The Post-Quake Housing Finance Market

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I. Introduction

Housing starts in Japan first surpassed 1 million in FY1967, and generally ranged between 1.2 and 1.8 million after that. In the aftermath of the Lehman failure, however, in FY2009 housing starts dropped sharply below 1 million down to 788,000, about the same as in FY1964, 45 years before. There was a recovery led by detached homes in FY2010, but starts were still not much more than 800,000. We analyze several components affecting the trend moving forward to examine whether a recovery back to 1 million housing starts is possible. We then analyze the March 2011 earthquake and tsunami and its impact on housing starts, and end with an analysis of how all this impacts the MBS market[1].

II. Housing start trends

1. The long-term trend approach

Changes in housing starts can best be understood by breaking the data into time periods based on the prevailing conditions.

Initially, up until FY1967, there was substantial growth in starts aimed at alleviating the post-war housing shortage, and both owner-occupied and rental housing drove this growth. This period coincided with the first baby boomers reaching adulthood and was a time of robust demand for housing.

The next period, from FY1968 until FY1980, saw a decline in demand for rental housing as a result of the number of dwellings exceeding the number of households[2]. There was also a very slight declining trend in the number of owner-occupied housing starts, although annual housing starts never dropped below 600,000.

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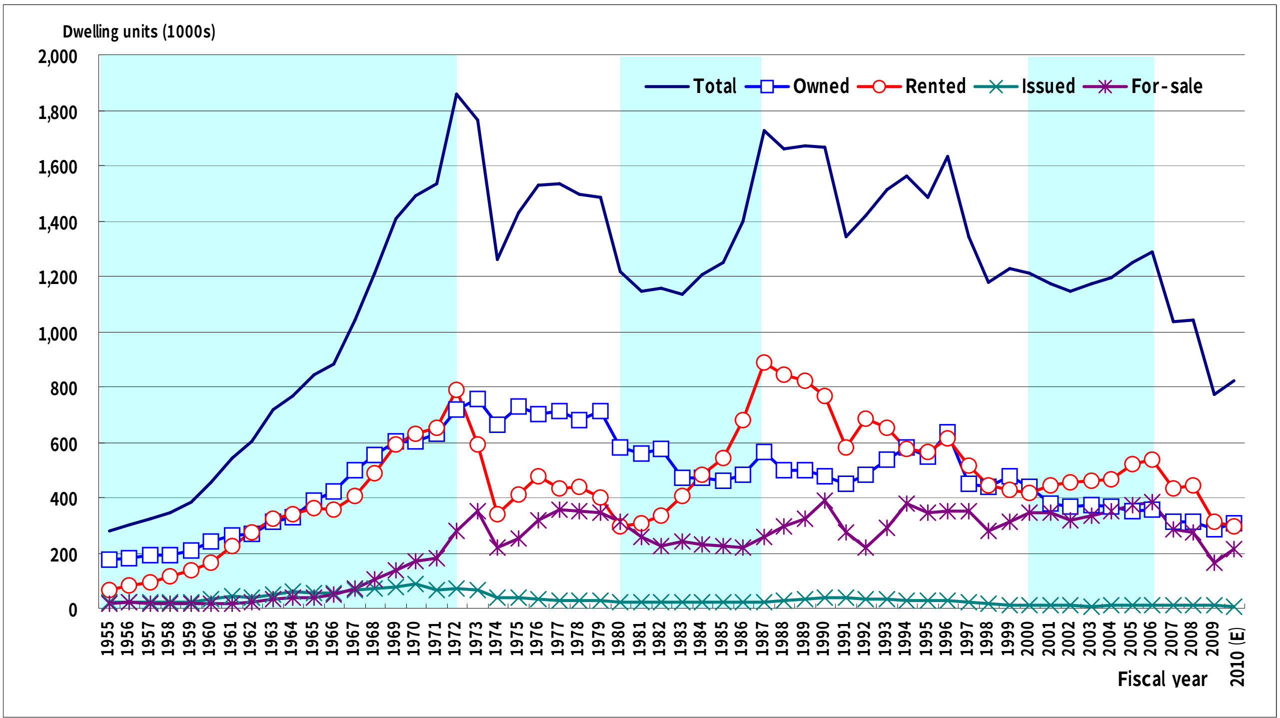
1 This paper does not take into account the impact from the Fukushima Daiichi nuclear power plant accident.

2 The number of housing units rose above the number of households for the first time in the 1968 Housing and Land Survey taken by the Ministry of Public Management, Home Affairs, Posts and Telecommunications (now the Ministry of Internal Affairs and Communications).

