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To the House Subcommittee on Housing and Insurance

Hearing on Sustainable Housing Finance Part III: Private Sector Perspectives on Housing Finance Reform

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Mr. Chairman, Ranking Member Cleaver and Members of the Subcommittee thank you for the opportunity to be here today. I am Michael Lea, Principal of Cardiff Consulting Services. I have an extensive background in housing finance in the US including senior executive positions at major mortgage lenders and as Chief Economist of Freddie Mac. I have also been actively involved in the study of international housing finance systems for more than 25 years having done consulting and business development work in 30 countries and serving as Director of Research for the International Union for Housing Finance. I have conducted several comparative studies of developed country mortgage markets including a study of mortgage instrument design released by the Research Institute for Housing America (RIHA) in 2010 and a country and policy study published by the Brookings Institution in 2011. I would request that the RIHA study be entered in the record as it provides empirical support for the points I will make today.

In addressing the subcommittee today I have been asked to discuss how housing is financed in major developed markets. My remarks will focus on 5 countries whose housing finance systems differ significantly from the US: Australia, Canada, Denmark, Germany and the United Kingdom. I will cover what is common across these systems, what is different and what the US might learn from how they finance housing.

Beginning with what is common: Mortgage interest rates are at or near record lows in all of these countries. The average mortgage interest rate in Europe was 2.4

percent within a range of 1.7 to 4.4 percent (for loans with adjustable to medium term fixed rates). Canadian mortgage rates range from 2.2 percent for variable rate loans to 3.7 percent for a 10 year fixed rate loan. Australian mortgage interest rates range from 4.4 percent for loans with rates fixed from 1 to 3 years to 5.1 percent for 5 year fixed rates. These rates are at similar levels as the current US 30 year fixed rate mortgage of slightly less than 4 percent and adjustable rate at 3.3 percent.

It may not be surprising in such a low interest rate environment that house prices have been rising in these countries. House prices have been rising throughout Europe with some country variation. The average year-to-year increase at the end of the third quarter 2017 in Denmark, Germany and the UK was approximately 5 percent. The Canadian housing market has cooled recently recording only a 3 percent year-on-year gain through September. This follows double digit increases in 2016. Australian house price increases have also slowed, with the 8-city average rising at an annual rate of 7.4 percent through mid-October. US house prices have been rising at approximately 6 percent per annum over the past 2 years though there is significant geographic variation.

A third commonality is homeownership. Australia, Canada, Denmark, the UK and the US all have homeownership rates between 62 percent (Denmark) and 67 percent (Australia). Germany has a lower homeownership rate of 52 percent reflecting a strong rental housing market and a cultural legacy of rental in the former East Germany.

There are significant differences in the size of country mortgage markets relative to the size of their economy. Australia has one of the world's largest mortgage markets with a mortgage debt-to-GDP of 94 percent. The Danish market is also quite large with a ratio of 88 percent. Canada and the UK are 69 and 65 percent respectively. The German market is much smaller at 42 percent. The US mortgage debt-to-GDP had been as high as 73 percent in 2009 but is only 55 percent currently reflecting

the effects of the mortgage market meltdown. Notably of these countries only Denmark and the US have a mortgage interest tax deduction.

There are significant differences across countries as to which entities provide mortgage loans. In Europe mortgage lenders must be regulated banks. In Denmark mortgage banks do almost all mortgage lending but they have the same regulation (e.g., capital requirements) as commercial banks. While there are no requirements for mortgage lenders to be banks in Australia and Canada, the market share of banks is 99 percent and 88 percent respectively. This contrasts with the US where banks originate only 40 percent of mortgage loans with non-bank originators now having a 60 percent market share.

