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"The Role of the Government Sponsored Enterprises in the Mortgage Market"

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Banking, Housing, and Urban Affairs
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SUMMARY

The government sponsored enterprises (GSEs), Federal National Mortgage Association (Fannie Mae) and Federal Home Loan Mortgage Corporation (Freddie Mac) provide several important functions in the U.S. mortgage market including education on affordability, alternative mortgages and personal credit. One of the most important functions that the GSEs provide is the stabilization of the mortgage market through providing liquidity to market participants. The GSEs activities results in a benefit to borrowers of 28 basis points but also allegedly receive a subsidy in the form of the implicit guarantee (where market participants "believe" that the government will bail out the GSEs in they enter into severe financial distress).

In the aggregate, the benefits generated by the GSEs outweigh their costs. I estimate that approximately 50% to 95% of the alleged funding advantage is passed through to homeowners in the form of lower interest rates. When we combine this benefit with the liquidity benefits and educational mission of the GSEs, the GSEs play an important role in the U.S. mortgage market.

Introduction

The government sponsored enterprises (GSEs), Federal National Mortgage Association (Fannie Mae) and Federal Home Loan Mortgage Corporation (Freddie Mac) provide several important functions in the U.S. mortgage market. These important functions include the purchase of conforming loans from financial institutions which a) provides liquidity to financial institutions and b) lowers mortgage rates for consumers. Consumers have an alternative to conforming loans that are sold to the GSEs which are termed "jumbo" loans since they exceed the conforming loan size limit. The extent to which rates on conforming loans are lower than rates on jumbo loans is an approximate measure of the benefits that the GSEs pass on to borrowers in the mortgage market.

In addition to increasing financial institution liquidity and lowering consumers' mortgage rates for conforming loans, the GSEs also excel in the educational aspect of mortgage financing. Fannie Mae, through their Fannie Mae Foundation, sponsors housing and market research. Freddie Mac has a staff of leading housing economists that produce high-quality research on housing and mortgage markets.

The major barriers to homeownership and the GSEs' role in overcoming these barriers

Essentially, there are three major barriers to homeownership. The first is the cost of housing, particularly in large metropolitan areas. The second is the level of interest rates. The third is inadequate credit.

Rising housing prices present a problem to current renters, particularly if increases in housing prices are greater than increases in household income. Fannie Mae and Freddie Mac are able to assist households who are faced with a housing affordability

problem through their multifamily lending operations. Similar in spirit to the GSE single-family mortgage programs, the GSE multifamily programs facilitate the funding of multifamily properties. To the extent that the GSEs can lower multifamily lending costs, some portion of the savings should get passed on to tenants in the form of lower rents. Even if rents do not decline in real terms, the increased availability of funding for multifamily properties is a positive for housing markets since it offers an alternative to homeownership, particularly in higher cost metropolitan areas.

The second barrier to homeownership is the level of interest rates. Holding all else constant, a lowering of mortgage rates for single-family dwellings will increase housing affordability. If the GSEs lower mortgage rates and increase affordability of housing, they have provided an important service to the economy. Even if the lowering of mortgage rates by the GSES has little impact on affordability, the very existence of the GSEs and their mortgage programs has provided liquidity to the market and resulted in a dramatic increase in the flow of funds into the mortgage market.

The third barrier to homeownership is inadequate credit. Credit problems are a common reason for loan denial (often leading to borrowers seeking alternative mortgage such as B/C or "subprime" mortgages. Both Fannie Mae and Freddie Mac have contributed substantially towards educating households regarding mortgage alternatives and the important of sound credit.

The Fannie Mae Foundation is a private, nonprofit organization and the largest foundation in the country devoted to affordable housing. According to www.fanniemaefoundation.org, they have provided more than fifteen million people with

free home-buying information to help them achieve homeownership. An example of how the Foundation helps homebuyers can be found at www.homebuyingguide.com.

The Freddie Mac Foundation, like the Fannie Mae Foundation, has homeownership and improving quality of life as their objective. The Foundation focuses on children and prevention-oriented programs and has given more than $141 million since its inception and helped better the lives of more than 1.5 million children.

