

Mortgage Lender Profitability and Its Impact on Market Spreads

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Mortgage market analysts closely track mortgage rates in an effort to predict prepayment speeds. Many pay particular attention not only to secondary market yields but also to primary market rates. In recent years, primary–secondary spreads have remained relatively wide even as volume has fallen off with the decline in refinances. This note will examine the impact of ongoing and likely persistent increases in origination costs that are contributing to this trend. Originators are experiencing tighter profit margins even with these wider spreads. An important implication for investors and analysts is that persistently wider spreads may dampen prepayment responses for a given change in secondary market rates relative to historical experience.

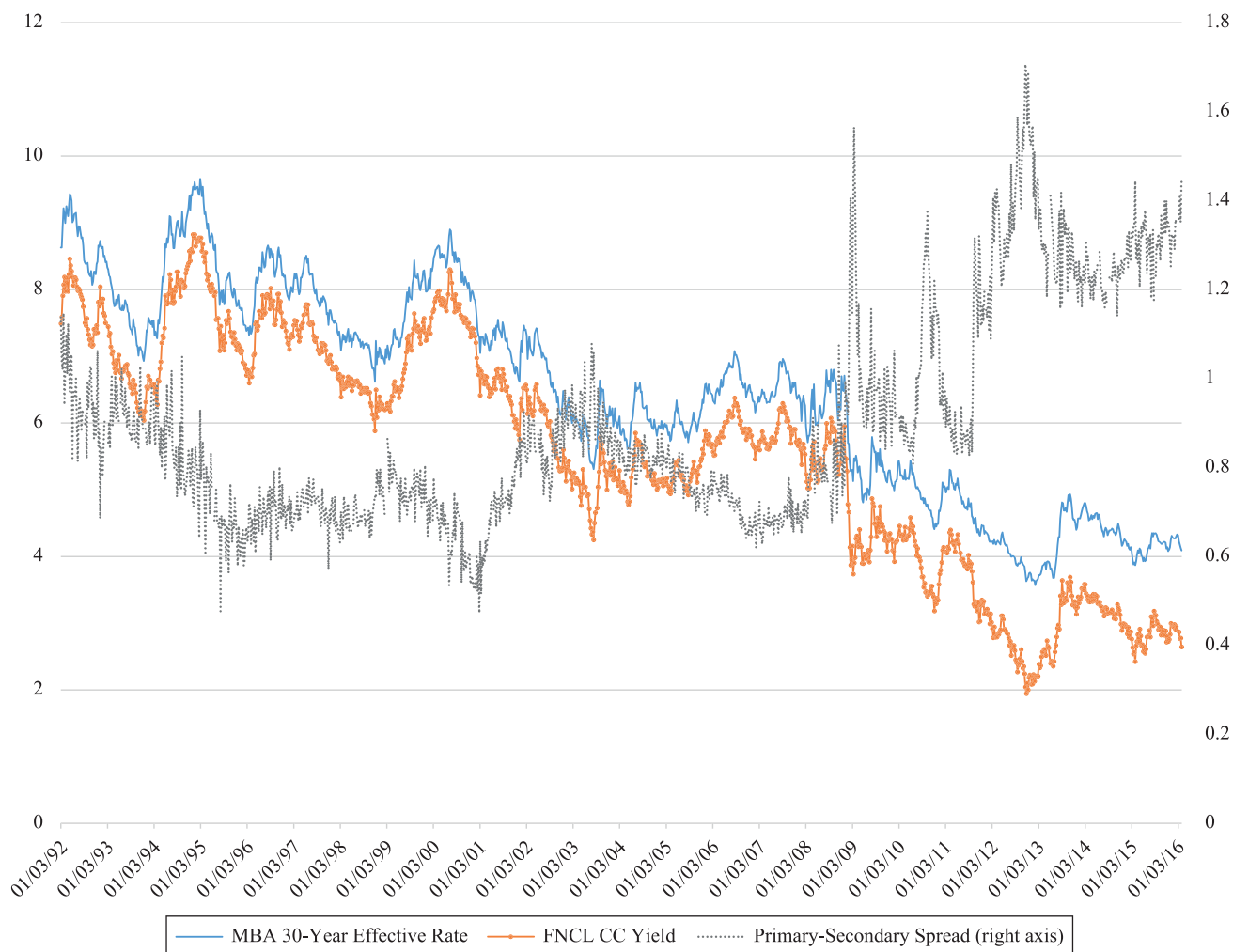
Exhibit 1 displays the history of primary and secondary market mortgage rates and the primary–secondary spread. The primary rate shown in this exhibit is the effective rate on 30-year fixed-rate mortgages from the Mortgage Bankers Association's (MBA's) Weekly Applications Survey.¹ The effective rate captures both the contract rate and origination points and fees. The secondary rate is the current coupon yield on Fannie Mae CL (30-year) mortgage-backed securities (MBS). This primary–secondary spread, which averaged a little less than 80 basis points from 1992 through 2009, has since averaged a little more than 120 basis points.

