HOUSING FINANCE POLICY CENTER

HOUSING FINANCE AT A GLANCE

A MONTHLY CHARTBOOK

July 2020

URBAN INSTITUTE · ELEVATE · THE · DEBATE

ABOUT THE CHARTBOOK

The Housing Finance Policy Center's (HFPC) mission is to produce analyses and ideas that promote sound public policy, efficient markets, and access to economic opportunity in the area of housing finance. *At A Glance*, a monthly chartbook and data source for policymakers, academics, journalists, and others interested in the government's role in mortgage markets, is at the heart of this mission.

We welcome feedback from our readers on how we can make *At A Glance* a more useful publication. Please email any comments or questions to ataglance@urban.org.

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HOUSING FINANCE POLICY CENTER STAFF

Laurie Goodman
Center Vice President

Alanna McCargo
Center Vice President

Jim Parrott
Nonresident Fellow

Jun Zhu
Nonresident Fellow

Sheryl Pardo
Associate Director of Communications

Karan Kaul
Senior Research Associate

Michael Neal
Senior Research Associate

Jung Choi
Research Associate

Linna Zhu
Research Associate

Sarah Strochak
Research Analyst

John Walsh
Research Assistant

Caitlin Young
Research Assistant

Alison Rincon
Director, Center Operations

Gideon Berger
Senior Policy Program Manager

Rylea Luckfield
Special Assistant and Project Administrator

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INTRODUCTION

Institutionalized Forbearance Has Helped the Most Vulnerable Homes Remain in Their Homes

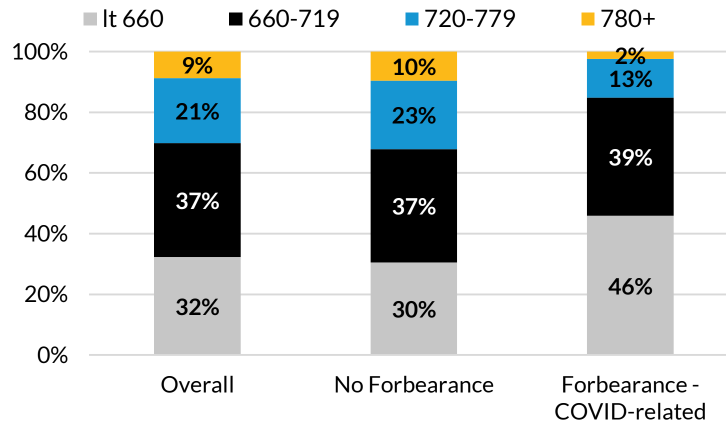
The coronavirus heightened the risk that mortgaged homeowners would be unable to make their loan payments. In response, Congress passed legislation institutionalizing forbearance on a nationwide scale, which has helped to keep those homeowners from losing their homes. The good news is that the share of loans in forbearance is declining as workers return from temporary layoff, according to the Mortgage Bankers Association (MBA).

However, the share of loans in forbearance remains elevated at 7.8 percent as of July 12, 2020 according to MBA. While the share of loans in forbearance across Fannie Mae and Freddie Mac sits at 5.6 percent, the share among Ginnie Mae loans is 10.3 percent and the forbearance share across portfolio loans and private label securities sits at 10.4 percent.

Ginnie Mae borrowers in a COVID-related forbearance have lower credit scores.

We use forbearance data provided by Ginnie Mae to illustrate the credit characteristics on Ginnie Mae mortgages in COVID-related forbearance. The recent results confirm that forbearance has had a large impact on Ginnie Mae mortgages. Our calculations from this dataset, which ends with mortgages having a first payment date in May 2020, indicates that COVID-related forbearances account for 10.8 percent of the total outstanding Ginnie Mae loans. Mortgages in a non-COVID related forbearance, which were excluded from this analysis, accounted for 0.6 percent of all outstanding loans.

Composition of Ginnie Mae Loans by Credit Score Buckets



Source: Urban Institute calculations of data provided by Ginnie Mae.

And while there was little difference in loan-to-value ratios, there was a 4 percentage point gap in the debt-to-income ratios overall, with a 3 percentage point gap within purchase loans and a 5 percentage point gap within refinance loans.

The summary results on credit characteristics of Ginnie Mae forbearances suggest that borrowers with weakest credit characteristics are more likely to be impacted by COVID. If this view of COVID's impact is correct, it would indicate that institutionalized forbearance has kept the most vulnerable homeowners from losing their homes. However, the tightened credit box resulting from forbearance needs to be eliminated, as these tighter standards bar some otherwise qualified homeowners from purchasing or refinancing amid historically low mortgage rates and high levels of housing equity.

Typical Credit Characteristics on Ginnie Mae Loans (Median)

No Forbearance						
	Overall	Purchase	Purchase - First time homebuyer	Purchase - Non First-time homebuyer	Refinance	Loan Modifications
Credit Score	687	686	680	701	698	621
Debt-to Income-Ratio	40.0%	40.5%	40.3%	41.2%	37.9%	40.0%
Loan-to-Value Ratio	96.5%	96.5%	96.5%	96.5%	89.0%	96.3%
In COVID-related Forbearance						
	Overall	Purchase	Purchase - First time homebuyer	Purchase - Non First-time homebuyer	Refinance	Loan Modifications
Credit Score	664	665	663	671	668	624
Debt-to Income-Ratio	43.7%	44.0%	43.8%	45.0%	42.5%	41.0%
Loan-to-Value Ratio	96.5%	96.5%	96.5%	96.5%	90.0%	96.3%

Source: Urban Institute calculations of data from Ginnie Mae (loan modifications include both HAMP and non-HAMP).

The top graph indicates that 46 percent of mortgages in a COVID-related forbearance had a credit score below 660, compared to just 30 percent of the non-forborne loans and 39 percent of forborne loans had a credit score between 660 and 720 compared to 37 percent of forborne loans.

The weaker credit profile for borrowers of Ginnie Mae loans in COVID-related forbearance holds true overall and for both purchase and refinance loans, but does not apply to modified loans. The overall gap in the median credit score between forborn and non-forborn loans is 23 points, with a 21-point gap between purchase loans (only 17 points for first time homebuyers) and a 30-point gap between refinance loans.

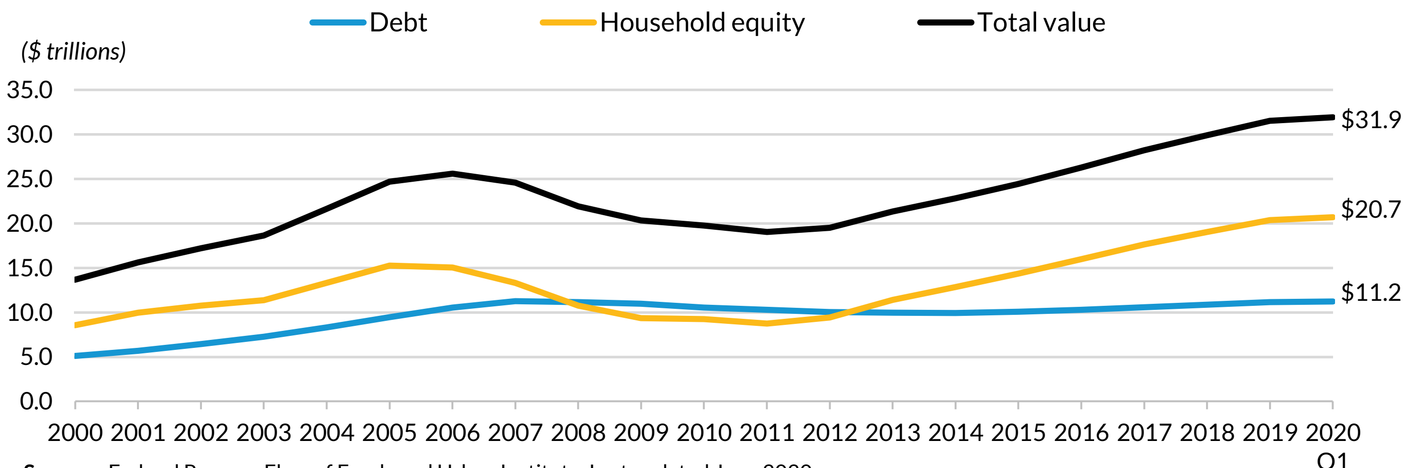
INSIDE THIS ISSUE

- The 15-year fixed-rate share of new originations grew to a seven year high 15.8 percent in May of 2020, as the number of refinances continues to grow (Page 8).
- Freddie issued STACR 2020-DNA3 in July, the first credit risk transfer securitization since the COVID caused spread widening in July. Fannie Mae has not issued a deal since March (Page 27).
- Courtesy of record low interest rates, 2020 is on track to become the single highest year ever for gross agency MBS issuance (Page 30).

