

Commentary

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RESEARCH

Comparing The U.K., Dutch, Australian, And Japanese RMBS And Mortgage Markets

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Comparing The U.K., Dutch, Australian, And Japanese RMBS And Mortgage Markets

Lower securitization volumes globally since 2008, and in particular the virtual closure of the private-label U.S. residential mortgage-backed securities (RMBS) market, mean that securitization investors may need to look further afield, in Standard & Poor's Ratings Services' view. In Europe, only the U.K. and the Netherlands have seen substantial post-crisis RMBS issuance. Meanwhile, Australia and Japan continue to account for most volumes in the Asia-Pacific region.

Despite strong collateral performance and the scarcity of RMBS defaults in all four countries in recent years, we note that their residential mortgage and RMBS markets differ substantially. The current states of their economies and housing markets, and of borrowers' finances, also vary, which can affect the risks that RMBS investors face, in our view.

We intend this report to serve primarily as a reference guide for investors that are new to RMBS from any of these countries. The Appendix provides a condensed, side-by-side comparison of their RMBS and mortgage markets. (Watch the related CreditMatters TV segment titled "Strong U.K., Dutch, Australian, And Japanese RMBS Performance Belies Key Market Differences," dated Sept. 29, 2014.)

Overview

- In this report, we compare the U.K., Dutch, Australian, and Japanese RMBS and mortgage markets.
- We briefly consider the importance of securitization to mortgage lenders in each country, before turning to the characteristics of typical mortgage loans and recently-originated RMBS transactions.
- The mortgage market comparison covers, in part, lender underwriting criteria, loan amortization and interest rate characteristics, borrowers' leverage, and the role of lenders' mortgage insurance.
- At the RMBS transaction level, we compare collateral types, structural features, credit and liquidity protections for investors, note features, and the availability of loan-level information.
- Prime RMBS mortgage performance and issuance volumes have varied substantially between the four countries since the financial crisis, but RMBS credit quality has remained very strong in all four in absolute terms—a trend we expect to continue in the near term.

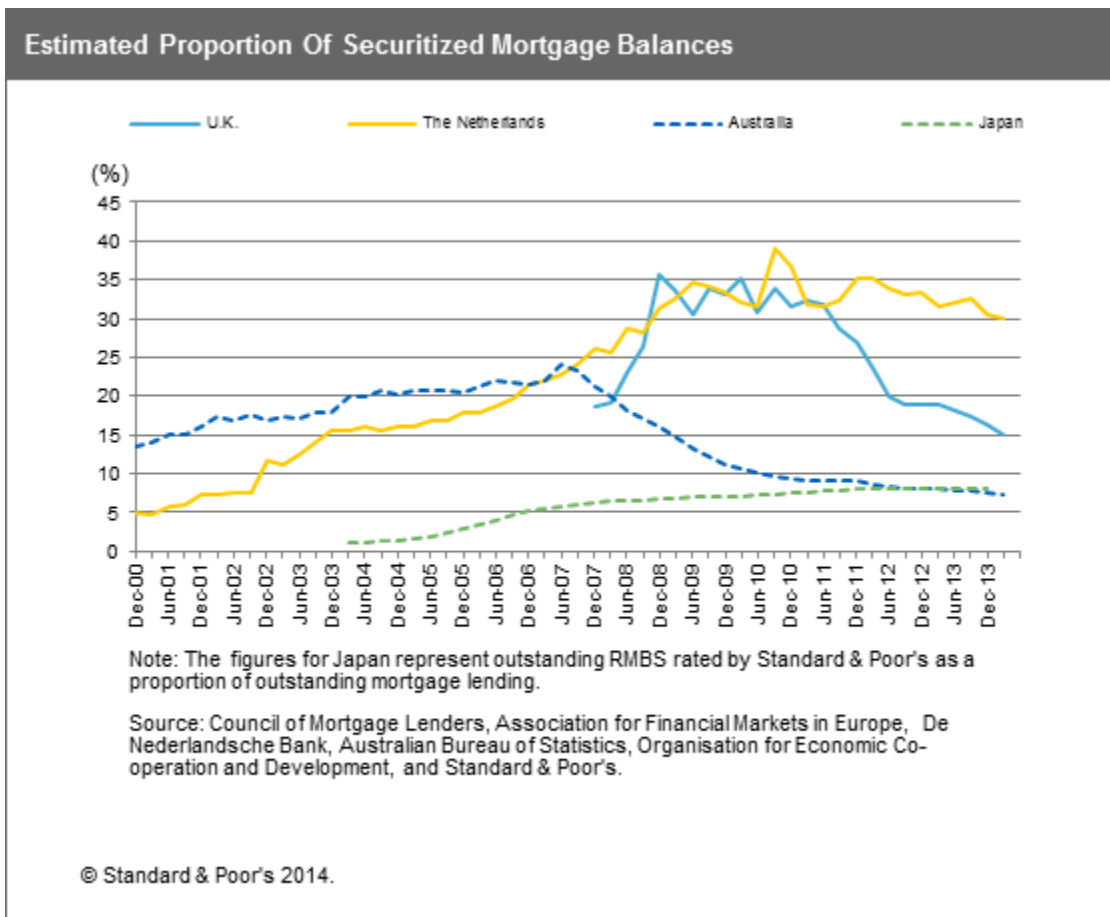
RMBS Is Less Popular As A Funding Source In Japan Than In The Other Three Markets

U.K., Dutch, and Australian mortgage originators began issuing RMBS in the early- to mid-1990s, using securitization issuance in part to finance strong lending growth in the decade leading up to the global financial crisis. By 2007, almost 25% of outstanding mortgage loans in Australia collateralized securitizations, and by 2009, up to 35% in the U.K. and the Netherlands (see chart 1). The share of securitized mortgage loans has since declined sharply in the U.K. and Australia, and has not continued to rise in the Netherlands, as some originators and investors pulled back from

securitization markets during and following the economic downturn. (We note that some of the trend in the U.K. and Netherlands is due to originators' post-crisis practice of creating and retaining RMBS for use as collateral against borrowing from central banks, i.e., not RMBS funding in the traditional sense.)

In Japan, RMBS is a less significant source of housing finance, with outstanding issuance rated by Standard & Poor's representing less than 10% of outstanding house purchase lending in 2013. This is partly because housing loan originations have been declining almost continuously for the past two decades, reducing originators' need to supplement deposit funding through wholesale markets. Nevertheless, investor demand remained relatively stronger over 2008 and 2009 compared with the other three markets, and stable RMBS volumes as a proportion of new mortgage lending since then, mean that securitization is funding a slowly rising proportion of outstanding loans.

Chart 1



Relatively Few Issuers Account For Most RMBS Issuance In The U.K., The Netherlands, And Japan

In the U.K. and the Netherlands, the RMBS market is relatively concentrated by originator. For example, between 2011 and 2013, the top three RMBS originators in the U.K.—Santander U.K. PLC, Lloyds Banking Group PLC, and The

Royal Bank of Scotland PLC—represented about two-thirds of investor-placed RMBS issuance. In the Netherlands, Rabobank, ING Bank N.V., and AEGON N.V. accounted for a similar proportion over the period (see chart 2). These originators are also among the largest mortgage lenders in their respective countries. (ABN AMRO Bank N.V., the fourth largest Dutch mortgage lender by gross volumes in first-half 2014, doesn't appear among the top RMBS originators in recent years, but accounts for more than half of collateral balances backing Dutch RMBS transactions that we rate.)

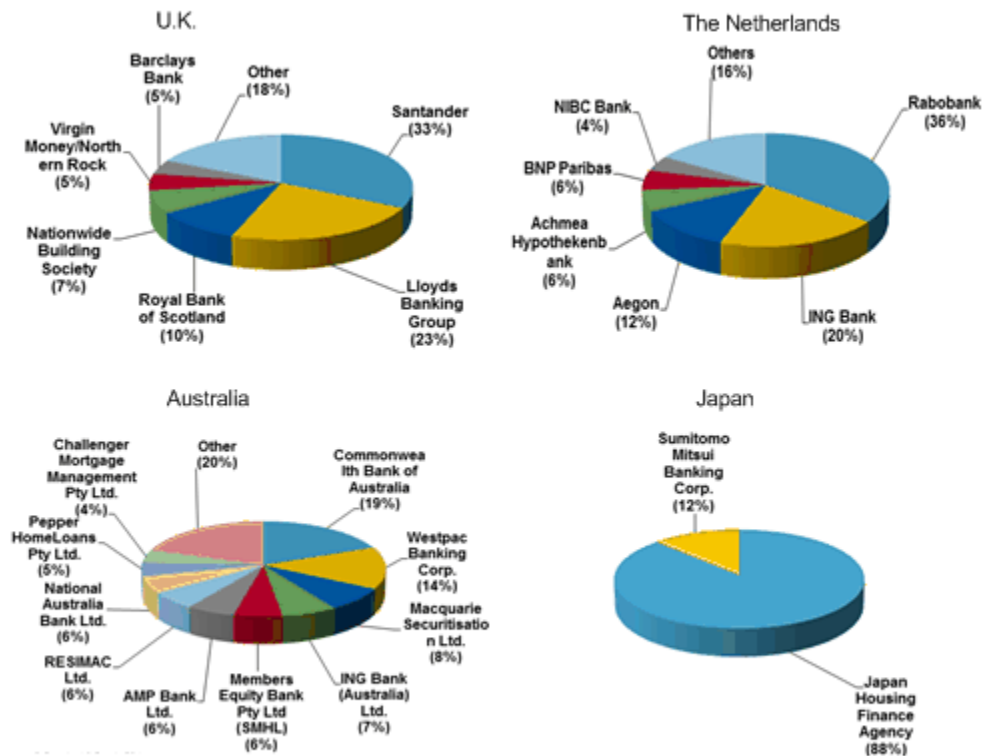
By contrast, in Australia, smaller lenders traditionally relied more on RMBS than the bigger players before the 2008 downturn, partly as a cost-effective funding tool to quickly gain market share. The major banks—in particular, the so-called "big four" of Commonwealth Bank of Australia, Westpac Banking Corp., National Australia Bank Ltd., and Australia and New Zealand Banking Group Ltd.—could traditionally fund mortgage lending more cheaply in other ways. As a result, the Australian RMBS market is less concentrated by originator than in the U.K. and the Netherlands, with the top 10 issuers representing only 80% of volumes in the 12 months to June 2014.

At the other end of the spectrum, Japan Housing Finance Agency (JHF), a government-affiliated mortgage lender, has issued more than 80% of Japanese RMBS since 2008. The primary public-policy function of JHF is to provide affordable full-term fixed-rate mortgage loans to borrowers, which the private sector has traditionally had difficulty funding. JHF accomplishes this by buying such loans that comply with certain underwriting criteria from private financial institutions, funding the purchase with RMBS issuance. JHF therefore functions in a similar way to the Federal National Mortgage Association (Fannie Mae) and the Federal Home Loan Mortgage Corporation (Freddie Mac), the U.S. government-sponsored enterprises. However, unlike with Fannie Mae and Freddie Mac, JHF-issued RMBS notes don't benefit from an implicit state guarantee.

Although private sector lenders accounted for about half of Japanese RMBS issuance up to 2007, since 2008, their share has fallen sharply. Only one Japanese private-sector mortgage originator (Sumitomo Mitsui Banking Corp. [SMBC]) issued RMBS in 2013. JHF-issued RMBS issuance has increased since 2008 partly because of government-mandated lower interest rates on the loans that the agency acquires, which have increased its share of the mortgage market as its loans have become more attractive to borrowers. As for the private sector, some originators issued RMBS in the years before 2008 in order to realize a profit when selling their mortgage portfolios into securitizations, but more recently, good business results have lessened their incentive to do so. Another reason for declining private sector issuance is that SMBC, one of the largest private sector lenders providing long-term fixed-rate loans, has lost market share to JHF in this market. (Private sector Japanese lenders tend to securitize mainly fixed-rate loans—by issuing fixed-rate RMBS—in order to minimize asset-liability interest rate mismatches, but do not usually fund floating-rate loans through the RMBS market.)

Chart 2

Investor-Placed RMBS Issuance
By originator



Note: Figures for the U.K. and the Netherlands refer to the period from 2011 to 2013; for Australia, to the 12 months to June 2014; and for Japan, to full-year 2013.

Source: Standard & Poor's, J.P. Morgan

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Mortgage Market Characteristics

Substantially different mortgage and RMBS markets in the U.K., Netherlands, Australia, and Japan may give rise to different risks for RMBS investors, in our view.

Below, and in table 1 in the Appendix, we compare some of the key features of the mortgage markets.

Full recourse?

Mortgage loans in all four countries are full recourse instruments. This means that, in addition to the mortgaged property, the lender can pursue the other assets of a defaulting borrower to cover any residual losses after the repossession and sale of the property.

Product types

By interest rate characteristics. The standard U.K. residential mortgage product carries an interest rate that is fixed for one to three years, before reverting to a floating rate for the remaining loan term. The reversionary rate is often the lender's standard variable rate (SVR), but may also be linked to the Bank of England's base rate (BBR) or LIBOR.

In the Netherlands, the interest rates on most new loans are fixed, typically for five to 10 years. The borrower typically re-fixes the interest rate for another interval at the end of the initial period. At the other end of the spectrum, the interest rates on most Australian mortgage loans are floating for life, usually referencing the lender's SVR. The remainder are usually fixed for three to five years, before reverting to a variable rate or re-fixing for a new period.

The interest rates on Japanese mortgage loans are usually floating for life (about 45% of new loans in 2013), fixed for life (25%), with the remainder convertible. Convertible loans in Japan usually bear fixed interest rates for two to 10 years, which the borrower can then choose to re-fix or allow to float.

