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Commentary

Market Opinions and Topics of Interest

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Fannie Mae's Duration Gap And Why Rates Fell In September

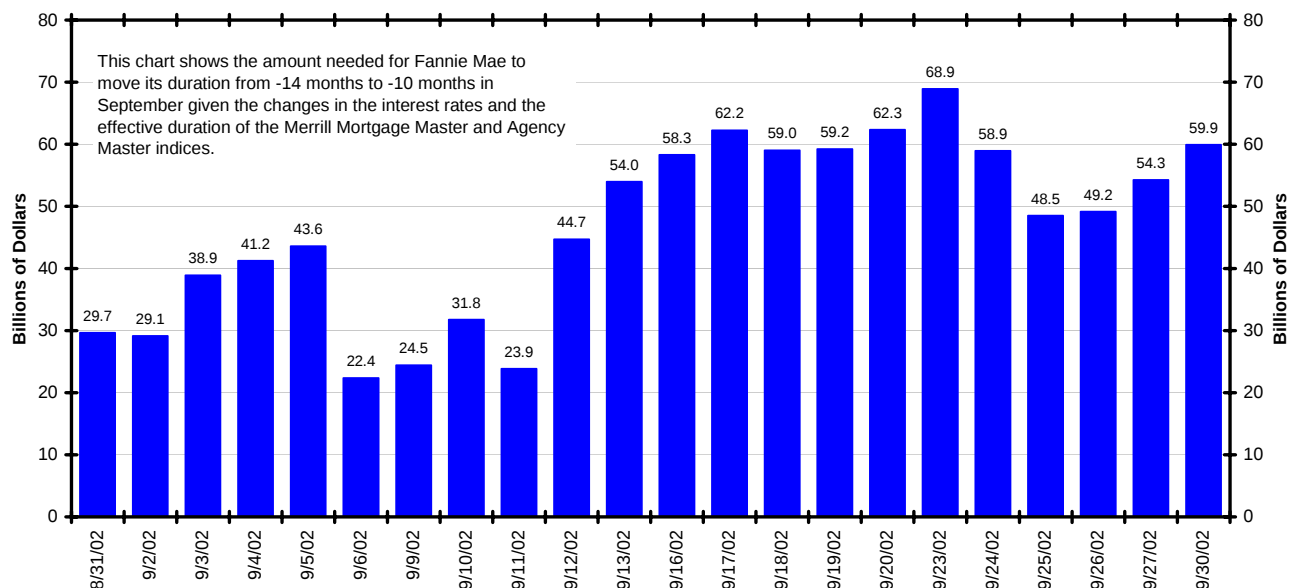
Fannie Mae, the nation's largest source of financing for home mortgages, today announced that the duration gap on its mortgage portfolio narrowed to minus ten months as of September 30, 2002. Timothy Howard, Fannie Mae's Executive Vice President and Chief Financial Officer said, "Due to the greatly heightened interest in this number currently, we are electing to release our September 30 duration gap ahead of our normal schedule. Additional measures of monthly performance, including the portfolio's net interest income at risk, which is our primary external interest rate risk indicator, will be released along with our third quarter financials on the regularly scheduled date. Future duration gap releases will follow the mid-month schedule." -- Fannie Mae.com

How did Fannie do it? If we assume Fannie Mae's mortgage portfolio has the characteristics of the Merrill Mortgage Master Index (how can it not - its portfolio was \$740 billion in August, roughly 30% the size of the entire mortgage index) and its debt has the characteristics of the Agency Master Index (they are the largest component of this index), then **we calculate that Fannie bought the equivalent of \$60 billion of 10-year Treasuries in duration during September.** The chart below shows how

many 10-year equivalents Fannie Mae would have had to buy during September to move its duration gap to -10 months. The \$60 billion number represents the amount needed to move Fannie Mae's duration gap to -10 months on September 30.

