Changing of Transportation Cost for Furniture Exports from China to the United States

Wood 493

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Executive Summary

Transportation cost is one of the most crucial elements in the manufacturing process. Furniture companies try to reduce their production costs to generate higher profit. One method of reducing production cost is by using cheap labor from developing countries such as China. Globalization and global recession play important role in affecting transportation cost. With the increase in transportation cost from China to the United States, many companies have begun to search for alternative methods to mitigate this problem.

Table of Contents

List of Figures

List of Tables

1. INTRODUCTION

The United States is one of the top importers of furniture from China; not only is furniture produced in China less expensive than furniture produced in the United States, but China's furniture is also reliable and competitive in price and quality with non-Chinese products.

With the high labor and capital cost in the United States, many furniture companies in the United States try to reduce production costs by outsourcing their production process to China. United States furniture companies either use local wood in China or imported wood for the raw materials. These companies can save up to four times in labor production when outsourcing their products to China.

This paper will discuss the changing economic situation in the past few years for the United States and China regarding shipment of raw materials and furniture products. Furthermore, the paper will outline the modes of furniture transportation and address the rising transportation cost for exporting furniture from China to the United States. Finally, this paper will discuss the reasons behind the rise in costs, and the causes and impacts to China, the United States, and their neighboring countries.

2. THE UNITED STATES

2.1 Economy

From 2001 to 2007, the United States has maintained the highest Gross Domestic Product (GDP) in the world with $13.794 trillion and GDP per capita of $43,594 (Table 1). By

having the highest GDP in the world, the United States has succeeded in allowing its citizens to benefit from a higher standard of living from the increased economic development and growth in the country. The GDP level in a country measures how successful a country is in utilizing its workers to generate the country's revenue compared to other countries around the world. One of the reasons the United States has the highest GDP in the world is the flexibility of United States firms to lay off excessive labor and simultaneously expand its capital plant compared to its competitors such as European countries and Japan (The World Factbook, 2009).

Table 1 The United States GDP in the world for the period of 2001 - 2007

Year	**USA** (Billion $)	**Position**
2001	$10,075.9	1st
2002	$10,417.6	1st
2003	$10,918.5	1st
2004	$11,679.2	1st
2005	$12,416,5	1st
2006	$13,201.8	1st
2007	$13,780.0	1st

Source: http://www.nationmaster.com/graph/eco_gdp-economy-gdp&date=1960

Table 2 demonstrates that the United States' import value has been greater than the country's export value from the years 2003 – 2006; one of the reasons for this difference in value is the United States exports raw material to developing countries to be processed.

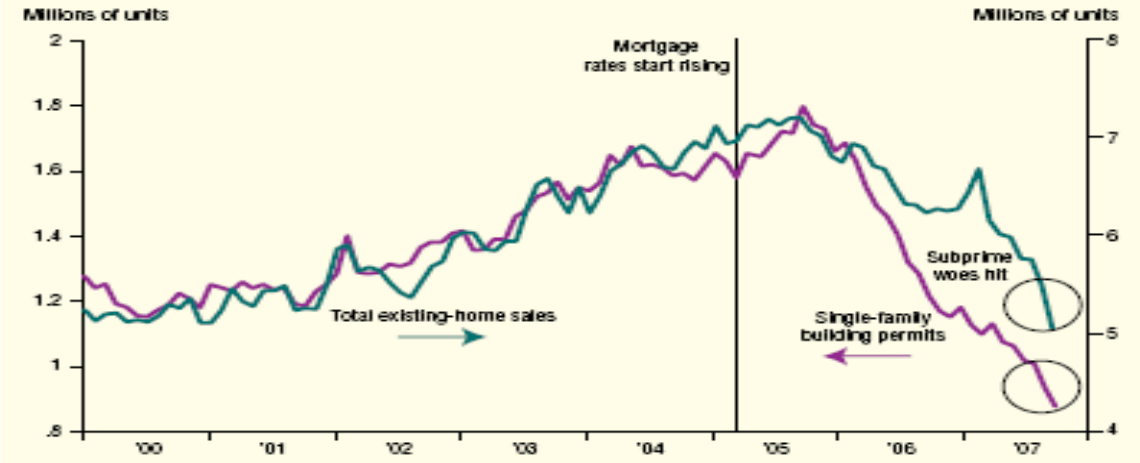
The finished products are then shipped back to the United States. These raw materials become much more valuable after they have been converted into goods that are beneficial to people; such as logs and lumber that are converted into kitchen cabinets.

Table 2 The United States Export and Import from 2003 to 2006

Year	Export	Import
2003	$723,708,786.01	$1,305,112,212.02
2004	$817,905,572.14	$1,525,268,509.31
2005	$904,339,487.21	$1,732,320,797.68
2006	$1,037,029,245.26	$1,918,997,094.45

Source: http://stats.oecd.org/WBOS/Index.aspx?DatasetCode=CSP2008

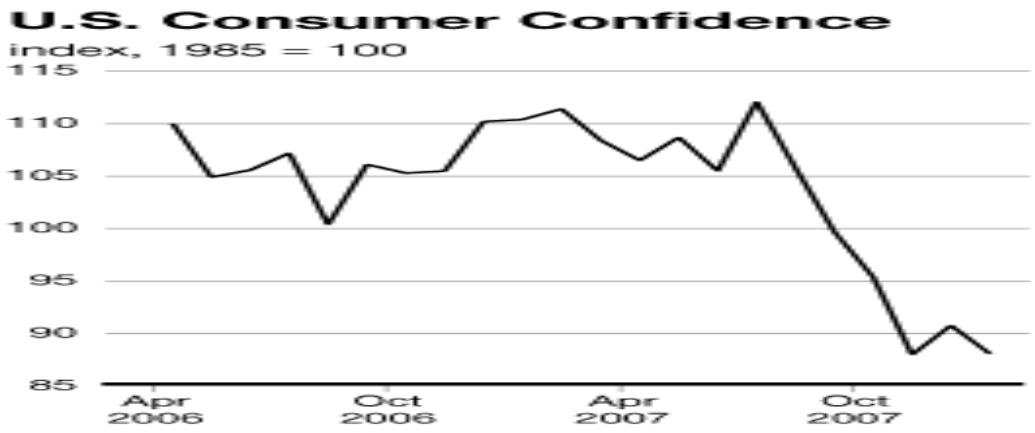
Even with the success of its economy, the United States experienced recession in late 2007 that impacted its export and import industry, especially the furniture industry. In the summer of 2005, the mortgage rate for housing in the United States started to increase; this resulted in lenders (such as financial institutions) cutting back on lending money to new homeowners (figure 1). The United States' recession continued the following year and caused a decrease in housing prices for both new and existing houses in early 2006 (DiMartino & Duca, 2007).



