Written Testimony of

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"Beyond GSEs: Examples of Successful Housing Finance Models Without Explicit Government Guarantees"

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Chairman Hensarling, Ranking Member Waters, and members of the Committee, my name is David Min and I am an Assistant Professor at the University of California Irvine School of Law, where I teach and research in the area of banking law and financial regulation. Before coming into academia, I spent over a decade working in banking and capital markets regulation, both in private practice and in the federal government, including as a Senior Policy Advisor for the Joint Economic Committee of Congress, where I had the pleasure of working with several of you and your staff. I thank you for the opportunity to testify today on the topic of alternative housing finance models. In the aftermath of the 2007-08 financial crisis, which has generally been attributed to problems in the U.S. residential mortgage markets, it is critically important that leading policy makers such as yourselves thoughtfully consider how best to reform a U.S. housing finance system that is widely seen as broken.

Before I get into the substance of my remarks, I want to emphasize a point that may seem obvious, but is not always well understood. And that is that it is extraordinarily difficult to try to compare different models of housing finance, as these are intrinsically and intricately intertwined with the cultural, political, and economic systems with which they co-exist. For example, Germany has recently enjoyed relative home price stability and low mortgage delinquency rates, while maintaining an abundance of affordable rental housing, and so it might be tempting to look to Germany's housing finance system, which has a uniquely low homeownership rate and an abundance of affordable rental housing, as a model. But the experience of the German housing and mortgage markets cannot be properly understood without also looking to other factors unique to Germany, including the large rental subsidies offered by the government;[1] the large stock of quality affordable public housing;[2] a tax code that favors landlords and tenants over homeowners;[3] a strongly pro-tenant regulatory regime that limit rent increases and evictions;[4] the provision of generous social welfare payments;[5] the relatively flat income and wealth distribution in Germany;[6] and the macroeconomic policies of the German government, which have led to high current account surpluses and low unemployment even during the global financial slowdown of the last several years.[7]

With that important caveat in mind, there are seven points I would like to make today:

1. <u>*Government Guarantees Are Universal:*</u> There are three types of funding instruments that collectively account for almost all of the residential mortgage financing in the developed world: bank deposits, mortgage-backed securities (MBS), and covered bonds. Generally

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[1] *See* Michael Voigtländer, *Why is the Germany Homeownership Rate So Low?*, 24 HOUSING STUDIES 355, 359-60 (2009).
[2] *Id*.
[3] *Id*. at 365-67.
[4] *See* Axel Börsch-Supan, *Housing Market Regulations and Housing Market Performance in the United States, Germany, and Japan*, *in* SOCIAL PROTECTION VERSUS ECONOMIC FLEXIBILITY: IS THERE A TRADE-OFF? 132-36 (Rebecca M. Blank, ed., 1994).
[5] *See* Stefan Boeters, et al., *Reforming Social Welfare in Germany—An Applied General Equilibrium Analysis*, 7 GERM. ECON. REV. 363 (2006).
[6] *See* Organisation of Economic Co-operation and Development, *Crisis Squeezes Income and Puts Pressure on Inequality and Poverty: New Results from the OECD Income Distribution Database* (2013), *available at* http://www.oecd.org/els/soc/OECD2013-Inequality-and-Poverty-8p.pdf.
[7] *See* Anna Ivanova, *Current Account Imbalances: Can Structural Policies Make a Difference?* (Int'l Mon. Fund, Working Paper No. 12/61, 2012).

speaking, with only limited exceptions, investors in these instruments enjoy the benefits of either explicit or implicit government guarantees. While the United States is relatively unique in its heavy reliance on government-guaranteed MBS, it is decidedly not unique in its dependence on government guarantees to fund residential mortgages.

2. *European Covered Bonds Are Best Thought of as Government-Sponsored Obligations*: A corollary of the previous point is that covered bonds also enjoy government backing. Contrary to the claims of some, European covered bonds are not purely private financial instruments, but rather enjoy a myriad of government guarantees, as well as preferential regulatory and capital treatments that mirror or surpass the benefits provided to Agency obligations in the United States.

3. *Government Guarantees Are Prevalent Because They Address Key Market Failures in Housing Finance:* Government guarantees are so ubiquitous because they address certain market failures that are inherent in financial intermediation—the use of short-term, illiquid liabilities to fund long-term, illiquid loans—which is necessary to meet the enormous long-term capital requirements that housing entails. In particular, these guarantees ensure liquidity, stability, and affordability in housing finance. In the United States and Denmark, government guarantees also facilitate the wide and affordable availability of the 30-year fixed-rate, fully self-amortizing mortgage, a product that is pro-consumer and helps to promote financial stability.

4. *There is No Perfect Housing Finance Model:* In the aftermath of the problems with the U.S. housing finance system, it is of course tempting to look at other models and assume the grass is greener on the other side. But each of the three major types of housing finance models—deposits, securitization, and covered bonds—experienced major failures in the recent credit crisis. And it is clear that each of these models has its advantages and disadvantages. While the weaknesses of securitization and deposits as funding vehicles are well recognized in the United States, it is important to recognize that covered bonds come with their own problems. The issuance of covered bonds typically increases the risk to other creditors, including the governmental deposit insurer, and can thus create a moral hazard problem, insofar as covered bond investors have reduced incentives to engage in market discipline. Perhaps most troubling, from a U.S. perspective, is that covered bonds are inherently best suited for very large financial institutions thought to enjoy a government backstop—so-called "Too Big To Fail" banks.

5. *The Common Thread in Global Housing Bubbles Was Financial Deregulation:* The United States, Spain, and the United Kingdom were perhaps the countries hardest-hit by housing market issues. All three of these countries underwent significant banking sector liberalization in the decades preceding their housing bubbles. At the same time, Canada, which did not have significant financial deregulation but does have an outsized government role in housing finance, did not experience such housing problems. This suggests that financial deregulation is a primary factor in explaining international problems with housing finance.

6. *Explicit, Ex Ante Guarantees Are Preferable to Implicit, Ex Post Guarantees:* The choice facing policy makers is not whether to adopt a housing finance with explicit guarantees or

no guarantees, as the title of this hearing might suggest. Rather, the choice is between explicit, well-defined, *ex ante* guarantees with buffers against taxpayer loss, or implicit, undefined, *ex post* guarantees that have no protections for taxpayers. For a number of reasons, I believe that explicit guarantees are preferable as a policy matter.

7. *Given U.S. Political Priorities, Improving the Status Quo May be Preferable to Importing Other Models :* Housing finance reform efforts should consider the specific characteristics of our polity. Several are worth noting. First, the U.S. does not have a social safety net as robust as those of most other advanced economies. As such, affordability in housing finance should be a much more important policy priority here than elsewhere. Second, the 30-year fixed-rate mortgage is both politically popular, and has an extensive track record of proven success in our country. Third, the United States has a long and storied history of populist opposition to big banks, hidden subsidies, and bailouts that has translated into a strong opposition to "Too Big To Fail" banks and the implicit subsidies they enjoy. Collectively, these characteristics point to the conclusion that rather than trying to adopt radical wholesale changes or import European models of housing finance into our country, we should consider fixing the problems with our current model of housing finance. This appears to be the conclusion reached by a growing number of experts and policy leaders on both sides of the aisle, including, most recently, the Bipartisan Policy Center and Sens. Bob Corker and Mark Warner.