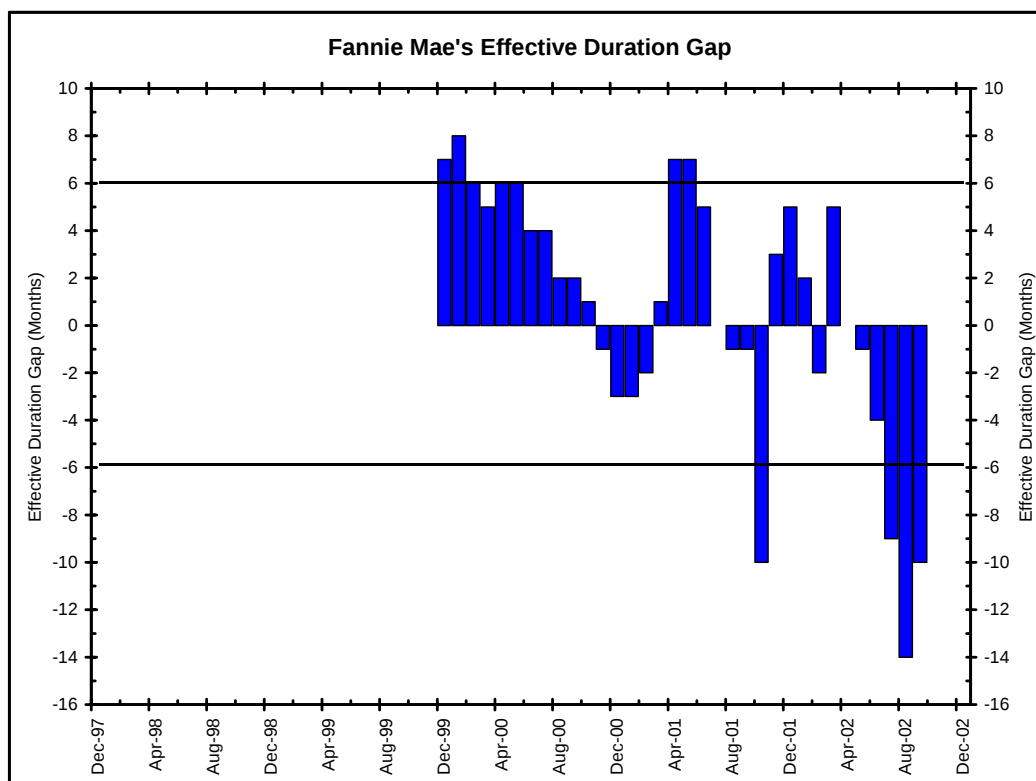
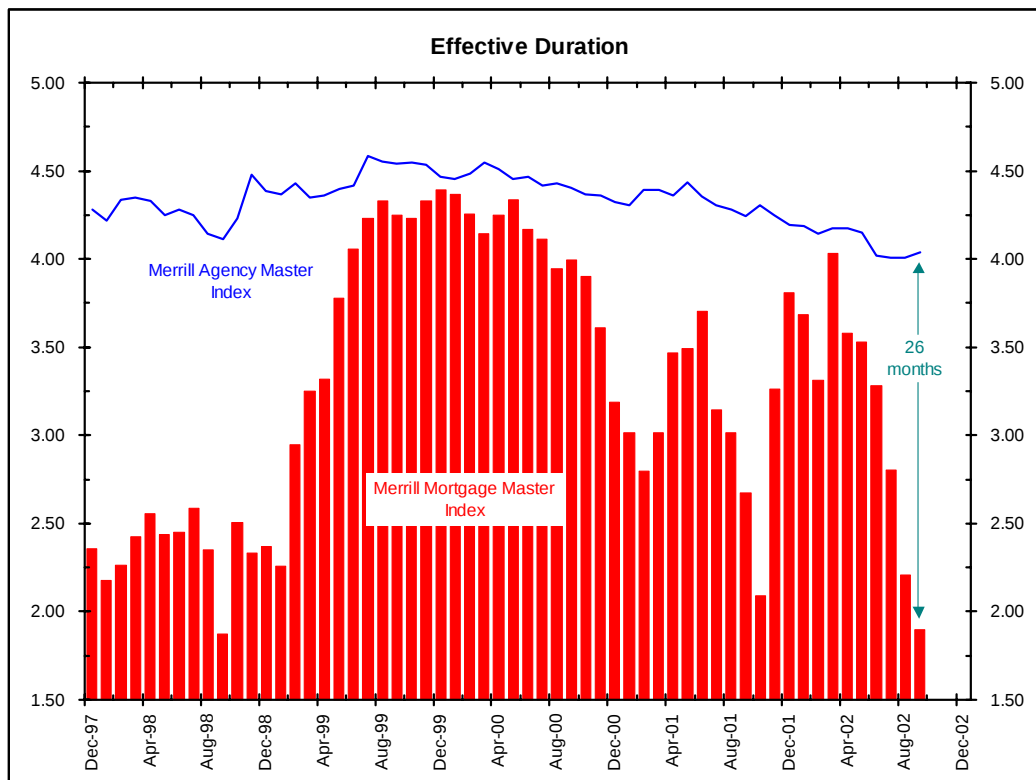
During September, the 10-year note fell 54 basis points (from 4.14% to 3.60%). Given the small interest rate base, this is a huge move. For rates to fall this much, the marketplace needed a huge buyer. Was Fannie that buyer?

