

Jumbo MBS: Where's the Credit Enhancement?

I. Opinion

12 July 2001

Recently issued jumbo MBS deals have greater credit risk than deals from a few years ago. The newer deals have less credit enhancement than the older deals did at the time of their issuance. Indeed, there appears to be a *trend* of declining credit enhancement in the jumbo MBS sector. At the same time, the mortgage loans backing the newer deals do not seem any less risky than the loans from prior vintages were around the time of their origination.

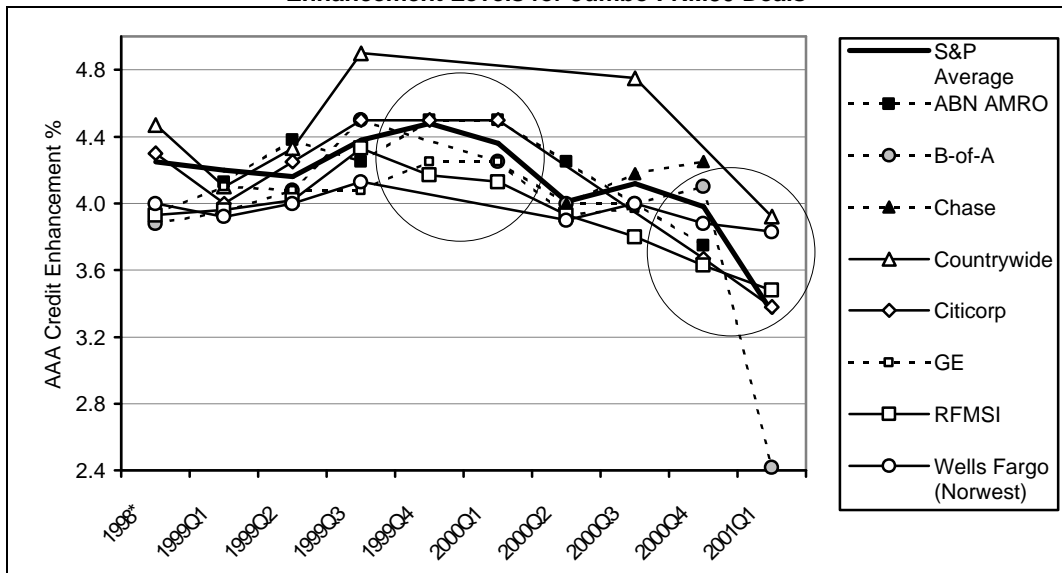
Although credit risk is just one dimension of valuing jumbo MBS, all other things being equal, the higher vulnerability of today's deals suggests that newer MBS are not as good a value as the older deals were at the time of their origination

II. Discussion

A. Credit Support Levels Have Recently Declined

The following chart illustrates the recent decline in jumbo MBS credit enhancement levels:

Chart 1: Quarterly Average AAA Credit Enhancement Levels for Jumbo FRM30 Deals



*full year 1998
Source: Standard & Poor's

As can be seen on the preceding chart, around the end of 1999 and the start of 2000, all the major jumbo MBS issuers did deals with more than 4% credit enhancement supporting the triple-A-rated classes of their deals backed by 30-year, fixed-rate jumbo mortgage loans (FRM30s). By the end of 2000 and the start of 2001, virtually all of those issuers were doing deals with less than 4% credit support for their jumbo FRM30 deals.

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In fact, credit enhancement levels seem to have drifted even lower in the second quarter of 2001.

The decline in credit enhancement levels necessarily implies one of two things. Option A: The credit quality of the underlying jumbo mortgage loans is improving and, therefore, credit enhancement for the related securities can be lower without increasing the riskiness of the securities. Option B: The mortgage loans have not improved and, therefore, the reduced credit enhancement means that the securities must be riskier.¹ For the reasons discussed below, our opinion is that the second explanation is the correct one.

B. Recent Loans Are Just as Risky as Older Loans (If Not Even Riskier)

Recently originated jumbo mortgage loans are at least as risky, overall, as the loans originated in the late 1990s. More precisely, today's jumbo loans are at least as risky as the older loans were at the time when they were originated.

1. LTVs and FICO Scores Have Been Fairly Stable

At first blush, it is tempting to conclude that the credit quality of jumbo mortgage loans has improved slightly over the past two or three years. For example, according to S&P, there was a 2.2% decline in the aggregate quarterly average LTV of securitized pools of jumbo FRM30s from the fourth quarter of 1999 to the first quarter of 2001.

Based on the reported data, B-of-A's jumbo FRM30 pools had the largest reduction in LTV, dropping from a reported average LTV of roughly 77% for the first quarter of 2000 to a reported average of under 72% for the first quarter of 2001. All other major MBS issuers posted significantly smaller reductions in their reported aggregate quarterly average LTVs (See Table 1).

