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ASF: What to do about the GSEs

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Absalon Project
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Getting the system working

1. **Return of Private Capital: Waiting for Godot**
    - Record amount of “all cash” home purchases
    - Bank Portfolio bid is through PLS execution
    - Purely private outcomes lack scale and are strongly pro-cyclical
2. **Reducing risk to the taxpayers: Originator First Loss**
    - An priced explicit guarantee is better than an explicit unpriced guarantee and implicit priced guarantees
    - Cutting loan limits is the wrong way to do it
    - Real first loss insurance beats bond tranching on all metrics
3. **Top Priority: Give existing, performing borrowers access to low rates as a first step in rebuilding a functional housing finance**
    - While DQ and defaults decline, FC timelines are extending
    - Voluntary prepayments limited by poorly understood frictions
        - LLPAs imposed by the GSEs
        - Lack of capacity and competition in a more concentrated industry
        - MSRs severely and unfairly punished by Basel III
    - Main monetary policy transmission mechanism still does not work

Housing Finance in 2013

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- Housing market has stopped falling due to lots of factors:
  - Inflation adjusted prices dropping to levels seen 15 years ago
  - Continued high household formation
  - REO to rental programs
  - Few new homes constructed
  - Stronger economy
  - Lower mortgage rates rates for the best borrowers.
- PLS market has yet to stage a comeback, being limited by tough regulations and a more competitive bank portfolio bid
- The announcement of QE~ “taper” by the Federal Reserve raised rates and reduced gross supply. Bond Investors are now facing negative net supply after Fed bond purchases and Agency MBS very tight spreads.
- Borrowers not seen the same improvement in mortgage loan rates. insufficient origination capacity, and significant frictions still exist.

“The duration of housing price declines has been long lived, averaging roughly six years.”-Reinhart and Rogoff

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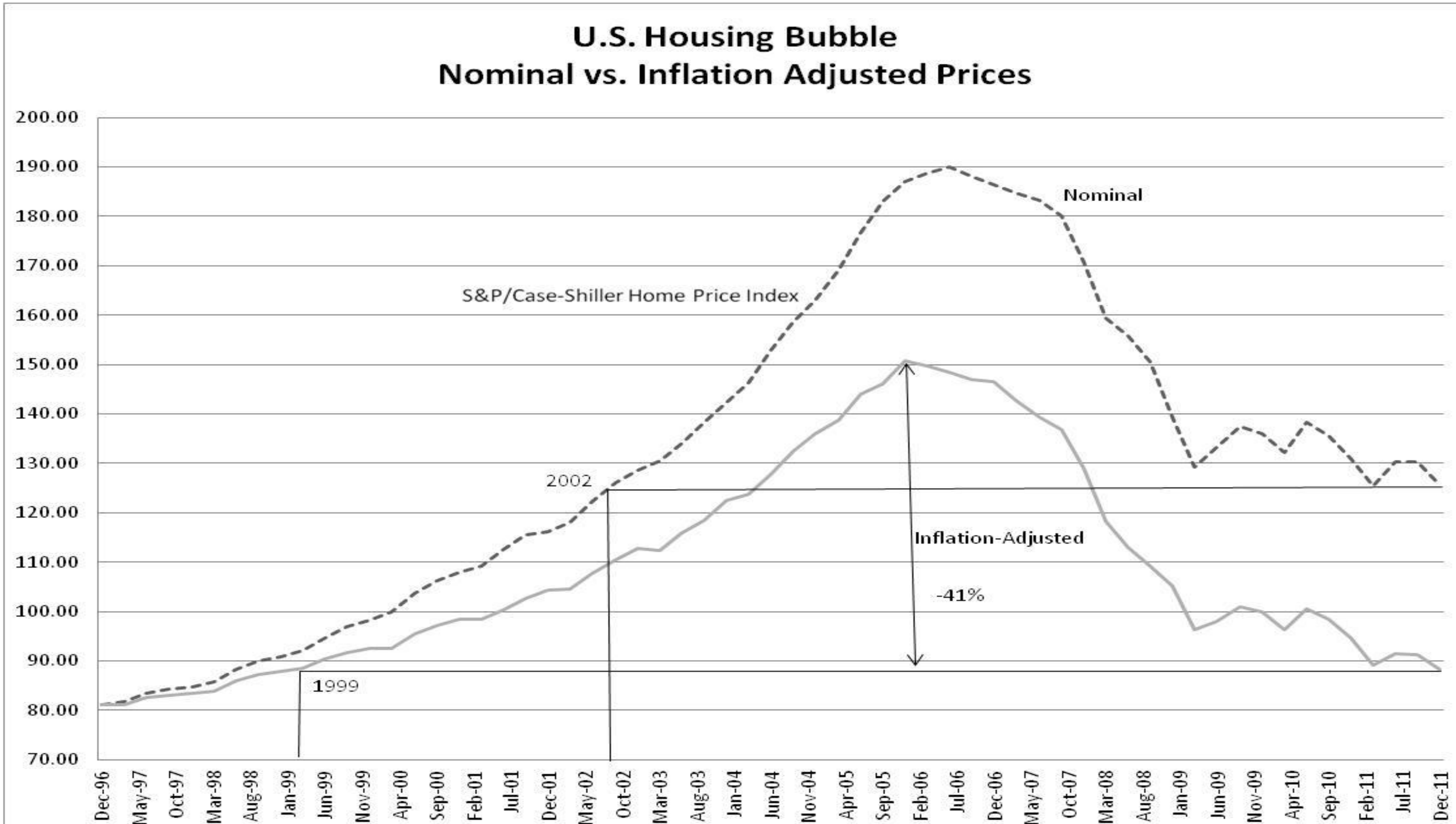
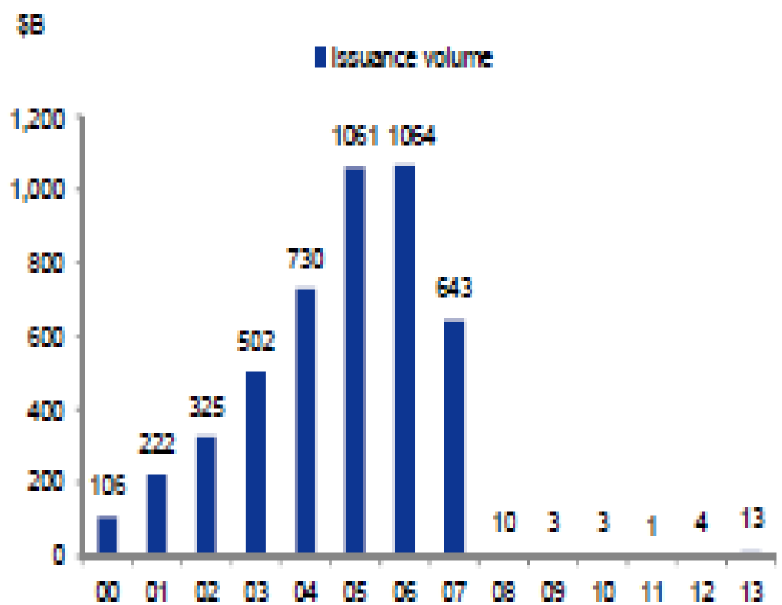