The third major period went from FY1981 until FY1987 and was marked by a bubble-induced rise in land prices and sharp increase in the number of rental housing starts as a means to avoid inheritance taxes. The sharp increase in land prices during this period caused a decline in both owner-occupied and for-sale housing, caused a major reversal in the ratio of owned homes to rented homes, and resulted in the rental home trend becoming a key determining factor in the level of housing starts.

From FY1988, slower growth in both the population and number of households put both rental housing and owner-occupied housing in a declining trend. Starting around FY2000 when the securitization market started attracting attention, rental housing and condominiums turned to an increasing trend, albeit only moderate, and housing starts climbed back above 1.2 million at one point, but then fell to barely above 1 million after the falsification of earthquake resistance documentation was exposed in November 2005. Housing starts were dealt a further blow by the financial crisis triggered by the failure of Lehman Brothers. As already noted, they fell sharply to 788,000, primarily owing to a decline in rental housing and condominiums. The decline in owner-occupied homes did not worsen substantially in FY2009, but rather just followed the already established declining trend.

Figure 1: Housing starts



Note: 1. FY2010 numbers include results from April 2010 to February 2011 plus March 2010 results.
2. Definitions are as follows.
Owned: Owner is building for own occupancy.
Rented: Owner is building to rent out.
Issued: Company, government entity, or school is building housing for occupancy by their employees.
For-sale: Built for the purpose of selling.

Source: Nomura Institute of Capital Markets Research, based on Housing Starts from the Ministry of Land, Infrastructure, Transport and Tourism.

Since FY1980, it has been rental housing that has caused the most volatility in housing starts, with for-sale homes also doing so more recently. It would thus be no exaggeration to say that it is the future trend in rental housing and for-sale homes that will determine the level of housing starts.

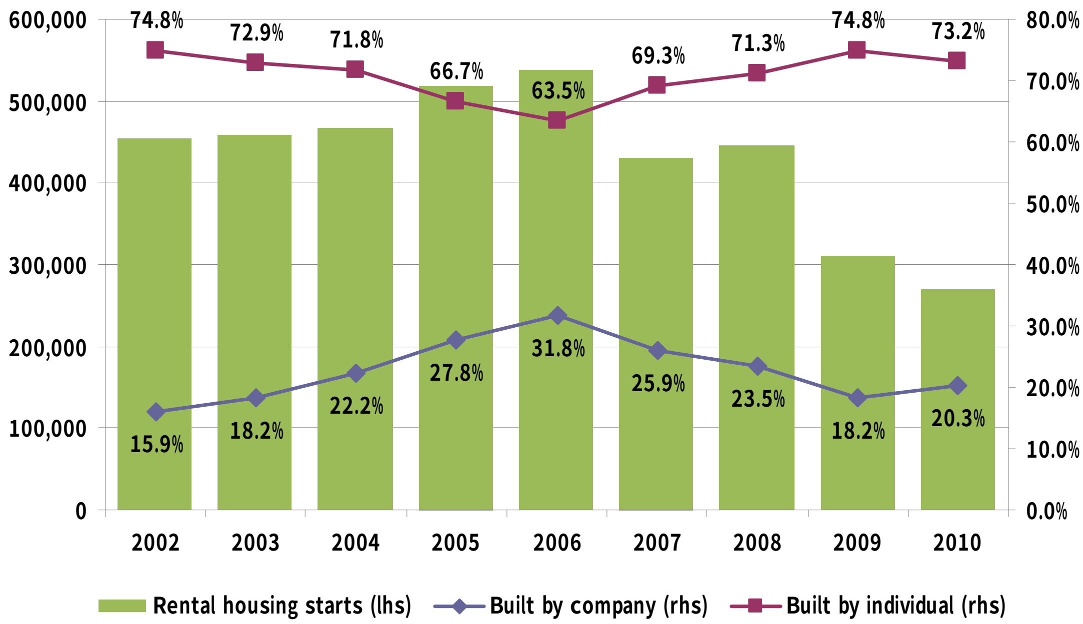
2. The FY2010 trend and future outlook

1) Trends based on use

Looking at FY2010 housing starts by prefecture and by use, owner-occupied homes turned to an increasing trend and regained pre-Lehman Brothers levels in every prefecture except for Yamagata, where special circumstances were involved[3].

Unlike homes for owner occupancy, rental housing has continued to decline in 36 prefectures.