Source: National Association of Realtors. Retrieved from http://www.dallasfed.org/research/eclett/2007/el0711.html

Figure 1 Housing Sales in the United States from 2000 to 2007

The level of consumer spending in the United States has also started to decrease due to financial recession. Figure 2 demonstrates where the Consumer Confidence Index (CCI) decreased from 110 to 87 in 2007, portraying a decrease in consumer spending. As a result of the recession, people in the United States have spent less money on retail products, especially products involving long term payments or installments (Government of Canada, 2008).



Source: http://www.budget.gc.ca/2008/plan/chap2-eng.asp

Figure 2 Consumer Confidence Index in the United States

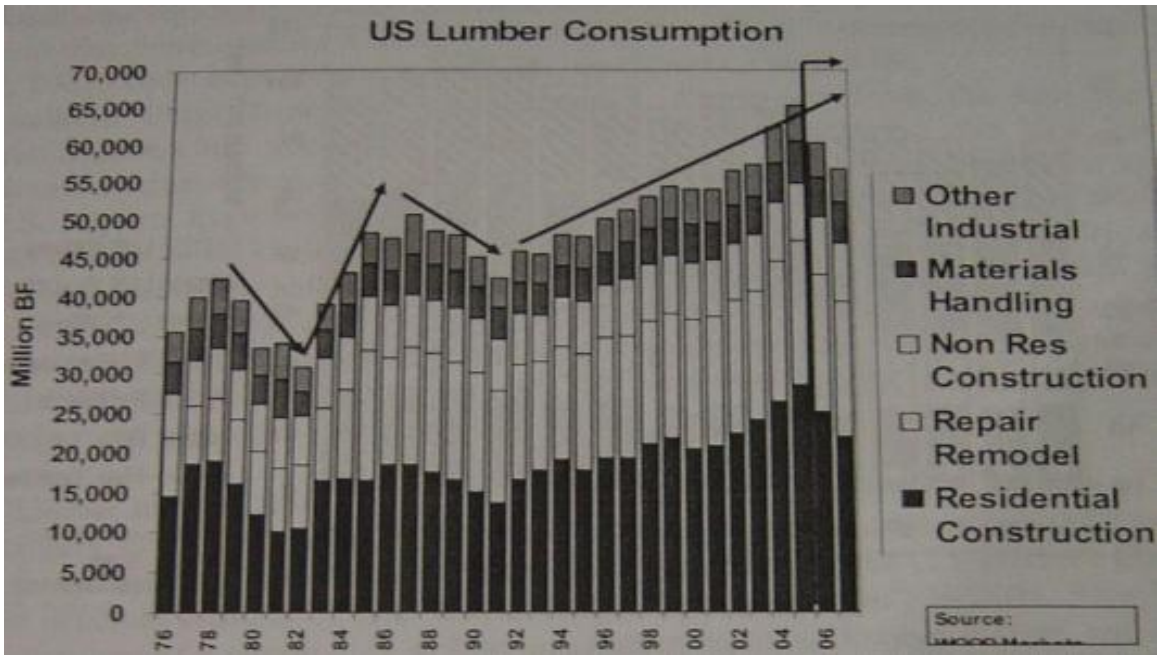
Due to the recession and decline of the CCI, the United States is suffering from their largest downfall in economic history since after the Great Depression in the 1930's. This recession has greatly impacted the export and import to and from the United States.

2.2 Wood Products Industry

The United States exported approximately $904.3 million to the rest of the world in 2006, with $5.3 million in forest products. On the other hand, the United States imports approximately $1.7 billion with $25.5 million in forest products (International Trade Centre, 2008). The highest export of forest products from the United States are hardwood lumber, followed by softwood logs, hardwood logs, and softwood lumber; whereas the highest import of forest products to the United States is sawn wood (Foreign Agricultural Service, 2007). Furthermore, the following countries receive the largest percentage of exported United States forest products: Canada (35%), Japan (11%), China (9%), and Mexico (9%).

Softwood logs originated in four places in the United States: Washington, Oregon, Alaska, and California (Global Wood Book, 2007). These strategic locations along the United States allowed for convenient trade with Canada, resulting in an increase in imported softwood logs from Canada in 2005 (Global Wood Book, 2007). Furthermore, in the year 2007, "the United States [was] the largest softwood market in the world and import[ed] about 38% of its consumption" (Global Wood Book, 2007).

The United States mainly uses its lumber for residential construction, followed by repair and remodeling, and non-residential construction (Figure 3). When the price of the housing market fell from the years 2006 – 2009, many housing developers reduced the number of new homes they would build; this resulted in a decrease in price of lumber in the United States as well (DiMartino & Duca, 2007). This situation damages the lumber industry in the country that results in having many job losses in the wood products sectors.



source: global wood book

Figure 3 The United States Lumber Consumption

3. CHINA

3.1 Economy

In the last quarter of century, China has changed from a centralized country where international trade was limited to a market oriented country focusing mainly on export.

China's growing export industry is due to the country's cheap labor costs compared to developed countries such as the United States and Japan. Due to cheaper labor costs, developed countries reduce their production cost by outsourcing to China (The World Fact Book, 2009). Table 3 demonstrates that China's export value has doubled in three years from 2003 to 2006; with one-third of its export going to the United States (Global Wood Book, 2007). This indicates that China's working relation with the United States is improving.

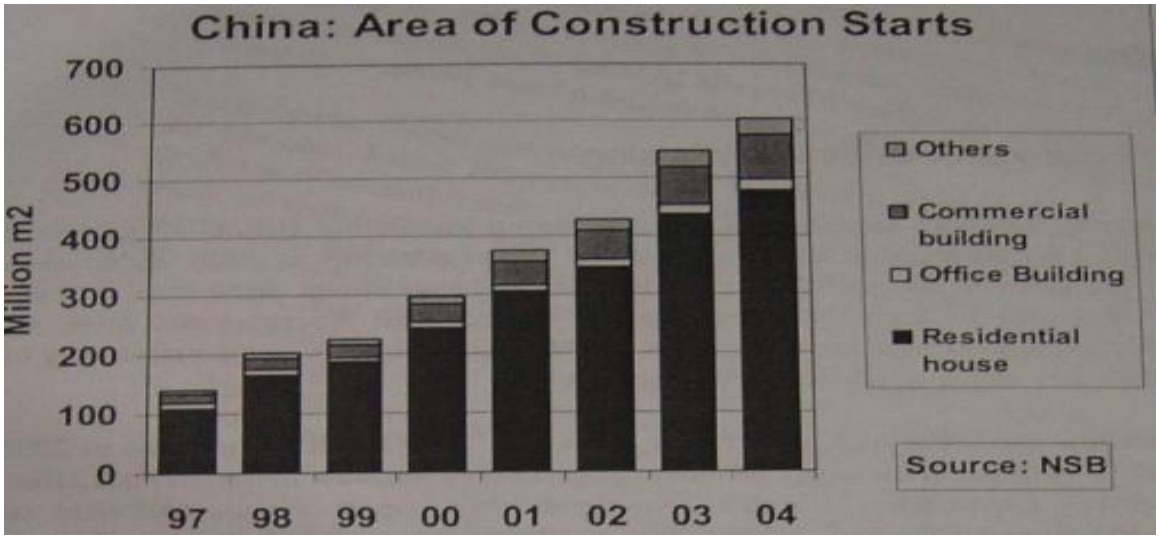
Table 3 Value of China Export and Import