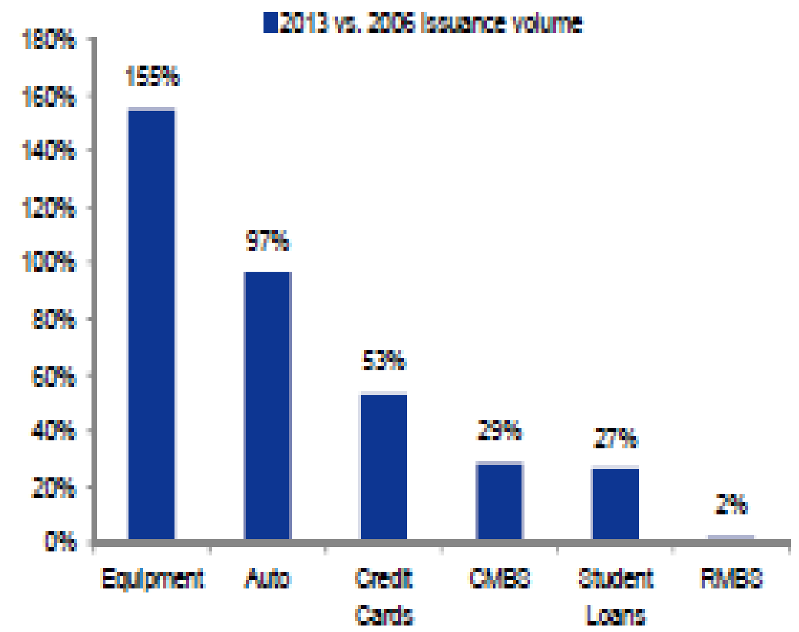
No comeback for PLS

Exhibit 4: Non-agency RMBS issuance volumes remain well below peak levels...
Non-agency RMBS issuance volume, by deal vintage



Source: CoreLogic and Goldman Sachs Global Investment Research

Exhibit 5: ...trailing other structured products
2013 issuance, as a percentage of 2006 issuance volume, U.S. structured products



Source: CoreLogic, SIFMA, Trepp and Goldman Sachs Global Investment Research

Is this a sign of health?

