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Working Paper 119

**Emerging Power Builders:
Japan's Transitional Housing Industry
After the Lost Decade**

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CINTRAFOR

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Executive Summary

This study presents exploratory research about the transitional Japanese home building industry. The Japanese housing industry changed significantly during and since the “lost decade” of the 1990s because the business environment changed dramatically. The main goal of this study is to classify Japanese builders by their business strategies and business behaviors in order to provide a useful market segmentation strategy for forest products exporters targeting Japanese markets. In order to do so, we first collected extensive secondary information on the background of the Japanese housing industry. Then we surveyed Japanese large builders and analyzed the data.

After its bubble economy burst in the early 1990s, Japan experienced a serious economic slump that lasted over a decade. This period is called the “lost decade” in Japan. During the lost decade, Japan experienced deflationary pressure on land prices, securities, and consumer goods. The Bank of Japan set the interest rate essentially to zero in order to stimulate the economy, and the overnight call rate is still very low. In the past, Japan practiced unique business customs including *keiretsu* and interdependent collusion between politicians and business, which undermined competition. In order to recover from the economic slump, it was necessary to reform inefficient business practices in Japan. Although political uncertainty between reformists and anti-reformists within and outside the Liberal Democratic Party remains, Prime Minister Koizumi was able to reform some business practices and influence the vertical *keiretsu* structure, which has been weakening. As the market continues to liberalize, there should be fair competition for all participants, including small- to mid-size enterprises and foreigners, in the Japanese market. These socio-economic changes have contributed to the reform of the Japanese building industry and, as a result, some small- to mid-size builders have grown quickly.

The Japanese residential housing market underwent substantial change during the lost decade as well. The Kobe Earthquake in 1995 led to major changes in the Building Standards Law (BSL), which accelerated the adoption of pre-cut lumber. Pre-cut lumber allowed mid-size builders to lower the cost of post and beam (P&B) construction through labor efficiencies and reduced waste. Many mid-size builders contracted with *komuten* (small builders) or independent carpenters to expand their businesses. Demographic changes have also played a huge role in the changing housing market in Japan. For example, Japanese Echo baby boomers started buying their first homes, and some mid-size builders targeted their homes to this large population. Deflationary pressure on land values allowed builders to acquire large parcels of land in suburban Tokyo. Builders then subdivided these parcels and built tract spec P&B houses. Those builders were called “power builders,” and many small- and mid-size builders all over Japan have adopted their business strategy to survive.

The survey results show that many mid-size builders call themselves power builders, but we failed to find statistical significance of a common business strategy among power builders. Over the last few years, many small- and mid-size builders have tried to imitate the business strategies of the original power builders and to emulate one another in order to survive. However, it is not always possible to copy an entire business strategy from other firms. The power builder strategy is currently little more than a marketing slogan used by many firms to attract price-sensitive customers. Yet builders who build a lot of tract houses and have grown quickly in terms of the number of houses that they build still tend to refer to themselves as power builders.

The most important success factor of builders between 2001 and 2005 in Japan was how many tract houses they built. Interestingly, the prices of the homes were not significantly different from those of fast-growing builders and other builders. Tract house builders service a significantly higher percentage of first-time home buyers and tend to build smaller houses than do custom house builders. Other characteristics of tract house builders are that most prefer to use glulam lumber, and that they do not have a defined land acquisition strategy, tending to acquire any available land in suburban areas.

Since the original power builders' success in the industry has attracted many imitators and undermined the old market traditions of the housing industry in Japan, it is not useful to focus on the traditional builders categories when developing a marketing strategy. The traditional categories were: 1) national home builders, 2) regional builders, and 3) *komuten*. In order to reflect the changing nature of the industry, we propose four new strategic groups of Japanese builders: 1) premium big builders, 2) economy big builders, 3) mid-size regional builders, and 4) *komuten* (independent carpenters).

Firms in the same strategic groups have similar business models, so their supply channel choices can also be expected to be similar. For example, *Komuten* or independent builders typically construct only a couple of houses a year, and our survey did not cover them. Mid-size regional builders construct between 25 and 100 houses per year and prefer domestic lumber such as *sugi* or *hinoki*. They are focused on a local market and usually build post and beam houses. Economy big builders tend to pursue a low-end pricing strategy and this segment of the market increased at an average annual rate of 10.4% between 2001 and 2005. Economy big builders usually build post and beam houses and tend not to import lumber or building materials directly from foreign countries. Finally, premium big builders tend to build value-added houses; they are interested in adopting a marketing strategy based on design differentiation and prominent advertising. Generally, premium big builders sell their houses at a premium price, although their growth rate is less than that of the economy big builders. Some of the premium big builders directly import lumber and building materials from foreign suppliers.

Currently, economy big builders have a strong market share, and this market has grown very quickly. However, they will face substantial difficulties in the near future. The industry is currently going through a period of consolidation, since many builders have attempted to imitate the power builders' business models. In addition, many echo baby boomers have already purchased their own houses, so this market segment has begun to shrink. Further, the high volatility of the foreign exchange rate creates uncertainties regarding the supply of raw materials. Builders need to re-create their business strategies and adapt to this changing market environment. Their success in changing their business strategies will depend on their management capabilities. U.S. forest products exporters may be able to inspire them, thus enjoying mutual benefits.

Our exploratory research has derived the following strategies for U.S. forest products and building materials exporters:

- U.S. exporters should target economy, big builders.
- U.S. exporters need to approach pre-cutters as well as builders.
- U.S. exporters need to promote the structural performance characteristics of U.S. forest products.
- U.S. exporters need to ensure the reliability of supply to their Japanese customers.
- U.S. exporters should take advantage of the weak U.S. Dollar versus the Japanese Yen to offset slowing lumber demand in the U.S.
- US exporters always need to keep in mind that the business environment is dynamic.

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1.0 Introduction

During Japan's period of stagnant economic growth, between 1990 and 2003, the residential housing market changed dramatically. Emerging mid-sized builders called "power builders" started to become popular (Kitagawa 2005). Since then, while power builders have enjoyed growth, other builders have been struggling in the shrinking market.

During the earlier, pre-1990s period of high economic growth, housing stock was in short supply in urban areas. Generally, Japanese housing was notoriously expensive due to high land and labor costs. Large developers, such as *keiretsu* real estate agencies and their associated developers, acquired huge land tracts; building and selling condominiums or houses on the land. In contrast, homeowners in older, detached houses did not want to sell their land since land prices were continuously increasing. Many owners demolished old, poor-quality houses and built custom houses on their land. In the 1960s, large national home builders introduced prefabricated construction methods, following this by introducing the 2×4 construction method in the early 1970s. The market shares of these two methods have gradually increased.

Housing growth ended when Japan's bubble economy burst in 1990, resulting in the "lost decade" of economic stagnation. Real estate values and stock prices dramatically declined, leading to huge amounts of bad debt for companies and banks. Deflation also contributed to the economic slowdown. The unemployment rate skyrocketed, and even the suicide and crime rates increased. Gigantic, new-town developments became history, land prices drastically declined, and the liquidity of the real estate market increased. Starting in February 2002, however, Japan's macro economy began expanding, and Japan enjoyed its longest post-war expansion, continuing for 69 months, until October 2007.

Before the emergence of power builders during the lost decade, Japanese builders were categorized as national home builders, regional builders, and *komuten*. National home builders are large corporations that build houses in multiple prefectures. Regional builders are mid-sized companies that build houses in a specific region. *Komuten* are basically small carpenters and contractors or small family-business builders. Housing starts of post and beam (P&B) houses in Japan have been hovering around 450,000 since 1995, almost 50% of them built by small *komuten* who build less than ten houses annually.

The recent Japanese recession has altered the residential housing market considerably. Industry experts report that national home builders have been losing market share to power builders, and many *komuten* have become franchises or contractors for bigger builders. There are many reasons for this. First, the business environment has changed as a result of the lost decade. The Kobe Earthquake in 1995 resulted in substantial changes to the Building Standards Law (BSL). In addition, the policies of the "Financial Big-Bang," which were intended to reform the traditionally closed financial system in Japan, led to the sudden deregulation of financial markets and business customs. J-REIT (Japan Real Estate Investment Trusts) was introduced, and the equity market was deregulated, making it easier for smaller companies to obtain financing. The Government Housing Loan Corporation was deregulated and terminated at the end of 2006; currently, consumers can easily obtain mortgages from private banks. Japan's near-zero interest rates have contributed to very low mortgage rates and reduced the monthly payments of home buyers. Japanese demographics have also changed substantially. Because of these factors, smaller builders with superior business strategies can grow rapidly and have been capturing an increasing share of the market, while big national builders have been suffering.

There is no solid definition for the term "power builders," although they are generally regarded as fast-growing builders who sell more than 1,000 houses annually. Most of them target young (Japanese echo baby boomers) first-time home buyers. Many of them sell spec houses with land in a lower price range. Even though total housing starts have been stagnant, the market share of built-for-sale (spec) houses has

increased. The total floor area of built-for-sale houses was an estimated 33.2% of the total housing floor area built in 2005. Yet it is very difficult to define what power builders are and why some builders are considered to be power builders. The housing industry itself still does not have consensus about power builders, although many people use this terminology in newspapers and magazines. The bottom line for power builders is that most of them have been growing rapidly and are taking advantage of the change in the market environment. As a result, they have been steadily increasing their market share, especially in urban areas.

Changes in Japan's economy and demographics also brought changes for U.S. forest products and building materials exporters. Housing starts, which reached 1.6 million units in 1996, dropped to around 1.1 million units in 2007. Currently, only 45% of new houses in Japan are built with wood. Since approximately 80% of imported lumber is utilized by the housing industry, lumber and log imports to Japan have decreased during the current recession. U.S. logs and lumber exporters have lost a significant amount of market share in Japan, primarily because of the shift in Japan's residential housing industry to pre-cut and kiln-dry lumber. Other reasons that have contributed to the declining US market share include the stronger U.S. dollar and the U.S. housing boom that raised the price of U.S. logs and lumber prior to the current economic crisis.

Since power builders are an emerging and growing force in the Japanese housing industry, there are potential opportunities for U.S. forest products and building material exporters to supply products to this group. However, more market information is required so that U.S. exporters can further understand these opportunities.

Research Objectives

The objectives of this research include:

- To identify power builders and how they do business.
- To more accurately classify Japanese housing builders for marketing purposes.
- To identify the tract house builders in Japan.
- To understand how many builders are targeting first-time home buyers.
- To know how the Japanese housing industry has changed following the bursting of the bubble economy.
- To understand the factors that led to the recent success of Japanese power builders.

2.0 Japan's Social and Economic Environment

When a society transitions from one stage to another, many social, political and economic adjustments take place. The social and economic environment in Japan moved from rapid economic recovery after World War II, through a high-growth era during the mid 1950s to the early 1970s, continued growing with the “bubble economy” between 1986 and 1990, and then experienced the “lost decade” of economic stagnation from 1990 to 2003. During the latter period, companies were forced to restructure even as their business environment was changing. Many people believed that the unique Japanese business practices and regulations that were meant to protect companies from competition contributed to the economic stagnation; and some policy makers introduced reforms intended to increase the degree of competition in the domestic market – though it is worth noting that many people in power resisted these reforms. The social and economic challenges of this “lost decade,” coupled with external environmental factors occurring at the same time, dramatically changed the Japanese housing market.

Macroeconomics Factors

After World War II, Japan experienced rapid economic recovery, and Japan sustained a relatively high level of growth until the so-called “bubble economy” burst in 1990. Even though Japan experienced consecutive expansions and recessions, the average growth rate of the economy was consistently high prior to 1990.

The middle of the 1950s to 1972 was called “the era of high growth economy” and this period averaged more than 9% annual real GDP growth. Two consecutive oil shocks in the early and late 1970s damaged the Japanese economy, but in spite of the oil shocks, Japan maintained an average annual GDP growth rate of 3.8% from 1973 to 1990 (Figure 1).

The time period between 1986 and 1990 was called the bubble economy era. In September 1985, at the Plaza Hotel in New York City, the G5 countries (U.S., U.K., France, Germany, and Japan) agreed to devalue the U.S. dollar in relation to the Japanese yen and German Deutschemark by intervening in currency exchange markets. After the Plaza Accord, the Japanese yen suddenly appreciated. One U.S. dollar was valued at 237.10 yen in August 1985 but that dropped to 154.45 yen in July 1986. This means that the Japanese yen experienced a 35% appreciation against the U.S. dollar in one year. This sudden appreciation harmed Japan's export industry and caused the Bank of Japan (BoJ) to lower interest rates. As the interest rate of bank loans dropped substantially, many companies took advantage of the low interest rates to borrow large amounts from banks – money which they aggressively invested in Japanese assets. Real estate was favored among those investments because Japanese investors believed that land prices would never fall. A real estate boom was started as more and more people jumped into this market. Many people bought land all over Japan, and land prices skyrocketed in the late 1980s. During the real estate bubble, many Japanese companies borrowed money, using appreciated real estate assets as collateral. The banks loaned money to these companies based on artificially high real estate values, without adequately investigating the cash flow of the real estate assets. In turn, these companies used the leveraged funds to further speculate in real estate, stocks, and other assets.

In early 1990, the Tokyo Stock Exchange declined sharply and this, combined with falling real estate values, contributed to the bursting of Japan's economic bubble. Many highly leveraged companies found they were suddenly unable to make their debt payments. Panicked individuals and companies began selling off their stocks, bonds, and other assets, resulting in a further downward spiral of asset values. This process led to a hard landing for the economy. The declining value of assets forced many individuals and companies into bankruptcy. Consequently, many banks confiscated land held as collateral against unpaid loans. However, the depreciated value of the land held as collateral was often less than the amount of the unpaid loan. Thus many banks ended up with a large amount of unsecured bad debt.

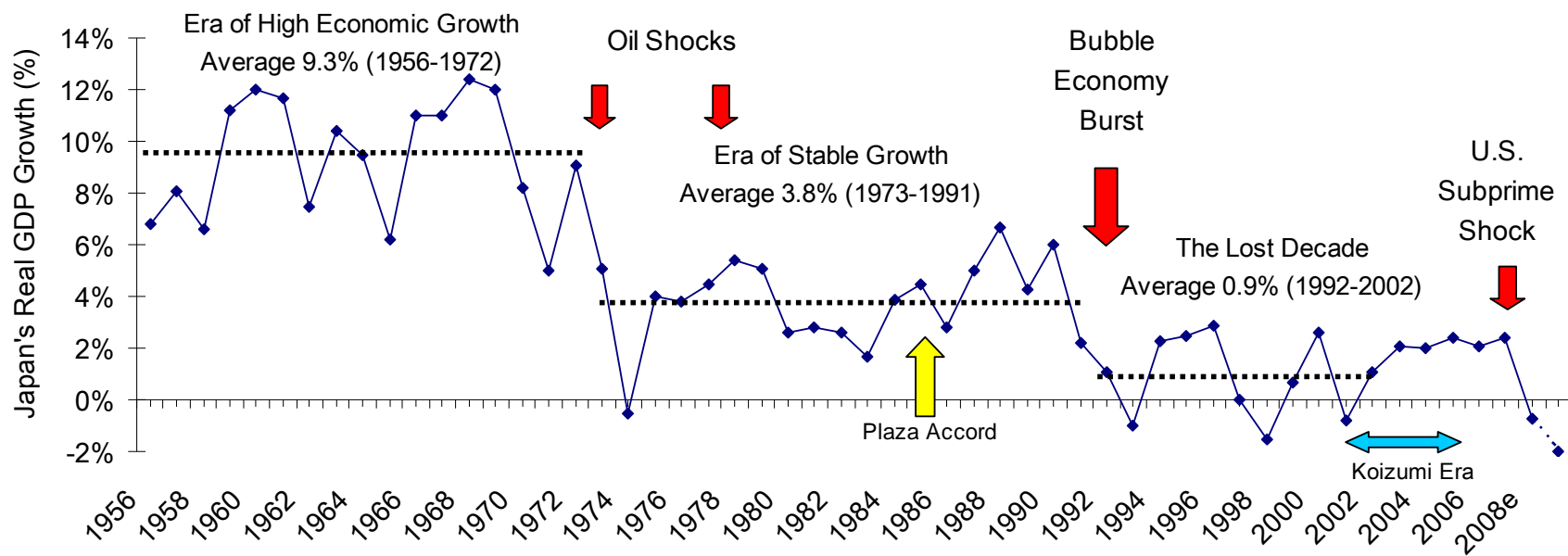


Figure 1: Japanese Real GDP Growth (1956-2009)

Source: Japan Cabinet Office & Economist Intelligence Unit

Characteristically for Japan, rather than writing off those bad debts, many banks preferred to hide their losses. This irrational behavior by banks can be partially attributed to a classic agency problem in the vertical bureaucratic *keiretsu*-style Japanese system, where government officials, policy makers, and *keiretsu* companies are all tied together. Many bank employees feared losing their jobs so they continued loaning money to insolvent companies under the pretense of business as usual. Banks hid non-performing loans in hopes that the economy would improve and they could eventually collect on these loans. As Japan's economic stagnation continued, however, the Japanese banks' non-performing-loan problems worsened. When the bad loan crisis was exposed in the media, public confidence in the banks plummeted. Japanese banks' total non-performing loans (measured by risk management loans) increased from 12.7 trillion yen in 1992 to 43.2 trillion yen in 2001, which accounted for around 8.5% of the Japanese annual nominal GDP that year (Figure 2). Some Japanese banks ended up in bankruptcy, while others were forced into mergers or were acquired by competitors.

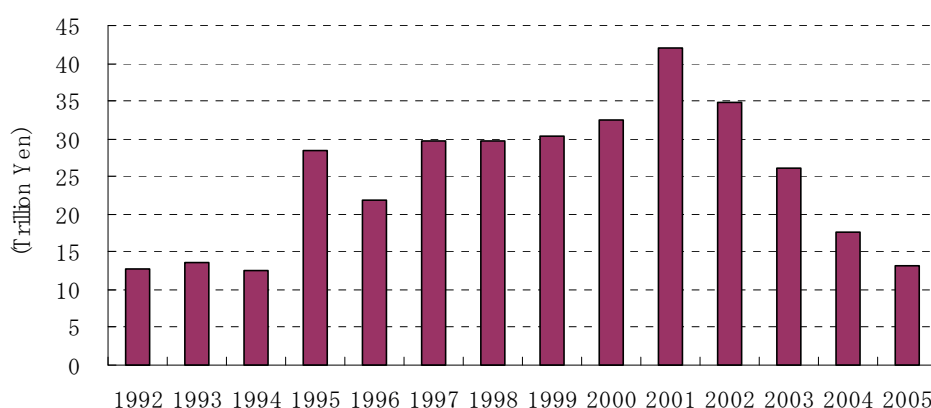


Figure 2: Non-Performing Loans (Risk Management Loans) by Japanese Banks

Source: Financial Service Agency

During this period, the Japanese economy began to deteriorate. The credit crunch became serious, and small to medium enterprises could not borrow money from banks. Despite this, the Hashimoto cabinet increased the national sales tax from 3% to 5% in 1997 to increase public spending.

The Asian Financial Crisis also occurred in 1997 while Japan was still struggling with the negative economic legacy brought about by the burst of the bubble economy. In order to reduce non-performing loans and to stimulate the economy, the BoJ cut its official discount rate to near zero in February 1999. As a result, a huge amount of funds were transferred to foreign countries as investors sought high-yield currency (*aka* the yen carry trade). The interest rate was raised by the BoJ on August 2000 when the GDP showed a little growth. However, deflationary pressures increased after the BoJ raised the interest rate, and the Japanese economy further deteriorated. The consumer price index (CPI) dropped six years in a row after 1998 (Figure 3). Consequently, the BoJ had no choice but to resume a virtually zero interest rate policy beginning in March 2001, and Masaru Hayami, the Governor of the BoJ at that time, declared that the BoJ would continue the zero interest rate policy until the CPI became positive. Deflation cut the benefits of corporations and sent jobs overseas, especially to China, which had become a WTO member in 2001. Even though consumers could afford more goods with the same amount of money due to deflation, their wages and investments also dropped. This process set off a “deflationary spiral,” where businesses and consumers invested slowly or consumed less because of the investment risk and the expectation of further price drops in the future. This deflationary spiral made the economy worse. The Japanese Treasury Bond was downgraded to AA from AAA by both Standard & Poor's and

Moody's. The Japanese Government's budget deficit in 2003 was 157.5% of the GDP, more than double the U.S.' deficit at that time.

Since the official bank discount rate was already virtually zero, the BoJ had no further prescriptions for the bad economy. This is known as a liquidity trap: when the economy is stagnant, the nominal interest rate is close to zero, and the monetary authority cannot stimulate the economy with traditional monetary policy tools (Krugman 1999). Some people suggested that the BoJ should have set an inflation target in order to break free from the deflationary spiral. Instead, the BoJ continued to maintain a zero interest rate policy, increasing the money supply into 2006. The unemployment rate climbed to historically high levels and workers began to be more concerned about the economy, further reducing domestic consumption.

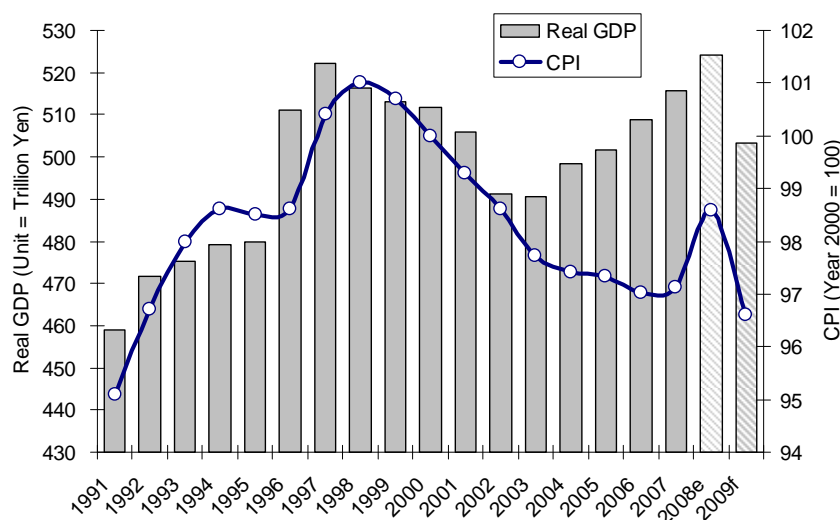


Figure 3: Consumer Price Index and Real GDP in Japan
Source: Japan Cabinet Office and Economist Intelligence Unit

Depreciation of asset prices was also very severe during the lost decade. Average residential land prices dropped by 42% in Tokyo and by 30% in Osaka from their peak in 1991 (Figure 4). The pace of the land price depreciation began slowing by the end of the lost decade and residential land prices in Tokyo, Osaka and Nagoya bottomed out in 2006. Between 2006 and 2007, average Tokyo residential land prices appreciated 3.6%, while Osaka and Nagoya appreciated 1.8% and 1.7%, respectively. Investors also suffered further asset depreciation as a result of the under-performing stock market between 1990 and late 2003. During this period, the Nikkei 225 equity index dropped from 39,999 to below 10,000 (Figure 5).

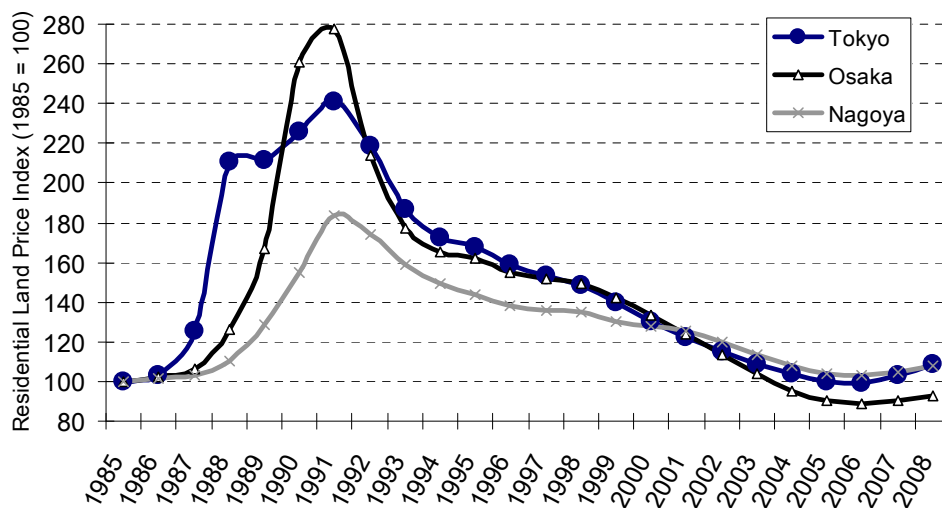


Figure 4: Residential Land Price Index in Three Major Urban Areas (1985 = 100)
Source: MLIT

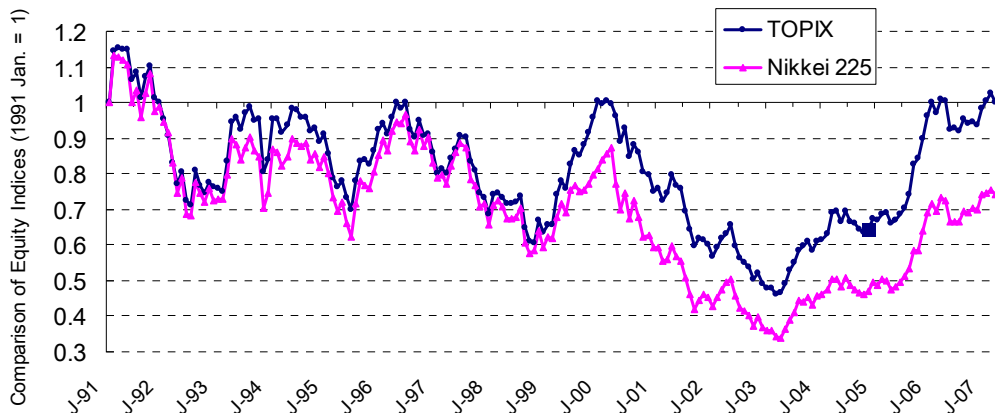


Figure 5: TOPIX and Nikkei 225
Source: Yahoo! Japan Finance

The Koizumi government was installed in 2001 while the economy was mired in the midst of this economic slump. Prime Minister Koizumi provided leadership in reforming distorted Japanese social programs, although the pressure of demographic changes required that much more must be done in the future. Junichiro Koizumi successfully passed a non-performing loan clean-up package, which had been opposed by his own LDP party. Koizumi also selected economics professor Dr. Heizo Takenaka as Minister of State for the Economic and Fiscal Policy position in 2001. Dr. Takenaka and the Koizumi cabinet worked hard to reduce the total amount of non-performing loans held by Japanese banks. The Koizumi cabinet also challenged inefficient patronage organizations, such as the Japan Highway Public Corporation and Japan Post, although, many policy makers and politicians in the LDP continued to oppose these reforms. Most economists believe, however, that it is necessary to reform these inefficient organizations in order to leave Japan in better shape in terms of economic efficiency. Many people think the economy will perform more efficiently once Japan reforms their inefficient public sectors.

Japan's economy recovered steadily from 2002 through 2007, supported by industrial and consumer consumption. Real GDP increased 2.1% in 2003, 2.0% in 2004, 2.4% in 2005, 2.1% in 2006 and 2.4% in 2007. Because of the global financial credit crunch, however, real GDP contracted 0.7% in 2008, and by over 2% in 2009 (EIU 2009).

Political Environment in Japan

In order to understand the Japanese economy, it is important to understand Japan's political environment. The Liberal Democratic Party (LDP) has been the dominant political party since 1955. However, many changes occurred as a result of shifting positions and policies of the various factions within the LDP during the last decade (McCubbins and Thies 1997). There are two major factions in the LDP, the Tanaka Faction and the Fukuda Faction. The power struggle between those two factions has changed the direction of Japanese political and economic policy.

Jimin-to, or the Liberal Democratic Party, is a conservative political party, and the largest in Japan. The LDP was formed in 1955 as a result of a merger between two conservative parties, the Liberal Party and the Democratic Party¹. Until the early 1990s, the LDP had been the ruling political party, dominating the opposition left-wing parties such as the Japan Socialist Party and the Japanese Communist Party.

Although the LDP enjoyed an almost uninterrupted reign as the dominant majority party for five decades, it would be a mistake to regard the LDP as a single uniform organization. In reality, the LDP has been a group of feuding factions, and most members of the LDP belong to a faction. Each faction holds seminars periodically and distributes campaign funds to its members. It is well-known that the ministers in a cabinet are selected in advance by each faction during a closed-door meeting, and the Prime Minister then nominates his cabinet ministers based on those decisions. Since the faction system is very complicated and members have received great notoriety, this system has been officially eliminated several times. As a matter of practice, however, the LDP's faction system continues to exist and the name of the faction changes as often as its leader. For more than three decades, there was infighting within the LDP between two of the major factions, the Tanaka Faction and the Fukuda Faction. Understanding the power game between these two factions is key to understanding recent Japanese socio-political movements and to projecting Japan's future direction.

The biggest faction until 2005 was *Keisei-kai*, or the Tanaka Faction. Former Prime Minister Kakuei Tanaka was its leader. The Tanaka Faction basically supports big government and tends to increase budget deficits through public projects. Since the Tanaka Faction ruled the LDP and the Japanese government for a long time, some of the Tanaka Faction members fell into collusion with political, bureaucratic, and business interests. These collusions impeded fair competition in the Japanese market. For example, many Japanese regulations were designed to provide huge benefits for big companies, and it is believed that these regulations were passed as a result of collusion. The Tanaka Faction, which derived its power from the agriculture and construction industries, was regarded as a symbol of monetary politics.

¹ They are not related to the current Democratic Party of Japan.

Table 1: Japanese Historical Prime Ministers and Their Factions

Period in Office (Year.Month)	LDP by factions					Other Parties				
	<i>Seiwa (Fukuda)</i>	<i>Shisui (Nakasone)</i>	<i>Bancho (Miki)</i>	<i>Kouchi (Ikeda)</i>	<i>Keisei (Tanaka)</i>	NewParty or DPJ	Socialist			
(1957.2-1960.7)	<i>N. Kishi</i> <i>T. Fukuda</i>		<i>T. Miki</i>	<i>H. Ikeda</i>	<i>E. Sato K. Tanaka</i>					
(1960.7-1964.11)										
(1964.11-1972.7)										
(1972.7-1974.12)										
(1974.12-1976.12)										
(1976.12-1978.12)										
(1978.12-1980.6)										
(1980.7-1982.11)										
(1982.11-1987.11)										
(1987.11-1989.6)										
(1989.6-1989.8)	<i>Y. Nakasone</i> <i>S. Uno</i>		<i>T. Kaifu</i>	<i>M. Ohira Z. Suzuki</i>	<i>N. Takeshita</i>		<i>T. Murayama</i>			
(1989.8-1991.11)										
(1991.11-1993.8)										
(1993.8-1994.4)										
(1994.4-1994.6)										
(1994.6-1996.1)										
(1996.1-1998.7)										
(1998.7-2000.4)										
(2000.4-2000.7)										
(2000.1-2006.9)										
(2006.9-2007.9)										
(2007.9-2008.9)										
(2008.9-2009.9)				<i>T. Aso</i>						
(2009.9-2010.6)										
(2010.6-)	<i>Y. Mori</i>				<i>M. Hosokawa T. Hata</i>					
	<i>J. Koizumi</i>				<i>R. Hashimoto K. Obuchi</i>					
	<i>S. Abe</i>									
	<i>Y. Fukuda</i>									

The Tanaka Faction experienced intense division in 1993, and some members left the Tanaka Faction to form a separate non-LDP coalition. This turmoil within the LDP brought political uncertainty. In response to the economic slump that began in 1990, and a variety of scandals involving the LDP, the LDP lost the election against the non-LDP coalition in 1993. A non-LDP coalition government was formed by eight liberal or left-wing parties including the Japan New Party, the Japan Renewal Party, the New *Komei Party*, and the Japan Socialist Party. However, the two prime ministers chosen by the liberal coalition, Morihiro Hosokawa and Tsutomu Hata, originally belonged to the LDP's Tanaka Faction. The LDP became the opposition party for the first time since it was established in 1955.

The Japan Socialist Party and the New Party *Sakigake*, questioning the leadership of the non-LDP coalition, left the non-LDP coalition and formed another coalition with the LDP. The LDP, Japan Socialist Party, and *Sakigake* together nominated Socialist Tomiichi Murayama as the new prime minister in 1994. This drove the liberal coalition from power and the new LDP-led coalition took over. However, the Socialist Party soon decided to dissolve the coalition and separated from the other two parties. This prompted the LDP to form a coalition government with the New *Komei Party*, and they nominated Ryutaro Hashimoto from the Tanaka Faction of the LDP as the new prime minister in 1996.

Later, the non-LDP party became the Democratic Party of Japan (DPJ) and won the majority of seats in the Upper House in 2007. The leader of the DPJ as of December 2007 was Ichiro Ozawa, a former powerful politician of the Tanaka Faction. Ozawa resigned as DPJ leader in May 2009 due to a scandal,

and was succeeded by Yukio Hatoyama, who also belonged to the Tanaka Faction when he started his political career.

The main opponents of the Tanaka Faction are the Fukuda Faction or *Seiwa-kai*. Former Prime Minister Takeo Fukuda, an opponent of Kakuei Tanaka in the 1970s, formed this faction. Generally, the Fukuda Faction supports U.S. policies, along with a strong Japanese patriotic view. They basically support smaller government. The Fukuda Faction was the second-largest faction for a long time. Yoshiro Mori, Junichiro Koizumi, Shinzo Abe (N. Kishi's grandson), and Yasuo Fukuda (T. Fukuda's son) were all members of this faction.

In 2000, Prime Minister Keizo Obuchi from the Tanaka Faction suffered a fatal stroke, and Yoshiro Mori from the Fukuda Faction was selected to succeed him. However in 2001, due to Mori's unpopularity, he was forced to resign, and Junichiro Koizumi from the Fukuda Faction was selected as the new prime minister. Koizumi was very popular among Japanese voters because he had novel and unique ideas even though he was an LDP politician. He spoke of the need for painful restructuring in order to improve Japan's future.

Koizumi persisted in privatizing the Japanese postal system, but many LDP members, especially those in the Tanaka Faction, did not welcome Junichiro Koizumi's reforms. There were many in the LDP who benefited from the postal system and they resisted the privatization plan. Koizumi completely eliminated those who opposed the privatization of the postal service and replaced them with his own hand-picked politicians. In 2005, Koizumi led the LDP in the election and won an overwhelming majority in the lower house of parliament, allowing him to privatize the Japanese postal system. After the election, the Fukuda Faction represented the majority in the LDP and the Tanaka Faction lost almost all its power. This electoral victory for Koizumi was one of the biggest paradigm shifts in recent Japanese politics. Koizumi continued advancing political reform and deregulation and succeeded in his privatization efforts. During his tenure, the Public Roads Administration was privatized, and the Government Housing Loan Corporation was deregulated and eventually terminated.