Year	Export	Import
2003	$438,227,767.36	$412,759,796.41
2004	$593,325,581,43	$561,228,747.99
2005	$761,953,409.53	$659,952,762.12
2006	$968,935,601.01	$791,460,867.85

Source: http://stats.oecd.org/WBOS/Index.aspx?DatasetCode=CSP2008

China's economy has grown in the past few years. In 2005, China has become the world's largest consumer of steel, cement, and cooper and in 2006, China's GDP was fourth in the world behind the United States, Japan, and Germany. Furthermore, China is responsible for approximately forty percent of the world's oil consumption (Global Wood Book, 2007). The large amount of China's oil consumption shows a strong indicator that China has become an industrialized country.

Another indicator that China's economy is growing is by observing the increase of construction in the country. Figure 4 reveals that construction in China has increased dramatically over seven years. For example, residential housing and commercial building has increased nearly five times since 1997, and office buildings have doubled in production.



source: Global Wood Book

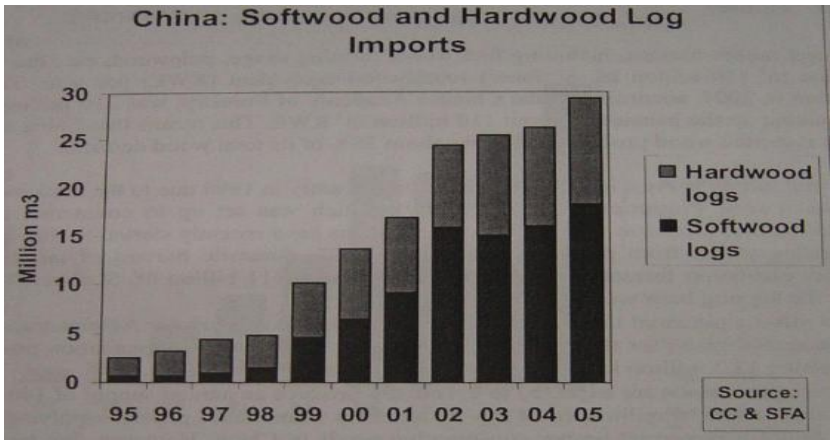
Figure 4 Area of Construction in China

3.2 Wood Products Industry

China's total exports to the world in 2006 were worth $761.9 million, with $2.5 million in exports on forest products including plywood, veneered panel, and similar laminated wood. In comparison, total imports into China from around the world were worth approximately $659.9 million, with $4.1 million forest products including rough wood with the highest import value (International Trade Centre, 2008). By means of the high

amount of imported forest products, China is capable in producing different types of furniture in the country.

China has become the number one consumer of timber in the global market; its growth in timber consumption has moved China from seventh position to second position in just ten years in terms of the total value of its forest products (White, Sun, & Canby, 2006). Figure 6 reveals that the total import of logs to China has increased radically in the past ten years from 2.5 million m3 to 29 million m3. According to the Global Wood Book, China was the leading country in softwood log imports, hardwood log imports, and in tropical log imports in 2005.



source: global wood book

Figure 5 China Log Import from the World

China depends on imported wood to satisfy its industrial demand for wood products in its country especially its furniture sector. For instance, in 2004, imported woods satisfied thirty-five percent of total demand of wood in the country (Global Wood Book, 2007). China's imported wood mainly comes from Russia, with twenty million m3 in 2005.

Other countries that supply logs to China include Malaysia, Myanmar, Papua New Guinea, Solomon Island, Congo, Guinea, Gabon, New Zealand, and the United States (Global Wood Book, 2007).

China's import of softwood represents about twenty percent of global softwood market trade. Furthermore, China's import of hardwood represents about twenty-six percent of global hardwood market trade. In addition, China has numerous saw mills, large and small, located throughout the country, leading China to become the sixth producer of lumber in the world, following the United States, Canada, Brazil, Russia, and Germany (Global Wood Book, 2007).

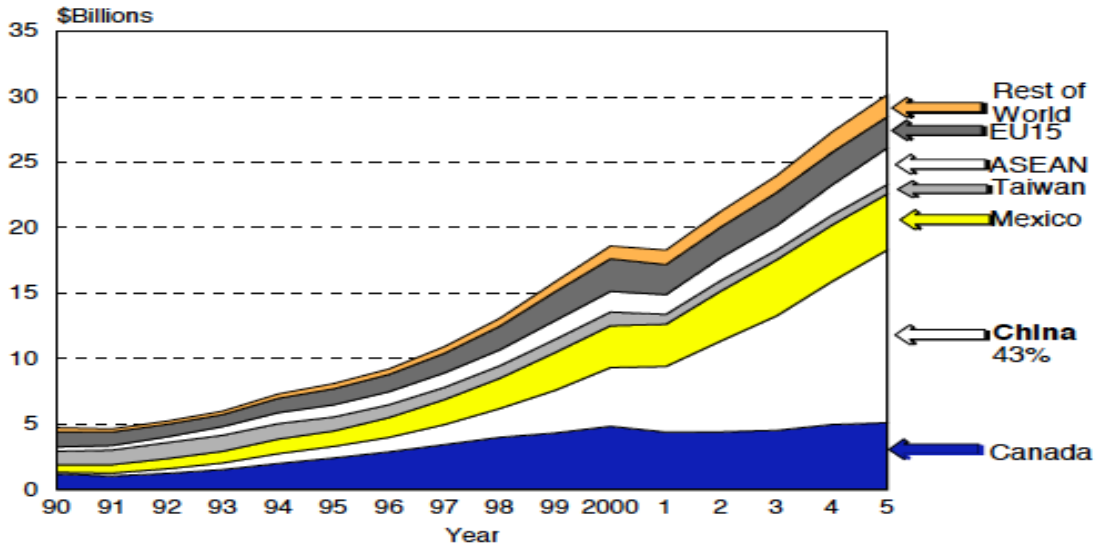
With the increasing growth of transportation, China benefit from this situation with the ease of transporting raw materials and finished goods coming in and going out of China. However, China feel the impacts of global recession in 2008 to be unbeneficial; a few furniture companies in China shut down because they cannot keep up with the high raw materials cost and lower demand.

4. The United States and China Furniture Industry

The United States imports furniture from all over the world to save production costs and satisfy its domestic demand. On the other hand, China exports furniture to many developed countries due to its cheap labor. Not only does the United States benefit from the cheap labor cost of importing furniture, the quality of imported products from China is competitive enough to be sold and used in the United States. For example, China is

able to produce valued traditional furniture at a cheaper cost than the United States. Therefore, the United States is able to benefit by importing cheaply produced furniture from China, as these furniture products would cost more if they were produced in the United States (Bury, 2002).