By principal repayment characteristics. In the U.K., the standard mortgage loan for owner-occupier borrowers features annuity payments for life (typically 25 to 30 years). Interest-only loans prevailed throughout the 1980s and 1990s, partly because of the favorable tax treatment of mortgage interest, and again in the mid-2000s (despite the removal of mortgage interest relief for owner-occupiers in 2000), as lenders relaxed their underwriting criteria. Such loans have again largely fallen out of favor since 2008 as lenders have tightened their lending rules. They accounted for only about 10% of mortgage originations to owner-occupiers in 2013, down from more than 40% in 2007. On the other hand, most (more than 80%, in 2013) residential mortgage loans to borrowers planning to let out the property are interest-only, since such loans allow for higher investment returns and benefit from tax relief.

In Australia, as in the U.K., annuity-for-life mortgage loans—usually with terms of 25 to 30 years—dominate the market. However, interest-only loans appear to be becoming more popular with borrowers: They made up about 25% of owner-occupier mortgage approvals in 2013, but only 15% of owner-occupier gross mortgage lending in 2005, and 10% in 2003, according to Reserve Bank of Australia (RBA) estimates. Such loans in Australia, unlike in the U.K. and the Netherlands, are usually only interest-only for an initial period (typically, up to 10 years), before becoming amortizing.

Draft guidance released in 2014 by the Australian Prudential Regulation Authority (APRA), the banking regulator, stipulates that banks should only grant interest-only loans to owner-occupiers where there is a justifiable economic rationale, and not simply because the borrower wouldn't qualify for an annuity loan. This may constrain interest-only originations to some extent, in our view. As in the U.K., and for similar reasons, interest-only housing loans are more popular in Australia for investment purposes: About 60% of new residential investment loans were non-amortizing in 2013.

In Japan, mortgage loans also typically amortize over the loan's life (30 to 35 years), but not necessarily in line with an annuity. For example, a typical floating-rate Japanese mortgage product may feature a monthly installment that is fixed for five years, regardless of the mortgage interest rate. A high mortgage interest rate could therefore lead the required interest payment to account for 100% or more of the installment, in which case, the borrower pays no principal and defers any unpaid interest. Therefore, when interest rates are high, amortization on such loans may be low or zero for part of the initial period. However, strictly interest-only residential mortgage lending is negligible in Japan.

In the Netherlands, traditionally generous tax deductibility of mortgage loan interest made non-amortizing mortgage

products relatively popular among owner-occupiers. Many of these products were strictly interest-only, where there was no mechanism for paying off or building up principal during the loan's life (typically 30 years). A substantial proportion also featured linked savings or insurance accounts in which principal accumulated, rather than the lender directing the principal toward loan amortization. The Dutch central bank estimated that in 2012, about 55% of outstanding Dutch mortgage balances were interest-only, and a further 30% of balances were non-amortizing and linked to separate principal accumulation accounts. The scarcity of amortizing loans in the Netherlands has led to a large build-up of household debt, which amounted to more than 300% of net household disposable income in 2012, one of the highest among Organisation for Economic Co-operation and Development member states.

Nevertheless, legislative changes that became effective recently are already reducing the prevalence of interest-only loans in the Netherlands. From January 2013, only interest on amortizing loans is eligible for tax deductibility, and the government will gradually lower the maximum marginal rate of tax deduction to 38% in 2042 from 52% in 2014. The share of interest-only loans in gross mortgage lending fell to 39% in the first three-quarters of 2013, from 65% in 2007.

Underwriting criteria

In the U.K., rules that became effective in April 2014, ban loans to borrowers who self-certify their income without providing supporting documentation, and force lenders to assess mortgage affordability on an interest-and-principal repayment basis in most cases, regardless of whether the loan is interest-only, and taking into account potential future interest rate rises. The Financial Conduct Authority, a U.K. financial services regulator, partly intended the new rules to address the rising number of new interest-only loans between 2002 and 2007, many of which had no reported repayment strategy, and the rising number of self-certified loans over the period to salaried borrowers who should have been capable of evidencing their income. The prior legislation, in force since 2004, required lenders to take account of borrowers' ability to repay, but left the actual underwriting policy to the lender's discretion. In June 2014, the Bank of England also recommended that no more than 15% of mortgage lenders' new loans could be worth more than 4.5 times the borrower's annual income, and that lenders should ensure that borrowers could afford mortgage payments even if interest rates rose by three percentage points over the first five years of the loan. The measures, effective from October 2014, are intended to cool the buoyant housing market.

In the Netherlands, new legislation in force since 2013 lowered the cap on mortgage loan-to-value (LTV) ratios to 104% in 2014 from 106%, with the limit decreasing further by one percentage point every year to 100% in 2018. Furthermore, it sets hard caps on the borrower's debt servicing costs as a proportion of their incomes. Meanwhile, the updated Code of Conduct for Mortgage Loans, in place since 2011, limits the interest-only portion to 50% of the mortgage loan amount. Virtually all Dutch lenders subscribe to the Code on a "comply or explain" basis. These new rules (along with the removal of tax relief for non-amortizing loans) will likely make interest-only loans less popular and may gradually lead to a reduction in outstanding household debt, in our view.

By contrast, Australian consumer credit legislation in place since 2009 largely leaves mortgage underwriting decisions to the lender, although it requires lenders to take reasonable steps to confirm and demonstrate that the borrower will be able to repay the loan. This legislation may have helped to reduce the prevalence of self-certified loans (often called "reduced documentation" or "low doc" loans in Australia). Such loans accounted for about 10% of gross mortgage lending to owner-occupiers in 2008, but only about 1% in 2013.

In Japan, no legislation specifically targets mortgage lenders' underwriting criteria.

In practice, lenders in all four countries tended to apply relatively conservative underwriting criteria even before new legislation in some of them may have forced them to become more prescriptive. For example, mortgage originators in the Netherlands and Australia have generally set maximum debt-service-to-income ratios at about 40%, with the limit set at about 35% in Japan. In Australia, many originators may also require that the proportion of a borrower's net income that remains after deducting debt payments and living expenses (and after accounting for interest rate rises between 1% and 2%) is between 0% and 25%. Loan-to-income multiples of up to about 5 are common in the U.K. and Netherlands.

That said, without specific regulatory restrictions, the risk remains that lenders' underwriting standards may be pro-cyclical—loosening when housing markets are buoyant, and tightening when they lose steam. This can have implications for the credit quality of RMBS collateral. This appears to have been the case for low doc loans in Australia, before the introduction of some stricter underwriting restrictions in 2009. As another example, the share of new owner-occupier loans in Australia with LTV ratios above 90% reached about 25% in 2008, as strong housing market growth led to increased competition among lenders. This figure has since declined, to about 15% in 2013, as some originators tightened their lending criteria.

LTV ratios

LTV ratios for new loans in the U.K. and Australia are typically lower than those in the Netherlands and Japan. In 2013, average LTV ratios for new residential mortgage loans in these countries were about 60% to 75%, with only a small proportion of new lending (2% and 15%, respectively) occurring at LTV ratios greater than 90%.

Typical LTV ratios for new loans in the Netherlands and Japan are substantially higher, with more than half carrying LTV ratios above 90% in 2013. The tax systems in the Netherlands, and to a lesser extent in Japan, may have traditionally encouraged high LTV ratio mortgage borrowing. A lengthy period of low interest rates in Japan has also increased mortgage affordability for borrowers with high LTV ratio loans.

Early repayment penalties

Most mortgage rate loans with fixed (or initially fixed) interest rates in the U.K., Netherlands, and Australia carry prepayment charges, to compensate the lender for changes to their cost of funds as a result of the unscheduled repayments.

In Japan, prepayment charges for loans to owner-occupier borrowers are not common, possibly because of competitive pressures on lenders.

Foreclosure periods

Foreclosure periods—the time between first arrears and repossession—are similar in all four countries, at between one and two years, generally.

Lender's mortgage insurance

In the Netherlands, Australia, and Japan, many mortgage loans carry some form of lender's mortgage insurance (LMI). The insurer usually reimburses the lender, subject to certain conditions, for some or all losses resulting from the repossession and sale of the property backing an insured loan. In turn, this reduces the potential for losses on RMBS

notes collateralized by insured loans. Although the lender benefits from the insurance, the borrower typically pays the insurer's fee for providing coverage. In Japan and the Netherlands, such insurance is described as a "mortgage guarantee," although we note that the guarantor's obligation to repay the lender for losses is not unconditional (and depends, specifically, on the lender having underwritten the loan in line with the guarantor's criteria).

In the Netherlands, the Nationale Hypotheek Garantie (NHG), a government-backed mortgage guarantee scheme originally designed to encourage home ownership, covers most new mortgage loans. Very few Dutch mortgage loans carry private LMI.

The government established the Stichting Waarborgfonds Eigen Woningen (WEW), a private entity, to run the scheme in 1995. In order to qualify for the NHG guarantee, loans must meet certain criteria. For example, only owner-occupier loans are eligible, there is a maximum guarantee amount (currently €265,000), and there are specific rules related to loan affordability and the borrower's credit history. About 75% of new Dutch mortgage loans in 2013 carried the NHG guarantee.

The NHG guarantee alone does not ensure that a lender will not suffer losses on a loan, for several reasons. First, WEW only checks the underwriting criteria for a loan when a lender makes a guarantee claim, and may therefore reject the claim if the actual underwriting criteria fell short. We have observed relatively low average NHG rejection rates of between 5% and 16% since 2008. Second, the guarantee amortizes in line with a 30-year annuity loan, even if the loan is in fact non-amortizing. This means that the guaranteed amount may decline more quickly than the loan balance, exposing the lender to potential losses on the difference. Third, lenders must share 10% of every euro of loss on NHG-guaranteed loans originated after Jan. 1, 2014. Finally, our long-term rating on the Netherlands, which ultimately backs the NHG guarantee, is currently 'AA+'. Therefore, in a 'AAA' stress scenario—for example, a downturn on a par with the U.S. Great Depression—we expect that the government might not continue to fully honor NHG claims, although we consider this risk to be remote.

In Australia, LMI started to become popular from the 1960s, largely as a way to allow lenders to extend loans with LTV ratios greater than 80%, given higher capital requirements for such lending. About 70% of loans backing Australian prime RMBS that we rate benefit from LMI, either at the individual loan level, or for the collateral pool as a whole. Genworth Financial Mortgage Insurance Pty Ltd. (Genworth) and QBE Lenders' Mortgage Insurance Ltd. (QBE LMI), both carrying a financial strength rating in the 'AA' category, provide insurance coverage for about 98% of such loans. Underwriting requirements for LMI eligibility include a maximum LTV ratio and property value restrictions and income serviceability thresholds. Insurance usually covers all of the loan's principal balance.

As with NHG-guaranteed loans, it's possible that the insurer will reject the claim, although claims adjustment rates—the proportion of claim balances that the insurer refuses to pay—for Australian loans are generally quite low, at about 10%. However, the dominance of the two insurance providers means that Australian RMBS transactions' creditworthiness to some extent depends on the creditworthiness of Genworth and QBE LMI—especially for subordinated notes. Even so, our analysis shows that while a downgrade to either insurer would likely lead us to downgrade most 'AA-' rated notes with exposure to that entity, we would only lower our ratings on 3% of 'AAA' rated notes if we downgraded both insurers (see "Scenario Analysis: 2013 Update To Lenders' Mortgage Insurance Sensitivity Analysis On Australian Prime RMBS," published on Nov. 25, 2013). 'AAA' rated notes generally benefit from

extra credit enhancement that provides a buffer against insurer downgrades.

In Japan, most loans originated by private sector lenders carry a guarantee, usually provided by a subsidiary or affiliate. Guarantors generally verify that the loan meets specific underwriting criteria at the time of loan origination, so guarantors do not typically reject lenders' claims. Since JHF has dominated RMBS issuance since 2008, and JHF loans are not guaranteed, most loans backing RMBS originated in 2013 don't benefit from a guarantee. In any case, since we don't rate most guarantee providers in Japan, our rating analysis usually doesn't give credit to the guarantee.

Many U.K. mortgage loans carried privately-provided LMI in the 1980s, but most borrowers no longer take out such insurance. This is partly because mortgage insurers suffered large losses following the early 1990s U.K. recession, and subsequently restricted coverage, with many withdrawing from the market altogether. Consumer protection bodies' suggestion that some borrowers were confused about how the insurance policies worked, along with competitive pressures on lenders, also contributed to LMI's decline.

RMBS Characteristics

Below, and in table 2 in the Appendix, we compare the main features of RMBS transactions from the four markets.

Collateral

Mortgage loans to owner-occupiers with clean credit histories—broadly, "prime" loans—dominate the RMBS market in all four countries. In fact, the U.K. is the only one with substantial outstanding amounts of RMBS backed by non-prime collateral. Just over 70% of collateral balances of U.K. RMBS transactions that we rate are prime, with nonconforming and buy-to-let loans each accounting for a similar share of the remainder (see chart 3).

We generally classify as "nonconforming" those loans that specialist lenders make to borrowers unable to qualify for loans from mainstream lenders, usually because of limited or adverse credit histories. U.K. nonconforming lending came about in the 1990s and remained popular until the financial downturn, but has almost completely dried up since 2008. To date, legacy assets back almost all U.K. nonconforming RMBS transactions originated since 2009.