Although it does not exist within the Freddie Mac Foundation, Freddie Mac has the "CreditSmart" program and additional online information to help consumers understand the importance of managing their finances and improving their credit. In addition, economists at Freddie Mac are actively engaged in research on improving household credit.

The relative impacts of different GSE activities on lowering mortgage rates

Perhaps the simplest measure of lowering mortgage rates by the GSEs is the jumbo – conforming loan spread. This spread measures the mortgage rate reduction that consumers would receive by receiving a conforming loan (a loan that qualify for Fannie Mae and Freddie Mac mortgage programs) versus a jumbo mortgage (which is a mortgage that is larger than the conforming loan limit). This spread over time is illustrated in Figures 1 and 2.

The jumbo–conforming loan spread and the benefits to consumers of the GSEs

The jumbo – conforming loan spread has been a topic of substantial interest to researchers over the years. However, the more recent research on this subject is of the greatest interest since it generally uses longer and better data and improved econometric tests.

Of particular interest are three recent papers by Passmore: 1) "The GSE Implicit Subsidy and Value of Government Ambiguity," 2) "The Effect of Housing Government-Sponsored Enterprises on Mortgage Rates" with Sherlund and Burgess and 3) "GSEs, Mortgage Rates, and the Long-Run Effects of Mortgage Securitization" with Sparks and Ingpen. The first paper generated substantial discussion in the press with Federal Reserve Board Chairman Alan Greenspan citing it extensively in the Senate Banking Committee testimony in early 2004.[1]

It is useful to discuss prior estimates of the spread since it is important for an understanding of the benefits to consumers of the GSEs. An early study by Hendershott and Shilling (1989) found that the jumbo – conforming spread was approximately 30 basis points. Cotterman and Pearce (1996) found a jumbo – conforming range of 25 to 40 basis points. Pearce (2000) found the jumbo-conforming estimate to be approximately 24 basis points. Finally, Passmore, Sparks, and Ingpen (2002) generated the lowest estimate to the date by finding that the jumbo – conforming spread was 20 basis points (although some estimates have been even lower in the 15-18 basis point range). This finding by Passmore, Sparks and Ingpen (2002) is important since it is one of the

[1] A recent paper by Blinder, Flannery and Kamihachi (2004) discusses the Passmore papers in great detail, focusing of Passmore's models and the implications of those models.

cornerstones of Passmore's criticism of the GSEs – the jumbo – conforming spread is too low to justify the GSEs' alleged implicit guarantee.[2]

One of the problems with a number of the aforementioned papers is that they rely on the Federal Housing Finance Board's Mortgage Interest Rate Survey (MIRS). While this data has its advantages, it is clearly lacking in the breadth of information that is available about individual loans. In my recent paper entitled "The Effect of Conforming Loan Status on Mortgage Yield Spreads: A Loan Level Analysis" with Ambrose and LaCour-Little, we employ a richer dataset on individual loans that overcomes the shortcomings of the MIRS data. In that paper, we use data from several lenders including one of the nation's largest residential lenders. This database includes a number of borrower characteristics such as income and credit scores and loan characteristics such as mortgage rate and loan-to-value ratio. After controlling for these borrower and loan characteristics, we find that the jumbo – conforming loan spread is approximately 28 basis points.

It is possible that the 28 basis point spread is influenced by a segmentation of house price volatility between jumbo and conforming housing markets. In a simulation of the effect of house price volatility on the yield spread differential, Ambrose, Buttimer, and Thibodeau (2001) found that 20 percent of the jumbo/non-jumbo yield differential could be explained by differences in underlying collateral property price dynamics.[3] Thus, applying this simulation result to our analysis implies that 3.68 basis points of the

[2] There are a number of other studies that examine the jumbo – conforming loan spread. Since the results in these other studies are similar to the studies listed in this testimony, I have not included them.