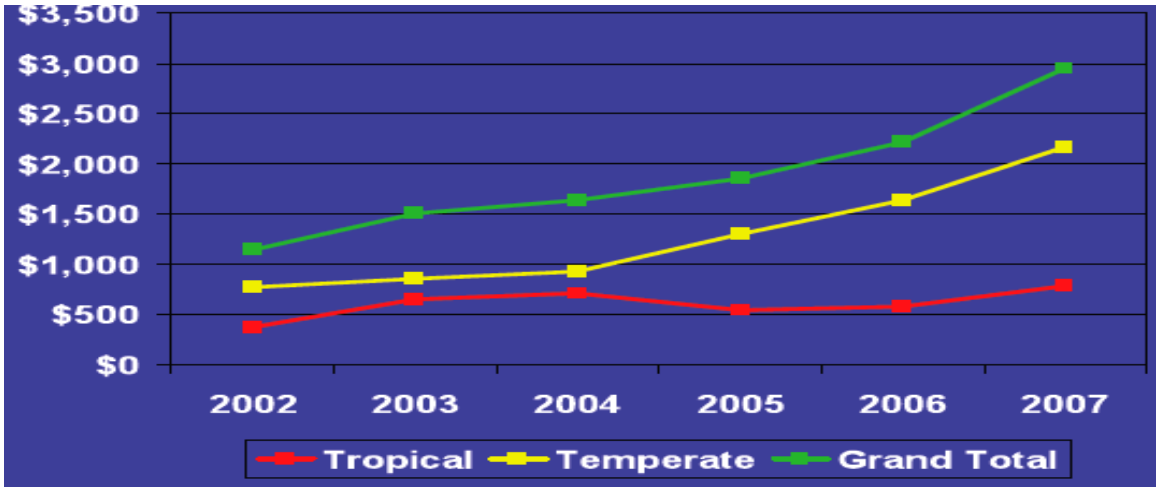
Figure 6 illustrates that China went from being the smallest exporter of furniture to the United States in 1990 to the highest exporter in 2005 (Lum & Nanto, 2007). In 2005, China's export of furniture to the United States was higher than the combined export of Canada and Mexico. Furthermore, Chinese producers do not sell their products directly to the end customers in the United States; instead, Chinese producers sell their products to United States firms, who then re-brand the product such as Wal-Mart (Bury, 2002).



source: U.S Department of Commerce

Figure 6 US Furniture Import

The increase of furniture export from China can be seen with the increase of its hardwood log import (figure 7). China's total import of hardwood log has increased from 2002 to 2007 for both tropical and temperate types (Buehlmann & Scuhler, 2008). The increase in hardwood log import is another indicator that China's wood product manufacturing industry is growing; China uses both hardwood and softwood logs as its raw materials for manufacturing furniture products.

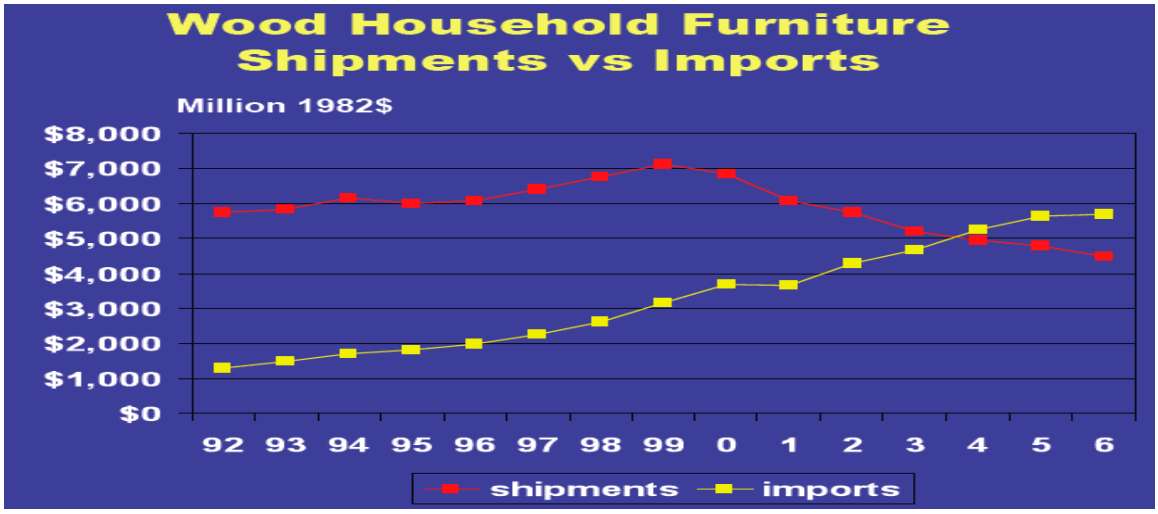


source: (Buehlmann & Scuhler, 2008)

Figure 7 China's Import of Hardwood Logs

In 2008, the number of furniture exported from China decreased 14.4% from the previous year with a value of approximately USD 11.021 billion (Tropical Timber Market Report, 2009). Due to the lower demand of furniture from the United States, Japan, and European countries as a result of global recession, the decrease in China's furniture export has been the first decrease in the past ten years.

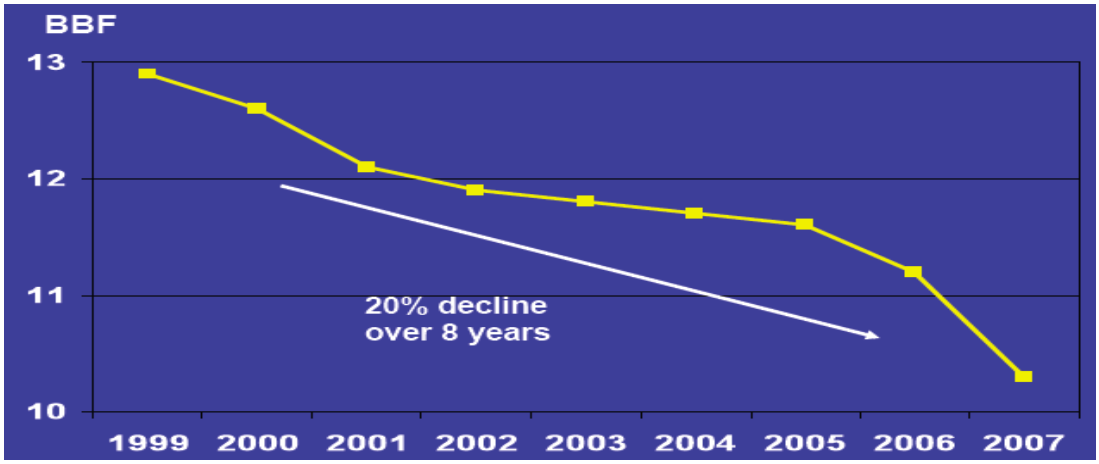
With the increase of furniture import to the United States, the export of furniture from China has declined gradually. Figure 8 displays that shipment of furniture from the United States decreased gradually from 1999 to 2006 whereas the import of household furniture increased from 1992 without any signs of decrease (Buehlmann & Scuhler, 2008).