The Global Ubiquity of Government Guarantees in Housing Finance

Critics of the federal government's role in housing finance argue that the United States is unique among developed countries in providing significant levels of government backing for home mortgage financing.[8] This claim is primarily based on the observation that the United States funds the vast majority of its residential mortgages through the issuance of government-backed securities by the government-sponsored enterprises (GSEs) Fannie Mae and Freddie Mac, as well as the governmental agency Ginnie Mae, and that no other country provides so much governmental backing for mortgage-backed securitization, or that no other country has GSEs.[9]

The problem with this analysis is that it focuses myopically on how the United States provides government guarantees for mortgage finance, and ignores how other countries might do so. While securitization has dominated U.S. housing finance in the past several decades, it is not a major factor in most other countries. As such, in trying to determine the level of governmental involvement in other housing finance systems, it makes little sense to look to government

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[8] *See, e.g.,* Michael Lea, *International Comparison of Mortgage Product Offerings* 12-14, Research Institute for Housing America, Sept. 2010 (contending that the United States is "unusual" in its use of government guarantees and contending that the "market share of government-backed institutions" in other countries is far less than in the United States); Dwight Jaffee, *Reforming the U.S. Mortgage Market Through Private Market Incentives* 14-21, Paper Presented for Presentation at "Past, Present, and Future of the Government Sponsored Enterprises," Fed. Res. Bank of St. Louis, Nov. 17, 2010 (claiming that Western European mortgages have "operated for decades with limited government intervention").

[9] *See* Lea, *id*.; Jaffee, *id*. As Lea notes, Canada, Korea, and Japan are the only other countries that utilize government-backed MBS for their housing finance systems.

guarantees on securitization. Rather, we should be looking to how they actually do fund mortgages, and whether government guarantees exist on those forms of funding.

As Michael Lea has noted, by far the largest source of funding for residential mortgages outside the United States is bank deposits, with covered bonds also providing a significant amount of housing finance in some countries.[10] Deposits and covered bonds are both bank liabilities, as compared to MBS, which in the United States are typically issued by off-balance sheet conduits that have no other assets other than those in the MBS pool. Therefore, in comparing the relative level of international governmental support in housing finance, the right question to ask is this: do other countries provide government guarantees on bank deposits and covered bonds?

The answer to this question is unequivocally yes. Bank deposits of course enjoy explicit government guarantees across the world, as 29 of the 30 OECD countries have governmental deposit insurance programs in place, with New Zealand being the sole outlier.[11] And in those countries where covered bonds are a major source of housing finance, these instruments enjoy a myriad of government guarantees, as I will explain next.

In fact, the claim that the United States has some extraordinarily high level of government backing for housing finance seems rooted in a misunderstanding of how other countries guarantee their housing finance systems. When government guarantees on instruments other than MBS are taken into account, it appears fairly clear that the United States is not particularly exceptional in the level of government support it provides to housing finance.

Understanding "Government-Sponsored" Covered Bonds

In the European countries where they account for a significant amount of housing finance, covered bonds benefit from a number of guarantees that are well recognized among investors. In order to understand how these implicit and explicit government guarantees work, it may be helpful to first briefly explain what covered bonds are. Covered bonds, like deposits, are uniquely bank obligations, and are perhaps best understood as a hybrid of general obligation bonds and MBS. Like other unsecured bank bonds, covered bond investors are paid out of the bank's general cash flows, and in the event of default, they have claims against the issuer's

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[10] Lea, *id*. In Denmark, mortgages are primarily funded through covered bonds. Canada has a slight wrinkle in its deposit-based system of housing finance, insofar as it requires mortgage insurance, which is mandatorily reinsured by the Canadian government, on most mortgages originated by Canadian banks. Canada also has a healthy dose of government-backed securitization, insofar as 25% of its mortgages are financed by MBS issued by the Canada Mortgage and Housing Corporation. *See* David Min, *True North: The Facts About the Canadian Mortgage Banking System*, CTR. FOR AMER. PROGRESS (2010).

[11] Prior to the financial crisis, Australia and New Zealand were the only OECD countries without explicit deposit insurance schemes in place. *See* The Treasury (Australia), *Study of Financial System Guarantees* ("Davis Report") (Commonwealth of Australia, 2004), Chapter 2. In response to the 2008 global financial crisis, both Australia and New Zealand implemented temporary deposit insurance programs. *See* The Treasury (Australia), *Guarantee Scheme for Large Deposits and Wholesale Funding*, *available at* http://www.guaranteescheme.gov.au; The Treasury (New Zealand), *Retail Deposit Guarantee Scheme*, *available at* http://www.treasury.govt.nz/economy/guarantee/retail. In September 2011, Australia implemented a permanent guarantee program for bank deposits up to $250,000, which was formally implemented in February 2012. *See* The Treasury (Australia), *Questions & Answers About the Guarantee on Deposits*, *available at* http://www.guaranteescheme.gov.au/qa/deposits.html.

general assets on a *pari passu*, or equal footing, basis with senior unsecured creditors.[12] But as with MBS, investors in covered bonds also enjoy a first claim against a pool of high-quality assets (the "cover pool"), which is typically overcollateralized, in the event of default. Another defining characteristic of covered bonds is that cover pools are typically "dynamic," insofar as poor quality assets are typically replaced by good assets throughout the entire term of the covered bond.[13] As a number of commentators have noted, these features of covered bonds are shared with Federal Home Loan Bank advances.[14] Because covered bonds have "dual recourse" to both the issuer and the assets of the cover pool, a risk analysis of covered bonds necessarily looks to both the characteristics of the issuer and the cover pool.

In those countries where they have achieved significant liquidity, covered bonds have benefited from several types of government guarantees. First, and arguably most importantly, covered bonds benefit from the implicit government guarantees that exist for the issuing banks. European banks have historically enjoyed implicit guarantees on all of their debt obligations, in part because of the high prevalence of "Too Big To Fail" in Europe. While TBTF is a relatively recent phenomenon in the United States, due to the longstanding restrictions on interstate banking and universal banking, this has decidedly not been the case in Europe, where national governments have long encouraged and facilitated the emergence of "national banking champions" with the size and scale to successfully compete with their neighbors.[15] Because of these political and historical differences, European countries have much more concentrated banking sectors than the United States, and their largest banks account for a far higher level of systemic risk.[16]

Moreover, European governments are generally far less tolerant of bank failures than the U.S. federal government, perhaps because the last major European banking crisis in 1931 is seen as having played a major role in the rise of Adolf Hitler's National Socialists.[17] This antipathy towards bank failures is reflected in the remarks of an anonymous European Central Bank official, who purportedly stated, "We don't let banks fail. We don't even let dry cleaners fail."[18] This statement is borne out by historical facts, as the last failure of a European issuer of covered bonds occurred 1900.[19]

Second, covered bonds as an asset class are thought to enjoy systemic importance independent of their issuers, particularly in those countries where these instruments account for a significant portion of the residential mortgage funding. As such, it is appropriate to recognize that covered bonds enjoy a TBTF guarantee, which explains why the European Central Bank felt compelled to announce a major covered bond bailout program in the midst of the 2008 financial

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[12] *See Covered Bonds: Potential Uses and Regulatory Issues: Hearing Before the S. Comm. On Banking, Housing, and Urban Affairs*, 111th Cong. 3-4 (2010) (statement of Michael H. Krimminger, Deputy Chairman, Fed. Deposit Insurance Corp.).
[13] *See* Steven L. Schwarz, *The Conundrum of Covered Bonds*, 66 BUS. LAWYER 561, 566-68 (2011).
[14] *See, e.g.*, EDWARD V. MURPHY, CONG. RESEARCH SERV., R41322, COVERED BONDS: ISSUES IN THE 112TH CONGRESS 7-8 (2011).
[15] Morris Goldstein and Nicholas Véron, *Too Big to Fail: The Transatlantic Debate* 6-7, Bruegel Working Paper No. 2011/03 (2011).
[16] *Id*. at 13.
[17] *Id*. at 7.
[18] DAVID WESSEL, IN FED WE TRUST: BEN BERNANKE'S WAR ON THE GREAT PANIC 22 (2009).
[19] *See* Frank Packer, et al., *The Covered Bond Market*, BIS QUARTERLY REV. 45, 49 (Sept. 2007).