How Much Did Fannie Mae Buy In September?



How Did We Come Up With These Numbers?

The first chart below shows the effective duration of the Merrill Mortgage Master Index and Agency Master Index. The second chart shows Fannie Mae's reported duration gap.



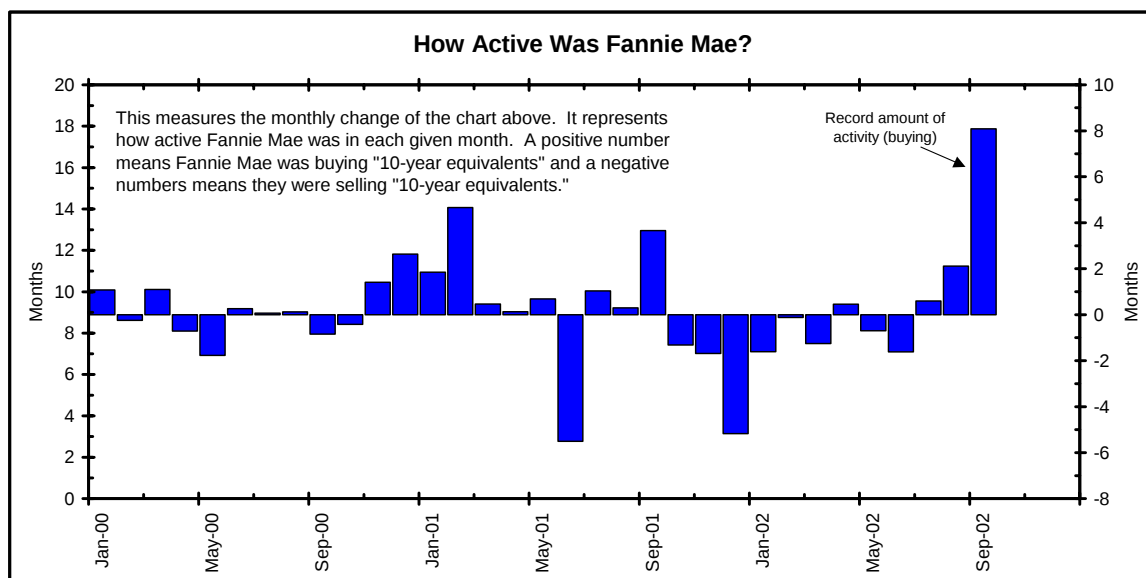
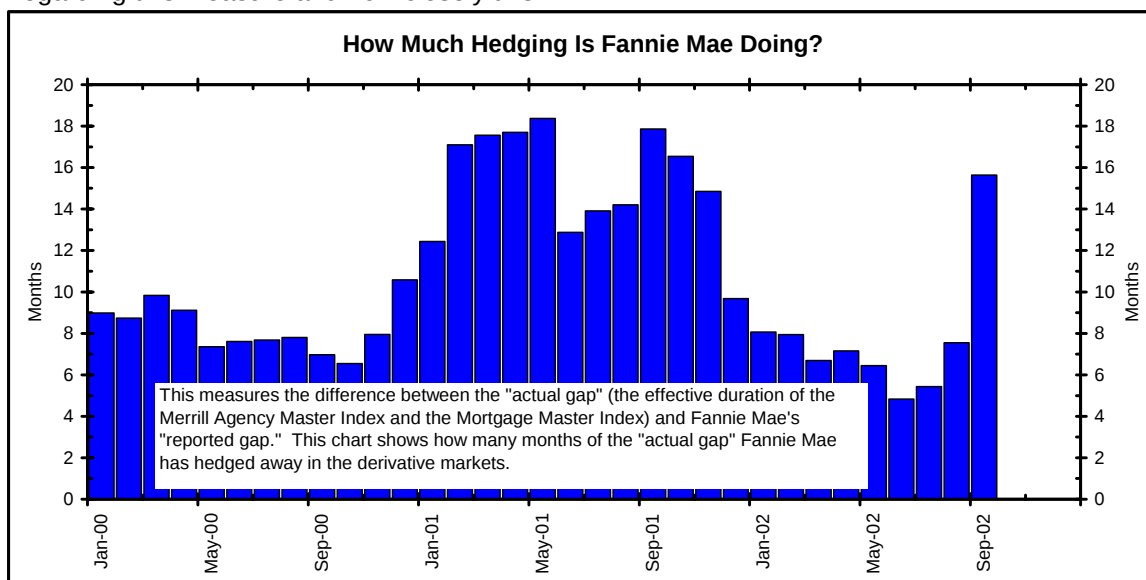
As of August, Fannie Mae's "reported" duration gap was -14 months and the difference between the effective durations of the Merrill Agency Master and Mortgage Master indices was -22 months ("actual gap"). As of September 30, the "reported" duration gap narrowed four months to -10 months and its "actual gap" widened four months to -26 months. The "actual gap" widened because interest rates fell in September. In order for Fannie to narrow their "reported gap" by 4 months, they had to cover the "actual gap" widening of four months and buy enough 10-year equivalents to cover an additional four months. This means Fannie had to lengthen its overall portfolio duration by eight months.