"Buy-to-let" loans are those to borrowers who rent out the residential property rather than occupying it themselves. U.K. buy-to-let lending growth has been strong since 2011, partly thanks to the buoyant tenant demand in the face of relatively limited availability of high LTV ratio mortgages, and low mortgage interest rates, which have attracted landlords. A single specialist lender—Paragon Mortgages Ltd.—accounts for most U.K. standalone buy-to-let transactions outstanding, but banks have also funded buy-to-let loans through master trusts.

In the Netherlands, there is no established nonconforming mortgage market, although we've seen a limited amount of specialist lending to borrowers who would have difficulty getting loans from high-street banks. We classify less than 1% of collateral balances backing Dutch RMBS transactions that we rate as nonconforming, and originators issued all but one of these transactions in 2007 or 2008.

The Australian subprime market is more developed: We rated our first such transaction in 2000. Even so, we only classify about 2% of Australian RMBS transactions that we rate, by balance outstanding, as subprime. Our definition of an Australian subprime loan is similar to that of a U.K. nonconforming loan, although historically the credit quality of

subprime borrowers in Australia has been higher, and might be better described as "near-prime".

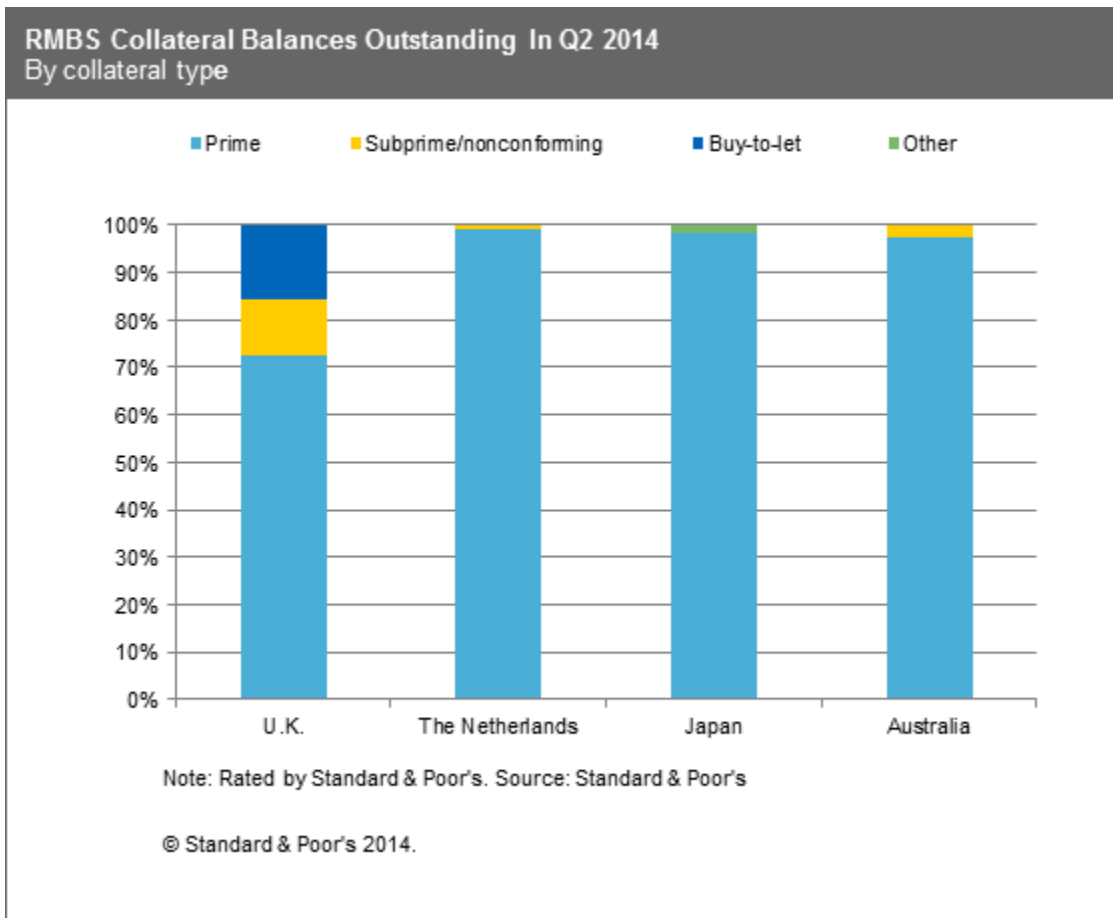
Low doc loans, originally designed for self-employed borrowers, also feature in Australian RMBS, among both prime and subprime transactions. Lenders generally impose maximum LTV ratio restrictions and often charge interest rate premiums on these loans, to account for the higher risk of default. Low doc loans account for about 4% of collateral balances backing prime Australian RMBS transactions that we rate, but about 40% of subprime pools. (Low doc loans featured in U.K. RMBS pools in the past, but were banned in 2014, as noted earlier. Such loans don't generally collateralize Dutch or Japanese RMBS.)

We classify 98% of collateral backing Japanese RMBS as "prime". Apartment loans and condominium investment loans back the remainder.

Lenders typically extend apartment loans to individuals seeking to build apartments on land they already own. Borrowers usually use these loans to raise the yield on unused vacant land through a cash-yielding property, to create tax liabilities that reduce income tax, or to own real estate that carries relatively lower inheritance tax compared with other personal assets.

Condominium investment loans are usually secured by studio condominiums located in urban areas, while some are secured by small family-use condominium units. Unlike borrowers of apartment loans, few borrowers of condominium investment loans are landowners, but they are more likely to have relatively ample cash flows, such as salaried income. Typical borrowers purchase studio units as an investment.

Chart 3



Standalone or master trust?

About 90% of U.K. prime RMBS transactions that we rate, by balance outstanding, are master trusts. A master trust is a funding vehicle that typically persists indefinitely, allowing the originating lender to periodically sell loans into the vehicle rather than creating a new standalone transaction structure for every new issuance. The lender can sell exposure to portions of the assets to investors by issuing new series of notes, and the vehicle can "revolve"—that is, use principal receipts from the underlying mortgages to purchase additional collateral.

Master trusts can provide economies of scale over standalone transactions to originators—typically large banks—that regularly securitize large collateral pools. They also allow originators to more easily alter bond amortization profiles—creating bullet and scheduled amortization notes, for example—that cater to different investor bases. (A bullet note is scheduled to receive its full notional amount in one lump sum on a particular date.)

However, standalone transactions have become more popular with U.K. prime RMBS originators over the past couple of years. Since 2012, new standalone prime U.K. RMBS transactions placed with investors have marginally outnumbered new master trust issuances, partly because of an uptick in issuance from smaller building societies. Buy-to-let and nonconforming transactions, because of their smaller size, are typically standalone.

Although about 60% of Dutch RMBS transactions that we rate, by balance outstanding, are also master trusts, there are

far more standalone transactions in this market. A single lender—ABN AMRO Bank—accounts for all Dutch master trust transactions that we rate.

The Australian RMBS market is almost exclusively standalone, although it has seen a couple of master trust transactions, due to perceived difficulties in deposit-taking institutions issuing master trusts under current regulatory rules. Proposed regulations for these lenders look likely to address the use of master trust structures in Australia specifically, however, it is unclear from the details released to date whether the allowable structure under regulatory standards would enable us to assign a rating.

Almost all Japanese RMBS transactions are standalone.

How do investors acquire a legal interest in the collateral?

With U.K. master trusts, the seller typically transfers the assets by equitable assignment (the legal title initially remains with the seller) to a trust company. A special-purpose entity (SPE) then issues notes to investors and on-lends the funds to a funding vehicle, which in turn acquires a share in the trust's assets. There may be several funding vehicles in the trust, each holding a share in the trust's assets on behalf of some of the noteholders. The seller also usually maintains a share in the trust assets.

For Dutch master trusts, the seller transfers the assets by true sale to a SPE (the asset purchaser). Another SPE acquires an interest in the assets by issuing notes to investors, and on-lending the funds to the asset purchaser.

For standalone transactions in the U.K., Netherlands, and Australia, the seller transfers the assets by true sale to a SPE, which issues notes to investors.

In all cases above, RMBS note payments derive from interest and principal receipts from the underlying assets, along with other structural supports, such as reserve and liquidity reserve funds.

For JHF-issued RMBS in Japan, this is not initially the case. JHF transfers the asset pool to a trust, but the transaction does not involve a true sale at closing. Instead, JHF retains principal and interest collections, and pays the noteholders from its own balance sheet. This is similar to a covered bond structure. However, if a "beneficiary certificate trigger event" occurs—for example, if JHF defaults on a payment, or is dissolved without the creation of a successor entity—the transaction changes to a true sale structure. In that event, JHF transfers asset collections to the trust, which uses them to make payments on the notes.

Private RMBS issuers in Japan transfer the assets by true sale to a trust company, which issues beneficiary certificates to investors.

Capital structure

Since 2009, most U.K. prime RMBS originators have placed with investors only a senior tranche of their transactions, typically with a weighted-average life (WAL) of one- to three-years, while retaining an unrated tranche. Part of the reason for this was that originators were initially unable to economically place subordinate tranches with investors immediately following the financial downturn. RMBS spreads across the capital structure have since tightened considerably, but U.K. lenders have also recently had cheap central bank funding sources available to them. This has likely reduced their incentive to place more expensive, lower-rated securitization tranches with investors.

In general, buy-to-let and nonconforming specialist lenders, who typically lack a deposit base as an alternative funding source, need to be able to place subordinate securitization tranches in order for the transaction to make economic sense. Most were unable to do so between 2008 and 2012. However, in the past couple of years, tighter securitization spreads have again allowed originators to place both senior (usually with three- to five-year WALs) and mezzanine tranches with investors.

Most Dutch RMBS transactions feature senior tranches split into so-called "fast pay" (two-year WAL) and "slow pay" (five-year WAL) classes. The originator has generally retained the mezzanine and junior tranches in recent years.

In Australia, originators usually place short-dated (three- to four-year WAL) and longer-dated (five- to seven-year) senior tranches, along with a subordinated tranche, with investors. The originator often retains the junior tranche. LMI is usually the key source of credit enhancement for the subordinated notes, which generally caps the ratings on the notes at the rating on the LMI provider (typically the 'AA' category). Additional credit enhancement in the form of subordination allows the senior notes to achieve higher ratings.

Japanese RMBS transactions, both from JHF and the private sector, typically feature a long-dated (typically 10-year WAL) senior tranche, with the seller retaining the unrated subordinated tranche. A few private-sector originators have placed short-dated (two- to four-year WAL) and longer-dated (12- to 15-year) senior tranches, along with a subordinated tranche, with investors, in response to investor demand.

Note features

Fixed or floating? U.K., Dutch, and Australian RMBS are almost all floating-rate notes. Most Japanese RMBS notes are fixed-rate.

Currency. The U.K. and Australian RMBS markets have traditionally tailored some issuance to international investors. U.K. prime RMBS master trusts often feature euro and U.S. dollar denominated notes, in addition to British pound sterling. They have also occasionally issued in other currencies, including Japanese yen, Australian dollars, and Swiss francs. Buy-to-let and nonconforming lenders regularly placed euro- and U.S.-dollar denominated tranches pre-crisis, but all post-crisis issuance has been sterling-denominated so far.

Non-local-currency issuance was very prevalent in Australia before 2008, and peaked at about 75% of total issuance in 2007. However, since then, it has declined sharply, although there have been a few U.S.-dollar and sterling issuances in recent years.

Dutch and Japanese transactions are almost exclusively local-currency-denominated.

Amortization terms. U.K. master trusts usually allow for the issuance of bullet (both hard and soft), scheduled amortization, and pass-through notes, while Dutch master trusts usually only issue soft bullet notes. Hard bullet notes are scheduled to receive full principal in one lump sum on the legal final maturity date, and failure to repay on that date constitutes a default. By contrast, a soft bullet note's legal final maturity date is later than its scheduled maturity date, so if the issuer cannot redeem the note at its scheduled maturity, the maturity may be postponed, or the bond may become pass-through. Pass-through notes pay down as the collateral pays down.

Standalone transactions from all four countries are almost exclusively pass-through. However, a very limited number of standalone transactions in Australia carry hard or soft bullet notes. These transactions may depend on a bank for redemption, with the note rating consequently capped at the redemption-facility provider's rating. In the case of soft

bullet notes, redemption may depend on an option allowing the issuer to refinance the note before its legal final maturity date. Otherwise, the transaction may rely on principal accumulation within the structure for note redemption. However, the size of such bullet notes is usually small as a consequence, given the relatively small collateral balance of standalone transactions compared to master trusts.

Optional redemption. In all four countries, issuers generally have the option to call the notes—the so-called "clean-up call"—when the collateral balance drops below a certain threshold (usually 10% of its original balance). After this point, it may be uneconomical for the originator to continue to service the pool.

In the U.K. and the Netherlands, many transactions also allow the issuer to call the notes on a particular date (the "step up date"), in order to provide investors with more certainty around cash flow timing. Note margins often increase (or "step up") after the call date, which provides an incentive for the issuer to honor the call.

Date-based calls also exist in Australian transactions, but are less common because such calls are restricted for deposit-taking institutions claiming capital relief on the transaction.

Japanese RMBS generally do not have date-based calls.

Payment frequency. U.K. and Dutch transactions are quarterly-paying, while Australian and Japanese RMBS are monthly-paying.

Senior credit enhancement. Credit enhancement at the 'AAA' rating level for U.K. prime RMBS transactions has increased in many cases post-crisis, partly because of changes to rating agency criteria. For prime transactions originated since 2013, 'AAA' credit enhancement at closing generally ranged from 11% to 25%, compared with about 8% to 11% for transactions originated in 2006, for example. For nonconforming RMBS transactions, the credit enhancement increase has been more pronounced, with the average credit support of about 30% in 2013 and 2014, compared with about 16% in 2006. The buy-to-let market bucks the trend, with the average senior credit enhancement actually falling slightly, to about 12% since 2013 from 15% in 2006. This reflects lower LTV ratios on post-crisis buy-to-let lending.