crisis, as outlined below. Indeed, all three of the major credit rating agencies expressly recognize the "systemic importance of covered bond programs in the issuer's jurisdiction" as a major factor in the ratings they provide to these instruments.[20]

Third, because covered bonds generally enjoy a first lien on the best assets of the issuer, and continue to replace weak cover pool assets with good assets on a dynamic basis, they effectively benefit from the explicit guarantees behind bank deposits, which help finance the purchases of good bank assets that are then used to collateralize covered bonds. In this way, covered bonds effectively piggyback on governmental deposit insurance.[21]

All three of these types of government guarantees—implicit guarantees behind the bank issuers of covered bonds, implicit guarantees of the covered bond market generally, and explicit guarantees of bank deposits which are used to fund assets that go into the cover pool—are important factors in the credit quality and liquidity enjoyed by covered bonds in those countries where they have achieved scale. This is why sovereign risk—the risk that the issuer's host country might default on its own government obligations—is a central factor in the credit ratings of European covered bonds.[22] It is also why European governments and the European Central Bank responded with a tsunami of bailouts intended to maintain investor confidence in covered bonds, including a as illustrated by Figure 1, below, and why the continuing concerns about European sovereign risk have translated into concerns about covered bond risk.[23] It is fair to say that European covered bonds enjoy the same or even greater implicit guarantees as Agency obligations here.

In addition to government guarantees, European covered bonds also enjoy from a number of other governmentally granted benefits. First, qualifying covered bonds enjoy beneficial capital treatment across the European Union, which is actually more preferential than the capital treatment accorded to Agency securities[24] here in the United States.[25] Second, covered bonds are eligible as collateral for European Central Bank lending, just as Agency securities are eligible as

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[20] *See* Yehudah Forster (Vice President, Moody's Investor Service), Hélène M. Heberlein (Managing Director, Fitch Ratings), and Alla Sirotic (Senior Director, Fitch Ratings), *Covered Bond Ratings*, *in* COVERED BONDS HANDBOOK 7-31 (James R. Tanenbaum and Anna T. Pinedo eds., 2012). *See also* Karen E. Naylor et al., *Covered Bonds Counterparty and Supporting Obligations: Methodology and Assumptions*, Standard & Poor's Global Credit Portal report, May 31, 2012, *available at* http://www.standardandpoors.com/spf/upload/Ratings_EMEA/CoveredBondCounterparty.pdf.

[21] This particular concern has been raised by the Federal Deposit Insurance Corporation on several occasions. *See, e.g.*, Statement of Michael H. Krimminger 12-14, *supra* note 12.

[22] *See, e.g.*, *Sovereign Risk a Key Element in Covered Bond Credit Risk*, Fitch Ratings, May 28, 2012, *available at* http://www.fitchratings.com/web/en/dynamic/articles/Sovereign-Risk-a-Key-Element-in-Covered-Bond-Credit-Risk.jsp.

[23] *See, e.g.*, Moody's Investors Service, *Spanish Mortgage Covered Bonds: High Credit Risks, Despite Tightening Spreads in Early 2013* (2013) (stating that sovereign risk has been the main driver in covered bond spread movements); *Covered Bond Roundtable 2012*, INT'L FINANCING REV. (2012) (quoting Jose Sarafana, a covered bond analyst, as observing that "the sovereign factor is extremely important for pricing covered bonds" and arguing that the high concerns about sovereign risk have made this the most important factor in covered bond spreads), *available at* http://www.ifre.com/covered-bond-roundtable-2012-part-1/21026480.article.

[24] The term "Agency securities" refers to MBS and debt obligations issued by Fannie Mae and Freddie Mac.

[25] Under the European Union's "Capital Requirements Direct," qualifying covered bonds are risk-weighted at 10%. This compares to a risk-weighting of 20% for Agency debt and Agency MBS.

collateral with the Fed.[26] Given that European covered bonds, like Agency debt, enjoy strong governmental guarantees and highly preferential capital and collateralization treatment, it may be most appropriate to describe these instruments as "government-sponsored" covered bonds.

Figure 1[27]

European bank bailouts during the 2008 financial crisis

Select list of banks and bank rescue packages for a number of banks rescued by their governments

Country	Bailout	Amount	Type
Belgium, France, Luxembourg	Dexia bailouts (Oct. 2008, Oct. 2011)	€100 billion	2008: Initial recapitalization of €6.4 billion; 2011: €4 billion nationalization of Belgian sub; €90 billion in guarantees.
Belgium, Netherlands, Luxembourg	Fortis bailout (Sept. 2008)	€11.2 billion	Recapitalization of €11.2 billion + liquidity guarantees.
Canada	IMPP (Oct. 2008)	$125 billion	Purchase of insured mortgage pools to ensure liquidity
Denmark	Roskilde Bank nationalization (Aug. 2008)	$8.3 billion US (41.8b kroner)	Nationalization of Denmark's eighth largest bank
Denmark	Financial Stability Act (aka Bank Package I, Oct. 2008)	Unlimited	2 year blanket guarantee on all obligations of Danish banks
Denmark	Bank Package II (Jan. 2009)	$17.1 billion US (100b kroner)	100 billion kroner recapitalization fund
European Central Bank	Covered Bond Purchase Programmes (June 2009, Oct. 2011)	€100 billion	€60 billion for covered bond purchases in June 2009, €40 billion in Oct. 2011, to ensure liquidity in these instruments.
France	SFEF/SPPE (Oct. 2008)	€360 billion	€320 billion liquidity facility providing interbank lending guarantees, €40 billion recapitalization fund.
France	Natixis bailout (Oct. 2008)	€40 billion	€5 billion investment, €35 billion in guarantees on toxic assets
Germany	Financial Market Stabilization Act/SoFFin (Oct. 2008)	€480 billion	€400 billion for guarantees, €80 billion for recapitalization. Sunset December 2010, but reactivated Jan. 2012.
Ireland	Blanket guarantee (Sept. 2008)	Unlimited	Blanket guarantee on all obligations of Irish banks
Ireland	Nationalization of four (of six) banks (Jan. 2009 – July 2011)	€65 billion	Nationalization of Anglo Irish, Irish Nationwide Building Society, Irish Life & Permanent, Allied Irish Banks
UK	Nationalization of Northern Rock (Feb. 2008)	£100 billion	Nationalization of the UK's fifth largest mortgage lender after a £4.6b deposit run.
UK	Bank rescue plan (Oct. 2008)	£500 billion	£50 billion recapitalization fund, £250 billion in credit guarantees; £200 billion in short term loans to ensure liquidity.

Sources: Economic Times (2008), The New York Times (2008) (2011), BBC News (2008), Forbes (2008), European Union, European Central Bank, RFI, BaFin (German Federal Financial Authority), The Wall Street Journal (2008) (2011) (2012), HM Treasury's National Audit Office.

[26] *See* Marketable Assets, European Central Bank Collateral, *available at* http://www.ecb.int/mopo/assets/standards/marketable/html/index.en.html. European covered bonds are also used as collateral in repo transactions. *See* European Repo Market Survey No. 24, Int't Capital Market Assn. (Mar. 2013).

[27] David Min, *The Global Importance of Government Guarantees in Mortgage Finance: An Analysis of How Guarantees Work in Different Developed Nations* 5 (Fig. 4), CTR. FOR AMER. PROGRESS, May 2012.

Government Guarantees Address Key Market Failures in Housing Finance

Why are government guarantees so ubiquitous in global housing finance? I believe it's because they ensure certain outcomes in housing finance that are seen as socially and economically optimal, which do not occur in the absence of such guarantees. These are liquidity, stability, and affordability. I will address each of these points in turn.