[3] The Ambrose, Buttimer and Thibodeau (2002) result was based on a sample of Dallas, Texas properties; hence, it may be considered to be too small of a sample to be representative of the entire country. It is possible that properties underlying jumbo loans may actually be less risky than properties underlying conforming loans and Dallas may be the exception rather than the rule. If this is the case, then our estimate of the pass-through rate should ignore the volatility segmentation.

jumbo/non-jumbo effect may result from differences in the volatility of typical properties that collateralize loans above and below the conforming loan limit. To summarize, of the 27.7 basis point differential, 32 percent (9 basis points) results from the GSE conforming loan underwriting guidelines, 13 percent (3.68 basis points) results from differences in property price volatility, and 53 percent (14.72 basis points) results from the conforming loan limit barrier. This implies that the volatility adjusted yield spread is approximately 24 basis points.

While 28 basis points (or 24 basis points if one agrees with the volatility segmentation argument) is seemingly a small amount, it should be noted that this savings must be multiplied by the dollar amount of the savings for each loan that has been purchased by the GSEs.[4] Even if the 28 basis points do not impact individual homeownership, the GSEs still provide a stable and elastic source of funds and help lower income/minority homeownership.

Comparing the costs to the benefits of the GSEs

It is clear that the GSEs have lowered mortgage rates and this lowering of rates has been a benefit to the housing market. However, this benefit to American households should be compared to the costs of delivering the benefits. It can be argued that the GSEs' "implicit guarantee" is the most appropriate cost of delivering lower mortgage interest rates to consumers.

The GSEs benefit from an alleged "implicit guarantee" that the Federal government will not allow Fannie Mae or Freddie Mac to default on its obligations. This

[4] An argument can be made that the appropriate loan volume is the entire amount of qualifying loans made, regardless of whether they are sold to a GSE.

implicit guarantee results from the unique status of the GSE in that the GSEs have government charters, are exempt from SEC registration requirements, and are exempt from state and local taxes. The GSEs also have a line of credit to the Federal government and GSE securities are exempt from certain limitations that apply to bank holdings of other corporate debt.

In order to measure the size of the implicit subsidy to the GSEs (specifically, Fannie Mae and Freddie Mac), the yield on their bonds should be compared to yields on private sector obligations – the difference between the yields is a measure of the implicit subsidy. While this appears to be straightforward, it is more difficult than one would imagine. In order to make a valid comparison, it is important to identify private sector obligations that have similar maturity structure, seasoning (age), and callability (or noncallability).

This matching of comparable corporate bonds with GSE bonds can be accomplished by employing a database of new debt issuances over the period 1993-1999 as was done in my paper entitled "Government Sponsored Enterprises: Do the Benefits Outweigh the Costs?" The focus is on one aspect of the funding advantage provided by GSE status, namely the difference between the yield demanded by investors in GSE debt and similar instruments issued by firms in the banking sector. The spread provides one important aspect of the total GSE funding advantage and the incentive to issue debt.

The Fixed Investment Securities Database (FISD) is employed to examine yield spreads between Fannie, Freddie and banks for the period 1996-1999. FISD is a database developed by LJS Global Information Services and covers all CUSIP bearing debt issued by GSEs, corporations, and the U.S. Government. An interesting feature of this database

is that it contains information about the bond's rating, yield, and features that are critical to this study (such as issue date and characteristics of bonds).

In order to have a relevant comparison of spread, the analysis is restricted to firms in the banking sector. The similarities are clear. Both the GSEs and banks have capital structures that are primarily debt rather than equity. Both the GSEs and banks retain loans in their portfolio (although to differing degrees).

The analysis is restricted to firms that are rated "A" and "AA." There are two reasons for this restriction. First, the majority of banking firm bonds is in the "A" and "AA" range; hence there are diminished opportunities to make a relevant comparison if "AAA" had been selected. Second, Standard and Poor's rated Fannie Mae as AA- that places it on the cusp of "AA" and "A".