Dutch 'AAA' credit enhancement generally ranged from 7% to 15% in 2013 and 2014, averaging about 9%—above the typical 6% to 8% pre-crisis level.

In Japan, senior credit enhancement for transactions issued by the private sector is usually about 9%, in line with pre-crisis U.K. RMBS. However, 'AAA' credit enhancement for JHF-issued transactions is usually much higher, at about 20%, to account for the fact that JHF transactions employ a pro rata principal payment waterfall. Typical credit enhancement in recent transactions has almost doubled compared with those issued before 2008, partly because JHF relaxed the maximum LTV ratio to 100% from 80% in their lending criteria.

For recently issued prime Australian RMBS transactions, the credit support available to the most senior 'AAA' rated RMBS tranches is currently about 8%, with the most senior tranche in nonconforming transactions benefitting from about 30% credit enhancement. Senior credit support in prime transactions has increased from about 2% to 3% before 2008, since after 2008 the senior 'AAA' rated tranches are more likely to be LMI-independent.

Senior tranches in some U.K. master trusts have more credit enhancement than necessary to maintain 'AAA' ratings. This helps to explain the generally higher senior credit support for U.K. prime RMBS than for prime Dutch, Australian,

and private sector Japanese RMBS. Our U.K. mortgage loss assumptions may also be higher than in some other countries. In the Netherlands and Australia, counterparties may also provide more external RMBS credit support than the U.K. in some cases, through LMI.

Principal priority of payments

In all four countries, principal and interest receipts from the assets are separated to pay principal and interest payments on the notes, respectively. Note interest payments are generally sequential.

Master trusts. In master trusts, the principal priority of payments usually depends on the individual trust characteristics, including the amortization features and maturity dates of individual notes. However, in U.K. master trusts, there are generally two trigger events that simplify the priority of principal payments. If losses on the collateral pool have consumed all credit enhancement available to the 'AAA' notes—an "asset trigger" event—all principal receipts are allocated to the note funding vehicles and the seller, in proportion to their shares in the trust. All notes then become pass-through and are paid sequentially.

Some events unrelated to collateral performance are "non-asset" triggers, including the seller's insolvency, a breach of the minimum seller share requirement, or a breach of the minimum trust size requirement. If a non-asset trigger occurs, all principal receipts are allocated to the funding vehicles (the seller does not receive principal receipts in proportion to its share). The notes are then paid sequentially, with the 'AAA' rated notes being paid sequentially in order of legal-final maturity.

The purpose of both triggers is to wind down the trust as quickly as possible, while honoring bond seniority, after collateral performance deterioration, or (in the case of the non-asset trigger) events that could potentially lead to such deterioration. Following the asset trigger event, schedules on senior bonds are no longer honored, since doing so might lead to the default of some longer-dated, 'AAA' rated bonds, while shorter dated senior bonds are paid in full. However, shorter-dated, 'AAA' rated bonds are paid first following a non-asset trigger event, because this event is not related to currently deteriorating collateral performance. This leaves some scope to honor time subordination for senior bonds, while the transaction has not breached its asset trigger.

Dutch master trusts typically feature a single trigger event, after which all notes become pass-through. The transaction may breach this trigger if either collateral losses have consumed all 'AAA' subordination, or if, for example, the seller becomes insolvent. It is therefore similar to both the asset and non-asset trigger events for U.K. master trusts.

Standalone. For standalone U.K. and Dutch transactions, principal payments in post-crisis transactions are usually sequential for life. In Australian RMBS, principal payments are usually sequential at issuance, but may switch to pro rata after a certain period, subject to certain documented conditions—typically, that a given proportion of the senior notes have paid down, and that collateral arrears are below a specific threshold. This structure allows junior bondholders to benefit from principal payments if the credit risk to senior bondholders has substantially declined since the transaction's closing date. Such "pro rata triggers" were also common in U.K. and, to a lesser extent, Dutch RMBS before 2008, but have become scarce post-crisis—possibly to increase structural simplicity and to enhance the credit enhancement for the senior notes.

In Japan, principal payments to JHF notes are pro rata for life, but can switch to sequential if a beneficiary certificate trigger event occurs. Principal payments on private sector RMBS are typically sequential for life.

Interest rate swaps

Interest rate swaps are prevalent in U.K., Dutch, and Australian RMBS. They are typically necessary to transform, for example, cash flows from fixed-rate assets, or floating-rate assets linked to an index that differs from that on the notes, into cash flows that meet the note payment obligations.

With most Japanese RMBS transactions, both assets and notes usually carry full-term fixed interest rates, so swaps are not necessary. The few private sector transactions backed by floating-rate or convertible loans feature floating-rate notes, and additional credit enhancement mitigates interest rate mismatch risk.

Credit enhancement/liquidity mechanisms

In all four markets, RMBS notes benefit from credit enhancement through excess spread, subordination, and reserve funds.

In Japan and Australia, many transactions have liquidity facilities or liquidity reserve funds to mitigate short-term note interest shortfalls not paid by excess spread or the reserve fund. Liquidity facilities are unfunded credit lines, usually provided by a bank, and are subject to commitment and drawing fees. Liquidity reserve funds are usually fully funded at closing, or are funded through collateral receipts over the transaction's life. In the Netherlands, liquidity (usually called "cash advance") facilities are the norm.

In the U.K., liquidity reserve funds, popular pre-crisis, remain relatively prevalent in more recent transactions. Liquidity facilities were prevalent pre-crisis, but have become scarcer in recent transactions. Instead, many U.K. RMBS transactions allow principal receipts to be used to cure note interest shortfalls. This was common among U.K. prime master trusts in the past, but less prevalent among standalone nonconforming and buy-to-let transactions, which have begun to adopt the feature.

Rising liquidity facility commitment and drawing fees are partly behind the move toward internal liquidity provision in the U.K., in our view. Removing the liquidity facility also eliminates the notes' rating dependency on the provider.

Loan-level data

RMBS originators have always provided loan-level information to rating agencies, but in Europe this information was traditionally not available to investors. However, European originators—including those in the U.K. and the Netherlands—now typically publicly post this data for most new transactions, either directly on their websites or through third-party service providers. This is partly because, in 2011 and 2013 respectively, the Bank of England and the European Central Bank (ECB) introduced loan-level data requirements for securitizations posted as collateral in their refinancing operations. This has prompted most issuers to provide loan-level information, including those not planning to use RMBS to collateralize central bank borrowing.

In Australia and Japan, RMBS loan-level information is not generally available to investors. However, in October 2012, the RBA announced changes to the eligibility criteria for its repurchase operations, requiring mortgage originators to post RMBS loan-level information from December 2014. This could make loan-level data more widely available, as has happened in Europe, in our view. RBA will begin publishing this data from January 2015.

RMBS Collateral Performance

Arrears

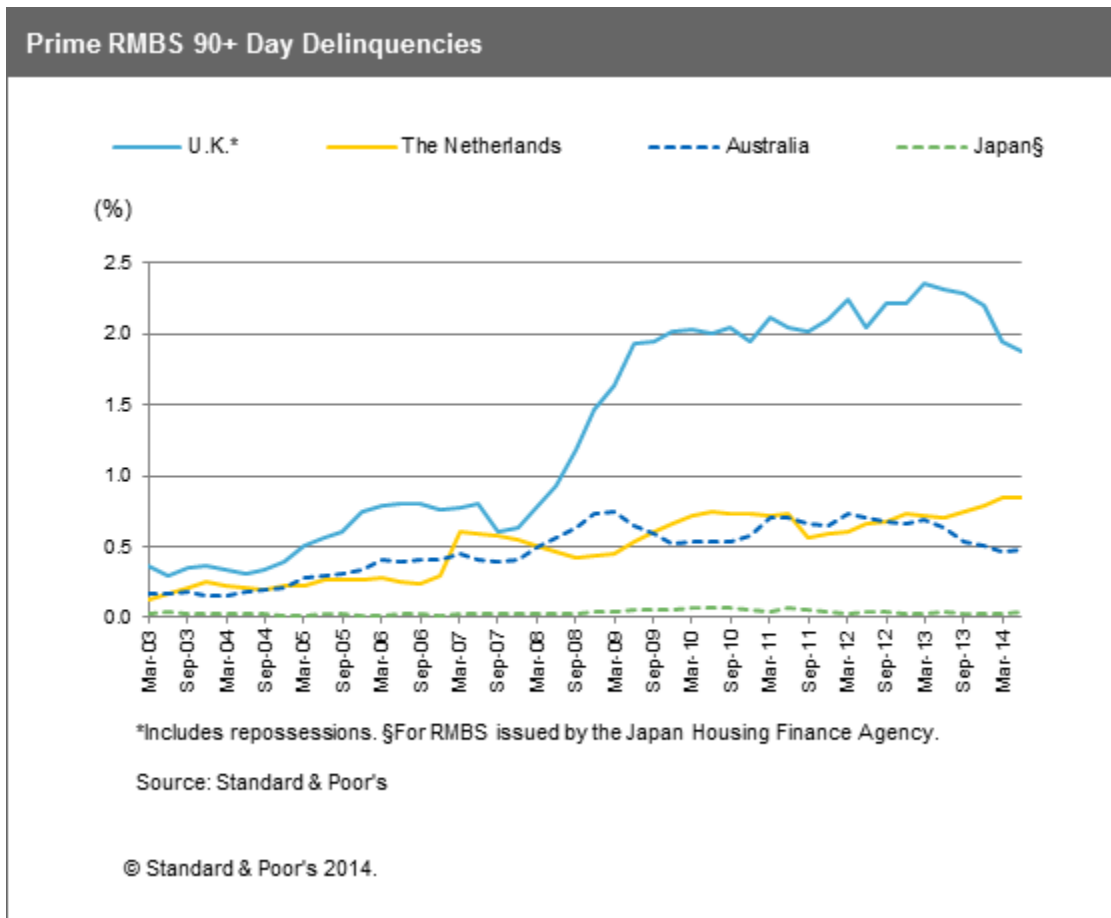
We have observed substantial differences in prime mortgage performance between the four countries (see chart 4). For example, U.K. prime 90+ day arrears rose more sharply in 2008 and 2009 than in the Netherlands and Australia, and have only recently begun to decline significantly. Severe Dutch and Australian RMBS arrears have also increased since 2007, but remain about three times lower than in the U.K.

U.K. lenders may have loosened their underwriting criteria more in the run-up to the financial crisis than in the Netherlands, where the Dutch Code of Conduct might have constrained lenders to some extent (although deviations from the code did occur). Differences in credit loosening may also partly explain the difference between arrears in U.K. and Australia, although a relatively less severe downturn in Australia is likely also a factor.

Japan is the stand-out performer, with JHF 90+ day arrears more than 10 times lower than in both the Netherlands and Australia, even between 2005 and 2007. However, JHF and private Japanese lenders regularly repurchase delinquent loans from RMBS collateral pools—for example, those with amended repayment conditions. The rate of repurchase also increased after the enactment of the debt Moratorium Law in 2009. This legislation, subsequently repealed in March 2013, stipulated that lenders had to make every effort to satisfy borrowers' requests for amendments to loan repayment conditions. This may have artificially flattered the Japanese arrears figures.

Despite the differences, prime RMBS collateral performance has remained relatively strong in all four countries for several years, in absolute terms. Since 2007, severe U.K. mortgage arrears have not topped 2.5%, either among prime RMBS transactions that we rate or in the wider first-lien mortgage market. This is less than half the peak arrears figure over the period for bank-originated first-lien U.S. mortgage loans, for example.