Liquidity

Because housing is necessary but costly, it requires an enormous investment of capital, greater than any other class of assets in the world. For example, the United States has some $13 trillion[28] and the European Union has roughly €6.5 trillion in residential mortgage debt outstanding.[29] Moreover, because housing is a long-duration investment, with a typical depreciation schedule of several decades, residential mortgages are almost always long-dated, with amortization periods of between 25-40 years being the norm across the developed world.[30]

Given the high capital intensity of housing finance, ensuring that there is sufficient liquidity to meet these needs is a major concern. Government guarantees provide liquidity in three ways.

First, government guarantees assuage investor concerns about credit risk, which allows mortgage liabilities to have access to a far deeper pool of capital. Historically, the vast majority of investors in housing finance have sought "safe" assets—that is to say, assets that they believed did not bear credit risk, perhaps because it had a government guarantee, bore a AAA rating, and/or had structural safeguards against investor losses (such as the $1 net asset value that money market funds are required to maintain).[31] This certainly has been true in the recent past. Even during the 2002-2007 housing bubble, when government-backed Agency debt lost significant market share to Wall Street's "private-label" mortgage securitization, some 90% of the private-label securities issued were AAA rated.[32]

Long-dated mortgage debt carries with it enormous amounts of liquidity and interest rate risk. Adding significant amounts of credit risk to these existing risks would certainly drive away most of these "safe" investors. Given the huge amount of interest rate risk that purchasers of long-dated mortgage debt already take on, there is no evidence to suggest that there would be significant demand for long-dated mortgage debt that carried significant credit risk on top of the

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[28] *See* Federal Reserve, Table 1.54, Mortgage Debt Outstanding (Mar. 2013).
[29] European Mortgage Federation, *Hypostat 2011: A Review of Europe's Mortgage and Housing Markets* 89 (Table 13) (2012).
[30] *See* Lea at 17-20. A number of countries utilize short-term fixed rate mortgages, such as the 5-year fixed-rate mortgage that dominates Canadian mortgage lending, but these generally amortize over a 25-40 year period.
[31] Gorton et al. (2012) lay out the notion of "safe" assets, which they generally describe as sovereign debt and "the safe component of private financial debt." They argue that safe debt is so highly in demand because of the demand for money substitutes that are "informationally insensitive" and thus do not require due diligence despite the presence of steep information asymmetries. *See* Gary B. Gorton et al., *The Safe Asset Share* (Nat'l Bureau of Econ. Research, Working Paper No. 17777, 2012).
[32] *See Housing Finance Reform: Should There Be A Government Guarantee?: Hearing Before the S. Comm. On Banking, Housing, and Urban Affairs* 2 (2011) (statement of Adam J. Levitin, Professor of Law, Georgetown University Law Center).

huge amounts of interest rate and liquidity risk that already exist for such liabilities. That is why private-label securitization went to such great lengths in the past several decades to develop a structure that could produce securities that were seen as free of credit risk, including the creation of subordinated tranches and overcollateralized asset pools to absorb first losses, the heavy use of credit enhancements (such as monoline insurance and credit default swaps), and the heavy lobbying of credit rating agencies for investment-grade ratings.

Of course, the financial crisis revealed significant flaws in private-label securitization, and shattered the perception that securities issued through this process carried no credit risk. As a result, it is unlikely that private mortgage-related liabilities without a government guarantee will be seen as safe anytime in the near future. One of the most prominent "safe" investors, PIMCO founder Bill Gross, has stated that in the absence of government guarantees, PIMCO would not purchase MBS without drastically more conservative underwriting standards, including at least a 30 percent down payment, that harken back to the onerous mortgage terms that existed in the pre-New Deal era.[33]

Second, and relatedly, guarantees facilitate liquidity in the financial intermediation—the use of short-term liquid liabilities to fund investment in long-term, illiquid loans—that is, and historically always has been, responsible for the vast majority of housing finance. As I will discuss shortly, financial intermediation is inherently fragile and quite vulnerable to runs and panics. Government guarantees provide an inoculation against the problem of bank runs and thus allow for deep liquidity.

Third, guarantees help to ensure countercyclical liquidity in housing finance. As has been extensively described in the banking literature, the financial system suffers from an inherent procyclicality—the tendency to provide too much risk during good times and to pull back too heavily on risk-taking during bad times—that has been attributed to the "financial accelerator" described by Irving Fisher and elaborated by Bernanke/Gertler, as well the difficulties of measuring changes in risk over time and the existence of improper incentives for market participants.[34] In the aftermath of the financial crisis, a key focus of policy makers and regulators has been to rein in the procyclical tendencies of financial intermediaries to take on too much risk during financial booms. But another paramount concern must be in ensuring that countercyclical liquidity is available during financial busts, when private financial markets pull back excessively from the market. It is well documented that the lack of liquidity that follows financial crises can amplify economic distress, as falling home prices, increasing delinquencies and decreasing availability of mortgage finance all feed into a "vicious circle."[35]

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[33] *See* David Lawder, *PIMCO's Gross: Government Mortgage Guarantee "Essential,"* REUTERS, AUG. 17, 2010.
[34] *See, e.g.*, Claudio Borio, et al., *Procyclicality of the Financial System and Financial Stability: Issues and Policy Options* (Bureau of Int'l Settlements, Working Paper No. 1, 2001); Viral Acharya and Tanju Yorulmazer, *A Theory of Procyclical Bank Herding* (Aug. 15, 2003) (unpublished paper) (available at http://www.fdic.gov/bank/analytical/CFR/Acharya.pdf).
[35] Irving Fisher

Since the crisis, some 90 percent of housing finance has been provided by Fannie, Freddie and Ginnie.[36] One can imagine how bad the housing downturn would have been in the absence of such government-backed mortgage finance.[37]

Stability

Government guarantees are also critical to ensuring stability in housing finance, particularly with respect to the financial intermediation that has always been the primary source of residential mortgage funding. As I discussed previously, the uniquely long durations of mortgage debt (even the short-term fixed rate mortgages that are popular in Canada are amortized over a 25 year period) present a challenge to housing finance, insofar as it is difficult to find sufficient patient capital (investors willing to buy and hold long-dated debt to term) to fund the massive needs of housing finance. This challenge has mostly been addressed through the heavy use of financial intermediation—the use of short-term liabilities such as bank deposits to fund and hold investments in long-term assets such as mortgages.

Traditional deposit-backed bank lending was the primary source of U.S. mortgage financing since at least the late 19th century,[38] up until the collapse of the savings and loan industry in the early 1990s.[39] But in recent years, capital markets funding has grown to become an increasingly important factor in global housing finance. In the United States, MBS have come to dominate housing finance, displacing deposits as the major source of mortgage funding. While bank deposits still dominate Canadian mortgage finance, a significant and growing share of its housing finance system has been funded by government-backed securitization, which currently accounts for about 25% of outstanding home loans. Similarly, European housing finance also relies mainly on bank deposits, but has seen strong growth in covered bonds in recent years.

MBS and covered bonds, at first glance, appear to be an alternative to traditional banking, insofar as they issue liabilities that are long-dated and tend to be closer in maturity to the mortgages they finance.[40] But a closer look reveals that these liabilities are also part of a process

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[36] As Richard Green points out, the heavy reliance on Agency financing in the aftermath of a financial crisis is not new. Following the Long-Term Capital Management crisis, which was a smaller, more benign financial crisis, private sources of liquidity dipped precipitously, as reflected in the spread between jumbo and conforming mortgages, which widened from 10 to 40 basis points in the aftermath of LTCM's problems. *Housing Finance Reform: Should There Be a Government Guarantee?: Hearing Before the S. Comm. On Banking, Housing, and Urban Affairs* 6-7 (2011) (statement of Richard K. Green, Lusk Chair in Real Estate, Univ. of Southern Cal.).