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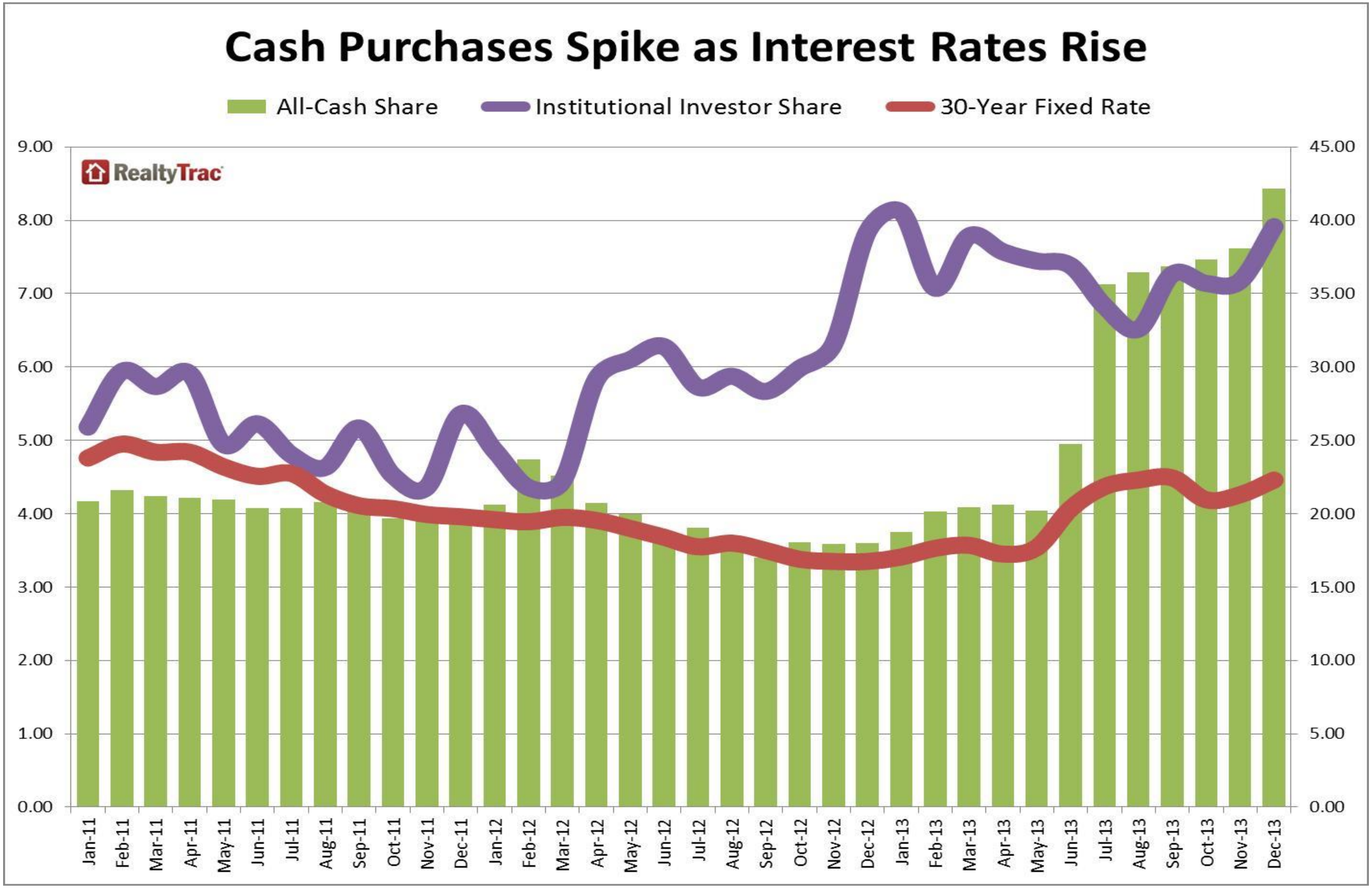

Growth in Primary/Secondary Spread

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- The spread between primary mortgage loan rates and mortgage bond yields has grown during financial crisis.
  - Primary/Secondary spread had been close to zero for 20 years
  - Spread blew out in October of 2008 when the remaining competitive mortgage banks were taken over by uncompetitive large banks (WAMU went to JPM and Wachovia to Wells Fargo, Countrywide to BofA)
  - Spread widens in response to each announced QE by the Federal Reserve as self-imposed industry capacity constraints allow for efficient oligopoly pricing
  - Spread did not collapse when rates rose in 2013 due to industry capacity cuts
- The primary/secondary spread is understated, because it reflects only those loans that are funded. It does not measure loans that do not close because the rates are too high to be economic for the borrower.
- This unmeasured effect is called “Type II error” If these were included, the primary/secondary spread would be an additional 50bp wider.