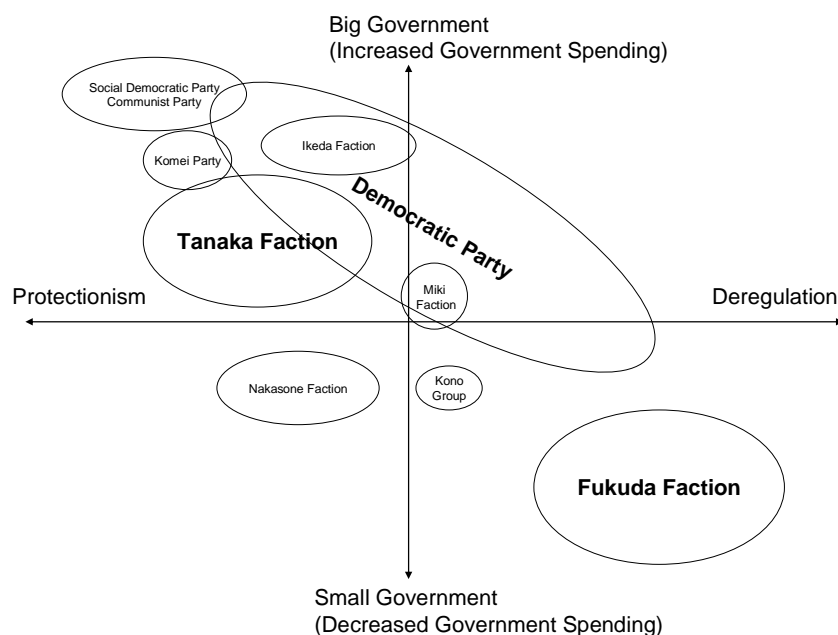


Figure 6: Positioning of Domestic Policy by LDP Factions and Parties

Source: Weekly Toyo Keizai

* This figure was objectively modified from the source and does not reflect CINTRAFOR's political view.

Prime Minister Koizumi's term expired in 2006, and Shinzo Abe was elected as the 90th Prime Minister of Japan. However, voters lost confidence in Abe's leadership and the LDP lost its majority in the Upper House to the Japan Democratic Party. Abe resigned as the prime minister in September 2007 and Yasuo Fukuda was elected as Japan's 91st prime minister. Even though Yasuo Fukuda is from the Fukuda Faction, the Fukuda Faction has less power than during the Koizumi era, so he needed to make some concessions to the other factions in order to govern. The basic policies of the political factions are described in Figure 6.

As mentioned above, Japanese political power shifted within the LDP between the Tanaka Faction and the Fukuda Faction over a long period. Generally, the Fukuda Faction directs government policy towards deregulation and reduced government spending, while the Tanaka Faction directs policy towards protectionism and increased government spending. By the end of 2007, the Democratic Party of Japan had gained momentum and had become a strong rival to the LDP's domination. Since the DPJ is controlled by former Tanaka Faction members, they are likely to support increased government spending. This power shift has resulted in uncertainty within the Japanese macroeconomic and business environments. Generally, the Fukuda Faction's policy is much better for foreign exporters targeting the Japanese market because they favor deregulation. It is important to note that the Fukuda Faction's policy is also good for Japanese consumers, since they can purchase inexpensive imports. However, since the Fukuda Faction lost power in the LDP around 2007, the LDP has faced dissension over its policy. The LDP lost support from voters in the election of the House of Representatives, and the DPJ is now the majority party.

On September 2008, Yasuo Fukuda suddenly announced his resignation. Taro Aso, who belonged to the Kono Group (originally derived from Ikeda Faction), was elected as the 92nd Prime Minister. The Fukuda Faction finally lost control of Japan's cabinet and the LDP which it had controlled since 2000.

Yukio Hatoyama, who originally belonged to the Tanaka Faction of the LDP, became the 93rd Prime Minister. U.S. forest products exporters should pay attention to the changes in Japan's political situation, since they have tremendous implications for Japanese market access.

Business Culture and System in Japan

Japanese society is structured in vertical relationships (Graham 1988; Van Wolferen 1990). One of the most apparent examples of this vertical structure is the *keiretsu* system. In Japan, many companies join together into a small number of related business groups called *keiretsu*. Some prominent examples of these groups are the Mitsubishi group, the Sumitomo group, the Mitsui group, the Fuyo group, the Sanwa group, and the Daiichi Kangyo group (Table 2).

Typically, a major *keiretsu* is centered on a large flagship bank, which lends money to companies in their group and also owns equity in these companies. Each *keiretsu* has its own trading companies, insurance companies, manufacturing, department stores, construction companies, real estate agencies, and so forth. Group companies try to do business as much as possible within their *keiretsu* group (Miyashita and Russell 1994). The primary goal of *keiretsu* companies is to maximize the total revenue of the whole group rather than maximize the performance of a single company. A *keiretsu* bank lends money for its *keiretsu* companies to expand their businesses. Once one company within a *keiretsu* grows, other companies in this group also expand their businesses because they prefer inter-*keiretsu* business. Consequently, a *keiretsu* flagship bank can lend even more money and keep expanding their businesses. In 1995, Weinstein and Yafeh found that *keiretsu* firms are heavily influenced by their flagship banks to produce at levels beyond those warranted by a pure profit maximization strategy. Furthermore, *keiretsu* companies exchange equity shares with each other to stabilize their financial management (this is called

“cross-shareholdings”). Once a *keiretsu* company expands its business, its share prices usually increase, and many companies in the *keiretsu* can benefit from the capital gains that result from their cross-shareholdings arrangements.

The following is a typical example of *keiretsu* business. Suppose there is a new town project being planned. First, the flagship bank moves to lend money to its *keiretsu* real estate company. The real estate company then purchases a large piece of nearby land from the *keiretsu* railroad station. The real estate company then proposes to build condominiums and spec houses on this land, and its *keiretsu*'s developer and construction company will build all the houses and condominiums. The construction company purchases building materials from a trading company, some of which belong to the same *keiretsu*. Then, the railroad company will extend its rail line to the new town project by borrowing a large amount of money from the same bank. A *keiretsu* department store and *keiretsu* shopping mall may decide to build their retail stores near the new town using money borrowed from the same flagship bank. Many *keiretsu* companies are involved in this project, and the *keiretsu* group makes a nice profit.

This vertical business model was very common and worked well during the high-growth period of the Japanese economy. In addition, some policymakers and government officials colluded with big companies to implement policies and regulations which favored *keiretsu* companies. Small companies, who do not belong to a strong *keiretsu* system, have to accept a limited market since they do not have access to the same magnitude of financial resources, materials, and information. As a result, for a long time in Japan it was extremely difficult for small companies to compete with *keiretsu* affiliated companies (Weinsten and Yafeh 1995). Furthermore, this *keiretsu* relationship has been a market entry barrier for foreign companies wishing to do business in Japan.

Table 2: Six Major *Keiretsu* Groups before 1990

	Mitsubishi (<i>Kin'you</i>)	Mitsui (<i>Nimoku</i>)	Sumitomo (<i>Hakusui</i>)	Fuyo (<i>Fuyo</i>)	Sanwa (<i>Sansui</i>)	DKB (<i>Sankin</i>)
Finance	Mitsubishi Bank	Mitsui Bank	Sumitomo Bank	Fuji Bank	Sanwa Bank	Dai-ichi Kangyo Bank
Construction	Mitsubishi Construction	Mitsui Construction	Sumitomo Construction	Taisei Kensetsu	Zenitaka-gumi, Obayashi-gumi	Shimizu Kensetsu
Housing		Mitsui House	Sumitomo Forestry, Daiwa House		Sekisui House	
Real Estate	Mitsubishi Estate	Mitsui Real Estate Devl.		Tokyo Tatemono	Orix Realestate	Nittochi
Trading	Mitsubishi Shoji	Mitsui Bussan	Sumitomo Shoji	Marubeni	Nichimen	Itochu, Nissho Iwai
Rail Road		Sagami	Keihan, Hanshin, Nankai	Tobu	Hankyu, Keisei	
Shipping	NYK Line	OSK Line	Sumitomo Warehouse	Showa Line	Hankyu Line	Kawasaki Kisen

Note: These companies are just explicit examples in each group. Some companies in this table no longer existed in 2006.

When the bubble economy burst and the Japanese economy became stagnant, however, many people blamed the *keiretsu* system, using two main arguments: First, the *keiretsu* system relied on a high growth economy. Since the system tries to expand the total revenue of the *keiretsu* group, this system does not work in a low growth economy where companies have to reduce their operating costs. Second, this vertical system is exclusive and thus impedes competition in the market. Many foreign companies blame

Japan's notoriously closed market on this traditional Japanese *keiretsu* system, which ignores efficiency. Since many banks lent heavily to their *keiretsu* companies without carefully evaluating the return on projects, huge non-performing loans resulted when the economy slowed.

Government officials have protected the oligopolistic *keiretsu* system for a long time in Japan. When Ryutaro Hashimoto became Prime Minister in 1995, his administration identified administrative reform as the top priority. His administration tried to introduce a series of "Big-Bang" reforms in the political arena as well as the financial sector. First, Hashimoto changed the names of many ministries and merged several ministries. He also tried to change the financial system. The policy of financial reform was initially intended to eliminate the traditional so-called "convoy system," by which the government fully protected bank deposits from any financial instability. No matter how poorly banks were managed, they were totally protected by the government.

Many voters thought that it was wrong for the government to help poorly managed banks that had invested in high-risk businesses during the bubble era. At the same time, however, taxpayers with personal savings in those banks were concerned about losing their savings if the convoy system was eliminated. The reforms in the financial sector were implemented slowly for this reason. Also, many old-guard politicians who benefited from the *keiretsu* system aggressively opposed Hashimoto's plan. Among bureaucrats and politicians, there remains a strong faith in the traditional Japanese style of capitalism and a resistance to liberalizing markets. Despite this, Hashimoto's reforms led to the deregulation of the financial markets in Japan several years later. Hashimoto was also responsible for raising the consumption tax from 3% to 5% in 1997, which helped push the fragile Japanese economy back into recession, forcing him to resign in 1998.

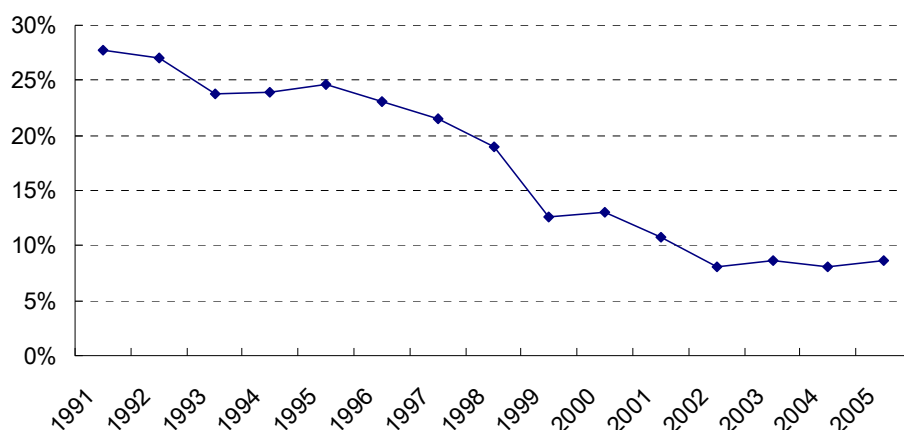


Figure 7: The Rate of Cross-Shareholdings Stock Value over Total Market Value of Japanese Public Companies

Source: Daiwa Institute of Research

Keizo Obuchi succeeded Hashimoto and his administration encouraged banks to merge horizontally across *keiretsu* to maintain financial stability and to recover from the burden of non-performing loans. For example, the Sumitomo Bank (Sumitomo *keiretsu*) and the Sakura Bank (Mitsui *keiretsu*) merged in 2001, forming the Sumitomo Mitsui Bank Corporation. Similarly, the Daiichi Kangyo Bank (Daiichi Kangyo *keiretsu*), Fuji Bank (Fuyo *keiretsu*), and Industrial Bank merged in 2002 to form the Mizuho Bank. These extra-*keiretsu* mergers among banks led to an overall loosening of *keiretsu* power. While it is true that the *keiretsu* system remains important in Japan, its influence is diminishing. Figure 7 shows

the rate of the market value of cross-shareholdings as a percentage of the total market value of all public companies in Japan. The percentage declined from 27.7% in 1991 to approximately 8.0% in 2005 (Ito 2006). This suggests that Japanese companies have changed their *keiretsu* financial structure in recent years. In addition, foreign companies and funds have begun to hold larger numbers of shares in Japanese companies, taking advantage of the depreciation of assets and the weak Japanese yen. These foreign stock holders may influence the Japanese business environment in the future.

Junichiro Koizumi, a member of the Fukuda Faction who became prime minister in 2001, declared he would destroy the old system of the LDP and the notorious Japanese business tradition. He nominated an economist, Dr. Heizo Takenaka, as Minister of State for Economic and Fiscal Policy. Together they tried to introduce American free market concepts into the unique Japanese capitalist market. Koizumi successfully got rid of politicians who were opposed to the reform. Soon, the “average Joe” in Japan began changing his ideas and started learning more about free markets. As the *keiretsu* power continued to weaken, it appeared that the Japanese business environment became more open. However, some traditional politicians ridiculed Koizumi as being a puppet of the U.S. government when he began implementing his reforms. In addition, some Japanese dislike free markets because they believe that income disparity will increase in Japan.

Currently, the financial markets have become more equitable for smaller non-*keiretsu* companies. The equity markets have been deregulated, making it easier for small companies to access capital by being listed on stock exchanges. One vehicle that has helped smaller builders gain access to capital is the J-REIT (real estate investment trust). Prior to this, smaller companies relied on banks for capital. As a result of deregulation, however, smaller companies can now sell securities to access capital.

Traditionally, big *keiretsu* trading companies dominated the international forest products trade from the U.S. to Japan. Eastin and Rahikainen (1997) observed 40% of exporters in the Pacific Northwest depended on Japanese trading companies. The problem with Japanese *keiretsu* trading companies is that they have their own distribution networks in Japan. When they were dominant, depending on a *keiretsu* network was a good option for U.S. exporters not wanting to export directly to Japan.

Demographics

Housing is an important industry in Japan and, in order to understand Japan's housing industry, it is essential to understand demographic trends. Japan had 127.8 million people in 2005 (MIAC 2006), ranking it as the 10th largest population in the world. The Japanese population is aging and birth rates are low, so the population began shrinking in 2005. This demographic shift is leading to an aging society that will soon place heavy burdens on Japan's welfare and pension systems.

As a result of the post World War II baby boom, a large percentage of Japan's population is now between the ages of 50 and 60 (Figure 8). As is often the case after a large war, many Japanese soldiers and civilians returned home and had many children. Children born between 1947 and the early 1950s are called the Japanese baby boomers or the *Dankai* generation. This group will start retiring in 2007, bringing both positive and negative impacts on the Japanese economy.

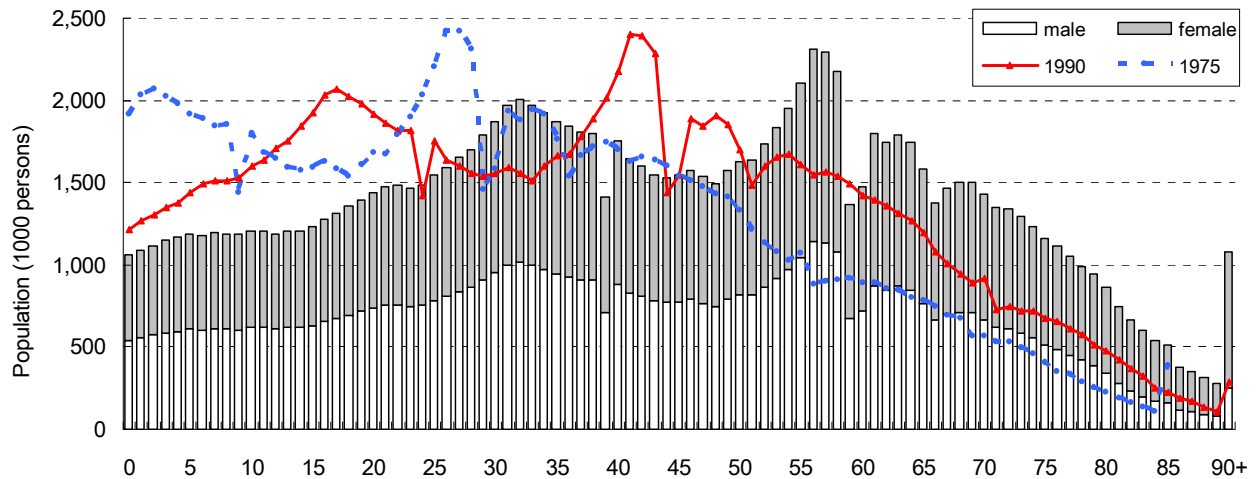


Figure 8: Japanese Demographics in 2005

Source: Japan Statistic Bureau

Recently, Japanese “echo baby boomers” have begun to turn 30, establish families, and start buying houses, which has helped spur the housing industry. These are the *Dankai Jr.*, the children of the Japanese baby boomers. The echo baby boomers were born in the early 1970s, and many of them are now in their 30s. The 29- to 38-year-old cohort in 2005 (born from 1966 to 1975) accounted for around 15% of the total Japanese population in 2005. This market segment is very large, and targeting them is very important. Many people in Japan still think buying a house is an once-in-a-lifetime event. Because the liquidity of the housing market is very low, and since most of the large market segment comprised by the echo baby boomers are potential first-time home buyers, it is very important to understand them.

Japan’s land area totals 378,000 square kilometers, which is slightly smaller than the state of California. Two-thirds of the land is covered by forest and 13.3% is used for agriculture. Residential usage accounts for only 18 thousand square kilometers (National Land Agency 2005), or 4.6% of the total available land. Japan has several very big urban areas, the boundaries of which are, along with the prefecture boundaries, politically determined. Thus the comparison of the populations of cities and prefectures is not a good marketing tool because these urban areas can extend across prefectural boundaries. Tokyo’s urban area is ranked as the largest populated urban area in the world, with 63% more population than the second biggest urban area, New York City (World Gazetteers 2006). Osaka-Kyoto-Kobe is ranked as the 11th biggest urban area in the world, approximately the same size as the Los Angeles urban area in terms of population. Even Nagoya is ranked as the 31st biggest urban area; and is almost the same size as Hong Kong, Taipei, and the Washington D.C.-Baltimore urban area (Table 3). The Tokyo, Osaka, and Nagoya urban areas hold 28.8%, 13.7%, and 6.9% of the Japanese total population, respectively.

Table 3: The World Ranking of Total Population of Major Urban Areas in East Asia and U.S. in 2005 and their Estimated Total Gross Production (PPP base)

	City	Population	Country	Per Capita PPP GDP (USD)	Total PPP Gross Production (billion USD)
1	Tokyo	37,037,743	Japan	\$31,600	\$1,170 B
3	New York	22,747,604	USA	\$41,600	\$946 B
4	Seoul	22,596,020	South Korea	\$22,600	\$511 B
10	Los Angeles	17,989,605	USA	\$41,600	\$748 B
11	Osaka-Kobe-Kyoto	17,536,627	Japan	\$31,600	\$554 B
13	Shanghai	15,137,246	China PR	\$13,700 *	\$207 B *
23	Beijing	11,843,021	China PR	\$13,200 *	\$156 B *
29	Chicago	9,510,060	USA	\$41,600	\$396 B
30	Hong Kong	8,995,711	China/HK	\$34,000	\$306 B
31	Nagoya	8,833,163	Japan	\$31,600	\$279 B
33	Taipei	8,241,373	Taiwan	\$27,500	\$227 B
34	Washington-Baltimore	8,197,384	USA	\$41,600	\$341 B
(98)	Seattle-Tacoma-Everett	(3,852,705)	(USA)	(\$41,600)	(\$160 B)

Source: World Gazetteer, CIA World Fact Book and Shanghai Economic Forum 2006

* GDP per capita (PPP) in Shanghai and Beijing is larger than China's GDP per capita (PPP), \$6,800.

Until recently, many Japanese people followed a standard Japanese “salary man-and-housewife” lifestyle. This term describes the stereotypical scenario of a “salary man” and his “housewife” that helps us understand the Japanese lifestyle and past home-purchasing behavior. After graduating from college, most Japanese men got jobs by taking part in a job fair. Once hired, most people had virtually tenured positions and were expected to work for the company until they reached approximately 60-years of age. These newly hired workers, called freshmen, were usually assigned to branch offices of the company. Freshmen lived in an apartment or the company’s dormitory for several years. After gaining experience, they were promoted and returned to the company’s headquarters in Tokyo (or another big city). Early in his career a salary man could live in the company’s dormitory or apartment because he was likely single at that time. However once married and following the arrival of children, the salary man would usually buy a new home or condominium for his family. Usually, the parents assisted with the down payment and the salary man would arrange a mortgage for the remainder of the home loan. His new home would be located within a commutable distance from his company and he and his wife planned to stay there for the rest of their lives. The wife stayed at home, did household chores, and took care of the family. The typical salary man could expect his salary to gradually increase until retirement. At retirement, he would be eligible for a lump-sum retirement allowance. In this way, the life of a salary man was protected and secure under Japan’s post-war system.

However, the post-war Japanese “salary man-and-housewife” lifestyle is slowly dying out. Currently,

many companies do not guarantee lifetime employment security for their employees. Wages have been stagnant and automatic annual increases are no longer guaranteed. More and more women have been entering the job market and, as in the U.S., part-time employees or contractors are being utilized instead of permanent employees. The Japanese legal system still provides preferential treatment for permanent employees over part-time and contract employees, which leads to income discrepancy between permanent employees and contract employees. This social transition has affected the housing market to a surprising extent.

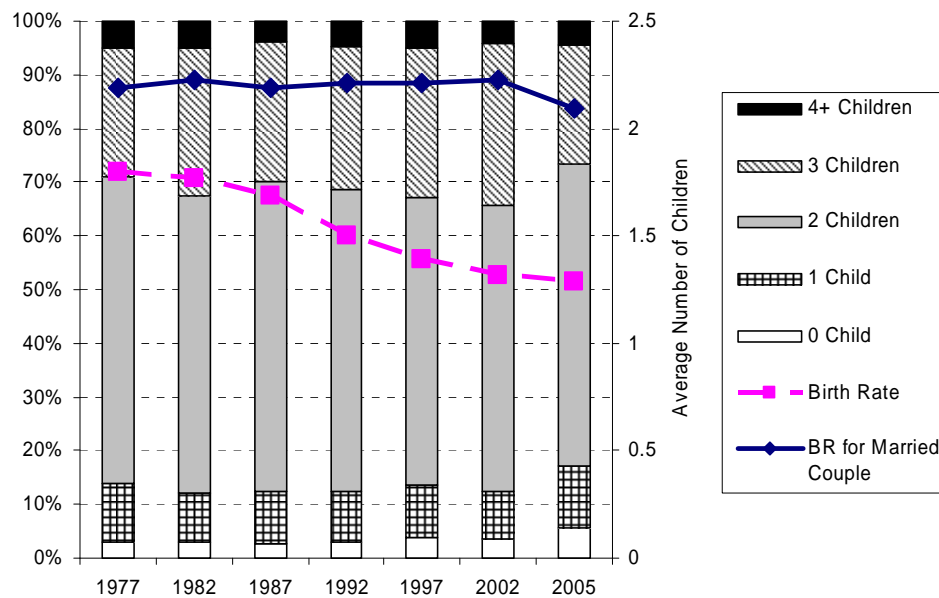


Figure 9: Birth Rate and the Number of Children of Married Couples

Source: Ministry of Health, Labor and Welfare, "Vital Statistic"

In 2004, Japan had a population growth rate of 0.05%, and the rate has been negative since 2005. This demographic shift can be attributed to longer life spans and historically low birth rates. The low birth rate and the aging society have become a serious topic in the Japanese welfare debate. However, the birth rate shows a very interesting trend. Figure 9 shows the average total birth rate and the average birth rate for married couples. The birth rate (number of children) for married couples was very stable from 1977 to 2002 with around 2.2 children, before dropping to 1.9 in 2005.

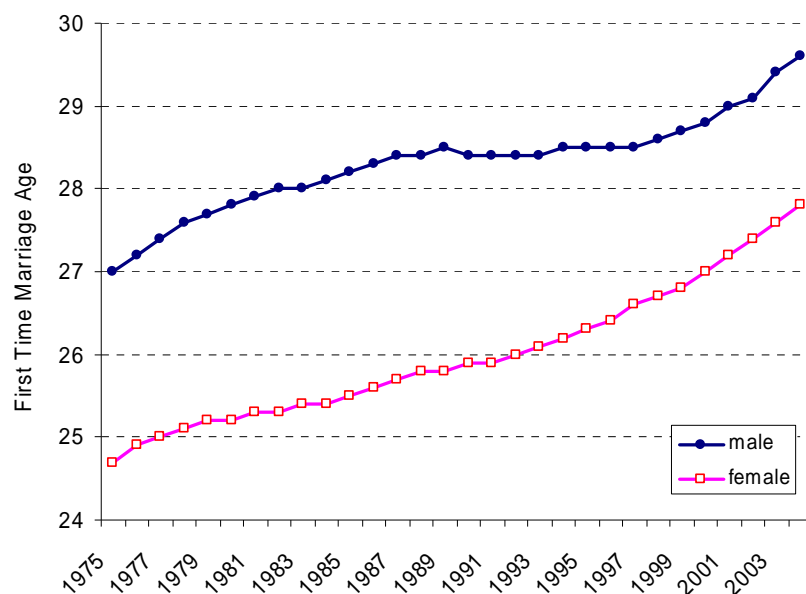


Figure 10: Historical Trend of First-Time Marriage Age in Japan

Source: Ministry of Health, Labor and Welfare, “Vital Statistic”

Figure 10 illustrates the first-time marriage age in Japan over time. Since 1975, the first-time marriage age has been getting older, a trend which is quite similar to that in other developed countries. The average age of first-time marriage for women has increased from 24.7 in 1975 to 27.8 in 2004, and the average age for men increased from 27.0 in 1975 to 29.6 in 2004. Thus the first-time marriage age in 2004 was about three years older than it was in 1975. In addition, Figure 11 shows the percentage of people who were not married. In 1975, about 48% of men in their late 20s and 21% of women in their late 20s were not married; this had increased to 71% and 41% respectively by 2005. Similarly in 2005, 47% of men in their early 30s and 32% of women in their early 30s had not been married. Finally in 2005, 15% of men age 50 and above had never been married. Clearly, more and more people are choosing not to marry. This trend may be due to the changing social environment, as more and more women get jobs and prefer to work, rather than becoming housewives and caring for husbands and children. As a result, the stereotypical Japanese life described previously is fading away.

Although this report will not delve deeper into Japanese social issues, the fact remains that delaying or eschewing marriage will likely have a negative impact on the housing market because people usually buy houses after they get married or have children. A single person often prefers living in either a condominium or an apartment and rarely buys a new, detached house. This social trend may have partially contributed to the condominium boom that has been going on for more than a decade in Japan. So even though Japanese echo boomers have turned 30, we cannot assume that all or even most of them will buy a new, detached house.

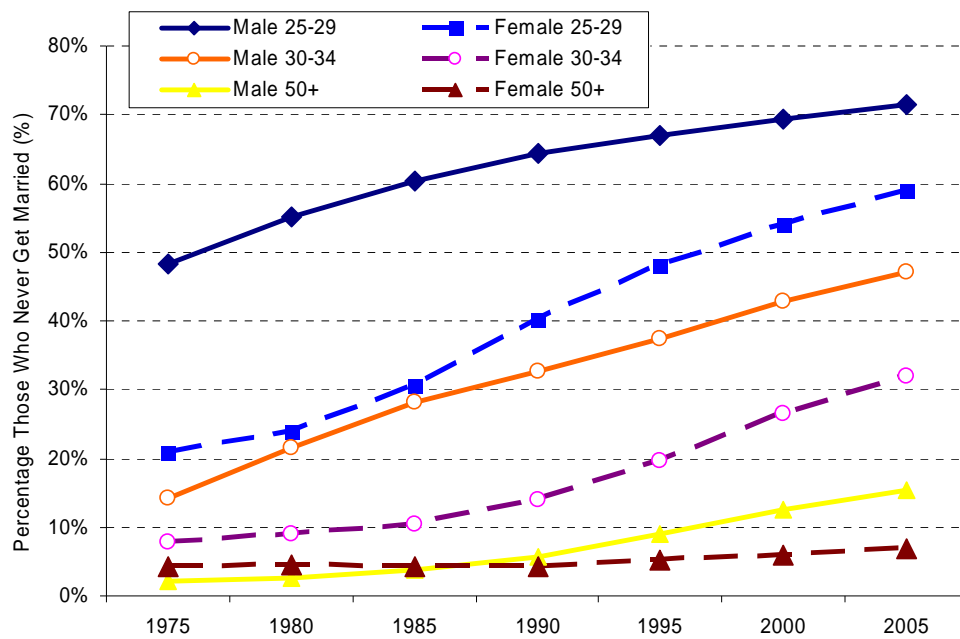


Figure 11: Historical Trend of the Percentage of People who never Got Married by Age
Source: Ministry of Health, Labor and Welfare, “Vital Statistic”

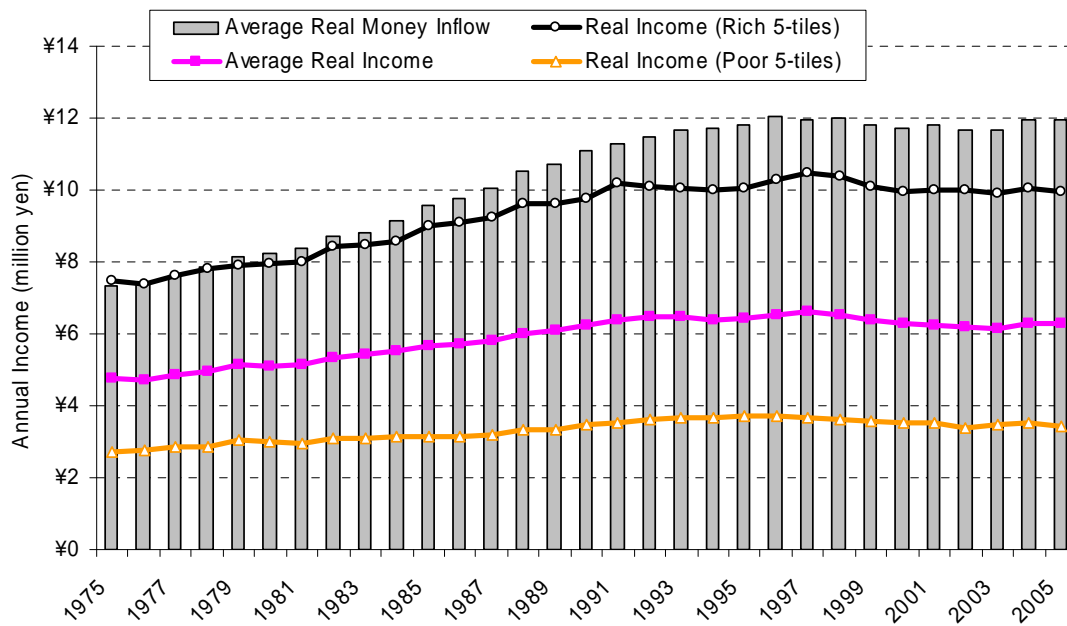


Figure 12: Average Income in Japan
Source: Japan Statistic Bureau

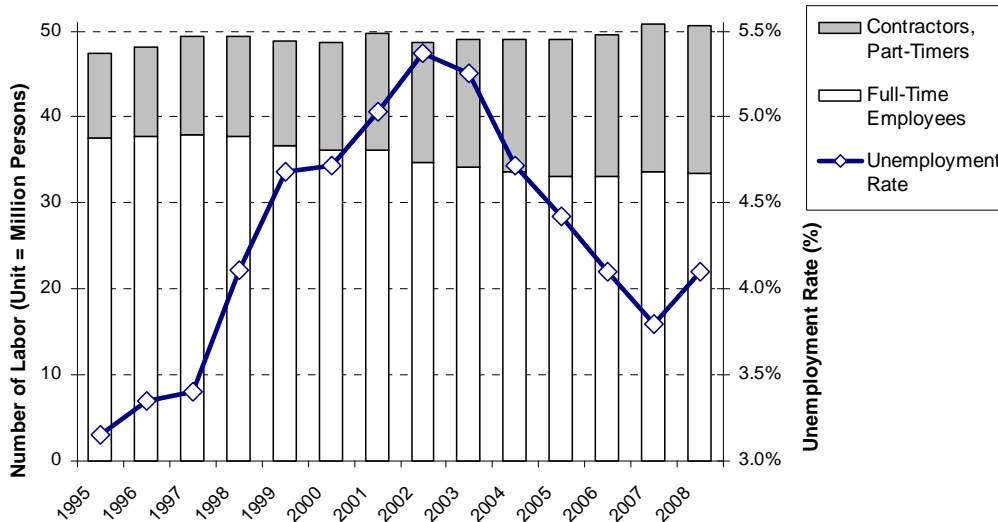


Figure 13: Unemployment Rate and Contractors and Part-timers Vis-à-vis Permanent Employees

(Source: MHLW)

Another problem attributed to changing demographics in Japan is income inequality. Japanese people and the mass media strongly believe that the gap between the poor and the rich has been increasing, especially since 2001 when Koizumi became prime minister. For example, a recent OECD report (Förster and d'Ercole 2005) stated that the Japanese poverty rate, the percentage of people who make 50% of the median income, was 15.3% in 2000. This ratio was the third largest among the OECD countries, just behind Mexico and the U.S. Japan has always been proud of the small gap between the rich and poor and so this result was a surprise to many Japanese. However, there is no clear evidence that the discrepancy between the poor and the rich has increased substantially since the early 1990s (Figure 12). The real income of both the poorest twentieth percentile and the richest twentieth percentile has been steady since the early 1990s. The average real income remained relatively flat since the early '90s when the bubble economy burst.