MARKET SIZE OVERVIEW

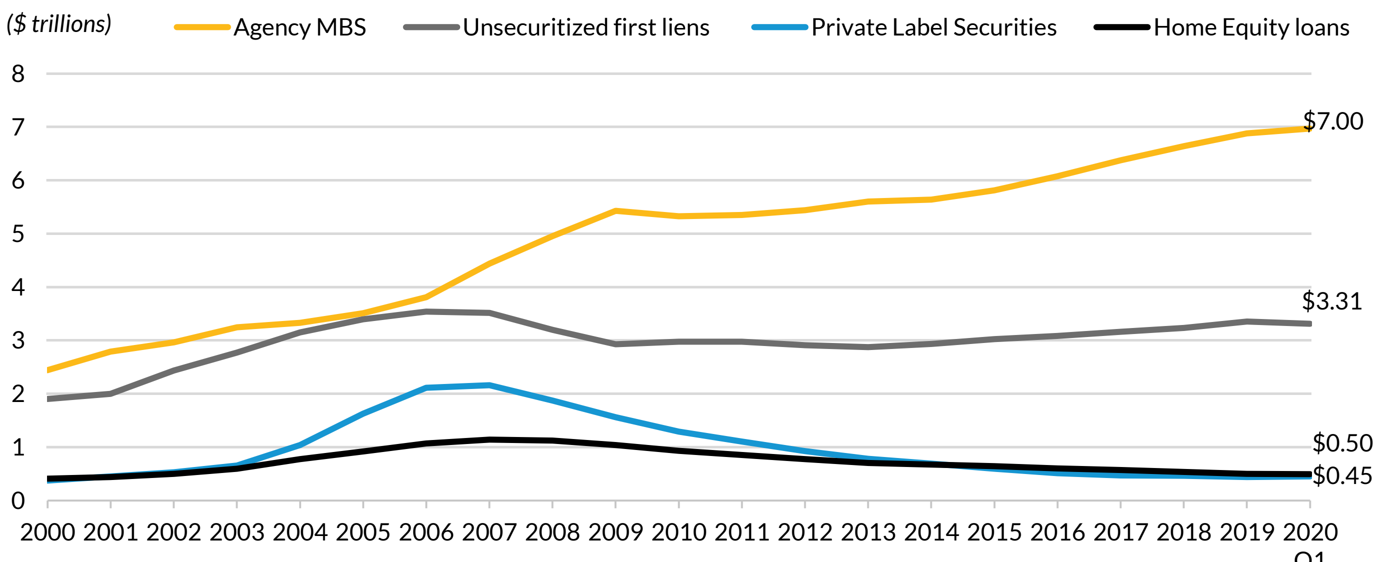
The Federal Reserve's Flow of Fund Report has indicated a gradually increasing total value of the housing market, driven primarily by growing home equity since 2012. The Q1 2020 numbers show that while mortgage debt outstanding was steady this quarter at $11.2 trillion, total home equity grew slightly from $20.3 trillion in Q4 2019 to $20.7 trillion in the first quarter of 2020, bringing the total value of the housing market to $31.9 trillion, 24.8 percent higher than the pre-crisis peak in 2006. Agency MBS account for 62.1 percent of the total mortgage debt outstanding, private-label securities make up 4.0 percent, and unsecuritized first liens make up 30.0 percent. Home equity loans comprise the remaining 4.4 percent of the total.

Value of the US Single Family Housing Market



Sources: Federal Reserve Flow of Funds and Urban Institute. Last updated June 2020.
Note: Single family includes 1-4 family mortgages. The home equity number is grossed up from Fed totals to include the value of households and the non-financial business sector.

Composition of the US Single Family Mortgage Market



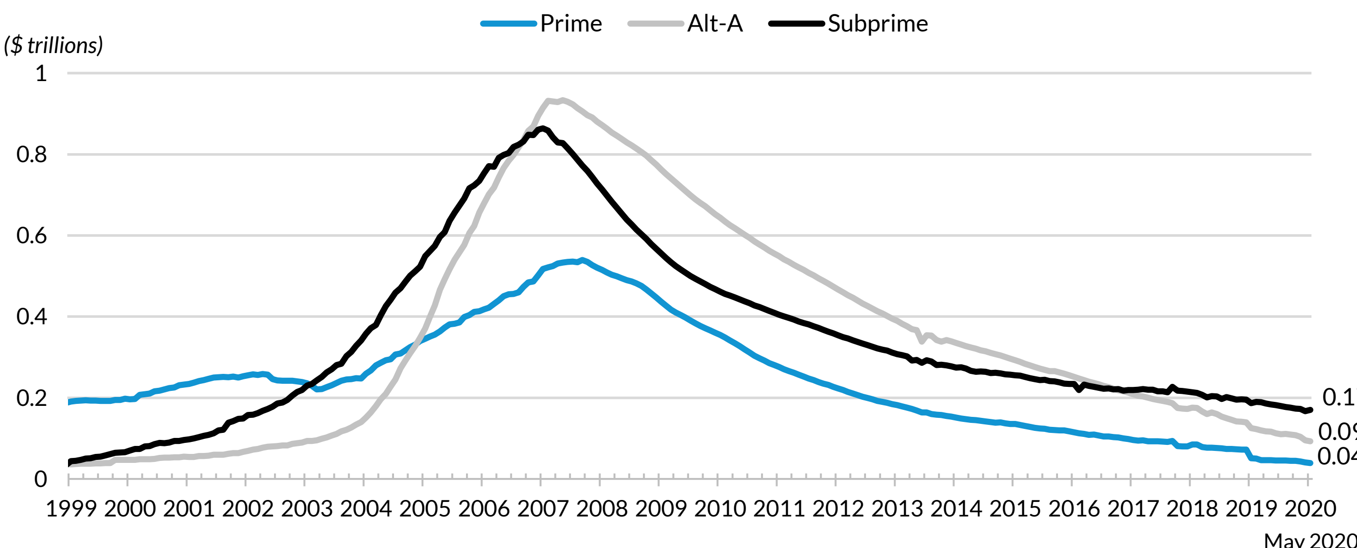
Sources: Federal Reserve Flow of Funds, eMBS and Urban Institute. *Last updated June 2020.*
Note: Unsecuritized first liens includes loans held by commercial banks, GSEs, savings institutions, credit unions and other financial companies

OVERVIEW

MARKET SIZE OVERVIEW

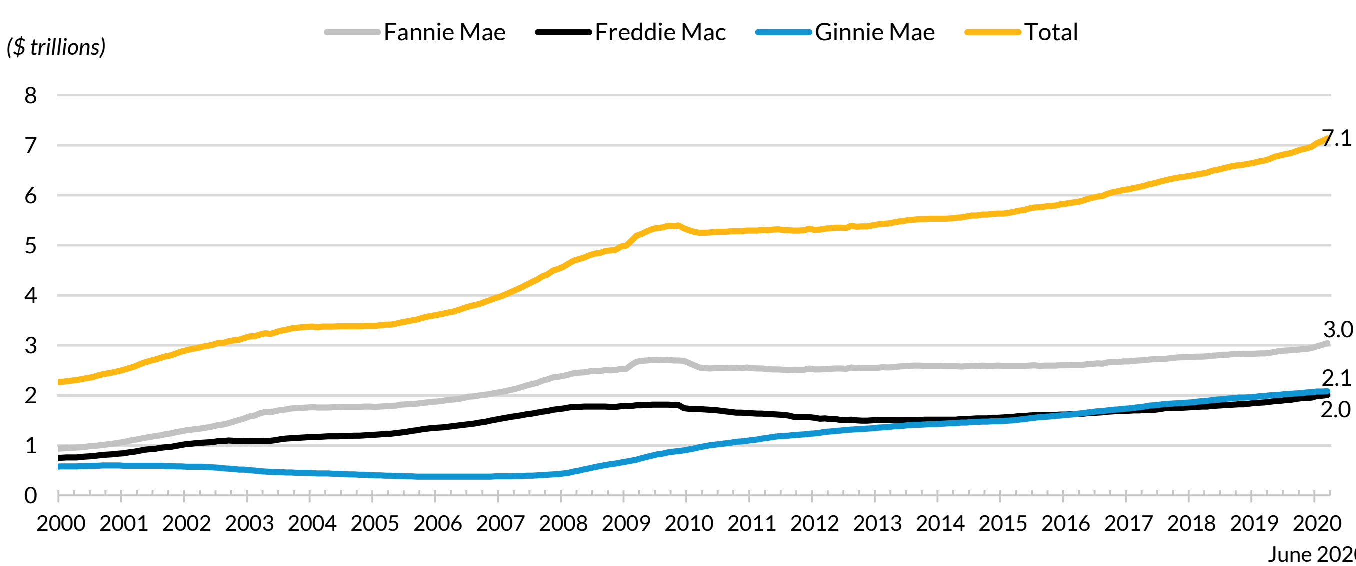
As of May 2020, our sample of first lien mortgage debt in the private-label securitization market totaled $302 billion and was split among prime (13.0 percent), Alt-A (30.7 percent), and subprime (56.3 percent) loans. In June 2020, outstanding securities in the agency market totaled $7.1 trillion, 42.6 percent of which was Fannie Mae, 28.2 percent Freddie Mac, and 29.2 percent Ginnie Mae. Ginnie Mae has had more outstanding securities than Freddie Mac since June 2016.

Private-Label Securities by Product Type



Sources: CoreLogic, Black Knight and Urban Institute.

