

The Devil's in the Tail: Residential Mortgage Finance and the U.S. Treasury

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Introduction

The Dodd-Frank Act did not address an important issue at the heart of the recent financial crisis: government involvement in the U.S. housing finance system.

Fannie Mae and Freddie Mac are central to this discussion.

- Two government-sponsored enterprises (GSEs) have been in conservatorship since 2008 and required \$183 billion in taxpayer assistance.
- Manage the credit risk associated with \$5.0 trillion of the \$10.5 trillion U.S. residential mortgage market.

Broad agreement that “housing finance reform” is necessary and several policy proposals have been offered by interested parties.

- General agreement to continue explicit (and priced) government guarantees for certain narrowly defined borrower populations (e.g., FHA).
- Significant disagreement about future role of government in the broader housing finance system.

We provide an overview and assessment of the types of policy proposals offered.

Background: Evolution of the U.S. Residential Mortgage Market

The U.S. residential mortgage market evolved considerably over the past 50 years - moving from a vertically integrated structure to a largely dis-integrated one.

Prior to 1980, residential mortgages were largely originated and held by local thrift institutions (>50%).

- 1) Mortgage rates could vary across the country.
- 2) Institutions were not diversified in either product or geographic space.
- 3) Significant amount of market risk was held by less sophisticated institutions.

Over the last 30 years, technological and regulatory changes have allowed a securitization-based housing finance system to emerge and flourish.

- Positive: Allows for the separation of mortgage origination, servicing, and (credit and market) risk management.
- Negative: Contracting frictions and concentration of risks.

Holders of Single-Family Residential Mortgages (Credit Exposures) 1960-2010

	<u>1960</u>	<u>1970</u>	<u>1980</u>	<u>1990</u>	<u>2000</u>	<u>2010</u>
Total Residential Mortgages (\$B)	\$141.3	\$292.1	\$957.9	\$2,606.3	\$5,107.8	\$10,522.0
Distribution (%)						
Depository Institutions	67.1%	70.9%	67.0%	40.9%	32.7%	28.1%
Commercial Banks	13.6%	14.5%	16.6%	16.6%	19.0%	21.0%
Thrifts	52.9%	56.2%	50.0%	23.0%	11.6%	4.1%
Credit Unions	0.6%	0.3%	0.5%	1.3%	2.0%	3.0%
Federal Agencies	2.1%	6.2%	17.2%	42.6%	51.6%	54.8%
Loans (Fannie & Freddie)	2.1%	5.3%	6.0%	4.6%	4.1%	44.7%
Mortgage Pools	0.0%	0.9%	11.2%	38.0%	47.5%	10.2%
Private ABS Issuers	0.0%	0.0%	0.0%	2.1%	7.5%	12.1%
Finance Companies	1.0%	2.0%	2.3%	3.1%	3.7%	2.7%
Residual	29.8%	20.9%	13.4%	11.3%	4.5%	2.3%

Fannie Mae & Freddie Mac

Fannie Mae and Freddie Mac engage in two principal business lines:

- Issuing MBS for which they guarantee the timely payment of principal and interest -- credit guarantee business.
- Holding portfolios of MBS, privately issued mortgage ABS, and whole loans funded primarily with debt -- retained portfolio business.

Prior to their federal takeover in 2008, each GSE's debt and MBS benefitted from a strong financial market perception of an implicit government backing - owing to their unique Congressional charters:

- Treasury lines of credit;
- State and local tax exemptions;
- Issue "government securities" for purposes of the 1934 SEC Act;
- Federal Reserve is fiscal agent;
- POTUS appoints 5 of the 18 directors at each GSE; and
- Lack of a bankruptcy procedure or other legal authority to shutter a failed GSE.

Fannie Mae & Freddie Mac (continued)

Fannie Mae and Freddie Mac became increasingly distressed in 2007-2008, owing to their singular exposure to residential mortgages and very thin capital bases.

During the summer of 2008, market participants became increasingly convinced that the GSEs were economically insolvent, but unsure about the government's response.

- Stock prices plummeted;
- Debt spreads widened; and
- Available amounts and tenors of debt shortened.

In September 2008, the U.S. government placed Fannie Mae and Freddie Mac into conservatorship and entered into senior preferred stock agreements with each GSE.

Fannie Mae and Freddie Mac remain owned by the U.S. Treasury with little hope of earning their way out of conservatorship.

- Broad agreement that housing finance reform is necessary.
- In the meantime, the conservator is crafting near-term strategic plans.

Housing Finance Reform

The Obama Administration's 2011 “white paper” offered three broad options.