Chart 4

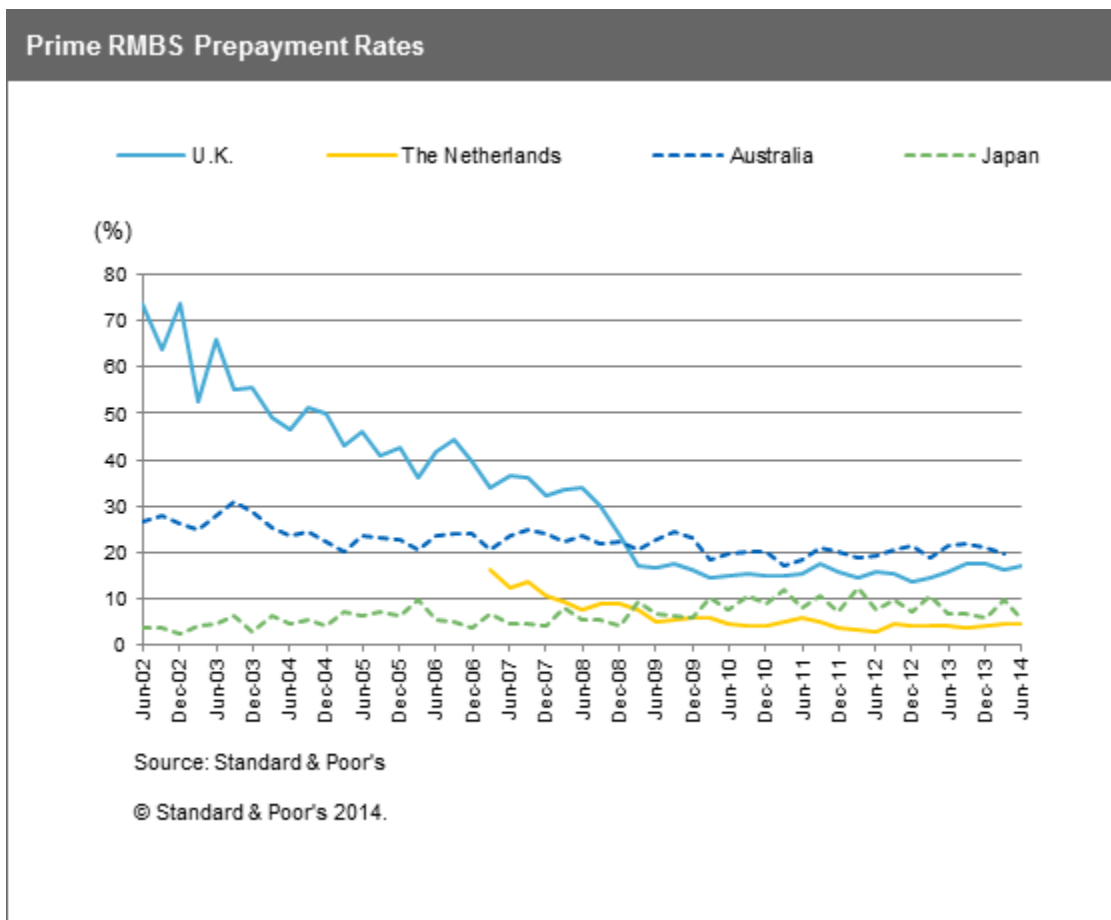


Prepayments. Prime RMBS prepayment rates are generally lower in the Netherlands and Japan than they are in the U.K. and Australia. One reason for this may be that, unlike in the U.K. and Australia, owner-occupier mortgage borrowing in the Netherlands and Japan carries tax benefits, which may reduce borrowers' incentive to pay down the principal balance quickly through regular overpayments. Most Dutch mortgage loans also have long-term fixed rates, with penalties for prepayment, so the proportion of borrowers refinancing every year is likely to be lower than in a country with mostly short-term fixed rates, such as the U.K. The sluggishness of the Japanese housing market compared with the U.K. and Australia over the past decade also likely explains its generally lower level of refinancing.

U.K. borrowers with loans on short-term fixed interest rates have traditionally had an incentive to refinance at the end of the fixed-rate period, because the reversionary interest rate—usually the lender's SVR—tended to be higher than the interest rate on a new fixed-rate loan. This may help to explain why U.K. RMBS prepayments were typically higher than in Australia, which is a floating-rate market with no built-in refinance incentive.

Prepayment rates have dropped in the U.K., Netherlands, and Australia since 2007, partly because some lenders have retrenched, reducing borrowers' ability to refinance. The decline is most noticeable in the U.K., where—until recently—traditional refinance incentives also declined as the gap between SVRs and fixed interest rates narrowed.

Chart 5



Rating transitions. Rating transitions to some extent reflect the strong RMBS collateral performance that we have observed in the four countries. For example, in 2013, we downgraded less than 2% of prime Australian RMBS notes, and no Japanese RMBS notes, partly because of low arrears and the pay-down of transactions (see chart 6). No prime RMBS tranche that we rate from the Netherlands, Australia, or Japan has ever defaulted. In the U.K., only four tranches from a single transaction have ever defaulted—because the transaction was restructured, rather than through collateral performance deterioration.

In fact, factors not directly related to collateral performance have been responsible for many of the downgrades that we made in recent years. More than 80% of our downgrades of prime RMBS tranches in the U.K., the Netherlands, and Australia in 2013 were due to higher counterparty risk—excluding risks related to the creditworthiness of LMI providers—rather than poor asset performance (see chart 7). House price declines, rather than higher arrears, were mainly behind the relatively high proportion of performance-related Dutch RMBS downgrades last year.

Chart 6

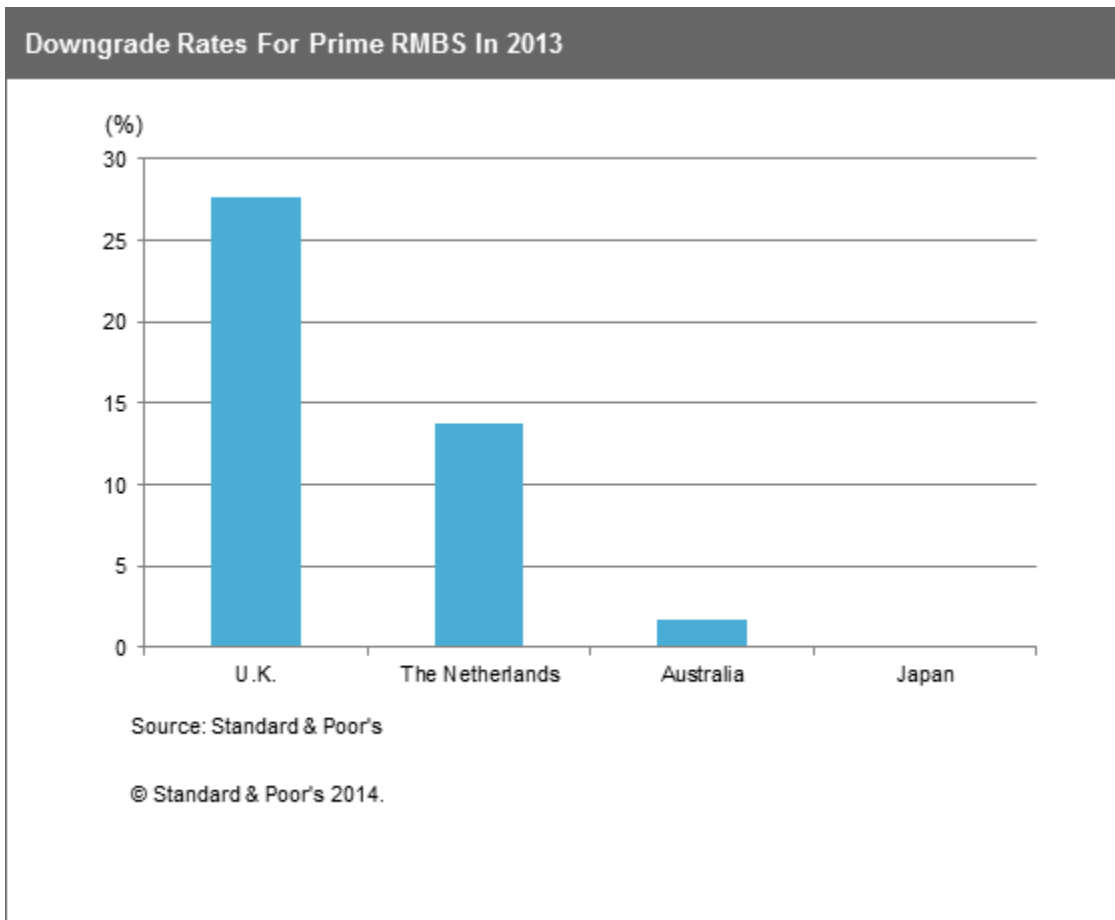
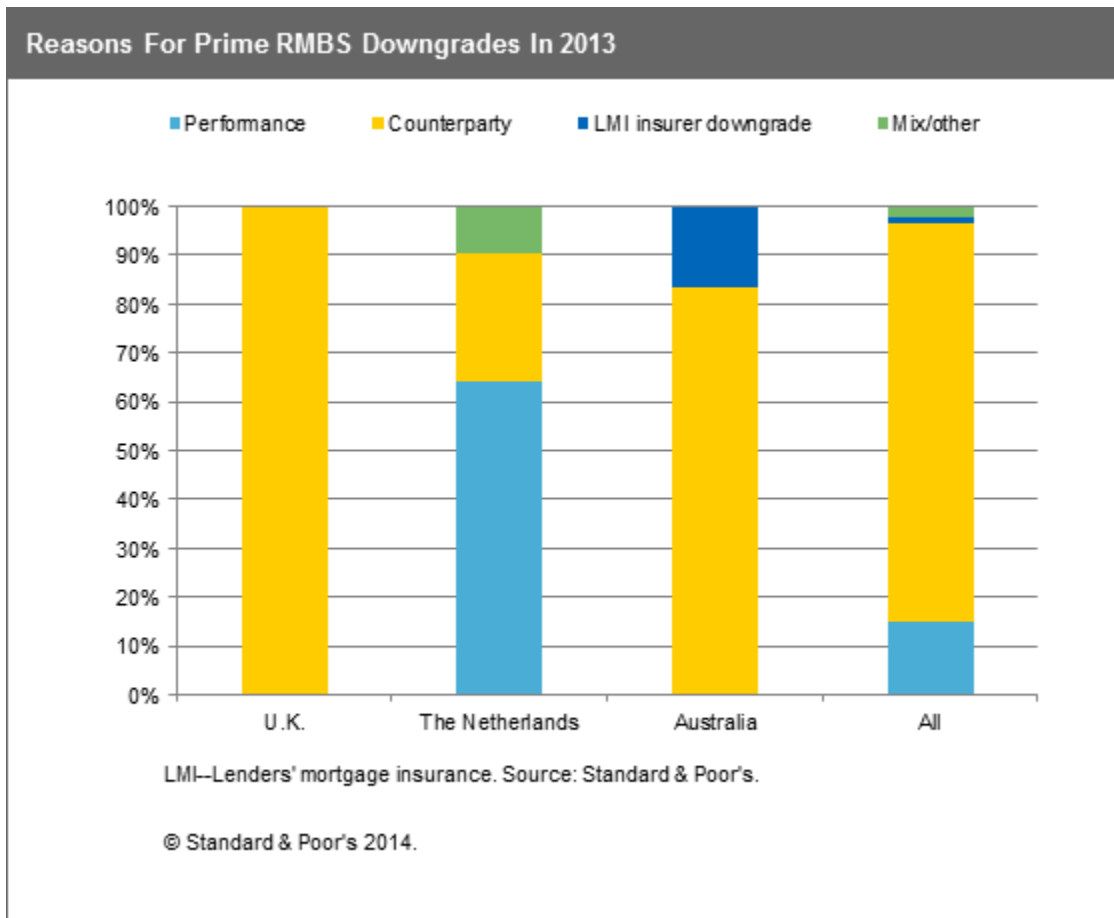


Chart 7



RMBS Issuance

Until recently, RMBS issuance trends were similar in the U.K. and the Netherlands. Investor-placed issuance in both markets grew rapidly in the early 2000s with buoyant housing markets, peaking around 2005 and 2006, before drying up almost completely over the financial downturn, and staging a modest recovery over 2010 and 2011 (see chart 8).

Since then, issuance has diverged between the two countries. The launch of the Funding For Lending Scheme in 2012 allowed U.K. mortgage originators to borrow cheaply from the central bank, reducing their need to turn to wholesale funding markets. Partly as a result, in 2013, U.K. RMBS issuance fell back its 2008 level. However, in late 2013, the Bank of England refocused the scheme to incentivize corporate rather than mortgage lending, which has probably helped push some U.K. originators back into the securitization market: Issuance in the first half of 2014 exceeded placements in all of the previous year.

In the Netherlands, issuance remained strong until this year. In fact, as a proportion of underlying gross mortgage lending volumes, Dutch RMBS issuance was at 2006 levels in 2013. However, issuance volumes fell by more than 50% year-on-year over the first eight months of 2014.

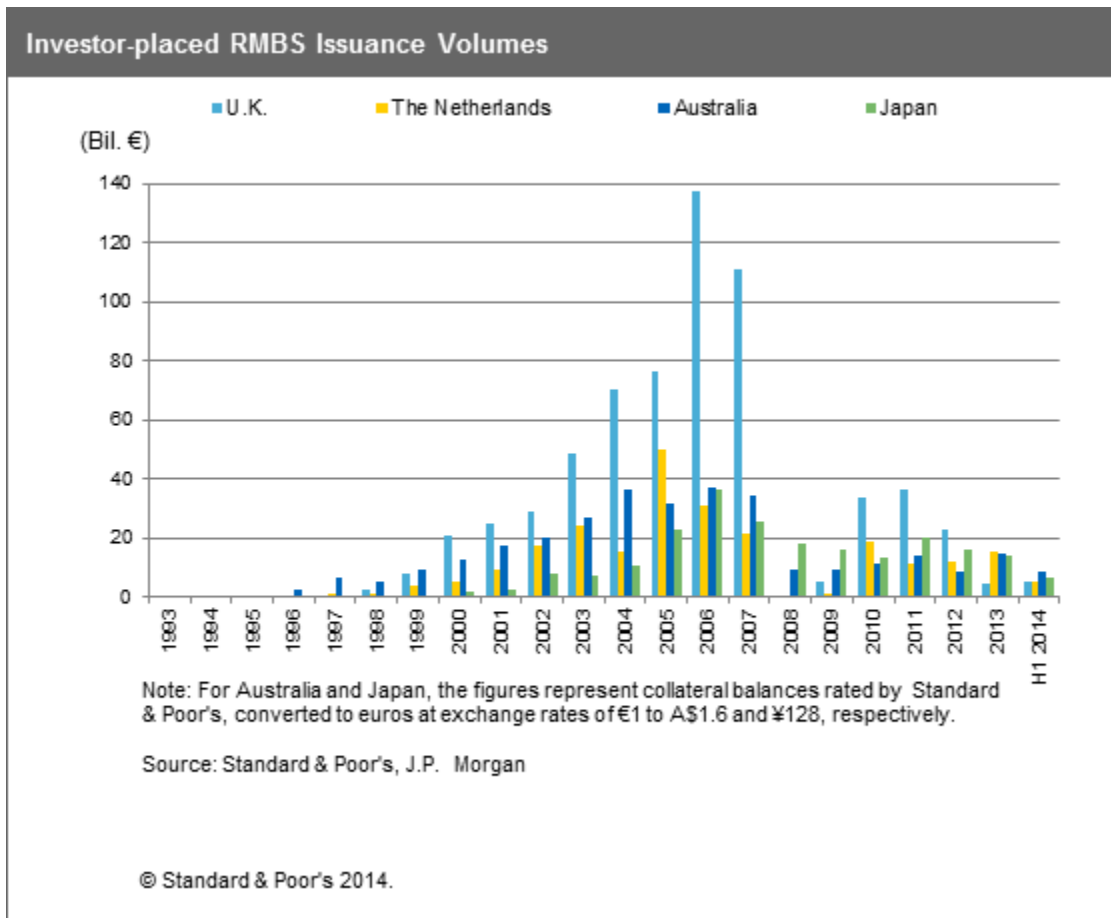
This may be partly down to the Dutch government's announcement, in September 2013, of a plan to set up a national mortgage institute (NHI) within a year. The NHI would issue state-guaranteed bonds to fund the purchase of mortgage-backed bonds issued by banks, aiming to lower lenders' funding costs. Recent news on the NHI's progress is scanty, but the government recently indicated that discussions with the European Commission, which must approve the institute, are ongoing. Some lenders may have conserved mortgage collateral in the first half of 2014 to potentially use in the scheme, in our view. Fewer Dutch RMBS tranches with call dates in 2014 compared with a year earlier may also have helped to depress volumes this year, as originators may have opted to raise new RMBS funding as the previous funding redeemed.