Much of this perception of income inequality may be attributed to changes that occurred as a result of the lost decade. During this period, many people were laid off, even though most had an expectation of life-time employment. Also, many college graduates had a difficult time finding jobs as new hiring slowed down and the unemployment rate increased. The unemployment rate in Japan peaked in 2002 at 5.4%, which was more than double the historic average in Japan (Figure 13). At the same time, the number of workers in the labor force has changed little since 1993, although a substantial proportion of permanent tenure type jobs have been replaced by contractors or part-timer workers. The percentage of non-permanent employees was 10.5% in 1993 and this increased to 14.1% in 2005. This transition is important because Japanese full-time tenure employees can receive many welfare benefits, including housing support, due to Japan's tax structure. Therefore, even though income statistics do not provide clear evidence of income inequality, the social status between permanent employees and part-timers is huge. While the income disparity story in Japan might be a bit exaggerated, it is also true that social anxiety clearly exists. Some industry analysts expect that in order to boost Japanese housing starts and the economy as a whole, the government will move to reduce social anxiety through restructuring the tax system and labor standard laws.

3.0 Housing Industry in Japan

During the high economic growth period of the 1960s and early 1970s, housing stock was in short supply in the urban areas. In response, large developers, such as national real estate agencies and commuter railroad companies, developed huge land tracts and built condominiums and spec houses. During this time, homeowners in older detached homes did not want to sell their land because land values were continually increasing. These home owners preferred to demolish their old, poor-quality houses and replace them with custom-built houses. To reduce house building costs, large national home builders introduced prefabricated construction methods in the 1960s and adopted a Japanese version of the 2×4 construction method in the 1970s. Those new construction methods dramatically improved the quality of Japanese houses, and their share of the market has increased gradually.

Japanese Unique Real Estate and Housing Market

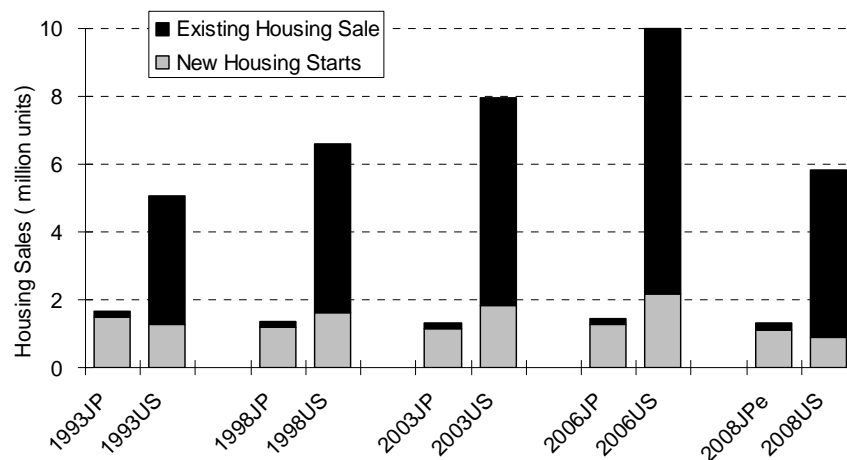


Figure 14: New Housing Starts and Existing Home Sales in Japan and in the U.S.

Source: MLIT, MICA and NAHB, 2009.

* Existing house sales in Japan for 2008 were estimated using an exponential smoothing forecasting method.

The biggest difference between the housing markets in Japan and North America could be the concept of the real estate market. In North America, many people expect price appreciation of existing houses and the secondary market for used houses is well developed. North American home owners often invest a lot of their time and money to improve the value of their houses. This concept of ‘sweat equity’ allows many young home buyers to purchase an entry level house, make improvements to increase the value, and sell it for a profit which they use to “move up” to a nicer house. In fact, many Americans repeat this process several times during their lives and, as a result, the average American sells their house every 6 to 7 years. Japanese home owners, however, rarely expect price appreciation with older homes. The Japanese expect that wooden single family homes will depreciate over time because a wooden house in Japan has a specific lifespan of approximately 35 years. On the other hand, population density is high in Japan and land availability is limited. Consequently, since the supply of land is always constrained, land availability becomes an object of speculation (Noguchi and Poterba 1994).

Further restricting house values is the fact that the secondary housing market in Japan is not well developed despite the efforts of the Ministry of Land, Infrastructure and Transportation (MLIT) to promote higher quality, longer-life houses in an effort to expand the secondary housing market. Figure 14 shows existing home sales and new housing starts in Japan and the U.S. As shown here, even though new housing starts in Japan exceeded those in the U.S. in 1993, U.S. existing home sales dwarfed Japanese

total home sales. Recently, remodeling has become more popular in Japan, although its purpose is to upgrade the house rather than preparing it for resale. The problem with repair and remodeling in Japan is that in most cases it is more expensive to remodel an older wooden home than it is to demolish it and build a new house (Eastin 1994). Many Japanese live in older homes in the densely populated urban areas, so remodeling usually requires sophisticated construction management skills and is usually cost prohibitive. Another reason for the limited repair and remodel market is that Japanese home owners have little experience with this concept and they perceive that all the value resides in the land rather than the house (which is viewed as a depreciating asset). Furthermore, there is little incentive to improve a house given the very limited secondary housing market.

Most Japanese homeowners build a custom house on their own land. Even if a family buys an old house with land, they usually demolish the existing house and build a new custom house. As previously mentioned, homeowners in older detached houses did not usually sell their houses since land prices were continuously increasing through the mid-1990s. Instead, they demolished older houses and asked builders to design a custom house to fit the shape and size of their lot. Some people have tried to explain this process from an anthropological point of view: Japanese people, who were originally an agricultural tribe, have a special fondness for their land and they are reluctant to sell their land and move (Igarashi 2003). Rather, they prefer to continue building houses on their land and pass the land on to future generations. Furthermore, most Japanese believe in Buddhist reincarnation, so it is natural to demolish and to rebuild their houses periodically (Kawamura 2007). Other explanations are rooted in sociology: A history of catastrophic natural hazards, including earthquakes, tsunamis, and fires have led the Japanese to view their houses as a disposable (Cohen et al. 1996). Still other experts offer an economic point of view: Because land is scarce in densely populated Japan, finding new land is very costly, and this discourages people from buying and selling property (Nagano et al. 2006). Quite likely it is a combination of all these explanations that has contributed to the Japanese reluctance to sell their land.

The durability of Japanese wooden houses is very poor. According to an estimate by MLIT (1996), the average lifespan of a Japanese house is only 30 years. In contrast, the average lifespan of a house is 103 years in the U.S., and 141 years in the U.K. The biggest factor in poor durability could be the poor quality of housing built after WWII, when the Japanese faced a huge housing deficit due to fire bombing of the urban areas. Due to material shortages, Japan was unable to purchase large quantities of quality building materials. The hot and humid summer climate in Japan is another factor to be considered. Most big cities experience a humid subtropical climate, with an average annual precipitation around 1,500mm (60 inches), about the same as in New Orleans, Louisiana. The consequent degradation of structural wood and wood panels contributes greatly to the short lifespan of these wooden homes. Similarly, lack of house maintenance and repair by home owners contributes to the steady (and premature) deterioration of Japanese homes. Japanese taxation laws for housing reflect the short lives of wooden houses and reinforce the idea of wood houses as depreciable assets. Building lifespan accounting methods are strictly regulated by the Ministry of Finance. As of 2008, residential wooden houses are depreciated over 22 years, while residential reinforced concrete (RC) houses are depreciated over 47 years. Due to improved wood construction technology, however, the lifespan of wood houses is increasing substantially.

Condominiums (often referred to as “mansions” in Japan) were also used as speculative investments by Japanese real estate investors in the late 1980s and early 1990s. As a result, condominium prices went up sharply during the bubble economy. As in many big Asian cities, high-rise condominiums are very popular in Japan. Many people prefer to live in smaller condominiums that are located closer to the city and their workplaces. Japanese workers and students commute to their companies or schools by train or subway, so demand for condominiums near the commuter railroad or subway stations has always been high. Since commuter railroads help to relieve population densities in the core of Japanese urban areas, you do not observe extreme suburbanization as in the U.S., where many Americans live in large houses outside the city and depend on automobiles for commuting.

As mentioned earlier, land and condominiums were primary targets of speculators during the bubble economy. Speculation raised the market value of land, and encouraged more and more people and companies to invest in real estate. Land prices went up sharply during this period, although housing values themselves did not increase at all. However, the real estate market crashed suddenly in the early 1990s, and it continued to depreciate during the lost decade. This process led to a situation where many condominium owners found themselves essentially locked into their condominiums by mortgage debt that exceeded the market value of their condominiums.

Role and History of Public Sectors

Big cities in Japan were severely bombed by the United States during WWII, and a huge number of houses, especially in urban areas, were burned. After the war, soldiers returned home and started families¹. The lack of housing stock was one of the most urgent issues facing the new government. The government initially responded by building public houses to support people who had lost their homes during the war. They followed this by implementing many housing policies designed to expand the housing stock for citizens. The Government Housing Loan Corporation (GHLC) was established in 1950 to provide stable, long-term mortgages for homebuyers. The Public Housing Law was enacted in 1951 to provide public housing for low-income families by encouraging local governments to provide affordable housing. As part of the Public Housing Law, the Japan Public Housing Corporation (JPHC) was established in 1955. JPHC aggressively purchased empty land and built public tract houses and condominiums that they then sold or rented to low income families.

The Japanese economy had significantly recovered from the war by the mid 1950s. The standard of living for most ordinary Japanese citizens improved as people gained more discretionary income. In the 1960s, many private companies entered the housing market and the government established several laws to encourage private companies to build more houses. By 1966, the number of housing units (25,600,000) finally exceeded the number of households in Japan (25,300,000) (Shimada et al. 2003). Between 1966 and 1970, the government implemented its “first five-year scheme of residential housing,” which encouraged people to own (not rent) houses.

In the 1970s, many private developers such as railroad companies and large real estate agencies began to develop big subdivision houses and condominiums in the suburban areas of large cities like Tokyo and Osaka. As Japan’s economic growth continued, many young people moved to the big cities from rural areas to get jobs. As the housing shortage in the big cities became more acute, the railroads were extended to stimulate the establishment of new towns. Some homebuilders started to differentiate their developments and tried to sell value-added, high-quality houses in the new subdivision towns. In 1971, the government implemented its “second five-year scheme of residential housing” with the goal of improving the quality of houses rather than expanding supply. At the core of this plan was the goal that all family members would have their own rooms in their houses.

The high-growth era ended in the early 1970s as a result of the first oil shock. Yet the Japanese economy resumed stable growth in the late 1970s. The JPHC continued to provide inexpensive subdivision tract houses to low-income families. Public agencies continued to build 30,000 units annually in the 1970s, although this number declined to around 10,000 units by the 1990s (Iwata et al. 1997). Many people blamed JPHC for contributing to the woes of the housing industry after the bubble burst. The bureaucratic JPHC, supported by the LDP, was unable to downsize their size and mission. Not only did the over-development of public housing cannibalize the demand for houses built by private companies, but JPHC also wasted a large amount of taxpayers’ money. Responding to strong public criticism, the JPHC changed its name several times and finally, as a part of institutional reforms initiated by the Koizumi

¹ Those babies are the baby boomers; the parents of echo baby boomers.

administration, reorganized into an independent administrative corporation called the Urban Renaissance Agency in 2004.

Another Japanese government agency, The Government Housing Loan Corporation (GHLC) provided mortgages for 30% of all houses built after WWII until 2004, thus playing a huge role in the development of the Japanese housing industry (Jyutaku Sangyo Shimbun 2004). In the 1950s, GHLC provided mortgages for custom house construction only. Later, they provided funding for the purchase of tract subdivision houses (spec houses) and condominiums. Initially, in the early 1970s, the percentage of new housing that utilized GHLC mortgages was around 15%; but it increased to around 30% during the early 1980s (Takano 2003). The LDP-backed government took advantage of the GHLC to stimulate the housing market by lowering mortgage rates when the economy slowed down in the early 1990s; by artificially lowering the GHLC mortgage rate and thus encouraging people to buy homes. As seen in Figure 15, the average GHLC mortgage rate was sometimes lower than the overnight Bank of Japan call rate, clear evidence that the government exploited the GHLC to stimulate the macro-economy.

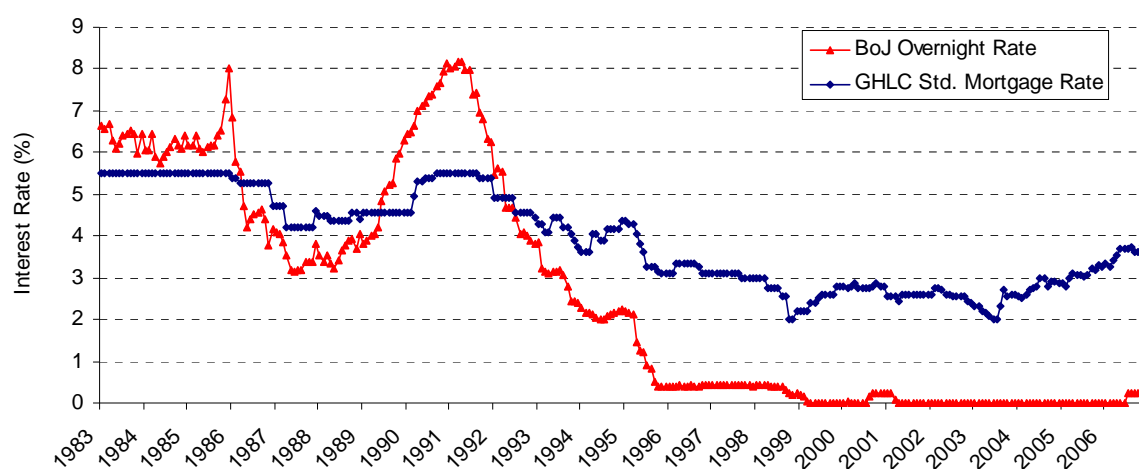


Figure 15: Standard Mortgage Rate of GHLC and Bank of Japan Overnight Call Rate

Source: GHLC and Japan Cabinet Office

To keep the mortgage rate lower than the official interest rate, the GHLC used a large amount of federal funds. It is estimated that the GHLC spent several hundred billion yen in government funds after the bubble economy burst (Takano 2003). However, the GHLC and the government did not publically disclose the amount of federal funds that were used for this purpose. In response to strong public criticism and the fact that the government could not afford to continue increasing government debt, GHLC was restructured. In 2002, GHLC increased the down payment required for a mortgage from 0% to between 20% and 50%, depending on the income of the homebuyer. They also limited their mortgages to only 500,000 houses per year from the previous 550,000 houses and decided not to lend money below the public interest rate. In response, the percentage of total mortgages loaned by GHLC decreased from 4% in 1999 to 0.3% in 2005, and the share of private mortgages increased (Figure 16). In 2007, the government reorganized the GHLC into an independent administrative corporation, the Japan Housing Finance Agency, as part of the institutional reforms initiated by the Koizumi administration. The Japan Housing Finance Agency supports the long-term mortgages issued by private banks, essentially establishing a secondary security market (mortgage-backed securities). This secondary mortgage market will help replenish the supply of money available for mortgages and ensure that funding remains available for home buyers. The Japan Housing Finance Agency's role will be similar to that of the Federal National Mortgage Association (Fannie Mae) and the Federal Home Loan Mortgage Corporation (Freddie Mac) in the U.S.

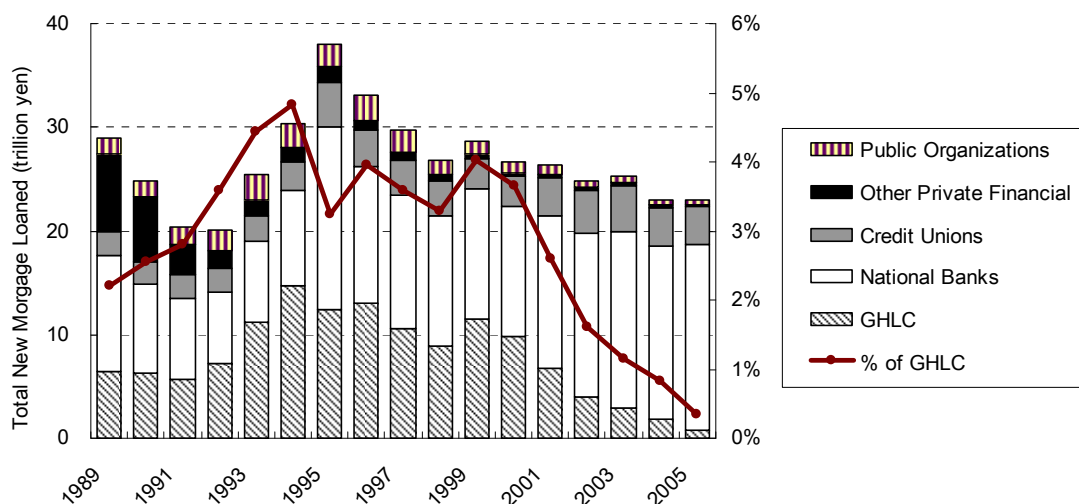


Figure 16: The Amount of New Mortgages Lent by Type of Institutions

Source: Japan Cabinet Office

Housing Starts in Japan

Japan's housing starts reached a record high in 1973 with 1.91 million units. Housing starts decreased in the mid to late 1970s and early 1980s, but the bubble economy in the mid-1980s re-stimulated housing demand, and housing starts jumped to between 1.4 and 1.6 million units from 1988 to 1997. Housing starts have decreased since 1997 for a variety of reasons, including Japan's long economic stagnation and changing demographics. Housing starts reached a ten-year low in 2002, dipping to 1.15 million units and recovered slightly through 2006 (Figure 17). Wooden houses had been decreasing gradually through the late 1980s and then hovered around the 45% level. Yet, as discussed below, this trend does not mean that an increasing number of people preferred to live in non-wood detached houses, such as a reinforced concrete or steel frame houses.

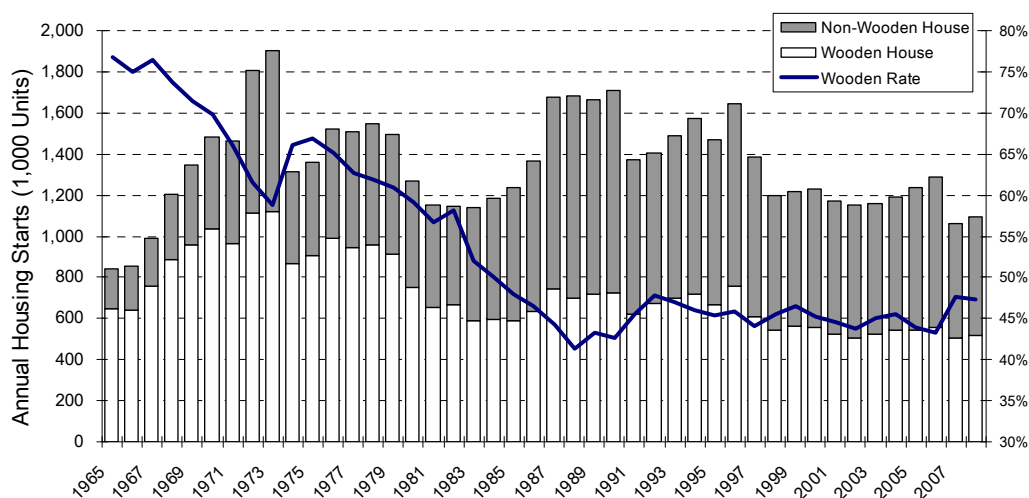


Figure 17: Annual Wooden and Non-Wooden Housing Starts

Source: MLIT

The Japanese housing market is comprised of two different market segments: the single family detached housing market and the multi-family market, including apartments and condominiums. Each unit in a condominium or apartment building is counted as a housing start. The increasing share for non-wooden houses is likely due to the increasing number of high-rise apartments and condominiums, which cannot be built from wood. Figure 18 shows the housing starts of detached housing and multi-family housing, including both apartments and condominiums. Single family detached housing includes both wooden houses and non-wooden houses. As multi-family housing starts increased from the early 1980s to 1990s, the wooden housing rate decreased, as shown in Figure 17. The Pearson correlation between the percentage of wooden homes (line in Figure 17) and the percentage of detached single family homes (the line in Figure 18) between 1970 and 2005 is 0.944 (significant at the 0.01 level), so the increase of non-wooden housing starts can be attributed to increases in multi-family housing (e.g. apartments and condominiums).

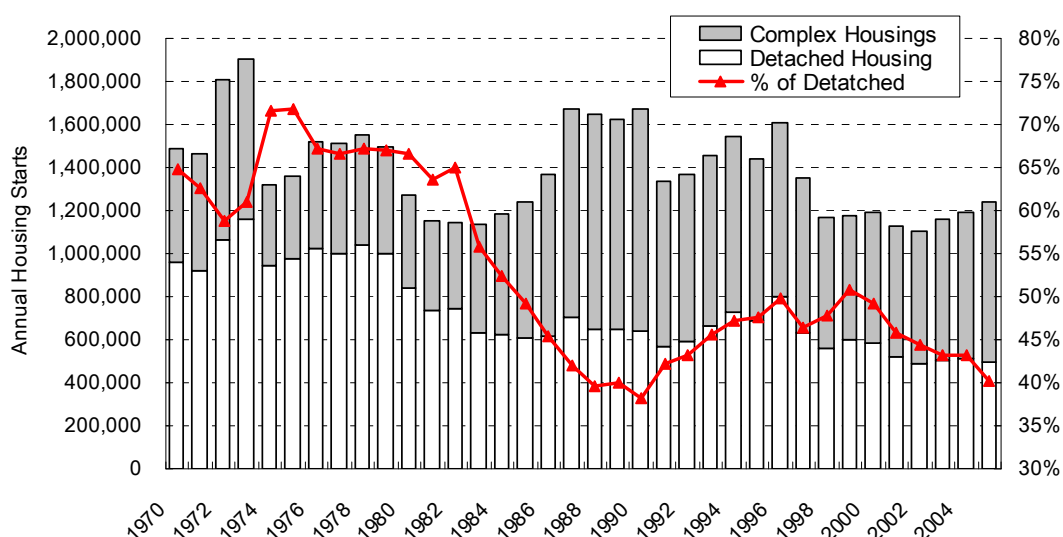


Figure 18: Annual Complex and Detached Housing Starts

Source: MLIT

For a long time, it was very difficult to build wooden structures that exceeded three stories in height in urban areas because of fire code restrictions under the Building Standards Law. Historically, fire has been a serious problem in densely populated Japanese cities, so fire regulations in urban areas are very strict. Residential areas are separated into fire control areas, quasi-fire control areas, and other areas. Wooden material usage is limited in fire control areas and moderately limited in quasi-fire control areas. The restrictions on wood structures in urban areas has frustrated U.S. building materials exporters because some wood building materials (e.g. wood windows) often cannot meet the strict Japanese fire code regulations. However, this fire code has been gradually deregulated in recent years. Since 1992, three-story wooden apartments are allowed to be built outside the quasi-fire control area. After 1998, three-story wooden apartments were also allowed to be built inside the semi-fire control area, but outside the fire control area. The law still requires using fire-resistant materials to build three-story apartments in quasi-fire control areas. The Council of Forest Industries Canada (COFI) and the Japan 2×4 Homebuilders Association acquired ministry certifications for a fireproof two-by-four construction method in 2004. Now it is possible to build three-story wooden 2×4 buildings in quasi-fire control areas, and three story and higher wooden 2×4 buildings in non-fire control areas. Consequently, construction of 2×4 wooden-frame apartment buildings has increased in Japan recently.

MLIT divides Japanese housing starts into four categories by usage: owner-occupied house, subdivision built-for-sale, for rent, and dormitories of companies or organizations. Subdivision built-for-sale includes both tract houses (detached houses with subdivided land) and condominiums (*a.k.a.* mansions). They are totally different types of housing, so we need to discuss them separately. Multi-family, non-wooden subdivision built-for-sale houses are generally “condominiums” and subdivision built-for-sale single, detached houses are generally tract houses or spec houses. In this paper, “spec house” and “tract house” are used interchangeably, with both terms indicating a detached, single family, built-for-sale house sold with land. Purchasing a spec house means the homebuyer purchased a new house with subdivided land from a homebuilder. Another category of detached houses, which are built by owners, are owner-occupied houses. In this paper we use the term “custom houses” to describe owner-occupied houses in order to distinguish them from tract houses. Building a custom house, therefore, does not include any transaction of land. Figure 19 visually represents the housing categories described in this paper.

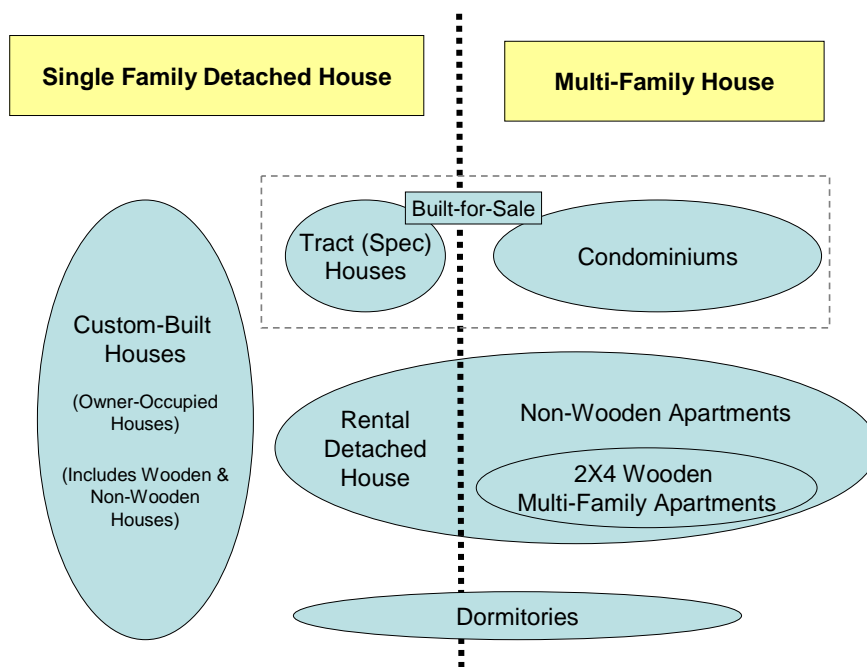


Figure 19: Japanese Housing Starts Statistic by MLIT

Figure 20 illustrates the trends in built-for-sale housing (tract houses and condominiums) starts in Japan. The market share of subdivision built-for-sale housing has increased substantially since the early 1990s, rising from 15% in 1992 to 30% in 2005. One reason is that many new homebuyers do not own land and they usually tend to purchase condos. However, now that many subdivision tract houses include land, many homebuyers have chosen this option over buying condominiums. The market share of tract housing starts as a percentage of total housing starts has increased from 7% in 1992 to 12% in 2004, before dropping to 10.5% in 2006.

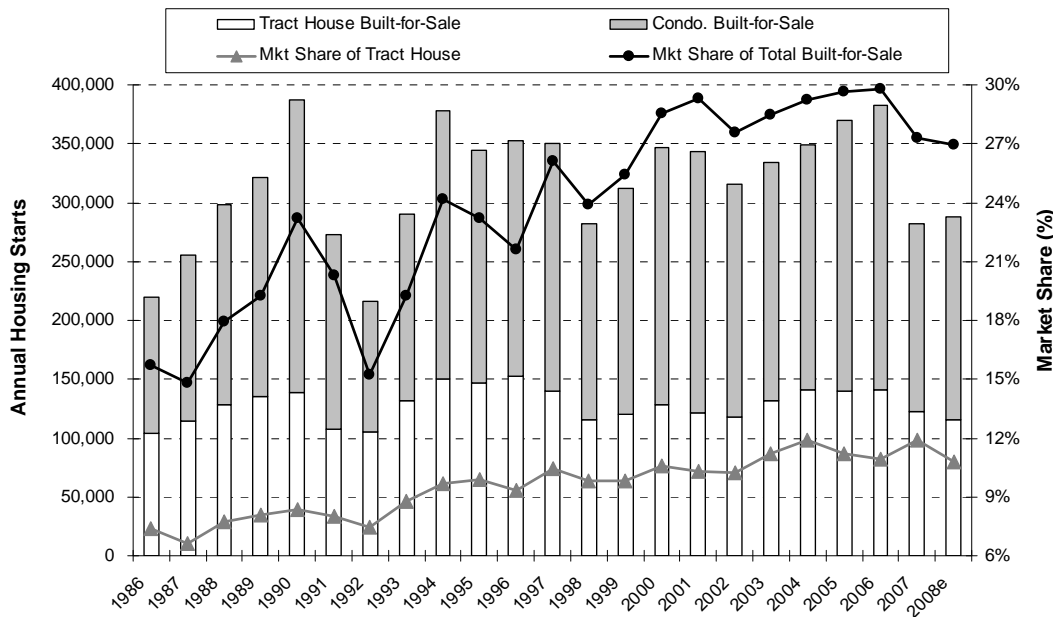


Figure 20: Annual Housing Starts of Tract House and Condominium

Source: MLIT

The market share of total condominium starts increased from 8.3% in 1986 to 18.1% in 2006. In Japan, the process of urbanization continues in big cities, especially Tokyo. Many experts think this trend will accelerate as the baby boomers begin retiring. As a result, the demand for condominiums will outpace the demand for single family houses since convenience and proximity to services is more important for households without children. Luxury high-rise condominiums have become extremely popular among the wealthy. The Japan Real Estate Investment Trust (J-REIT), which was introduced in Japan after the financial Big-Bang, has made it easier for developers to access the capital needed to build high rise condominiums. For example, many yuppies have chosen to live in downtown Tokyo because of the luxury apartments that have been built there. The popularity of condominiums in Japan will likely reduce the demand for wood products, although the building codes have recently been modified to increase the number of stories that can be constructed with wood for apartment and condominium buildings. The codes were also modified to allow hybrid buildings that use wood with other structural materials such as steel and concrete.

Figure 21 shows the average price and total floor area of condominiums and tract houses (the price of tract houses includes both the house and land prices) in the Tokyo area. Condominium prices dropped until 1995, but have since leveled off. On the other hand, the price of spec houses has been declining since 1991 and the price difference between condominiums and spec houses has been decreasing. Interestingly, the total floor area of a condominium has increased while the total floor area of a spec house has decreased. In Tokyo, developers have been building bigger condominiums, while builders have been building smaller spec houses. This may be attributed to the differences in the target customers for the condominium industry and the spec house industry. The square meter price of condominiums dropped from 933,000 yen in 1990 to 513,000 yen in 2002 (-45%). At the same time, the spec house square meter price dropped from 516,000 yen in 1990 to 442,000 yen in 2002 (-14%), due mainly to declining land prices.

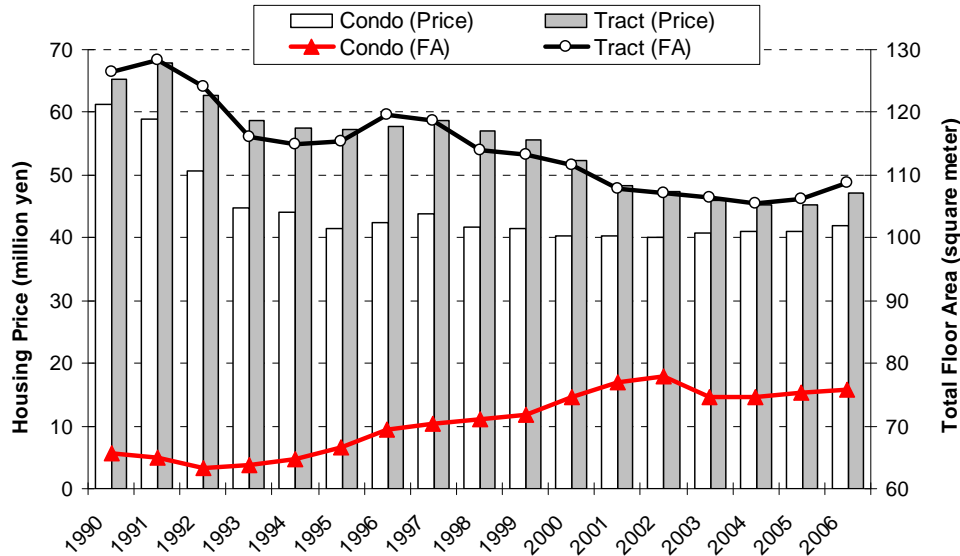


Figure 21: Average Price and Floor Area of Condominium and Spec House in Tokyo

Source: Jyutaku Keizai Data-syu

* Prices of new tract house and new condominium are averaged transaction price in Tokyo. The price of a tract house includes both land and a house. Floor area of tract house only counts inside of house and does not include lot size.

We have already mentioned that Japan is an urbanized nation with high population densities in urban areas. Figure 22 shows the housing starts by region in 2005. Kanto (Tokyo-Yokohama urban area) has the largest share of housing starts. It is important to note that the condominium and spec house markets are mainly located in the Kanto, Kansai (Osaka-Kobe-Kyoto urban area), and the Tokai (Nagoya urban area) areas. Table 4 shows the housing starts share amongst the three urban areas in 2004. The Tokyo Capital urban area is smaller than the Kanto region and includes only Tokyo, Kanagawa, Saitama, and Chiba. The Osaka/Kobe/Kyoto urban area is smaller than Kansai and includes only Osaka, Hyogo, and Kyoto. The main markets for spec houses are Tokyo Capital, with 50.2% share, and Osaka/Kobe/Kyoto, with 24.7% share of the total 2004 spec house market. The main markets for condominiums are also located in Tokyo Capital with a 54.5% share and Osaka/Kobe/Kyoto with a 18.8% share of the total. In contrast to the spec house and condominium markets, only 35.3% of the total custom house market was built in the Tokyo Capital and Osaka/Kobe/Kyoto urban areas combined.