source: (Buehlmann & Scuhler, 2008)

Figure 8 Comparison of the United States Import and Export of Household Furniture

The United States also experienced a downward trend in its lumber consumption from the years 1999 to 2007 (Figure 9). One of the possible reasons for the decreasing domestic demand of lumber in the United States is due to the increased consumption of furniture import mainly from China as shown in Figure 8. Moreover, the declining trend in lumber consumption also resulted in a decline in demand for domestic logs in the United States (Buehlmann & Scuhler, 2008).



source: HMR, the year at glance

Figure 9 Hardwood Lumber Consumption in the United States

With the large amount of raw materials coming in to China and finished goods going out of China, transportation cost is crucial in determining the price of products bought and sold by China. Therefore, the change in transportation cost affects Chinese companies who export furniture to developed countries especially the United States.

5. TRANSPORTATION

5.1 Transportation Media

In transporting furniture from China to the United States, two different methods are used; air and ocean transportation. Ocean transportation is a way of transporting goods using a vessel from one port to another port. On the other hand, air transportation is a way of transporting goods by airplane such as chartered plane, passenger plane, and cargo plane.

The costs for ocean transportation is cheaper than air transportation, however, ocean transportation requires a longer transportation time (up to fourteen times longer) to reach

the same destination. Nevertheless, most suppliers prefer to use ocean cargo rather than air cargo.

5.1.1 Ocean

Furniture suppliers mainly use ocean transportation due to the cheaper costs to ship the merchandise, as well as the ability for suppliers to ship large amounts of goods at one time. The type of ocean cargo used by suppliers to ship furniture from China to the United States is containerized cargo.

Containerized cargo allows suppliers to put the unassembled furniture in a container and transport the containers on a ship to the desired destinations. Mainly three different sizes of container used by furniture suppliers: 20 foot, 40 foot, and 40 foot high cube; these three sizes depend on the amount of quantity needed by suppliers for shipment.
The advantage of shipping furniture using containerized cargo is that the final goods are safe from severe weather conditions, theft, and other dangers since the cargo is moved from one place to another without people interfering with the final products (Welby & McGregor, 2004).

5.1.2 Air

Air transportation is rarely used by furniture industries to ship their final products to customers. Not only is the cost of air transportation a lot higher than ocean transportation, furthermore, the chance of damaged furniture during the shipping process is higher for air cargo. Air cargo uses a less rigid box to cover the goods compared to

ocean cargo, therefore, the chance of furniture being damaged in air shipments are significantly higher (Welby & McGregor, 2004).

5.2 Transportation Cost

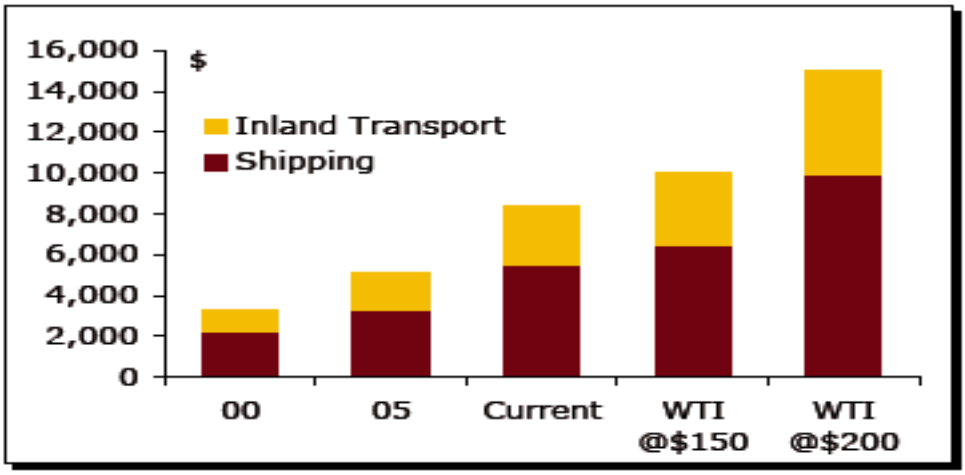
5.2.1 Ocean Freight Cost

The ocean freight cost for containerized cargo set by carriers is based on several elements: the distance of destination, the types of goods, the value of goods, size of the goods, how fast the delivery requested, weight of the cargo, and service needed to transport the goods to its destination (Welby & McGregor, 2004).

On top of the basic rates, carriers also charge ancillary fees to transport the goods. The ancillary fees consist of Currency adjustment factors (CAF), Banker Fuel Charge (BAF), Terminal Handling Charge (THC), Chassis Surcharge, Documents Surcharges, and Arbitrary Charges. These ancillary fees can reach up to fifty percent of the basic rates. However, in the United States, forest products are exempt from ancillary charges due to regulations that exempt five commodities from ancillary fees (Welby & McGregor, 2004).

Figure 10 shows the cost of ocean freight for a 40 foot container has gradually increased from $2000 in year 2000 to almost $10,000 in year 2008 when the oil price at was $200 per barrel. The increase in oil prices is the main reason ocean freight costs have increased because the main fuel for ocean transport is oil. Furthermore, the United States tariff rate also increased respectively with the increase of transportation cost. For instance, in 2000,

transportation costs accounted for only three percent of the United States tariff rate; however, in 2008 transportation costs accounted for nine percent of the United States tariff rate (Rubin, 2008).



source: (cibc) http://www.supplychainasia.com/editoral-commentary/soaring-oil-prices-rising-transportation-cost-and-its-impact-on-global-supply-chains.html

Figure 10 The Transportation Cost of a 40 foot Container from Shanghai to US East Coast

5.2.2 Harbor Maintenance Fees (HMF)

Every vessel bringing imported goods into the United States are subject to Harbor Maintenance Fees. The rate for this fee is .125 percent of the shipment value. HMF charges vessels for "dredging the [United States] deep draft harbors and navigation channels" (Welby & McGregor, 2004).