The spreads are found in Table 1. For "A" rated bonds, the spreads of bank bonds over Fannie and Freddie bonds range from approximately 29 basis points for the 1-3 year maturity in 1995 to over 42 basis points in 1999. For the longer-term bonds (10-30 years), the spread ranges from 74 basis points in 1995 to 56 basis points in 1999. The spreads narrow when Fannie Mae and Freddie Mac bonds are compared to "AA" rated bonds. The combined spreads of "AA" and "A" ratings range from 20 basis points for the shortest term (1-3 years) and over 55 basis points for the longest-term (10-30 years). In related research, Ambrose and Warga (2002) find spreads that range from between 25 and 29 basis points over "AA" rated financial firms and from between 43 and 47 basis points over "A" rated financial firms. For "BBB" rated debt, Ambrose and Warga (2002) find a spread of between 76 and 80 basis points.

I believe that the spread between GSE debt and bank debt should be a weighted average of debt maturities. A weighted-average would show that the appropriate cost of the GSEs would be closer to the 29 basis points for the shorter maturity debt. For example, a review of Fannie Mae's debt maturity structure (see Table 2) indicates that the total debt average maturity was approximately 3 years for 2004.

Given the collective results, it is clear that there is value to the implicit guarantee for Fannie Mae and Freddie Mac. While the results vary, primarily due to assumptions about liquidity and ratings of comparable debt by financial institutions, we can say that the spread varies from the 20 basis point range up to the 50 basis point range when using comparable bonds rated in the "A" range, but the weighted average would place the spread closer to 29 basis points.

Comparing the jumbo– conforming spread with the implicit guaranty

Ultimately, we want to know if the benefits generated by the GSEs in terms of lowering mortgage rates exceed the costs in terms of the implicit guaranty. In Ambrose, Lacour-Little and Sanders (2004), combining the funding advantage estimates with our result of the conforming loan differential (28 basis points) implies that the GSEs retain between 5 to 50 percent of their debt cost advantage. In other words, our analysis suggests that the GSEs pass-through between 50 to 95 percent of their debt funding advantage to borrowers in the conforming loan market in the form of lower interest rates. If we use the shorter-term maturity structure for GSE debt (three years), this implies that the GSEs pass-through closer to 95 percent of the funding advantage to consumers.

In the end, the results presented in this testimony are similar to those reached by Blinder, Flannery and Kaminachi (2004), except that we arrive at a similar place by way of different paths. We both find that the benefits generated by the GSEs are significant.

The guarantee fee

In my estimate of the jumbo – conforming spread, I didn't consider the impact of the guarantee fee which is imbedded in mortgage rates. However, the guarantee fee has received substantial attention in recent weeks. Given that default rates on conforming mortgages have been very low historically, it has been argued that Fannie Mae and Freddie Mac "overcharge" consumers since the guarantee fee is imbedded in the mortgage rate paid by consumers. In fact, a recent article in Wall Street Journal had discussed this potential problem and a number of class-action lawsuits have been filed. Furthermore, there have been allegations that Fannie Mae and Freddie Mac colluded on setting the guarantee fee.

What is troubling about the allegations that Fannie Mae and Freddie Mac "overcharging" consumers for the mortgage guarantee is the lack of entrance into the conforming loan market by mortgage lenders. That is, if the GSE programs result in mortgage rates that are too costly, mortgage lenders such as commercial banks can opt not to participate. Instead, mortgage lenders have the ability to originate residential mortgages that conform to Fannie Mae and Freddie Mac standard and either keep them in their portfolios, sell them to other institutions or create their own private label mortgage-backed securities. The lack of entrance by commercial banks into the private label MBS market for conforming loans either means that the guarantee fee is small enough not to

lure commercial lenders into the market or the benefits of using the GSE MBS product is so beneficial to the lenders (and consumers) that they have not been lured into this market.[5]

Regarding the issue of Fannie Mae and Freddie Mac colluding to set the guarantee fee, I would find this very difficult to believe. It is widely known that Fannie Mae and Freddie Mac are highly competitive with each other and have an adversarial relationship. The fact that the guarantee fees are similar could simply be the result of the intense competition between the two GSEs rather than collusion. Furthermore, Fannie Mae and Freddie Mac jointly drove down the guarantee fees to unsustainable levels in the late 1990s through intense competition.