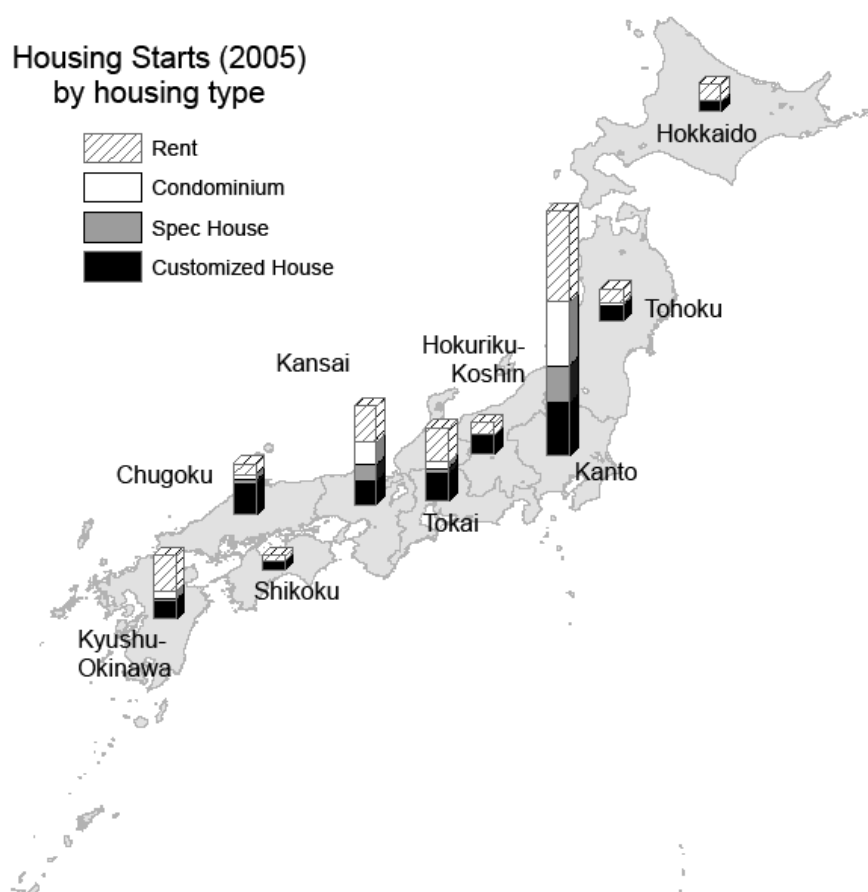


Figure 22: Housing Starts by Housing Type Categorized by Regions in 2005

Source: MLIT and GIS data from ESRI Japan

Note: Hokkaido: Hokkaido prefecture

Tohoku: Aomori, Akita, Iwate, Miyagi, Fukushima and Yamagata prefectures

Kanto: Tokyo, Saitama, Chiba, Kanagawa, Gunma, Ibaragi and Tochigi prefectures

Hokuriku & Koshin: Fukui, Kanazawa, Toyama, Niigata, Yamanashi and Nagano prefectures

Tokai: Shizuoka, Aichi, Gifu and Mie prefectures

Kansai: Osaka, Hyogo, Kyoto, Nara, Shiga and Wakayama prefectures

Chugoku: Okayama, Hiroshima, Yamaguchi, Tottori and Shimane prefectures

Shikoku: Ehime, Kochi, Kagawa and Tokushima prefectures

Kyushu: Fukuoka, Saga, Nagasaki, Oita, Kumamoto, Kagoshima, Miyazaki and Okinawa prefectures

Table 4: Percentage of Land Area and Housing Starts in Three Urban Areas in 2004

	Land Area	Population	Share of Total Housing Starts in Japan			
			Total	Owned	Condo	Spec
Tokyo Capital	3.5%	26.7%	34.9%	22.1%	54.5%	50.2%
Osaka/Kobe/Kyoto	7.2%	15.3%	15.6%	13.2%	18.8%	24.7%
Tokai	7.5%	11.7%	11.8%	15.3%	6.2%	8.3%

Source: MLIT

Note: Tokyo Capital: Tokyo, Saitama, Chiba and Kanagawa prefectures

Osaka/Kobe/Kyoto: Osaka, Hyogo and Kyoto prefectures

Tokai: Aichi, Shizuoka, Gifu and Mie prefectures

The market for residential home builders has traditionally been detached, single family houses rather than multi-family units like apartments or condominiums. Condominiums and apartments are generally built by developers rather than home builders. However, some residential home builders, especially those in the Tokyo area, have begun to build high-rise condominiums and apartments along with residential houses. MLIT provides the annual housing start statistics for detached houses versus multi-family houses, but there is no historical detail on housing starts broken down by housing type and construction method, so we need to estimate them to better understand the Japanese builders' market. MLIT releases a matrix of housing types and owner types every month. Table 5 is an example of the matrix for November 2006. Almost all of the owner-occupied homes were single family detached homes and 3.9% of wooden rental homes were single family detached. However, there were almost no single detached houses for rent that are not built of wood. Almost all wooden built-for-sale houses were single family houses and 3.3% of non-wooden housing starts were single family houses. Single family detached built-for-sale houses are recorded as "tract house" in the statistics. Company dormitories occupied a small percentage of total housing starts (0.7%). In addition, the real percentage of wooden detached houses (not including apartment and condominium complex units) was 85.2% in November 2006.

Table 5: Matrix of Housing Types by Owner Types as of November 2006

	Total	Owner Occupied	Rent	Built for Sale	Dormitory
Total Housing Starts (Nov. 2006)	115,392	28,790	50,754	35,096	752
Single Family Detached	41,260	28,639	686	11,815	120
Tenement House	9,884	32	9,715	86	51
Multi Family Complex	64,248	119	40,353	23,195	581
Wooden					
Total Wooden Housing Starts	49,940	23,465	15,052	11,206	217
Single Family Detached	35,154	23,446 99.9%	583 3.9%	11,034 98.5%	91 41.9%
Tenement House	7,345	10 0.0%	7,253 48.2%	54 0.5%	28 12.9%
Multi Family Complex	7,441	9 0.0%	7,216 47.9%	118 1.1%	98 45.2%
Non-Wooden					
Total Non-Wooden Housing Starts	65,452	5,325	35,702	23,890	535
Single Family Detached	6,106	5,193 97.5%	103 0.3%	781 3.3%	29 5.4%
Tenement House	2,539	22 0.4%	2,462 6.9%	32 0.1%	23 4.3%
Multi Family Complex	56,807	110 2.1%	33,137 92.8%	23,077 96.6%	483 90.3%

Source: MLIT

These statistics illustrate that the "builders' market" and "developers' market" in Japan are separate. This paper will focus on the builders' market. Our goal is to estimate historical housing starts by type and construction method. We regard all custom houses and tract houses as being within the builders' market (see Figure 19). A part of rental units and dormitories are also within the builders' market. We will not examine the categories of condominiums and apartments in the remainder of the paper.

We will discuss the market share for custom houses and tract houses as a percentage of total housing starts, since these two categories are the primary segments of the builders' market. Figure 23 shows housing starts by type. The market share of custom homes (owner-occupied homes) and tract homes (single family built-for-sale homes) dropped sharply during the bubble economy, due to the high price of land, and the market share of apartments increased. During the lost decade, residential housing builders recovered their share. Recently, condominiums have become popular again. Although the sum of the owner occupied house and the tract house market size has been stable, the share has decreased from

48.4% in 1999 to 38.2% in 2006.

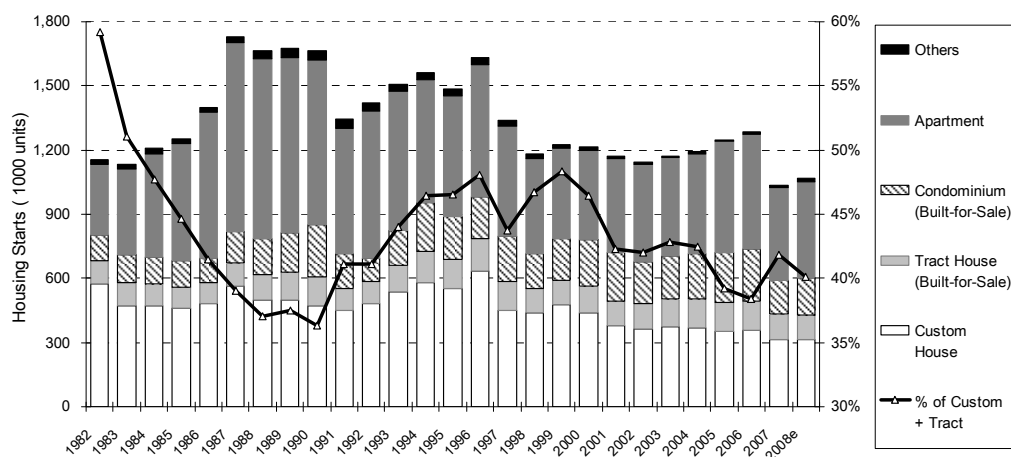


Figure 23: The Share of Owner-Occupied Houses and Tract Houses over Total Housing Starts in Japan
Source: MLIT

Figure 24 extracts tract house and custom house information from Figure 23. The sum of the owner-occupied house and the tract house market has been hovering around 500,000 units since 2001. The housing starts of tract houses grew 16.2% from 1999 (120,050 units) to 2005 (139,601 units), while custom housing starts dropped from 475,002 to 353,267 over the same period. As a result, the share of tract housing starts over tract and custom houses has grown from 25.2% in 1999 to 39.6% in 2005. In other words, the share of custom houses has decreased substantially since 1999. One reason why the custom house market is stagnant could be the longevity of custom homes, as previously discussed. The destruction of residential housing in the urban areas during the war brought about a housing boom immediately following the war, but most of these were poor-quality houses. As the standard of living in Japan increased, people began to demolish their old houses and rebuild better quality houses. As the quality of housing improves, the turn-over of custom housing should decrease. Although tract housing starts have been relatively constant, the number of custom housing starts has decreased. Since the late 1990s, many tract house builders grew quickly, and the term “power builders” has emerged.

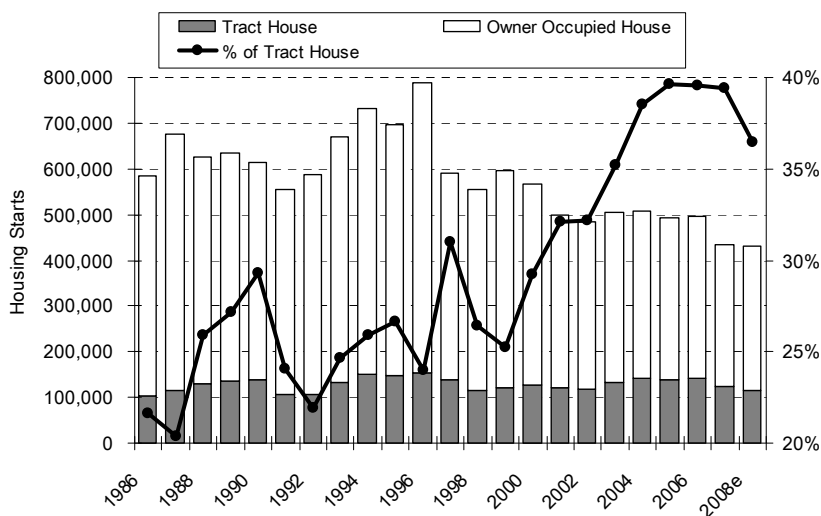


Figure 24: Tract House vis-à-vis Custom House
Source: MLIT

Wooden House

Some contractors build wooden houses and others build non-wooden houses. After we remove the developer's market segment from consideration and focus on the home builders' market, we can see that most Japanese single family houses are built from wood.

Japanese people prefer living in a wooden detached house rather than a non-wood detached house. According to an opinion survey by the Japanese Government Cabinet Office in 2003, 80.4% of Japanese respondents indicated that they would prefer to live in a wood house, either a traditional post and beam house or a 2×4 wood framed house, rather than a non-wood house (Figure 25). Only 12.8% of the respondents indicated that they would prefer to live in a non-wood house such as a RC (reinforced concrete) or a steel frame house. This percentage has not changed substantially since 1976. Younger respondents tend to prefer 2×4 or non-wooden houses more than older respondents. However, it should be pointed out that survey respondents were not allowed to indicate a preference for living in a condominium or apartment. They were simply asked "if you buy a (single family detached) house, what kind of structural method do you want?" This survey shows that not many people would like to live in a non-wooden detached house, given the choice. This is further illustrated by the fact that in 2006 approximately 85% of Japanese detached single family houses were of wood construction.

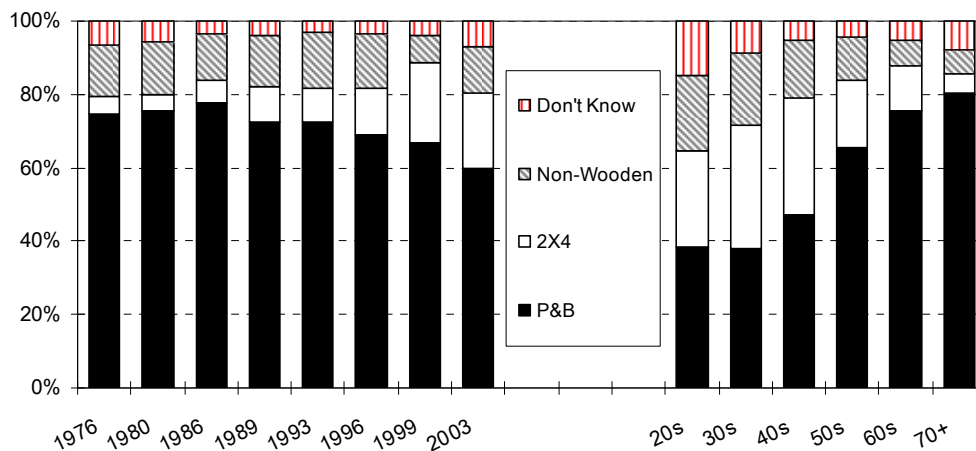


Figure 25: Japanese Preference among P&B, 2×4 and Non-Wooden House

Source: Japan Cabinet Office

* Left side is the average of respondents in each year. Right side is preference by age in 2003.

Wooden housing starts are categorized by construction methods into three segments by the Ministry of Land, Infrastructure and Transport (MLIT): post and beam, 2×4, and prefabricated wooden construction (Figure 26). This figure includes the developers' market because wooden houses include some multi-family apartments. Post and beam (P&B) is Japan's traditional wood frame construction method (Appendix C). Recently, an improved post and beam building method called "rationalized post and beam" has become popular. This building method uses engineered wood, metal connectors, and wall panels. Total P&B construction starts (including rationalized post and beam) were 388,435 units in 2007. The 2×4 construction market has shown consistent growth at the expense of the traditional post and beam market segment since the early 1990s.

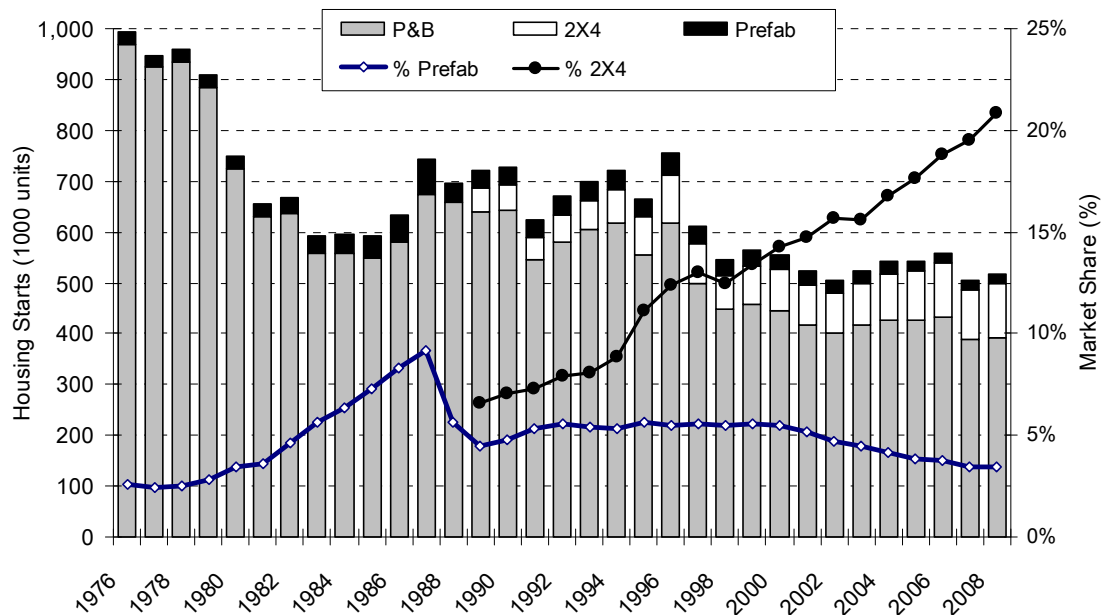


Figure 26: Wooden Housing Starts by Construction Method

Source: MLIT

* 2×4 construction methods are counted from 1990

Figure 27 shows a detailed breakdown of 2×4 housing starts by construction method. The total percentage of single family 2×4 houses decreased from 75.2% in 1999 to 52.4% in 2006. Since 1998, however, three-story wooden 2×4 buildings were allowed to be built inside quasi-fire zones, as previously mentioned. This deregulation of the fire codes has spurred the growth of 2×4 apartments. Many people think that the recent growth of 2×4 construction comes from the younger generation's affinity for 2×4 housing. However, this increase reflects an increase in the construction of 2×4 multi-family apartments rather than detached single family houses. This 2×4 multi-family apartment market segment is a good area for U.S. exporters to target.

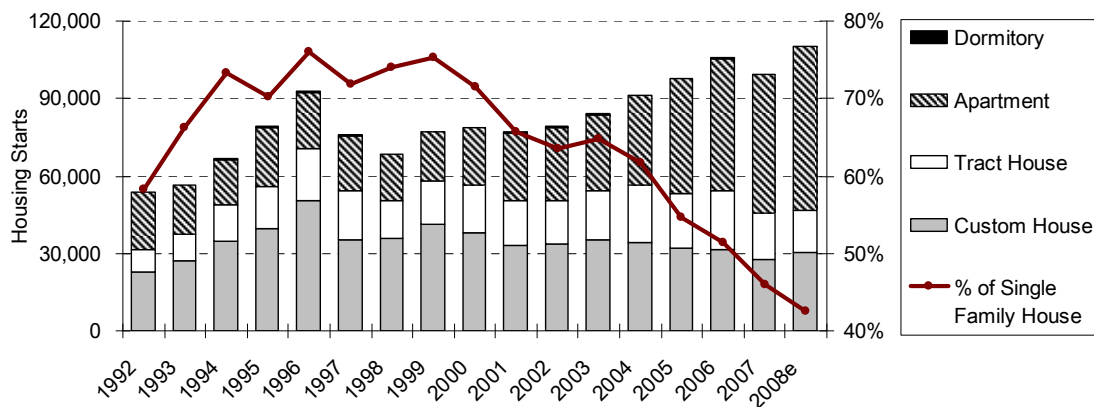


Figure 27: 2×4 Housing Starts by Construction Method

Source: MLIT

Large, national home builders introduced prefabricated construction methods in the late 1950s. The number of houses built using the wooden prefabricated construction method had been increasing until 1987 but has declined since then. Currently, only 4% of wooden housing starts use the prefab method, and 90% of wooden prefab houses are built by several large national home makers. Figure 28 shows the housing starts of prefabricated houses by construction method. Wooden prefabricated housing starts have been consistently decreasing since 1996. Non-wooden single family prefabricated housing starts have also been decreasing. Between 1996 and 2006 prefab housing starts decreased by approximately 50%, and this hit the national home makers hard. To produce a prefab home, these companies built their own prefab house factories, and decreasing sales directly eroded their earnings. We shall discuss national home makers in the next section, “Japanese builders.”

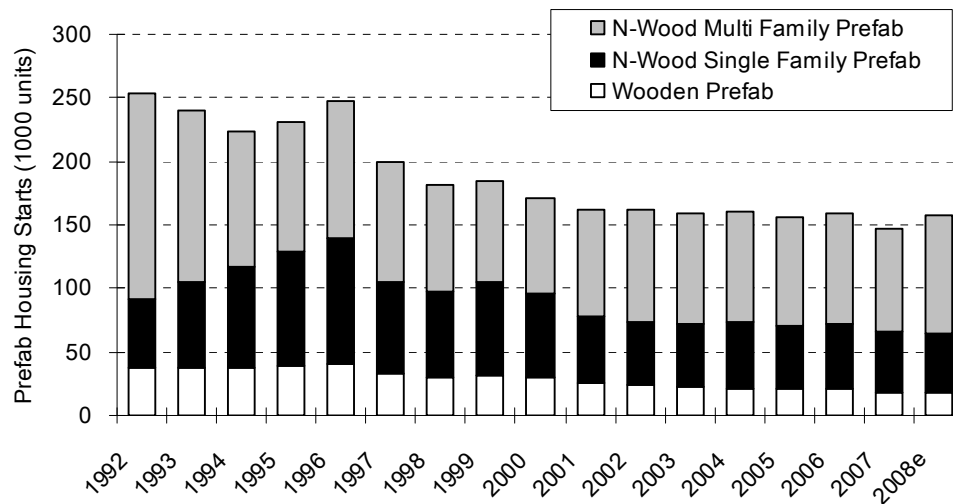


Figure 28: Prefab Housing Starts by Construction Method

Source: MLIT

Figure 29 shows our estimation of the housing starts in the builders' market. This estimate is based on assuming that wooden houses are 86% of total detached houses as shown in Table 5. The total housing starts in Figure 29 are slightly higher than the sum of custom and tract housing starts in Figure 24 because some rental units and dormitories are included in the single detached house category. The market share of tract housing in the builders' market has increased from 13.2% in 1992 to 23.1% in 2004, while prefab has remained fairly constant.

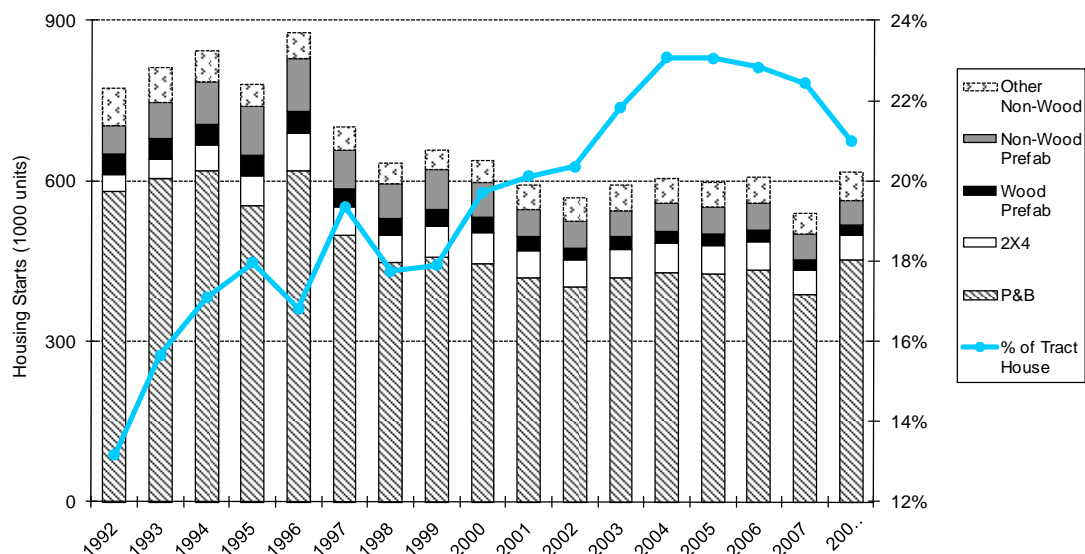


Figure 29: Breakdown of Estimated Builders' Market

Japanese Builders

The Japanese house building industry has a very unique structure. There are a lot of builders, and the market concentration ratio (e.g. Herfindahl Index) has been quite low in the Japanese residential housing industry. Ogi (2002) reported that there were 155,000 *komuten* or carpenters in 1991, with each *komuten* employing 4.4 workers. Shimase (2006) reported that there were 31,055 non-wooden construction companies and 86,995 wooden construction companies in 2004. However, very big companies and small companies co-exist together in the Japanese housing industry. Japanese builders have been traditionally classified into three groups based on the size of the firm: national home builders, regional builders, and *komuten* (JETRO 1996).

National home builders are large corporations that build houses in multiple prefectures. They have powerful nation-wide sales networks even though the actual house construction is usually subcontracted to other smaller builders. There are several national home makers in Japan, including Sekisui House (54,410 total housing starts in 2004), Daiwa House (39,128 total housing starts in 2004), Sumitomo Forestry (11,890 total housing starts in 2004), and Misawa Home (18,172 total housing starts in 2004). The annual housing starts of national home builders generally exceeds 10,000 units per year and they are much larger than other builders. National home builders build a variety of residential types ranging from apartment buildings to customized single family homes. It is important to note that the term “national home builders” is determined not only by the number of housing starts but also by the history and contribution to the industry; thus it is a very descriptive term.

Some national home builders build prefabricated houses and have their own prefabricated house component factories. Many national home builders invested heavily in manufacturing equipment in the 1980s due to the steadily increasing demand for prefabricated houses. Since most of them are *keiretsu* companies, they were able to borrow money from the main *keiretsu* bank to establish factories before the bubble burst. Pesonen (1993) stated that the prefabricated construction industry is especially capital-intensive. In order to pay off their large capital investment, prefabricated home companies used the strategy of expanding and generating economies of scale. There are some oligopolistic characteristics in the prefab market, although the market concentration of the housing market is very low. Interestingly, the five largest companies produced 73% of total prefabricated houses in 1991, which is a strong indication

of an oligopolistic market structure (Eastin and Rahikainen 1997). The oligopolistic market structure may be attributed to the *keiretsu* system, since large national home builders enjoyed the financial support of their *keiretsu*'s main banks and benefited from a supply of raw materials from other *keiretsu* umbrella companies. According to Table 6, *keiretsu* companies represented a large percentage of the national home builders' equity shares, although that percentage had dropped by 2006. In contrast, the percentage of national home builders' equity shares held by foreign financial entities has increased.

Table 6: Keiretsu Share Holders of National Home Builders in 1993 and in 2006

Mitsui Home			Sumitomo Forestry			Sekisui House		
	1993	2006		1993	2006		1993	2006
Mitsui Real Estate	60.0%	56.2%	Sumitomo Metal	7.3%	5.6%	Sekisui Chemical	21.3%	14.4%
Employees	5.2%	5.2%	Sumitomo Insurance	7.2%	2.3%	Sanwa Bank	3.9%	-
Mitsui & Co.	3.6%	-	Sumitomo Trust	6.0%	1.9%	Daiichi Insurance	3.2%	2.2%
Mitsubishi Bank	1.5%	-	Sumitomo Bank	4.2%	2.3%	Sumitomo Bank	2.9%	-
Mitsui Bank	1.3%	-	Sumitomo Shoji	2.5%	2.4%	Daiwa Bank	2.8%	-
Mitsu RE Sales	1.0%	1.1%				Sumitomo Trust	2.6%	-
Foreign SH	4.9%	8.8%	Foreign SH	18.0%	26.9%	Foreign SH	17.8%	32.7%
Funds SH	5.2%	15.8%	Funds SH	4.3%	12.6%	Funds SH	3.2%	56.0%

Source: Kaisha Shiki-ho

Other than capital investment and economies of scale, one of the biggest advantages for national home builders is brand recognition because they broadcast frequent advertisements on national television. National builders try to differentiate their homes from cheaper homes through this advertising strategy. During the lost decade, many national home builders struggled as the housing market weakened. They needed to reduce costs and downsize their facilities due to declining demand, but achieving cost reductions in their prefabricated factories was difficult. In order to cut costs, some housing companies established prefabricated factories overseas, especially in China.

Regional builders are typically mid-sized companies that build houses in a specific region. They typically build twenty to several hundred houses per year. They provide a broad range of services, from design to construction to sales. They typically build both 2×4 and post and beam residential houses. Most of them build customized houses, but some of them sell built-for-sale tract houses.

Komuten are tiny builders who build roughly three to five houses annually by order. These small *komuten* have historically occupied the largest market share of the housing market in Japan (Hashizume and Eastin 2000). *Komuten* also include self-employed carpenters who work as labor subcontractors for large builders. Usually, *komuten* do not pay much attention to sales activities, unlike regional builders. It is believed that there are more than 100,000 *komuten* in Japan.

In addition to these three industry segments, some big companies are called “medium builders.” They are bigger than regional builders but smaller than national home builders. Typically, medium builders build a couple of hundred houses per year, and some companies concentrate specifically on niche markets. For example, Sweden House provides Scandinavian-style imported housing, while Tokyu House provides North American-style houses.

There is no solid criterion for these traditional industry classifications. The question is whether these classifications are well-suited for forest products and building material exporters to use in segmenting the home building industry and identifying niche market opportunities. Unfortunately, these classifications are generally based on the companies' social hierarchical status and size of the firm. These classifications

are of questionable usefulness to U.S. forest products and building material exporters looking to identify market opportunities.

Market segmentation is a fundamental element of any marketing strategy, and marketers choose to pre-define the segments based on their qualitative experience and other factors, and/or obtain individual data to employ multivariate statistical procedures in extracting segments from data (MacLachlan and Mulhern 2005). Market segmentation is the process of dividing a market into distinct segments whose members behave in similar ways and have similar needs. Since each segment is fairly homogeneous in terms of needs and attitudes, its members are likely to respond similarly to a given marketing strategy.

North American exporters should develop different marketing strategies in order to better meet each market segments' unique needs in Japan. However, most marketing concepts, including market segmentation, were developed in North America, whereas Japanese corporations typically target one mass market without utilizing market segmentation. Lazer et al. (1985) points out that Japan, unlike the U.S. with its large middle class, is a fairly homogenous country. Another reason why North American forest products exporters paid little attention to the market segmentation of Japanese builders was because they were often dependent on Japanese trading companies and Japanese customers who had come to them for products. Section two described how the Japanese social structure and business traditions have been changing. Now that globalization and structural changes in the housing industry allow U.S. companies to more easily sell building materials directly to Japanese builders, U.S. companies must work to understand the market segments of the Japanese home building industry in order to create more effective marketing strategies.

Japanese forestry academia has paid little attention to marketing concepts, so the market segmentation of Japanese builders is not well established, even though the housing industry is the primary consumer of forest products in Japan. In Western academic papers, several researchers have segmented the Japanese housing industry for a variety of purposes. Cohen (1993) segmented the residential construction market into six different categories based on the two construction techniques (post and beam and 2×4) and the three assembly locations (on site, prefabricated, and components assembled on site). Pesonen (1993) segmented five main types of house builders and building contractors by their construction methods: large building contractors, regional builders and carpenters, post and beam pre-cutters, prefabricated housing companies, and platform-frame (2×4) construction companies. Roos, Eastin and Matsuguma (2005) segmented Japanese post and beam builders by four latent factors: ethnocentrism, market orientation, price sensitivity, and risk aversion. They identified three clusters in the Japanese P&B builders: open to import, low price sensitivity, and conservative builders. Despite this research, many North American exporters have been slow to incorporate this research into their export business strategies in Japan.

External Changes in Housing Industry

The Japanese housing industry has experienced many external environmental changes during the lost decade, especially economic and socio-demographic changes. Several important events have influenced the housing industry, including technological and regulatory changes.

Regulatory Changes and the Pre-cut Industry

Traditionally, Japanese carpenters cut all of the mortise and tenon joints of a home by hand on the job site, which was extremely labor intensive and time-consuming. Pre-cut lumber was initially introduced in 1975 to offset a skilled labor shortage caused by retiring carpenters (JLJ 2005a).

As a result of the Great Kobe Earthquake in 1995, the Housing Quality Assurance Act (HQAA) was passed in May 1998, and the Building Standards Law (BSL) was revised in 1999 from a product specification approach to a performance specification approach. This allowed builders to use a larger

variety of materials as long as they were certified to meet strength and other performance criteria. The HQAA, established and incorporated into the BSL, required builders to warranty their houses against defects for ten years (Eastin et al. 2002). These new standards dramatically changed the housing market.

One result of the HQAA was that builders more rapidly adopted pre-cut lumber (Eastin and Larsen 2007), and Japan's residential post and beam construction industry has seen an increased use of pre-cut lumber. Pre-cut lumber has minimal warping, twisting and other defects. In Japan, pre-cut lumber is defined as lumber that is cut to specified dimensions and the mortise and tenon joints are machined in a factory and then delivered to the job site. The lumber package is labeled by assembly order and bundled together as a house package. Since the lumber is pre-cut and the joints are routed by a computer controlled CNC process in a factory, there are fewer defects.

In 1994, the percentage of post and beam houses that used pre-cut lumber was estimated at 23.4%, while it was estimated to be 76% in 2004 (Fujisawa 2005). Due to the precise dimensions required for joinery of pre-cut lumber, pre-cut factories demand uniform lumber quality with minimal defects. From the beginning, kiln-dried lumber was preferred over green lumber. Pre-cut factories do not use green lumber because it often warps and twists, causing problems with the pre-cut machinery. Also, green lumber shrinks, which may cause some structural defects such as loose joints. The Japanese pre-cutting industry has hesitated to use *sugi* and Western hemlock because these species are not suitable for kiln-drying. Once the supply of U.S. Douglas-fir was constrained in the 1990s, Japanese trading companies began to import increasing volumes of European whitewood (Norway spruce) laminated lumber, mainly from Scandinavia. Laminated wood is preferred by pre-cut factories because of its uniform quality. Laminated wood reduces pre-cut factory downtime and wood waste caused by lumber defects. As of 2000, 48% of posts, 13.8% of balloon posts, and 11.4% of beams were made using European whitewood engineered lumber (Sasatani et al. 2005). However, since 2007, European whitewood glulam lumber has become more expensive due to the strong Euro. In response, builders in Japan have started looking for other lumber suppliers (Roos et al. 2008).

The number of pre-cut factories reached its peak in 1999 with over 880 factories. However, as competition increased, bankruptcies and industry consolidation occurred (JLJ 2005b). Many factories now use the latest Computer Aided Design (CAD) system to increase efficiency. Some companies even established overseas CAD centers to utilize cheap labor for the time-intensive data inputting process (Arai 2005).

Pre-cut is an evolving technology, but it has totally changed the face of the industry since the mid-1990s. National home builders have had a competitive advantage in terms of cost since they build prefabricated housing. Eastin and Rahikainen (1997) reported that in 1991 the cost of prefabricated housing was much lower than other construction methods in Japan. Each national home builder has its own factories to produce prefabricated housing components that help reduce job site labor costs. There is also less material waste on the job site for prefabricated homes, and there are fewer operational problems when applying prefabricated houses. Operational processes at job sites are smoothly managed and headquarters can easily manage building projects all over Japan. Conversely, small P&B builders cut the mortise and tenon joints by hand on the job site. Then carpenters, often standing at the job sites with construction diagrams, decided which pieces of lumber to use where. As a result, the quality of houses varied depending on the skill of carpenters, and wood waste was high. These inefficiencies made it extremely difficult for small post and beam builders to expand their businesses. The superior operations of national home builders provided them with a huge advantage over *komuten* and small builders.

After pre-cut lumber became more popular, some well managed P&B builders expanded their businesses. Using pre-cut lumber provides almost the same operational benefits as building prefabricated houses without owning a prefab house facility. Many builders buy pre-cut lumber from outside manufacturers,

although some builders have their own pre-cut factories. In most cases, pre-cut lumber is delivered just in time from pre-cut factories to job sites in order to maintain the construction schedule, while eliminating the need to store large volumes of lumber on the typically small and crowded job sites. Pre-cut lumber allows relatively unskilled carpenters to build houses of very good quality. Pre-cut lumber has reduced labor costs, waste, and the number of claims arising from defective products. Simultaneously, pre-cut lumber reduced the competitive advantage of the national home builders.