Agency MBS are near All-Time Tight Spreads to Treasuries

Primary/Secondary Spread is near All-Time Wides

Why No Refinancing Wave Despite Historically Low Rates?

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1. **Low rates have not resulted in a refinancing boom in the current downturn.**
   – The Fed lowered rates to historic lows and initiated a series of Quantitative Easing programs to boost Agency MBS prices and make credit more affordable for homeowners.

   – A wave of refinancing applications ensued in early 2009 but were not fulfilled

   –Today FN3.5s still trade over 101 and the market expects low prepays
2. **Why?**
   – Costs of refinancing above the bond market cost of funds have soared.

   – The rate that existing, performing borrowers actually receive is 50-200 bps higher than the headline 30-year rate. This is poorly understood.

   – Driven by upfront fees charged by the GSEs, uncompetitive mortgage banking industry and mis-categorization of MSRs in Basel III
3. **Impact?**
   – Monetary policy transmission is frustrated by frictions, even post HARP 2

   – Lower rates do not result in refinancings that increase homeowners' discretionary income

   – This should have become permanent income without affecting the federal budget and creating Riccardian equivalency issues.

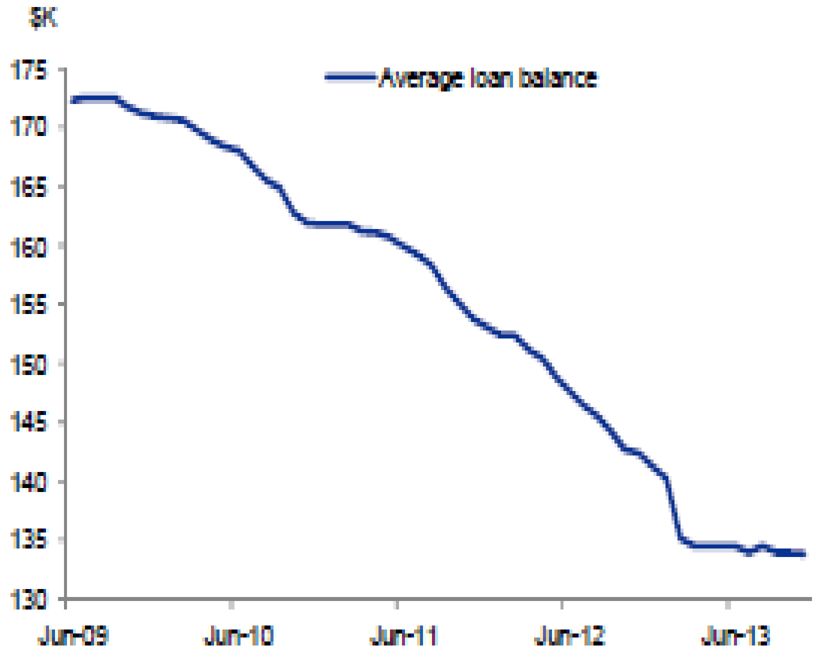
   – Over $30 billion in additional, annual permanent and discretionary income for 15mm systemically important households is lost

What about the fixes?

What about HARP?

Exhibit 10: Average loan balances of HARP-eligible mortgages have declined

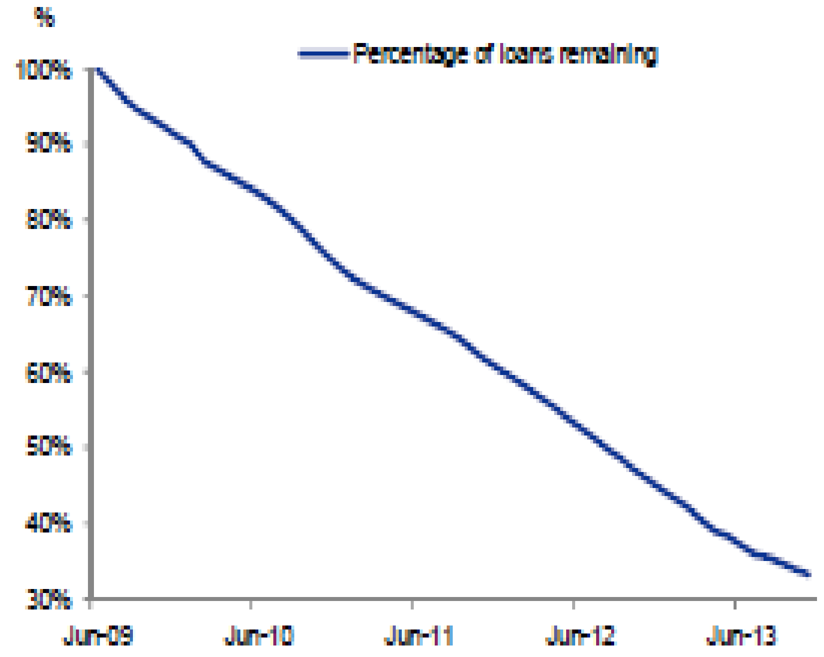
Average current loan size, Fannie Mae 30-year MBS, origination dates before 6/2009



