Chinese government formulated a

² The units of measurement are based on the standard units of quantity recommended by the World Customs Organization (WCO). Furniture has no standard unit value. The quantity unit "set" in terms of mass, price value, ranges, and other information is determined by sellers and buyers according to the furniture material and usage.

³ The central area of China includes eight provinces: Shanxi, Jilin, Heilongjiang, Anhui, Jiangxi, Henan, Hubei, and Hunan. Western China includes 12 provinces and cities: Sichuan, Chongqing, Guizhou, Yunnan, Xizang, Shaanxi, Gansu, Qinghai, Ningxia, Xinjiang, Guangxi, and Inner Mongolia.

Table 1.—Output and share of China's furniture industry (2000 to 2010).^a

Year	Furniture (million sets) Output	Million sets for specific categories							
		Wood furniture		Metal furniture		Upholstered furniture		Others	
		Output	Share (%)	Output	Share (%)	Output	Share (%)	Output	Share (%)
2000	89.4	29.5	33.00	38.9	43.51	7.9	8.84	13.1	14.65
2001	115.5	36.7	31.77	49.3	42.68	8.5	7.36	21	18.18
2002	133	54.9	41.28	61.2	46.02	8.8	6.62	8.1	6.09
2003	171	65.6	38.36	89.2	52.16	8.1	4.74	8.1	4.74
2004	258.2	83.5	32.34	152.5	59.06	9.2	3.56	13	5.03
2005	339.9	113.2	33.30	172.5	50.75	14.4	4.24	39.8	11.71
2006	416.3	150.6	36.18	229.8	55.20	19.2	4.61	16.7	4.01
2007	484.8	174.7	36.04	256.7	52.95	26.6	5.49	26.8	5.53
2008	518.7	189.5	36.53	264.4	50.97	32.5	6.27	32.3	6.23
2009	608.1	205	33.71	333.7	54.88	36.8	6.05	32.6	5.36
2010	770.3	260.7	33.84	423.8	55.02	47.3	6.14	38.5	5.00

^a Data from China's National Bureau of Statistics (2011b).

strategy to develop the midwest in 2000. Industrial transfer is an important measure to implement the strategy. The Chinese government has put forward a number of support policies for the industrial transfer from tax, finance, investment incentives, land use, and other factors. The motive behind the industrial transfer to the midwest is the hope that the region's low-cost labor and resource advantages can lower production costs and produce greater economic benefits. Thus, the industry will gradually transfer from the eastern coastal area to the midwest, and the furniture industry may form a new cluster in the midwest regions, perhaps in Henan or Sichuan provinces, in the future (Pu 2011).

China's Furniture Export Structure

HS statistical description

Furniture is categorized in the Harmonized System (HS) list of the United Nations Commodity Trade Statistics Database (UN Comtrade database, <http://comtrade.un.org/db/>; Table 3), which contains furniture (9403), metal furniture (940310, 940320), wood furniture (940330, 940340, 940350, 940360), plastic furniture (940370), and bamboo rattan furniture (940380, 940381, 940389).⁴

Major furniture export countries

The UN Comtrade statistics show that world furniture exports increased at an annual rate of 10 percent, and reached US\$66.0 billion in 2010. The top five export countries were China, Italy, Germany, Poland, and Vietnam (Table 4). From 2006 to 2010, China's furniture exports retained the top spot in the world, reaching US\$18.0 billion and accounting for 27.3 percent of global furniture exports. Compared with Italy and Germany, which are the second and third largest furniture exporters, respectively, and have a 10 percent share of the world's furniture exports, China's furniture industry developed much faster and captured greater world attention. Numerous potential advantages,

such as low-cost labor, FSC-certified wood supply, and improved labor productivity, could enhance the international competitiveness of China's furniture industry in the future (David et al. 2008).