Lumber Market

Housing starts, which reached 1.6 million units in 1996, dropped to around 1.2 million in 2004 and fell below 800,000 in 2009. Currently, almost 45% of all new housing starts in Japan are built with wood, and the housing industry uses approximately 80% of imported lumber (MAFF 2003). However, because of the reduced number of housing starts, lumber and log imports to Japan decreased during the recession in the early 1990's. U.S. exporters lost a significant amount of market share in Japan, which was mainly due to the strong U.S. dollar and the U.S. housing boom that increased the price of U.S. logs and lumber. In addition, the structural changes that were occurring in the Japanese residential housing industry contributed to this loss of market share for US exporters.

Figure 30 shows the market share of imported softwood lumber in Japan. The U.S. lumber share has decreased gradually since 1990, dropping from about 34% in 1990 to 2% by 2004. Canada, which saw an increase between 1990 and 1994, began losing market share with the introduction of European glulam beams in 1993. Canadian lumber's market share decreased from 61% in 1994 to 43% in 2004. The European lumber share, especially from Scandinavia, increased from essentially zero in 1990 to almost 30% in 2004. The Russian lumber market share also increased.

There are several reasons why the Europeans have done well in the Japanese market. The primary reason is that Japanese builders shifted their material use from green solid wood to kiln dried glue laminated lumber (glulam). As mentioned earlier, pre-cut factories prefer to process glulam because it has more uniform quality than solid sawn wood. The second reason is the lower availability of North American wood for the Japanese market, due to the very strong U.S. housing market during the late 1990s and early 2000s. In response to the strong U.S. housing market, U.S. and Canadian producers focused on the North American market and paid less attention to the Japanese market. The third reason is the entrance of European forest products producers into the Japanese market during this period. European producers were more willing to manufacture products that met Japanese precut requirements, and they often offered more flexibility in pricing.

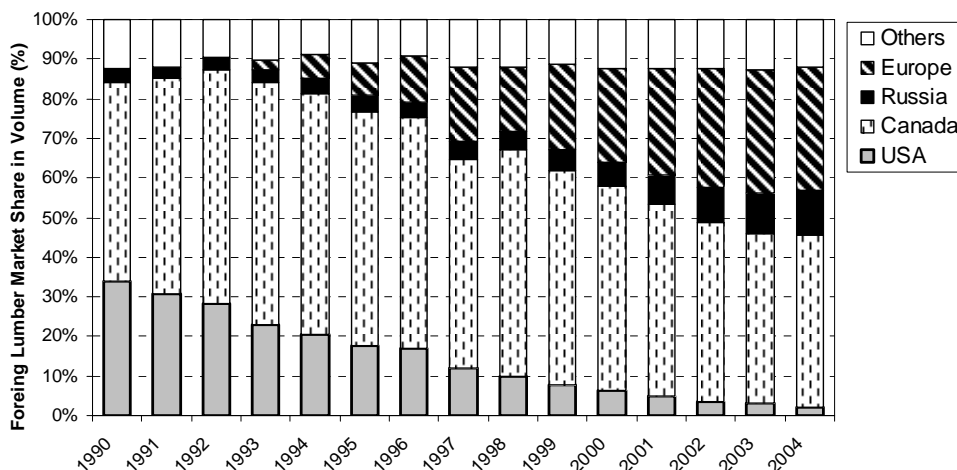


Figure 30: Market Share of Imported Softwood Lumber to Japan by Supplier Countries

The market share of imported softwood logs to Japan presents a slightly different picture, Figure 31. Since Canada did not export raw logs from provincial forests, the U.S. has traditionally dominated this market. The U.S. had an almost 50% market share in 1994, but it declined to around 25% by 2004. Canada relaxed their log export ban and increased its market share to 10% by 2004. Finally, Russia's share of log imports increased from around 30% to almost 55% by 2004, and Russia became the largest supplier of softwood logs to Japan in 1997.

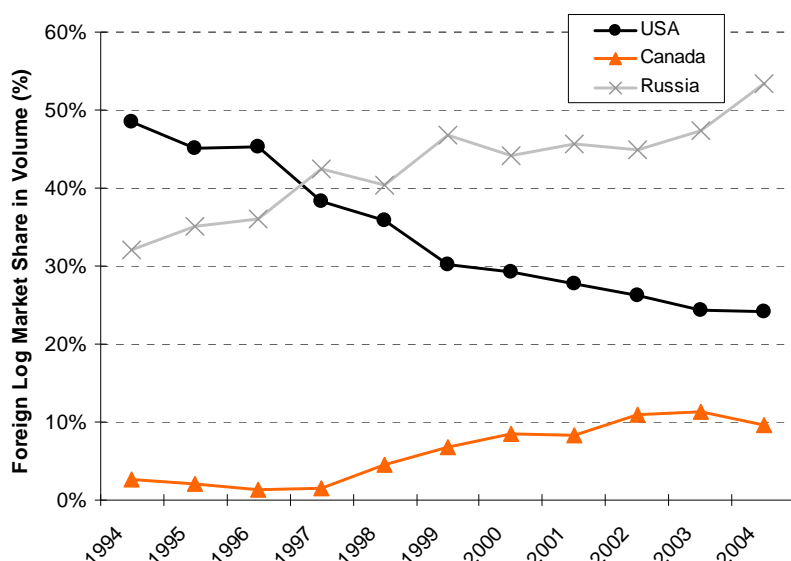


Figure 31: Market Share of Imported Softwood Log to Japan by Countries

Japanese companies and emerging Chinese companies have been aggressively competing to purchase Russian raw logs particularly since the introduction of the log export tax. As a result, many Japanese companies are concerned about the future supply of logs from Russia. The strengthening Euro is also of concern to Japanese lumber buyers. Even though the BoJ raised the interest rate to 0.25% in 2006 and to 0.5% in February 2007, the difference in interest rates (both nominal and real rates) between Japan and the U.S. and between Japan and Europe was still large as of 2006. Furthermore, demand for softwood lumber in the U.S. has decreased due to the cooling U.S. housing market and a looming U.S. recession in 2007 and 2008. These external environmental changes will impact trends in the Japanese log and lumber markets.

Mortgage and Tax Exemption

The virtual zero interest policy implemented by the BoJ caused tremendous harm to the Japanese macro economy, yet it helped many Japanese new home buyers to access cheaper mortgages. The U.S. housing boom from 2001 to 2006 was stimulated by historically low mortgage rates. During this time, however, the Japanese mortgage rate was between 2 and 3%, even lower than the U.S. rate. Furthermore, as previously mentioned, the GHLC introduced a long-term fixed secured mortgage, called Flat 35. Flat 35 was especially beneficial for young, first-time home buyers who had never owned a house. If a first-time home buyer purchased a 35 million yen¹ spec house with land, their monthly payment arranged by a 35-year-fixed mortgage with no down payment could be as low as 125,123 yen² (2.5%). That could be even cheaper than renting an apartment. Also, most Japanese mortgages allow bonus payments, which allow

¹ 291,667 U.S. dollar (US\$1 = 120 yen)

² 1,043 U.S. dollar (US\$1 = 120 yen)

borrowers to pay larger payments when they receive the traditional Japanese salary bonus twice a year. A tax exemption for mortgage payments can also be claimed, meaning that the regular monthly mortgage payments are often even lower.

The tax exemption for home purchases was introduced in 1986 to encourage young people to buy a house. The tax exemption policy has been revised almost every year and the tax exemption was 1% in 2004 (limited to 50 million yen) and is scheduled to continue for ten years. As an example, if one bought a 50 million yen house in 2004, 500,000 yen¹ in income would be exempted from tax payments annually for 10 years. However, there are some limitations to this tax exemption, and the government has decided to reduce the amount of the tax exemption gradually between 2005 and 2008. The tax exemption and low mortgage rates helped many Japanese echo baby boomers purchase their first houses.

The sales tax is also a big issue for home buyers. For example, a massive rush to purchase houses occurred prior to the sales tax increase from 3% to 5% in 1995. As of 2008, the Diet has been talking about raising the sales tax again. While we do not know when the sales tax will be raised, it is very likely that it will be increased gradually, and we can expect a corresponding increase in housing starts to precede the implementation of any sales tax increase.

Emerging Power Builders

Recently, tract housing developments built by a new category of builders called “power builders” have increased in Japan’s urban areas (Sasatani et al. 2005). The newly emerging power builders have been steadily increasing their market share (JLJ 2005b). This term was coined around 2000 to differentiate these fast growing builders from other traditional *komuten*, local regional builders, and national home builders.

The tract (spec) house is key to the definition of a power builder. However, the tract house itself is not a new concept in Japan. Many companies and public sector agencies have built subdivision tract houses for a long time. Tract builders first acquire land, build houses on the land, and sell the houses after the project has begun. When a company acquired land during the bubble era, it normally held the land because of the expectation that the land value would appreciate rapidly. Hence, the tract house business in urban areas during the bubble era did not make economic sense. As a result, Japanese builders focused mostly on building custom homes on land already owned by homeowners rather than tract houses. Although some companies contracted to build tract houses, many of them were hit hard by declining land values after the bubble burst. They were forced to sell their land for less than the acquisition price and many tract home builders went bankrupt as a result.

Iida Construction, established in 1967, was a spec house builder in the Tokyo urban area. After the bubble economy burst, they quickly acquired property in prime locations because of land price devaluations. Iida Construction differentiated itself by purchasing large parcels of land, subdividing the land and building standardized post and beam houses very quickly. Since they build and sell tract houses very quickly after purchasing the property, they minimize the risk of land devaluation. Iida Construction controls the whole operation on job sites by using pre-cut lumber supplied by external pre-cut factories. Their business strategy has also resulted in other competitive advantages. Since they build several standardized post and beam houses simultaneously on a piece of land, they can effectively manage the labor force and reduce the labor costs dramatically. Also, spec houses located in convenient areas with affordable prices have attracted the price-sensitive Japanese echo baby boomers, who began to reach their 30s in the late 1990s. With their advantages, Iida Construction has aggressively increased their market share at the expense of the small contractors who build custom homes.

¹ 4,167 U.S. dollar (US\$1 = 120 yen)

Unlike the American management style, which almost always emphasizes short-term stock holder benefits over long-term strategy, the Japanese management style generally prioritizes employees' benefits. "*Noren wake*" is one of the traditional Japanese business customs that spins off new companies for loyal employees. Usually an executive officer, who was employed by the company for long time, will be named president of a new company that is allowed to operate using the same business model. Iida Construction spun off several companies during the 1990s as *noren wake*, and they became known collectively as the Iida Group. Iida Construction changed its name to Hajime Kensetsu in 2004 (Hajime Kensetsu 2006). The Iida Group includes Hajime Kensetsu, Touei Jyutaku, Iida Sangyo, Arnest One, Tact Home, Jonan Kensetsu, and First Juken, among others. Most of the Iida Group companies have grown rapidly since the late 1990s. Initially, these Iida Group builders operating spec housing businesses were considered to be the original "power builders." Their business strategy was superior to that of other builders, so they could provide much cheaper houses with land for Japanese first-time home buyers in urban areas. Their projects were usually located within a 20 minute walking distance from a commuter train station in the Tokyo suburban area, and a typical house included two stories with a 75 square meter¹ floor area and a 100 square meter² lot. The average selling price for these houses was approximately 35 million yen³ in 2005 (Gaston et al. 2006). The low land price, low mortgage rate, and low down payment allowed younger home buyers to purchase their first house. Also, Iida Group's quick financial turnover maintained their financial stability and increased their available credit with banks, which were reluctant to loan money to many companies because of their traumatic experiences from the bubble economy. Some of the Iida Group companies went public as the financial market was deregulated. Table 7 shows three public companies of the Iida Group and those stock holders explicitly related to the Iida Group. The Iida Group owns a large portion of the shares of those power builders who went public between 1999 and 2003. Recently, however, these public Iida Group companies announced that they do not have mutual financial ties and that they are competitors. This has led to the cannibalization of market share within the Iida Group.

Table 7: Public Power Builders and their Stock Holders

Touei Jyutaku			Tact Home		
Sep-99			Aug-03		
Stock Holder	Shares	(%)	Stock Holder	Share	(%)
Hajime Shoji	3,760	13.9%	Shigeho Yamamoto (CEO)	75	31.1%
Toshihiko Sasano (CEO)	2,370	8.8%	Kazumi Iida	52	21.4%
Kazuo Iida	330	1.2%	Hajime Shoji	17	6.9%
Iida Sangyo			Kazuhiko Mori (Iida Sangyo)	10	4.1%
Feb-00			Iida Sangyo	2	0.8%
Stock Holder	Share	(%)			
Kazuhiko Mori (CEO)	9,700	30.9%			
Hajime Shoji	6,040	19.2%			
Kazuo Iida	400	1.2%			

Source: Kaisha Shiki-ho

Tama Home is another company that has been successful in offering consumers value-based houses. This company was established in 1897 and prospered as a local Kyushu builder for 100 years before finally incorporating in 1998 (Tama Home 2007). Tama builds custom homes and offers affordable pricing to their customers. They are able to sell their homes at competitive prices by purchasing materials in large quantities to secure discounts, reducing labor costs through short construction schedules (about 60 days to

¹ 807 Square Feet

² 1,076 Square Feet

³ 291,667 U.S. dollar (US\$ = 120 yen)

complete an average house), and applying pre-cut construction methods. Their typical project is a 1,300 square feet (120 square meters) floor area, two-story house sold without land for as little as 10 million yen (US\$83,300). This cheap price has attracted many young home buyers, and Tama Home built approximately 5,500 houses between Kyushu and Tokyo in 2005. Tama Home moved its headquarters to Tokyo in 2005. They have aggressively held open house exhibitions all over Japan and bought newspaper and other advertisements nationwide. Tama Home is growing fast, and the industry has started calling them a “non-spec house power builder.” Their primary target market is first-time home buyers, but they do not sell spec houses. Rather, they ask their customers to buy land from a real estate agent and then they build a custom home on the land.

Power builders have been the symbol of success in the housing industry since 2000. Some companies who imitated the efficient operational management strategy adopted by the Iida Group or Tama Home and successfully reduced their construction costs have called themselves power builders. As a result, the term “power builder” has lost its definitive status as many rapidly growing builders have now identified themselves as power builders.

There are some similarities among those power builder imitators. The main target market for them is the first-time home buyer, especially the echo baby boomer generation; and they offer inexpensive houses to first-time home buyers who do not own their land. As a result, older big builders, who mainly sell custom houses, and power builder imitators, who are mainly targeting first-time home buyers with inexpensive standardized houses, are competing in different market segments. Of course, there is a large gray area which includes custom home builders like Tama Home who target first-time home buyers who own their own land. Yet the main competitors of tract houses are more often condominiums and apartments rather than custom houses, because tract houses, apartments and condominiums all target people who do not own land.

Since many big builders and developers have diversified business lines, they have multiple divisions in their company. For example, there may be a custom house division, a subdivision house division, and a condominium division. In this case, these divisions of the big builders compete against power builders. Condominiums may be the biggest threat for the tract housing business. Land prices, land liquidation, tax exemption, and regulations (such as zoning and height limitation) can vary the competitive landscape between tract houses and condominiums. If these factors change in favor of condominiums at the expense of tract houses, this would have an adverse effect on the demand for U.S. wood products.

In the past, high cost housing was associated with quality in Japan, but Japanese consumers have become price-sensitive and value-oriented (Eastin et al. 2001). However, the adoption of pre-cut lumber allows uniform quality and has decreased the cost of construction. As long as builders utilize pre-cut lumber, they think they can assure a minimum quality. Many power builders communicate their quality to home buyers by taking advantage of the Government’s voluntary house performance evaluation rating system (Kitagawa 2005). This housing regulatory agency rates houses across nine criteria: 1) structure, 2) fire proofing, 3) degradation, 4) maintenance, 5) heat efficiency 6) air circulation, 7) sunlight, 8) sound resistance, and 9) ease of use for the elderly. Each category has a different range of scores, and power builders emphasize ratings to market their homes. The structure score may be the most important feature for home buyers in Japan where fatal earthquakes strike frequently. A 1981 stipulation under the Building Standards Law states that buildings must not be damaged by an earthquake of 5-plus intensity on the Japanese scale of 7 and must not collapse in an earthquake of at least 6-plus intensity.

In 2005, several architects and companies were blamed for fabricating earthquake resistance data for dozens of condominiums in order to reduce the cost of construction. This news frightened Japanese home owners because other builders and developers may have falsified the construction design of earthquake resistance in order to lower the construction costs. In 2006, it was claimed that Hajime Kensetsu, one of

the biggest Iida Group's power builders, did not satisfy the structural strength regulation for more than 1,000 of their wooden houses. Arnest One (Iida Group) also violated the structural strength criteria for 289 houses. In 2008, First Juken (Iida Group) built 700 units of houses which did not satisfy structural strength. Those incidents resulted in a serious negative image of the power builder's brand. Such news may lead citizens to believe that inexpensive houses could be deficient houses.

Another business model that has recently gained popularity is the "franchise builder." These are called franchise chains (FC) and voluntary chains (VC) in Japan, and they are taking advantage of a network effect among small *komuten* (Yoneyama 2005). Unlike power builders who build their own houses, the franchise builders license their brand name and building technology to small builders. Often the franchise builders own pre-cut factories and deliver pre-cut lumber to the job sites of the franchisee. Another benefit to the franchisees is that they can leverage the franchise company's economies of scale, consolidating lumber and building materials purchases to get volume discounts that are not usually available to small builders. These factors help franchises reduce the cost of operation and allow them to provide lower cost housing to customers, a business model that is similar to that of the power builders.

Table 8: Post and Beam Housing Starts by Top 20 Builders in 1998 and in 2004

1998			2004	
1	Sumitomo Forestry	9,226	Sumitomo Forestry	10,319
2	Eyefull Home	6,146	Acura Net	8,213
3	Ichijo Komuten	4,200	Hajime Kensetsu	7,000
4	Higashi Nihon House	3,890	Eyefull Home	4,980
5	Universal House	3,006	Ichijo Komuten	4,800
6	Royal Home	2,641	Touei Jyutaku	4,194
7	OM Solar Association	2,199	Jonan Kensetsu	3,500
8	Sekisui House	2,075	Sekisui House	3,011
9	Tsuchiya Home	1,549	Tama Home	3,000
10	Kameya Global	1,519	Iida Sangyo	2,858
11	Nihon Denken	1,411	Arnest One	2,824
12	Mitsui Lumber	1,256	Aida Sekkei	2,428
13	Fuji House	1,230	Higashi Nihon House	2,360
14	Kinoshita Komuten	1,229	Royal House	2,338
15	Chuo Jyutaku	1,210	Clevary Home	2,240
16	Takasugi Kaihatsu	1,148	Universal Home	2,228
17	Taisei Kensetsu	1,125	Tact Home	2,149
18	Syokusan Jyutaku	1,097	Polus Group (ChuoJyutaku)	2,074
19	Touei Jyutaku	1,050	Century Home	2,000
20	Iida Sangyo	989	Toushin Jyutaku	2,000
Total 20 Companies		48,196	Total 20 Companies	74,516
Total P&B		447,287	Total P&B	427,746
Market Share of top20		10.8%	Market Share of top20	17.4%

Source: Mokuza Kenzai

One major trend within the Japanese post and beam building industry is the concentration of market share among bigger builders. As shown in Table 8, the 20 biggest post and beam builders built 10.8% of total post and beam houses in 1998, but that number increased to 17.4% in 2004 (Figure 32). If you go back to 1991, when the bubble economy burst, only 10% of post and beam houses were built by builders whose annual housing starts were more than 100 (Ogi 2002). There is a clear trend towards industry consolidation, as bigger post and beam builders have cannibalized smaller builders and *komuten* in Japan.

Although we do not have a good definition of power builders, an important consideration is that power builders have contributed to this industry consolidation. As seen in Table 8, there were very few large spec house builders (shaded cells) in 1998. Yet there were at least nine spec house builders on the list in 2004, most of them considered to be power builders. From 1998 to 2004, power builders grew more rapidly than national home builders in terms of annual housing starts. Sekisui House and Sumitomo Forestry are both large national home builders whose annual growth has averaged 7.5% and 2.0%, respectively. On the other hand, Iida Sangyo and Toei Jyutaku, who are considered to be power builders, experienced an average annual growth rate of 31.5% and 49.9% respectively, over the same period.

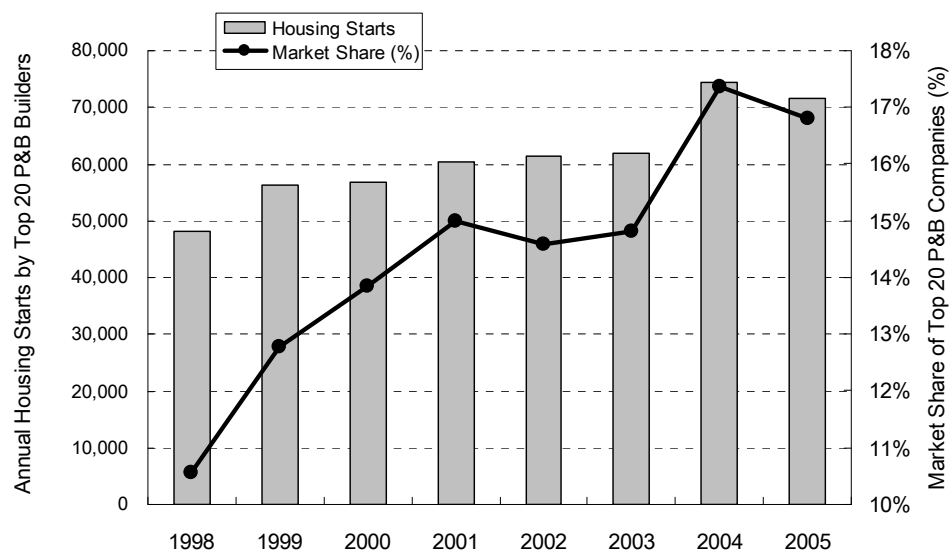


Figure 32: Post and Beam Starts by Top 20 Builders

During the lost decade, many public companies reported negative earnings. Table 9 shows the Return on Equity (ROE) of major public home builders. Return of Equity is calculated as net earnings divided by market capitalization (number of shares outstanding times the share price). New accounting standards were introduced from 2001, so there are some inconsistencies in the data before and after 2001.

Table 9: Return on Equity (ROE) of Major Home Builders

	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
National Home Builders											
Sekisui Home	5.3	5.2	5	2.6	-13.1	3.4	5.4	5.8	3.6	6.4	8.5
Sumitomo Forestry	7.3	7.8	3.8	1.8	3.9	4.6	0.3	-11.1	7.2	5.4	6.6
Mitsui Home	6.2	6.8	4.2	1.5	-0.9	3.2	-19.3	-1.2	3.1	5.3	6.9
Pana Home	9	8.7	3.9	1.5	2.3	-1.7	-6.2	-7.9	0.9	3.1	-2.3
Medium Builders											
Tsuchiya Home	10.3	7.7	1.7	-6.2	3.4	-10.9	-1.1	1.8	-0.4	-6.1	-9.1
SxL	4.9	3.9	-1.1	-8.2	2.6	4.5	-65.6	-24.7	2.7	-6.1	-462
Power Builders											
Touei Jyutaku						20.5	15.9	23.1	19.2	10.6	6.6
Iida Sangyo						23.9	19.4	21.9	26.9	17.1	14.3
Tact Home							38.8*	38.4	42.1	28.1	17
First Juken							72.7*	61.1	45.9	26.9	24.1

* → REO before IPO.

Source: Kaisha Shiki-ho and Reuters.co.jp

Some big builders have struggled since the late 1990s. Shokusan Jyutaku Sogo filed for bankruptcy protection from its creditors under the Civil Rehabilitation Law in 2002. A struggling Misawa Home, a national home builder, merged with several subsidiaries and established a new company, Misawa Holdings. Except for a negative ROE in 2000, Sekisui House, the largest home builder, reported a positive ROE between 1996 and 2006. Sumitomo Forestry, another big national home maker, had an ROE between 2 to 8%. However, many companies experienced negative ROE. Tsuchiya Home and SxL, so called medium builders, were particularly hard hit. In contrast, some power builders who went public between 2000 and 2003 reported much higher ROE than the big builders. Figure 33 shows the average market capitalization between national home builders and power builders. Even though power builders displayed abnormally high levels of profitability, the value of these companies is much less than that of the big national house builders.

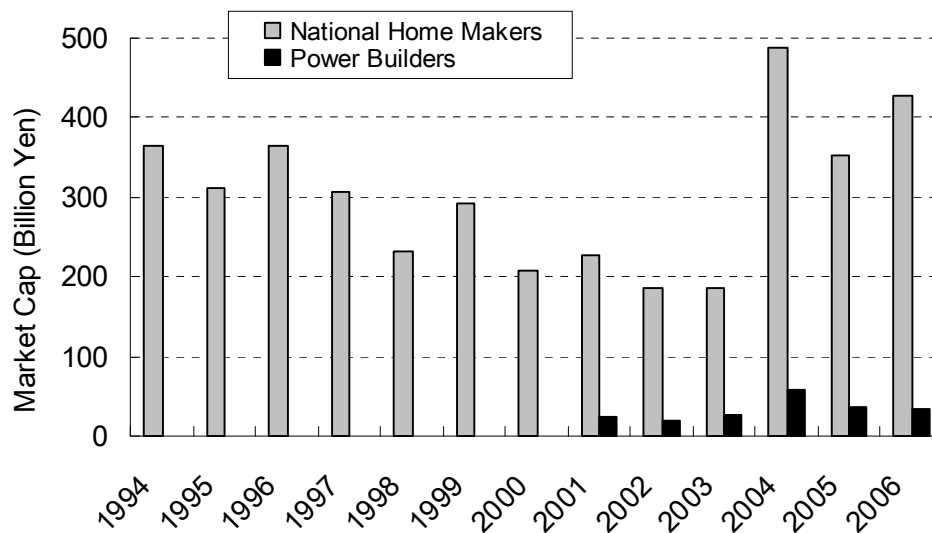


Figure 33: Average Market Capitalizaion between National Home Builders and Power Builders

4.0 Survey Design and Methodology

Survey Objective

The primary objective of this survey is to try to define who power builders are and understand how they do business. Also, we would like to know the demography and business strategy of tract house builders in Japan. Then, ultimately we would like to classify Japanese housing builders after the lost decade recession with respect to the similarity of their business strategies, and how those power builders are placed into new categories

Methodology

A mail survey was used to collect primary data to supplement the secondary data. The population examined in this study consisted of Japanese residential home builders who built more than 25 houses in 2004. Our unit of analysis was a company (or a builder) as an organization. A company may have several branches, departments, and brand names within the company, but all of them should be integrated in the company which we surveyed. Unfortunately, there is not a complete list of top Japanese builders available to the public, so we assembled our own list of builders through a review of the literature and with the help of several experts. Initially, we identified the 300 top wooden house builders from the Nikkei Home Builder (2004), Nikkei Housing and Condominiums Supply Survey (2005), and *Mokuzai Kenzai Weekly* (2005). These sources included not only the name of the builder but also some demographic characteristics such as annual housing starts. Since there was no address information for builders, we obtained the builders' addresses through an Internet search. Finally, five industry experts reviewed our list and suggested adding an additional 130 builders to the list. As a result, there were 430 builders on our list, who built an estimated 230,000 wooden houses in 2005, covering approximately 42.5% of Japan's total wooden housing starts.

Preliminary interviews were conducted with several builders and industry experts to gain a broader understanding of the issues confronting power builders and the housing industry in Japan. A preliminary questionnaire was developed based on these interviews.

The survey totaled four pages (a one-page cover letter and three pages of questionnaire), and was designed to solicit basic information on the builders' demography and the attributes of their business. The survey instrument was pre-tested by seven industry experts. The Japanese specialists included journalists and experts in the building industry. They checked grammar, terminology, readability, politeness (in terms of business customs in Japan), clarity of the questions, and ease-of-use. Also, two academic marketing experts provided comments and suggestions. The final questionnaire incorporated these comments and suggestions.

The objectives of the research project were explicitly stated on the cover page of the survey with the signatures of the director of CINTRAFOR at the University of Washington and the chief editor of the *Japan Lumber Journal*. The questionnaire and the cover letter (translated in English) are attached in Appendix D.

The cover letter and questionnaire were mailed in an envelope with the official CINTRAFOR logo. Two waves of 430 surveys were mailed from Osaka, Japan. The first surveys were mailed out on August 29, 2006. The second follow-up survey was mailed on September 15, 2006. We asked responders to send all questionnaires to the *Japan Lumber Journal* in Tokyo via fax.

A total of 430 surveys were distributed across Japan. Eight addresses were disqualified because they were either closed businesses or local branches of a company. Hence, the total sample size for this study was 422 companies. Table 10 shows the distribution of sample population by location of companies'

headquarters; 39.8% of the surveys were mailed to the Kanto area, 15.2% were mailed to the Kansai area, and 13.3% were mailed to the Tokai area. It is important to note that the total number of housing starts in each row does not reflect the total housing starts in each area because some companies are operating businesses over multiple areas beyond where their headquarters are located. For example, total housing starts in Kanto are listed as 171,061 but since many big companies' headquarters are located in the Kanto area, especially in Tokyo, some of these housing units were built outside the Kanto area.

Table 10: Distribution of Mail Survey Sample by Location of Headquarters

	Frequency	%
Hokkaido	23	5.5%
Tohoku	25	5.9%
Kanto	168	39.8%
Hokuriku+KS	43	10.2%
Tokai	56	13.3%
Kansai	64	15.2%
Chugoku	17	4.0%
Shikoku	8	1.9%
Kyushu	18	4.3%
Total	422	100%

Note: Hokkaido: Hokkaido prefecture

Tohoku: Aomori, Akita, Iwate, Miyagi, Fukushima and Yamagata prefectures

Kanto: Tokyo, Saitama, Chiba, Kanagawa, Gunma, Ibaragi and Tochigi prefectures

Hokuriku & KoShin: Fukui, Kanazawa, Toyama, Niigata, Yamanashi and Nagano prefectures

Tokai: Shizuoka, Aichi, Gifu and Mie prefectures

Kansai: Osaka, Hyogo, Kyoto, Nara, Shiga and Wakayama prefectures

Chugoku: Okayama, Hiroshima, Yamaguchi, Tottori and Shimane prefectures

Shikoku: Ehime, Kochi, Kagawa and Tokushima prefectures

Kyushu: Fukuoka, Saga, Nagasaki, Oita, Kumamoto, Kagoshima, Miyazaki and Okinawa prefectures

Response Rate and General Results

The overall response rate obtained for the survey was 19.0% (n=80). In some cases, non-response bias can influence the general reliability of extrapolating the survey results to the population of interest. To ensure that non-response bias did not significantly affect the results, independent sample t-tests comparing the mean responses of early respondents (those who responded to the first mail) and late respondents (those who responded to the second, follow-up mail) were performed for each variable. The Armstrong-Overton test for non-response bias (1977) determined that non-response bias in this survey was not significant.

Table 11 shows the response rate by the location of headquarters. Tohoku and Kyushu had relatively high response rates. On the other hand, Shikoku, Hokkaido and Kansai had relatively low response rates.

Table 11: Response Rate by Location of Headquarters

	Sample	Response	Response Rate
Hokkaido	23	3	13.0%
Tohoku	25	10	40.0%
Kanto	168	25	14.9%
Hokuriku	43	8	18.6%
Tokai	56	13	23.2%
Kansai	64	9	14.1%
Chugoku	17	5	29.4%
Shikoku	8	1	12.5%
Kyushu	18	6	33.3%
Total	422	80	19.0%

Company Demographics

Generally, Japanese residential home builders have been categorized into three groups, based on their housing starts: *komuten*, regional builders, and national home builders. *Komuten* are the smallest builders, building less than ten houses annually. Most *komuten* are subcontractors and they usually do not sell houses they build. As a result, our sample frame did not include any *komuten*, although 8 of our respondents identified themselves as *komuten*, Table 3. It is likely that the building industry has become more diversified recently. We identified several other types of builders beyond the main three groups. One of them is “tract power builders.” Power builder is a very new term, which does not belong to any of the main three categories. In addition, the Japanese do not have solid definitions for *komuten* regional builders. We need some new, reasonable categories for classifying Japanese builders in order to understand their business behaviors. Table 12 shows the mean values for various survey questions by builder type.

The first category examined was *komuten*, or small contractors, with 8 respondents. The data showed that *komuten* built an average of 53 custom houses and 4 tract houses in 2005, and that a majority of these were wooden construction. The construction method used by *komuten* for wood frame houses was 92% P&B and 8% 2×4. The data showed that *komuten* have the largest percentage of full-time employees of all the builder categories, with 41%. The average age of home buyers who purchased homes from *komuten* was 46 years, the oldest among all the builder categories. For pre-cut lumber usage, the *komuten* respondents had the lowest usage rates. They used 59% of pre-cut lumber for structural lumber and 27% for non-structural lumber.

The next category of builders examined was the regional builders. This category had 40 respondents, which comprised 50% of the total. As with *komuten*, almost all the houses they build are wood frame houses. In 2005, regional builders built an average of 68 units of wood custom homes, 13 units of wood tract houses, and 2 units of wood multi-family homes. Of wood-frame houses, 75% are P&B and 23% of them are 2×4. The number of houses built by regional builders grew by an average of 10% from 2001 to 2005. As their name suggests, regional builders operated in local regions with a mean value of doing business in 1.1 regions. They use pre-cut lumber for 92% of structural lumber and for 58% of non-structural lumber. 22% of their job-site laborers are full-time employees, 40% are part-time workers, and 38% are contracted builders (*komuten*).

The third builder category was national builders who build houses throughout Japan. There were 3 respondents in this category. In 2005, the national builders built an average of 5,100 wooden custom houses, 800 tract houses, 490 wooden multi-family units (apartments/condominiums), 450 units of non-wooden custom homes, 43 units of non-wooden tract homes, and 36 units of non-wooden multi-family

houses. In contrast to *komuten* builders, who prefer the post and beam method, national builders built 44% of their wood homes as 2×4 and 56% as prefabricated homes. Their house price per *tsubo* was the highest at 700,000 yen. The mean cost per *tsubo* of all other categories combined was 538,000 yen. Their average house price was 30 million yen, which is almost 50% above the total average price. Due to the high-end homes they build, only 40% of their customers were first-time home buyers. One interesting result was that 50% of their customers paid cash for their houses, while the remaining 50% used mortgages. The analysis showed that 90% of the job-site labor for national builders is sub-contracted out to other builders. National builders are facing difficult times as shown by the result that the number of houses they build annually decreased by an average of 11% from 2001 to 2005.