- 1) A private system with no government backstop;
- 2) A private system with a government loan guarantee program that could be scaled-up during a crisis;
- 3) A private-public system with a government catastrophic reinsurance program behind private capital (e.g., mortgage securitizers; mortgage insurers).

Option #3 is akin to the prior GSE model with some important modifications.

All three options retain the historical role for the FHA, VA, and USDA mortgage insurance programs. All proposals that we reviewed anticipate this as well.

Hence, we focus on how proposals envision a direct government role in the remaining 90% of the residential mortgage market.

Housing Finance Reform (continued)

Most housing finance reform proposals advocate a private-public system -- with differences reflecting the extent and form of government guarantees.

- Table 2 of the paper provides a side-by-side analysis.

Underlying such proposals are two fundamental issues that determine the appropriate extent of government involvement in residential mortgage finance.

- 1) Should the U.S. government back MBS to ensure the availability and affordability of residential mortgages -- particularly fixed-rate mortgages -- for a large fraction of homeowners through the business cycle?

Note: This is the same as asking whether residential mortgages should be subsidized. “Availability” and “affordability” are code for “subsidize”.

- 2) Will the government will *de facto* absorb residential mortgage tail risk *ex post* regardless of the *ex ante* structure?

Mortgage Guarantees as a Broad-based Housing Finance Subsidy

Fannie Mae and Freddie Mac delivered small residential mortgage finance subsidies, but these were leaky and unlikely to have any material affect on homeownership rates.

Because of their statutory charters, Fannie Mae and Freddie Mac have historically benefitted from lower borrowing costs (35-40 basis points); although only slightly more than one-half (20-25 basis points) was passed through to mortgage borrowers.

GSE-delivered subsidies are very broad-based in nature and additive to much larger homeownership-related subsidies that are transmitted through the tax code.

- Deductions for mortgage interest and local property taxes, and
- Exclusion of owner-occupiers' implicit rental income.

Such broad-based subsidies encourage more housing construction and consumption throughout the income and social spectrum -- with disproportionate benefits accruing to higher-income households.

Mortgage Guarantees as a Broad-based Housing Finance Subsidy (continued)

Some have argued that the U.S. Treasury must accept the tail risk associated with the residential mortgage market in order for long-term fixed-rate mortgages (FRMs) to remain widely available and/or affordable.

- FRMs transfer all of the mortgage-related market risk from borrower to lender.
- FRMs are more expensive than adjustable-rate mortgages and unnecessary for homeowners with short expected tenures (i.e., <10 years).
- FRMs are widely available in the jumbo market (about 50%) at higher rates (50 bps).

Too-be-announced (TBA) forward market relies on the GSEs' SEC exemption to trade pools.
More liquidity and less disclosure.

Others point to the existence of a government guarantee as ensuring the availability of residential mortgages in all types of markets.

- Period of macroeconomic uncertainty: Gain to mortgage borrowers comes at the expense of U.S. Treasury securities and private borrowers without such a guarantee.
- Period of declining real estate values: Additional credit risk transferred to the U.S. government.

Government guarantees can certainly increase the availability and reduce the cost of any type of loan.

- Why should residential mortgages be favored over other types of lending?
- Financing subsidies divert resources from other investment, resulting in a welfare loss.

Does the U.S. Treasury Own the “Tail Risk” Anyway?

Some reform proposals are predicated on the basis that taxpayers will absorb the “tail risk” in this market *ex post* -- irrespective of the *ex ante* market structure.

- The health of the housing market is too important to the overall economy;
- A housing market collapse adversely affects too many voters;
- Recent events certainly support this view.

If correct, one could argue that the government should:

- Strictly regulate underwriting standards;
- Collect *ex ante* fees from market participants to limit taxpayer losses;
- Establish the boundaries of any public-sector exposure *ex ante*; and
- Establish credible plans to resolve any private-sector insolvencies that arise *ex post*.

Those opposed to government guarantees for the residential mortgage may argue that:

- The government’s prior implicit commitment to absorb losses was unusual (most other private-sector credit losses not covered).
- Guarantees could ultimately lead to greater losses by subsidizing tail risk and encouraging excessive risk-taking.

Proposals to Have the Federal Government Explicitly Retain Residential Mortgage Credit Tail Risk

We reviewed a number of proposals that would authorize one or more public or private entities to issue MBS that would carry a U.S. government guarantee, provided that issuers meet some pre-specified criteria.

- We refer to private-sector securitizers as “mortgage guarantee issuers” (MGIs).

Some proposals envision a government agency or government corporation being created from the remnants of Fannie Mae and Freddie Mac that would issue MBS for a fee -- without intermediary MGIs.