Major import countries of China's furniture

Until 2010, the international market of China's furniture had expanded to over 200 countries and regions (China State Forestry Administration 2011). The top 10 countries in the list accounted for 65 percent of China's total furniture exports. The United States relied heavily on China's furniture and was the largest importer of China's furniture products, with imports reaching US\$5.8 billion in 2010 and constituting more than 32 percent of China's total exports (Table 5). Japan and the United Kingdom were the other key target markets for China's furniture. The export volume to Japan increased by an average annual growth rate of 11 percent and exceeded US\$1 billion in 2010, accounting for 5.7 percent of the total exports of Chinese furniture. Furniture exports to the United Kingdom also continued to grow, with an annual growth rate of 25.8 percent. In addition, China's furniture exports to Thailand increased by nearly 67 times in the last 5 years.

Table 2.—Provincial rank of China's furniture production in 2010.^a

Province	Furniture (set)	Proportion (%)	Rank
Total	770.3		
Guangdong	193.9	25.2	1
Zhejiang	187.4	24.3	2
Fujian	107.0	13.9	3
Shandong	74.2	9.6	4
Shanghai	62.7	8.1	5
Jiangsu	27.1	3.5	6
Henan	26.7	3.4	7
Liaoning	18.8	2.4	8
Sichuan	11.0	1.4	9
Jiangxi	10.9	1.4	10

^a Values are for all 32 (total) provinces and for the top 10 major provinces. Data from China's National Bureau of Statistics (2011b).

⁴ HS code is the abbreviation of International Convention on the Harmonized Commodity Description and Coding System. HS divides all international trade of goods into 22 categories and 98 chapters.