Agency Mortgage-Backed Securities



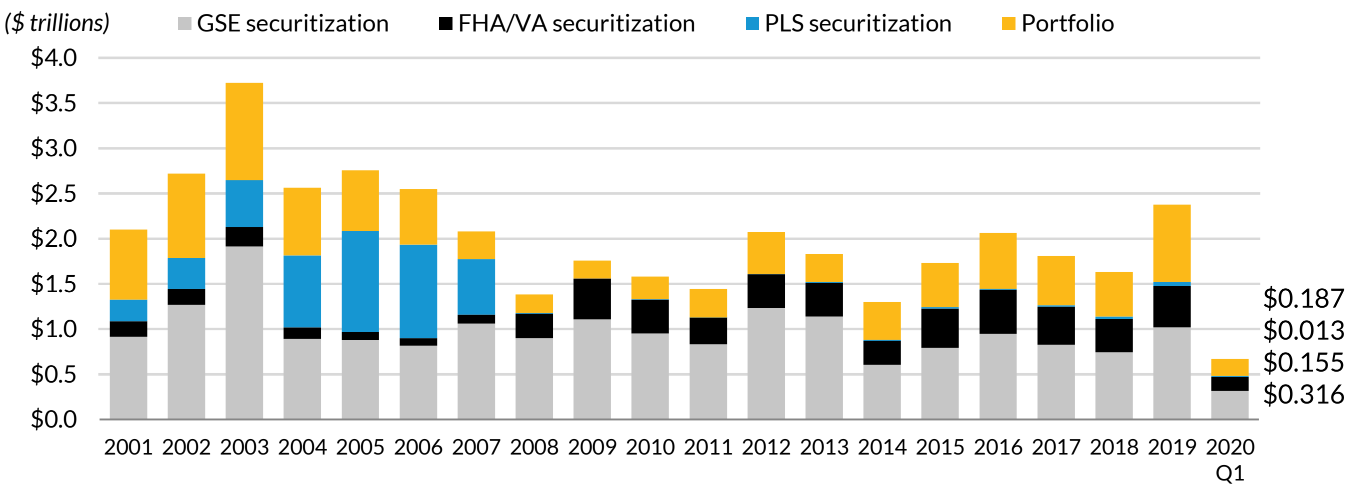
Sources: eMBS and Urban Institute.

OVERVIEW

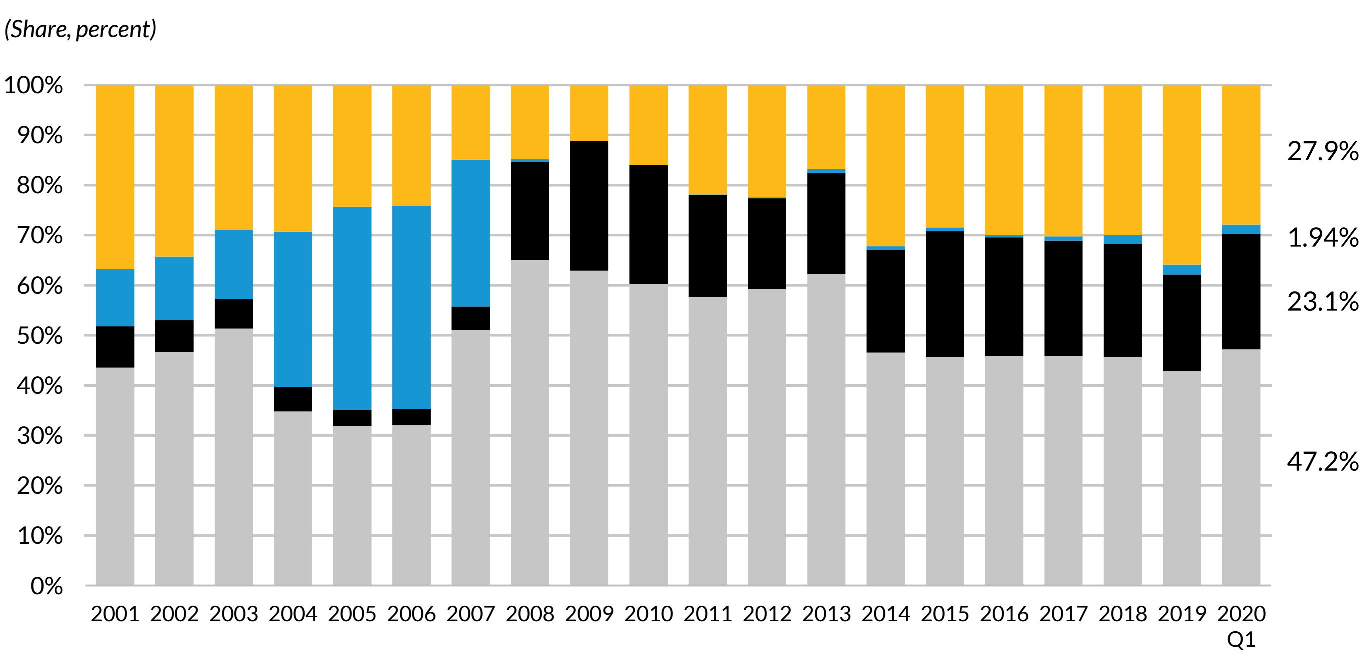
ORIGINATION VOLUME AND COMPOSITION

First Lien Origination Volume

In the first quarter of 2020, first lien originations totaled $670 billion, up from the Q1 2019 volume of $355 billion. The share of portfolio originations was 27.9 percent in Q1 2020, a significant decline from the 37.3 percent share in the same period of 2019. The Q1 2020 GSE share stood at 47.2 percent, up from 39.6 percent in Q1 2019. The FHA/VA share grew to 23.1 percent, compared to 21.0 percent last year. Private-label securitization currently tallies 1.9 percent, down from 2.9 percent one year ago, and a fraction of its share in the pre-bubble years.



Sources: Inside Mortgage Finance and Urban Institute. *Last updated May 2020.*



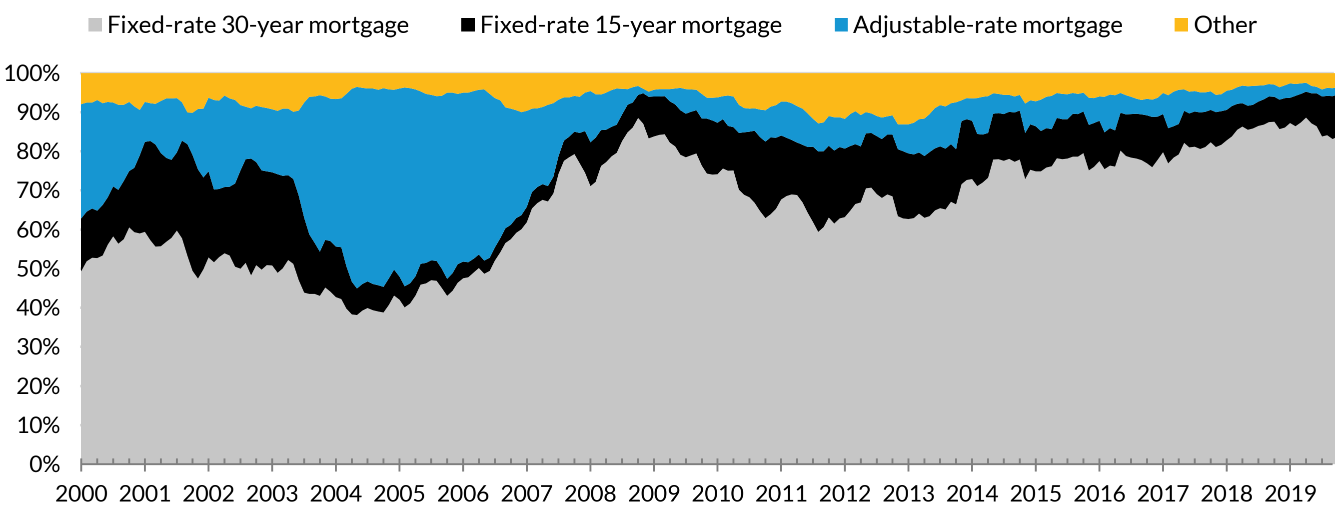
Sources: Inside Mortgage Finance and Urban Institute. *Last updated May 2020.*

OVERVIEW

PRODUCT COMPOSITION AND REFINANCE SHARE

The 30-year fixed-rate mortgage continues to remain the bedrock of the US housing finance system, accounting for 74.2 percent of new originations in May 2020. However, this share has decreased over the last two months from 81.1 percent in March. The 15-year fixed-rate mortgage share, predominantly a refinance product, grew to a 15.8 percent of new originations in May 2020 as refinances continue to boom due to record low interest rates. The ARM share accounted for 2.0 percent. Since late 2018, while there has been some month-to-month variation, the refinance share (bottom chart) has generally grown for both the GSEs and Ginnie Mae as interest rates have dropped. With rates at historic lows the refi share is very high; the GSEs are in the 75 to 79 percent range, Ginnie Mae at 52.8 percent.