The fourth builder category was medium-sized builders, with 15 respondents. Medium-sized builders were between regional builders and national builders in the number of units built per year. 96% of the houses they built were wooden construction. The mean values of types of houses built by medium-sized builders in 2005 were: 310 wood custom homes, 210 wood tract houses, three wood multi-family houses, and 37 non-wood multi-family houses (apartments/condominiums). Tract houses accounted for 20% of the total houses they built in 2005, which was second behind power builders. Approximately 58% of their houses were built using the post and beam construction method and 42% were built with the 2x4 construction method. Medium-sized builders used pre-cut lumber for 92% of their structural lumber and for 72% of their non-structural lumber. The average unit sold by medium size builders was 20 million yen or 535,000 yen per *tsubo*, which was close to the overall mean. The number of houses built by medium-sized builders grew at an average annual rate of 8% from 2001 to 2005.

The next category of builders was tract power builders; there were 4 respondents in this category. 74% of the houses built by power builders in the sample were tract houses, much higher than the other builder categories. All the houses they built were wooden construction. Power builders built an average of 45 custom homes and 1,700 tract homes in 2005. 69% of the homes were built by the post and beam method, and 31% were built by the 2x4 construction method. Power builders differentiated themselves with an average house price of 16.5 million yen, much lower than the other builder categories. The average floor area was 32.8 *tsubo* with a price per *tsubo* of approximately 505,000 yen. This was slightly below the total mean price per *tsubo*. The number of houses built annually by power builders in the survey from 2001 to 2005 increased at an average annual rate of 16.4%, the highest increase of all the builder categories. Power builders were the youngest category of builders, with a mean of 18 years in business. Unlike national builders who do business in many regions, power builders conducted most of their business in two regions and 74% of their job-site labor was subcontracted to other builders. One of the strategies power builders use is to target first-time home buyers with value-priced homes. The data showed that 93% of their customers were first-time home buyers with an average age of 36. This was the youngest home buyer age of all the builder categories. The power builders apply pre-cut lumber for 75% of structural lumber and for 27% of non-structural lumber.

The sixth category was franchise chain or voluntary chain (FC/VC); there were 4 respondents in this category. The FC/VC category of builders built an annual average of 150 wood custom homes and 13 wood tract homes. 100% of their construction was wood frame. 49% of the houses were built with the P&B construction method and 51% were built with the 2×4 construction method. 100% of the job-site labor was subcontracted to franchisee *komuten*. The house price for the FC/VC category was very close to the house prices for the *komuten* and regional builder categories. The number of houses built between 2001 and 2005 increased by 7.2%

The final category was developers, with 2 respondents in this category. Their main business is non-wooden apartments and/or condominiums. Only 8% of the houses they built were wood frame, with the remainder being steel and concrete construction. Of the wood frame houses, 100% were tract houses built using the 2x4 construction method. From 2001 to 2005 the average number of houses built annually by developers declined by an average of 15%.

Table 12: Demographics by the Type of Builders (builders self categorized based on open ended question)

	<i>Komuten</i> (n=8)	Regional builder (n=40)	National Builder (n=3)	Medium Builder (n=15)	Tract Power Builder (n=4)	Franchise HQ FC/VC (n=4)	Developer (n=2)	Total (N=80)	
								Mean	Std. Err.
Wood Construction									
Custom House (units)	53	68	5,100	310	45	150	0	367	152
Tract House (units)	4.0	13	800	210	1,700	13	81	165	68.0
Apartment/ Condo (units)	0.1	1.9	490	3.3	0	0.8	0	20.1	13.4
Non-Wood Construction									
Custom House (units)	0.9	0.6	450	1.3	0	0	0	17.7	11.9
Tract House (units)	0	0	43	0	0	0	0	1.6	NA
Apartment/ Condo (units)	0	0.2	36	37	0	0	1,500	47.6	38.4
Construction Type Percentage									
% of Wood Construction	99%	97%	79%	96%	100%	100%	8.0%	94.0%	2.0%
% of Tract House	8.9%	9.8%	7.5%	21%	74%	6.4%	8.1%	14.6%	2.9%
Wood Construction Method									
% of P&B	92%	75%	0%	58%	69%	49%	0%	64.0%	5.0%
% of 2X4	8.3%	23%	44%	42%	31%	51%	100%	30.7%	4.7%
% of Wooden Prefab	0%	1.6%	56%	0%	0%	0%	0%	2.9%	1.7%
House Statistics									
Price (1,000 yen/ <i>tsubo</i>)	519	527	700	535	505	563	550	538	12.0
Floor Area (<i>tsubo</i>)	41.0	41.1	43.0	37.3	32.8	41.3	34.0	39.7	0.68
Total Price (1,000 yen)	21,300	21,700	30,100	20,000	16,500	23,200	18,700	21,300	580
Company Demographics									
Annual Growth Rate (%)	4.6%	9.9%	-14.7%	7.8%	16.4%	7.2%	-15.2%	7.4%	2.2%
# of Regions Builds In	1.6	1.1	8.7	2.1	2.3	6.5	2.5	2.14	0.27
Years in Business	29 yrs	27 yrs	36 yrs	25 yrs	18 yrs	24 yrs	35 yrs	26.7 yrs	1.28 yrs
Job Site Labor Categories									
Full Time Employees (%)	41%	22%	10%	13%	26%	0%	0%	20.3%	4.0%
Part-Time Workers (%)	35%	40%	0%	31%	0%	0%	0%	30.6%	4.8%
Subcontract Companies (%)	24%	38%	90%	56%	74%	100%	100%	49.2%	5.3%
Home Buyer Demographics									
% of Mortgage Home Buyers	79%	79%	51%	76%	67%	84%	85%	77.0%	2.6%
Average Age of Home Buyers	46	42	44	40	36	42	42	42.3	0.77
% of First-Time Home Buyers	65%	63%	40%	63%	93%	58%	50%	62.3%	2.5%
Percentage of Pre-Cut Lumber Usage									
Structural (%)	59%	92%	90%	92%	75%	83%	90%	87.2%	3.0%
Non-Structural (%)	27%	58%	50%	73%	27%	67%	75%	56.9%	5.3%

Frequency of Business

Table 13 shows the type of business behaviors engaged in by survey respondents. Developers and power builders do less remodeling business than the other categories; national home builders were the only category to have overseas offices. In all the categories, however, there were companies who reported importing lumber and building materials directly, although the national home builder respondents imported lumber directly but not building materials.

The results did not show a strong relationship between preferring engineered wood (EW) over kiln-dry (KD) lumber and using pre-cut lumber. Even though medium-sized builders and regional builders use a majority of pre-cut lumber, only 33% of medium sized builders and 43% of regional builders preferred EW to KD. On the other hand, 75% of tract power builders prefer EW over KD lumber, although the survey data showed that they used pre-cut lumber less than the total mean.

Other results that stood out in Table 13 were as follows: One third of the respondents own pre-cut factories. 79% of respondents do business in three major urban areas (Tokyo, Osaka, and Nagoya). 25% of the total and 100% of tract power builders have been called “power builders” by other builders in the industry.

Table 13: Business Behavior by the Type of Builders

	<i>Komuten</i>	Regional Builder	National Builder	Medium Builder	Tract Power Builder	FC/VC	Developer	Total
	(n=8)	(n=40)	(n=3)	(n=15)	(n=4)	(n=4)	(n=2)	(N=80)
Doing Reforming Business	100%	90%	100%	73%	50%	100%	0%	84%
Purchasing from DIY	13%	18%	0%	20%	0%	25%	0%	15%
Overseas Office	13%	10%	67%	13%	0%	50%	0%	15%
Import Lumber Directly	13%	13%	67%	7%	25%	25%	0%	17%
Import Building Materials Directly	13%	13%	0%	20%	25%	50%	0%	18%
Prefer Engineered Wood over KD	25%	43%	0%	33%	75%	25%	0%	38%
Origins in Different Business	25%	23%	0%	40%	25%	50%	50%	27%
Own Precut Factory	38%	25%	100%	40%	50%	25%	0%	33%
Business in 3 Major Urban Areas	38%	18%	100%	53%	75%	75%	100%	79%
Business in Other Urban Areas	38%	28%	100%	27%	25%	100%	50%	38%
Business in Suburban Areas	75%	38%	100%	40%	25%	75%	0%	47%
Ever Called a Power Builder	13%	28%	0%	20%	100%	0%	0%	25%

Who are Power Builders?

We had four tract power builders in our samples. Around 2000, there were only about a dozen power builders in Japan. Those power builders were essentially tract house builders in the Tokyo urban area, and they were considered to be the “original power builders.” Their business models are very solid and similar, as discussed in Section 3.8.

However, the mass media soon started calling any fast growing builder a “power builder.” When we visited Japan and interviewed builders, we found that many were labeled as power builders. Basically, these power builders are an emerging group of fast-growing builders who were originally small builders. Through interviews with acknowledged power builders, we found some similar characteristics (but not always), as shown in the following list; but we failed to find a solid definition for power builders.

- Power builders have been growing fast.
- Most power builders primarily build wooden post and beam houses.

- There are two types of power builders: tract power builders and custom power builders.
- Power builders prefer to use pre-cut engineered wood over solid sawn kiln-dried lumber.
- Power builders are mainly targeting first-time home buyers.
- Power builders build lower cost houses to attract customers.
- Power builders use contractors rather than their own carpenters to build houses.

To confirm that power builders share the characteristics listed above, we compared the demographic characteristics of acknowledged power builders and other types of builders. The survey asked builders if they had ever been called power builders by the media or by other firms. The results show that a sizeable number of builders who categorized themselves as regional builders, *komuten*, and medium builders were sometimes labeled as power builders. Amongst the 80 responders, 19 builders (23.8%) reported that they had been labeled as power builders in the past.

Table 14 compares the means between firms that have been labeled as power builders (LPB) and firms that have never been labeled as power builders (NLPB). In 2005, the LPB category built an average of 482 tract wood houses (29% of the total houses they built), which was significantly higher than the NLPB category, which built an average of 68 wood houses (11% of the total houses they built). However, 8 LPB did not build any tract houses in 2005. The average percentage of post and beam wood houses built in 2005 was 78% for LPB and 59% for NLPB. However, 2 LPB did not build any P&B houses in 2005. None of the builders in the LPB category built any prefabricated wood houses.

In terms of customers, 73% of the customers of the LPB category were first-time home buyers, which was significantly higher than the 60% first-time home buyers in the NLPB category. The average age of home buyers and the percentage of home buyers who used mortgages did not show significant differences between the two groups.

The results showed that 95% of the LPB category had positive annual growth from 2001 to 2005. In contrast, only 62% of NLPB had positive annual growth from 2001 to 2005. The number of houses built annually by builders in the LPB category grew by an average of 10.3% from 2001 to 2005. In contrast, the number of houses built annually by builders in the NLPB grew by only 6.4%. However, the data may be skewed to show higher growth for smaller builders, because the total number of houses built is the denominator for the percentage of growth calculation. Therefore, we also compared the annual average incremental growth of housing built annually. The average annual incremental growth for houses built by the LPB category was 93 units from 2001 to 2005. In contrast, the average annual incremental change for houses by the NLPB category was a negative 43 units during the same period.

Some of the results were contrary to our expectations. For example, the LPB category of builders used more full-time employees (36.5%) than the NLPB category (15.4%). Furthermore, there was no evidence that the LPB use significantly more subcontractors than the other categories. Finally, counter to our expectations, there was not a significant price per *tsubo* difference between the two categories. The mean price per *tsubo* of houses built by the LPB category was 541,000 yen; it was 537,000 yen for houses built by the NLPB category.

Table 14: Demographics Differences between NLPB versus LPB

	Never Labeled as Power Builders (n=58)	Labeled as Power Builders (n=19)	t-test	Identified as Tract Power Builders (n=4)
Wood Construction				
Custom House (units)	362	173		45
Tract House (units)	68	482	***	1,700
Apartment/ Condo (units)	27	1		0
Non-Wood Construction				
Custom House (units)	24	1		0
Tract House (units)	2	0		0
Apartment/ Condo (units)	56	29		0
Construction Type				
% of Wood Construction	93%	97%		100%
% of Tract House	11%	29%	**	74%
Wood Construction Method				
% of P&B	59%	78%	*	69%
% of 2X4	34%	22%		31%
% of Wooden Prefab	4%	0%	*	0%
House Statistics				
Price (1,000 yen/ <i>tsubo</i>)	537	541		505
Floor Area (<i>tsubo</i>)	39.8	38.8		32.8
Total Price (1,000 yen)	21,400	21,000		16,500
Company Demographics				
Annual Growth Rate (%)	6.4%	10.3%		16.4%
Annual Increment Housing	-43	93	*	
# of Regions Builds In	2.2	1.8		2.25
Years in Business	27.1	25.3		18 yrs
Job Site Labor Categories				
Full Time Employees (%)	15%	37%	*	26%
Part-Time Workers (%)	33%	28%		0%
Subcontract Companies (%)	52%	36%	*	74%
Home Buyer Demographics				
% of Mortgage Home Buyers	77%	81%		67%
Average Age of Home Buyers	42	41		36
% of First Time Home Buyers	60%	73%	**	93%
Percentage of Pre-Cut Lumber Usage				
Structural (%)	85%	93%		75%
Non-Structural (%)	59%	54%		27%

Note: * significance at 10% level

** significance at 5% level

*** significance at 1% level

Table 15 shows the frequency of business behaviors between LPB and NLPB. There was a significant difference between the two categories in the preference for using engineered wood (EW) over kiln-dried lumber. In fact, 58% of the respondents in the LPB category indicated they preferred EW over kiln-dried

lumber. This figure was much lower for the NLPB category, where only 32% indicated they preferred EW over kiln-dried lumber. Growth in the last 4 years also shows differences between LPB and NLPB. This may lead to the conclusion that the LPB category tended to grow faster than the NLPB category in the last four years, but that may not be true. We do not know the causal relationship between acknowledged power builders and growth. In addition, our sample population was biased because we only surveyed those home builders who were still in business. Other than annual growth and EW lumber preference, the other items did not show significant differences between the two categories.

Table 15: Business Behavior Differences Between NLPB versus LPB

	Never Labeled as Power Builders (n=58)	Labeled as Power Builders (n=19)	Chi- square	Identified as Tract Power Builders (n=4)
Doing Reform Business	86%	74%		50%
Purchasing from DIY	16%	16%		0%
Overseas Office	16%	11%		0%
Import Lumber Directly	14%	21%		25%
Import Building Materials Directly	16%	21%		25%
Prefer Engineered Wood over KD	32%	58%	**	75%
Origins in Different Business	28%	26%		25%
Own Precut Factory	29%	37%		50%
Business in 3 Major Urban Areas	40%	42%		75%
Business in Other Urban Areas	38%	37%		25%
Business in Suburban Areas	48%	37%		25%
Positive Growth in last 4 years	62%	95%	**	100%

Note: * significance at 10% level; ** significance at 5% level

Some LPB tend to build more tract houses, to target first-time home builders, to use more EW lumber, and to grow faster than others. However, those are not convincingly clear definitions of power builders. For example, many self-proclaimed power builders do not built tract houses at all. Perhaps the “fast-growing” category would be only a similar characteristic among self-proclaimed power builders. Why is the definition of power builder so fuzzy? We suspect that most LPBs are actually imitators of the original tract power builders. Many small- and mid-sized builders, who observed that original tract power builders successfully expanded their businesses, have attempted to imitate those business strategies to expand their own business opportunities in the last couple of years. Some firms have imitated their strategies very well, but other firms have not. Now it appears that using the term “power builder” has become a marketing slogan for builders in the Japanese housing industry. This will be discussed extensively in the next section.

Clustering Strategic Groups

Firms’ strategies for competing in an industry can differ in a wide variety of ways. Porter (1980) suggested some useful strategic dimensions (e.g., specialization, brand identification, product quality, cost position, service, price policy, and relationship to government). We posed 23 attitudinal questions where each builder answered using a Likert-like seven point scale ranging from “strongly disagree (1)” to “strongly agree (7)” for business strategy questions or from “never do it at all (1)” to “always do it (7)” for company behavior questions. Our questions were based on Porter’s dimensions and applied to Japan’s home building industry in order to capture the wide variety of home builders competitive strategies. Even though the Likert scale should be considered as providing ordinal-categorical data, we treat this data as interval-level data for computational purposes. The results of the business strategy attitudinal questions are summarized in Table 16, and the results of behavior questions are shown in Table 17.

Table 16: General Results of Strategy Questions

Questions	Label	Strongly Disagree		Neutral		Strongly Agree			mean	Median	n
		1	2	3	4	5	6	7			
We prefer using domestic lumber to imported lumber	Prefer Domestic Species	12.7%	11.4%	16.5%	17.7%	8.9%	7.6%	25.3%	4.23	4	79
Our company's brand name is very important for customer acquisition	Brand Strategy	2.5%	3.8%	1.3%	8.9%	13.9%	29.1%	40.5%	5.77	6	79
We strive to minimize our construction time	Shorten Schedule	0.0%	2.5%	1.3%	10.1%	19.0%	32.9%	34.2%	5.81	6	79
Our web site is important to our sales strategy	Web Page Promotion	0.0%	0.0%	3.8%	20.3%	27.8%	26.6%	21.5%	5.42	5	79
Model houses at Home Exhibition are the most important for customer acquisition	Home Exhibition	6.3%	12.7%	3.8%	19.0%	31.6%	13.9%	12.7%	4.49	5	79
Our business is strongly tied with local community	Local Concentration	2.5%	2.5%	2.5%	5.1%	13.9%	38.0%	35.4%	5.81	6	79
Suppliers with ISO-14000 are preferable	Prefer ISO-14000	1.3%	2.6%	3.8%	32.1%	30.8%	20.5%	9.0%	4.86	5	78
Stable supply is more important than cheaper price of materials	Prefer Stable Supply	3.8%	3.8%	5.1%	41.8%	24.1%	16.5%	5.1%	4.48	4	79
We try to purchase building materials from a company whose service is good even though its price is a bit higher	Service Suppliers	1.3%	3.8%	2.5%	38.0%	38.0%	12.7%	3.8%	4.61	5	79
We are aggressively investing small development as low as five spec homes per one land	Small Tract Development	2.5%	2.5%	13.9%	38.0%	30.4%	10.1%	2.5%	4.32	4	79
We are even putting a lot of effort on the interior design of a house	Interior Design	38.5%	12.8%	16.7%	10.3%	6.4%	7.7%	7.7%	2.87	2	78
When we design a house, we try to harmonize with the cityscape	Harmonizing Estatescape	0.0%	2.5%	0.0%	11.4%	20.3%	32.9%	32.9%	5.80	6	79
We put a lot of effort on not only house design but also garden design	Garden Design	2.5%	2.5%	1.3%	7.6%	7.6%	20.3%	58.2%	6.09	7	79
Even though they spend more money, our customers are very picky in terms of the quality of a new house.	Fussy Customers	1.3%	2.6%	3.8%	23.1%	29.5%	21.8%	17.9%	5.14	5	78

Table 17: General Results of Behavior Questions

Questions	Label	Never	50-50			Always			mean	Median	N
		1	2	3	4	5	6	7			
We use standardized plans for the houses we build	Standardized Plan	1.3%	3.8%	3.8%	12.7%	27.8%	38.0%	12.7%	5.27	6	79
We abide by lumber choice decisions made by a precut factory	Decision by Precut Factory	6.3%	7.6%	5.1%	27.8%	15.2%	20.3%	17.7%	4.70	5	79
Appearance, beauty, and color are very important factors to choose structural lumber.	Appearance of Lumber	20.5%	10.3%	11.5%	26.9%	15.4%	9.0%	6.4%	3.59	4	78
We worry more about the compliance by the law and regulation by the central and the local government rather than about the satisfaction of our customers	Legal Compliance Sensitive	3.9%	7.8%	9.1%	28.6%	16.9%	16.9%	16.9%	4.65	5	77
We are always looking for cheaper products from abroad	Cheaper Foreign Source	11.5%	15.4%	14.1%	32.1%	12.8%	7.7%	6.4%	3.68	4	78
We aggressively try to hire someone who has good management skills and knowledge	Hire Good Managers	21.5%	13.9%	15.2%	20.3%	10.1%	6.3%	12.7%	3.53	3	79
We depend on external real estate agencies for home sales	Depending RE Agency	71.4%	13.0%	7.8%	1.3%	1.3%	2.6%	2.6%	1.66	1	77
We are putting efforts into Japanese design	Japanese Design	16.5%	24.1%	15.2%	25.3%	7.6%	10.1%	1.3%	3.19	3	79
We are putting efforts into Western design	Western Design	7.6%	7.6%	7.6%	26.6%	21.5%	17.7%	11.4%	4.46	5	79

The survey data was evaluated using a cluster analysis. Cluster analysis is a data analysis method for classifying samples into several previously unknown groups. The goal is to classify respondents into several groups (or clusters) so that the degree of association is strong between intra-cluster members and weak between inter-cluster members. Cluster analysis can be used to uncover associations and structure in data, which may not have been evident prior to the analysis but which nevertheless are sensible and useful once found. Therefore, cluster analysis is the best option to apply to our data for identifying potential strategic groups of Japanese builders.

Hierarchical cluster analysis with the Ward's method was applied to find cluster groups from the 79 valid respondents. The similarity measurement for each builder is a squared Euclidean distance calculated from business strategy and company behavior. Those similarities formed several clusters. There are some missing values in our data; they were imputed by a regression method from other available data. Figure 34 shows a brief chart of the results of the cluster analysis; we primarily found two big groups. Here, 49 builders of our sample belong to Strategic Group A, and 30 belong to Strategic Group B.

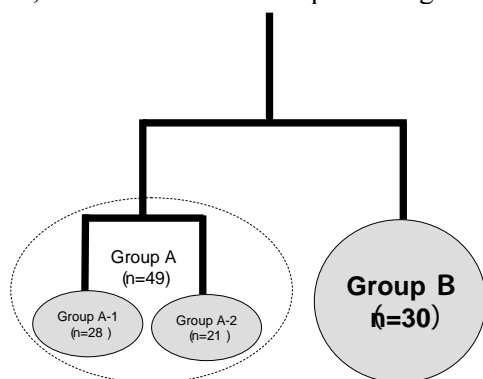


Figure 34: Brief Summary of Strategic Groups in Japan

Table 18 shows the mean differences of the attitudinal questions between Strategic Group A and Strategic Group B. Many business strategies and company behaviors are different between Groups A and B, and only the items that showed significant differences are shown on Table 18. Group B prefers domestic species significantly more than Group A. Group B believed their brand image attracts customers, and they are tied to their local community significantly more than Group A. Group A more aggressively develops small sized tract housing and tries to construct housing on a shorter schedule than Group B. Group B has more quality-sensitive customers and even put some efforts into landscape design for gardens. Group B prefers a Japanese housing design while Group A prefers a Western design. Group A is finding cheaper foreign suppliers.

Many demographic characteristics are also different between Groups A and B, as shown in Table 19. In 2005, Group A built 955 total houses on average, and 90.5% of them were wooden houses; while Group B built an average of 70.5 total houses, 99.5% of them wooden. For Group B, 91.1% of wooden housing starts were post and beam. On the other hand, for Group A, 46.3% were post and beam and 45.0% were 2×4 wood framed houses. Group A built an average of 268 tract houses, which accounted for 19.1% of total housing starts in 2005, whereas Group B built an average of 5.6 tract houses, which accounted for 7.8% of total housing starts.

Of the builders in Group A, 50% sell houses in urban commutable areas in the three major urban areas (Tokyo, Osaka, and Nagoya), while 48% sell houses in the suburbs of the three major urban areas. 27% of the builders in Group B sell houses in urban areas, and 20% sell houses in the suburbs of the three major urban areas. In terms of hiring carpenters who actually build houses for companies, for Group A 64.7% of their homes were contracted to small *komuten* and only 17.9% were built by part-time

carpenters who were hired directly by the respondents; but for Group B only 17.9% of their homes were built by *komuten* and 49.0% were part-time carpenters.

Table 18: Attitudinal differences between Strategic Group A and Strategic Group B

	Group A	Group B	z-test	
Prefer Domestic Species	3.02	6.20	-9.58	***
Brand Strategy	5.51	6.20	-2.29	**
Shorten Schedule	6.04	5.43	2.05	**
Local Concentration	5.55	6.23	-2.28	**
Prefer Stable Supply	4.45	4.87	-1.69	*
Small Tract Development	3.75	1.47	7.07	***
Concentrate on Wood House	5.78	6.60	-2.98	***
Garden Landscape	4.88	5.57	-2.30	**
Quality Sensitive Customers	4.98	5.73	-2.62	**
Standardized Plan	4.37	5.23	-2.20	**
Finding Foreign Cheap Suppliers	4.12	2.57	3.62	***
Depending on Real Estate Agency	2.00	1.13	3.35	***
Japanese Design	2.80	3.83	-2.93	***
Western Design	4.90	3.73	3.15	***

Table 19: Demographic Comparison between Strategic Group A and Strategic Group B

	Group A	Group B	t-test	
Sun Light (sigma)	-0.759	-0.210	-2.61	**
Senior House (sigma)	-0.236	0.081	-1.80	*
Anti-theft (sigma)	-0.180	-0.614	2.45	**
Total Housing Starts in 2005	955	70.5	2.73	***
Total Wooden Housing Starts in 2005	847	70.2	2.52	**
Customized Wood Housing Starts in 2005	564	62.9	2.03	**
Tract Wood Housing Starts in 2005	268	5.60	2.39	**
% of Post and Beam Starts	46.3%	91.1%	-5.72	***
% of 2×4 Starts	45.0%	8.77%	4.71	***
% of Prefab Starts	4.81%	0%	1.73	*
% of Wooden House over Total Starts	90.5%	99.5%	-2.87	***
% of Tract House over Total Starts	19.1%	7.85%	2.11	**
Selling in 3 Major Urban (Y=1, N=0)	0.50	0.27	2.13	**
Selling in 3 Major Suburban (Y=1, N=0)	0.48	0.20	2.68	***
Selling in Suburban Local Cities (Y=1, N=0)	0.54	0.33	1.76	*
Covering Areas	2.5	1.6	1.78	*
% of Part-time Workers	17.9%	49.0%	-3.10	***
% of Contracted Companies	64.7%	25.8%	3.84	***
Sales Price per <i>Tsubo</i> (1,000 yen)	533	553	-0.81	
Total Floor Area (<i>tsubo</i>)	38.6	41.3	-1.96	*
Total Price of House (1,000 yen)	20,470	22,800	-1.97	*

Note: Strategic Group A (n = 49) and Strategic Group B (n = 30).

* significance at 10% level, ** significance at 5% level, *** significance at 1% level

Interestingly, sales prices per *tsubo* (1 *tsubo* = 35.54 square feet = 3.30 square meter) do not show any significant differences between Group A (533,000 yen per *tsubo*) and Group B (553,000 yen per *tsubo*). However, Group A's total floor area (38.6 *tsubo*) was significantly smaller than Group B's (41.3 *tsubo*), so the total housing price of Group A (20,470,000 yen) is significantly lower than that of Group B (22,800,000 yen). Based on the number of annual housing starts, we can conclude that Group A are relatively big builders and Group B are relatively small builders.

Furthermore, our analysis indicates that we can subdivide Strategic Group A into two sub-groups: Strategic Group A-1 and Strategic Group A-2. As shown on Figure 34, 28 builders are classified in Strategic Group A-1, and 21 builders are classified in Strategic Group A-2. Table 20 shows the differences in attitude means between Group A-1 and Group A-2; only the items showing significant differences are displayed. Strategic Group A-1 pays more attention to other companies' business strategies and company behaviors than does Group A-2. The only variable in which Group A-2 exceeds Group A-1 was the preference for using Japanese domestic wood species. Group A-1 promotes their houses on web pages and at home exhibitions more aggressively than does Group A-2. Group A-1 has stronger relationships with their local communities and tries to hire skilled managers more aggressively than does Group A-2. Group A-1 puts more effort into interior and garden landscape design, standardizing construction planning, sensitivity to compliance, and finding foreign, cheaper suppliers, and prefers Western design more than Group A-2. Group A-1 puts more efforts into value-added strategies than Group A-2.

Table 20: Comparison of Attitudes between Strategic Groups A-1 and A-2

	Group A-1	Group A-2	z-test	
Prefer Domestic Species	2.36	3.90	-3.75	***
Web Page Promotion	5.71	4.71	3.07	***
Home Exhibition	5.21	3.52	3.73	***
Local Concentration	5.96	5.00	2.22	**
Hire Good Managers	5.14	4.19	2.90	***
Interior Design	6.25	5.24	3.43	***
Garden Landscape	5.37	4.24	3.40	***
Standardized Plan	4.82	3.76	2.32	**
Legal Compliance Sensitive	4.37	2.90	3.09	***
Finding Foreign Cheap Suppliers	5.18	2.71	5.73	***
Western Design	5.32	4.33	2.17	**

Note: Strategic Group A-1 (n = 28) and Strategic Group A-2 (n = 21).

* significance at 10% level

** significance at 5% level

*** significance at 1% level

Table 21 shows the mean differences in demographic characteristics between Strategic Group A-1 and Strategic Group A-2. The total housing starts in 2005 were an average of 1,450, and 1,270 were wooden houses including 921 customized wood houses for Group A-1. The total housing starts in 2005 were an average of 293, and 287 were wooden houses including 64.2 customized wooden houses for Group A-2. The percentages of tract houses over the total housing starts were 15.7% for Group A-1 and 24.0% and Group A-2, but there was no significant difference.

Group A-1 sells houses over a wider area than does Group A-2. A larger percentage of Group A-1 (29%) imports building materials and/or lumber directly from foreign countries compared to Group A-2 (5%). Also, 29% of Group A-1 have their own foreign supply bases, but none of the companies in Group A-2 have that. The average housing sale price per *tsubo* for Group A-1 was 545,000 yen, and for Group A-2

was 517,000 yen, which is not significantly different. Yet Group A-2 built significantly smaller houses (37.1 *tsubo*) than Group A-1 (39.7 *tsubo*). Consequently, the total price of a house for Group A-1 was 21,680,000 yen, significantly higher than the total price of 18,850,000 yen for Group A-2. Group A-1 thinks their customers prefer an energy-efficient house, but Group A-2 thinks their customers do not find value in energy efficiency. More importantly, the average growth rate in terms of housing starts over four years for Group A-1 was only 0.7%, while that for Group A-2 was 10.4%.

We can conclude that members of Strategic Group A-1 are bigger builders who try to focus on value added strategies. On the other hand, Group A-2 builders are smaller than builders in Group A-1, but Group A-2 builders try not to focus on value-added strategies. From 2001 to 2005, builders in Group A-2 grew much faster than Group A-1.

Table 21: Means and Differences of Demographic Information between Strategic Group A-1 and Strategic Group A-2

	Group A-1	Group A-2	t-test	
Degradation (sigma)	0.397	0.748	-2.04	**
Energy Efficiency (sigma)	0.310	-0.326	2.21	**
Mean Housing Starts (2008)	1,450	293	2.05	**
Mean Wooden Housing Starts (2008)	1,270	287	1.80	*
Customized Wood Housing Starts (2008)	921	64.2	2.08	**
% of Post and Beam Starts (2008)	32.5%	65.6%	-2.60	**
% of 2×4 Starts (2008)	54.9%	31.2%	1.85	*
Average Growth over four years	0.71%	10.4%	-1.69	*
Selling Houses in 3 Major Urban (Y=1, N=0)	0.61	0.35	1.78	*
Number of Covering Areas	3.23	1.60	2.35	**
Use DIY Stores (Y=1, N=0)	0.25	0.05	2.06	**
Have Foreign Supply Bases (Y=1, N=0)	0.29	0	3.29	***
Directory Import Lumber (Y=1, N=0)	0.29	0.05	2.35	**
Sales Price per <i>Tsubo</i> (1,000 yen)	545	517	0.825	
Mean Floor Area (<i>tsubo</i>)	39.7	37.1	1.71	*
Mean Price of House (1,000 yen)	21,680	18,850	2.11	**

Note: Strategic Group A-1 (n = 28) and Strategic Group A-2 (n = 21).

Applied 5% level of Levine's Equivalent test before conducting t-test.

* significance at 10% level

** significance at 5% level

*** significance at 1% level

Based on their strategic and demographic differences, we can name these three strategic groups: Strategic Group A-1 are “premium, big builders” because they have more annual housing starts and pay more attention to value-added housing strategies such as energy efficiency, interior design, landscape, and Western style. Strategic Group A-2 are “economy, big builders” because they pay less attention to value-added activities. Also, economy, big builders are currently growing fast. Strategic Group B are “mid-size, regional builders” because they build fewer houses than the others. However, mid-size, regional builders are still larger than *komuten*, who are outside the scope of this survey.

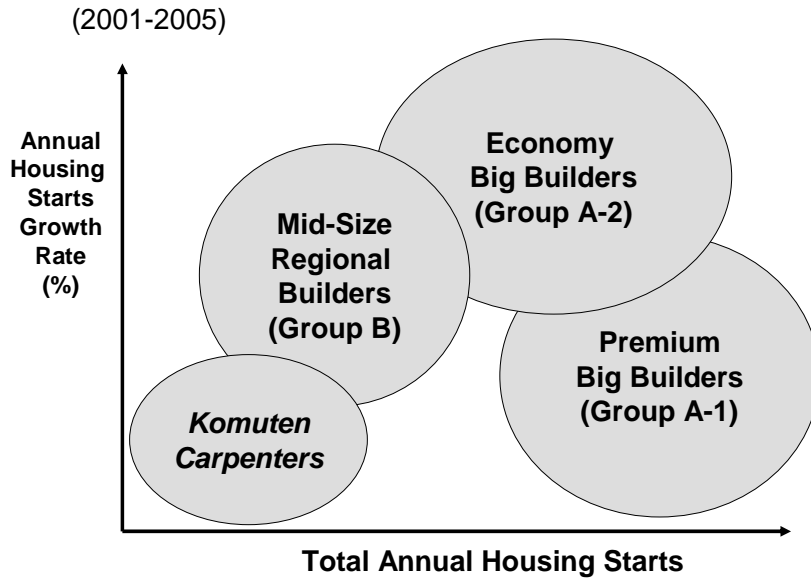


Figure 35: Growth Rate and Market Share of Strategic Groups

Figure 35 is a representation of the strategic groups of the Japanese building industry from 2001 to 2005. The vertical axis shows the annual growth rate in housing starts and the horizontal axis shows the total housing starts during that period. “Komuten” annually build a couple of houses and/or undertake orders from big builders. “Mid-size regional builders” focus on local communities to increase their customers. “Economy big builders” sell smaller, cheaper houses, neglecting value-added strategies and increasing their number of housing starts quickly. “Premium, big builders” focus on value-added housing in preference to a fast-growth strategy.

We interviewed many builders in Japan, and found that some have changed their business strategies over the last several years. Many mid-size, regional builders started targeting first-time home buyers and continued to emphasize a growth strategy. Also, the original power builders have grown fast in the last several years; however, some of them told us that it was not possible to increase housing starts forever and they will need to change their business models. They expressed their need to focus more on a value-added strategy. The housing industry has changed substantially over the last few years; in the next section we will apply an economic framework to further discuss Japan’s dynamic housing industry.