Table 1: Quarterly Average LTVs of Jumbo FRM30 Pools

	1999Q4	2000Q1	2000Q2	2000Q3	2000Q4	2001Q1
S&P Average	75.48	75.96	75.74	75.70	74.80	73.31
ABN AMRO	77.38	77.24	77.09		75.37	
B-of-A		77.02	75.41	75.37	74.84	71.77
Chase			74.74	75.03	75.19	
Countrywide				76.74		74.50
Citicorp	73.96	73.10			72.83	72.01
GE	76.94	76.82	76.49	76.65		
RFMSI	75.32	75.98	75.11	74.42	74.31	72.69
Wells Fargo (Norwest)			73.85	73.07	73.47	72.99

Source: Standard & Poor's

In a similar vein, as reported by S&P, the aggregate quarterly average FICO score of securitized FRM30 pools rose three points from the first quarter of 1999 to the first quarter of 2001 and seven points from 1998 (taken as a whole) to the first quarter of 2001. Of the major MBS issuers, Citicorp logged the largest jump (by far) in average FICO scores. Average FICO scores for each of the other issuers remained with a range of roughly 10 points (See Table 2).

¹ One might contend that there is a third option as well, namely that jumbo MBS from the mid- and late 1990s were "over-enhanced." Such a view would be bolstered by the notion that the strong credit performance of jumbo mortgage loans since the mid-1990s justifies the decline in enhancement levels. However, that reasoning is an oversimplification and ignores the effect on performance of the benign economy during that period. This report does not address the issue of whether the credit enhancement levels on jumbo MBS were or are "right" in relation to the ratings on the securities. Rather, this report focuses on the change in the riskiness of the securities over time.

Table 2: Quarterly Average FICO Scores of Jumbo FRM30 Pools

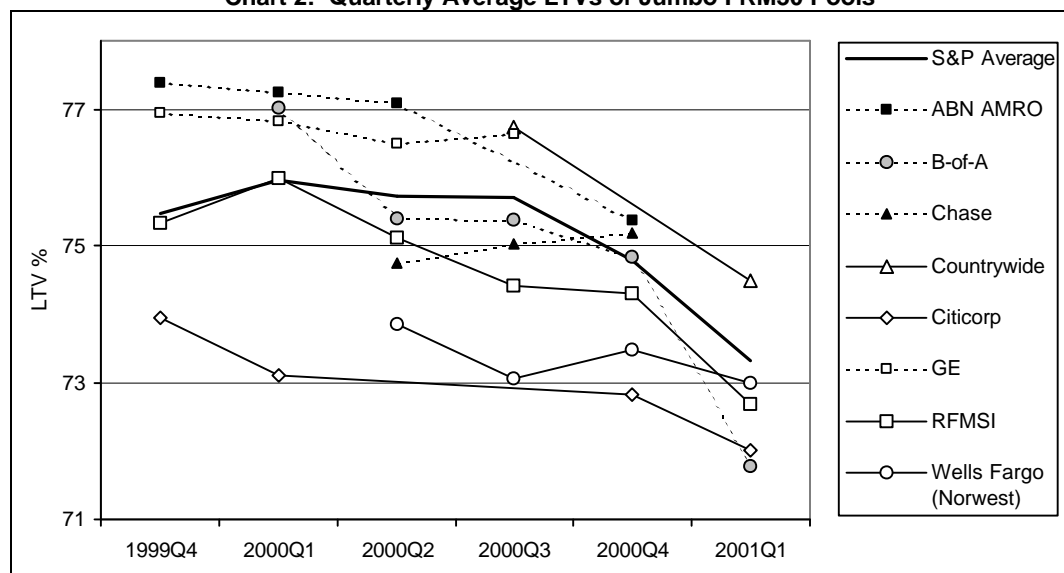
	1998*	1999Q1	1999Q2	1999Q3	1999Q4	2000Q1	2000Q2	2000Q3	2000Q4	2001Q1
S&P Average	717	721	721	722	724	723	723	720	724	724
ABN AMRO		732	731	734	732	729	729		727	
B-of-A	728	731	730	731		730	733	729	730	735
Chase							713	704	712	
Countrywide	711	715	709	703				709		714
Citicorp	678	718	713	724	727	723			737	737
GE	721	716	714	713	712	711	719	722		
RFMSI	723	726	723	724	727	726	726	731	734	734
Wells Fargo (Norwest)	728	724	724	722			720	723	725	719

*full year 1998

Source: Standard & Poor's

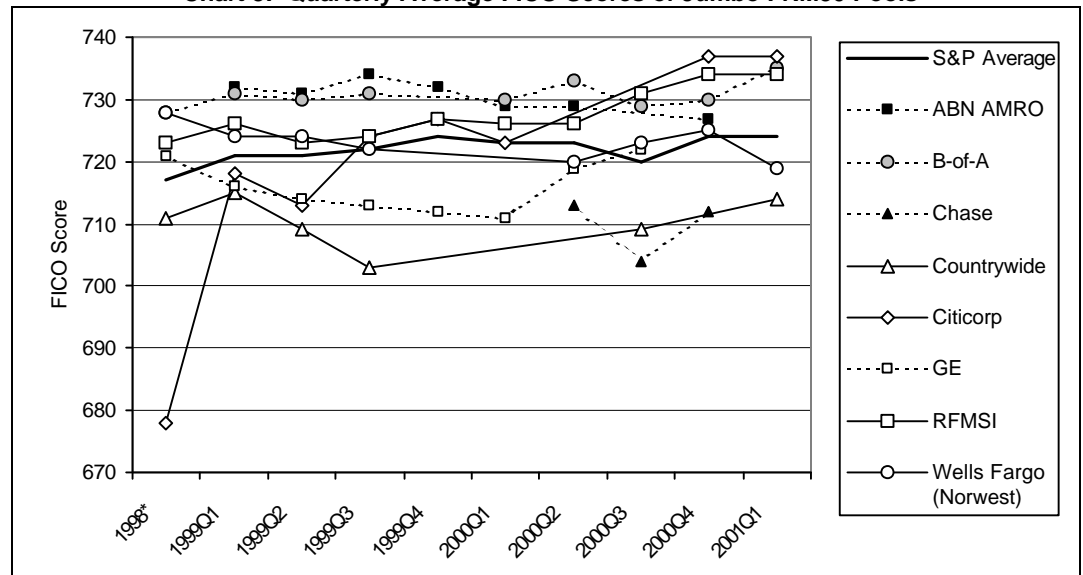
Charts 2 and 3 below present the data from the tables above in graphical form. The charts reveal the changes described above but also capture the small magnitude of those changes in absolute terms. Indeed, in absolute terms, those changes are so small that it is hard to separate them from the inherently limited precision of the measurement process.