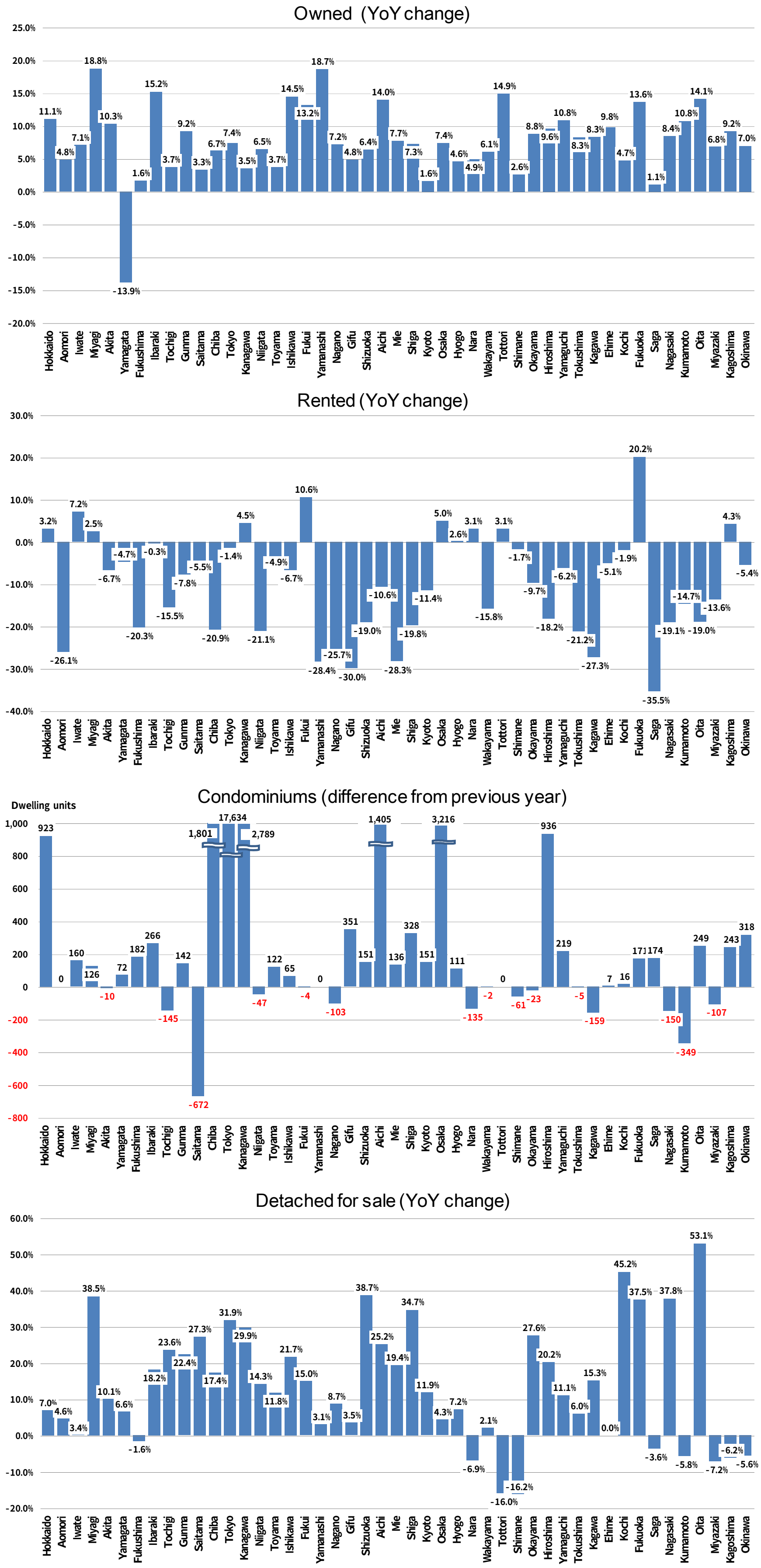
Figure 2: Rental housing starts by source of funds



Source: Nomura Institute of Capital Markets Research, based on Housing Starts from the Ministry of Land, Infrastructure, Transport and Tourism.

3 According to Japanese superstition, a special calendar (*Senjitsu*) determines days that are auspicious or inauspicious. One of these days, *Sanrinbo*, is considered bad luck for building. In the Shonai region of Yamagata prefecture, local superstition considers certain years (the years of the tiger, horse, and pig) to be *Sanrinbo* for the entire year, and the custom has been to refrain from building these years.

Figure 3: Housing starts by prefecture (April 2010 to February 2011)



Source: Nomura Institute of Capital Markets Research, based on Housing Starts from the Ministry of Land, Infrastructure, Transport and Tourism.