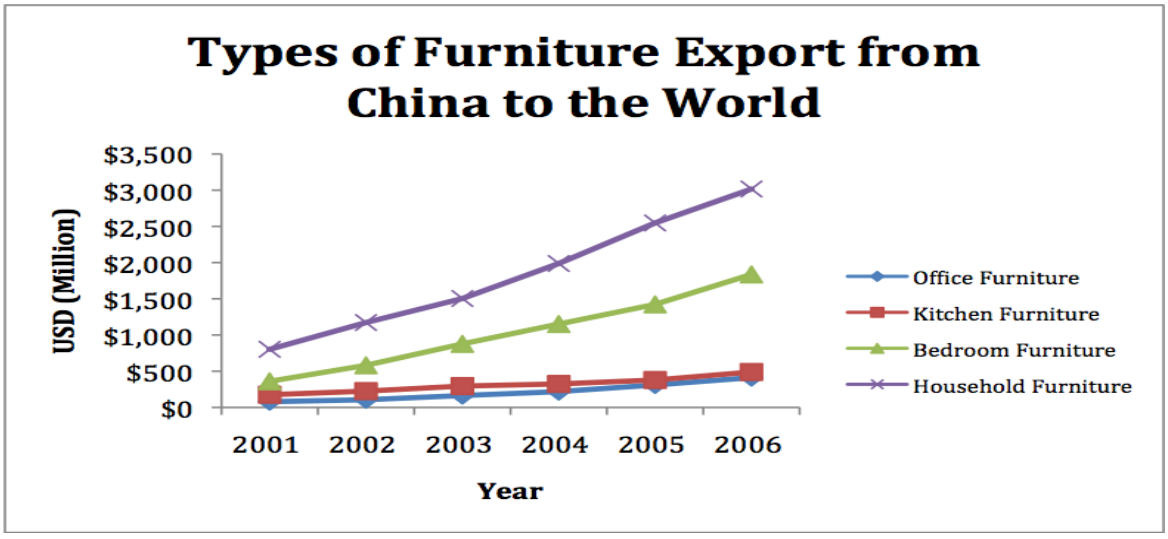
6. FURNITURE EXPORT

6.1 Types of Furniture

There are mainly four different categories of furniture export from China to the rest of the world: Office furniture, bedroom furniture, kitchen furniture, and other household

furniture. Office furniture consists of desks, bookshelves, file cabinets, and book cabinets. Bedroom furniture consists of nightstands, drawer dressers, bed frames, and armoires. Moreover, kitchen furniture consists of dining tables, chairs, kitchen cabinets, wine racks, and hutches. Finally, household furniture consists of tables, chairs, cabinets, hutches, and outdoor chairs.

Figure 11 shows the furniture export from China to the rest of the world from 2001 to 2006. Over the years, household furniture has been China's highest type of furniture export, followed by bedroom furniture, kitchen furniture, and household furniture. The export values of household and bedroom furniture has been increasing over the years whereas the export values of kitchen and office furniture has remained stable and shows a small amount of increase.



Source: Global Trade Atlas

Figure 11 Types of Furniture Export from China to the World

Figure 12 demonstrates the growth of furniture export from China to the world compared to previous years. During the period of 2001 – 2002, bedroom furniture and household furniture have the highest growth in export compared to other furniture; whereas in the period of 2002 – 2003, office furniture and kitchen furniture have the highest growth in export. Therefore, China shows positive growth of furniture export to the World for all types of furniture (office, kitchen, bedroom, and household).

Source: Global Trade Atlas

Figure 12 Growth of Furniture Export from China to the World

6.2 Difficulties in Furniture Export

6.2.1 Shipping Furniture Products

There are several difficulties in shipping furniture products using containerized cargo. First, the finished goods have to be arranged to accommodate as much furniture in a container as possible. The less room each piece of furniture occupies, the more products

can be fit into a cargo container. As a result, suppliers prefer to ship their products unassembled rather than assembled. On occasion, assembled furniture have irregular shapes where special arrangements are required to utilize the space in a container. Therefore, suppliers have been using computer software to determine the arrangement of furniture that will maximize the use of a container.

Second, exporters need to wrap the finished furniture neatly to ensure that the finished furniture will remain undamaged during transportation. Exporters must take into consideration the safety of the cargo as it comes in contact with surrounding furniture and the wall of the container, especially specially shaped furniture that require extra protection.

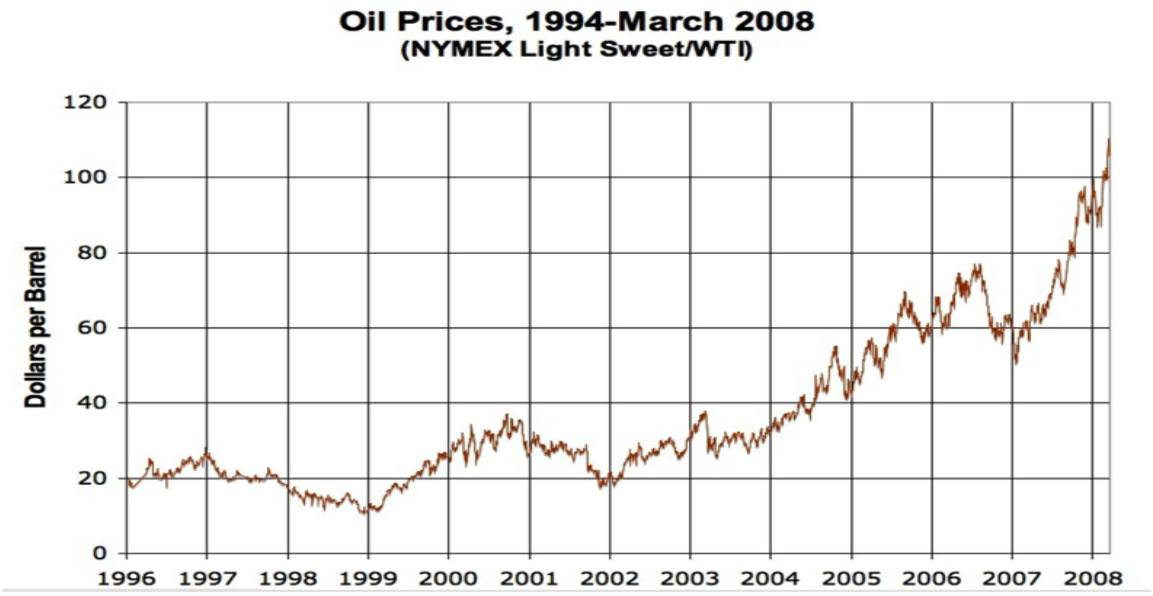
Another difficulty in furniture export is furniture damages during the loading and unloading process to and from the container. Sellers are responsible for loading their products into containers regardless of the type of shipment used: free on board (FOB), free alongside ship (FAS), and free carrier (FCA). On the other hand, buyers are responsible for unloading the products out of the containers.

To prevent any of the damages listed above, exporters can purchase cargo insurance to protect their products during transit and transport (Welby & McGregor, 2004). The amount of insurance varies depending on the types of products being transferred; usually the insurance is based on the weight of the overall product and how fragile the transported product is. Exporters can declare high values for their products to get the full

benefit of insurance when accidents occur. On the other hand, this method costs exporters more at the border where they have to pay higher tax and duty charges based on the high values of goods being transported (Welby & McGregor, 2004). Therefore, insurance, taxes, and other fees should be taken into consideration when calculating the total cost of transportation.