Chart 2: Quarterly Average LTVs of Jumbo FRM30 Pools



Source: Standard & Poor's

Chart 3: Quarterly Average FICO Scores of Jumbo FRM30 Pools



*full year 1998
 Source: Standard & Poor's

2. Recent Loans Rely on Higher Property Valuations

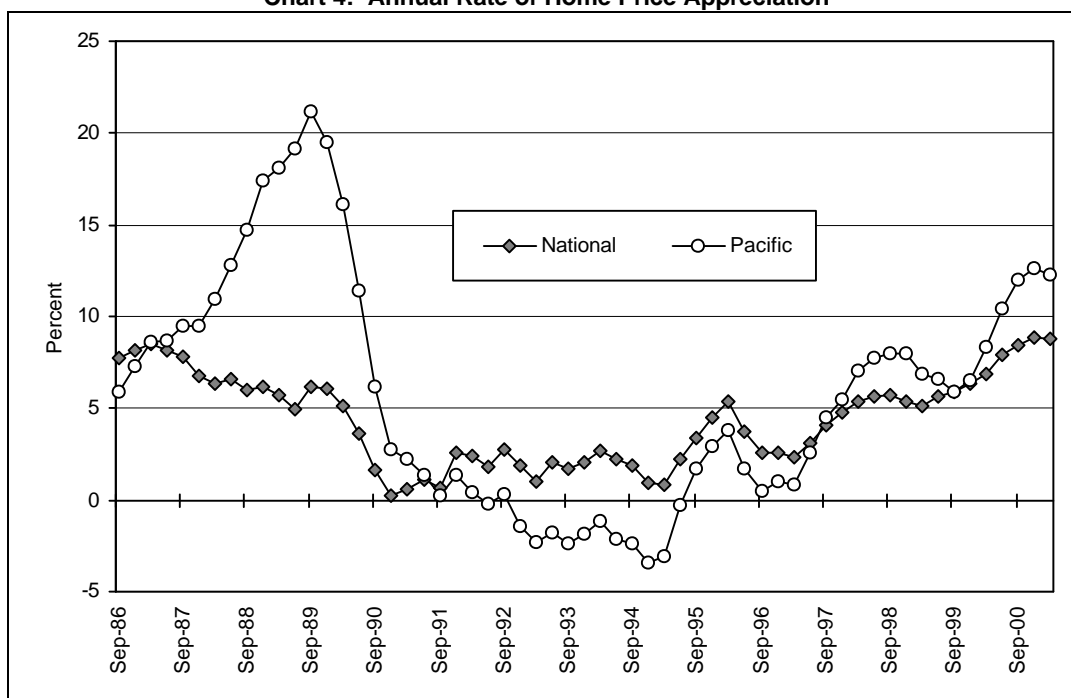
The hot real estate market of the past few years is another reason why we believe that the more recently reported LTV levels need to be taken with a grain of salt, at least insofar as they imply changes in the adequacy of collateral coverage over time.

The strong advance in home prices over the past few years (until the most recent softening in a number of areas) means that home values have that much farther to fall than they did two or three years ago. For example, if a home sold for \$400,000 with a \$320,000 mortgage loan (80% LTV) in 1998, the same home might well have been subsequently sold for \$475,000 with a \$380,000 mortgage loan (80% LTV) in 2001. Clearly, the \$380,000 loan would be much more exposed to a decline in the home's value than the original \$320,000 loan would have been had the home not been resold. In fact, the \$380,000 loan would be significantly exposed even if the home's value merely gave up its gains over the 1998-2001 period.

The bursting of the California real estate bubble in the early 1990s is a reminder that real estate values can fall far and fast when a bubble bursts. While it is impossible to reliably identify a bubble before it has burst, the course of events over the past few years, including a period of rapidly rising home prices followed by an economic cooling-off, not only presents parallels but also bodes caution (See Chart 4).

By themselves, the foregoing factors amply support the conclusion that today's 80% LTV jumbo mortgage loan is riskier than was a 1998 or 1999 vintage 80% LTV loan at the time of its origination. But there is more: The recent waves of refinancing activity have produced many new pools that contain somewhat higher levels of refinance loans. The LTVs reported on such loans are, by necessity, based entirely on appraisals rather than actual sale prices. In our opinion, this makes the reported LTVs less reliable measures of collateral coverage than would LTVs calculated from prices in actual home sales.