The degree to which the GSEs have led or lagged in the market in extending credit to low- and moderate-income families

In order to understand the extension of credit to low- and moderate-income families, it is important to understand the stratification of the mortgage market. A rough sketch of the segmentation of the mortgage market is as follows: The lowest income families receive housing by renting (and receive a subsidy indirectly from the GSE multifamily mortgage programs), low income families (with appropriate credit) can obtain Federal Housing Administration loans and moderate income families can obtain conforming loans (for the

[5] It should be noted that Bank of America issued a private label (non-agency) MBS as early as 1977. See Bruskin, Sanders and Sykes (2000) for a discussion of the evolution of the private label mortgage market. Thus, there is evidence that banks will enter the MBS market when it is in their best interest.

GSE mortgage programs).[6] Thus, housing is financed through the mortgage market for lower- and moderate-income families given certain acceptable levels of credit.

The problem arises when a family wants to purchase housing, but cannot obtain financing because of poor credit. Clearly, commercial banks and other finance companies have led the way in providing mortgage financing to families with poor credit; this market is known as the B/C or "subprime" market.[7] Unfortunately, the subprime mortgage market has been tainted by allegations of excessive fees and questionable interest rates. These allegations have led to several states adopting "anti-predatory lending" legislation in an attempt to curb the problem of high fee, high rate loans to families. So, while commercial banks and finance companies have taken the lead in the subprime market, it is a market that needs substantial improvement in terms of fair lending practices.[8]

As mentioned previously, the GSEs (and particularly Freddie Mac) have taken the lead in educating households regarding personal financial management and improving credit. Thus, the GSEs have taken a proactive role in trying to improve credit quality of American families while the commercial banks and finance companies have actually extended more subprime mortgages.

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[6] The FHA mortgage limit in 2005 for single-family residences in Columbus, Ohio is $233,700. The Fannie Mae / Freddie Mac conforming loan limit for single-family residences is $359,650. Jumbo loans are therefore loans over $359,650.

[7] Alternatively, the subprime market could be called the "non A" market, but subprime captures the spirit of the market.

[8] In my paper with Ambrose entitled "Legal Restrictions in Personal Loan Markets," we find that mortgage rates for low credit score borrowers not only carry higher mortgage rates, but the mortgage rates seem excessive compared to mortgage rates for higher credit score borrowers.

Structuring the regulator

Determining whether the GSEs should be regulated or not, or which regulator to select are difficult questions. They are particularly difficult questions when trying to design a regulatory scheme that is equitable to both the GSEs and the commercial banks. While commercial banks are regulated, they also have deposit insurance and may extensively use off-balance sheet financing in the form of asset-backed commercial paper conduits that can pose a threat to the health of the financial sector. The GSEs, while they have oversight by HUD and OFHEO, do not have an equivalent of depository insurance and, to the best of my understanding, do not use off-balance sheet financing.[9] Given that commercial banks also participate in the private label mortgage-backed securities market, one must be careful not to damage the equilibrium between these market participants.

One important consideration for the GSEs is the impact that the selection of the regulator may have on GSE bond ratings. That would be particularly important if receivership authority is granted to the regulator. Even if receivership authority is granted to the regulator, there are different forms of receivership which must be considered since each form will have different implications for the GSE bondholders and the bond ratings. Furthermore, receivership would have to be done in a way so that it does not put the GSEs at a competitive disadvantage to banks. In my opinion, the receivership path is not appropriate for the GSEs and should not be adopted.

An alternative to the receivership model would be managerial control without the right to sell the assets (that is, the regulator can manage but not liquidate the companies). Specifically, the regulator can be brought in to manage the GSEs' assets if and only if

[9] If the GSEs held their retained portfolio off-balance sheet and placed residuals on their balance sheet as assets, then there would be no difference between commercial banks and the GSEs on this dimension.

certain criteria are not met. Essentially, covenants (similar to bond covenants) could be created that activated only in the case of a serious breach. I would argue that the managerial control approach be used rather than receivership, but any change to the GSEs' current business model should not be taken lightly.