6.2.2 The Fluctuation of World's Oil Prices

Oil is the main source of fuel for ocean transportation, the higher the oil prices the higher the transportation cost for finished furniture will be. Oil prices in the world have been in fluctuation over the past several years for numerous reasons. Figure 13 illustrates the fluctuating oil prices from 1994 to 2008; although the price of oil decreased in certain years, the graph shows an overall increasing trend in the price of oil.



source: http://octane.nmt.edu/gotech/marketplace/prices.aspx

Figure 13 World's Oil Prices per barrel

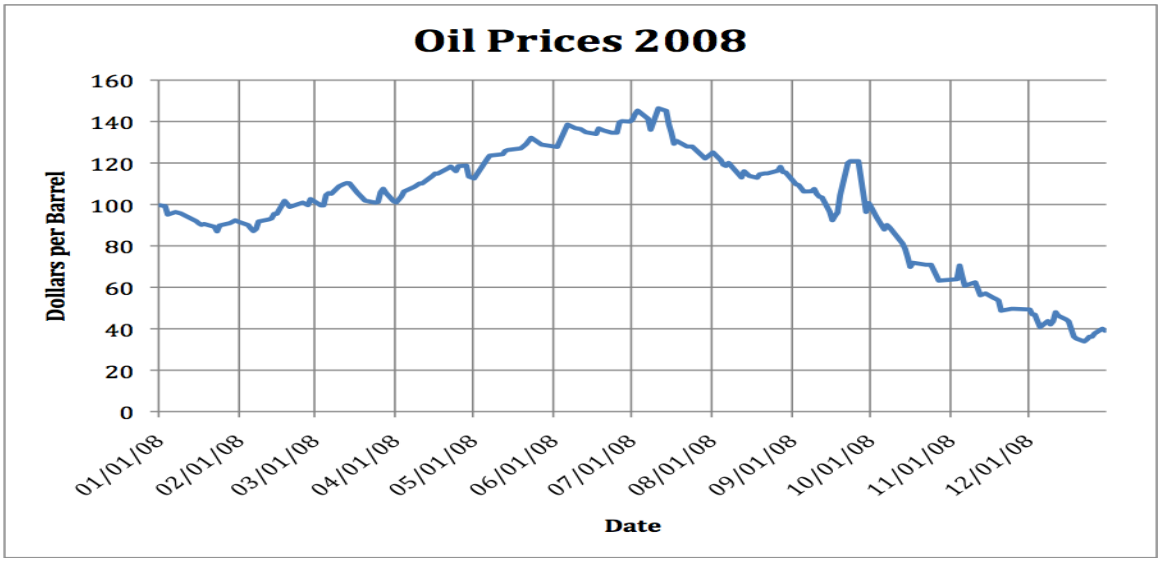
As world population increases, the use of oil increases respectively; however, oil is a non-renewable resource that is being depleted. The International Energy Agency predicts that supply capacity for oil in 2013 would increase to 96.2 million barrels from 90.4 million barrels in 2008. However, the increased demand for oil is independent from the capability of oil companies to refine oil. With the inelastic supply and demand for oil, oil suppliers are increasing the price of oil significantly in an attempt to reduce the demand for oil (Energy Business Review, 2008).

Furthermore, developing countries starting to industrialize are consuming higher amounts of oil than in the past is another reason world's oil prices are increasing. Oil has been the primary sources of fuel for most industrial machines used by the furniture industry in developing countries, especially China and India (Energy Business Review, 2008). With the increasing number of furniture industry in China, the demand for oil is also increasing; thus, this industry requires high consumption of oil as its primary source.

Consequently, the increase of world's oil prices is due to the limited availability of easily extractable oil. When extractable oil is no longer available, suppliers will have to search for new sources of oil that requires more money to extract (Lundberg, 2006).

In the past few years, businesses and people are beginning to experience the impact of increased oil prices. As a result, companies have begun to cut production costs and lay off employees in order to stay in business during the current global recession; thus,

resulting in a decline of consumer consumption levels (Mouawad, 2008). As the global recession continues to affect more countries around the world, the oil prices have slowly started to decline, beginning in mid July of 2008 (Figure 14). Experts argue that if the oil prices continue to decline, many companies around the world can stop dismissing employees, and the current global recession will slowly end.



source: http://octane.nmt.edu/gotech/marketplace/year_prices.aspx?year=2008

Figure 14 Oil Price per Barrel in 2008

Due to the increase of global oil prices, there was a decline in the volume of ocean transportation. For instance, "the number of shipping containers entering the United States through its top 10 container ports between January and September was 7.2% lower than it was during the year-earlier period," (Hannon, 2008) demonstrating a decrease in shipping containers entering American ports. This decrease is caused by a lower demand for ocean container transportation; therefore, shipping companies have started to cut down their container line capacity as a result of increased oil prices. From this situation,

many shipping companies in the United States experience higher supply of ship over its demand that result in many idle ships sitting on the port that results in less revenue for shipping's companies. Furthermore, by having lower shipping line to the United States, the opportunity of China furniture exporters to ship their products to the United States become smaller.

6.2.3 Transshipment Routes

Transshipments routes have been a problem in ocean transportation over the years. Not every furniture ready to be exported from China to the United States comes from the same port of departure; some of them come from small areas in China where transit to another port is required. Occasionally, products from small areas in China are not substantial enough to be put in a container for shipping; these products have to be shipped with other sizeable products to reach the minimum quantity for shipment. Furthermore, small areas in China do not have the capability to accommodate large vessels. Therefore, when exporters in these areas are required to ship large quantities of goods, they have to use several vessels to transport their products to a bigger port for final shipment (Welby & McGregor, 2004). Consequently, the time required to reach the final destination will be significantly longer and transportation cost will also be higher.

6.2.4 Other Issues

Other issues of transportation include the extensive wait times at busy ports for the loading and unloading of products. The loading deck at a busy port may be full or the

loading equipments are in use. Vessels have to wait their turn to load and unload cargo based on the availability of the loading deck and loading equipment (Cohen, 2009).

Furthermore, weather is another issue in transportation; bad weather can delay the process of loading and unloading cargo as limited visibility or high wind speeds could affect a vessels entrance or exit from the port. For instance, "about 100 international ships delayed or canceled exit or entry plans at Shanghai port due to thick fog" (Tsui, 2009). When weather become the cause of delay for transportation, all party involve in the process of transportation (exporter, carrier, and importer) are discourage from this situation.

7. Impacts of Changing Transportation Cost

7.1 China

The main impact of rising transportation cost to China is the decreasing furniture demand from the United States. This decrease in furniture demand is caused by the increasing price of world oil, resulting in high transportation cost.