Chart 4: Annual Rate of Home Price Appreciation



Source: Bloomberg, OFHEO

A significant side effect of the hot real estate market is that it has helped most residential MBS achieve better credit performance than would have occurred in flat or declining market environments. The strong real estate market allowed some borrowers, who otherwise would have defaulted, to avoid default by selling their homes (often at a profit) when they became unable to afford their monthly payments. Indeed, the strong conditions in the real estate market since the mid-1990s call into question the predictive relevance of mortgage loan performance data from the last five years.

3. Origination Practices Have Remained Stable or Weakened

Despite the preceding discussion of LTVs, it is still tempting to conclude that the most recently originated loans might be less risky than those of slightly older vintages because of improved origination practices. Over the past few years, mortgage originators have continued the investments in technology that they began in the mid-1990s. However, the primary focus of the newest round of investment has been on cutting costs and improving processing speed. Lenders' latest rounds of technology investment have been directed toward (1) expanding the scope of automated underwriting systems to the greatest possible degree, (2) embracing automated appraisal systems, and (3) reducing the amount of documentation required of loan applicants. While these practices do not necessarily hurt the credit quality of newer loan originations, they certainly do not help.

A distinction must be drawn between the recent evolution of origination practices and the one that occurred in the mid-1990s. Important changes in lending practices occurred between the early 1990s and the mid-1990s. Those changes had a significant positive impact on mortgage loan credit quality. The more recent evolution has not done nearly as much to boost credit quality.

In the mid-1990s, the GSEs pushed mortgage lenders to start using so-called "deep" primary mortgage insurance for loans having original LTVs higher than 80%. The deep coverage provided substantially greater protection than the traditional coverage.² Second, in the mid-1990s mortgage

² Deep primary mortgage insurance is generally described as covering a loan "down to" an LTV of 65%. That is, the amount of coverage for loss of principal equals the difference between the loan amount and 65% of the subject home's value (as determined by the lesser of appraised value or sale price). In contrast, traditional

lenders adopted proven credit technologies – particularly FICO scores³ – from other lending industries. Although today's mortgage lending industry arguably places too much reliance on FICO scores, the credit quality of mortgage loan originations is certainly better for the use of such tools than it would be without them. Similarly, the spread of proactive servicing practices, such as behavioral scoring systems, migrated from the credit card arena to the mortgage sector.

In addition, for a time in the mid-1990s, mortgage originators tended to produce loan pools with better geographic diversity than the pools from the early 1990s. Early 1990s pools frequently had very high concentrations of loans secured by properties in California. This was a particular problem in pools backing certain deals issued in 1989, 1990 and 1991.

Partly offsetting the mid-1990s positive changes in originator practices were a few negative developments. Lenders became increasingly comfortable relying on old appraisals when they originated loans. Also, lenders made more loans with higher LTVs and sometimes placed too much reliance on their automated systems. On balance, however, the aggregate effect of all the mid-1990s developments was an improvement in mortgage loan credit quality.

Compared to the significant evolution that transpired in the mid-1990s, the potentially positive credit impact of more recent developments seems quite modest. Moreover, because automated underwriting systems and automated appraisal systems are so new, they have yet to prove their mettle through an economic downturn. In truth, the same can be said of FICO scores when used in the mortgage context. In addition, while today's alternative/reduced/limited loans documentation programs arguably have remedied some of the failings of their early-1990s counterparts, we believe that the prevalence of new loans originated through such programs cannot be viewed as a source of credit strength.

C. Recent Loans Are More Likely to Be Tested

Recently originated loans, with very low interest rates, are likely to remain outstanding longer than did loans from vintages of the mid-1990s. The longer a mortgage loan remains outstanding the more likely it is to be tested in the crucible of a recession.

According to conventional wisdom, mortgage loans with lower interest rates are less risky than loans with high interest rates. This conclusion is supported by the notion that that following a default, a loan with a lower interest rate incurs a lower severity of default, because less interest accrues after the

primary mortgage insurance is said to cover a loan down to an LTV of 80%. In both cases, the insurance also supplies coverage for accrued interest and foreclosure expenses.

³ Generic credit scores based on data compiled by the national credit bureaus are often called FICO scores. The acronym FICO is derived from the name of Fair Isaac & Co., which produces the statistical models that generate the credit scores. Many mortgage lenders use FICO scores as part of their lending processes and some incorporate FICO scores as part of their own, proprietary scoring models.

The FICO scoring models at the three national credit bureaus are calibrated to produce comparable scores. In general, prime-quality borrowers receive scores of 675 or higher, with the vast majority having scores higher than 700. Subprime borrowers usually have FICO scores of 625 or less. Borrowers with scores in the range from 625 to 675 comprise the gray area in between the subprime and prime domains, and may appear in either type of loan pool.

FICO scores are non-linear with respect to risk. That is, risk increases at an increasing rate as scores decline. In fact, depending on the specific application (e.g., auto lending, credit card lending, etc.), users of FICO scores sometimes speak in terms of the "number of points to double the odds."