There are also significant differences in the predominant mortgage instruments across countries. The US is unique in the dominance of mortgages with rates that are fixed over the entire term of the loan (usually 15 to 30 years) and where the loan is prepayable without penalty. Only Denmark has a comparable instrument. It was the dominant instrument until the early 2000s but has only a 40 percent current market share as Danish borrowers have shifted to adjustable rate and short-term fixed rate mortgages. The Danish instrument has one significant difference from the standard US fixed rate mortgage (FRM). While both the Danish and US mortgages allow prepayment at par (outstanding balance) if rates fall, in Denmark borrowers can repurchase the bond that funds their loan at a discount if rates rise. They can do this because there is a 1:1 correspondence between the loan and a mortgage bond that funds it (the balance principle). The rate and terms on the mortgage are identical to the bond (the lender adds a fee to cover administration and credit risk to the required payment). If rates rise the borrower can request the mortgage bank to buy back a bond, which sells at a discount as its rate is now below market. In this way the borrower deleverages as rates rise reducing the likelihood of negative equity (as house prices often fall with rising rates).

The standard mortgage instrument in other countries differs significantly from the US FRM. The standard product in Canada, Germany and many other European countries is a short to medium term fixed rate mortgage sometimes referred to as a rollover. The rate is fixed for a 1 to 5 year period (up to 10 years in Canada and Germany) after which the rate is reset at the current market interest rate. The loans have amortization terms of 25-30 years. The borrower can select the same or a different fixed rate term at reset. This feature allows borrowers some protection against potential interest rate shocks (e.g., if the reset rate is high and the borrower expects it to fall she can select a one year fixed rate term; conversely if she believes rates are low and likely to rise she can opt for a 5 or 10 year fixed rate term). There is a prepayment penalty during the fixed rate period (a yield maintenance penalty that removes the financial incentive for refinance). There is no penalty at reset and the borrower can typically make partial prepayments without penalty during the fixed rate term. The penalty makes it easier and less costly for the lender to finance the mortgage whereas the lack of a penalty makes US FRM more difficult and expensive to fund. In Germany for example, the lender making a 3-year fixed rate loan would finance it by issuing a 3-year fixed rate bond. At reset if the borrower selects a 5-year fixed rate period the lender would issue a 5-year fixed rate bond.

Australia and the UK are primarily short-term variable rate markets. Historically the predominant instrument is the standard variable rate mortgage. This is a discretionary adjustable rate loan meaning the lender can change the rate at its discretion. In practice the rate changes for all borrowers when the central bank base rate is changed. Recently both markets have moved to short term fixed rates at the beginning of the term (1 to 3 years) after which the loan converts to a standard variable rate loan. It is easy for lenders to fund these loans on similar terms so they have little interest rate risk. Policy makers in both countries credit the predominance of variable rate loans for cushioning the impact of the global recession. Mortgage rates fell close to zero when base rates were lowered. Therefore borrower payments fell without having to refinance, unlike in the US where many borrowers were unable to lower their mortgage rates and payments

due to limited or negative equity. . There is clearly some systemic risk however when rates rise. An advantage of these loans is their simplicity as compared to the US indexed adjustable that is complicated and hard for borrowers to understand.

Another major product difference between the US and the rest of the world is the prevalence of "points" on mortgages. The US is unique in this practice. No other major developed market offers rate-point combinations to borrowers. The use of points, which dates back to the days of FHA administered loan rates in the 1970s, allows borrowers to "buy up" or "buy down" their loan rates. This aids borrower qualification (e.g., if a borrower lacks the income to qualify at a certain rate she can buy down the rate with up-front payment of points (which are prepaid interest). Conversely if a borrower lacks the resources for a downpayment she can select a loan with a higher rate and fewer points. While useful to borrowers points greatly complicate loans and make it very difficult for borrowers to compare loan alternatives.