[37] Some have contended that Agency mortgage finance is crowding out private sector options. This seems inconsistent with the limited experience we have seen with private-label securitization since the financial crisis, which strongly suggests that investors have lost all confidence in PLS. Since the crisis, there have been but a handful of private-label securitization deals, with all of these that I am aware of having been sponsored by Redwood Trust, a Northern California investment firm. The investors in these relatively small deals have all been MBS specialists who have performed loan-level due diligence , even as the loan pools securing these deals had extraordinarily safe underwriting characteristics, such as a 40%+ average down payment and a 770 average FICO score).

[38] *See generally Kenneth* A. Snowden, *The Anatomy of a Residential Mortgage Crisis: A Look Back to the 1930s* (Nat'l Bureau of Econ. Research, Working Paper No. 16244, 2010).

[39] *See* David Min, *How Government Guarantees in Housing Finance Promote Stability*, 50 HARV. J. ON LEG. ___ (forthcoming 2013).

[40] Agency MBS are pass-throughs, in which investors are effectively purchasing a share of the cash flows of a pool of mortgages. Thus the duration on Agency MBS is effectively the life of the pool of loans. Covered bonds are typically issued in 5-10 year or 2-3 year maturities, which tends to match the generally shorter duration of European

of financial intermediation that has been described as "shadow banking," largely because it takes place outside the penumbra of traditional deposit-backed banking. MBS and covered bonds are both utilized as collateral in a wide array of public and private sector lending markets, including central bank lending, public and private repo markets, securities lending transactions, and derivatives deals. The heavy demand for these securities as collateral has effectively given them a money-like quality, as they not only can be pledged to receive actual currency, but these assets themselves are used and re-used as a liquid form of collateral. Thus, in the aggregate, MBS and covered bonds are a key part of the shadow banking system in the United States[41] and Europe,[42] respectively, insofar as they are effectively used to transform long-term illiquid assets (home mortgages) into short-term liquid liabilities (repos, securities lending claims, etc.).

As is well understood in banking economics, the maturity and liquidity transformation inherent to banking create an inherently fragile situation, as banks (and by extension, shadow banks) are highly vulnerable to the problems of bank runs and panics. The steep maturity and liquidity mismatches between their assets and liabilities means that banks do not have the ability to pay off more than a small number of withdrawal claims at any given time. Thus, if a large number of depositors simultaneously seek to withdraw their funds from the same bank, that bank must find new sources of liquidity, and this may entail selling off its loans in a "fire sale" environment. This dynamic can cause the insolvency of even a healthy, well-managed bank, by forcing the liquidation of profitable loans at a loss.[43]

Moreover, bank runs can quickly lead to the problem of contagion, in which a run on one bank causes deteriorating confidence among depositors at other banks, leading to further bank runs. If these runs reach a critical mass, they can cause systemic dislocation and large economic losses, as banks across the system are forced to firesale illiquid assets at a loss in order to meet increasing redemptions by depositors. In other words, contagion can quickly turn runs on individual banks into system-wide banking panics. Such banking panics can lead to enormous costs across the broader macroeconomy,[44] as we have just witnessed.[45]

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mortgages. *See Covered Bonds in the EU Financial System* 18, Eur. Central Bank Report (2008). In Denmark, maturity matching is even more pronounced, as Danish covered bonds are required to adhere to the "balance-principle," which requires that covered bond cash flows exactly match those of the underlying cover assets on a loan-by-loan basis. *See* Jens Dick-Nielsen et al., *Liquidity in Government versus Covered Bond Markets* 5 (Bank for Int'l Settlements, Working Paper No. 392, Nov. 2012).

[41] Pozsar et al. (2012) have a good explanation of shadow banking in the United States. Zoltan Pozsar et al., *Shadow Banking* (Fed. Reserve Bank of New York, Staff Report No. 458, Feb. 2012).

[42] Anand et al. describe how covered bonds are a core part of the European shadow banking system. Kartik Anand, et al., *Covered Bonds, Core Markets, and Financial Stability* 2-3 (Sonderforschungsbereich 649, Discussion Paper No. 2012-065, 2012).

[43] *See* Douglas W. Diamond and Philip H. Dybvig, *Bank Runs, Deposit Insurance, and Liquidity*, 91 J. POL. ECON. 401 (1983).

[44] As Reinhart and Rogoff have observed in their comprehensive review of financial crises, banking panics lead to enormous macroeconomic costs, resulting in sharp decreases in tax revenues that, on average, cause government debt to increase by 86% in the three years following such a panic. CARMEN M. REINHART AND KENNETH S. ROGOFF, THIS TIME IS DIFFERENT: EIGHT CENTURIES OF FINANCIAL FOLLY 142 (2009).

[45] Following the recent financial crisis, U.S. households suffered an estimated $10 trillion decline in wealth. *See* Anthony J. Crescenzi, "Cyclical Tailwinds, Secular Headwinds and the Market of Bonds," Pimco (originally published on CNBC.com), Apr. 7, 2010. The median household experienced an 18% decline in its total net worth. *See* Jesse Bricker et al., "Surveying the Aftermath of the Storm: Changes in Family Finances from 2007 to 2009," Federal Reserve Board Finance and Economics Discussion Series, 2011-17, Mar. 24, 2011. The OECD estimated the crisis would cause a 2.4% reduction in the long-run GDP of the United States. *See* ORGANISATION OF ECONOMIC

It is well recognized that government guarantees ameliorate and possibly solve the problems of bank runs and panics, by providing a credible backstop against credit risk, and thus removing any incentive for bank runs to happen. Indeed, it is notable that during the recent financial crisis, the various collateral calls and fund withdrawals that have been characterized as a run on the shadow banking system did not significantly impact government-backed liabilities and were instead primarily limited to purely private financial instruments.

Government guarantees also may be important for systemic stability in another important way, and that is that they are critical in promoting the origination of affordably priced, consumer-friendly mortgages. More affordable mortgages are of course less likely to default, all else being equal, because their payment streams are less onerous. Similarly, mortgage characteristics that do not lay other risks (such as liquidity or interest rate risk) onto the borrower are similarly less likely to default.

Affordability

Given the extremely finite demand for long-dated assets,[46] the simple laws of supply and demand dictate that mortgages would be much more expensive in the absence of government guarantees. Regardless of how one views these guarantees, it is clear that they make mortgage finance more affordable, simply by greatly expanding the pool of potential investors, as described above. For example, PIMCO head Bill Gross contends that in the absence of such a guarantee, mortgage rates would rise by as much as 4 percentage points.[47] This is consistent with the higher costs of mortgage finance in the pre-Depression era, or in commercial real estate today, where government guarantees do not exist.

In the United States and Denmark, government guarantees are also responsible for the wide and affordable availability of the 30-year fixed-rate, fully self-amortizing mortgage, a product that is pro-consumer and has experienced extremely low delinquency rates when compared with alternative products. In the United States, of course, 30-year fixed-rate mortgages (FRMs) have experienced delinquency rates that are exponentially lower than those for adjustable-rate mortgages (ARMs). For example, prime 30-year FRMs had a serious delinquency rate of 4.74% as of Q2 2011, as compared to 11.76% for prime ARMs. Similarly, ARMs in Denmark look to be much more of a problem than 30-year FRMs. The proliferation of option ARMs from 2003 to 2008 was seen as a major factor in the housing bubble experienced by Denmark, and a number of studies have warned that Denmark is on the verge of a major

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COOPERATION AND DEVELOPMENT (OECD), ECONOMIC POLICY REFORMS: GOING FOR GROWTH 18-19 (Box 1.1) (OECD 2010), *available at* http://www.oecd.org/dataoecd/53/48/44680877.pdf. The United States also suffered approximately 9.5 million job losses as a result of the financial crisis. *See* Philip J. Swagel, "The Cost of the Financial Crisis: The Impact of the September 2008 Economic Collapse," *Pew Financial Reform Group Briefing Paper No. 18*, Apr. 28, 2010, p. 11, available at http://www.pewfr.org/admin/project_reports/files/Cost-of-the-Crisis-final.pdf.