As in the U.K. and the Netherlands, Australian issuance sharply declined in 2008 and 2009. However, the Australian government helped to support the market by purchasing RMBS through the Australian Office of Financial Management (AOFM). Between November 2008 and August 2012, AOFM purchases totaled A\$15 billion, more than 20% of overall investor-placed RMBS issuance over the period. The government officially ended the AOFM program in April 2013, citing the return of private sector appetite.

Australian RMBS issuance also dipped in 2012, when several lenders turned to covered bond markets following the passage of covered bond legislation. It rebounded again in 2013, partly thanks to a scarcity of U.K. supply, and rose by more than 30% year-on-year on the first half of 2014. However, investor-placed volumes remain low compared with both pre-crisis volumes and underlying mortgage lending.

In Japan, RMBS issuance didn't fall as steeply over the downturn as it did in the other three markets, with investor demand remaining relatively more resilient. However, issuance has also not resurged substantially: In fact, volumes look set to fall for the third consecutive year in 2014, partly because of a potential decrease in JHF issuance following the termination of government-mandated lower interest rates in October 2010.

Chart 8



Prospects For Issuance Are Mixed

The prospects for issuance vary by country. In the U.K., gross mortgage lending increased by almost 30% year-on-year in the seven months to July 2014—thanks to rising consumer confidence, lenders' lower funding costs, and government support for the housing market through, for example, mortgage indemnity programs such as the Help-To-Buy scheme. This, combined with the revised FLS terms, is already supporting RMBS volumes, in our opinion—a trend we expect to continue in the coming months.

In the Netherlands, opposing forces may come into play. On the positive side for issuance growth, the outstanding balance of Dutch RMBS notes with call dates in 2015 could be double the 2014 figure. Gross mortgage lending rose by 23% year-on-year in the seven months to July 2014, as the housing market has shown signs of recovery and consumer confidence has begun to return. The ECB's announcement in September 2014 that it would buy securitizations in both primary and secondary markets is already reducing European structured finance spreads, possibly making RMBS issuance more attractive for some Dutch originators.

On the other hand, the ECB's targeted longer-term refinancing operations may represent a cheaper alternative to

wholesale markets in general for many European lenders, including some mortgage originators in the Netherlands. If the government eventually establishes the NHI, it would also represent another obstacle for a recovery in Dutch RMBS issuance.

In Australia, new issuance volumes have picked up again recently following declines in 2008 and 2009, and again in 2012. Investor demand remains strong, with new issuance margins for prime Australian RMBS continuing to narrow. Foreign investor interest, in particular, has resurfaced due in part to limited new RMBS supply in other major securitization markets such as Europe and the U.S. The solid collateral and rating performance of Australian prime RMBS has also helped, in our view.

That said, we don't expect new issuance to reach the levels of 2006 and 2007 anytime soon. For one thing, some investors that no longer exist, such as structured investment vehicles, bought much of the offshore Australian RMBS issuance at that time. The emergence of covered bond issuance as a funding source in Australia has also reduced the need for some lenders to securitize.

In Japan, a further increase in the consumption tax is scheduled for October 2015, following an increase in April 2014. The higher household tax burden is likely to slow building starts and mortgage loan originations, in our view. Therefore, we anticipate sluggish RMBS issuance in the coming quarters. We expect that JHF RMBS will continue to account for the lion's share of RMBS placements.

But Credit Performance Should Remain Stable

We see medium-term risks for mortgage credit performance in each country. In the U.K. and Australia, strong lending growth and house price appreciation in the past one to two years bear monitoring, in our view, although more recently, there are signs that the U.K. market may be cooling. Despite some volatility over the past six years, nominal house prices in both markets are again above their 2007 peaks—in Australia's case, by about 25% (see chart 9). Simple affordability measures, such as house-price-to-income and house-price-to-rent ratios, point to housing overvaluation in both countries by 20% to 30% (see chart 10).

In the Netherlands, house prices are only just beginning to recover following five consecutive years of declines, and remain about 20% below 2007 levels. According to a recent Dutch central bank estimate, nearly 30% of Dutch mortgage borrowers carry balances that are greater than the value of the property. In Japan, the housing market has been declining for almost 25 years, although price falls have slowed in recent quarters.

Borrowers in Australia and the Netherlands are also heavily indebted. In 2012, average household debt was 185% of net household disposable income in Australia, and more than 300% in the Netherlands (see chart 11). These proportions have increased by more than 55% and 80% since 2000, respectively.

Economic sluggishness in recent years has also taken its toll. In the U.K., the Netherlands, and Australia, unemployment remains high relative to pre-crisis levels (see chart 12). Wages have barely budged in real terms in Japan and the Netherlands since 2007, and have fallen in the U.K. (see chart 13). Low mortgage interest rates are helping to support loan performance, but some borrowers may be unable to cope with interest rate rises, in our view.

(see chart 14).

Nevertheless, in the near term, we expect mortgage arrears in all four markets to remain relatively stable. Even in the 2008 to 2009 downturn, arrears did not climb sharply in absolute terms, and we don't expect any of the economies to return to recession in the immediate future.

However, to the extent that RMBS ratings depend on counterparties' creditworthiness, the risk of downgrades remains even if collateral performance is good. This may be the case in the U.K.—where counterparty ratings constrain about 40% of RMBS tranche ratings—and Australia, where the ratings on many subordinated tranches are linked to the ratings on external LMI providers.

We also recently requested comments on proposed changes to our methodology for assessing mortgage insurance in structured and public sector finance and covered bonds (see "Request For Comment: Methodology For Assessing Mortgage Insurance And Similar Guarantees And Supports In Structured And Public Sector Finance And Covered Bonds," published on Aug. 18, 2014). The proposed methodology, if adopted in its current form, will likely affect our ratings on approximately 20% of Australian and New Zealand RMBS tranches—mainly the subordinated, 'AA-' rated classes.

In Japan, possible criteria changes may also affect some RMBS ratings. In July, we requested comments on proposed changes to our criteria for rating Japanese RMBS (see "Request For Comment: Methodology And Assumptions For Rating Japanese RMBS," published on July 23, 2014). The proposed methodology, if adopted in its current form, would likely have a limited impact on 'AAA' rated tranches. However, it could lead to some downgrades of lower-rated tranches, although we anticipate that the number would be small.