FICO scores are based solely on the data compiled by the national credit bureaus. That data includes consumer payment patterns for all kinds of payment obligations, including payments relating to mortgage loans, auto loans, credit card accounts, utility bills, and doctor bills. The credit bureaus do not have information about a consumer's assets or income. Therefore, FICO scores do not reflect the impact of assets or income on a consumer's creditworthiness. A rich person who routinely pays his bills late will have low FICO scores.

The FICO scoring models are optimized to achieve their greatest predictive power over a two-year time horizon. The models are tuned to predict which borrowers are likely to default or become seriously delinquent within two years. The models' predictive power declines gradually as the relevant time horizon extends beyond two years. This effect is not really surprising because the main causes of default for prime-quality mortgage loans – over time horizons significantly longer than two years – are health problems, divorce, job loss, and death.

default. That is a fair – and entirely correct – chain of reasoning. However, it is incomplete. All other things being equal, mortgage loans bearing lower rates of interest are likely to remain outstanding longer. Thus, comparing mortgage loans with various interest rates, those with lower interest rates should experience lower severity of loss upon default but should also experience higher overall frequency of default. This is not a particularly profound point but it is one that is sometimes overlooked.

Mortgage loan vintages from the mid-1990s experienced very high prepayments from refinancings. This is largely attributable to the path of interest rates over time. However, the prepayments had an important credit by-product: loans that refinanced could not default or be delinquent. The high levels of prepayments served to improve the visible credit performance of the loans. This is another reason why an extrapolation based on the performance of loan pools from the vintages of the mid-1990s can produce a misleading assessment of what future losses might be under different conditions.

D. Adverse Economic Conditions Are the Acid Test

The recession of 1990-1991 is instructive in illustrating how economic conditions can affect mortgage loan performance. A number of lenders produced pools that suffered high levels of losses in that recession. The following tables identify a number of the affected deals:

Table 4: Selected Poor Performing Deals

Cumulative Losses on "Prime Quality" FRM30s					
Citicorp		PruHome		RFMSI	
Deal	Losses	Deal	Losses	Deal	Losses
1987-20	6.36%	1988-05	8.03%	1989-S5	3.91%
1988-19	4.92%	1988-07	6.74%	1989-S6	5.31%
1989-05	8.94%	1989-01	7.54%	1990-1	3.50%
1989-A	7.18%	1989-04	6.61%	1990-5	5.14%
1989-C	7.86%	1989-07	5.80%	1990-S1	4.98%
1990-05	7.84%	1989-09	4.10%	1991-3	2.32%
1990-11	8.27%	1990-05	2.37%		
1990-A	5.87%	1990-08	2.49%		

Sources: Company web sites, Moody's

Table 5: Selected Poor Performing Deals (cont.)

Cumulative Losses on "Prime Quality" ARMs		Cumulative Losses on Subprime or Home Equity Loans			
PNC (Sears)		Guardian		Long Beach	
Deal	Losses	Deal	Losses	Deal	Losses
1990-6	4.37%	1989-09	10.14%	1990-01	9.25%
1991-I	2.72%	1989-11	10.53%	1991-02	15.45%
1991-J	5.88%	1989-12	11.40%	1991-05	13.10%
1991-K	3.39%	1990-01	13.29%	1991-07	10.33%
1991-M	4.98%	1990-02	14.15%	1990-04	18.96%
1992-2	3.23%	1990-03	15.05%	1992-01	8.22%
1992-12	2.86%	1990-04	17.30%	1992-03	6.06%
1992-18	4.23%	1990-05	20.10%		
		1990-05	16.52%		
		1990-06	16.36%		
		1990-07	18.87%		
		1990-08	19.31%		
		1991-01	18.48%		
		1991-02	17.36%		

Sources: Moody's, S&P

The preceding tables should be viewed as cause for caution, but not alarm. The *average* performance of deals from the 1989 through 1992 vintages was much better than the performance of the deals identified in the tables. The tables show the deals from the weak end of the performance spectrum. Naturally, within a vintage of deals, a reasonable *range* of performance should emerge. Likewise, a range of performance should naturally emerge among issuers as well. However, market participants generally were not able to identify *in advance* which deals and issuers would be the ones to experience weak performance.

Also, as noted above, since the mid-1990s, pools of prime quality mortgage loans have generally been less risky (from a credit perspective) than pools from earlier vintages. Therefore, in our opinion, given the same conditions, today's prime-quality pools reasonably can be expected to deliver better performance, on average, than the pools that weathered the 1990-1991 recession.

On the other hand, the 1990-1991 recession was very brief and not particularly severe. In fact, after the recession officially ended, unemployment continued to rise and was actually higher in 1992 (7.4%) than it was in 1991 (6.7%).⁴ As seen on the following table, many previous recessions were accompanied by somewhat higher cyclical peaks in unemployment:

Table 6: Unemployment Rate Peaks

Year	Rate	Year	Rate	Year	Rate
1904	5.4	1928	4.2	1961	6.7
1908	8.0	1933	24.9	1963	5.7
1911	6.7	1938	17.2	1971	5.9
1915	8.5	1949	5.9	1975	8.5
1921	11.7	1954	5.5	1982	9.7
1924	5.0	1958	6.1	1992	7.4

Nobody can tell beforehand where the peak level of unemployment will be during the next cycle. While we may reasonably hope that it will be below the 7.4% level seen in 1992, we have no assurance that the next peak will not reach the 8.5% level seen in 1975 or even the 9.7% level seen in 1982. We believe that such high levels of unemployment would represent adverse conditions of the sort that will visibly differentiate stronger pools from weaker ones. In the benign environment of the mid-to-late 1990s, such differentiation was not visible; even weaker pools can achieve good performance during a strong economy.