Summary

The GSEs play a critical role in the U.S. housing market since they serve to reduce mortgage interest rates on conforming loans. Although Passmore (2003) argues that these benefits are not sufficient to outweigh the costs of the GSEs in terms of their alleged funding advantage, Ambrose, Lacour-Little and Sanders (2004) find that 50-95% of the GSE funding advantage is passed through to borrowers in form of lower mortgage rates. Since the GSEs' debt maturity structure is low (3 years for Fannie Mae), that results in a pass-through rate of closer to 95% to consumers.

When we consider other benefits from the GSEs such as education on credit and financial management as well as continuing research on U.S. housing and mortgage markets, the GSEs certainly play an important role in the U.S. housing market.

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Table 1. Relative Spreads of Commercial Banks versus Fannie Mae and Freddie Mac

Term	Period	Combined Rating	A Class	AA Class
1-3 years	**1995-1999**		0.42427	0.08732
	1995	0.24334	0.29121	0.09974
	1996	0.46141	0.52930	0.32562
	1997	0.34273	0.37983	0.24997
	1998	0.21018	0.47292	0.05257
	1999	0.21446	0.42651	0.00241
3-5 years	**1995-1999**		0.38227	0.22027
	1995	0.36530	0.39573	0.32473
	1996	0.27921	0.30862	0.22037
	1997	0.29383	0.29566	0.28650
	1998	0.50483	0.50125	0.51200
	1999	0.22071	0.55692	0.11550
5-7 years	**1995-1999**		0.52281	
	1995	0.58625	0.58625	
	1996	0.45893	0.45893	
	1997	0.55750	0.55750	
	1998	0.45433	0.45433	
	1999			
7-10 years	**1995-1999**		0.46365	0.38921
	1995	0.43404	0.37562	0.51194
	1996	0.33083	0.37182	0.27617
	1997	0.45909	0.48383	0.36014
	1998	0.58311	0.58311	
	1999	0.54405	0.54405	
10-30 years	**1995-1999**		0.53741	0.42200
	1995	0.58301	0.74402	0.42200
	1996	0.45300	0.45300	
	1997	0.57454	0.57454	
	1998	0.55633	0.55633	
	1999			

Table 2. Maturity Structure of Fannie Mae Debt

Fannie Mae Debt Outstanding
2000 through November 30, 2004

Debt Outstanding ($ in Millions)	2001	2002	2003	YTD 2004
Discount Notes	$92,824	$134,312	$137,528	$143,653
Benchmark Bills	165,601	156,750	191,315	160,554
FX Discount Notes	-	-	1,540	8,204
Other Short Term	30,100	12,735	15,622	13,613
Short Term Total	$288,525	$303,797	$346,005	$326,024
Short term debt average maturity (in days)	93	76	100	61
Benchmark Notes & Bonds	$254,545	$287,418	$282,602	$271,091
Callable Benchmark Notes	14,800	33,750	44,250	32,250
Subordinated Benchmark Notes	5,000	8,500	12,500	12,500
Other Callable & Noncallable Notes & Bonds	203,312	211,063	270,800	315,208
Long Term Total	$477,657	$540,731	$610,152	$631,049
Long term debt average maturity (in months)	**63**	**58**	**54**	**47**
Total Debt Outstanding	$766,182	$844,528	$956,157	$957,073
Total debt average maturity (in months)	**40**	**40**	**36**	**31**