Product Composition

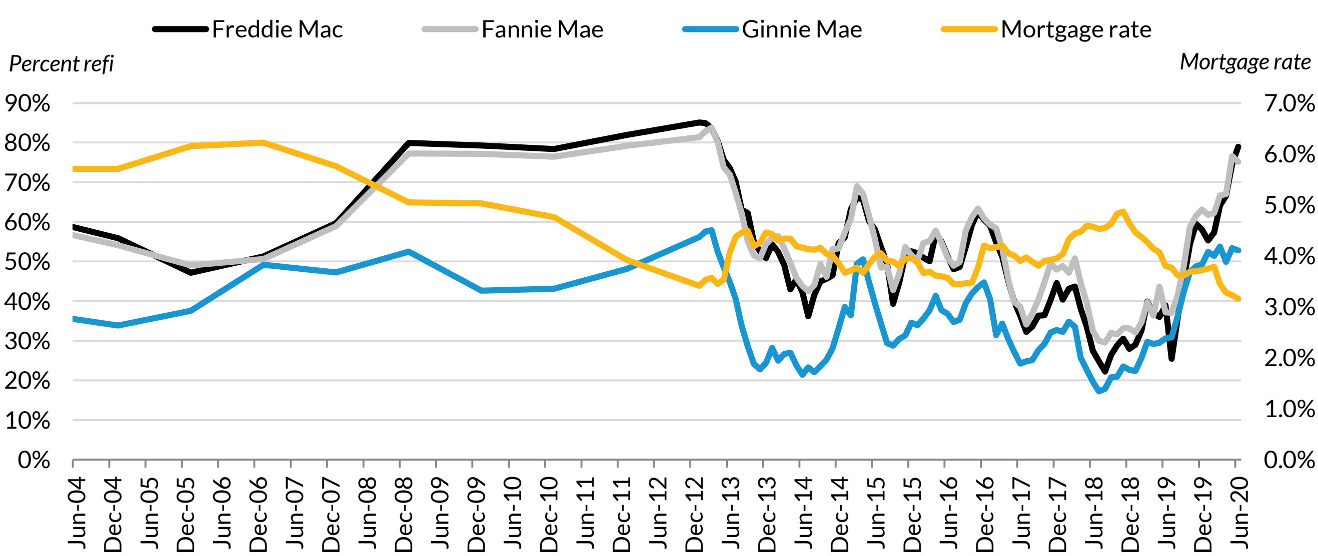


Sources: Black Knight, eMBS, HMDA, SIFMA and Urban Institute.

May 2020

Note: Includes purchase and refinance originations.

Percent Refi at Issuance



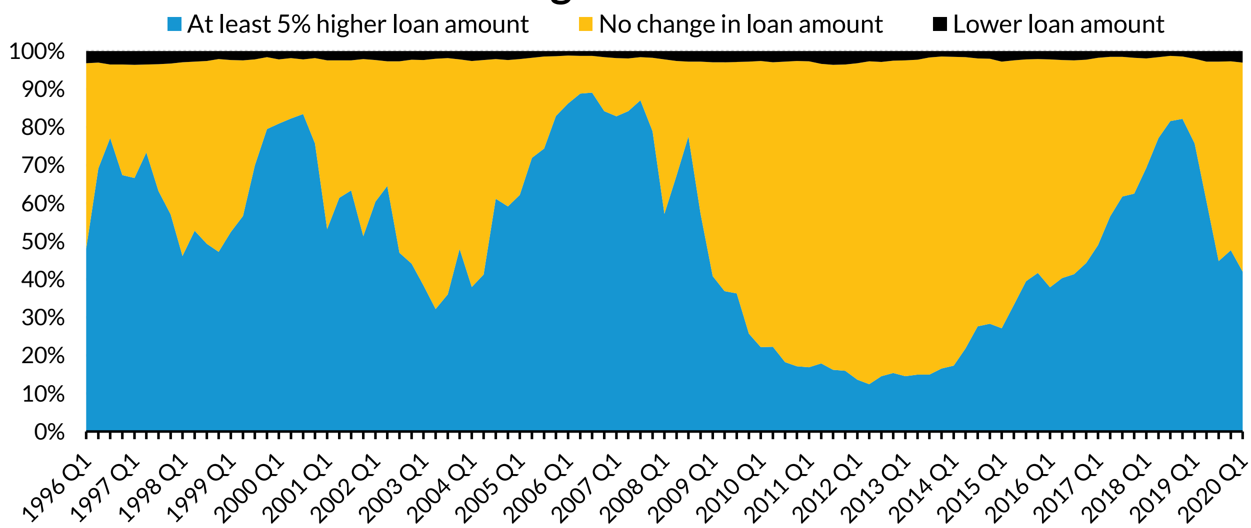
Sources: eMBS and Urban Institute.

Note: Based on at-issuance balance. Figure based on data from June 2020.

OVERVIEW
CASH-OUT REFINANCES

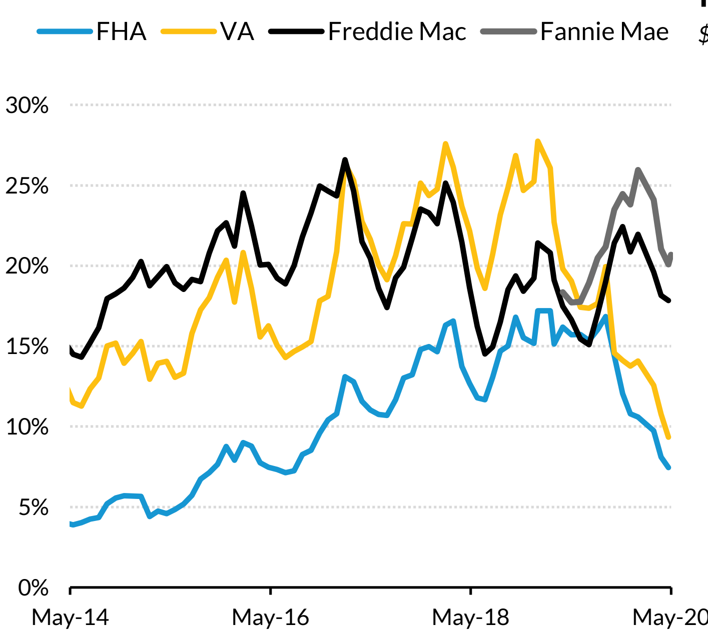
When mortgage rates are low, the share of cash-out refinances tends to be relatively smaller, as refinancing allows borrowers to save money by taking advantage of lower rates. But when rates are high, the cash-out refinance share is higher since the rate reduction incentive is gone and the only reason to refinance is to take out equity. The cash-out share of all refinances fell from 48 percent at the end of 2019 to 42 percent in the first quarter of 2020. While the cash-out refinance share for conventional mortgages may seem high at 42 percent, equity take-out volumes are substantially lower than during the bubble years. The cash-out refi share of FHA and VA lending has fallen in the first five months of 2020, likely due to the increased rate refinance activity from borrowers taking advantage of historically low rates. A slight rise in May ended a four month drop in the cash-out share of GSE lending.

Loan Amount after Refinancing



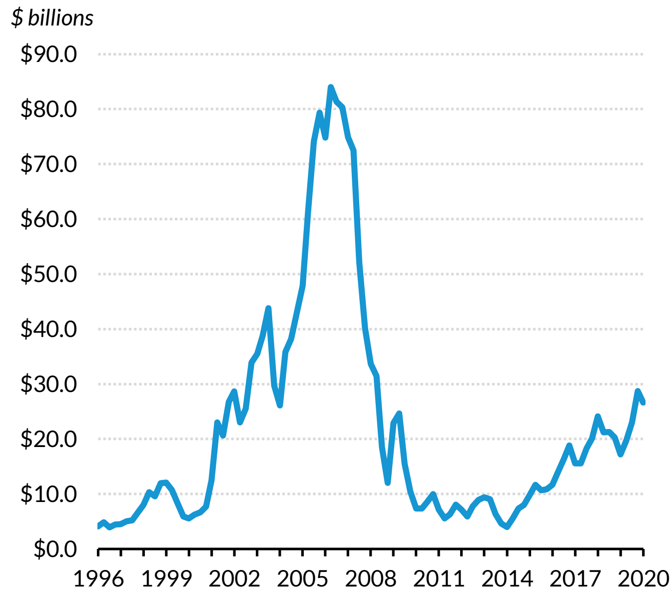
Sources: Freddie Mac and Urban Institute.
Note: Estimates include conventional mortgages only.

Cash-out Refi Share of All Originations



Sources: eMBS and Urban Institute.
Note: Data as of May 2020.