Within the homes for sale category, condominiums[4] and for-sale detached houses each showed a different trend. As with owner-occupied homes, for-sale detached houses showed substantial growth in most prefectures, but condominiums were either flat or declined in most prefectures, with the exception being Tokyo and those prefectures with a government-designated city[5].

Overall, FY2010 housing starts have been marked by strength in detached homes (both for owner occupancy and for sale) and weakness in multi-family housing (rental housing and condominiums).

2) A demand-side approach

We think real demand is driving the market for detached housing. Specifically, because the motivation to purchase a home maps to the stage in a person's life (marriage, having newborn children, sending children to school, etc.), the market, although affected by financial conditions, is to a certain extent supported by structural, non-finance-related demand. Additional policy factors that came into play and helped explain the strong market in FY2010 include green housing incentives (eco-points), more generous exemptions from gift taxes, and the loan rate discount for Flat 35S loans. Although some of these policies will be scaled back, they will remain in place in FY2011, and thus we expect detached homes to continue to do well.

In contrast, the multi-family housing market is driven by both real demand and investment demand. As already noted, the market has been supported by the structuring of securitized products and other investment demand since FY2000. We think it unlikely that there has been any increase in investment demand recently, and we think even real demand is basically in a declining trend, although there are pockets of growth, including where new factories have been established and thus created housing demand.

3) Approaching the question from the funding side

Financial institutions are putting their greatest effort into selling loans backed by homes for owner occupancy, which have the lowest delinquency rate. That is the only category of loan that has been growing amid an overall decline in lending, creating intense competition between financial institutions and making them very willing to write loans. From the aspect of builders' working capital.

In addition, the time it takes to build a detached house is no more than about six months, a relatively easy period to finance even for smaller builders, and funding does not appear to be a binding constraint on detached housing starts. Condominiums, however, can require two years or more to build, and the construction costs are substantial. Although the major firms with strong credit can fund such projects, it is

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4 Condominiums (called "mansions" in Japanese) are for-sale homes in multifamily structures, constructed of reinforced steel-frame concrete or steel framed.

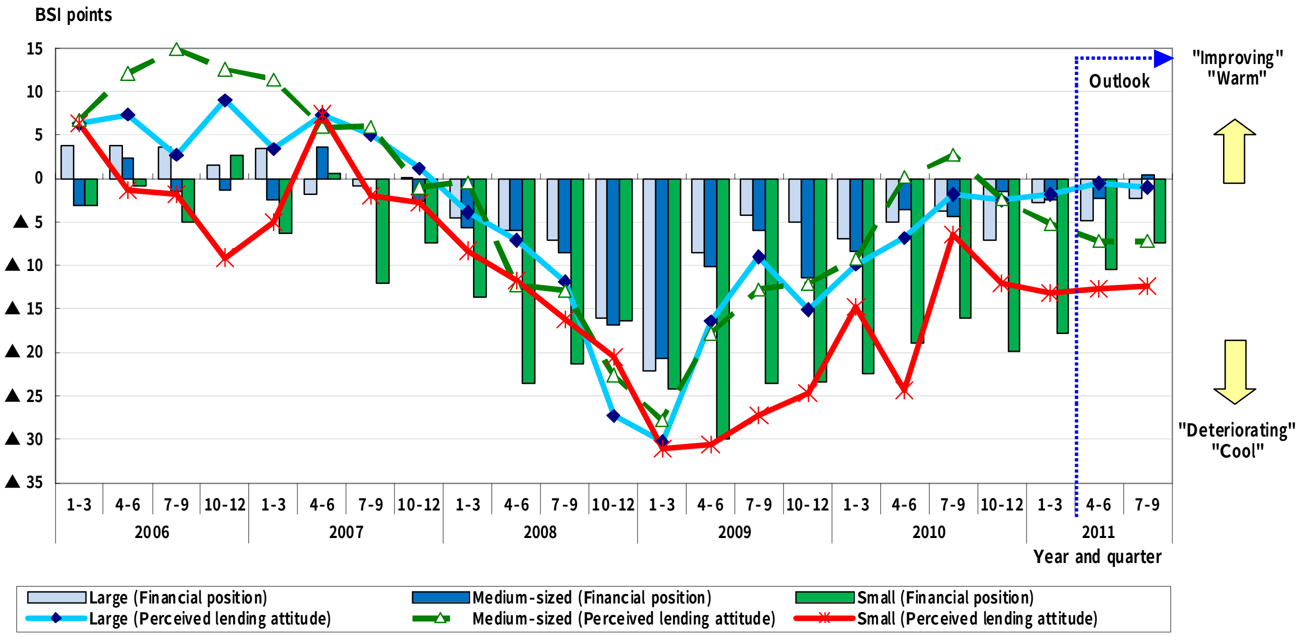
5 Because there were some prefectures that had zero housing starts in FY2009, we analyze changed based on the change from the previous year.

difficult for the smaller firms to get that sort of financing. Housing starts are growing in the major cities, the primary market of the large firms, but still declining in the regional economies, where smaller firms are the major players, because of the difficulty in getting funding. This same pattern holds true even within greater Tokyo, which explains why Saitama and Chiba are recovering more slowly than Metro Tokyo and Kanagawa, where the majors are strongest.