- See: Jaffe and Quigley (2009); Hancock and Passmore (2010); and Scharfstein and Sunderam (2011).

All of the public-private proposals identify perceived flaws that were inherent in the pre-2008 housing finance model that we group as:

- 1) GSE retained portfolios unnecessarily exposed the U.S. Treasury to market risk;
- 2) GSEs were too exposed to residential mortgage credit risk;
- 3) U.S. Treasury bore too much risk from the GSEs relative to private parties; and
- 4) U.S. Treasury failed to receive any *ex ante* compensation for tail risk borne.

#1 Limiting Market Risk Exposure

The GSEs' retained portfolios grew from \$246 billion (1993:YE) to almost \$1.6 trillion (2003:YE) - largely owing to their funding advantages.

The GSEs' accumulation of residential mortgage assets on their balance sheets resulted in a significant concentration of the attendant market risk.

- GSEs claimed that this provided important market liquidity benefits; although the evidence was weak.
- Federal Reserve and Treasury became concerned about systemic risk.

Many housing finance reform proposals would limit the ability of MGIs to hold mortgage portfolios (to no more than necessary for securitization); although some proposals do allow MGIs to maintain larger retained portfolios.

- See: Financial Services Roundtable (2010); Ellen, Tye, and Willis (2010); Zandi and deRitis (2011); Dynan and Gayer (2011); and Center for American Progress (2011).

#2 Limiting Mortgage Credit Risk Exposure

Fannie Mae and Freddie Mac are limited to participation in the secondary conforming mortgage market -- as defined by statutory loan size limits.

Conforming mortgages must have origination loan-to-value ratios below 80% or else carry mortgage insurance or another credit enhancement (e.g., a second lien).

The GSEs historically maintained additional conservative underwriting practices pertaining to borrower credit history (credit scores), combined loan-to-value ratios, loan documentation, and product types. Standards eroded during the housing boom.

Almost all of the housing finance proposals call for strict underwriting standards for mortgages eligible for government guarantees.

- High level of abstraction -- few mention loan size limits or how non-conforming mortgages would be financed.
- If you think this is easy, see debate over the definition of a “qualified residential mortgage” to be exempt from risk retention requirements.
- Generally eliminate affordable housing goals, although some replace with taxes.