Source: LPS and Goldman Sachs Global Investment Research

Exhibit 11: Most of the HARP-eligible loans outstanding as of 6/2009 have already prepaid

Percentage of Fannie Mae 30-year loans outstanding as of 6/2009 which are still active



Source: LPS and Goldman Sachs Global Investment Research

The Dog That Didn't Bark: GSEs lack of competition and Basle 3

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1. **GSE's have pursued just one Congressional directive in "conservatorship"**
   - Doubling G-fees despite super high quality vintages
   - Every loan is assessed a ¼ point Adverse Market Delivery Charge (AMDC)
   - Additional Loan Level Pricing Adjustments (LLPAs) are charged for low FICO, high LTV, property type, mortgage type, investor property, PUD
   - The MI industry is allowed to continue to collect premiums
2. **Mortgage banking is highly concentrated and uncompetitive**
   - 55% in top 3 originators control the TPO channels
   - Profit margins increased as the competitive mortgage banks have been assimilated into the large, uncompetitive banks
   - Lenders remain cautious due to R&W issues
   - No expansion of staff to deal with surge in demand for refinancing.
3. **Basel III discourages the creation and holding of MSRs**
   - MSRs, once viewed as the only "skin-in-the-game," have revalued
   - Servicing is being driven out of regulated financial institutions, reducing MSR cap rates by 2-3 multiples
   - Impact on every new mortgage loan is 15-25bp

Full Faith and Credit wrap is the only solution

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- *"More competition will make the mortgage market more efficient….will drive down economic rents and cause the value of the GSE charter to be passed on to the customers. In this context, there is a theoretical economic position that it would be best to have no GSEs at all. However, even if you find this correct in theory, in the U.S. context it has not practical significance. The fact is that the GSEs are the dominant forces in the mortgage market….and are fundamental to the structure of the mortgage market."* **Alex J. Pollock, President, FHLB of Chicago, 1999**

- *"There's simply no such thing as a nonguaranteed housing finance market, other than in ideological fantasies."* **Adam Levitin, Georgetown University, Sept, 2011**

What happens with a no "full faith and credit"solution

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1. **Product Availability Lower**
   - 30 Year, fixed rate, callable mortgage will not exist
   - Homeowners will have to take more risk, will not be able to match duration of their largest asset
   - 3-5 year ARMS with prepayment penalties will be the norm, putting more risk upon households
   - Much larger TBTF banking system will be needed, with government support in another form
2. **Level of Rates Higher**
   - Level of mortgage rates will be 100 to 250bp higher
   - Spread history shows that private RMBS market had more volatile rates
3. **Costs to Society will be higher**
   - Taxpayer bailouts will be more expensive
   - Homeownership will be lower, fewer good borrowers will qualify
   - Labor mobility will be lower, NAIRU will be higher
   - Main monetary policy transmission mechanism will be diminished

Cost of Mortgages (ADCO)