Source: www.fanniemae.com

Figure 1. Jumbo and Conforming Mortgage Rates
January 1990 - December 2003

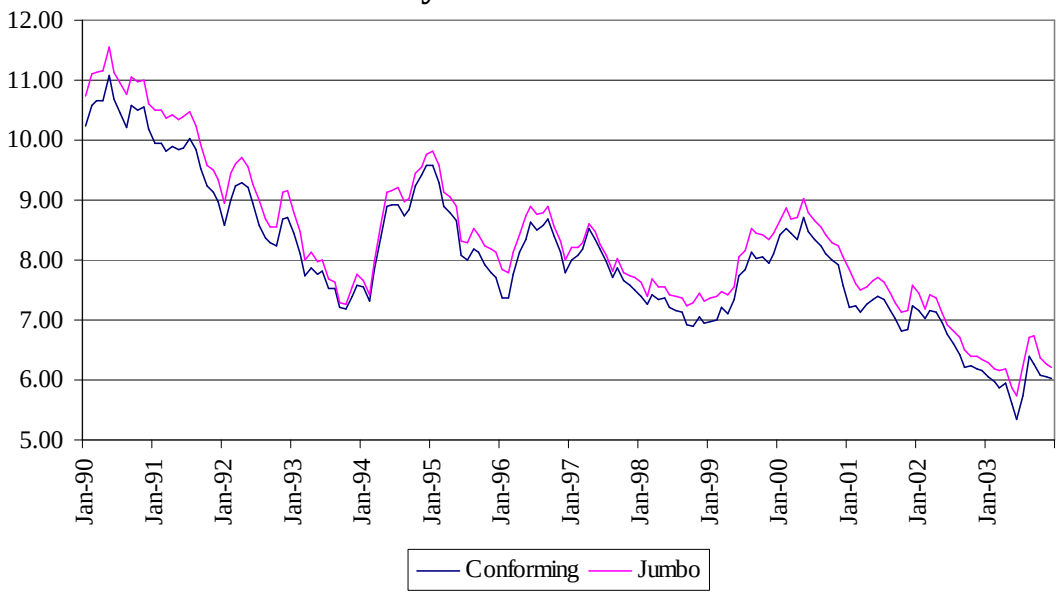
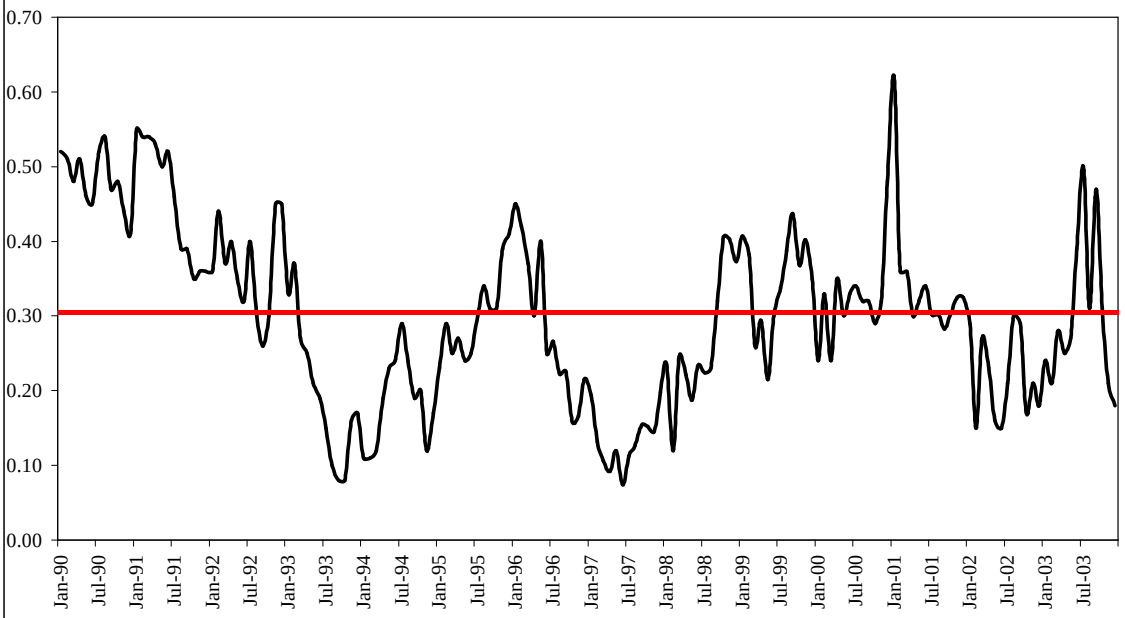


Figure 2. The Jumbo - Conforming Spread
January 1990 through December 2003



Source: BanxQuote, Freddie Mac and HSH Associates.