Equity Take-Out from Conventional Mortgage Refinance Activity



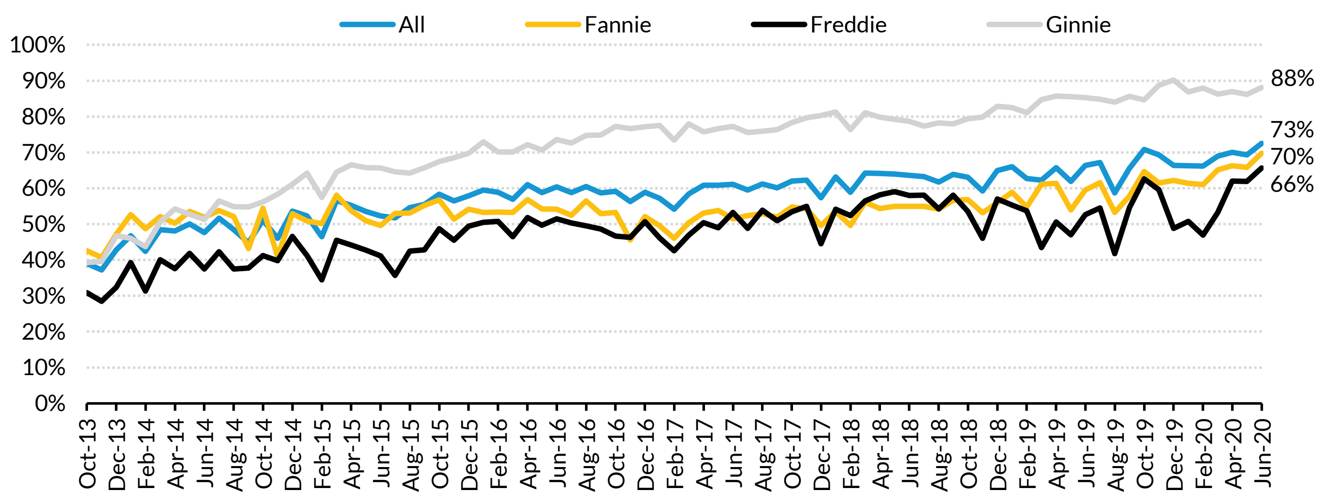
Sources: Freddie Mac and Urban Institute.
Note: These quarterly estimates include conventional mortgages only.

Q1 2019

AGENCY NONBANK ORIGINATION SHARE

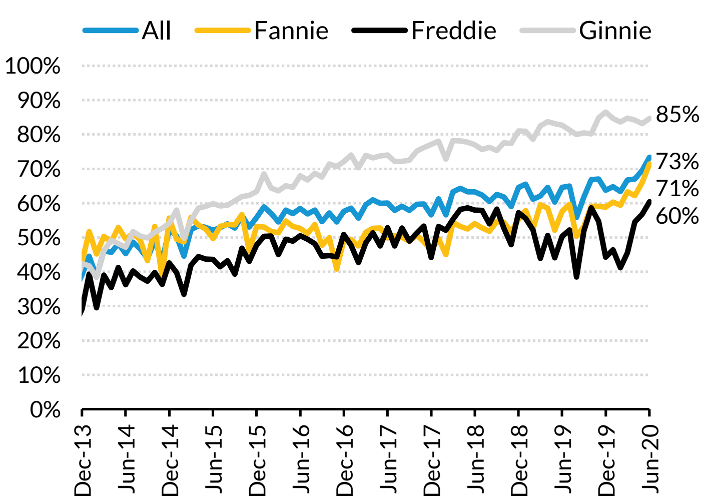
The nonbank share for agency originations has been rising steadily since 2013, standing at 73 percent in June 2020. The Ginnie Mae nonbank share has been consistently higher than the GSEs, rising in June 2020 to 88 percent. Fannie and Freddie's nonbank shares both grew slightly in June, to 70 and 66 percent, respectively (note that these numbers can be volatile on a month-to-month basis.) Ginnie Mae and Freddie Mac both have higher nonbank origination shares for refi activity than for purchase activity; Fannie Mae has a higher share for purchase activity.

Nonbank Origination Share: All Loans



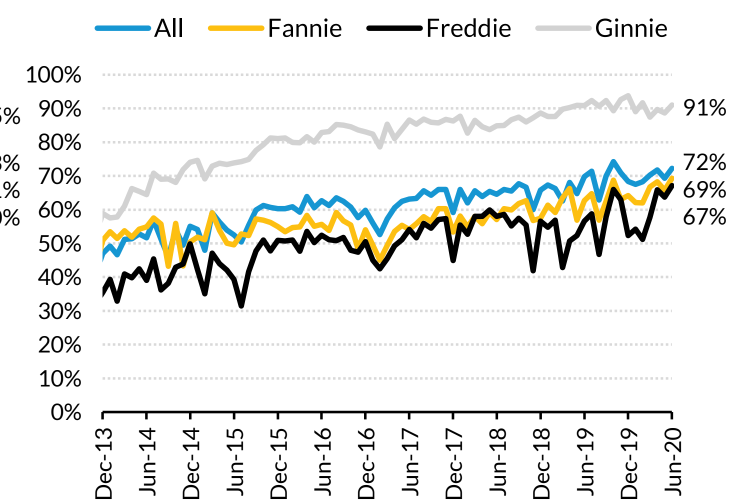
Sources: *eMBS and Urban Institute.*

Nonbank Origination Share: Purchase Loans



Sources: *eMBS and Urban Institute.*

Nonbank Origination Share: Refi Loans

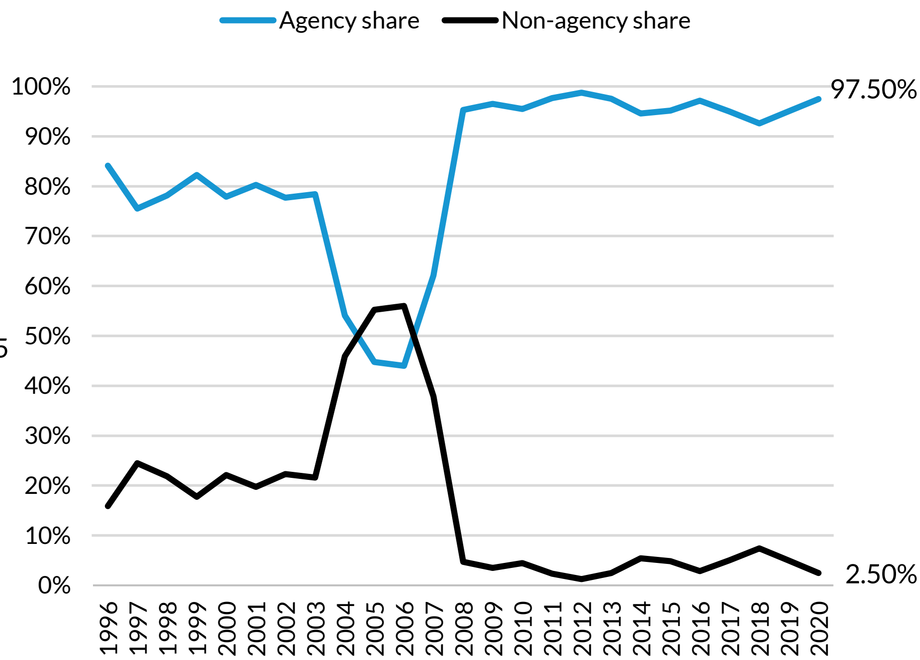


Sources: *eMBS and Urban Institute.*

SECURITIZATION VOLUME AND COMPOSITION

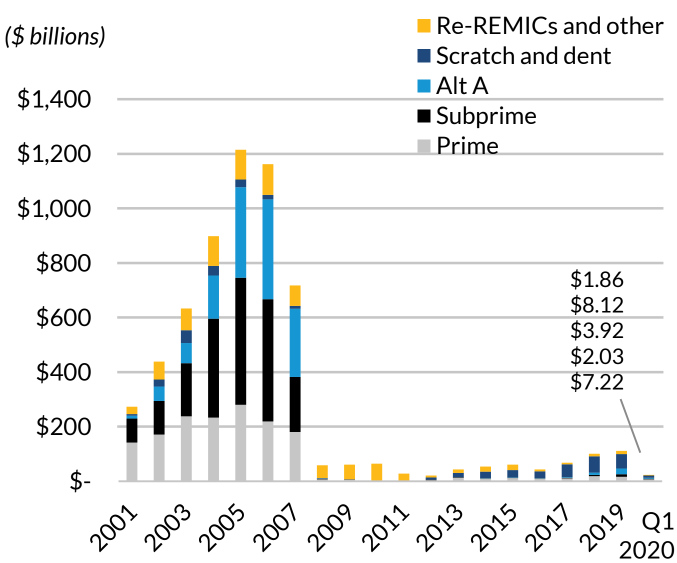
Agency/Non-Agency Share of Residential MBS Issuance

The non-agency share of mortgage securitizations has increased gradually over the post-crisis years, from 1.83 percent in 2012 to 5.0 percent in 2019. Through June of 2020, the non-agency share was 2.50 percent, and we expect it to go lower in the months ahead, as the non-agency market has been largely dormant due to dislocations caused by COVID-19. Non-agency securitization volume totaled $23.15 billion in Q1 2020, a decrease relative to Q1 2019's $24.93 billion total. Alt-A securitizations have grown, while scratch and dent securitizations have fallen since the same period last year. Non-agency securitizations continue to be tiny compared to pre-housing market crisis levels.



Sources: Inside Mortgage Finance and Urban Institute.
Note: Based on data from June 2020. Monthly non-agency volume is subject to revision.