What were the success factors?

The success factors of the housing industry are one of the most interesting questions for people. Even though the overall housing market has shown a downtrend, quite a few companies were able to increase their annual housing starts from 2001 to 2005, including the original power builders. To better understand this situation, we applied statistical methods to identify the success factors during that period. Here, we define “successful builders,” as those whose average annual excess growth was positive, and “unsuccessful builders,” whose average annual excess growth was equal to or less than zero. Since an individual builder’s housing starts are constrained by overall housing starts, our interest was in to what extent individual builders could outperform the industry average. Since we had housing starts data for all responders from 2001 to 2005 from the literature, we could compare the annual excess growth rates with other demographic and strategic factors.

First, we calculated the average growth rate of the last four years from the literature. Excess growth rate is the real growth rate minus the industrial average growth rate. We assumed the industrial average growth rate should be the overall growth rate for Japanese wooden housing starts. Japan's economy had expanded due to the strong global economic growth between 2002 and 2006, and annual wooden housing starts also increased during that period. Total housing starts increased 3.9%, 3.4%, and 0.4% in 2003, 2004, and 2005, respectively. The excess growth rate was calculated, and then we formed two groups. We have 50 "successful builders" who showed positive excess growth rates and 30 "unsuccessful builders" who showed negative excess growth rates. Independent sample t-tests were then applied to compare the means of attitudinal and demographic variables.

Table 22 shows the results of mean differences between successful builders and unsuccessful builders. Successful builders strategically prefer to use more domestic species than unsuccessful builders. Successful builders also pay less attention to fire resistance and energy efficiency, and more attention to sick house and sunshine.

Table 22: Means and Differences of Characteristics between Successful and Unsuccessful Builders

	Successful	Unsuccessful	t-stat	
Prefer Domestic Species	4.76	3.37	2.99	***
Fire Resistance	-0.21	1.78	-2.04	**
Energy Efficiency	-0.933	0.299	-1.72	*
Sick House	0.748	0.439	1.85	*
Sunshine	-0.398	-0.789	1.84	*
% of Post and beam Starts	74.1%	47.5%	2.69	***
% of 2×4 Starts	24.2%	41.3%	-1.71	*
% of Prefab Starts	0%	7.69%	-1.75	*
% of Tract House over Total Starts	20.5%	5.04%	3.15	***
Number of Covering Areas	1.72	2.8	-1.73	*
Ever Called Power Builder (Y=1, N=0)	0.31	0.14	1.86	*
Build 10%+ Tract House (Y=1, N=0)	0.26	0.03	3.19	***
Sales Price per <i>Tsubo</i> (1,000 yen)	530	553	-0.931	
Total Floor Area (<i>tsubo</i>)	38.9	40.8	-1.36	
Total Price of House (1,000 yen)	206,000	225,000	-1.59	

Note: Successful (n = 50) and Unsuccessful (n = 30).

Applied 5% level of Levine's Equivalent test before conducting t-test.

* significance at 10% level

** significance at 5% level

*** significance at 1% level

The average rate of P&B housing starts over total annual wooden housing starts for successful builders was 74%, which is significantly higher than the 48% for unsuccessful builders. On the other hand, the average rate of the 2x4 construction method over total annual housing starts for successful builders was only 24%, which is lower than the 41% for unsuccessful builders. Tract house development played an important role because 26% of successful builders built tract houses for at least 10% of their total housing starts last year, while only 3% of unsuccessful builders built tract houses. Also, 21% of total houses were

tract houses for the successful builders, significantly higher than the 5% for the unsuccessful builders. Furthermore, 31% of successful builders were called power builders, but only 14% of unsuccessful builders were called power builders. There was no difference for sales price and total floor area between successful builders and unsuccessful builders.

It is not easy to generalize these results, since we had a high non-response rate. Also, housing markets are not homogenous. Many builders build many kinds of houses for a variety of customers. There is no single, magic bullet for increasing housing starts. At least, we can conclude that the number of tract houses built was a very strong success factor. It is important to note that though the number of tract house starts was a very important success factor, it may not be a success factor in the future.

Tract Builders' Business Model

One of the most important success factors over the last four years was the number of tract houses sold. Here, we would like to compare the business strategies and demographic characteristics between tract builders and others. We define "tract builders" as builders who build tract houses as more than 10% of their total housing starts. Fourteen of our respondents are tract builders, and 66 are categorized as "others." Independent sample t-tests were applied to compare the means of attitudinal and demographic variables.

Table 23: Comparison of Characteristics between Tract Builders and Others

	Tract Builders	Others	t-test	
Own Web Pages to Promote	4.93	5.52	-1.78	*
Sell Houses through Home Exhibition	3.57	4.69	-2.29	**
Small Tract Development	4.21	2.58	2.91	***
Depend on Real Estate Agency	2.69	1.45	1.94	*
Energy Efficiency (sigma)	-0.42	0.15	-1.91	*
Sell Houses in Tokyo (Y=1, N=0)	0.62	0.28	2.37	**
Sell Houses in Rural Areas (Y=1, N=0)	0.07	0.32	-2.73	***
% of Part-Time Carpenters	10.8%	34.3%	-2.33	**
% of Contracted Companies	60.5%	47.0%	0.918	
% of First-Time home buyers	75.4%	59.9%	2.36	**
Use DIY Stores (Y=1, N=0)	0	0.18	-3.81	***
Prefer EW over KD Lumber (Y=1, N=0)	0.64	0.32	2.32	**
Changed from Other Business (Y=1, N=0)	0.50	0.22	1.90	*
Ever Called a Power Builder (Y=1, N=0)	0.43	0.21	1.52	
Average Growth Rate over 4 years	19.8%	4.78%	2.74	***
Success in last 4 years (Y=1, N=0)	0.93	0.56	2.66	***
Sales Price per <i>Tsubo</i> (1,000 yen)	536	539	-0.064	
Total Floor Area (<i>tsubo</i>)	35.4	40.5	-2.98	***
Total Price of House (1,000 yen)	18,700	21,800	-2.08	**

Note: Tract builders (n = 14) and others (n = 66). Applied 5% level of Levine's Equivalent test before conducting t-test.

** significance at 10% level*

*** significance at 5% level*

**** significance at 1% level*

As shown on Table 23, tract builders promote their houses less in home exhibitions, relying more on real estate agencies. Because tract builders complete houses before they sell them, they do not have to set up booths in costly home exhibitions; they simply have open houses and invite potential customers to the actual development sites. Tract builders are less careful in terms of energy efficiency than the others. Also, 62% of tract builders sell houses in the Tokyo urban area, whereas only 7% of tract builders sell houses in rural areas. An average of 75% of tract builders' customers are first-time home buyers. Indeed, tract houses are an ideal solution for first-time buyers who do not have land.

None of the tract builders use Do-It-Yourself shops to purchase building materials. Interestingly, 64% of tract builders prefer to use engineered wood rather than kiln-dried lumber, compared with 32% of others. Half of the tract builders originally conducted different businesses such as real estate agencies. Sales prices per *tsubo* do not show significant differences, but tract builders built smaller houses (35.4 *tsubo*) than others (40.5 *tsubo*). Consequently, the average total housing price for tract builders was 18,700,000 yen, substantially lower than the other builders' average of 21,800,000 yen. Furthermore, 93% of tract builders experienced positive growth over the last four years, averaging annual growth of 19.8%. On the other hand, only 56% of other builders experienced positive growth, averaging annual growth of only 4.7%. The results show that while 48% of tract builders were called power builders, just 21% of other types of builders were called power builders. A statistical analysis showed that there was not a significant difference between these groups.

Land Acquisition Strategy

All builders need to acquire land before they can build tract houses. Land selection could be one of the most important features of success in the tract house business. We asked land acquisition strategists how much they care about the following factors when acquiring land: commuting time to business districts, closeness to public transportation stations, quietness, proximity to parks and garden, location along popular railroad lines, reputation of school districts, and the reputation of the neighborhood. Respondents answered these questions using a Likert-like scale from "never (1)" to "always (7)." We collected 39 data sets from those who built tract houses in 2005.

The Likert-scale is an ordinal measurement, not an interval scale measurement. So we translated answers according to their relative importance. The idea is that responders always have a bias based on their personalities. Some people tend to give their answers towards the extremes, while other people tend to group their answers together. Therefore, we set the mean of one individual answer as zero, and calculated the distance from the mean. However, because distance was biased by the personality of the respondents, each distance from the mean was divided by a standard deviation of the individuals' answers. We call this index "relative importance" and its unit is "sigma." Then we searched for which land acquisition strategies are relatively important or unimportant amongst all land acquisition strategies.

$$\text{Relative Importance (sigma)} = (\text{Literal Answer} - \text{Mean}) / (\text{Standard Deviation})$$

Figure 36 shows the results of the relative importance of the land acquisition strategies. Only one item shows significant importance. Builders would like to acquire land near popular railroad lines. This item shows a 0.42 sigma. Indeed, commuter trains could be the most important transportation infrastructure for Japanese society. Commuter railroad lines influence land prices in Japan (Hatta and Okawara 1994). In big Japanese cities such as Tokyo and Osaka, public and private commuter railroad lines are spread everywhere, with workers and students using these trains daily to commute. People respect certain railroad names over others. The Tokyu Line is one of the most popular lines in the Tokyo urban area, and the Hankyu Kobe line is very popular in the Osaka urban area. In the summer of 2005, the Tsukuba Express line of MIR in the Tokyo urban area began operating and soon became very popular.

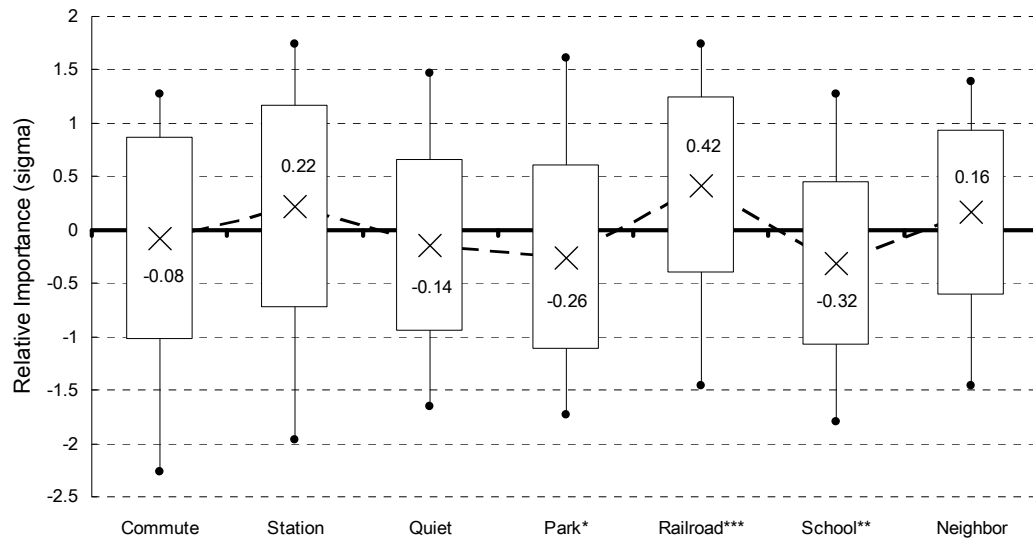


Figure 36: Relative Importance of Land Acquisition Strategies for Tract Houses

Note: Upper dot shows maximum and lower dot shows minimum.

Box represents one standard deviation from the mean value

Center black X represents mean value

Results of t-test are shown next to the label names. If the mean of category is significantly different from zero, asterix are marked depending on the level of significance (= 10%, ** = 5% and *** = 1%).*

Builders pay relatively less attention to parks and gardens (-0.26 sigma) and to school districts (-0.32 sigma) when acquiring land. Four other strategies do not show any significant difference from zero. In big cities in Japan, liquidity of lands is not very high. It seems that builders do not care about many factors, just buying land when it is available.

Performance Evaluation

Currently, there are ten governmental regulatory performance evaluation categories: structure (earthquake and wind resistance), fireproofing, resistance to degradation, maintenance, energy efficiency, air circulation (sick house), sunlight, sound resistance, senior accessibility, and anti-theft. We asked each respondent how important these categories are for their customers. Respondents answered these questions using a Likert-like scale from “not at all (1)” to “very important (7).” We collected 79 data sets. We also applied a relative importance index here because of the personal bias problem as noted previously in the section on land acquisition strategy. The relative importance index is standardized distances from the mean of one’s answer, and its unit is sigma.

Figure 37 is the result of the relative importance of performance evaluation for customers. The results of a t-test show that seven categories out of ten were significantly different from zero. Structure shows 0.76 sigma and air circulation shows 0.63 sigma. Most builders think these two categories are very important for their customers. In 2006, violations of the earthquake-resistance level for high-rise condominiums became big news in Japan. Also, sick house syndrome made big headlines in the late 1990s. Some individuals, developers, and companies were prosecuted for sick house problems and violations of earthquake resistance. The resistance to degradation was 0.49 sigma; meaning that builders thought it is also very important. These three issues are easy to control for housing builders. When builders pay attention to structural lumber quality and structural design, they can easily increase their scores on these performance criteria.

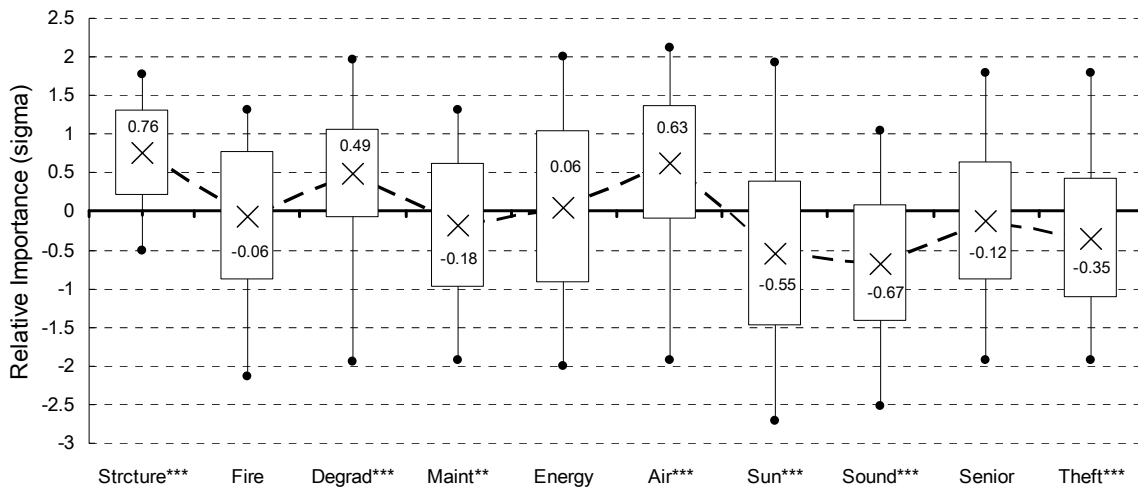


Figure 37: Relative Importance of Performance Evaluation for Customers

Note: Upper dot shows maximum and lower dot shows minimum.

Box represents one standard deviation from the mean value

Center black X represents mean value

Results of t-test are shown next to the label names. If the mean of category is significantly different from zero, asterix are marked depending on the level of significance (= 10%, ** = 5% and *** = 1%).*

Sunlight (-0.55 sigma), sound resistance (-0.67 sigma), anti-theft (-0.35 sigma), and easy maintenance (-0.18 sigma) registered significantly lower scores than zero. Fire proofing, energy efficiency, and senior accessibility were not significantly different than zero. However, energy efficiency has the largest standard deviation. For most builders, energy efficiency is too expensive to control, but some high-end builders may want to differentiate their houses from other houses, so they may pay attention to energy efficiency. Senior accessibility should be important when they sell houses for families who have seniors, but young echo baby boomers are not likely to pay much attention.

Cohen et al. (2005) found that structural integrity, access to natural light, and neighborhood security are relatively important for Japanese house consumers, but it is clear from these results that builders are more cautious about regulations such as structural strength, degradation, and sick house emissions.

Housing Price

The housing price in Japan has declined since the bubble economy burst. Based on a review of the literature, we hypothesize that there are two different single family house markets in Japan. They are the first-time home buyer market and the non-first-time home buyer market, and the average housing price should be substantially lower for the first-time home buyer market. Here we will build a regression between the price for which the builder sold the house and the builder's percentage of first-time home buyers. It is important to note that land price is not included in the housing price.

$$\text{Average House Price} = \alpha + \beta_1 * (\text{percentage of First-time home buyers}) + \beta_2 * (\text{Average Floor Area}) + \varepsilon$$

If the model shows significance and the β_1 of the model is negatively significant, we can show that home builders tend to sell houses cheaper to first-time home buyers. The White method of robust standard error was used to acquire t-statistics since this method eliminates the risk of heteroskedascity of the least square method. As shown in Table 24, the F-statistic is 28.6 ($p < 0.001$) and the t-statistic for β_1 is -4.10 ($p <$

0.001) and of β_2 is 5.63 ($p < 0.001$), so all of them are significant. The estimated coefficient of first-time home buyers is a negative 87,270. Hence, as the percentage of first-time home buyers over all customers of a builder increase by one percent, the average housing price of the builder decreases by 87,270 yen (95% confidence interval: $-45,570 < \text{Beta} < -129,000$). As shown in Figure 38, when the floor area is fixed at 40 tsubo, the expected housing price for the first-time home buyer is 18,230,000 yen, and the expected price of a demolish-and-rebuild house for the non-first-home buyer is 26,960,000 yen.

Table 24: Linear Regression between Housing Price and Percentage of First-Time Home Buyers

Dependent Variable: (Ave House Price)	Estimators		t-test (White Method)		Collinearity	
	Coefficients	Std. Error			Tolerance	VIF
(Constant)	10,040,000	3,484,000	2.88	***		
% of First-Time Home Buyers	-87,270	21,280	-4.10	***	0.975	1.025
Average Floor Area	423,000	75,190	5.63	***	0.975	1.025

F=28.6*** R-square = 0.442 Adj R-square = 0.427 AIC = 33.2 SC = 33.3

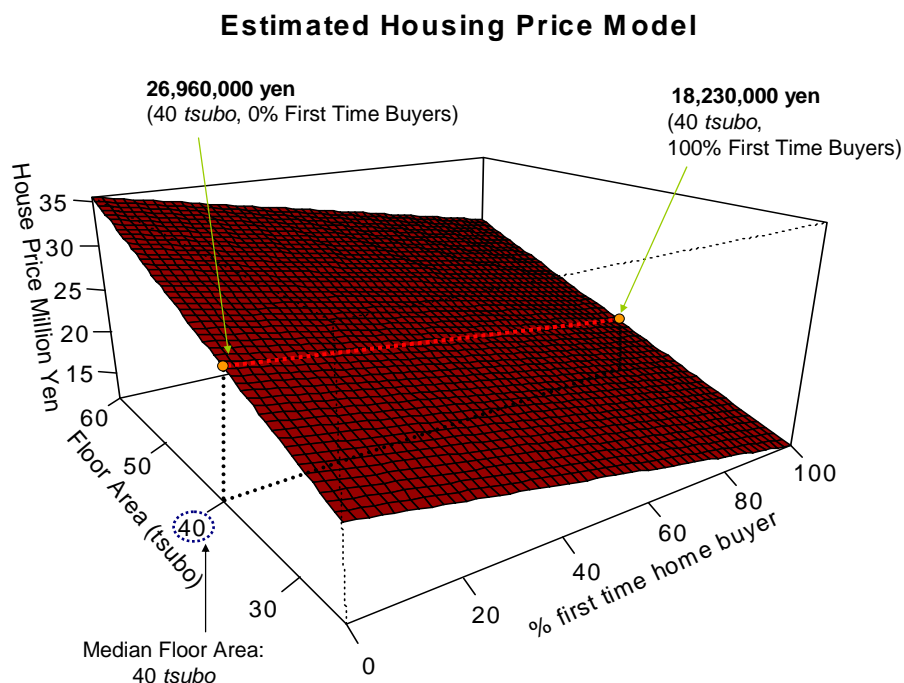


Figure 38: Association between Housing Price vis-à-vis First-Time home Buyers and Floor Area

Summary of Findings

The points that follow summarize what the results of this questionnaire-based survey.

- Over the period 2001-2005, the most important success factor for builders was the number of tract houses built.
- In general, the average price of a house and the average price per *tsubo* were not significant factors in increasing housing starts in all areas of Japan.
- Tract house builders built more houses in urban areas and few in rural areas. Tract builders built significantly smaller houses than other builders, so the average price of their houses was cheaper. Tract builders have grown faster than other builders, and they are targeting first-time home buyers, the so-called echo-baby boomers.
- Many companies refer to themselves as power builders. They are fast growing builders. They tend to build more tract houses and more post and beam houses than other builders. However, not all tract builders are power builders. There is no easily identifiable segment of power builders.
- The only significant land acquisition strategy for the average builder is to find land near the popular commuter train railroads. In Japan, tract builders do not pay much attention to land acquisition.
- In rating the ten performance evaluation criteria, builders perceived structure (earthquake proof), air circulation (sick house), and durability as being very important for their customers.
- Old categorical segments of builders (e.g. *komuten*, regional builders, and national home builders) do not adequately explain demographic and strategic differences between groups, so they are not useful categories for segmenting a market. After “power builders” emerged, the Japanese housing industry changed because many builders attempted to copy power builders’ business strategies to expand their own businesses.
- Based on the differences in business strategies and company behavior, we can segment builders into three distinctive groups: “mid-size regional builders,” “economy big builders,” and “premium big builders.”
- From 2001 to 2005, the average housing starts for “economy, big builders” were less than for the “premium, big builders,” but the average growth rate of “economy, big builders” was much higher than that of the “premium big builders.”
- “Premium, big builders” tend to apply a value-added strategy. For example, they pay more attention to energy efficiency, interior design, Western style, and garden landscaping.
- On the other hand, “economy big builders” try not to put a lot of effort into these costly, value-added strategies.
- The average price per *tsubo* for “premium big builders” and “economy big builders” do not differ, but “economy big builders” build smaller houses as a way to lower their average house price.

5.0 Business Strategy of Power Builders and Japan's Housing Market

Of interest in this research is whether power builders will be able to sustain their above-normal profitability in the future, and how power builders have influenced the housing market in Japan. Based on the literature review and the survey results, we will apply two theoretical frameworks to analyze Japan's housing industry. Initially, Porter's five forces analysis is applied to understand the current industrial structure. Second, the Austrian economic framework is applied to analyze the dynamic competitive environment of Japan's housing industry. In this section, "original power builders" indicates the power builders who initially started tract home development in the Tokyo area, especially Iida Group (see Section 3.8). Based on our surveys, we found that many builders are viewed as power builders even though they are categorized as regional builders or medium builders. For the purpose of this research, however, we divided these builders from the original power builders and call them "imitators" of power builders.

Strategic Position of the Original Power Builders

We utilized Porter's five competitive forces to analyze the power builder's competitive position in the industry. Porter's (1980) five basic competitive forces are: 1) bargaining power of buyers, 2) threats of substitutes, 3) threats of new entrants, 4) bargaining power of suppliers, and 5) intensity of rivalry. This model is based on Industrial Organization (IO) economics and provides a strong framework for analyzing the industry and strategic groups within the industry. "Industry" in Porter's view is the group of firms manufacturing products that are close substitutes for each other. We will specify that the "tract house market" is the unit of "industry," since the market is first-time home buyers. Custom houses are for families who already own land, so these product markets cannot be overlapped. Therefore, custom house builders can be new entrants in the future, but they do not compete in the current market. Condominiums and apartments are substitutable products for tract houses. In conclusion, we will present a brief picture of the original power builders' current strategic position. Figure 39 is a brief chart of a structural analysis of the tract house industry.

Bargaining Power of Buyers

Original power builders are essentially targeting first-time home buyers, so the population of the younger generation is a limiting factor on their total sales. Currently, echo baby boomers are starting to buy houses, so power builders enjoy an expanding market. However, the population of the younger generation is expected to shrink, as more and more young people tend to delay marriage or decide not to marry. Interest rates and tax exemption rates for purchasing new homes change, depending on government decisions, and these changes will externally affect the bargaining power of buyers.

Substitutes

Since potential first-time home buyers do not yet own a house, they will need to buy either a condominium or a tract house, or to rent an apartment. Hence apartments and condominiums are substitutes for tract houses. Land price, mortgage rate, and land use regulations such as zoning will externally influence the substitution landscape.

New Entrants

New entrants into the tract house market could be the most serious concern. Since this business model is very easy to imitate, many existing companies who currently build only custom houses could jump into the tract house market. There is no effective barrier to entry for newcomers. Struggling small firms would like to imitate the power builders' business models in order to survive. If big national home builders jump into this market, they will be able to take advantage of their economies of scale. In essence, most builders can jump into the tract house market. They simply need to acquire available land, and imitate the business model of the original power builders (assuming that they have access to the required capital).

Bargaining Power of Suppliers

The bargaining power of suppliers also influences the competitive landscape of tract home builders targeting first-time home buyers. Land availability is a constraint to tract builders. They must acquire land in a good location; otherwise, their businesses will struggle. During the lost decade, land liquidation was high due to asset value depreciation. However, land prices started appreciating around 2004 or 2005 and the original power builders may now face difficulty in buying land.

Material input is another concern for power builders. Recently, they purchased pre-cut lumber from pre-cutters. However, it is possible that some pre-cutters may try to vertically integrate with tract home builders.

Intensity of Rivalry

Rivalry is a big issue. Because the Iida Group spun off many companies, they are currently cannibalizing the market in the Tokyo area. They may move to other areas, but the demand for tract houses is not high outside the Tokyo area. As the survey results show, there are a lot of self-proclaimed “power builders” who are targeting first-time home buyers. They are attempting to imitate the original power builders’ business strategies and competition has become intense.

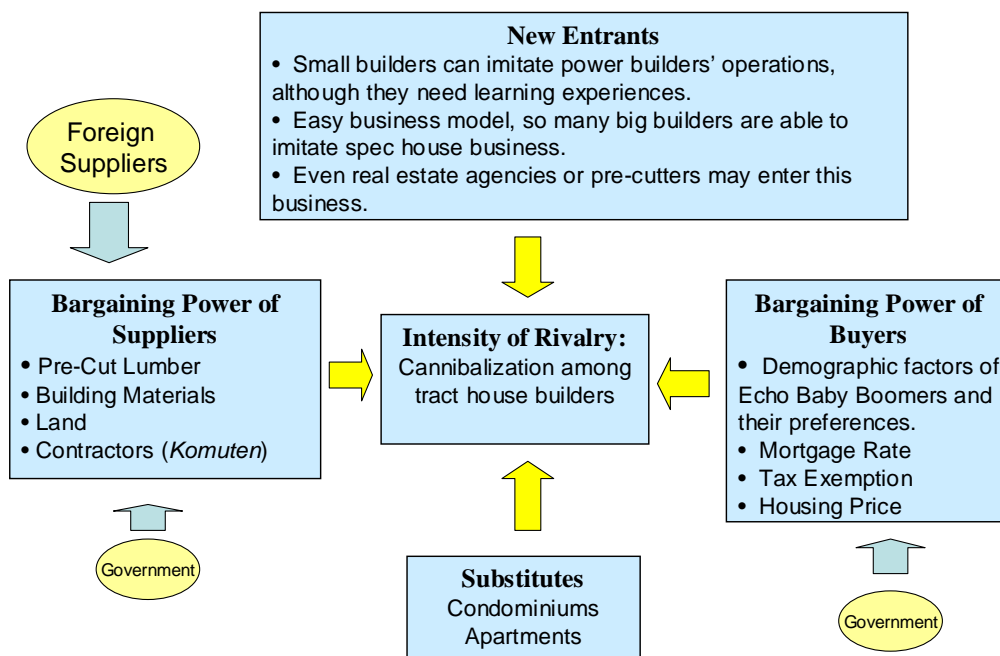


Figure 39: Structural Analysis of Tract Housing Industry

Tract housing builders are vulnerable to new entrants. Competition inside the industry has become very intense. The demographic trend is very favorable for the industry now, but it won't last for long, once the Echo baby boomers have all purchased houses. Porter's five force framework projects that the tract house market's profitability outlook is not optimistic for the near future.

Dynamic Changes in Japan's Housing Industry

Porter's framework is based on IO economics, and the ultimate goal of a firm is to position its market offerings to avoid intensive competition. Firms which are positioned in less competitive markets can earn

higher rents. Firms in Porter's world are basically homogeneous. In order to analyze the Japanese housing industry's changes over the last several years, a dynamic perspective was applied. In the Austrian economics view, the profits of a firm come from the incentive for discovery and innovation (Jacobson 1992). The original power builders earned above-normal profitability, since they were the ones who first discovered the opportunities provided by the first time home buying echo baby boomers.

Horizontal Boundaries of the Firm

It is necessary to discuss the horizontal boundaries of firms in the Japanese housing industry. Horizontal boundaries of a firm are identified by the quantities or varieties of products the firm produces, and these types of boundaries rely heavily on economies of scale and scope. Here, we would like to focus on the firm's size (measured by housing starts) and its economy of scale.

Before power builders emerged, very big national builders and small builders (*komuten* or regional builders) co-existed in the market. Because many national home builders achieved economy of scale by building prefab houses, they were able to expand their firms' horizontal boundaries. On the other hand, small builders rarely have economies of scale, so they could not expand their horizontal boundaries.

However, innovative pre-cut lumber and efficient operational systems allowed some innovative firms to expand their horizontal boundaries. The original power builders, especially the Iida Group, discovered how to efficiently operate their business using these innovative materials to reduce housing costs and also to market these lower cost houses to price conscious echo baby boomers. Efficient operation brought economies of scale, and the businesses were able to expand. The success story of the original power builders then completely changed the housing industry.

Entrepreneurial Discovery and Profit

Innovation is the key driver of economic change. Schumpeter (1911) saw key innovative actors as "entrepreneurs." Innovations are new combinations of existing knowledge and incremental learning (Schumpeter 1968). The entrepreneurs are the population who are seeking profits in the market (Kirzner 1997). Hayek (1948) and Mises (1949) saw the market as an entrepreneurially-driven process. When an entrepreneur identifies an opportunity based on scientific- or knowledge-based innovation and introduces a new product into the market, it will creatively destroy the previous equilibrium and allow the entrepreneur to temporarily earn supra-normal profits.

The original power builders, especially the Iida Group, started building tract house developments by applying efficient operational methods with innovative pre-cut lumber. As mentioned in Section 3, many external factors benefited those original power builders. One factor was that the Japanese Echo baby boomers, who did not own land, started buying houses in urban areas, but they were extremely price-sensitive. At the same time, the stagnant economy forced people to liquidate some well located land at affordable prices. Furthermore, the government permitted free market competition. These external factors allowed the original power builders to earn above-normal returns. Although it is an *ex post* discussion, the original power builders found opportunities in Japan's housing market, aided by their innovative, efficient operations, as some prefab builders' business models became obsolete. Therefore, the original power builders are truly entrepreneurs in the Austrian perspective.

Imitators and Unobservable Factors of Success

These supra-normal profits will not exist indefinitely. A profitable strategic position attracts competitors and invites imitation. The Austrian economic perspective holds that profits will decrease to a competitive level as competitors imitate successful practices, and consequently the market condition changes in a free market (Jacobson 1992). Our survey results show that many respondents regard themselves as power builders, but their business strategies did not have significant commonalities with the original power

builders. In order to survive in the industry, many small- and mid-size builders have tried to imitate the business strategies of the original power builders and to emulate one another.

As in the resource based-view (e.g. Barney 1991 and Itami and Roehl 1987), important strategic factors influencing business performance are sometimes not observable. Consequently, it is not possible to perfectly imitate the business strategies of other firms. In addition, firms are path-dependent, and some strategies can fit a firm, while other strategies do not. As a result, some firms which attempted to imitate the original power builders succeeded, but others failed. Operational effectiveness is necessary to gain a competitive advantage, but it is not a sufficient business strategy. The essence of business strategy is in choosing activities differently than one's rivals; otherwise, a strategy is nothing more than a marketing slogan that will not withstand competition (Porter 1996). Actually, we suspect that the "power builder strategy" has begun to be used as this type of marketing slogan in order to attract price-sensitive customers.

Many imitators who started targeting the price-sensitive echo baby boomers began cannibalizing each other. Also, the original power builders spun off into different firms with the same business strategies (*noren-wake*), who will eventually end up as competitors. As the industry's competition intensifies, the profits the builders can earn will diminish. The success factors for power builders in the future will be how well they adopt new, innovative business strategies that renew and expand their competitive advantage.

Four New Strategic Groups in Japan's Home Builders

The original power builders combined efficient operational management and innovative building methods with pre-cut lumber. They sold tract houses to price-sensitive, first-time home buyers. Many external factors helped these original power builders. The power builders enjoyed above-normal profits and grew fast.

A profitable strategic position attracts imitators. Many small- and mid-size builders attempted to imitate those original power builders; some imitated the original business strategies well, but the others imitated it poorly. Their target markets, however, differed from those of the other traditional builders, the old big builders who mainly sell custom houses. The imitators of power builders, on the other hand, target mainly the first-time home buyer, especially the echo baby boomer generation. These imitators of the power builders offer inexpensive houses to first-time home buyers, who do not own their land. Thus the old big builders and the imitators of power builders are competing in different market segments. As more and more builders have jumped into the first-time home buyers market, however, competition has become intense.

The original power builders were entrepreneurs. They redefined the traditional housing industry structure in Japan, and in doing so they have altered the structure of Japan's traditional residential construction industry. The price of houses has been lowered since the power builders changed the industrial structure.

Our survey shows three distinctive strategic groups. In order to reflect the changing nature of the industry, we propose four new strategic groups of Japanese builders: 1) premium, big builders, 2) economy, big builders, 3) mid-size, regional builders, and 4) *komuten*. These strategic groups differ in their products and marketing approach. Firms in the same strategic groups have similar strategies; therefore, they generally resemble one another in many other ways as well. Because of their similar strategies, they tend to have similar market shares and to be affected by, and respond similarly to, external events or competitive moves in the industry (Porter 1980). The bargaining power within strategic groups is also quite similar. Therefore, it is a good idea to target Japanese builders based on their membership within a specific strategic group.

There is a clear trend towards industry consolidation in Japan, as bigger P&B builders have cannibalized smaller builders and *komuten*. U.S. forest products exporters should target those “economy, big builders.” Many imitators of power builder strategies are included in this category. All builders need to constantly adjust their business strategies. U.S. forest products exporters may be able to inspire them and thus enjoy mutual benefits.