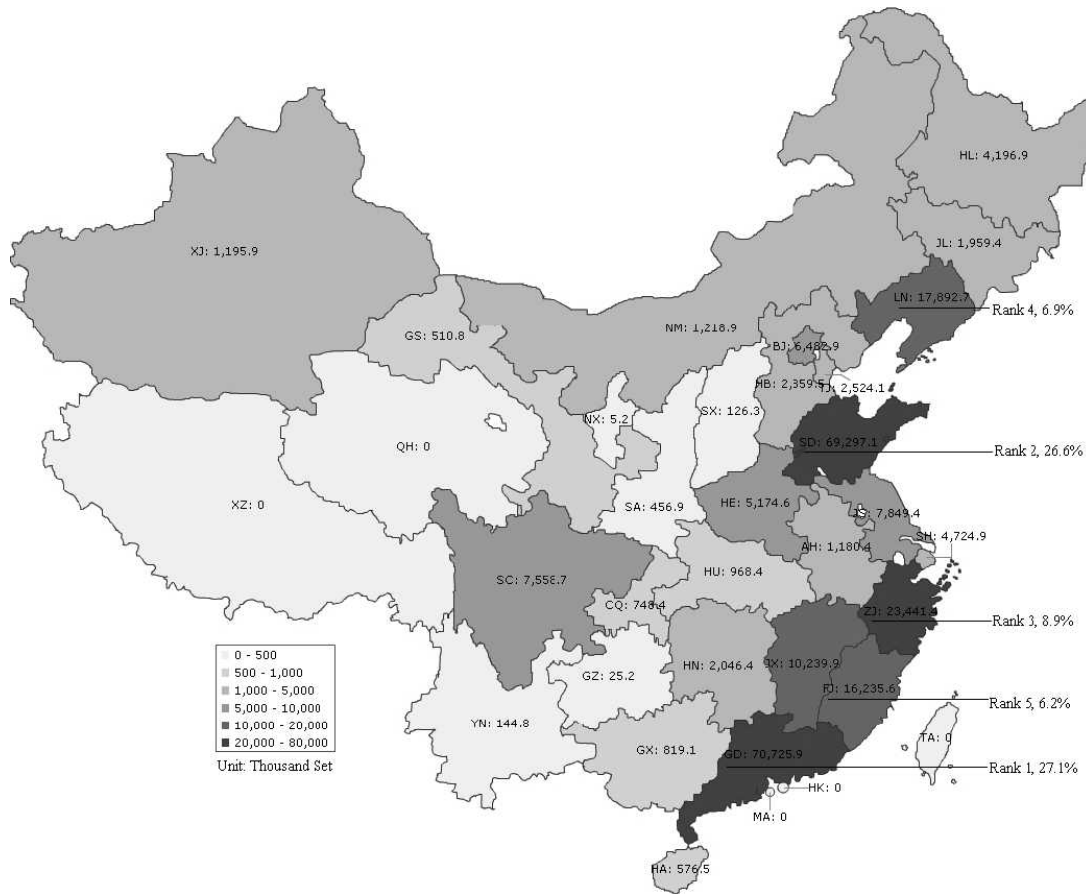


Figure 4.—Cluster and distribution of China’s wood furniture industry in 2010.

According to the official 2010 statistics, China’s major categories of exported furniture are wood furniture, metal furniture, and bamboo rattan furniture, with a ratio of 58:23:6. As the most important export category, wood furniture exports reached US\$10 billion, including mahogany and lacquered furniture (940360) (62%), bedroom wood furniture (940350) (25%), kitchen wood furniture (940340) (7%), and office wood furniture (940330) (6%). From an overall perspective, China has become an important middle to upper-end furniture-producing country (Table 6).

Table 3.—Definition of Harmonized System goods by type of furniture.^a

Code	Description
9403	Other furniture and parts thereof
940310	Metal furniture to be used in offices
940320	Other metal furniture
940330	Wooden furniture to be used in offices
940340	Wooden furniture to be used in the kitchen
940350	Wooden furniture to be used in the bedroom
940360	Other wooden furniture
940370	Plastic furniture
940380, 81, 89	Furniture of other materials, including cane, osier, bamboo, or similar materials; bamboo/rattan furniture
940390	Furniture parts nes

^a Data from the UN Comtrade database (<http://comtrade.un.org/db/>).

China’s Wood Furniture Export Price Advantage

Among the five major import countries of China’s wood furniture (Table 7), the United States was the most important country, with imports accounting for 39 percent of China’s total wood furniture exports in 2010. Kitchen furniture imports in the United States accounted for 60 percent of China’s total kitchen furniture exports, with a total of US\$447.6 million, whereas the office furniture

Table 4.—Major furniture export countries (2006 to 2010).^a

	Exports (million \$)					Proportion (%)
	2006	2007	2008	2009	2010	
World	56,398.7	65,877.8	71,489.2	58,623.7	66,029.8	
China	9,719.9	11,811.5	13,737.7	13,654.5	18,040.8	27.30
Italy	7,118.9	8,681.0	9,315.1	6,824.1	7,043.4	10.70
Germany	5,518.3	6,776.6	7,688.3	6,602.3	6,639.5	10.10
Poland	2,353.0	3,029.7	3,643.9	2,675.4	3,028.8	4.60
Vietnam	1,299.3	1,647.4	1,841.6	1,739.7	3,021.7	4.60
United States	2,295.6	2,556.9	2,921.6	2,272.3	2,601.3	3.90
Canada	3,517.6	3,301.2	2,874.4	1,799.9	1,992.5	3.00
Malaysia	1,610.3	1,734.8	1,922.8	1,606.3	1,842.8	2.80
Sweden	1,435.3	1,740.5	1,901.2	1,523.3	1,596.8	2.40
France	1,741.1	2,053.1	2,235.2	1,779.4	1,430.1	2.20

^a International Trade Centre calculations based on the UN Comtrade statistics.