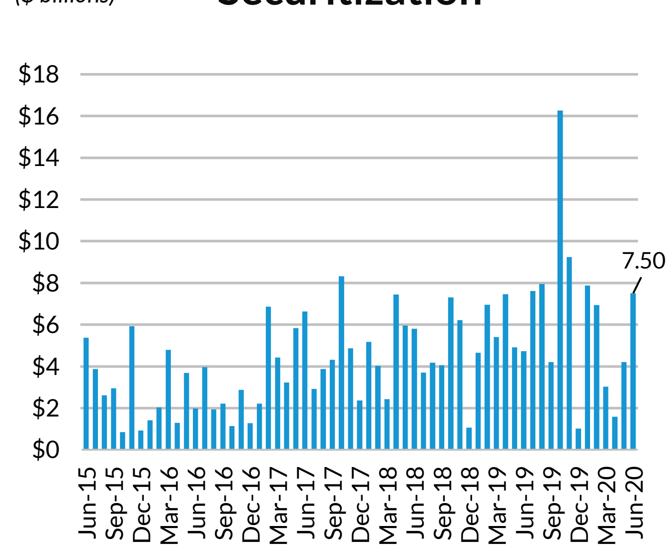
Non-Agency MBS Issuance



Sources: Inside Mortgage Finance and Urban Institute.

Monthly Non-Agency Securitization

($ billions)



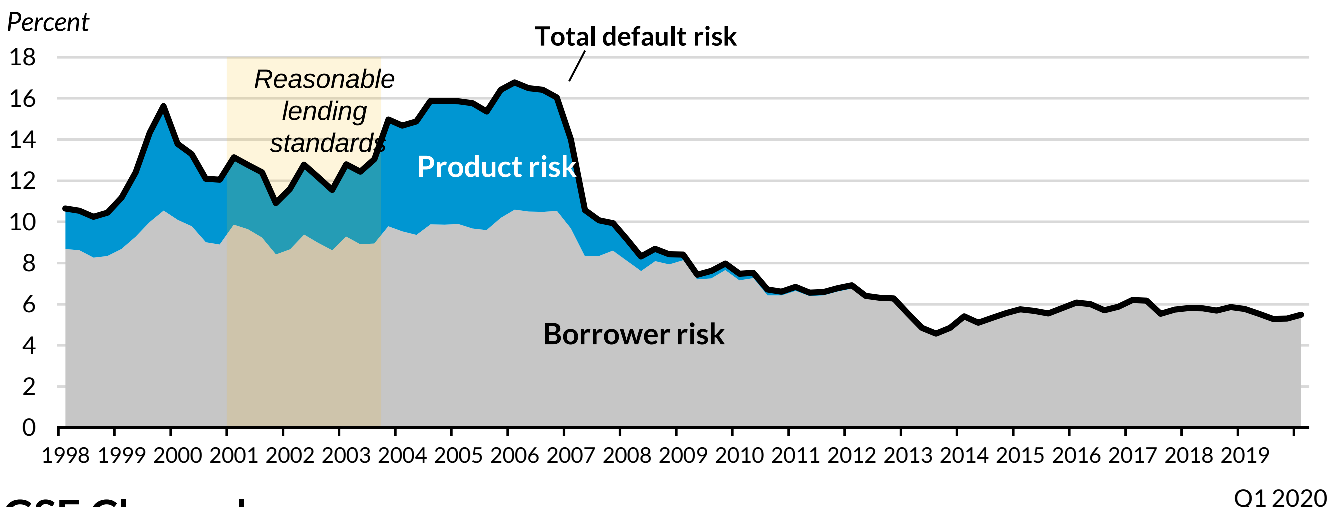
Sources: Inside Mortgage Finance and Urban Institute.

CREDIT BOX

HOUSING CREDIT AVAILABILITY INDEX

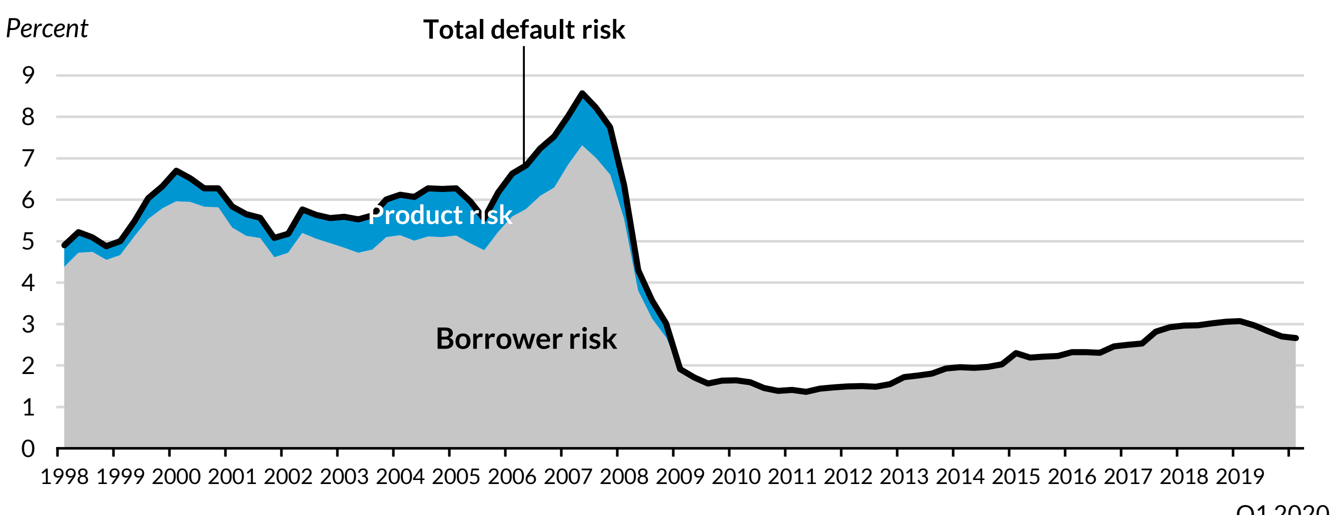
The Urban Institute's Housing Credit Availability Index (HCAI) assesses lenders' tolerance for both borrower risk and product risk, calculating the share of owner-occupied purchase loans that are likely to go 90+ days delinquent over the life of the loan. The HCAI Index stood at 5.5 percent in Q1 2020, up slightly from the end of 2019. The small increase was primarily driven by the increase in the government channel's market share; this may have been overstated as some of the portfolio and private label (PP) loans were stranded in the pipeline at quarter end due to COVID-19. This would exaggerate the shift to the FHA and GSE markets, and inflate credit availability, as the risk in the PP and GSE channels are similar and the risk in the government channel is higher. More information about the HCAI is available here.

All Channels



GSE Channel

The GSE market has expanded the credit box proportionately more than the government channel in recent years, although the GSE box is still much narrower. From Q2 2011 to Q1 2020, the total risk taken by the GSE channel has nearly doubled, from 1.4 percent to 2.6 percent. However, over the past year, credit availability has trended down and we anticipate this trend will become more acute in the second quarter of 2020 in response to the COVID-19 crisis.

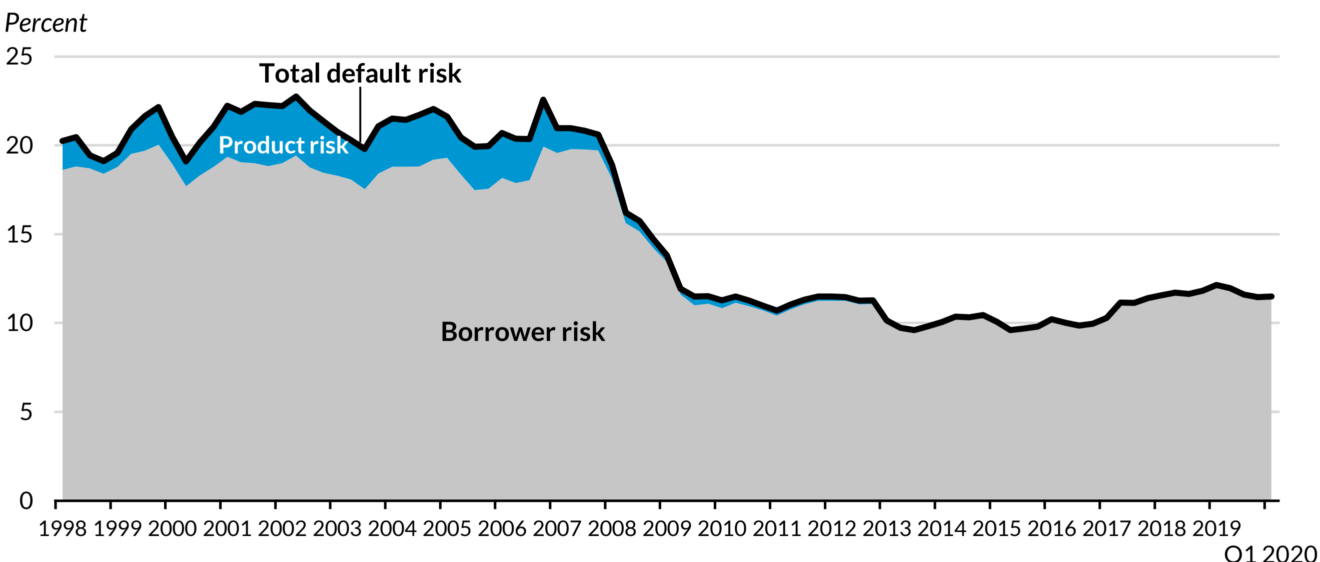


Sources: eMBS, CoreLogic, HMDA, IMF, and Urban Institute.
Note: Default is defined as 90 days or more delinquent at any point. *Last updated July 2020.*