In addition, the cost of raw material for furniture has also increased with the rise in oil price. The increase in raw material costs has led to an increase in the price of the final products (Calbreath, 2008). The Chinese government provides energy subsidies for the export industry in China; as long as this subsidy is still in play, China does not feel the

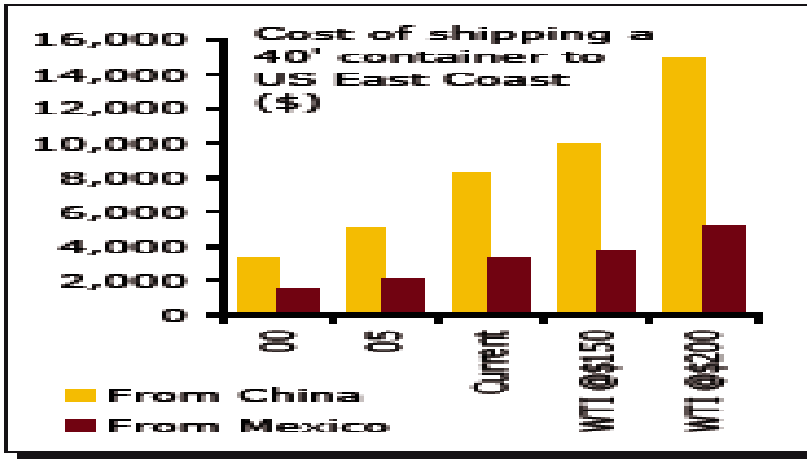
impact of rising transportation costs compared to the rest of the world (USA today, 2008).

Moreover, China is losing the benefit of cheaper labor costs provided by Chinese labor due to the impact of rising transportation costs. “China's advantage in labor costs is diminishing at the same time that the cost of transportation is increasing” (Calbreath, 2008). It still costs less to manufacture products in China than in the United States, but with the high of transportation cost from China to the United States, the total cost of production in China will be similar to the United States.

With the increase in transportation cost from China to the United States, Chinese exporters are attempting to decrease their production costs, thus, resulting in lower quality final products. One method of decreasing production costs is by disregarding a rigid quality control program in the production line; however, without a strict quality control program, faulty products that do not meet specific standards of quality have been returned by customers (Calbreath, 2008). Furthermore, a few Chinese exporters have attempted to lower production cost by using low quality materials in their production (Calbreath, 2008).

7.2 The United States

With the rising transportation cost, the United States companies have to buy furniture from China at a higher price. As a result, companies are experiencing significantly lower profit rates.



source: (cibc) http://www.supplychainasia.com/editoral-commentary/soaring-oil-prices-rising-transportation-cost-and-its-impact-on-global-supply-chains.html

Figure 15 The Comparison of Shipping Cost from China and Mexico to the United States

The above graph illustrates the rise in transportation costs from 2000 to the present. The graph further predicts transportation costs if oil prices reach $150 per barrel and $200 per barrel (Rubin, 2008). This graph implies that transportation cost depends on the price of world's oil; the higher the price of world's oil, the higher the transportation cost will be.

The United States federal government has to stabilize the market price for furniture sold by companies in the United States to allow the furniture market to respond to the increase in production costs. If furniture companies within the United States were to sell furniture priced according to the increase in oil prices, there would be a significant decrease in buyers due to the increased furniture prices (Rubin, 2008).

Due to the rising transportation cost to ship furniture from China to the United States, the cost of ocean freight transportation from China to the United States is relatively close to

the cost of producing the furniture in the United States (Aeppel, 2008). “Six years ago, the cost of producing [furniture] components in the United States was as much as fifty percent higher than in China. Now it's only five percent higher” (Calbreath, 2008). The change in China’s transportation cost has forced companies within the United States to start producing their furniture products in the United States in order to reduce the cost of transportation.

Moreover, as China becomes the favored destination for cheap manufacturing, its currency, the Yuan, is beginning to elevate against the United States dollar. As a result, Chinese products have become more expensive for companies within the United States to purchase (Calbreath, 2008).

7.3 Global

The impact of rising transportation cost on the entire globe has created new Ready to Assemble types of furniture (RTA). The market for RTA furniture has been growing in the past few years due to the efficiency of their shipment method. RTA suppliers have experienced less shipping concerns compared to furniture suppliers when shipping their RTA cargo. For instance, the risk of material handling and damaged furniture during the shipping process are less of a concern for RTA furniture. RTA furniture uses a structured packaging design that allows the panels to be packed in a carton box. The RTA method of packaging maximizes the use of one container by stacking the panels and also the ease of material handlings in and out of container. On the other hand, wood furniture requires special methods of arrangement to maximize the use of cargo space.

With the increase in transportation costs, many companies are attempting to change their vision to “green” manufacturing. This “green” movement towards using sustainable resources will decrease the amount of high costing non-renewable resources companies use (Rohter, 2008).

7.4 New Opportunities for Neighboring Countries

With the rising cost of transportation, companies within the United States aim to reduce transportation costs by seeking cheaper modes of transportation. For companies in the United States, Mexico is an alternative country to outsource products to, as Mexico has lower labor costs compared to the United States. Moreover, using land transportation from Mexico to the United States could eliminate the use of ocean transportation.

According to Figure 15, the transportation cost from Mexico to the United States has increased over the years. However, in comparing the increase in transportation costs from the United States to Mexico and China, Mexico still maintains lesser changes in cost. Therefore, Mexico appears to be a potential country to outsource for companies in the United States.

Furthermore, Canada is another country that could benefit from the increase in transportation cost from China to the United States. Not only would the close proximity between the United States and Canada benefit both countries in receiving raw materials and the final products more rapidly, the government regulations between Canada and the

United States, such as the North American Free Trade Agreement (NAFTA), could minimize the cost of trade between the two countries.

Finally, furniture manufacturers could outsource their production process to other developing countries with cheap labor, such as South American countries. These developing countries may have similar labor costs as China, however, their shorter distances from the United States could decrease costs in ocean transportation.

8. CONCLUSION

To sum up, the changing transportation cost from China to the United States has and continues to impact China, the United States and neighboring countries. Rising transportation costs from China to the United States have been primarily due to fluctuating oil prices and a global financial recession; therefore, countries and business have had to reevaluate and consider other options to offset the increase in global transportation costs.

For China, the increase in transportation cost has impacted the country's furniture manufacturing and market. The increase in transportation costs has resulted in a decrease in furniture demand, an increase in the cost of raw materials, a loss of cheap labor and its benefits, and a decrease in production quality in the country's furniture. On the other hand, for the United States, the increase in transportation cost has resulted in higher furniture prices. In addition, the cost of transporting outsourced furniture products from China back to the United States is now relatively similar to the price of producing

furniture products in the United States. Furniture businesses and manufacturing facilities have had to reevaluate the benefits of outsourcing the production of furniture to China, and there has been an increase in the movement of production facilities back to the United States.

Moreover, the impacts of changing transportation cost to the rest of the globe include the development of Ready to Assemble (RTA) furniture and the movement of many companies towards green manufacturing. Furthermore, neighboring countries such as South America, Mexico, and Canada are affected by the increase in transportation costs as well. Closer countries are sought for their manufacturing facilities as transportation cost for furniture export from China to the United States increased.

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