Chart 9

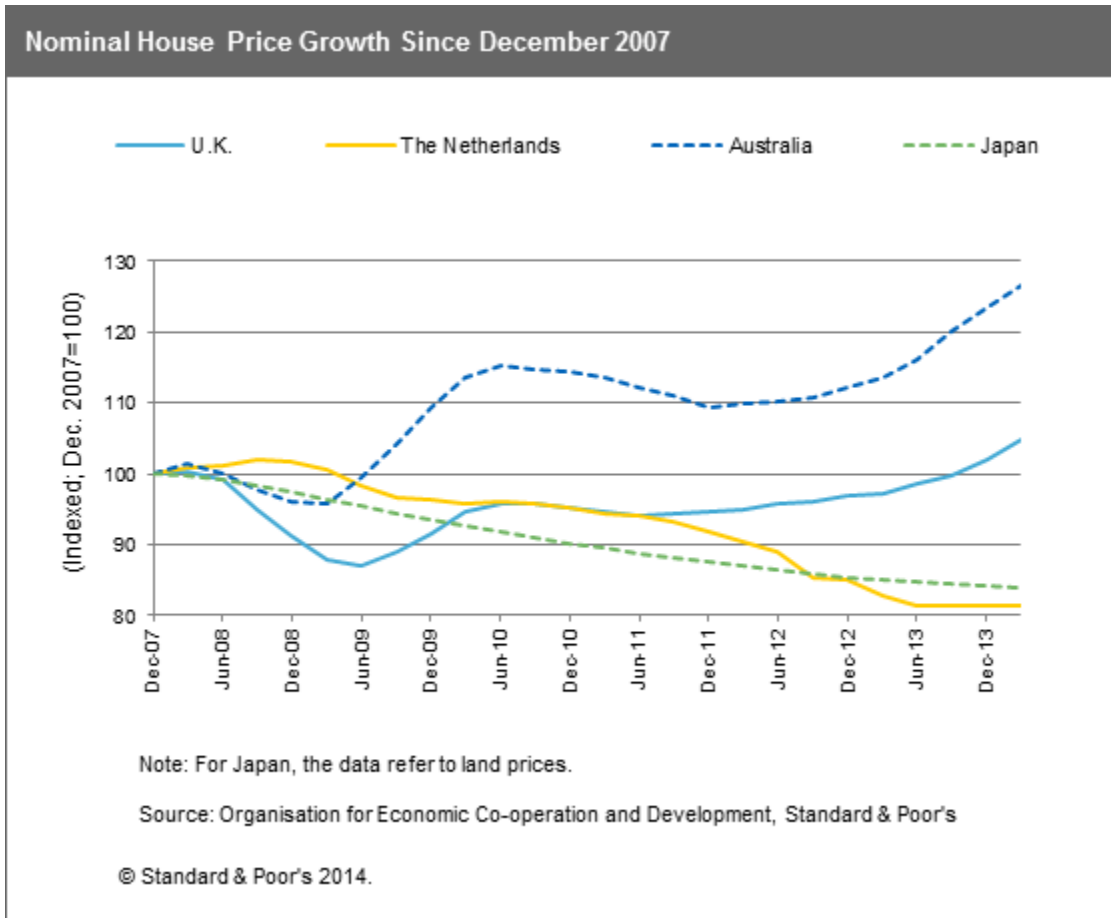


Chart 10

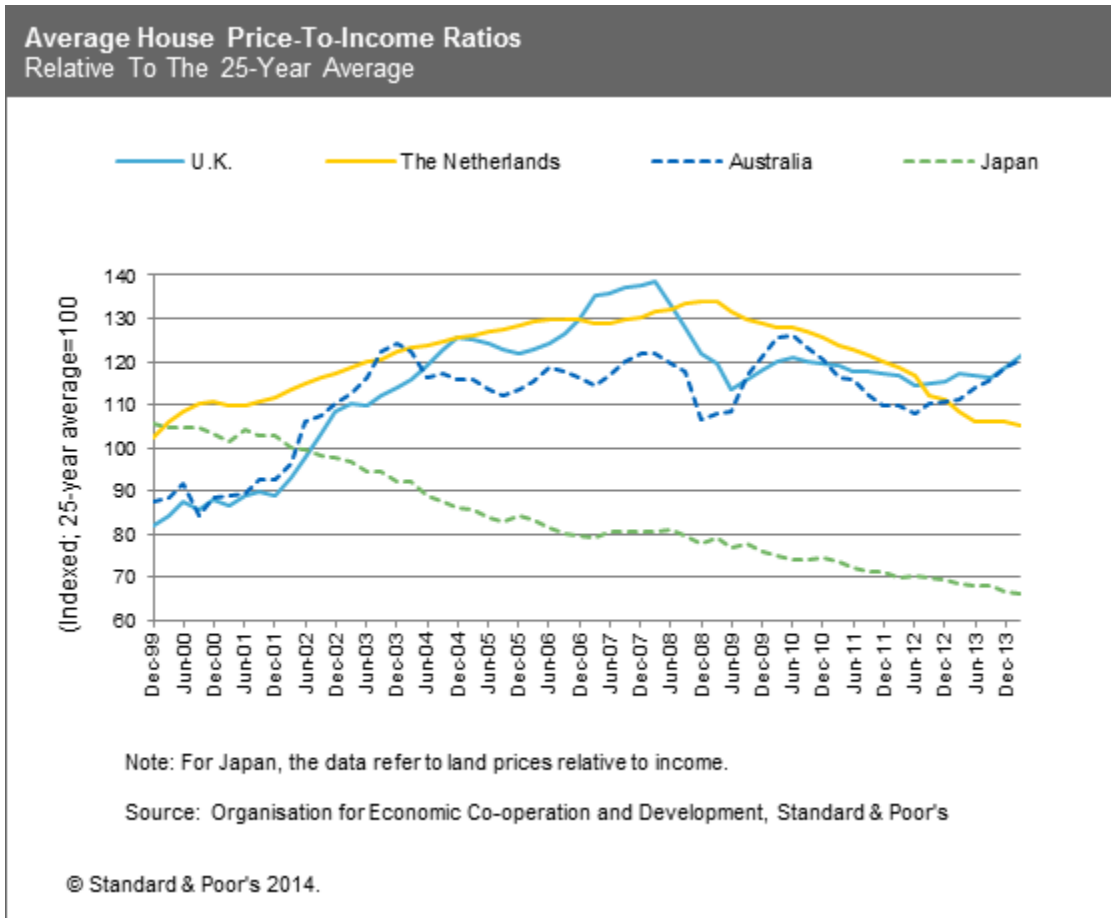


Chart 11

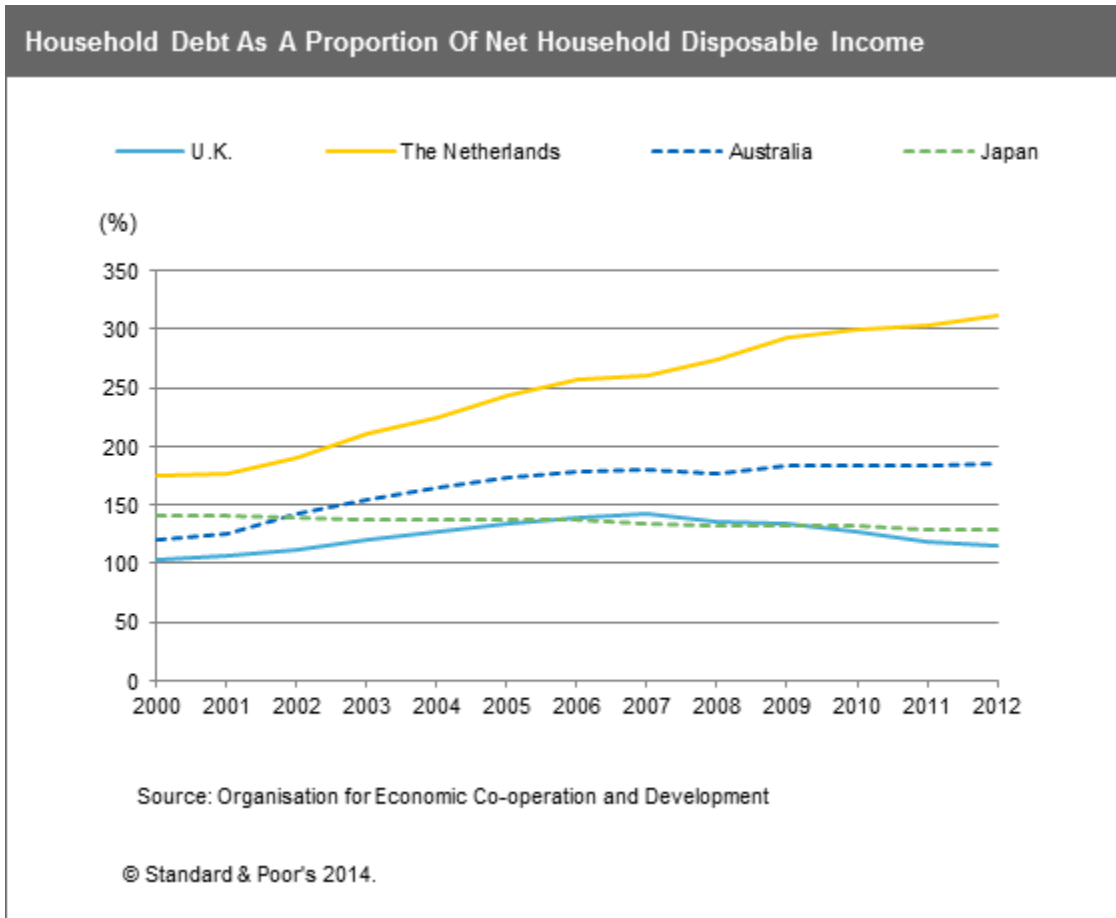


Chart 12

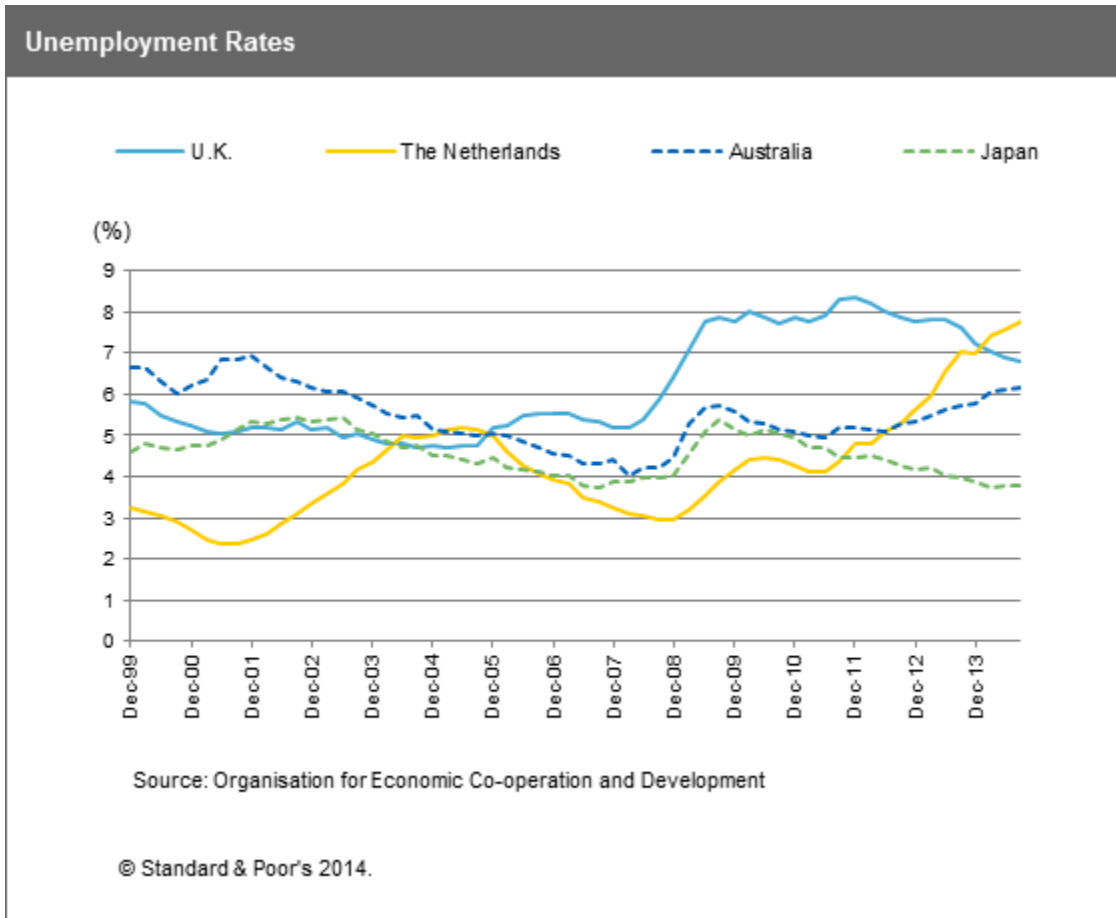


Chart 13

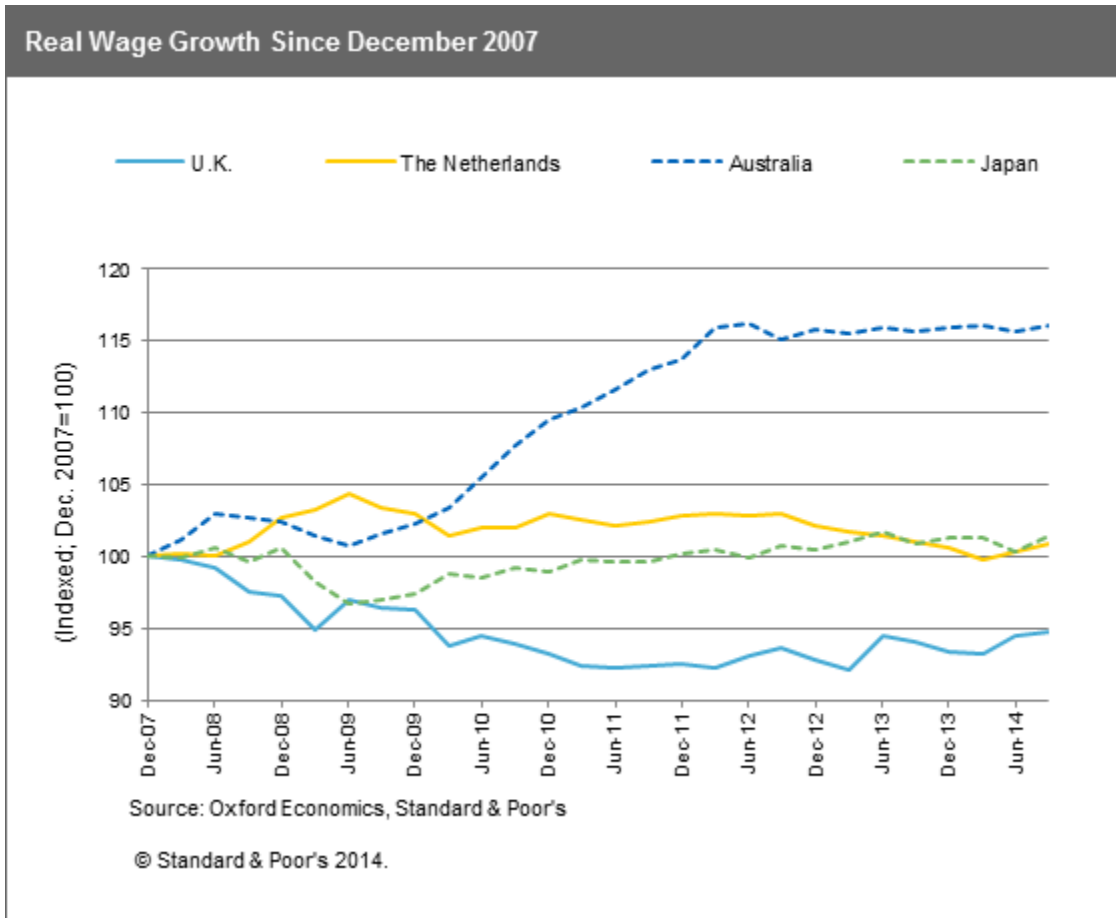
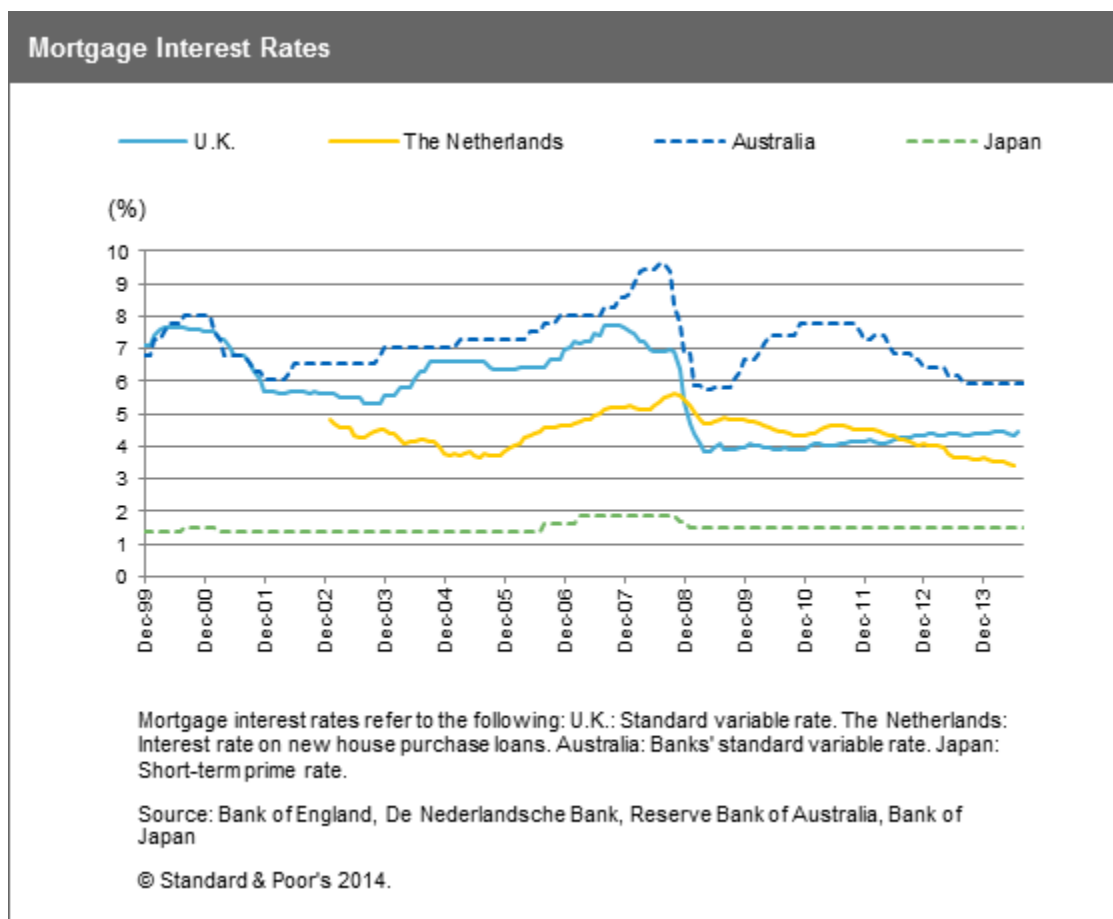