HOUSING CREDIT AVAILABILITY INDEX

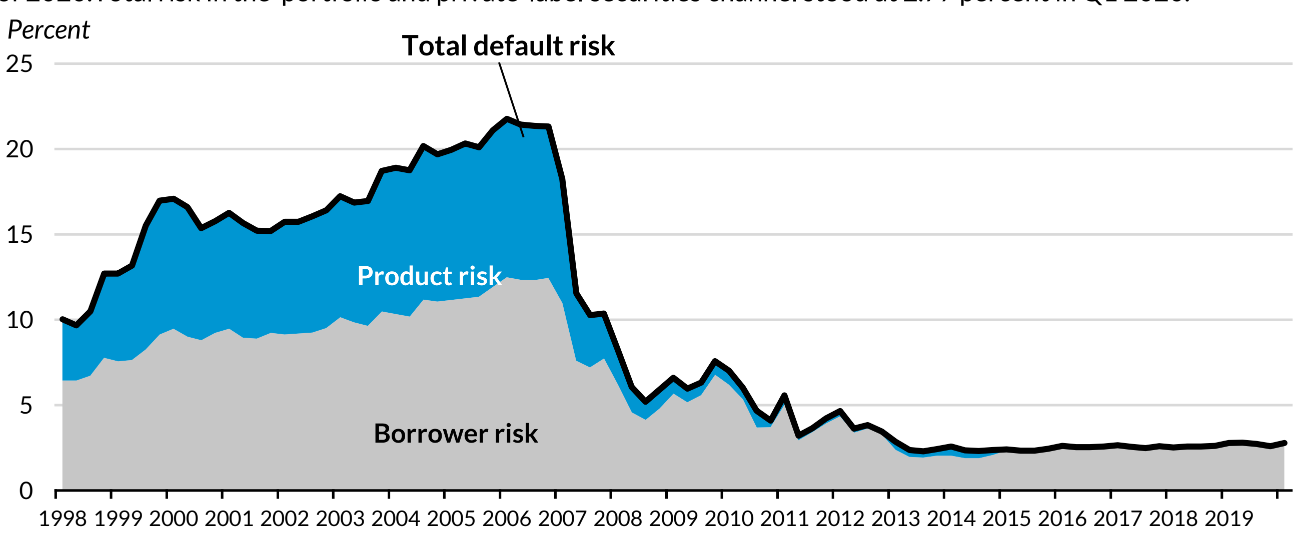
Government Channel

The total default risk the government channel is willing to take bottomed out at 9.6 percent in Q3 2013. It has gradually increased since then, up to 11.49 percent in Q1 2020, from 11.46 percent at the end of 2019.



Portfolio and Private Label Securities Channels

The portfolio and private-label securities (PP) channel took on more product risk than the government and GSE channels during the bubble. After the 2008 housing crisis, PP channel's product and borrower risks dropped sharply. The numbers have stabilized since 2013, with product risk fluctuating below 0.6 percent and borrower risk in the 2.0-3.0 percent range. Total risk in the PP channel was 2.77 percent in Q1 2020, consisting of 2.76 percent borrower risk and 0.01 percent product risk. Note that there was a sizeable contraction in the market share for this channel over the course of the quarter, reflecting both a shift to the agency market since the beginning of the year as well as the fact that some PP loans were stranded in the pipeline when COVID-19 hit and did not close in March of 2020.Total risk in the portfolio and private-label securities channel stood at 2.77 percent in Q1 2020.



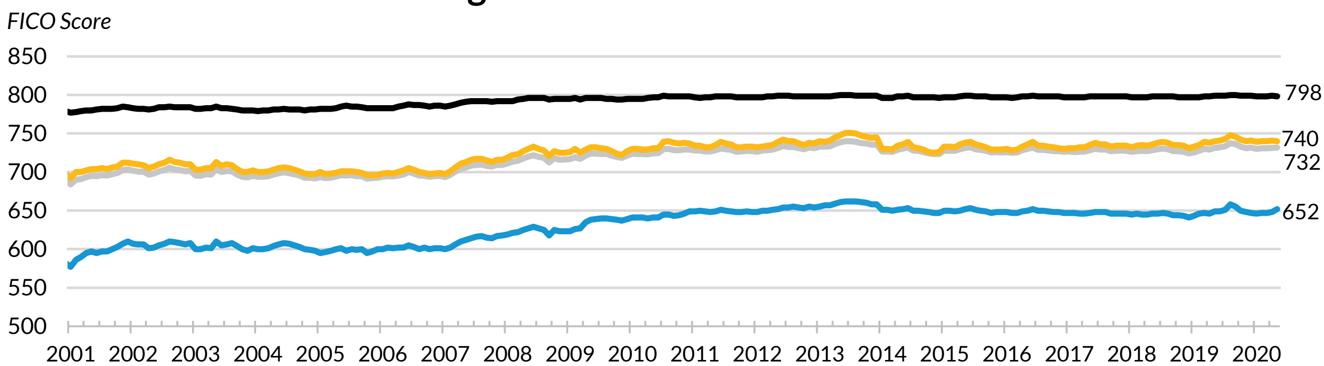
Sources: eMBS, CoreLogic, HMDA, IMF, and Urban Institute.
Note: Default is defined as 90 days or more delinquent at any point. *Last updated July 2020.*

CREDIT AVAILABILITY FOR PURCHASE LOANS

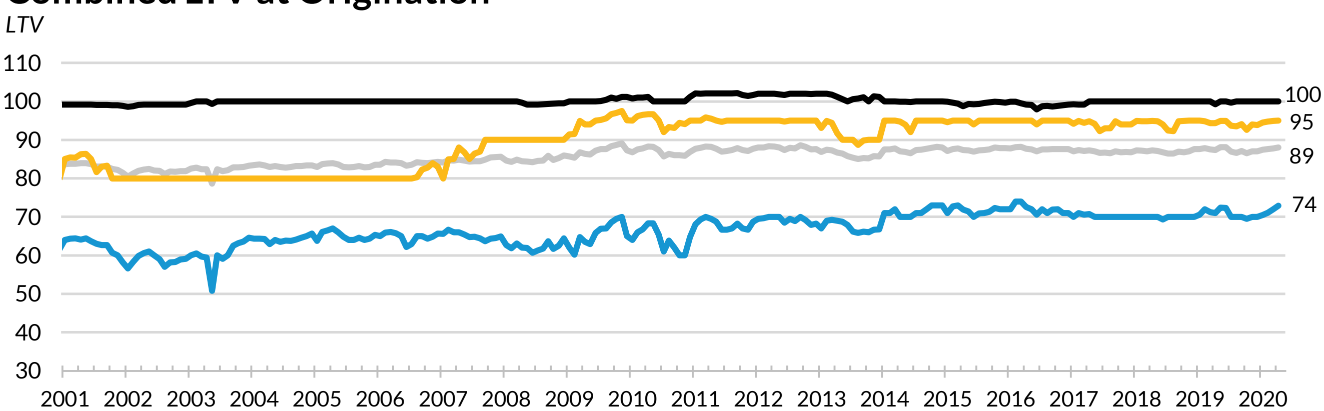
Access to credit remains tight, especially for lower FICO borrowers. The median FICO for current purchase loans is about 40 points higher than the pre-housing crisis level of around 700. The 10th percentile, which represents the lower bound of creditworthiness to qualify for a mortgage, was 652 in May 2020, which is high compared to low-600s pre-bubble. The median LTV at origination of 95 percent also remains high, reflecting the rise of FHA and VA lending. Although current median DTI of 38 percent exceeds the pre-bubble level of 36 percent, higher FICO scores more than compensate. Since this data is from May 2020, it reflects mortgage application activity in February, March, and April; it is just starting to show the credit tightening due to the effects of COVID-19.