There are a couple of notable product innovations to mention. In both Australia and the UK, borrowers can redraw funds from an existing loan. Thus they can increase the size of their mortgage (up to an LTV limit) without having to refinance. This saves the transactions cost associated with a refinance. The other innovation, common in both countries, is an offset mortgage. This product links a checking account and mortgage loan. Deposits into the checking account reduce the loan balance and withdrawals increase it. By paying down the mortgage with deposits the customer effectively earns the mortgage rate on their savings rather than the typically lower savings account rate. Interest accrues daily and the loan amount is subject to a maximum loan-to-value ratio. As with the redraw there is flexibility in the amount of the mortgage outstanding. In theory the offset allows for a faster amortization of the mortgage (if deposits outpace withdrawals). In the event of the opposite occurring there is a fixed term and mandatory amortization or final bullet payment.

Mortgage funding is also different across countries. The US is unusual in the dominance of securitization. Sixty-five percent of mortgage debt outstanding is securitized in the US (94 percent of which is in agency MBS). This high percentage reflects two factors: the domination of the FRM and the presence of government-backed entities (Fannie Mae, Freddie Mac and Ginnie Mae) that guarantee the securities. The only other country that comes close to the US in the use of securitization is Canada at 31 percent. The Canada Mortgage and Housing Corporation provides mortgage default insurance and mortgage-backed security (MBS) guarantees. Japan also has a government mortgage-backed securitized guarantor, the Japan Housing Finance Agency (JHF). Approximately 9 percent of Japanese mortgage loans are securitized (of which two-thirds are guaranteed by JHF). Ten percent of European mortgages have been securitized but the vast majority issued since the financial crisis have not been sold but rather pledged against borrowing from the European Central Bank. There are no government guarantors of MBS in Europe.

The main capital market funding instrument in much of Europe is covered bonds. These are corporate (bank issued) bonds backed by a ring-fenced portfolio of mortgage loans. There are over € 1.7 trillion of outstanding mortgage covered bonds representing approximately 25 percent of European mortgage debt. Covered bonds fund 100 percent of Danish mortgages, 57 percent of Swedish, 43 percent of Spanish and 16 percent of German mortgage debt. Covered bonds are typically issued pursuant to specific law specifying allowable collateral, structure and matching requirements. Credit risk remains with the lender. They are viewed as quite safe (there has never been a default of a covered bond) due to the dual recourse structure wherein investors have priority claim on a pool of mortgages and a pari passu claim on unsecured assets of the issuer. An external monitor oversees the cover pool and asset-liability matching. With the exception of the Danish balance principle model, covered bonds are over-collateralized (meaning there are more assets than debt outstanding). There are strict matching requirements between the

cover pool and the bonds. There are no government guarantors of covered bonds in Europe.

There are also major differences in regulation between the US and other major developed markets. Most developed countries have a unitary financial regulator (the UK splits responsibility between the Prudential Regulation Authority (PRA) that ensures the stability of financial services firms and is part of the Bank of England and the Financial Conduct Authority (FCA) which oversees the business conduct of financial institutions). The US has a fragmented system with multiple bank regulators with separate insurance, pension, GSE and securities regulators. Almost all mortgage lenders in other developed countries are banks and regulated as banks including prudential capital requirements. Non-bank lenders in the US have a patchwork of regulators and do not have to maintain bank capital requirements. Fannie Mae and Freddie Mac have never been subject to bank level capital requirements and are currently operating with extremely little equity capital (though they have the backing of the U.S. Treasury).

Mortgage underwriting is usually stricter in other countries as well. In Europe the typical downpayment requirement is 20 percent. Canada tightened its underwriting requirements after the crisis. Purchase loans were required to have a minimum 10 percent downpayment requirement and refinance loans 20 percent. All loans with loan-to-value (LTV) of 80 percent or more are required to have mortgage insurance. Ninety-five percent LTV ratio mortgages are available in the UK but a survey of first time buyers in the first half of 2017 found an average downpayment of 16 percent. 95 percent LTV loans are available in Australia and the government has a first time homebuyer grant program.