It is the market for rental housing that has been constrained the most by lack of access to funding. Rent is the source of funds used to repay apartment loans, and thus the outlook for occupancy rates is a key factor used to determine whether to write the loan. Many apartment loans have a long repayment period of 30 years, so even if demand for housing is expected to be strong initially, it is difficult to judge whether that demand will be sustained; this makes financial institutions conservative in their credit assessments. There has been a particularly strong trend toward stricter credit assessments in regions with declining populations, and we expect rental housing starts in the regional economies to remain weak for a while. Prior to the global financial crisis, regional economies accounted for a higher share of housing starts, which in turn increased the level of rental housing starts, but with no recovery in regional economies expected, rental housing is likely to remain weak.

Based on the above, we expect housing starts to remain in a moderate recovery, but with no prospects for a recovery in rental housing, probably still below the 900,000 mark in FY2011.

Figure 4: Financial position and lending attitude of financial institutions from corporate perspective (real estate industry)



Source: Nomura Institute of Capital Markets Research, based on the Business Outlook Survey from the Ministry of Finance.

III. Impact from the March 2011 disaster

1. Degree of damage to housing

The analysis above does not reflect any impact from the natural disaster that occurred on 11 March 2011. The combination of an earthquake and tsunami led to damage on an unprecedented scale along the Pacific coast of Eastern Japan, making it essential to take its impact into account when forecasting housing market trends for FY2011. We look first at the damage to the housing stock, with the caveat that even more than a month after the disaster struck, the true extent of the damages have yet to be confirmed.

As of 20 April, a survey of the Fire and Disaster Management Agency confirmed 13,643 dead and 13,377 missing, Japan's largest loss of human life since World War II. In its March 2011 monthly economic report, the Cabinet Office estimated total damage to the housing stock throughout the disaster-affected areas of between ¥16 trillion and ¥25 trillion[6], well more than the approximately ¥10 trillion of damages from the 1995 Kobe earthquake.

It also estimated a total of 291,859 homes had some degree of damage, including 61,184 completely destroyed, 25,284 partially destroyed, and 205,391 partially damaged. The process of surveying housing damage in the coastal area of Miyagi prefecture is still ongoing, and these numbers may increase substantially[7]. A total of 639,686 homes were damaged by the 1995 Kobe earthquake, including 104,906 completely destroyed, 144,274 partially destroyed, and 390,506 partially damaged, around double the total number of damaged homes, and around triple the number of completely or partially destroyed homes from the March 2011 disaster. We think this difference in the number of homes damaged can be explained by the fact that although the March 2011 disaster affected 18 prefectures, the serious damage was confined to coastal areas, whereas most of the damage from the 1995 Kobe earthquake was in the densely populated cities of Hyogo prefecture that account for roughly 90% of that prefecture's housing stock.

Figure 5: Comparison of total dwellings (occupied)

(Dwelling units)

<table>
<tr><th colspan="3">2008 survey</th><th colspan="3">1993 survey</th></tr>
<tr><th>Iwate prefecture</th><th>Miyagi prefecture</th><th>Fukushima prefecture</th><th>Hyogo prefecture</th><th>With cities</th><th>Within Kobe</th></tr>
<tr><td>470,700</td><td>869,700</td><td>699,700</td><td rowspan="2">1,780,700</td><td rowspan="2">1,556,200</td><td rowspan="2">542,000</td></tr>
<tr><td colspan="3">2,040,100</td></tr>
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Source: Nomura Institute of Capital Markets Research, based on the Housing and Land Survey from the Ministry of Internal Affairs and Communications.

6 These estimates do not include any impact from the Fukushima Daiichi nuclear power plant or from rolling blackouts.

7 For example, the Japan Housing Finance Agency (JHF) considers all homes within a 20km radius of the Fukushima Daiichi nuclear power plant as damaged housing, and estimates the total number of homes either fully or partially destroyed at 150,000.