The mortgage industry has seen significant swings in origination volume over time, from a peak of almost \$4 trillion in originations during the 2003 refi boom, to a low point of \$1.2 trillion in 2014 (Exhibit 2). Mortgage lenders traditionally responded to these fluctuations in volume through a number of approaches, including business models that emphasized minimizing fixed costs by utilizing third-party origination channels as well as using pricing to manage volume. A regular pattern that analysts have observed is that primary–secondary spreads tend to widen during periods of high volume as lenders hit capacity constraints.

The increasing costs associated with mortgage origination are having a significant impact on the shape of the industry. Exhibit 3 shows that from a peak of almost 9,000 lenders in 2006, the number of mortgage originators reporting under the Home Mortgage Disclosure Act (HMDA) fell to just over 7,000 in 2014,² and this number likely has fallen further since then. Beyond the drop in the number of lenders participating in the market, the mix of lenders has also shifted, with non-depository, independent mortgage bankers growing their share of the market to more than 40% of origination volume, while depositories' share has dropped sharply. Some of this change in composition is due to the fact that independent mortgage banks tend to focus on purchase originations, while large

EXHIBIT 1

Primary-Secondary Spread



Sources: MBA and JP Morgan.

banks have tended to focus more on refinances, but there has also been an influx of independents who are refinance specialists. Some argue that in addition to the visible increase in costs described here, the increase in compliance and legal risks associated with mortgage lending have led many banks to exit the mortgage business.

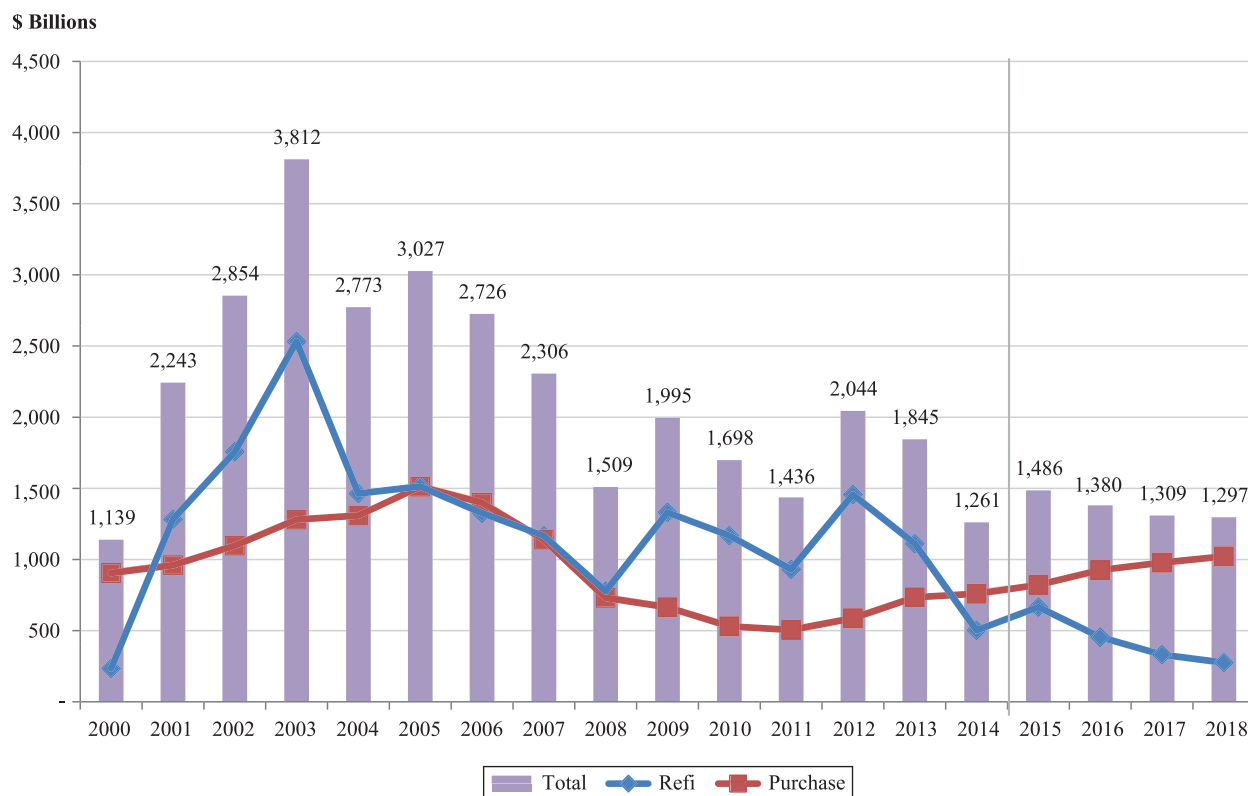
The data in Exhibit 4 highlight the trend in net production income, the profit margin for loan origination, in basis points (bps). These data are derived from the Mortgage Bankers Financial Reporting Form (MBFRF) that independent mortgage bankers (IMBs) who are direct sellers to Fannie Mae or Freddie Mac, or who are Ginnie Mae issuers, provide to these agen-