Chart 14



Related Criteria And Research

- Rated New Issuance In Japan's Securitization Market Totaled ¥903.5 Billion In The First Half Of 2014, Down 14.5% Year On Year, Aug. 19, 2014
- Request For Comment: Methodology For Assessing Mortgage Insurance And Similar Guarantees And Supports In Structured And Public Sector Finance And Covered Bonds, Aug. 18, 2014
- Australia and New Zealand Structured Finance Scenario And Sensitivity Analysis: Understanding The Effects Of Macroeconomic Factors On Credit Quality, Aug. 1, 2014
- Request For Comment: Methodology And Assumptions For Rating Japanese RMBS, July 23, 2014
- For Australian RMBS Issuers, New Bullet-Payment Structures May Engage Investors, May 29, 2014
- Overview Of Japan Housing Finance Agency's Structured Notes; Update For 2014, May 1, 2014
- Methodology For Assessing The Support From The NHG Guarantee In Dutch RMBS Transactions, Feb. 12, 2014
- Asia-Pacific Credit Outlook 2014: Structured Finance Ratings Likely To Remain Stable Despite Risks, Jan. 27, 2014
- An Overview Of Australia's Housing Market And Residential Mortgage-Backed Securities, Jan. 15, 2014
- Scenario Analysis: 2013 Update To Lenders' Mortgage Insurance Sensitivity Analysis On Australian Prime RMBS, Nov. 25, 2013
- Rating Methodology For Condominium Investment Loan Securitizations In Japan, Nov. 11, 2013

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- Japan's Residential Mortgage Loan Characteristics And Trends; Update For 2013, Aug. 25, 2013
- What Will Affect The Performance Of Australian Residential Mortgages?, June 5, 2013
- Australian RMBS Issuance Has Strengthened, But Is The Revival Sustainable?, May 1, 2013
- Master Trust Structures In Australia And New Zealand, Sept. 5, 2012
- U.K. RMBS Methodology And Assumptions, Dec. 9, 2011
- At A Glance: The U.K. RMBS Market, Dec. 1, 2011
- At A Glance: The Dutch RMBS Market, Oct. 14, 2011
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- Criteria Methodology And Assumptions: Assessing The NHG Guarantee In Dutch RMBS Transactions--A Prudent Approach, June 11, 2008
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- U.K. RMBS Index Report, published quarterly
- Dutch RMBS Index Report, published quarterly

Under Standard & Poor's policies, only a Rating Committee can determine a Credit Rating Action (including a Credit Rating change, affirmation or withdrawal, Rating Outlook change, or CreditWatch action). This commentary and its subject matter have not been the subject of Rating Committee action and should not be interpreted as a change to, or affirmation of, a Credit Rating or Rating Outlook.

Appendix

Table 1

Residential Mortgage Market Characteristics				
	U.K.	The Netherlands	Australia	Japan
General				
Outstanding mortgage lending as a proportion of nominal GDP (%)	79	106	89	41*
Legislative environment				
Are loans full-recourse?	Yes	Yes	Yes	Yes

Table 1

Residential Mortgage Market Characteristics (cont.)				
Tax treatment of borrowers' primary residence and the associated mortgage loan	Mortgage loan interest is not tax-deductible. Imputed rental income and capital gains from the sale of the property are tax-free. Buyers pay stamp duty of 0% to 7% of the property value.	Interest on amortizing loans is fully tax-deductible at the marginal tax rate (currently 52%, falling by 0.5% per year to 38%) over a maximum of 30 years. Borrowers must add imputed rental income of up to 0.7% of the property value (for properties worth less than €1 million) to their taxable income. Capital gains from the sale of the property are tax-free. Buyers pay stamp duty of 2% of the property value.	Mortgage loan interest is not tax deductible. Imputed rental income and capital gains from the sale of the property are tax-free. Buyers pay stamp duty of 0% to about 7% of the property value.	For mortgage borrowers (except those earning more than ¥30 million per year) with loans having terms of 10 years or more, an amount of 1% of the remaining mortgage balance at each year-end is tax deductible annually for 10 years, generally up to a maximum of ¥400,000 per year. Imputed rental income is tax-free. Capital gains on the sale of the property are generally taxable at about 14% (about 20% if the borrower held the property for six to 10 years, and about 40% for less than five years), but sellers can deduct ¥30 million from the gross sale price when calculating the taxable gain. Buyers pay acquisition, registration, and stamp duty taxes equivalent to about 0%-3% of the property value.
Underwriting criteria				
Legally-mandated underwriting criteria for mortgage loans to owner-occupiers	Lenders must verify borrowers' stated income (self-certified loans are not allowed), ensure mortgage affordability taking into account future interest rate rises, and assess interest-only loans on a repayment basis (unless the borrower has a credible repayment strategy).	Lenders cannot extend loans with LTV ratios greater than 104% (in 2014, with the limit decreasing to 100% in 2018), or loans where the debt service cost exceeds a specific proportion of the borrower's gross income. Under the Code of Conduct for Mortgage Loans, the interest-only portion of the loan cannot exceed 50% of the loan amount. (Dutch law does not require lenders to subscribe to the Code, but virtually all do so on a "comply or explain" basis).	Under the National Consumer Credit Protection Act 2009, lenders must assess whether the borrower is likely to be able to comply with the terms of the loan, having taken reasonable steps to verify the borrower's financial situation.	None
Typical loan underwriting criteria	Maximum loan-to-income multiple of 4-5. Documentary evidence of income required.	Maximum loan-to-income multiple of 4-5. Debt-servicing-to-income ratios of 25%-40%. Documentary evidence of income required.	Maximum debt-servicing-to-income ratios of 30%-40%. Alternatively, after-tax monthly income must exceed living expenses and debt repayments by up to 25%, after allowing for mortgage interest rate rises of 1% to 2%. Documentary evidence of income typically required.	Maximum debt-servicing-to-income ratio of 35%. Maximum LTV ratio of 100% of the property's purchase price, for loans for home purchase (for refinancings, the minimum of the outstanding loan balance being refinanced and 200% to 300% of the property value). Documentary evidence of income required.
Loan origination through brokers	Widespread	Widespread	Widespread	Limited
Loan repayment characteristics				
Typical loan term on new loans (years)	25-30	30	25-30	30-35
Typical amortization terms on new loans	Annuity for life	Non-amortizing for life (interest-only, or products where capital accumulates in a separate vehicle)	Annuity for life	Amortizing for life, with principal repayment timing varying by product

Table 1

Residential Mortgage Market Characteristics (cont.)				
Estimated proportion interest-only in gross lending (%)	12§	39†	25§	0
Estimated proportion of interest-only in loans outstanding (%)	30§	55	34	0
Are prepayment penalties typical for loans to owner-occupiers?	Yes	Yes	Yes	No
Loan interest rate characteristics				
Typical interest-rate product on new prime loans	Fixed for one to three years, before reverting to a floating rate	Fixed for five to 10 years, then re-fixed for a new period	Floating for life	Fixed for life, floating for life, or fixed for two to 10 years, after which the borrower can choose to refix the interest rate or allow it to float (i.e., convertible)
Typical floating-rate reference index on new loans	The lender's SVR (typical for prime loans), or a rate linked to the Bank of England base rate or LIBOR (more usual for buy-to-let and nonconforming loans)	N/A	The lender's SVR	Short-term prime rate
Estimated proportion of fixed-rate in gross lending (%)	78	76	17§	60
Typical interest rate at origination for new loans in 2013 (%)	3.2	3.8	6.2	1.0-1.5
Borrower leverage				
Estimated average original loan-to-value ratio on new loans (%)	75	90-100	62‡	90
Estimated proportion of new owner-occupier lending at loan-to-value ratios greater than 90% (%)	2.5	65‡	15	55**
Estimated proportion of balances in negative equity on outstanding loans (%)	1.6-6.4	30	0‡	N.A.

Table 1

Residential Mortgage Market Characteristics (cont.)

Foreclosure characteristics				
Estimated foreclosure costs to the lender	4%-6% of the loan balance	4%-6% of the loan balance	A\$5,000 plus 5% of the property value	¥1 million plus 5% of the property value
Estimated time from first arrears to repossession (months)	12-18	18	12-24	18-24
Lender's mortgage insurance	Limited	Widespread	Widespread	Widespread

Note: Data refers to year-end 2013 and full-year 2013 (or latest available) for stock and flow figures, respectively, except where noted. *As of end-2012. †For owner-occupied housing only. ‡For Q1-Q3 2013. ††For all or a sample of S&P-rated RMBS transactions. **Japan Housing Finance Agency loans only. LTV--Loan-to-value. SVR--Standard variable rate. N/A--Not applicable. N.A.--Not available. A\$--Australian dollar. Source: Bank of England, Financial Conduct Authority, De Nederlandsche Bank, Organisation for Economic Co-operation and Development, ABN AMRO, Japan Housing Finance Agency, Australian Bureau of Statistics, Australian Prudential Regulation Authority, Reserve Bank of Australia, Financial Stability Board, Standard & Poor's.

Table 2

Characteristics Of Investor-Placed RMBS Transactions Since 2013

	U.K.	The Netherlands	Australia	Japan
Collateral type	Prime, nonconforming, buy-to-let	Prime	Prime, nonconforming	Prime
Structural features				
Standalone or master trust?	Both for prime transactions. Standalone for nonconforming and buy-to-let transactions.	Mainly standalone, with limited master trust issuance	Standalone	Standalone
How do investors acquire a legal interest in the collateral?	Master trusts: The seller transfers the assets by equitable assignment to a trust company. An SPE indirectly funds the acquisition of an interest in the trust assets by issuing notes to investors.	Master trusts: The seller transfers the assets by true sale to an SPE (the asset purchaser). Another SPE acquires an interest in the assets by issuing notes to investors.	The seller transfers the assets by true sale to an SPE, which issues notes to investors.	Originated by JHF: The seller transfers the assets to a trust company (not initially by true sale), which issues notes to investors. Subject to certain conditions, the transaction changes to a true sale structure.
	Standalone: The seller transfers the assets by true sale to an SPE, which issues notes to investors.	Standalone: The seller transfers the assets by true sale to an SPE, which issues notes to investors.		Originated by private sector: The seller transfers the assets by true sale to a trust company, which issues notes to investors.
Typical capital structure for standalone transactions	Prime: Senior tranche with one- and three-year WAL placed with investors, with no rated junior notes in the structure, and the originator retaining the unrated tranche.	Short-dated (typically two-year WAL) and long-dated (typically five-year WAL) senior tranches placed with investors, with the originator retaining the mezzanine and junior notes.	Short-dated (typically three- to four-year WAL) and long-dated (typically five- to seven-year WAL) senior tranches, along with a subordinated (typically 'AA-' rated) tranche, placed with investors, with the originator retaining the junior tranche.	Long-dated (typically 10-year WAL) senior tranche placed with investors, with the originator retaining the unrated junior tranche.

Table 2

Characteristics Of Investor-Placed RMBS Transactions Since 2013 (cont.)				
	Nonconforming: Senior tranche with three- to five-year WAL placed with investors, along with the rest of the capital stack down to the 'BB' rating, with the originator retaining more junior tranches.			
	Buy-to-let: Senior tranche with three-year WAL placed with investors, along 'AA' and 'A' rated notes, with the originator retaining more junior notes.			
Interest rate swaps prevalent?	Yes	Yes	Yes	No
Combined interest and principal waterfall?	No	No	No	No
Typical principal priority of payments	Sequential for life	Sequential for life	Sequential, converting to pro rata if documented pro rata tests are met	Originated by private sector: Sequential for life.
				Originated by JHF: Prorata before certain trigger events occurs.
Credit/liquidity protections				
Credit enhancement mechanisms	Excess spread, subordination, reserve funds	Excess spread, subordination, reserve funds, mortgage guarantees	Excess spread, subordination, reserve funds, lender's mortgage insurance	Excess spread, subordination, reserve funds
Liquidity protection mechanisms (aside from those providing credit support)	Liquidity reserve funds	Liquidity facilities	Liquidity facilities, liquidity reserve funds	Liquidity facilities, liquidity reserve funds
Note features				
Currency	Prime: £, US\$, €	€	A\$, £, US\$	¥
Nonconforming, buy-to-let: £				
Amortization terms	Master trusts: Soft and (limited) hard bullet, scheduled amortization, and pass-through	Master trusts: Soft bullet	Pass-through (with very limited hard and soft bullet)	Pass-through
	Standalone: Pass-through	Standalone: Pass-through		
Floating-rate index, if applicable	3-month LIBOR	3-month EURIBOR	1-month BBSW	N/A
Typical optional redemption characteristics	Clean-up call option, date-based call option	Clean-up call option, date-based call option	Clean-up call option, and fewer date-based call options	Clean-up call option
Typical payment frequency	Quarterly	Quarterly	Monthly	Monthly
Typical credit enhancement for 'AAA' rated notes (%)	Prime: 11-25 (average: 17)	7-15 (average: 9)	Prime: 6-8	Originated by private sector: 9

Table 2

Characteristics Of Investor-Placed RMBS Transactions Since 2013 (cont.)			
	Nonconforming: 15-40 (average: 29)	Subprime: 30	JHF: 20
	Buy-to-let: 12		
Documentation			
Is loan-level data generally available to investors	Yes	Yes	No
			No

SPE--Special-purpose entity. JHF--Japanese Housing Finance Agency. WAL--Weighted-average life. EURIBOR--Euro Interbank Offered Rate. BBSW--Bank Bill Swap Benchmark Rate. N/A--Not applicable. Source: Standard & Poor's.

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