How Concerned is Fannie Mae About Its Duration Gap?

The fact Fannie Mae released its duration gap hours after the month ended speaks volumes about their concern regarding this measure and how closely this

number is managed – despite their repeated statements that this was no big deal. This begs the question: did they change their risk management style in September?

The first chart below shows the difference between the "actual gap" (which is the top chart on page 2 – the difference between the effective duration of the Merrill Agency Master and the Mortgage Master Index) and Fannie Mae's "reported gap." This difference represents how much hedging Fannie Mae is doing (read: using derivatives) to close these two numbers. The second chart shows the monthly change of the first chart. It represents how active Fannie Mae is in any given month. This chart suggests that Fannie Mae's derivatives desk was more active in September than in any other month in recent years.



Conclusion

Wall Street is cheering Fannie Mae's announcement that its duration gap narrowed to -10 months in September. They are praising their "risk management" ability since they were able to close this gap during a month when interest rates fell. Franklin Raines, the CEO of Fannie Mae, says it was quite simple -- as mortgages are refinanced into lower coupons with longer durations, Fannie Mae's duration gap is naturally narrowing.

Our take is a little different:

- While the refinancing activity in September does replace old shorter duration mortgages with new longer duration coupons, the Merrill Mortgage Master Index's effective duration fell in September. This means the drop in interest rates more than offset natural lengthening from refinancing activity. If all Fannie Mae did was wait for new refinancing to come in the door, their duration gap would have **widened** in September. They were doing more than passively sitting by and letting the problem take care of itself.
- For Fannie to narrow to -10 months (which is still a concern given it is outside their self imposed +/- 6 month tolerance), they had to engage in record buying activity in September. Our estimates are they bought the equivalent of \$60 billion of 10-year Treasury notes. No other month in the last few years comes close to Fannie Mae being this active.
- This massive buying had the effect of producing lower interest rates. Fannie Mae was most likely the largest "reason" for the drop in rates during September -- the 10-year Treasury note fell from 4.14% to 3.60%, or 54 basis points. Given that their duration is still at -10 months, they remain vulnerable to falling rates and could again be a catalyst for even further drops in interest rates. Should rates rise quickly, they could become a huge seller.

- Given the large negative duration gap (-10 months), Fannie Mae is still making an aggressive interest rate bet. They are hoping the downtrend in interest rate will end and rising rates will further narrow their duration gap. **This suggests their interest rate management is still largely a bet on the direction of interest rates.** Let's hope they get it right this time. They have not been right since June which is why their duration gap has become an issue.

We should note that there are two other possibilities we should address:

- First: their mortgage portfolio might not have the characteristics of a benchmark index like the Merrill Mortgage Master Index. Given the generic nature of the mortgage market and that nearly 95% of all mortgages are in a coupon range of 6.0% to 7.5%, we find this possibility highly remote. This is especially true given their portfolio is \$740 billion, or roughly 30% of the mortgage index.
- Second: Fannie Mae uses their own internal assumptions to calculate their portfolio's duration and duration gap. These assumptions are **not** public and their regulator, OFHEO (Office of Federal Housing Enterprise Oversight), allows this under the belief that Fannie Mae understands the mortgage market better than anyone else. They could have changed their assumptions, and with a stroke of a pen, their duration gap could have narrowed. If they did this, it calls into question the credibility of the entire organization and geometrically increases the risks of owning their stocks and bonds. We **do not** believe they did this. The more likely scenario was they were heavy buyers during September (enough that they helped to push interest rates lower). However, without knowing if they changed their assumptions to "magically" narrow their gap, we cannot say for sure.

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