Mortgage loans are recourse obligations in all of the countries surveyed and default rates have been and are significantly less than in the US. With recourse lenders have the right to pursue deficiency judgments against borrowers providing a significant deterrent to mortgage default.

Table 1 provides a summary comparison of major systems of housing finance discussed in this paper.

		Housing Finance Model Comparison			
Feature	**Canadian**	**Danish**	**Euro Covered Bond**	**AU/UK Depository**	**US**
Instrument	Rollover	LT and ST Fixed; ARM	Rollover, ARM	Reviewable ARM	LT Fixed, Hybrid ARM
Prepayment	Penalty	FRM no penalty, buy back option; ARM with penalty	Penalty if fixed	Penalty if discount	No penalty FRM
Funding	Deposit/Securitization	Covered Bond	Deposit, Covered Bond	Deposits, securitization	Securitization, Deposits
Govt. MI	Yes	No	NL only	No	Yes
Govt. Security Guarantee	Yes	No	No	No	Yes
GSE	No	No	No	No	Yes
Regulation	Strong unitary; CB legislation	Strong Unitary; CB legislation	Strong Unitary; CB legislation	Consolidated CB legislation	Fragmented. No CB legislation

Acronyms: FRM – fixed rate mortgage; ARM – adjustable rate mortgage; ST – short term; LT long term; CB – covered Bonds

What can the US learn from studying the housing finance systems in other countries? There is no ideal housing finance system. Individual country arrangements reflect history, market structure and government policy. Historically, some countries e.g., Australia, Canada –- as well as the US -- evolved from the British system of specialized deposit based lenders. Nordic countries, e.g., Denmark and Germany, evolved from a bond based system. No other country's housing finance system evolved with extensive reliance on securitization or GSEs. All lenders are subject to prudential regulation but none are subject to mission regulation (e.g., there are no "housing goals" in other countries). Other countries have achieved comparable or higher rates of homeownership and deep, well-developed and stable

mortgage markets with much less government support. And almost all developed country housing finance systems performed better during the crisis than the US.

Importantly, there is more “skin in the game” in the housing finance systems of most other countries. Banks that are subject to domestic and international capital rules hold considerably more capital than that held by government mortgage agencies in the US. Whether financed by deposits or covered bonds, credit risk remains on the balance sheet of the lender. This aligns incentives between lenders, depositors, investors and ultimately taxpayers. In addition, downpayment requirements are stricter and recourse common in other countries. These ensure that borrowers also have more incentive to borrow prudently and avoid default.

In no other country is the 30 year fixed rate mortgage the dominant instrument. As we learned from the savings and loan crisis, the FRM is not a suitable product for bank lenders. Rather it requires capital market financing which in the US is mainly achieved through the use of government guarantees. The high proportion of FRMs funded through securitization in the U.S. is both the outcome of government involvement and a justification for its continuation. Investors like government guarantees against loan or issuer default to invest in mortgage-backed securities with volatile cash flows. Thus the argument is made that the US needs to continue government support through the GSEs and/or Ginnie Mae to keep the mortgage market functioning. Their guarantees lower the relative cost of the FRM sustaining its dominance. The result is that the government, and thus taxpayers, backs the majority of mortgages in the U.S.

There is no intrinsic reason to build a mortgage market on the FRM. If government guarantees for mortgage-backed securities were reduced or withdrawn over time the U.S. market would most likely achieve a more balanced mix of products and funding sources. Adjustable rate mortgages, medium term fixed rate mortgages and long term fixed rate mortgages all have a place in a robust mortgage market. Likewise, funding through deposits, bank bonds, covered bonds and securitization

allows lenders to tap a variety of funding sources and manage the risks of the various instrument designs.

The experience of other countries shows that high rates of homeownership and stable well-developed mortgage markets can be achieved with less systemic risk than found in the US. In that respect the U.S. clearly can learn much from international housing finance systems.

Thank you for the opportunity to appear today.