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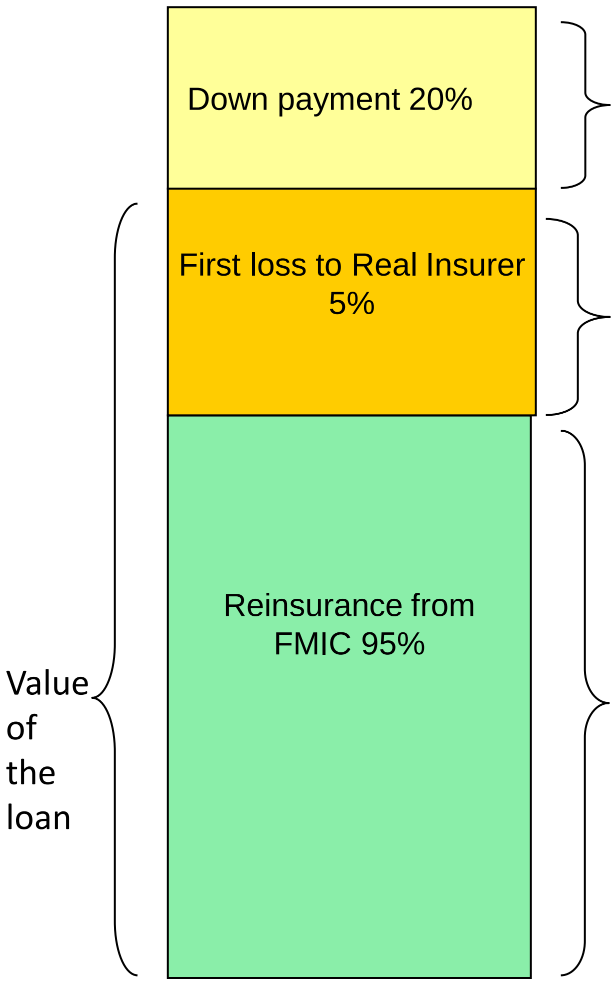
	Full Gov't	Equity Only	Mezz and Equity	Private
Gov't Guarantee (5.00%)	100%	95%	95%	0%
Private Senior (5.50%)	0%	0%	0%	95%
Private Mezz (8.0%)	0%	0%	3%	3%
Equity (25%)	0%	5%	2%	2%
All in Cost	5.00%	6.00%	5.49%	5.97%
Stress Scenario	4.00%	6.33%	5.16%	7.51%

- This assumes perfect borrower (60 LTV/760 FICO, owner occupied)
- Imperfect borrower will be subject to private markets rate adds similar to existing agency market
- Purely private model will be very pro-cyclical in stress scenario
  - Gov't cash flows -100
  - Cost of equity doubles
  - Cost of Mezz increases 50%
  - Cost of PLS AAA rises 150bp
- The Stress Scenario is what has happened since March
  - Agency rates down
  - Non-agency rates up

A different model for risk sharing



- Level 1: Quality Mortgage Loans
  - Minimum Down Payment, no second liens
  - Strict UW Standards and Appraisal Requirements
  - Full Recourse to borrower
- Level 2: Separately Capitalized Insurance Contract
  - Capital based on extreme stress scenarios
  - Standardized structures capitalized by valuable assets
  - Non-rescindable insurance contract or subordinate bonds
  - Originator earns profits over time instead of booking it all upfront. Capital in SPV accrues in tax advantaged way.
  - Loan losses hit this first , no debate, no delay
- Level 3: FMCG Wrap
  - Bond holder looks to FMIC for full faith and credit guaranty
  - FMIC looks to Insurer to remove bad loans from the pool
    - Originator purchases pari passu amount of bonds from pool at lower of market or par
  - If insurer fails to perform, FMIC can seize capital and margin and reassign to another insurer
  - AAA rating flows from FMIC reinsurance guarantee

How to reduce taxpayer risk

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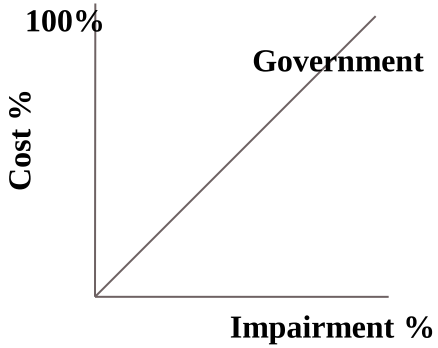
1. Better Structure: reduce risk by having lower inception levels.
   - Private sector takes more of the first loss every year.
   - FMIC starts with bottom 95% of risk
   - Maximum inception point drops by 1% every year until it reaches 80% of loan value
2. Expected Capital reserves in separate insurance SPV
   - 30% for first 5% loss / 1.5 points
   - 20% for first 10% loss / 2.0 points
   - 15% for first 20% loss / 3.0 points
3. FMIC could also syndicate a vertical slice, to make sure that the taxpayers are getting market-based pricing on their reinsurance.
4. Retain Fannie and Freddie, allow them to compete as
   - Properly capitalized insurance company
   - Keep cash window open to service small originators

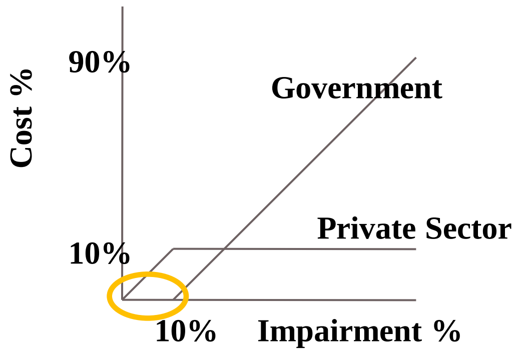
Traditional GSE Guarantee vs. Reinsurance