III. Conclusion

A. Recent Declines in Credit Enhancement Levels Are Small But Significant

One can reasonably argue that the recent drop in credit enhancement levels for triple-A-rated jumbo MBS has been quite modest. After all, in absolute terms, it has been only about 0.5% of credit protection. At worst (one might argue), this translates into an incremental reduction in yield of 0.5% in the event that losses fully consume the credit enhancement. Right...?

B. Low Absolute Credit Enhancement Levels Mean that There Is Real Risk

...Well, not exactly. Even before the recent reductions, credit enhancement levels for jumbo MBS generally reflected a very optimistic assessment of mortgage loan credit risk. While such a view arguably is appropriate with respect to the pools from some originators, it may be too positive for the pools from others. For those "others," the recent declines in credit support seem to make a difficult situation worse.

Overall, the jumbo MBS sector now seems to be engaged in an interesting limbo dance with credit enhancement levels. Ultimately it will have to be either the rating agencies or investors who answer the question posed by issuers: "How low can you go?"

⁴ That may be part of the reason why some pools securitized in 1992 displayed poor performance even though most of their underlying loans were originated after the recession.

C. Recommendation

Analyzing mortgage credit risk is not an exact science and nobody has perfect answers. However, historical performance differences among MBS from various issuers offer some insight into whether such issuers' business practices exert a positive or negative impact on credit quality.

An investor can achieve some protection by concentrating on deals from issuers that have achieved *consistently* strong performance – as measured by both losses and delinquencies – across vintages and across deals within each vintage. In doing so, the most cautious will place disproportionate weight on performance differences that occur during hard times, because that is when performance differences matter most. At the same time, a cautious investor will scrutinize how an originator's practices have evolved over time. Some originators have strengthened the credit quality of their loans while others have gone in the opposite direction. Thus, making the best decisions requires both (i) identifying important differences in historical performance and (ii) being able to adjust expectations based on continually evolving business practices.

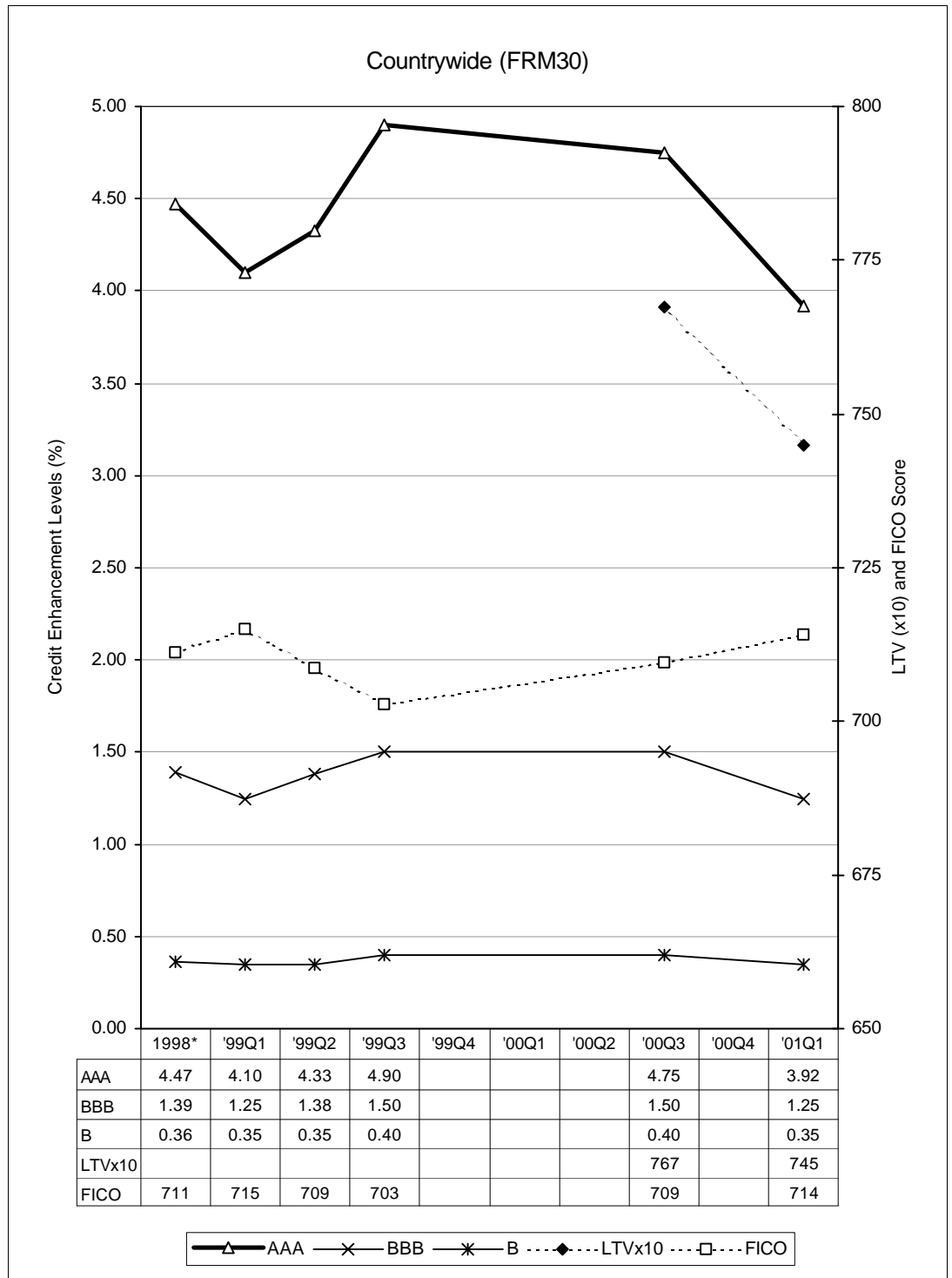
Among the universe of active originators, we believe that Cendant and Wells Fargo achieve outstanding consistency in the high credit quality in their jumbo MBS securitizations. A few others also achieve impressively high credit quality with good consistency. At the other end of the spectrum are the MBS issuers who account for disproportionately high shares of the deals that make up the weak tail of the performance distribution.⁵