[46] It is difficult to know exactly how much of this long-dated demand exists, as discussed above, because most long-dated debt, whether sovereign debt, Agency MBS, or covered bonds, is not held to maturity, but instead is traded in liquid markets and used (and re-used) as collateral in various interbank transactions, such as repo and derivatives deals, and open market transactions. *See* Zoltan Pozsar, et al., *supra* note 41; Kartik Anand, et al., *supra* note 42.

[47] *See* Susanne Walker, *Gross Says Mortgage Yields Would Soar Without Government Aid*, BLOOMBERG, Aug. 24, 2010.

delinquency crisis, as 80 percent of homeowners under the age of 35 are underwater, and more than 100,000 mortgages appear likely to default in the near future, in the absence of governmental intervention.[48]

The relative stability of the 30-year FRM should not be a surprise. It is a more systemically stable product for several reasons. First, it provides cost certainty to borrowers, which means they default less on those loans, particularly during periods of high interest rate volatility. Second, the 30-year FRM leaves interest rate risk with sophisticated market players (lenders and investors) who can plan for and hedge against interest rate fluctuations, rather than with unsophisticated households who have no such expertise or capacity to deal with this risk. Third, as the Miles Report, the landmark 2004 report on mortgage market reform authorized by the United Kingdom, found, the 30-year FRM helps promote housing market stability, as it was generally less sensitive to short-term interest rate fluctuations and thus less likely to trigger high volatility in housing prices.[49]

Comparing the Major Housing Finance Models

As I mentioned at the outset, there are three major vehicles for funding housing around the world: bank deposits, MBS, and covered bonds (with most countries adopting more than one of these, and with many notable wrinkles, such as Canada's mortgage insurance requirement for bank-held loans and Denmark's matching principle for covered bonds). In the United States, we have had extensive experience with deposits and MBS as the primary means for funding residential mortgages, and so American academics are well familiar with the weaknesses of these instruments.

Deposit-based mortgage finance, as we know from our own experience in the period of stagflation that occurred in the 1970s and early 1980s, leaves financial intermediaries vulnerable to large amounts of interest rate risk. Mortgage-backed securitization seems to solve the interest rate risk issue by leaving that risk with investors who are willing and interested in taking it on,[50] but as we have learned, this too may be subject to problems, including numerous frictions (information asymmetries and conflicts of interest) that exist up and down the vertical securitization pipeline.[51]

Given the problems we have experienced with deposits and MBS, it is tempting to look at other models of housing finance, particularly ones centered upon covered bonds, as a panacea for our markets. After all, covered bonds are like MBS but with "skin in the game" to better align the interests of investors and issuers. But covered bonds carry their own set of problems, which should not be ignored as we contemplate how to reform our housing finance system.

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[48] *See* Frances Schwartzkopff, *Denmark Races to Prevent Foreclosures as Home Prices Sink*, BLOOMBERG NEWS (Mar. 19, 2013).

[49] *See* David Miles, *The UK Mortgage Market: Taking a Longer-Term View*, Interim Report, Section 6.

[50] Investors in Agency MBS do carry prepayment risk, the risk that the loans in the MBS pool will all be refinanced or paid off before or after the investors' expected timeframe.

[51] For example, one such friction is the conflict between the originating lender and the MBS issuer, since the former has an incentive to sell its weakest loans to the latter, a classic lemons problem. *See generally* Adam B. Ashcraft and Til Schuermann, *The Seven Deadly Frictions of Subprime Mortgage Credit Securitization*, THE INVESTMENT PROFESSIONAL (Fall 2008).

The first potential problem with covered bonds is their balance sheet intensity, which necessarily limits the amount of covered bonds that can be issued, and requires covered bonds to piggyback off of other sources of funding. As I previously described, covered bonds are overcollateralized with good assets that are ring-fenced against other claims, and if any of these assets deteriorate in quality, they are replaced by more good assets from the issuer's balance sheet. Because of these structural characteristics, covered bonds are capped as a percentage of any issuer's balance sheet, and they must be augmented with other sources of finance. Covered bonds are in this way limited in the amount of funding they can provide, which is probably why they do not account for more than a minority of any country's housing finance, with the exceptions of Denmark and Spain.

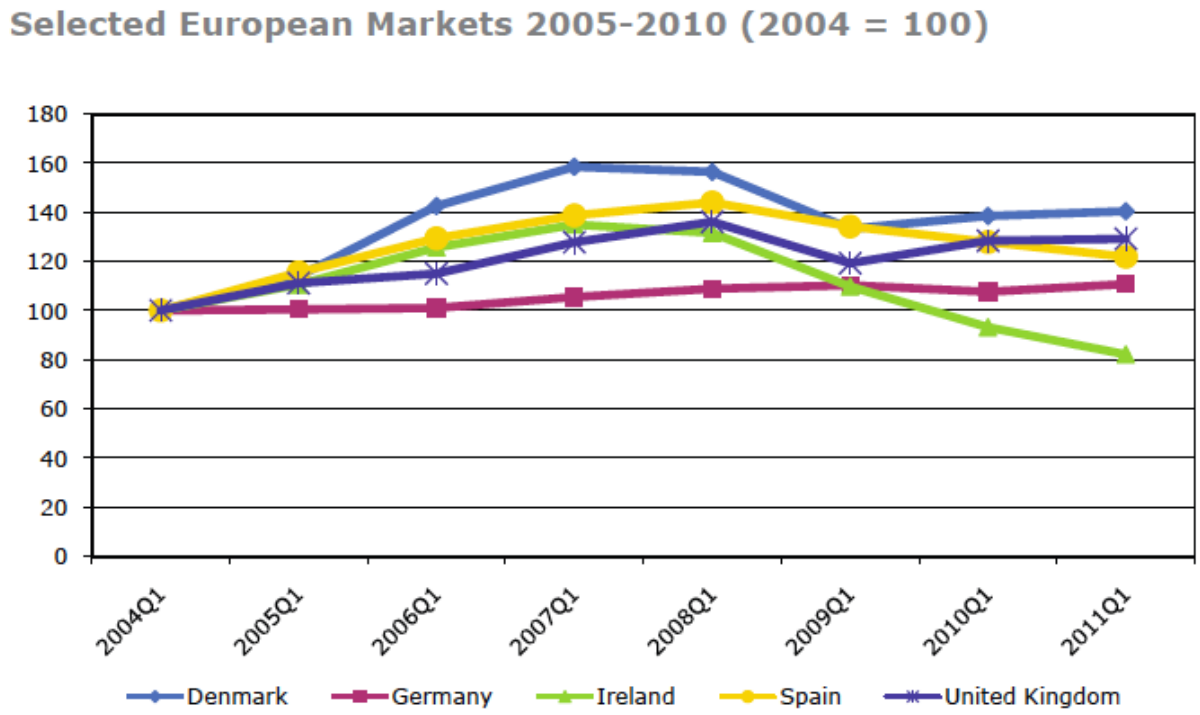
The second, and related, problem with covered bonds is that, by their very nature, they increase risk to other creditors, with the largest class of creditors being depositors, who are themselves protected by governmental deposit insurance. As such, the safety of covered bonds comes directly at the expense of taxpayers, who bear greater risks due to the loss of good collateral to cover pools.[52]

Third, because investors in covered bonds look either primarily to or equally to the creditworthiness of the issuer, covered bonds are much more suitable for large issuers with AAA credit ratings and the perceived guarantee of their host government behind their obligations—in short, Too Big To Fail institutions. To the extent that covered bonds are emphasized in U.S. legislation and regulations, this will disproportionately benefit the largest, most complex financial institutions.