cies on a quarterly basis. MBA aggregates and publishes these data in the *Quarterly Mortgage Bankers Performance Report*.³ The sample includes data from more than 300 companies. These data are available on a quarterly frequency beginning in the third quarter of 2008. Prior to this, MBA published similar trends in annual “Cost Study” publications.

Mortgage banker profitability is a function of production volume, because fixed costs can be spread across a larger base as volume increases. During the recent 2012–2013 refinance boom, which included a substantial portion of Home Affordable Refinance Program (HARP) loans, profit margins increased to over 100

EXHIBIT 2

Mortgage Originations History and Forecast



Sources: MBA Forecast, January 2016.

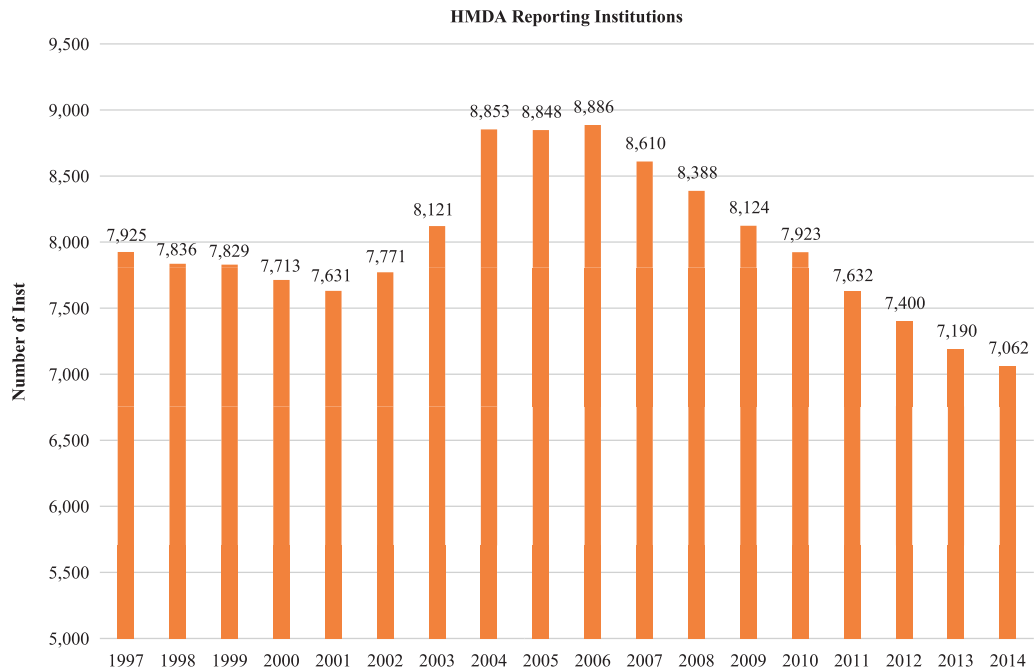
bps, well above their long-run average of about 60 bps. As interest rates increased in the second half of 2013 and into 2014, the Federal Reserve contemplated beginning to taper its purchases of Treasuries and MBS, and refinance and total production volume dropped substantially. Adding to the impact of the drop in volume, a host of mortgage-related regulations stemming from the Dodd-Frank Act had implementation dates in January of 2014, most importantly, the new Ability to Repay/Qualified Mortgage (QM) rule. In the first quarter of 2014, the industry lost money on each loan they made, on average, to the tune of -8 bps.