Concentrating on deals from older vintages is another strategy that bears consideration. However, doing so does not offer a free lunch. Given the attractive refinancing opportunities that existed until very recently, it is likely that loans "left over" in pools from older vintages have been subjected to an adverse selection process – many were not refinanced because they could not be. As borrowers become increasingly sophisticated, it becomes less reasonable to attribute a borrower's failure to refinance to either ignorance or apathy.

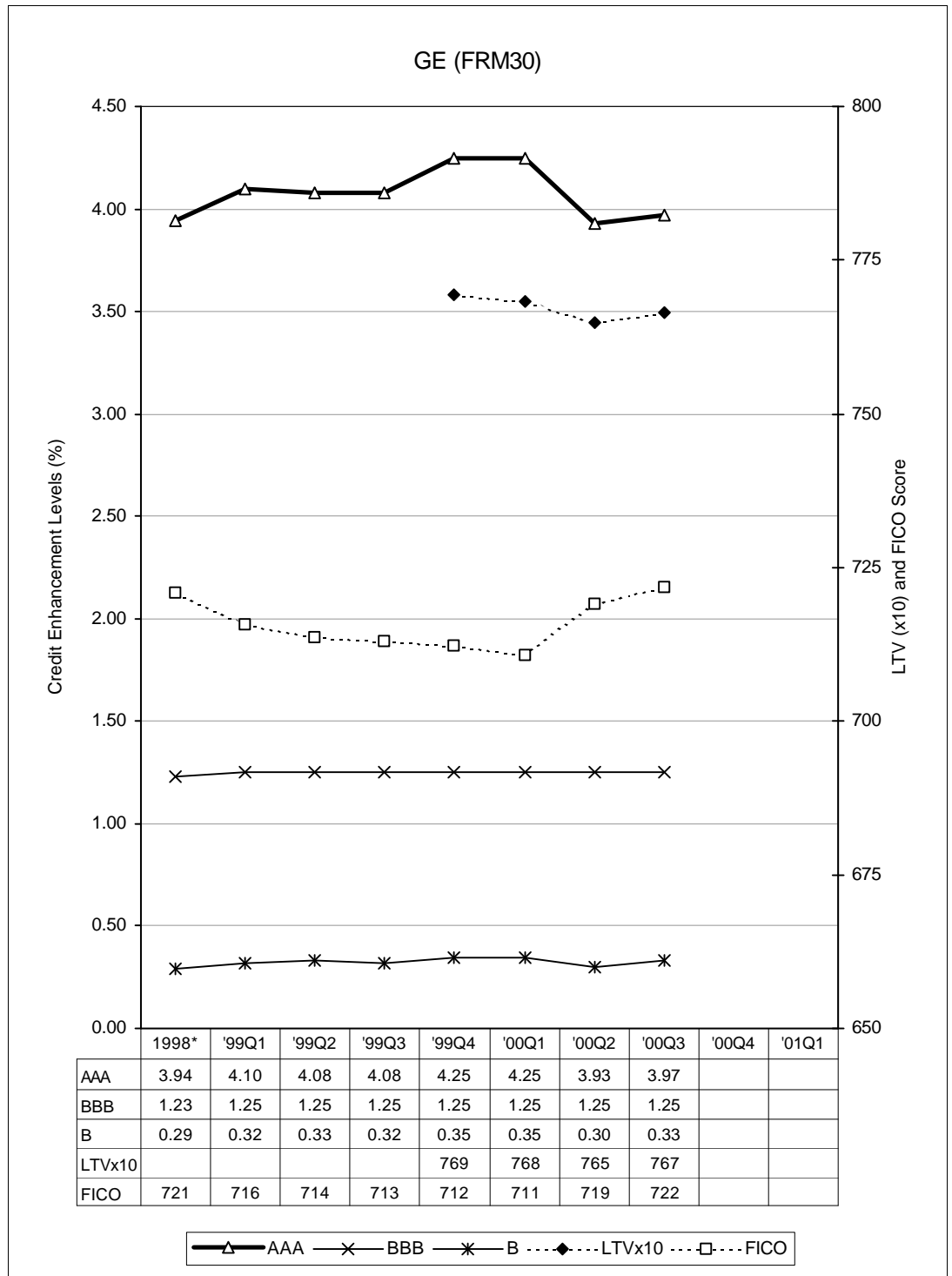
So, the bottom line is this: We believe that it is only getting tougher to earn attractive yields in the jumbo MBS sector without confronting credit risk as a real issue. A few opportunities persist, but they could be extinguished if the current trend of declining credit enhancement continues.