2. Impact on housing starts

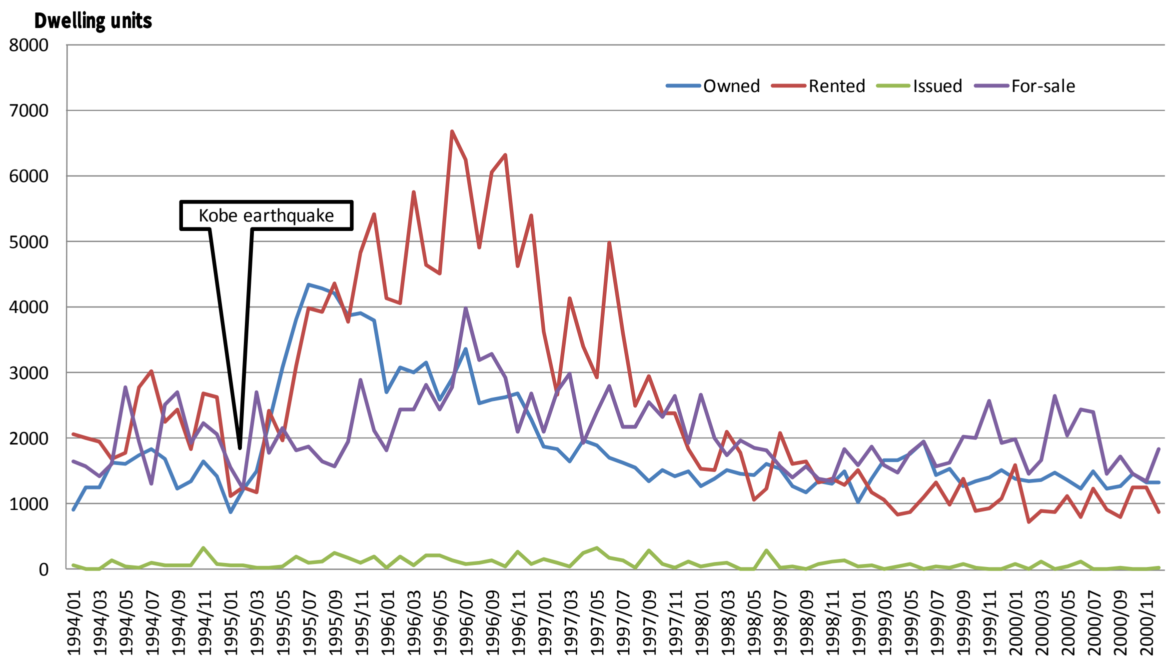
The completely and partially destroyed homes will need to be rebuilt, and thus the impact of the disaster on the number of housing starts should come in the form of new demand for approximately 86,000 homes. Because housing starts in the three Tohoku prefectures combined (Iwate, Miyagi, and Fukushima) have averaged about 30,000 annually, this equates to 2.8 years of demand all at once, and this should boost housing starts in the affected regions.

Following the Kobe earthquake, construction began with the more easily supplied areas, and likewise we think home reconstruction is likely to begin in urban areas like the city of Sendai, and that this is likely to boost starts for multifamily housing, which accounts for most housing in urban areas.

In addition, because the share of owner-occupied homes is about 10 percentage points higher in Tohoku than it is in Hyogo prefecture, the boost to overall starts should be accelerated if reconstruction begins with those homes.

Looked at from the financial aspect, a statement by the Financial Services Agency (FSA) on 11 March regarding financial measures to cope with damages from the Great East Japan Earthquake requested financial institutions, in light of damages from the disaster and the demand for emergency funds, to open loan consultation offices, simplify credit reviews, speed up lending, provide more favorable repayment terms and otherwise implement timely and appropriate measures to make life easier for the