Following this low point, profit margins increased, but despite the pickup in volume, remained much below previous periods of similar volume. For example, as seen in Exhibit 4, in looking at Q4 2012 versus Q1 2015, both show an average production volume of about \$500 million per lender, but the margin in Q1 2016 is almost 50 bps lower, dropping from 107 bps to 60 bps.

Exhibit 5 shows that this decrease in margin is not a result of a drop in revenue. In fact, it shows that secondary marketing income and origination fees, measured as a percentage of loan volume, have actually trended upward over time, even as loan balances have increased. (The average loan size originated rose from \$196 thousand in 2008 to more than \$240 thousand by the end of 2015.)

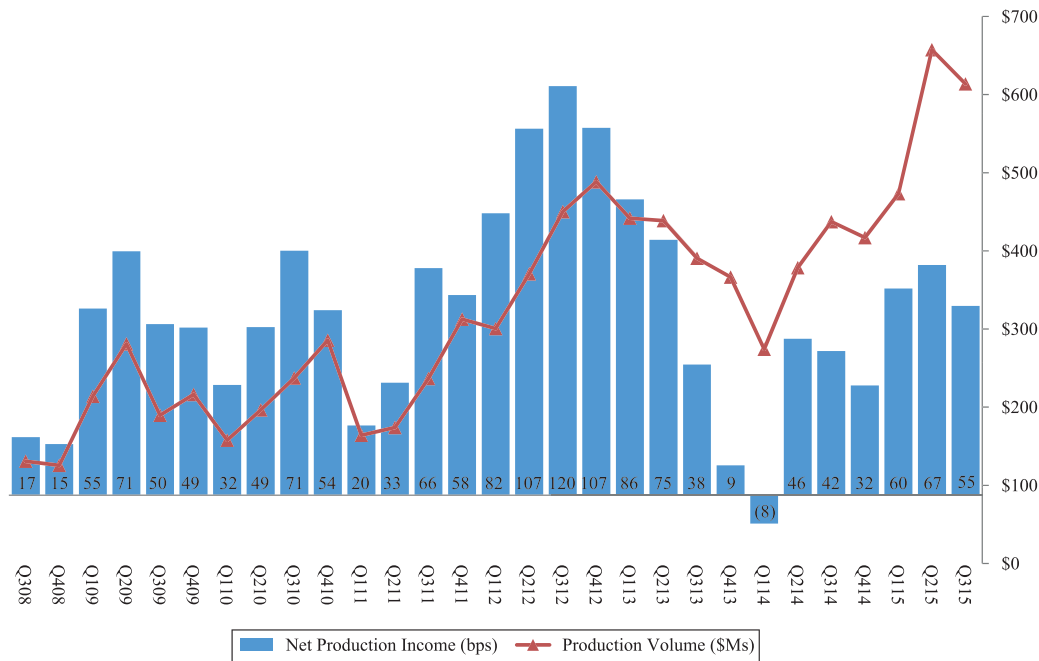
Alternatively, Exhibit 6 shows that loan production expenses have increased considerably over the last several years. In 2008, it cost an originator roughly \$4,500 to originate a loan. By Q4 2012, this amount had increased to \$5,600. At the low point of origination volume in Q1 2014, it jumped to over \$8,000, but this number has since stayed near \$7,000 even as origination volume has increased. In terms of the percentage of loan volume, loan production expense averaged 245 bps from Q3 2008 to Q4 2011, while the average firm averaged \$209 million in origination volume. That increased to

EXHIBIT 3
Declining Number of Lenders in the Industry



Source: HMDA.