Table 5.—Major import countries of China's total furniture (2006 to 2010).^a

	Imports (million \$)					Proportion (%)
	2006	2007	2008	2009	2010	
World	9,719.9	11,811.5	13,737.7	13,654.5	18,040.8	
United States	4,555.1	5,251.1	5,386.7	4,685.2	5,861.9	32.5
Japan	716.2	780.1	949.0	962.1	1,030.9	5.7
United Kingdom	415.3	593.4	671.6	653.1	843.9	4.7
Thailand	9.3	17.0	39.7	114.6	629.6	3.5
Germany	233.5	329.7	410.5	458.8	607.1	3.4
Canada	268.1	350.8	476.2	445.5	606.1	3.4
Singapore	40.6	84.2	118.9	680.9	601.2	3.3
Australia	263.3	361.2	518.8	486.3	589.7	3.3
France	167.2	249.3	313.2	331.7	508.7	2.8
Indonesia	14.6	27.5	49.4	81.0	446.9	2.5

^a International Trade Centre calculations based on the UN Comtrade statistics.

Table 6.—Export structure of China's furniture in 2010.^a

Description	Code	Export value (US\$ million)	Proportion (%)
Furniture	9403	18,040.8	
Metal furniture	940310	265.4	23.2
	940320	3,911.4	
Wooden furniture	940330	699.7	58.5
	940340	746.6	
	940350	2,598.3	
	940360	6,511.7	
Plastic furniture	940370	449.7	2.5
Cane, osier, bamboo furniture	940381	38.4	6.2
	940389	1,083.8	
Other furniture	940390	1,735.8	9.6

^a Data from the UN Comtrade database (<http://comtrade.un.org/db/>).

imports accounted for 44 percent of total exports, with a total of US\$307 million. Other major importing countries for China's wood furniture were Japan, the United Kingdom, Canada, and Australia.

It is necessary to analyze the price advantage of China's exported wood furniture in the international competition. Considering the United States as the world's most important furniture importer (Murillo 2007), we conducted a comparison analysis of the furniture prices from the major exporters, namely, China, Canada, Indonesia, and Malaysia. Based on the HS standard, information on the average unit prices of imported office furniture, kitchen furniture,

bedroom furniture, and mahogany and lacquered furniture is given in Table 8.

First, Chinese wood office furniture and kitchen furniture (940330, 940340) have price advantages. The average unit price of China's exported office furniture is US\$40, compared with the US\$50 price of office furniture from Canada or Indonesia, giving China an existing price advantage of 20 percent. The average unit price of China's exported kitchen furniture is about US\$40, which has a 10 percent price advantage compared with Canada and Indonesia. The unit price of China's kitchen furniture exported to the United States is no higher than the average price exported to the world. Meanwhile, the office furniture price is higher than the world average unit price by 11.5 percent.

Second, compared with other categories of wood furniture, bedroom furniture (940350) has no price advantage. The average unit price of China's exported bedroom furniture is about 10 percent higher than that of other countries. The average price of China's bedroom furniture exported to the United States is \$105, which is about 38 percent higher than the prices of bedroom furniture from Canada and Indonesia.

Furthermore, as one of China's most important products, mahogany and lacquered furniture (940360) has an obvious price advantage compared with the prices of other countries, such as Canada and Indonesia. Under the forest certification mechanism, mahogany logging has been subject to strict control. Mahogany supply has become a key factor affecting the sustainable development of the mahogany furniture industry. Given the background of protection of international environment and rare plants (Jorge et al. 2008), the industrial development of mahogany and lacquered furniture could be subject to restrictions in the future.

Finally, China is facing strong competition from some emerging forces. Malaysia currently prioritizes its wood furniture industry. Driven by an export-oriented policy, it has become the leader in the Southeast Asian market (Boon-Kwee and Thiruchelvam 2012). Malaysia has the lowest export prices of all the furniture products already mentioned. A gap in the price advantages of exported wood furniture exists between China and Malaysia. In the long run, given the rapid development of the furniture industry, countries with rich forest resources such as Malaysia and Indonesia may overtake China's furniture exports. To ensure the stable development of the wood furniture industry, China should strive to improve not only labor productivity, but also the industrial competitiveness-of-scale economic advantage.