These problems with covered bonds might be justified, if these instruments brought significantly more systemic stability. But the fact is that covered bond regimes failed just as miserably as bank deposit regimes and MBS did in the recent crisis. As the minority dissent to the Financial Crisis Inquiry Report noted, the recent housing and financial crisis was a global phenomenon, not confined to the United States.[53] Indeed, the housing bubble that we experienced in the United States, where MBS was the dominant source of housing finance, was actually surpassed by the housing bubbles that took place in the United Kingdom and Ireland, where bank deposits were predominant, and Spain and Denmark, where covered bonds were the main source of housing finance, as Figure 2 below shows.[54]

Figure 2

[52] *See, e.g.*, Kartik Anand, *supra* note 42.
[53] *See* Bill Thomas et al., *Dissenting Statement of Keith Hennessey, Douglas Holtz-Eakin, and Bill Thomas*, *in* THE FINANCIAL CRISIS INQUIRY REPORT: FINAL REPORT OF THE NATIONAL COMMISSION ON THE CAUSES OF THE FINANCIAL AND ECONOMIC CRISIS IN THE UNITED STATES 411, 414-416 (2010).
[54] Source: Ashok Bardhan, et al., *A Comparative Context for U.S. Housing Policy: Housing Markets and the Financial Crisis in Europe, Asia, and Beyond*, Bipartisan Policy Center 16 (citing European Mortgage Federation).



Despite the larger peak-to-trough home price declines that have taken place in most European countries, some have argued that European housing finance systems have greatly outperformed the U.S. housing finance system, pointing to the relatively low delinquency rates and foreclosure rates in distressed European housing markets. But this analysis fails to contemplate the effects of European social welfare programs, which are much stronger than in the United States, on mortgage delinquencies.[55] It is well established that greater income volatility significantly increases the likelihood of mortgage delinquency.[56] In the United States, income shocks (such as from a loss of job or death of a household member) are by far the largest cause of mortgage delinquencies.[57] Of course, most European countries enjoy much stronger social safety nets, which tend to mitigate income volatility and reduce the likelihood of delinquencies and foreclosures. An underwater Spanish or Danish homeowner who lost her job would seem less likely to default on her mortgage, due to the social welfare supports in place in those countries, than a similarly situated U.S. homeowner.

Of course, the effects of sharply lower housing prices have severely and negatively affected the macroeconomic outlooks of many of these European countries, and arguably have had a larger effect on the fiscal health of European countries with steep housing downturns, since

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[55] EU countries provide nearly twice as much to income support and safety nets as the United States, as a percentage of GDP. *See generally* Alberto Alesina et al., *Why Doesn't the United States Have a European-Style Welfare State?*, 2 BROOKINGS PAPERS ON ECON. ACTIVITY 1 (2001).

[56] *See generally* Luis Diaz-Serrano, *Income Volatility and Residential Mortgage Delinquency: Evidence from 12 EU Countries* (Forschungsinstitut zur Zukunft der Arbeit, Discussion Paper No. 1396, Nov. 2004).

[57] Frank E. Nothaft, *What's Driving Mortgage Delinquencies?*, Freddie Mac Executive Perspectives Blog, Mar. 22, 2010, *available at* http://www.freddiemac.com/news/blog/frank_nothaft/20100322_what_drives_mortgage_delinquencies.html.

so many of the costs of housing downturns are borne by the government rather than individual households in those countries. We are currently seeing this dynamic occurring in real time in Spain, and given the concerns about the Danish mortgage markets (Denmark has already suffered through a 20% home price decline, 56% of Danish mortgages are interest-only loans, and some 100,000 of these are underwater and due to reset soon),[58] we may soon see similar macroeconomic and fiscal problems in Denmark as well.

A Key Factor in International Housing Bubbles Was Laxly Regulated Mortgage Finance

I have spent a good amount of time analyzing the different sources of funding in international housing finance, with the hopes of convincing you of the following two points: 1) all advanced economies heavily rely upon government guarantees to facilitate housing finance; and 2) the source of housing finance—deposits, MBS, or covered bonds—was not a particularly relevant factor in determining whether a country would experience a housing bubble. That being said, were there structural differences that actually did prove important in determining whether a country experienced a housing bubble or not? This is obviously a very complex question, which has been the topic of much analysis and debate.

That being said, I believe one potential characteristic that has largely been underappreciated has been financial deregulation, as this appears to be a common thread in most, if not all, of the countries that experienced large housing bubbles in the past decade. Three of the more notable countries that experienced housing bubbles were Spain, the United Kingdom, and the United States. Each of these underwent some fairly dramatic financial deregulation in the past several decades. As the FCIC minority stated in their dissent:

> There were housing bubbles in the United Kingdom, Spain, Australia, France and Ireland, some more pronounced than in the United States. Some nations with housing bubbles relied little on American-style mortgage securitization. A good explanation of the U.S. housing bubble should also take into account its parallels in other nations. This leads us to explanations broader than just U.S. housing policy, regulation, or supervision. It also tells us that while failures in U.S. securitization markets may be an essential cause, we must look for other things that went wrong as well.[59]

Of course, we are most familiar with the United States. Beginning in the 1980s, geographic and activity-based restraints on banking were gradually lifted, culminating in the Riegle-Neal Act of 1994, which eliminated restrictions on interstate banking, and the Gramm-Leach-Bliley Act of 1999, which formally ended the activity restrictions put in place under the Glass-Steagall regime. These legislative actions were accompanied by a hands-off approach by financial regulators, who allowed investment banks to engage in activities that might be characterized as banking in previous times. The end result was the rapid rise of very large, universal banks that utilized capital markets to meet many of their financing needs. One of the primary ways in which this liberalization impacted residential mortgage markets in the United States was in the rise of private-label securitization (PLS), which typically utilized unregulated non-bank lenders to originate loans, and unregulated off-balance sheet conduits to pool and

[58] *See* Schwartzkopff, *supra* note 48
[59] *See* Bill Thomas, et al. 415, *supra* note 53.

securitize these loans. PLS rapidly grew from about 10 percent of the U.S. mortgage market in 2002 to account for nearly 40 percent of mortgages in 2004 and 2005. Of course, PLS have subsequently experienced very high delinquency rates and are generally seen as a major factor in the problems experienced in the U.S. housing and mortgage markets.

Spain went through banking deregulation that was parallel in many ways to the United States. Spanish "cajas"[60] for short, which began as small local community-based savings associations—many were started by local councils, associations, and religious orders—were gradually deregulated so that they could compete in broader markets.[61] Beginning in 1977, activity restrictions on cajas were lifted, allowing them to engage in universal banking. Geographic restrictions that limited cajas to operating in their home regions were removed in 1988. And legal barriers that prevented consolidation among cajas were eliminated in 2002. As with the somewhat parallel U.S. experience, Spain experienced rapid growth and consolidation in response to this deregulation of banking. Cajas' share of deposits grew from 33 percent in 1976 to 52 percent in 2004, while its share of total lending grew 18 percent in 1976 to 45 percent in 2004. Within the residential mortgage market, the cajas grew to command 60% of the market at its peak. Perhaps not surprisingly, the cajas are at the epicenter of the current Spanish banking crisis, and are holding an estimated €180 billion in troubled mortgages.[62]

The United Kingdom had a slightly different, but no less devastating, experience with financial deregulation. Beginning in the late 1990s, the UK's primary financial regulator, the Financial Services Authority (FSA), moved towards a more principles-based (often called "light touch") approach to bank oversight, which relied more heavily on banks' own internal risk management and governance. This in turn allowed British banks to hold less capital, and to engage in more aggressive underwriting, which included the origination of mortgages with very exotic features such as flexible mortgages, capped rates, discounted variable rates, and interest-only loans. Interest-only loans were prevalent in the 2000s and comprised about one-third of all mortgages for first-time home buyers. Low documentation was also fairly common (for example, this was a major cause of the downfall of Northern Rock), as were very high LTVs, up to 120%. Principles-based regulation has been widely blamed for the UK's financial crisis.[63]

Denmark also presents an interesting case, insofar as it allowed a seemingly insignificant regulatory loosening of lending standards, which has seemingly led to large problems with its housing markets. In 2003, Denmark allowed interest-only products to be originated, and these subsequently experienced astronomical growth. By the end of 2005, interest-only mortgages accounted for 25.6 percent of outstanding mortgages. Currently, as aforementioned, they account for 56% of outstanding mortgages. These mortgages have been widely blamed for the problems in the Danish housing and mortgage markets.