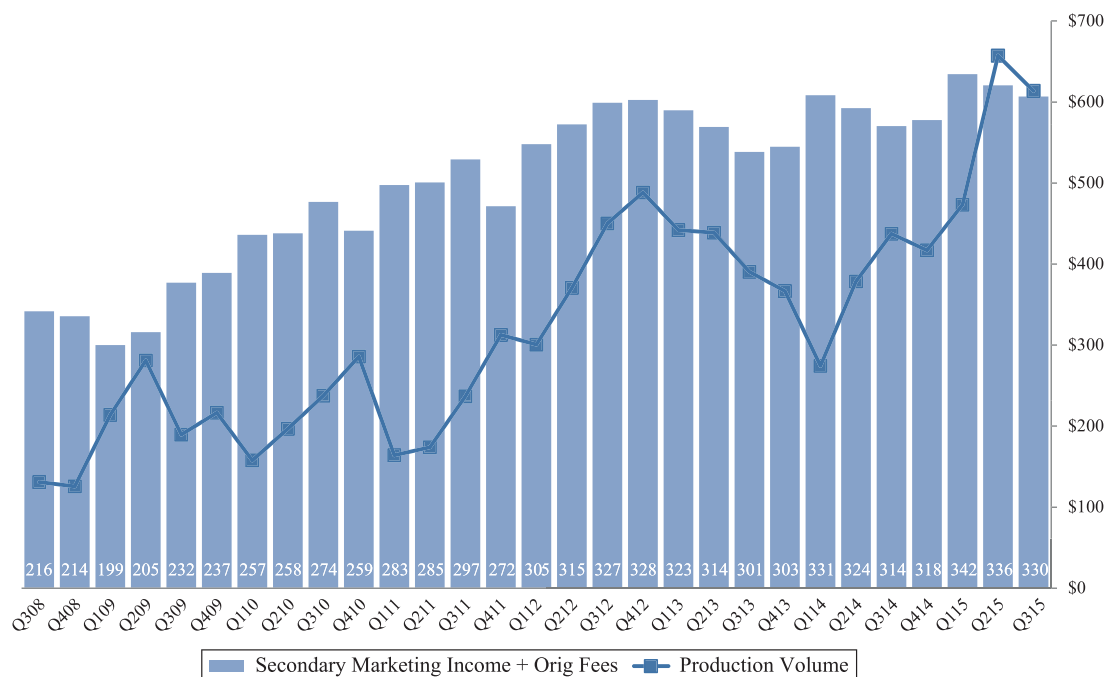
EXHIBIT 4
Net Production Income (bps) and Average Dollar Volume (millions)



Source: MBA's Quarterly Mortgage Bankers Performance Report.

EXHIBIT 5

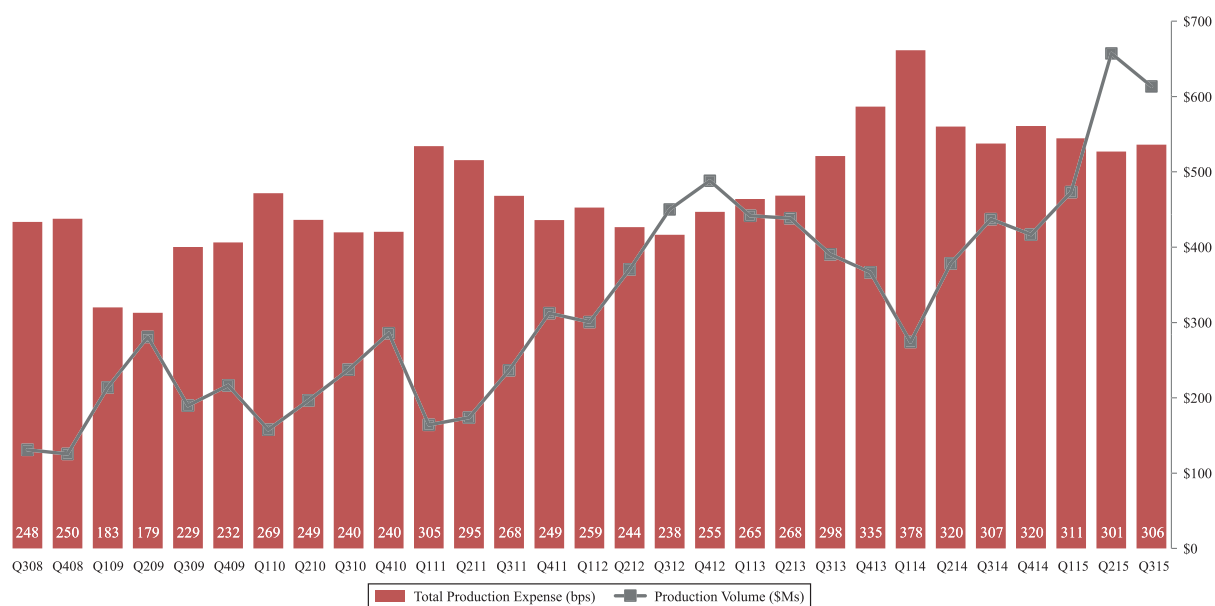
Secondary Marketing Income (bps) and Production Volume (millions)