- Current programs ensure government shoulders all impairment costs (for 100% guaranteed projects) – or pro rata for a partial guarantee (none issued to date)
- Vast majority of impairments would be less than 10% - thus government needs minimal reserves to provide guarantee
- **Proposed structure could support much more mortgage lending than existing GSE guarantee programs or support the same amount with significantly less taxpayer risk**

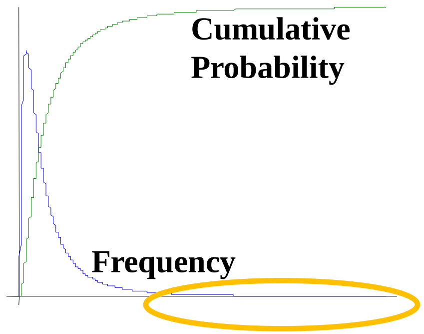
Current GSE Guarantee Program



Proposed Structure



Illustrative Outcome Distribution



Government only has cash outlay in low probability tail risk events

What should Mel Watt do?

- Direct GSEs to eliminate all frictions stopping refis
- Eliminate LLPAs for the refinance of ALL performing loans currently guaranteed by the GSEs
- Eliminate the 25bp "Adverse Market Fee"
- Eliminate appraisals and paperwork as part of a new "Super-Streamlined" refinance program
- Requirement: being current on existing mortgage that is guaranteed by the taxpayers
- Make R&W waivers fully portable
- Require MIs to make policies portable for new refis to allow competition between originators
- Give existing lenders a short period to offer to their customers, then open for competition

Changes in Servicing

- There has been a build-up of special servicing capacity in recent years to handle the large wave of defaulted loans.
- As the pipeline of seriously delinquent inventory works through final resolution, the servicing infrastructure left behind will be looking for new sources of revenue.
- Fannie, Freddie, GNMA rank and approve servicers.
- Several of the new servicers are stand-alone companies
  - Have modern, purpose built systems
  - act as white label servicers
- Risks of non-compliance to servicing guidelines can result in the Investor taking the servicing asset with no economic consideration.
- Mortgage bankers must retain in house servicing expertise to monitor servicer performance to ensure compliance.

Summary of MSRs

1) **MSRs –** Asset created by capitalizing the margin generated from the purchase and creation of MBS. Today, MSR assets are being created at a value of approximately 80 basis points, resulting in positive gross cash margins of 69bps. Historically this business was cash flow negative with all of the cash flow coming in over time through the MSR portfolio.

2) **MSR Cash Flows –** Cash flow generated over time from the MSR portfolio. The MSR portfolio acts as a natural or macro hedge to the origination business. Refinance volumes are correlated to bond prices/interest rates, home prices and credit availability. The duration of the MSR asset is inversely correlated to the same factors. While interest rates sit at historically low levels, they will eventually rise, shrinking the mortgage origination market and increasing the value of the MSR that is created during this same time period, hence the natural or macro hedge.

Mortgage Servicing Rights / Intro

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- Present Value of Interest Only (IO) cash flow stream that exists between mortgage note rate and bond coupon, net of GSE guarantee fees and costs of servicing the loan
- IO s are negatively convex, negative duration assets whose value is driven by
  - Positively correlated to moves in actual mortgage rates and the slope of the swap curve
  - Negatively correlated to moves in actual and implied interest rate volatility
  - Negatively correlated to house prices, financial innovation, mortgage banker competition
- Costs of servicing is driven by costs of handling default, this has become significant
  - FHA servicers must advance the note rate while they are reimbursed at the "FHA debenture rate"
- MSRs are a "tax deferred asset" and a "non-cash asset"
  - Federal and state tax authorities finance MSRs at 0% interest rate until the cash flows are realized
  - Remaining balance (1-combined tax rate) must be financed on B/S with non-secured funding
- MSR historically marked higher than agency IOs to reflect chance to capture new MSR upon refi, P&I escrows, T&I escrows, late fees and expand customer relationship

MSRs / The Best Hedge

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- Only significant negative duration asset, which can help balance tendency for banks duration risk
  - Negative duration equivalent of $750b 10yrs: assume $7.5 Trillion of MBS with an average MSR of 40bp.
- Only significant asset that performs better when household credit conditions deteriorate
  - Voluntary prepayments are significantly reduced when FICOs fall and LTVs rise
  - Current prepayments are 25% of modeled speeds, indicative of sensitivity to HPI, labor mobility, and unemployment/underemployment rates
- MSRs hedge benefits scale up for the financial system as a whole, unlike CDS in which every winner is matched to an equal and opposite degree by a loser