Probability

Mortgage Pool Losses

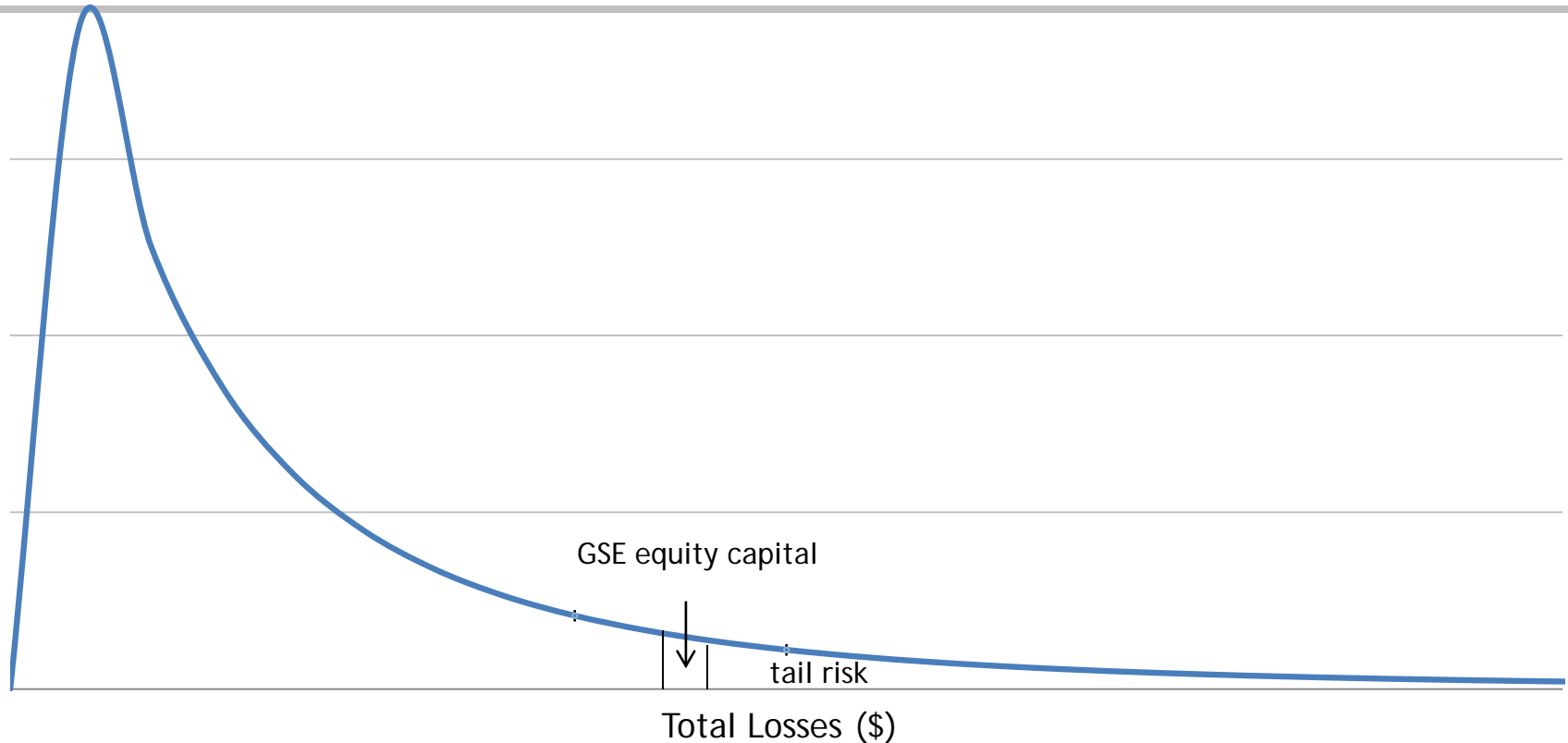


Figure presents a stylized representation of the distribution and incidence of mortgage credit losses using the legacy GSE model.

- Attachment points for private and public capital.
- Location and shape of the curve depends on the amount and characteristics (riskiness) of the underlying mortgages.

#3 Limiting Tail Losses Borne by the U.S. Treasury

Most housing finance reform proposals envision a risk-sharing structure for MGI-issued MBS like the old GSE model.

- Expected losses covered by mortgage insurance premiums paid to the MGI;
- Unexpected losses borne by MGI's equity capital;
- Residual losses covered by the government.

MGIs themselves not expected to benefit from an implicit or explicit federal guarantee -- subject to resolution.

- Seemingly dependent on extent of allowable retained portfolios and number of MGIs.
- Single cooperatively owned MGI proposed by Dechario, et al. (2010) cannot fail.

Most housing finance reform proposals envision a “strong” supervisor for MGIs, but omit any discussions of why GSE supervision and regulation was so weak before the crisis: the enormous political clout of the housing lobby.

#4 Government Fees for Bearing Tail Risk

Fannie Mae and Freddie Mac did not pay fees to the U.S. government for their “implicit guarantee” since it reflected investor perceptions rather than a legal commitment.

All reviewed housing finance reform proposals expect that the U.S. government would receive compensation for bearing the tail risk.

Most reviewed proposals specify that tail risk insurance fees should be set at an “actuarially fair” level -- or the expected cost of the tail risk.

We see three potential problems:

- Expected tail losses are extremely difficult to estimate;
- Political pressure will lead to: under-pricing the insurance and/or insuring riskier loans and/or weaker prudential regulation; and
- Actuarially fair pricing is too low since taxpayers would effectively be providing free risk capital.

Residential Mortgage Finance without Government Guarantees

Some proposals call for the elimination of the GSEs without replacement -- arguing there is no market failure being addressed.

- Considerable attention to transitional issues given the significant GSE role.
- Little said about long-term market structure - determined by market forces.

But long-term market structure is important if the goal is to eliminate the federal government's exposure to mortgage-related tail risk -- implicit guarantees can arise.

Necessary that the U.S. residential mortgage finance system does not:

- 1) Have explicit direct government guarantees of MBS and mortgages;
- 2) Have features that would generate expectations of an implicit guarantee; and
- 3) Expose other types of explicit/implicit government guarantees to mortgage market.

Note: This is a tall order given the all of the explicit and implicit guarantees - most notably in the banking system through deposit insurance and too-big-to-fail.

Summary

The recent housing boom and bust left the U.S. government as the insurer of the credit risk associated with about 90% of all new mortgages.

General agreement that this is undesirable and we need “housing finance reform”.

After reviewing a large number of housing finance reform proposals . . .

- 1) Broad consensus that explicit U.S. government guarantees should remain for mortgages to certain narrowly defined populations (e.g., FHA).
- 2) Significant disagreement about the role of government in the remainder of the residential mortgage market.

Most proposals envision a “reformed” housing finance system with government guarantees:

- Limiting retained portfolios;
- Establishing and maintaining prudent mortgage underwriting standards; and
- Collecting guarantee fees.

However, the details here are crucially important and largely left unspecified.

As well as being in the details, the devil is also clearly in the tail.