Source: MBA's Quarterly Mortgage Bankers Performance Report.

EXHIBIT 6

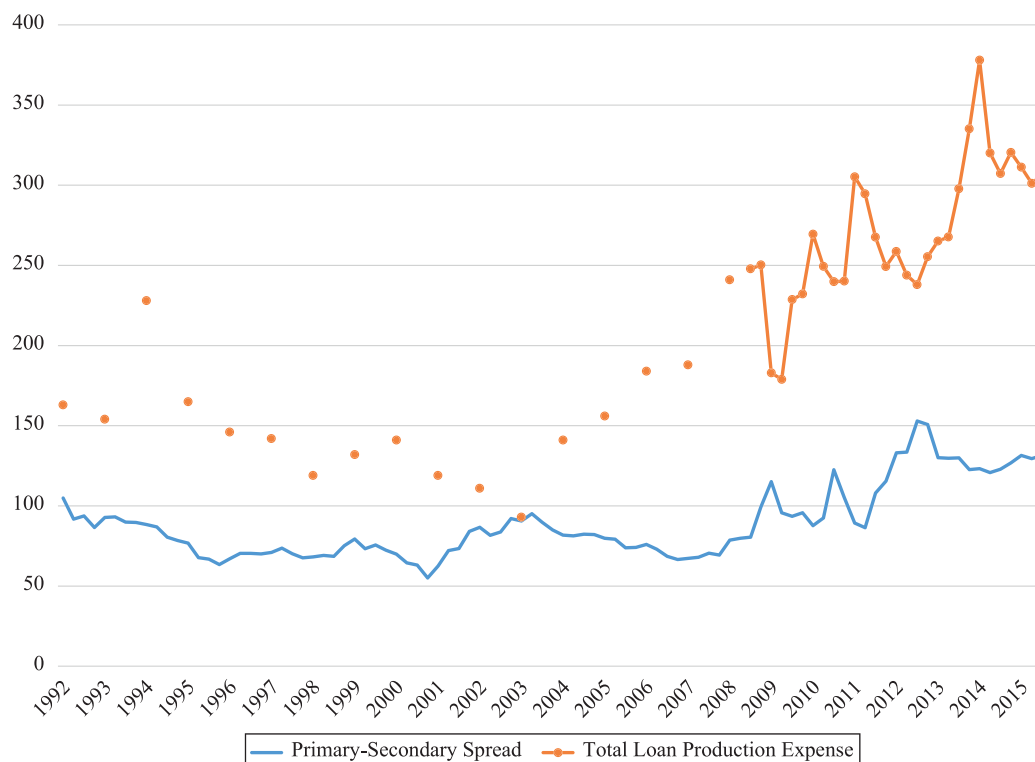
Loan Production Expenses (bps) and Production Volume (millions)



Source: MBA's Quarterly Mortgage Bankers Performance Report.

EXHIBIT 7

Loan Production Expenses (bps) and Primary–Secondary Spread



Source: MBA's Quarterly Mortgage Bankers Performance Report, MBA's Cost Study, and JP Morgan.

an average of 294 bps for the Q1 2012–Q3 2015 period, a time during which the average firm originated \$433 million in volume.

Looking into the details behind this increase in cost, lenders have had increased staff and compensation expenses in both sales and back-office/fulfillment functions. However, the share of employees that are revenue producing has shrunk considerably over time. Again utilizing the *Quarterly Performance Report* data, in 2008, about 45% of production employees were in back-office positions. By late 2013, almost 60% were. These positions, including regulatory compliance, risk management, and other similar roles, are typically paid primarily through salary as opposed to commission, and hence, this shift represents a move to higher fixed costs, which could exacerbate the reduction in profit margins if volumes were to decrease.