Table 7.—Major import countries of China's wood furniture in 2010.^a

Code	World US\$ million	USA		Japan		United Kingdom		Canada		Australia	
		US\$ million	%	US\$ million	%	US\$ million	%	US\$ million	%	US\$ million	%
940330	699.7	307.2	43.9	37.9	5.4	11.9	1.7	23.9	3.4	17.4	2.5
940340	746.6	447.6	59.9	29.7	3.9	29.4	3.9	30.5	4.1	32.7	4.4
940350	2,598.3	799.6	30.7	163.1	6.3	164	6.3	67.3	2.6	132.4	5.1
940360	6,511.7	1,844.8	28.3	391.4	6.0	249	3.8	216	3.3	149.3	2.3
Total	10,556.3	3,399.2	32.0	622.1	6.0	454.3	4.0	337.7	3.0	331.8	3.0

^a Data from the UN Comtrade database (<http://comtrade.un.org/db/>).

Table 8.—Unit price of China's exported wood furniture in 2010.^a

Code	Description	Importers	Unit value (\$/set)			
			Exporters			
			China	Canada	Indonesia	Malaysia
940330	Office furniture	World	40.91	50.80	49.80	26.54
		United States	45.60	50.89	50.79	18.97
940340	Kitchen furniture	World	40.41	47.40	44.40	33.03
		United States	40.37	47.40	45.19	33.41
940350	Bedroom furniture	World	84.08	76.19	77.40	54.18
		United States	104.91	76.19	75.89	45.94
940360	Mahogany, lacquered furniture	World	47.57	68.02	67.19	27.57
		United States	43.35	68.02	68.02	27.35

^a Data from the UN Comtrade database (<http://comtrade.un.org/db/>).

Summary and Conclusions

China's forestry secondary industry has become the pillar of the forestry economy, and the furniture manufacturing sector has an important position in the forestry secondary industry. China's implementation of an export-led strategy has greatly promoted rapid development of its furniture industry. Through 30 years of structure adjustment and technology accumulation, China has become a major furniture producer and exporter. China's furniture manufacturing industry is mainly distributed in three large economically developed core areas, namely, the Pearl River Delta, the Yangtze River Delta, and the Bohai Rim Region; meanwhile, the development of the furniture industry in midwest China presently lags behind other areas. With China's economic policy changing from being export oriented to being led by domestic demand, the industry in the eastern coastal areas faces a shift to the midwest. Due to the implementation of the strategy to develop the midwest, as well as preferential policies to foster industrial transfer to the midwest, a new cluster of China's furniture industry may be gradually formed in midwest China.

China has an important position in the world market of furniture products. The country's furniture exports have ranked first in the world in the past 5 years. In 2010, China's furniture exports accounted for 27 percent of the world's total furniture exports. The main categories of China's furniture export structure include wood furniture (58%), metal furniture (23%), and bamboo rattan furniture (6%). The specific category of wood furniture consists of mahogany and lacquered furniture (62%), bedroom furniture (25%), kitchen furniture (7%), and office wood furniture (6%). The international market for China's furniture has expanded to over 200 countries and regions, and major export targets in 2010 were the United States (39%), Japan (6%), the United Kingdom (4%), and other countries. In the process of furniture trade, China and the United States had important effects on each other (Murillo 2007).

The analysis of the unit price indicates that office furniture and kitchen furniture have price advantages, whereas bedroom furniture lacks a price advantage. Mahogany and lacquered furniture is the most important export category and has a significant price advantage. However, it must be recognized that the production and export of this furniture is facing material shortages caused by the international protection of tropical forest resources.

The international comparison results show that China's exported furniture has no price or resource advantages compared with countries with rich forest resources. Moreover, China's furniture industry is facing strong competition from Malaysia and other emerging processing countries.