Figure 6: Housing starts in Hyogo prefecture following the Kobe earthquake



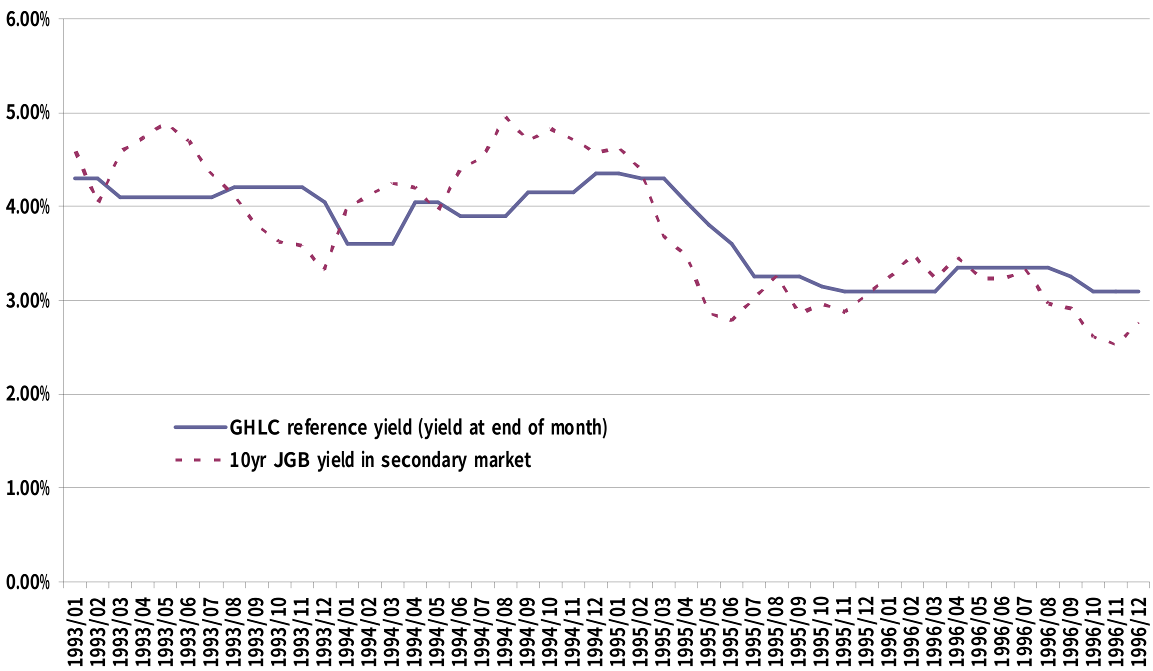
Source: Nomura Institute of Capital Markets Research, based on Housing Starts from the Ministry of Land, Infrastructure, Transport and Tourism.

disaster victims. The regional banks and second-tier regional banks have already announced residential mortgages with favorable interest rates and repayment terms. This should mean that home loans do not wind up being a bottleneck, but there are probably a number of people with damaged homes who still have mortgage balances as well as elderly homeowners unable to get a loan, and there is a need for measures to help these people, as well[8].

The first supplementary budget included a cabinet decision to lower the interest rate charged by the JHF on loans for rebuilding homes damaged by the disaster to 0% for the first five years, and this policy is expected to encourage rebuilding efforts.

Housing starts in FY1995, the year of the Kobe earthquake, increased approximately 50% in Hyogo prefecture, but actually declined by about 6% nationwide owing to the increase in interest rates that began in mid-1994. In FY1996, growth picked up to 32.4% in Hyogo prefecture and 11.8% nationwide, owing in part to (1) reconstruction demand gaining momentum, (2) a decline in mortgage rates, and (3) a moving up of demand ahead of the consumption tax rate hike scheduled for April 1997. This time, although we expect the extension of the Flat 35S loan rate discount to prevent an overall decline as occurred in FY1995, the impact from damage to the housing stock is less than it was from the Kobe earthquake, and even if housing starts were to increase by 50% in the Tohoku region it would only mean an absolute

Figure 7: Reference interest rates at the Government Housing Loan Corp.



Source: Nomura Institute of Capital Markets Research, based on GHLC materials and Bloomberg

8 Conceivable measures from public entities include direct purchases of land, use of land rented for a fixed period, and reverse mortgages.

increase of 15,000. Consequently, FY2011 housing starts would probably not be any more than about 900,000. We expect another increase in FY2012, but given the small number of damaged homes we think it unlikely that housing starts will rise to as high as 1 million[9].

3. Impact from consumer sentiment

1) Decline in consumer sentiment

Consumer sentiment has declined. The first post-quake Economy Watchers Survey, released in April 2011, showed a substantial decline in the housing-related DIs, both current and forecast. In addition, the contracted sales rate on newly built condominiums in Greater Tokyo was 79.7% in March, down 5.1 percentage points from February. That being said, 70% is considered to be the threshold for determining whether the condominium market is strong or weak, and a rate of nearly 80% is not that bad of a number. In contrast, the contracted sales rate in the Kinki region increased 3.6 percentage points relative to February to 74.9% in March, indicating regional differences in the change in consumer sentiment. Accordingly, although a decline in consumer sentiment will have short-term negative impacts in some regions, we think it likely that reconstruction demand will result in overall improvement for the entire fiscal year.