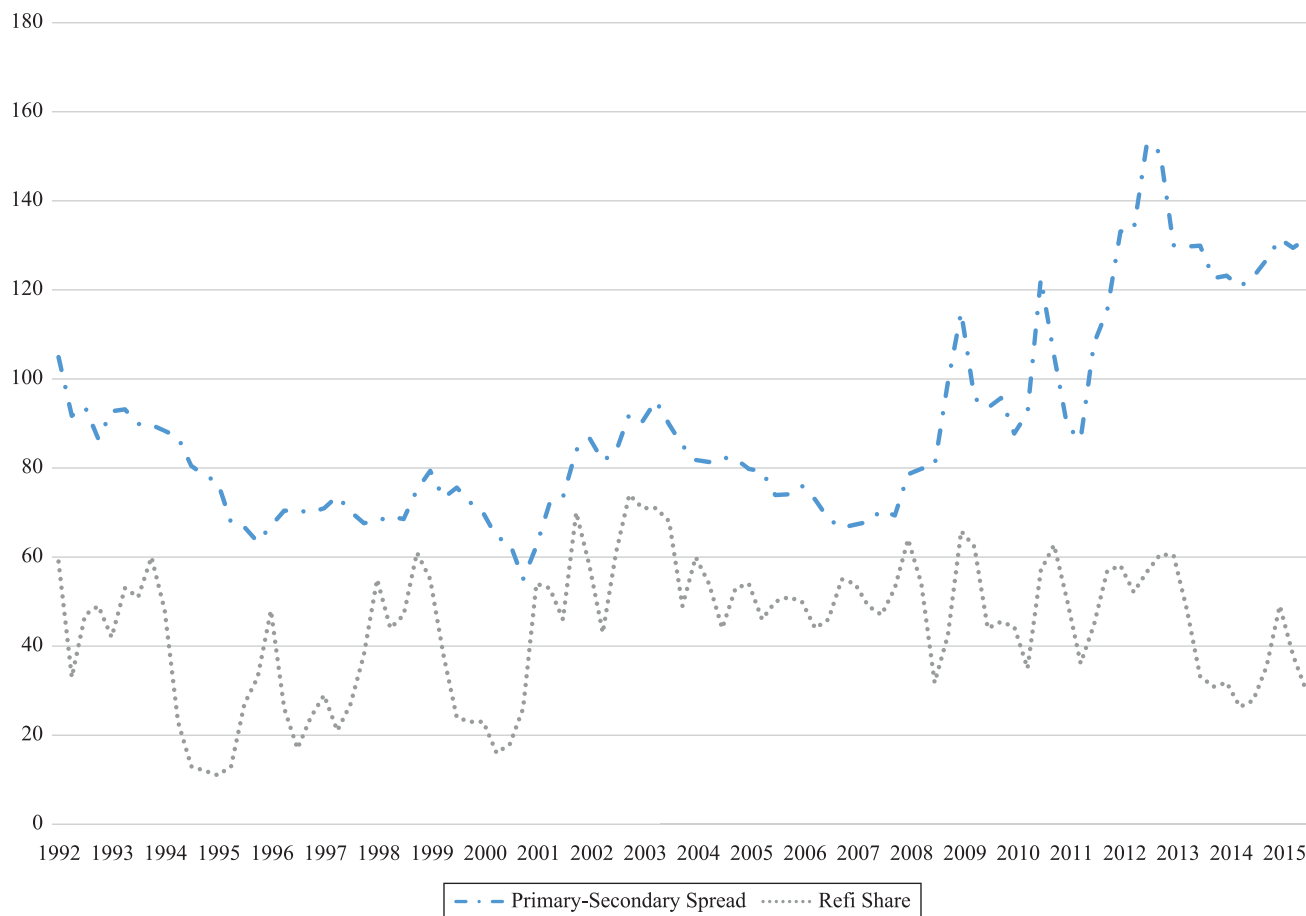
What are some of the implications of this steady upward trend in costs of origination? At least initially, one effect has been a reduction in profitability for

mortgage lenders, as shown previously. Economic theory suggests, however, that this is unlikely to be the only impact. Lenders may, for a time, accept a lower return on their invested capital, but in equilibrium, investors will demand a market return. This means there is likely to be consolidation in the sector to remove excess capacity and build lenders that can be economically viable with a new, higher level of fixed costs. Additionally, in a competitive market, higher costs are ultimately passed on to the consumer, either in the form of higher rates, or in other costs linked to origination. The natural question to ask is to what extent is the increase in the spread a function of the increases in origination costs highlighted earlier.