Acknowledgments

This work was funded by the Priority Academic Program Development (PAPD) of Jiangsu Higher Education Institutions, supported by the National Social Science Foundation of China (10CJY026). Financial support from Kreditanstalt für Wiederaufbau (KfW) is also gratefully acknowledged, as are valuable suggestions and comments from two anonymous reviewers. Any remaining errors reside solely with the authors.

Literature Cited

- Boon-Kwee, N. and K. Thiruchelvam. 2012. The dynamics of innovation in Malaysia's wooden furniture industry: Innovation actors and linkages. *Forest Policy Econ.* 14(1):107–118.
- Cao, X., E. N. Hansen, M. Xu, and B. Xu. 2004. China's furniture industry today. *Forest Prod. J.* 54(11):14.
- China State Forestry Administration. 2001. China Forestry Development Report. China Forestry Publishing Press, Beijing, pp. 20–25.
- China State Forestry Administration. 2010. China Forestry Development Report. China Forestry Publishing Press, Beijing, pp. 3–7.
- China State Forestry Administration. 2011. China Forestry Development Report. China Forestry Publishing Press, Beijing, pp. 1–4, 21–22.
- David, J., B. Xie, and T. Arthanari. 2008. Supply chain and operations practice and performance in Chinese furniture manufacturing. *Int. J. Prod. Econ.* 112(2):683–699.
- Deng, B., T. Tao, and H. Zhu. 2004. Study on developing environment friendly furniture production industry. *China Forest Prod. Ind.* 1:21–23.
- Dickson, L. 2011. The viability of China's wood furniture industry. <http://hdl.handle.net/2429/36458>. Accessed March 10, 2012.
- Dong, H., and W. Zhang. 2010. How dependent is the Chinese economy on exports and in what sense has its growth been export-led? *J. Asian Econ.* 21(1):87–104.
- Jin, Y. and C. Zhang. 2003. Status and development countermeasures on the furniture industry of China. *Forestry Sci. Technol.* 3:47–48.
- Jorge, A., A. Pedro, Á. O. Miguel, and Á. R. Miguel. 2008. Illegal logging, landscape structure and the variation of tree species richness across north Andean forest remnants. *Forest Ecol. Manag.* 255(5–6):1892–1899.
- Murillo, L. M. 2007. Manufacturers-retailers: The new actor in the U.S.

- furniture industry. Characteristics and implications for the Chinese furniture industry. *Int. J. Hum. Soc. Sci.* 2(7):422–425.
- National Bureau of Statistics of China. 2011a. Industry classification standard. <http://www.stats.gov.cn/tjbz/hyflbz/P020110819396066900394.pdf>. Accessed February 12, 2012.
- National Bureau of Statistics of China (NBS). 2011b. China Statistical Yearbook 2011. NBS, Beijing, pp. 465–480.
- Pu, Y. 2011. Analysis of change in industrial agglomeration from industrial and regional characteristics. *East China Econ. Manag.* 9:68–71.
- Wang, H. 2011. On development strategy and driving factors of transformation and upgrading of forestry industries: A case study of northern Jiangsu. *Sci. Technol. Econ.* 24(4):48–52.
- World Commission on Environment and Development. 1987. Our Common Future. Oxford University Press, Oxford. p. 43.
- Xia, L. and J. Yuan. 2011. Study on the development of Chinese modern furniture industry. *Enterp. Econ.* 372(8):86–88.
- Yang, H. and Y. Nie. 2011a. Evaluation of production factors for China's wood processing industry security. *World Forestry Res.* 1:64–68.
- Yang, H. and Y. Nie. 2011b. Study on the issues of transformation, upgrading and regional optimization of Chinese lumber processing industry. *Issues Agric. Econ.* 5:90–94.
- Zeng, J. and Y. Nie. 2010. Interaction study between China's furniture industry and the global furniture value chain. *World Forestry Res.* 6:70–74.