2) Impact from liquefaction and scheduled power outages

Second, both liquefaction and scheduled power outages have reduced demand for high-rise condominiums. The Japanese Geotechnical Society's first survey showed the area bordering the Tokyo Bay suffering liquefaction totals over 40 km^2, more than half the area of land inside the Yamanote train line[10]. The unlikelihood of high-rise condominium prices collapsing has made them popular, and nationwide over 80,000 units were planned to come on line from 2011[11]. A number of developers apparently scaled back their plans following the Lehman failure, however, because of the longer time it takes to sell large properties. Their long construction lead times make it difficult to change plans on condominiums for which sales and construction have already started, and sales are probably not going well, but decisions on those projects still on the drawing board will probably be made based on recent sales results. The contracted sales rate for high-rise condominiums of 20 floors or higher in Greater Tokyo was 77.1% in March, a 3.5 percentage point year-on-year increase, and no impact has been evident recently[12].

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9 This includes the risk of housing starts being lower than expected, given the possibility of long-term impacts from the Fukushima Daiichi nuclear power plant.

10 Asahi Shimbun, 12 April 2011

11 Real Estate Economic Institute, *Shinki manshon deita nyuusu* (Newly built condominium data and news), 7 April 2010 [in Japanese]

12 Real Estate Economic Institute, *Shutoken no manshon shijoudoukou* (Condo market trends in Greater Tokyo), FY2000, *Kinkiken no manshon shijoudoukou* (Condo market trends in the Kinki region), FY2000 [in Japanese]

3) Impact from shortage of construction materials

The April monthly economic report from the Cabinet Office indicated that the tsunami caused major damage to factories accounting for 30% of nationwide production. It did note, however, that it expects this can be dealt with by increasing production in plants located in areas unaffected by the disaster. Although some of the factories operated by the major home manufacturers and other manufacturers of construction materials suffered damage, it appears that most have already resumed operation. Delays in some projects are inevitable, but we think it unlikely that this will reduce demand for housing.

4) Other

The realization of the risk of concentrating operations in Eastern Japan together with power shortages in Greater Tokyo have accelerated corporations' moves to diversify geographically, and this may increase demand for rental housing, particularly in western Japan. We also expect this to substantially reduce demand in Eastern Japan for the "all-electric homes" that the electric power companies had been promoting.

IV. Impact on RMBS

Regarding the impact on new JHF issues, we expect issuance of regular monthly RMBS alone to total over ¥2 trillion in FY2011, given that the Flat 35 loan applications that have been growing since the mid-FY 2010 will underlie future RMBS issuance, and also that we expect FY2011 housing starts to be at least as high as they were in FY2010. Some investors have argued that the lack of financial resources to fund the increased government spending associated with earthquake reconstruction may reduce the monies available to fund the lowering of Flat 35S loans rates, among other programs, but there is no evidence at this point that the government is moving in that direction. Basel II makes it more difficult for private-sector financial institutions to issue RMBS backed by loans that they have originated themselves, and the focus on regional risk will probably make RMBS issuance that much more difficult for regional financial institutions, which cannot easily put together regionally diversified loan pools. There is concern that the loan pools underlying JHF RMBS in the secondary market will deteriorate as loan delinquencies rise in the disaster-affected areas. There is no actual deterioration of JHF RMBS because the delinquent loans are directly purchased (replaced). In fact, restraint on the part of lenders in sending payment reminders in the disaster regions may increase delinquencies over the near term, and an increase in the number of delinquent loans purchased (replaced) should shorten the average remaining maturities of RMBS.

Nevertheless, loans secured by homes in the disaster-affected areas only account for 2–3%[13] of the total, and this is unlikely to result in a significant change.

The impact from an increase in delinquent loans in the disaster regions on the credit risk of the JHF, which handles credit enhancement, will probably be limited, given that loans backed by homes in the affected areas appear to account for no more than 4% of JHF's total portfolio. As already noted, the cost of reducing the loan rate on JHF loans for rebuilding homes damaged by the disaster to 0% for the first five years is already included in the first supplementary budget. These loans will not be packaged into RMBS, but instead will remain on the JHF balance sheet. Because the loan rate is 0%, several trillion yen worth of loans with a negative interest rate margin are expected to be written[14], but the government has already budgeted ¥56 billion to offset these losses, and this should not hurt the JHF's balance sheet or worsen its credit risk.

13 Loans backed by properties in Iwate, Miyagi, and Fukushima prefectures accounted for 2.1% of the loan pool of the JHF No. 48 RMBS (terms to be set in late April 2011).

14 After the 1995 Kobe earthquake, roughly 70,000 loans for ¥1.5 trillion were written.