Unfortunately, we do not have a fully consistent time series over this entire time period to test the hypothesis regarding the impact of higher loan production expenses, and hence lower lender profitability, on primary–secondary spreads. MBA produced annual cost studies for many years prior to the production of the

EXHIBIT 8

Refinance Share and Primary–Secondary Spread



Quarterly Performance Report. Changes in the sample and other aspects of the study make the results not strictly comparable. Just in terms of first approximations, however, Exhibits 7 and 8 show the time series relationships among the spread, loan production expenses, and the refinance share of originations. The simple correlations over the entire time period are 0.65 for loan production expenses and 0.23 for the refinance share.

Using a simple multivariate approach to gauge the quantitative impact, Exhibits 9 and 10 provide the results from regressions over two time periods: first, using the quarterly frequency data from the Q3 2008 to Q3 2015 *Quarterly Performance Reports* and, second, using the annual data from the 1992–2007 cost studies (Exhibit 10).

Both sets of results show a positive and statistically significant relationship between primary–secondary spreads and the refinance share, consistent with industry belief that lenders ration the pace of production somewhat through their pricing, particularly during refi waves.

EXHIBIT 9

Quarterly Frequency Data, 2008Q2–2015Q3

Variable	R ² = 0.73			R ² = 0.26		
	Coefficient	t-Stat	P-Value	Coefficient	t-Stat	P-Value
Intercept	19.13	0.71	0.48	–11.87	–0.28	0.78
Loan expense/volume	0.12	1.68	0.11	0.30	2.85	0.01
Refinance share	0.67	2.77	0.01	1.02	2.68	0.01
Origination volume	1.04E-04	6.52	0.00			

Note: Bold indicates statistically significant at the 5% level.

EXHIBIT 10

Annual Frequency Data, 1992–2007

Variable	R ² = 0.44			R ² = 0.28		
	Coefficient	t-Stat	P-Value	Coefficient	t-Stat	P-Value
Intercept	52.78	3.49	0.00	52.40	3.20	0.01
Loan expense/volume	0.03	0.36	0.73	0.05	0.70	0.50
Refinance share	0.65	3.01	0.01	0.39	2.24	0.04
Origination volume	−1.71E-09	−1.80	0.10			

Note: Bold indicates statistically significant at the 5% level.

Focusing in on loan production expenses, this relationship for the longer time series is not significantly different from zero, but in the specification that includes only loan production expenses and the refinance share for the recent time period with the quarterly data, loan production expenses have a significant impact on spreads. In terms of magnitudes, this relationship indicates that a 50-bp increase in loan production expenses as a percentage of loan volume has resulted in a 15-bp increase in the primary–secondary spread. As shown earlier, the remaining expenses appear to this point to have reduced lender profitability. As indicated by the different results for the different time periods, however, this simple relationship has not been stable over time. Likely, consolidation in the industry will result in different pricing versus expense relationships going forward.

In summary, it is clear that mortgage banker profitability has decreased recently due to sharp increases in loan production expenses. Data analysis indicates that that wider primary–secondary spreads are associated with higher refinance shares, as predicted by typical industry

pricing behavior, but that in the more recent period, spreads have also been wider as expenses have increased.

These findings are consistent with economic theory which suggests that in a competitive market, sustained increases in costs are likely to be borne by consumers, even if business profits can absorb the additional cost for some period of time. This analysis also highlights the potential importance of this cost data for prepayment modeling. Prepayment behavior is much more tightly linked

to primary market as opposed to secondary market rates. Therefore, investors need to clearly understand the drivers of primary–secondary spreads if they are to more precisely predict prepayment speeds. Given the apparent change with respect to the importance of loan production expenses, investors may need to recalibrate their prepayment models accordingly.

ENDNOTES

¹See <https://www.mba.org/news-research-and-resources/forecasts-data-and-reports/single-family-research/weekly-applications-survey>.

²See <https://www.ffiec.gov/hmda/>.

³These reports are available online at <https://www.mba.org/news-research-and-resources/forecasts-data-and-reports/single-family-research/mortgage-bankers-performance-reports-quarterly-and-annual>.

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