For U.S. building material and forest products exporters, it is important to find “economy, big builders” because they grow fast. Also, when these builders grow to become “premium, big builders,” they tend to put more effort into material choices, which provides a great opportunity for U.S. exporters to sell value-added products. Some mid-size, regional builders may also become emerging big builders, so finding some of those candidates would not be a bad idea. Mid-size, regional builders prefer domestic species and do not import building materials from foreign countries directly. However, as they move to the next stages, they tend to change their business strategies and start importing foreign products. That is a great opportunity for U.S. exporters.

6.0 Strategic Recommendations

Target Fast-Growing Economy, Big Builders. Since many new companies have not had a strong relationship with suppliers, there are a lot of spaces for U.S. companies to penetrate. Growing companies are always seeking reliable suppliers who can consistently supply raw materials and building products. In this case, U.S. suppliers can utilize direct container shipments, which can lower transportation costs. Most mid-sized companies try to standardize their product lines, so they need a consistent supply of lumber. P&B builders are usually looking for log or lamstock of Douglas-fir, Western hemlock, and Alaska yellow-cedar. On the other hand, 2×4 builders are looking for SPF dimension lumber.

Do Not Forget Pre-Cutters. Almost all mid-size P&B companies are utilizing pre-cut lumber. It is important to approach the pre-cutters as well as builders. Sometimes, pre-cutters can be the decision-makers in choosing lumber species for builders. Listen carefully to what they want. Courtesy visits and seasonal greetings are basic business customs for maintaining relationships in Japan. By talking to pre-cutters (*nemawashi*), you may be able to negotiate with builders much more smoothly.

Emphasize Structural Quality. Because of regulations, Japanese builders are nervous about structural strength. It is very important to explain the structural strength of your products. Fortunately, U.S. forest products are superior in this feature. If your customers require certification or documentation, talk to any of the helpful industry organizations such as the Softwood Export Council.

Emphasize Stock Availability and Consistent Supply. Since scheduled operation is the most important business strategy for growing builders, they require you to ship raw material punctually and consistently. If you would like to establish a long relationship with your Japanese customers, you need to pay attention to timeliness. Establishing customer loyalty takes a long time, and unreliability can destroy it overnight.

Tell Them about the U.S. Situation and Give Them a Positive Projection. Tell your customers about the U.S. situation honestly. Tell them the U.S. dollar is depreciating and that the U.S. housing sector continues to slow. Japanese customers are usually interested in a long-term relationship. You should give them a rosy future projection (*e.g.* exchange rate and raw material supply). This communication can help US firms differentiate themselves from their competitors in Europe and Canada.

Do not Forget that Companies are Dynamic. Even though some companies are not currently interested in your products, who knows what they will need in the future? We see dynamism in the Japanese building industry. Some companies who are selling inexpensive houses now may become value-added home builders in the future. What about mid-size, regional builders? Currently, most of them are not interested in importing building products directly, but they may become a big builder in the future. Keep in touch with as many builders as possible. Seasonal greetings are an important business practice and can be effective in generating future business.

7.0 Bibliography

- Arai, N., 2005. Pre-cut-zai. *Wood Industry*, 59 (11), 551-554.
- Armstrong, J. S., and T. S. Overton. 1977. Estimating Nonresponse Bias in Mail Surveys. *Journal of Marketing Research* Vol 14(Aug): 396-402.
- Barney, J.B. 1991. Firm resources and sustained competitive advantage. *Journal of Management*, 17: 99-120.
- Cabinet Office, Government of Japan. 2003. Opinion Survey on Forest and Life. [online source]
<http://www8.cao.go.jp/survey/h15/h15-shinrin/index.html>
- Cabinet Office, Government of Japan. 2007. Economic Statistic. [online source]
<http://www.esri.cao.go.jp/jp/sna/gaiyou.html>
- Cohen, D. 1993. Preliminary Assessment of Market Potential for Finger-Jointed Lumber in Japanese Residential Construction. *Forest Products Journal* Vol 43(5):21-27.
- Cohen, D., S. McKay, L. Brock, R. Cole, H. Prion, and D. Barrett. 1996 Wood Construction in Japan: Past and Present. *Forest Products Journal* Vol 46(11/12): 18-24.
- Council of Forest Industries Canada (COFI). 2004. COFI Market Access & Trade Newsletter, Canada Wood Market Access, May-2004.
http://www.cofi.org/canadawood/newsletter/2004_may/may2004.htm#006
- Eastin, I. L. 1994. Import Distribution Channel Considerations for Value-Added Wood Products in Japan. *CINTRAFOR News* 9(1): 1-5.
- Eastin, I. L., and A. Rahikainen. 1997. An assessment of the Japanese market for prefabricated wooden housing. CINTRAFOR working paper 60. University of Washington, Seattle, WA.
- Eastin, I. L., J. Roos, and P. Boardman. 2001. A Technical Evaluation of the Market for U.S. Wood Windows within the Japanese Post and Beam Construction Industry. CINTRAFOR Working Paper 87. University of Washington, Seattle, WA.
- Eastin, I. L., P. Boardman, and J. Perez-Garcia, 2002. A Competitive Assessment of the Japanese Forestry and Forest Products Sectors. CINTRAFOR Working Paper 87. University of Washington, Seattle, WA.
- Eastin, I., J. Roos, and P. Tsournos, 2003. Niche Market Opportunities for Alaska Forest Products in Japan. CINTRAFOR Working Paper 91. University of Washington, Seattle, WA.
- Eastin, I. L., and C. Larsen. 2007. The Market for Softwood Lumber in Japan. CINTRAFOR Working Paper 106. University of Washington, Seattle. 64 pages.
- Economist Intelligence Unit. 2009. Country Report Japan (January 2009). London, United Kingdom.
- Financial Service Agency. 2007. Statistic of Japanese Financial Sector. [online source]
<http://www.fsa.go.jp/common/paper/index.html>
- Forest Agency. 2003. Annual Report on Trends of Forest and Forestry 2002. Ministry of Agriculture, Forestry and Fisheries of Japan, Tokyo, Japan. (In Japanese)
- Förster, M. and M. M. d'Ercole. 2005. Income Distribution and Poverty in OECD Countries in the Second Half of the 1990s, OECD. (22), 80pp.
- Graham, John. 1988. Deference Given the Buyer: Variations Across Twelve Cultures. In *Cooperative Strategies*, in *International Business*, Farok Contractor and Peter Lorange, eds. Lexington, MA: Lexington Books, 473-485.

- Gaston, C., D. Cohen and I. Eastin. 2006. Wood Market Trends in Japan. FORINTEK Special Publication 43r. Vancouver.
- Hajime Kensetsu. 2006. Cooperation Home Page [*Online Source*] <http://www.hajime-kensetsu.co.jp>
- Hashizume, R. Y. and I. L. Eastin. 2000. Analysis of Technology Transfer to the Japanese Residential Housing Industry. Working Paper 74. CINTRAFOR, University of Washington, Seattle, WA.
- Hatta, T. and T. Ohkawara, 1994. Housing and the Journey to Work in the Tokyo Metropolitan Area, *In Housing Markets in the United States and Japan*. Y. Noguchi and J. M. Poterba ed, Chapter 5. The University of Chicago Press, Chicago, IL.
- Hayek, E. A. V. 1948. Individualsim and Economic Order. Routledge and Kegan Paul, London.
- Hundley, G., and Jacobson C. K. 1998. The Effects of the Keiretsu on the Export Performance of Japanese Companies: Help or Hindrance? *Strategic Management Journal*. 19: 927-937.
- Igarashi, H. 2003. Mokuhyo Kanri no Honshitsu. Daiamond sha. Tokyo. 202pp.
- Itami, H. and T. W. Roehl, 1987. Mobilizing Invisible Assets. Harvard University Press, Cambridge, MA.
- Ito, Masahiro. 2006. *Senmei ni natta, Jigyo-Kaisya no Mochiai Kyoka*. Daiwa Institute of Research. (2006. Dec. 11th) [*In Japanese*]
- Iwata, K, T. Yata, et al. 1997. Jyutaku no Keizaigaku (Housing Economics). Nikkei Co., Tokyo, 255pp.
- Jacobson, R.J. 1992. The Austrian School of Strategy. *Academy of Management Review*, 17: 782-807.
- Japan Finance Corporation of Small and Medium Enterprises (JASME). 2006. Analyzing the Financial Policy after the Quantitative Monetary Easing. No.69 Investing Report. No.17-12. [*In Japanese*]
- Japan Lumber Journal. 2005a. Pre-cut lumber was initially introduced in 1975 to offset a skilled labor shortage caused by retiring carpenters
- Japan Lumber Journal. 2005b. Number of Precut Factories Reached Its Peak in 1999 with over 880 Factories. However, as competition increased, bankruptcies and industry consolidation occurred
- Jyutaku Sangyo Shimbun. 2004. Housing Economics Data. Jyutaku Sangyo Shimbun. Tokyo, Japan. 179pp. [*In Japanese*]
- Jyutaku Sangyo Shimbun. 2005. Housing Economics Data. Jyutaku Sangyo Shimbun. Tokyo, Japan. 188pp. [*In Japanese*]
- Japan External Trade Organization (JETRO). 1996. *Your Market in Japan: Housing*. No. 101.
- Kaisha Shikiho. 1996-2006. Kaisha Shikiho, Toyo Keizai Shimpou-sha. Tokyo.
- Kanemoto, Y. 1997. Jyutaku ni taisuru Hojo-seido. *In Jyutaku no Keizaigaku (Housing Economy)*. Iwata Kikuo edited. Chapter 3. Nihon Keizai Shimbunsha. Tokyo. p83-116. (In Japanese)
- Kawamura, H. 2007. Mokuzo Jyutaku no Taishin Sekkei. Gihodo Shuppan, Tokyo. 286pp. (In Japanese)
- Kitagawa, M. 2005. Japan Market Report. Pacific Rim Wood Market Report. No.204.
- Kirzner, I.M. 1997. Entrepreneurial discovery and the competitive market process: An Austrian approach. *Journal of Economic Literature*, 35: 60-85.
- Krugman, P. R. 1999. Thinking about the Liquidity Trap. Author's website, December. Kyodo News. 2006. Japan ranks 2nd worst among OECD nations in relative poverty, July 20th. <http://asia.news.yahoo.com/060720/kyodo/d8ive9u80.html>
- Lazer, W., S. Murata, and H. Kosaka. 1985. Japanese Marketing: Towards a Better Understanding.

- Journal of Marketing, Vol. 49, 69-81.
- MacLachlan, D. L. and M. G. Mulhern, 2005. Segment Optimization: An Empirical Comparison. Excellence in International Research, ESOMAR, 1-20.
- Ministry of Health, Labor and Welfare (MHLW). 2006. Vital Statistic. [online source] <http://www.mhlw.go.jp/>
- Ministry of Internal Affairs and Communications (MIAC). 2006. Population Estimates. [online source] <http://www.stat.go.jp/data/jinsui/index.htm>
- Ministry of Land, Infrastructure and Transportation Japan (MLIT). 1996. Longevity of Houses of Japan and all over the World.
- Ministry of Land, Infrastructure and Transportation Japan (MLIT). 2007. Basic Statistic Data. [online source] <http://www.mlit.go.jp/toukeijouhou/chojou/index.html>
- Mises, L. V. 1949. Human Action, Yale University Press, New Haven, CT.
- Miyashita K. and D. Russell. 1994. Keiretsu: Inside the Hidden Japanese Conglomerates. 225pp. McGraw-Hill, Inc. NY.
- National Land Agency. 2005. [online source] <http://www.gsi.go.jp/index.html>
- Nikkei. 2005. Nikkei Housing and Condominiums Supply Survey, Nikkei Industrial Consumption Research Center, Tokyo. 198pp.
- Noguchi, Y. and J. M. Poterba. 1994. Housing Markets in the United States and Japan. The University of Chicago Press. Chicago, IL. 267pp.
- Ogi, T., 2002. Home Building and Home-Building Industry. In Forestry and the Forest Industry in Japan. UBC press. Vancouver, Canada. Pages 316.
- Porter, M.E. 1980. Competitive Strategy, The Free Press. New York, NY.
- Porter, M.E. 1996. What is strategy? Harvard Business Review. (November-December): 61-78.
- Pesonenn, M. 1993. Japanese Market for Scandinavian Wood Products. Department of Forest Economics Reports, No. 1, University of Helsinki, Finland.
- Reid, D. M. 1999. Changes in Japan's Post-Bubble Business Environment: Implications for Foreign-Affiliated Companies. Journal of International Marketing 7(3):16-17.
- Roos, J. A., I. L. Eastin, and H. Matsuguma. 2005. Market segmentation and analysis of Japan's residential post and beam construction market, *Forest Products Journal* Vol 55(4): 22-30.
- Roos, J. A., V. Barber, D. Sasatani and I. Eastin. 2008. The Japanese Market for Laminated Lumber and Glulam Beams: Implications for Alaskan Forest Products. CINTRAFOR Working Paper 113. University of Washington, Seattle, WA.
- Sasatani, D., J. A. Roos, A. M. Brackley and I. L. Eastin. 2005. Niche Market Opportunities for Alaska Forest Products in Japan (2005 Update). CINTRAFOR Working Paper 100. University of Washington, Seattle, WA.
- Shimada, Haruo. et al. 2003. Jyutaku Shijo Kaikaku (The Revolution of Housing Market). Toyo Keizai Shimbunsha. Tokyo. 223pp. (In Japanese)
- Shimase, Takuya. 2006. Supply and Demand of Japan's Lumber. In Shinrin Ringyo Mokuzai Sangyo no Shorai Yosoku. Forestry and Forest Products Research Institute edited. Chapter 3. 75-97. J-FIC. Tokyo. 462pp.
- Tama Home 2007. Cooperation Home Page. [Online Source] <http://www.tamahome.jp>

- Takano, Yoshiki. 2003. Jyutaku Kinyu no Suii. In *Kawaru Jyutaku Kinyu to Jyutaku Seisaku (Changing: Housing Finance and Housing Policy)*. Izu Hiroshi edited. Chapter 2. Gyousei. Tokyo. 287pp. (In Japanese)
- Tokyo Stock Exchange. 2006. The History of TOPIX. [Online Source] <http://www.tse.or.jp/market/topix/history/index.html>
- Van Wolferen, Karel. 1990. The Enigma of Japanese Power. New York: Vintage Books.
- Weekly Toyo Keizai. 2007. *Naisei Map* (Domestic Policy Map), Toyo Keizai Shimpo-sya. 12/22, 45p. (In Japanese)
- Weinstein, D. E. and Y. Yafeh, 1995. Japan's Corporate Groups: Collusive or Competitive? An Empirical Investigation of *Keiretsu* Behavior. The Journal of Industrial Economics. Vol.43, No.4, 359-376.
- World Gazetteer. 2007. World Population in Metropolitan Areas [online source] <http://world-gazetteer.com/wg.php?x=&men=gcis&lng=en&dat=32&srt=npan&col=aohdq&pt=a&va=&srt=pnan>
- Yoneyama, H. 2005. Revolution of Residential Housing Industry through Network Effect Among Komuten. Fujitsu Research Institute, No.224. (In Japanese).

Appendices

Appendix A

Contact Information of Major Power Builders and Growing Companies

Aida Group

1-10-17, Sakuragi-cho, Omiya-ku, Saitama

〒330-0854

<http://www.aidagroup.co.jp>

Jounan Kensetsu

2-8-8, Fujimi, Sagamihara-shi, Kanagawa-ken

〒229-0036

<http://www.jounan-kensetsu-grp.jp>

Arnest One

3-2-22, Kitahara-cho, Nishi Tokyo-shi, Tokyo

〒188-0003

<http://www.arnest1.co.jp>

Polus Group

1-21-2, Minami-Koshigaya, Koshigaya-shi, Saitama

〒343-0845

<http://www.polus.co.jp>

Cleverly Home

4-3-3, Higashi-Sakata, Kimitsu-shi, Chiba-ken

〒299-1144

<http://www.cleverlyhome.com>

Tact Home

3-8-13, Higashi-Fushimi, Nishi Tokyo-shi, Tokyo

〒202-0021

<http://www.tacthome.co.jp>

First Juken

5-6-9, Higashi-Naniwa-cho, Amagasaki-shi,

Hyogo-ken 〒660-0892

<http://www.f-juken.co.jp>

Touei Jyutaku

4-26-3, Shibakubo-cho, Nishi Tokyo-shi, Tokyo

〒188-0014

<http://www.touei.co.jp>

Hajime Kensetsu

2-26-11, Shakuji'i-cho, Nerima-ku, Tokyo

〒177-0041

<http://www.hajime-kensetsu.co.jp>

Tama Home

3-22-9, Takawa, Minato-ku, Tokyo

〒108-0074

<http://www.tamahome.jp>

Iida Sangyo

2-2-2, Sakai, Musashino-shi, Tokyo

〒180-0022

<http://www.iidasangyo.co.jp>

Toshin Jyuken

1-3-18, Takamidou, Inazawa-shi, Aichi-ken

〒492-8628

<http://www.toshinjuken.co.jp>

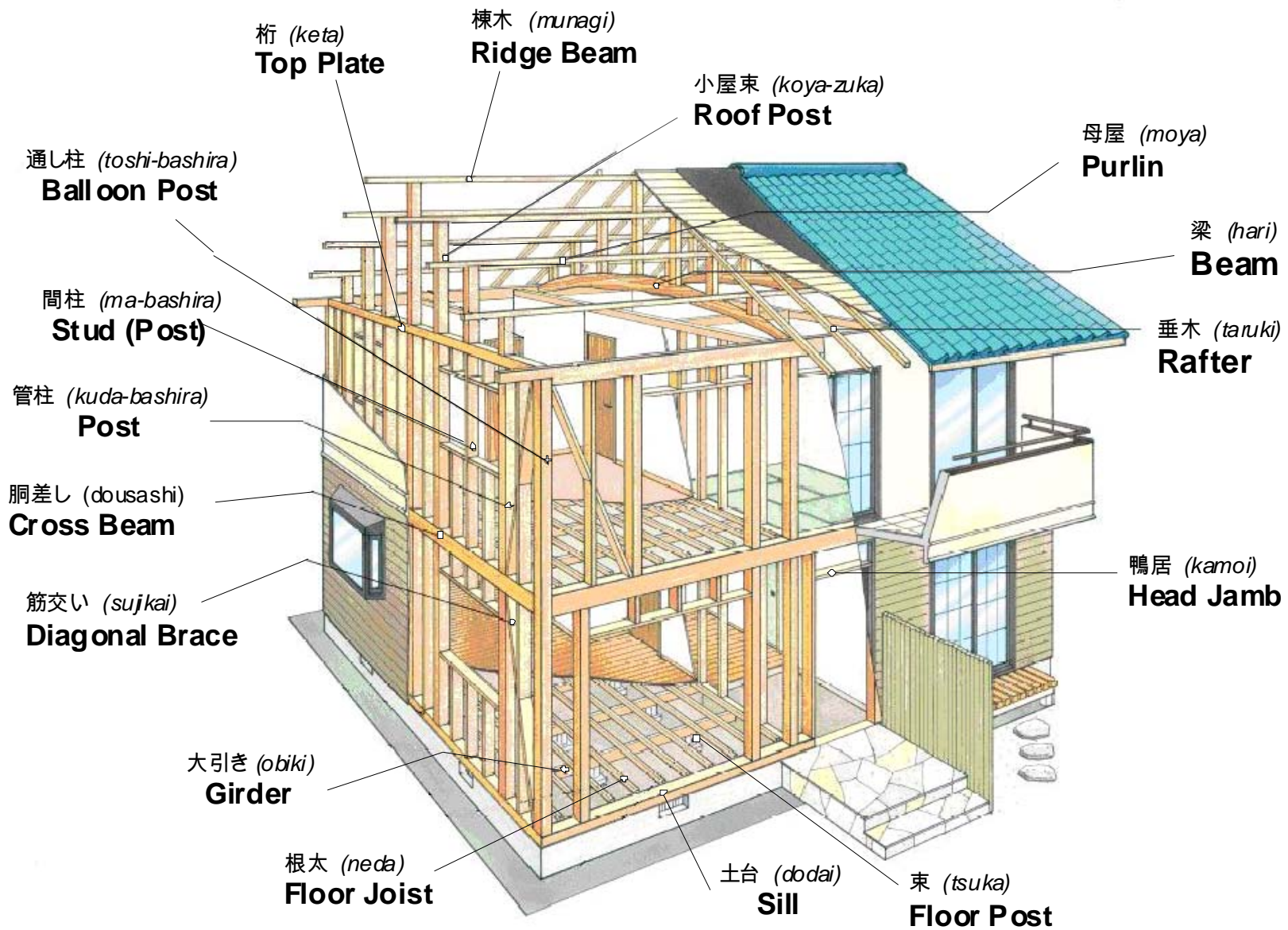
Appendix B

Conversion Factor

1 Millimeter (mm) = 0.00394 Inch
1 Centimeter (cm) = 0.394 Inch
1 Meter (m) = 3.28 Feet
1 Square Meter (m²) = 1.20 Square Yards = 10.76 Square Feet
1 Square Kilometer (km²) = 0.386 Square Miles
1 Cubic Meter (m³) = 35.3 Cubic Feet
1 Hectare (ha) = 0.01 km² = 2.47 Acres
1 Kilogram (kg) = 2.20 Pounds
1 Metric Ton (mt.) = 2200 Pounds
(Japanese unit)
1 <i>Tsubo</i> = 3.306 m² = 35.6 Square Feet

Appendix C

Japanese Post And Beam House Construction Diagram



Appendix D

Survey and Cover Letter Translated in English
(Original Japanese survey form is available upon request.)

Wooden Housing Industry Survey

This survey is being conducted by the University of Washington and the Softwood Export Council

August 2006
University of Washington College of Forest Resources
Center for International Trade in Forest Products (CINTRAFOR)
Daisuke Sasatani, Graduate Student

To Whom It May Concern:

Even though summer is about to end, it is still hot. We hope your business is prosperous (traditional Japanese business greeting).

Along with the change in Japan's economy and population, Japan's residential wood housing market has also changed. Recently, there has been an increase in pre-cut lumber use and European laminated post imports. The U.S. forest products market share in Japan has decreased. This time, in order to project the future demand for forest products in Japan, we are asking you to please complete the enclosed survey.

This survey is conducted by CINTRAFOR supported by the Softwood Export Council and *Japan Lumber Journal*. *Japan Lumber Journal* is cooperating to assist with the data collection. The results of this survey will be published in English and presented at forest products related academia. Your name and information will kept confidential by CINTRAFOR and company information will not be disclosed in anyway.

Without researching the residential housing industry, it would not be possible to project future forest products demand. Understanding Japan's future demand will help trade relations and assist in the global management of forest resources. Now the world is watching how the changing of the Japanese housing industry will influence the global demand of wood. Please take about ten minutes to fill out the enclosed survey. Please answer all questions completely.

Please fax all 3 pages of the survey to the fax address listed below. If you have any questions, please e-mail Sasatani, Daisuke or call the *Japan Lumber Journal*

FAX 03-XXX-XXXX

Also, if you complete the survey and would like a summary of the results, please include your e-mail address at the end of the survey, and we will e-mail you a summary of the results.

Email: sastany@u.washington.edu (Daisuke Sasatani)
Homepage: www.cintrafor.org (CINTRAFOR)
www.jlj.gr.jp (JLJ)



Japan Lumber Journal
Chief Editor, Miyoko Kitagawa

A handwritten signature in cursive script, likely belonging to Miyoko Kitagawa.



CINTRAFOR Director/ UW CFR
Professor
Dr. Ivan Eastin

A handwritten signature in cursive script, likely belonging to Ivan Eastin.

Q1 . These are question about the strategy of your business. As a stand point of your company, please choose from Strongly Agree (7) to Strongly Disagree (1)

	Strongly Disagree			Neutral		Strongly Agree	
We prefer using domestic lumber to imported lumber	1	2	3	4	5	6	7
Our company's brand name is very important for customer acquisition	1	2	3	4	5	6	7
We strive to minimize our construction time	1	2	3	4	5	6	7
Our web site is important to our sales strategy							
Model houses are the most important for customer acquisition	1	2	3	4	5	6	7
Our business is strongly tied with the local community	1	2	3	4	5	6	7
We aggressively try to hire somebody who has good management skills and knowledge	1	2	3	4	5	6	7
Suppliers with certification (ISO etc) are preferable	1	2	3	4	5	6	7
Stable supply is more important than cheaper price of materials	1	2	3	4	5	6	7
We try to purchase building materials from a company whose service is good even though its price is a bit higher	1	2	3	4	5	6	7
We are aggressively investing small development as low as five spec homes per one land	1	2	3	4	5	6	7
We are even putting a lot of effort on the interior design of a house	1	2	3	4	5	6	7
We put a lot of effort on not only house design but also garden design	1	2	3	4	5	6	7
Even though they spend more money, our customers are very picky in terms of the quality of a new house.	1	2	3	4	5	6	7

Q2 . These are questions about your company's behavior. Please circle which should be appropriate frequency from "Never Do at All (1)" to "Always Do So" (7).

	Never			50-50		Always	
We use standardized plans for the houses we build	1	2	3	4	5	6	7
We abide by lumber choice decisions made by a pre-cut factory	1	2	3	4	5	6	7
Appearance, beauty and color are very important factors to choose structural lumber.	1	2	3	4	5	6	7
We worry more about the compliance by the law and regulation by the central and the local government rather than about the satisfaction of our customers	1	2	3	4	5	6	7
We are always looking for cheaper products from abroad	1	2	3	4	5	6	7
We depend on home sales on external real estate agencies	1	2	3	4	5	6	7
We are putting efforts on Japanese design	1	2	3	4	5	6	7
We are putting efforts on Western design	1	2	3	4	5	6	7

Q3 . These are questions about land acquisition strategy of spec houses. When you buy land, how much do you care for the following? Please circle which should be appropriate frequency from “Never Do at All (1)” to “Always Do So” (7). If you don’t build spec houses at all, please skip this question.

	Never		50-50			Always	
Short commute time	1	2	3	4	5	6	7
Closeness to commuter station	1	2	3	4	5	6	7
Quiet place	1	2	3	4	5	6	7
Parks and green nearby	1	2	3	4	5	6	7
Along popular train line	1	2	3	4	5	6	7
Good reputation of school	1	2	3	4	5	6	7
Good reputation of neighborhood	1	2	3	4	5	6	7

Q4 . How important is your customers’ attitude toward the government’s house performance evaluation rating system and other standards when you attract customers?

	Not at all			Somehow		Very Important	
Structure (earthquake, typhoon proof)	1	2	3	4	5	6	7
Fire Proof	1	2	3	4	5	6	7
Degradation (duration of post and sill)	1	2	3	4	5	6	7
Maintenance (cleaning-able and exchangeable)	1	2	3	4	5	6	7
Heat efficiency (energy efficiency)	1	2	3	4	5	6	7
Indoor air circulation (sick house)	1	2	3	4	5	6	7
Sun light (size of window)	1	2	3	4	5	6	7
Sound resistance	1	2	3	4	5	6	7
Ease of use for elderly barrier free)	1	2	3	4	5	6	7
Anti-theft	1	2	3	4	5	6	7

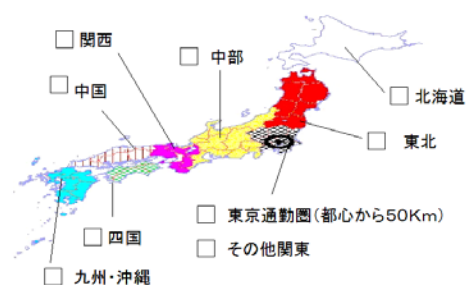
Q5. Could you tell me the housing starts by structural type 5 years ago, last year and the projection of 5 years later?

(2005)			(2010)
Last year			5 fiscal years from now projection
Wood	Custom	Units	Units
Wood	Spec	Units	Units
Wood	Collective	Units	Units
Non-wood	Custom	Units	Units
Non-wood	Spec	Units	Units
Non-wood	Collective	Units	Units

Q6 . Could you tell me the percentage of your housing starts by type of construction method last year?

	last year	5 years from now
P&B	%	%
2X4	%	%
Wooden Prefab	%	%
Others	%	%
total	100%	100%

Q7 . Please choose all areas where you build house



Hokkaido, Tohoku, Tokyo (50 km from downtown), Other Kanto, Chubu, Kansai, Chugoku, Shikoku, Kyushu/Okinawa

Q8 . In these five years, what is the average growth rate of your housing starts annually?

- ☐ More than 10% annual growth
- ☐ Single digit growth (1-9%) annually
- ☐ Zero growth (housing starts do not change since five years ago)
- ☐ Negative growth (housing starts have declined since five years ago)

Q9 . Who actually built your houses?

Employees _ _ _ _ _ %

Part-time carpenters _ _ _ _ _ %

Contract Komuten _ _ _ _ _ %

Others () _ _ _ _ _ %

total 100 %

Q10 . What is the mean price per *tsubo* last year for your house excluding land price?

_ _ _ _ _ 0,000 Yen/*tsubo*

Q11 . What was the average tsubo for your total house lot last year? Excluding land lot

_____ *Tsubo*/house

Q12. What percentage is the demography of your customers?

20s _____ %

30s _____ %

40s _____ %

50s _____ %

60s or over _____ %

Total 100 %

Q13. What percentage of your customers are first-time home buyers?

_____ %

Q14. How much percentage of these lumber are pre-cut?

Structural Lumber (post, beam, sill, *obiki*) _____ %

Non-Structural Lumber (*taruki, sujikai, mabashira, neda*) _____ %

Q15 . How many years have you done business in the residential house industry ?

_____ years

Q16 . Which is your construction time?

☐ 2 weeks or shorter ☐ 2 weeks to 3 weeks ☐ 1 month ☐ 2 months

☐ 3 months ☐ four to five months ☐ longer than 6 months

Q17 . What percentage of your home buyers used a mortgage last year?

_____ %

Q 18 . Please check either yes or no for following questions.

	Yes	No
We have remodeling department		

Sometimes we purchase building materials from DIY shop		
We have our own supply base in a foreign country		
We import foreign lumber directly		
We import building materials such as doors, window frames and kitchen cabinets from foreign countries		
We prefer EW lumber to KD		
We own a pre-cut factory		

Q19 . Please choose your management areas from following.

- ☐ Commuting area of three biggest cities (within 30 km from Tokyo, Osaka or Nagoya)
- ☐ Suburban of three biggest cities (30-50 km)
- ☐ Urban area of other big cities (population more than a half million within 30 km)
- ☐ Suburban big cities (30-50km)
- ☐ Others (Rural area)

Q20 . Have you ever been called a “power builder” ?

☐ Yes ☐ No

Q21 . In the industry, what are you called? (E.g. national home builder, spec power builder, franchisee *komuten*, medium regional builder)

Thank you for spending time on our survey. Please fax these papers to 03-XXX-XXXX. We would appreciate it if you send it by September 30. If you write down your email address below, we would like to send a summary of this study in Japanese. If you have any question, please either email Daisuke Sasatani at sastany@u.washington.edu or call to *Japan Lumber Journal* (03-XXX-XXXX).

E-mail Address _____

Appendix E- Pictures



Picture 1. Power Builder's Tract Houses in Tokyo suburban (1.5 hours from Tokyo Downtown by bus and train.)



Picture 2. Power Builder purchases a chunk of land in suburban and builds many tract houses simultaneously.



Picture 3. Power Builder usually utilizes glulam for structural lumber. This post is European white wood (Norway Spruce) engineered wood.



Picture 4. Power Builder uses pre-cut lumber. Those are sent to job sites from outside pre-cut factories. Power Builders do not have to store inventory at job sites.



Picture 5. Power Builder's tract house usually has a very small garden.



Picture 6. Power Builders contract with many komuten and individual carpenters on day-wages.



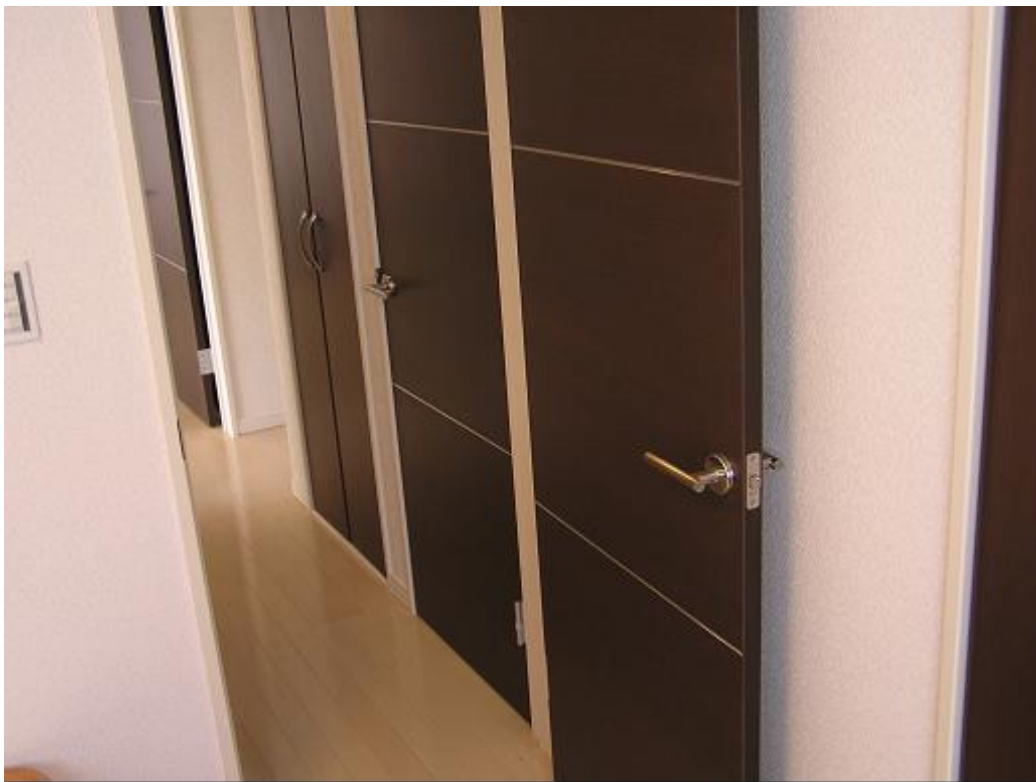
Picture 7. In order to assure their house quality, Power Builders apply certificated building materials to avoid any considerable risk. This ply wood is certificated by JAS (F-four star).



Picture 8. This Douglas-fir glulam was use for beam. It is also certified by JAS.



Picture 9. In order to attract Japan's young generation, Power Builders decorate the living room in Western-style.



Picture 10. Interior doors of a Power Builder house.



Picture 11. This custom house builder is a self-proclaimed “power builder” in suburban Tokyo.



Picture 12. This self-proclaimed “power builder” utilizes hinoki for post and Douglas-fir for beam. However, they try to emphasize their “economy” aspect to attract price sensitive young generation.