In the meantime, good hunting!

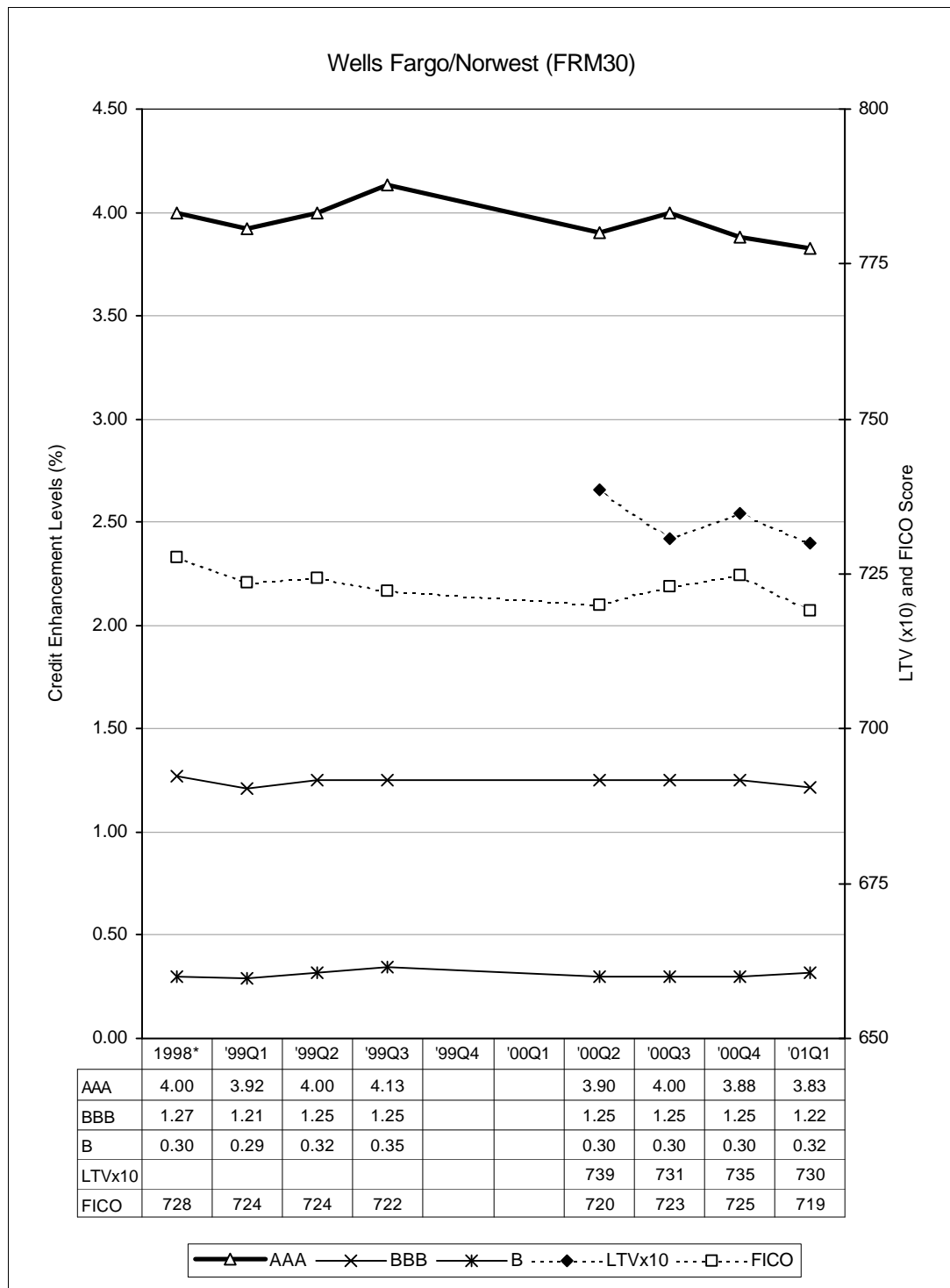
⁵ Some market participants embrace the view that the business practices of all the major originators are converging and, accordingly, that credit quality differences attributable to idiosyncratic business practices are disappearing. For an investor who holds such a view, the implications of the recent declines in credit enhancement levels are different, but not easier. Declining support levels still increase the risk of newer deals relative to older ones. However, the investor would not perceive the ability to respond by picking and choosing among newly issued MBS. The investor would have to find another strategy.



*full year 1998
 Source: Standard & Poor's



*full year 1998
Source: Standard & Poor's



*full year 1998
 Source: Standard & Poor's

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