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[60] Cajas is short for "cajas de ahorros," which means saving banks in English.

[61] *See generally Spain: Financial Sector Assessment Program—Technical Note—Regulation, Supervision, and Governance of the Spanish Cajas* (Int'l Monetary Fund, Country Report No. 06/215, 2006).

[62] *See* David Böcking, *Bankia Bailout: Spain Struggles to Control Escalating Bank Crisis*

[63] *See, e.g.*, Roger Alford, *Some Help in Understanding Britain's Banking Crisis, 2007-09* (London School of Economics, Financial Markets Group Paper Series, Special Paper 193, Oct. 2010); Julia Black, *The Rise, Fall and Fate of Principles Based Regulation* (London School of Economics, Law Society and Economy Working Paper No. 17/2010, 2010); *United Kingdom: Basel Core Principles for Effective Banking Supervision Detailed Assessment of Compliance* (Int'l Monetary Fund, Country Report No. 11/233, July 2011).

Canada provides us with an important counterfactual. Unlike the United States, the United Kingdom, and Spain, Canada did not undergo any significant deregulation of the banking sector in the past several decades. On the other hand, Canada did have an outsized government role in housing finance that appears to be comparable to or larger than the role of the U.S. government, with 45 percent of Canadian mortgages receiving an explicit guarantee from Canadian mortgage insurance (which is required to be reinsured with the Canadian government), and an additional 29% of mortgages being securitized by the Canada Housing and Mortgage Corporation.[64] If government guarantees were the problem in housing finance, one would expect to see Canada suffering through relatively large housing and mortgage market problems. Conversely, if banking deregulation were the problem in housing finance, one would expect to see Canada with a relatively stable housing and mortgage system. Indeed, as has been well documented, Canada's housing and mortgage markets have been relatively stable, and have not experienced distress on par with the United States, the UK, Spain, or Denmark.[65]

Explicit, Ex Ante Guarantees Are Preferable to Implicit, Ex Post Guarantees

As is clear from even a cursory analysis, there is no major economy that does not have high levels of government guarantees in its housing finance system. The choice, then, is not, as the title of this hearing might be understood, between housing finance models with explicit government guarantees and no government guarantees. Rather, the choice we are presented with is whether government guarantees should be explicit and defined up front, or implicit and defined in the midst of a crisis. As former Treasury Assistant Secretary Phillip Swagel has explained:

> [O]ne clear lesson from the economic meltdown of 2008 [is that] [a]ny future U.S. administration will intervene directly and heavily if faced with a potentially devastating economic crisis. Market purists might not like it, but it is a fact I witnessed firsthand at the Treasury Department during the George W. Bush administration.[66]

There are several reasons why I believe explicit guarantees are preferable to implicit ones. First, the parameters of implicit guarantees are typically defined in the midst of crises, when regulators are frantically trying to stop panics from spreading. As a result, these implicit, *ex post* (after the fact) guarantees may go too far in bailing out classes of creditors that are not systemically important, since the regulators' incentives are to bail out more creditors rather than fewer. This was the reason why Treasury Secretary Henry Paulson wanted a "bazooka" to address the growing problems in the financial markets in 2007 and 2008.

Second, with explicit upfront guarantees, the government can require capital and insurance payments from the beneficiaries of these guarantees, just as it does with federally insured depository institutions. These are not only buffers against taxpayer loss, but can serve as

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[64] If one considers Canadian deposit insurance, virtually all Canadian mortgages are financed with government guarantees.

[65] One other important factor may be that housing finance provided by private capital markets conduits was virtually non-existent in Canada, with private-label securitization accounting for less than 3% of all mortgage debt. *See* David Min, *True North*, *supra* note 10.

[66] Phillip L. Swagel, *Will Free-Marketeers Save Fannie and Freddie?*, BLOOMBERG VIEW, July 17, 2011.

a deterrent against excessive risk-taking.

Third, implicit, *ex post* guarantees are more likely to accrue to larger, more systemically important financial institutions. If the failure of Lehman taught the banking community anything, it was that being big and interconnected was important to securing an implicit government guarantee. Therefore, in the absence of explicit upfront guarantees, we will be strongly incentivizing greater consolidation and asset growth in the financial services industry.

Fixing the Current System, Rather than Importing New Models, is Preferable

As leading policy makers such as yourselves contemplate how best to reform the U.S. housing finance system, it is important that you take into account the specific characteristics of our polity. There are several that I think are particularly notable. First, we do not have a social safety net equivalent to those that exist in most other advanced economies. As such, affordability in housing finance should be a more important policy priority for the United States than it is in other countries. As such, we should seek solutions that facilitate lower costs to mortgage borrowers. All three of the major housing finance options used around the world—government-backed bank deposits, MBS, and covered bonds—provide low cost financing, so all three are suitable in this regard.

Second, the 30-year, fixed-rate, fully self-amortizing mortgage is a critical part of U.S. housing finance, with a long record of proven success. Moreover, this product is politically quite popular, especially among prudent homeowners. However, it carries significant interest rate risk for intermediaries and investors. In the aftermath of the stagflation of the late 1970s and early 1980s, traditional deposit-backed banks have proven unwilling to carry significant amounts of such risk to term. Government-backed MBS and covered bonds both distribute this interest rate risk to investors willing to carry it. If we want to continue to emphasize the 30-year FRM in the United States, it seems to rule out bank deposits as the major source of U.S. housing finance.

Third, the United States has a long record of populist opposition to big banks, hidden subsidies, and bailouts, dating back to the founding of this Republic and the political battles over the First and Second Banks of the United States. Given these strong political dynamics, covered bonds—with the implicit guarantees and hidden subsidies that they carry and their tendency to promote TBTF—seem more appropriate as a major source of funding for the socialist governments of Europe, but more problematic here in the United States.

Collectively, these points lead me to the conclusion that we may be best served by enacting reforms of the current system, rather than trying to impose radical changes or importing European models of housing finance into our country. This appears to be the same conclusion that was reached by the Bipartisan Policy Center, Sens. Bob Corker and Mark Warner, and most other policy groups and academics that have thought about housing finance reform, as they have all proposed some variation of implementing substantial reforms on a government-backed MBS system of funding residential mortgages.[67]

[67] Among these are Donald Marron and Phillip Swagel; the Mortgage Finance Working Group; the Mortgage Bankers Association; Federal Reserve economists Diana Hancock and Wayne Passmore; a leading group of economists at the Federal Reserve Bank of New York; and Moody's Chief Economist (and former Chief Economic

I thank you again for your time, and for the opportunity to testify here today on this critically important topic. I look forward to your questions.

Advisor to Sen. McCain in his 2008 presidential campaign) Mark Zandi. *See* David Min, *How Government Guarantees in Housing Finance Promote Stability* n. 21, *supra* note 39.