MSRs are "marked to market"

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- MSR asset is marked to market on a quarterly basis along with the associated hedges
  - Big banks (70% of MSRs today) run an "echo system with no biodiversity"
  - Concentration of MSR asset makes it easy for big banks to copy each other in
    - Prepayment modeling
    - Hedging of rate, curve, basis and volatility risk
    - Creates "abnormal demand" for CMM swaps as CMM is the main model assumption that drives refinancing incentive and prepayments
  - The required yield is linked to the weighted average cost of capital
- MSRs are "marked to historical herd"
- Process is perfectly designed to keep MSRs marked at low levels
  - Biggest servicers are still all big banks subject to Basle III restriction
  - OCC and PWC surveys act as perfect signaling processes to maintain oligopoly pricing
  - Additional value in holding down visible profit margins

Pro-cyclical “regulation” of MSRs

- OCC does quarterly survey of top 20 mortgage servicers:
  - MSR mults (capitalization multiples) by loan type
  - MSR hedge ratios (in 10yr equivalents) by loan type
- Price Waterhouse does a mid-quarter survey of the top 10 mortgage servicers:
  - Intent on where next quarter end MSR mults will be moving, net of hedges
  - Changes in other servicing inputs (costs of advances, labor, unexpected hedging expense)
- Mythical Keynesian beauty contest best describes quarterly m-t-m of MSRs
  - each participant attempts to pick the number in the middle of the distribution, not the right valuation
- Final result is that each big bank is forced to mark to market by adjusting their marks to be at or below the middle of the “herd” as defined by the last OCC quarter-end survey.
  - In a falling rate environment, this leads to significant undermark of MSRs
  - Provides accounting cover to understating true profit margins by up to a point and limits capital cost for Banks.

The Fed hates MSRs

- Historic FRB limits on MSRs to no more than 50% of Tier I capital
  - Drove small loan originators to sell their loans “servicing released” through Correspondent Lending channels, historically dominated by large banks
    - Now servicers have zero connection to borrower, making future loan problem resolution hard
    - Small banks lose their only natural interest rate hedge
    - Large banks have diverse businesses, which have capital. The FRB limits count total Tier I capital as the denominator
  - Medium sized mortgage originators are faced with “sell or grow” business choice, with organic growth causing regulatory problems. This drove large mortgage originating banks into thrift charters
- FRB did NOT create a special financing program for servicing advances, most private sector lenders have tried to minimize financing to mortgage servicers, forcing even more small and medium sized originators to sell loans servicing released
- All bank regulators view MSRs and MSR growth as a necessary evil, something to be minimized.

Basel III on MSRs

- Basel III has added new, more stringent limits on MSRs, driving the mortgage industry out of the banking industry and raising mortgage rates
- Basel III proposes to limit MSRs to 10% of Tier 1 capital, MSRs plus DTAs & Investments in Financial Institutions to 15%,
  - Pushing MSRs out of regulated banks into unregulated companies.
  - Driving down retained servicing and reducing existing “skin-in-the-game” GSEs have the right to seize servicing, MSR
  - While this should be changed, nobody who negotiated the Basel III limits will acknowledge the impact it has made on the mortgage industry.
  - Expect no impetus for change for at least 5 years (written in stone)
  - Horribly pro-cyclical, requires banks add capital 1:1 when rates rise
- MSRs are mis-categorized in the bad asset bucket
  - Tax loss carry forwards and interests in bankrupt SIVs
  - Only asset in this bucket that trades in the primary and secondary market

MSRs are poorly understood

- Financial markets do not understand MSRs, both hedging and accounting
  - Analysts are afraid of what they do not understand
    - Designation as a Level 3 asset raises investor sensitivity
    - Anecdotes of large blowups in MSR hedging are widely advertised and not easily forgotten
  - 31 year bull market in bonds has reinforced analyst myopia
    - Positive duration has been a source of profits while unhedged negative duration has been a source of loss… lets extrapolate that forever!
  - Reporting is opaque, making it hard for analysts to discern good practices
- Mortgage Servicers are NOT organized or authorized to deal with problems
  - Trustee and Master Servicer get paid very small fees and do nothing
  - Servicing department is a low status career path
  - Primary servicers are starved for funds on Day 1 given incentives to book profits in the quarter the loan is originated in the form of MSRs
  - PSAs are not standardized and subject to significant interpretation risk