Mean — 90th percentile — 10th percentile — Median

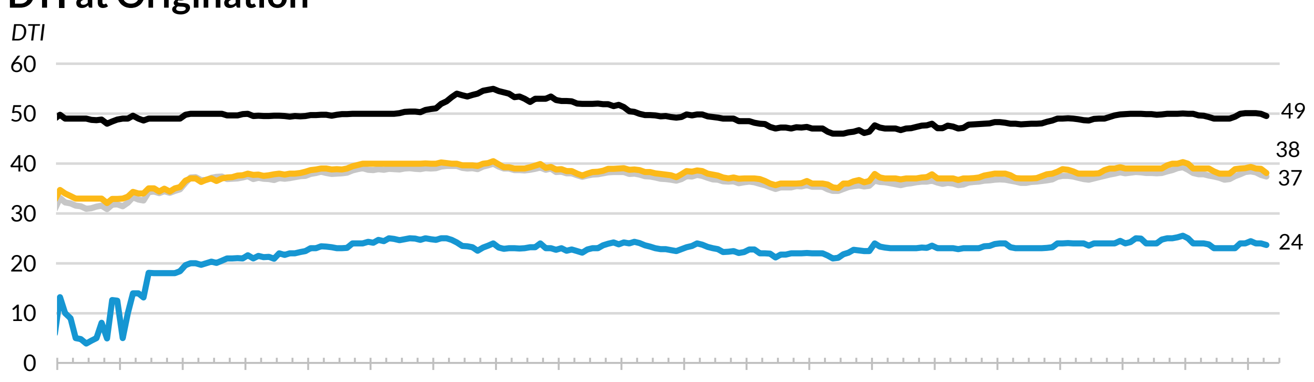
Borrower FICO Score at Origination



Combined LTV at Origination



DTI at Origination



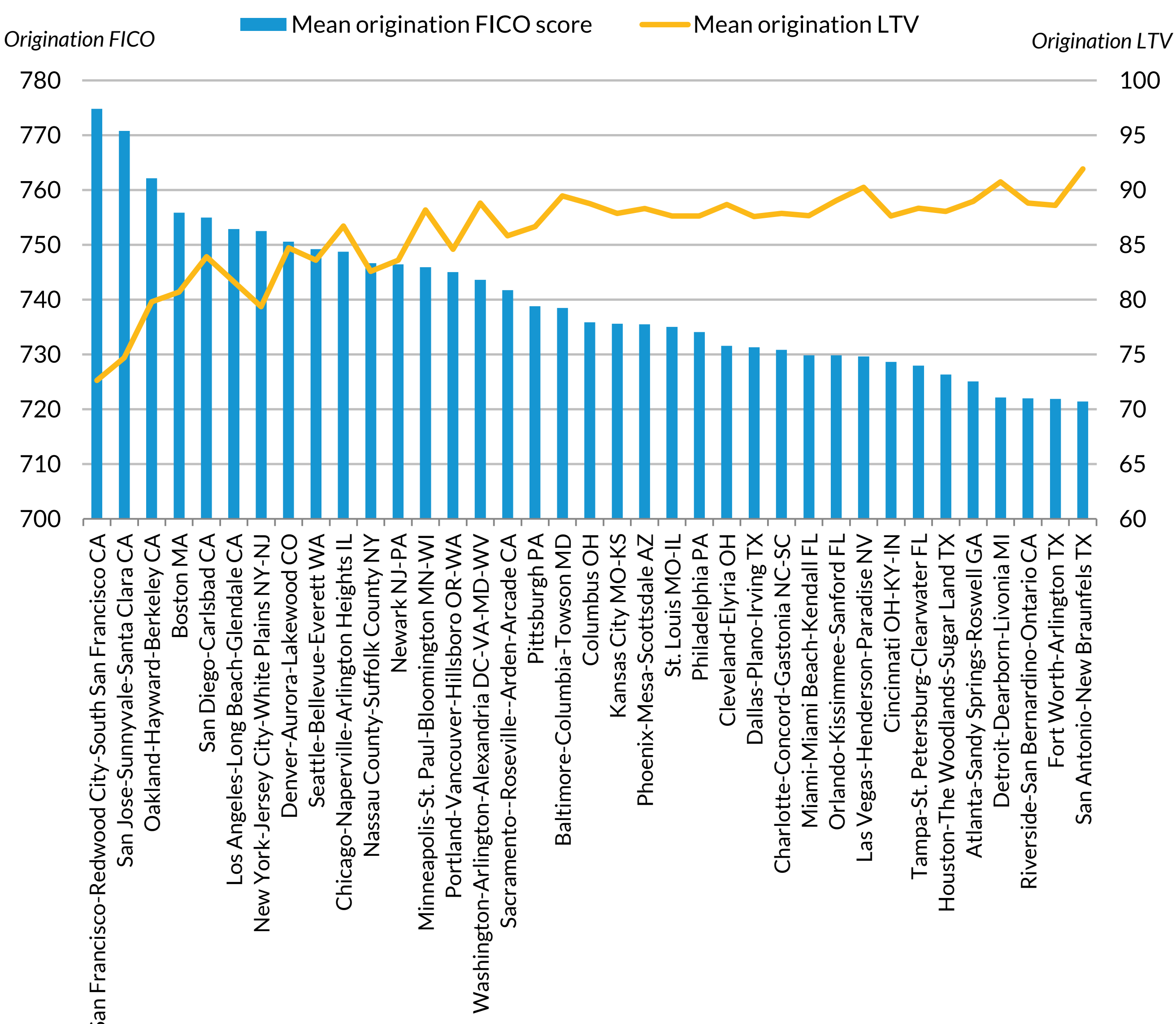
Sources: Black Knight, eMBS, HMDA, SIFMA, CoreLogic and Urban Institute.
Note: Includes owner-occupied purchase loans only. DTI data prior to April 2018 is from CoreLogic; after that date, it is from Black Knight. Data as of May 2020.

CREDIT BOX

CREDIT AVAILABILITY BY MSA FOR PURCHASE LOANS

Credit has been tight for all borrowers with less-than-stellar credit scores—especially in MSAs with high housing prices. For example, the mean origination FICO for borrowers in San Francisco-Redwood City-South San Francisco, CA is approximately 775. Across all MSAs, lower average FICO scores tend to be correlated with high average LTVs, as these MSAs rely heavily on FHA/VA financing.

Origination FICO and LTV

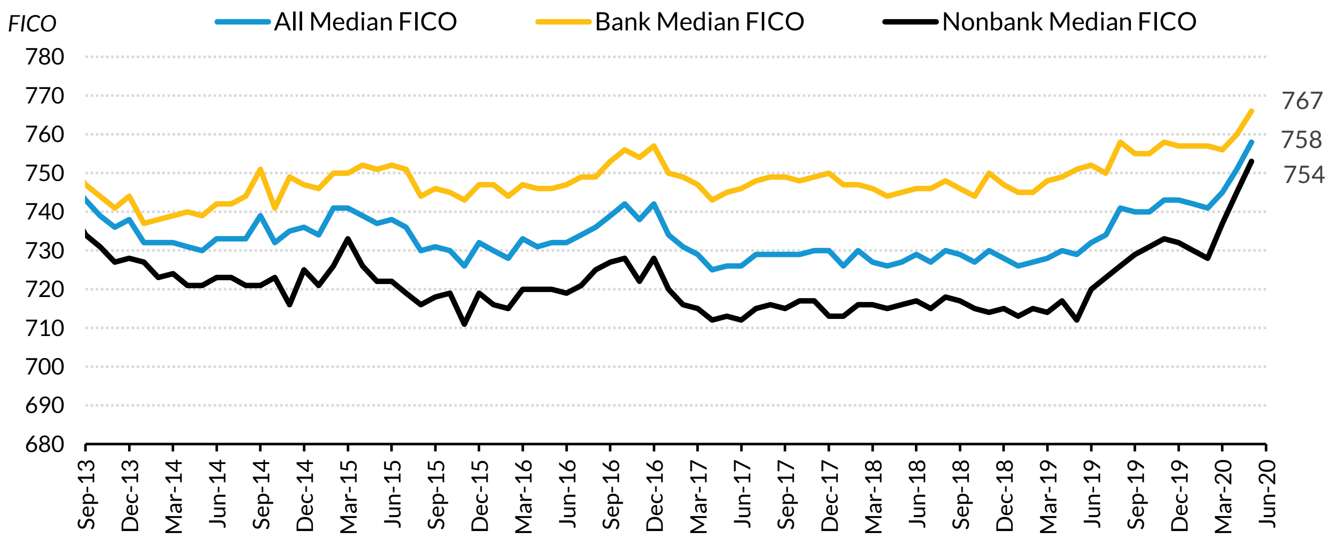


Sources: Black Knight, eMBS, HMDA, SIFMA and Urban Institute.
Note: Includes owner-occupied purchase loans only. Data as of May 2020.

AGENCY NONBANK CREDIT BOX

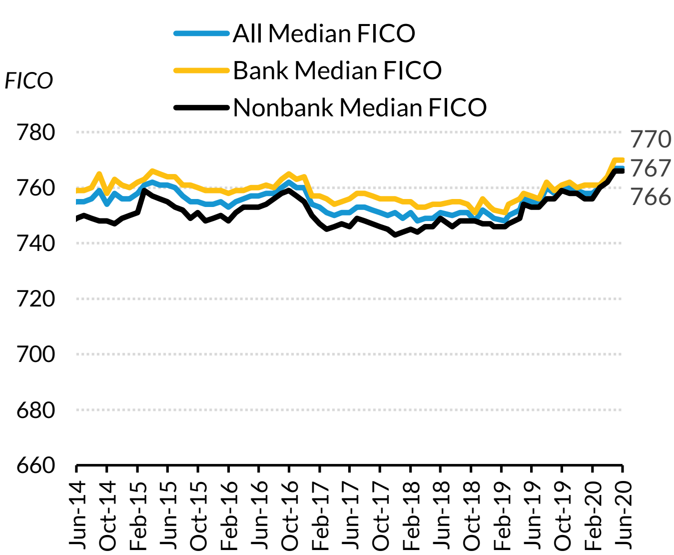
Nonbank originators have played a key role in expanding access to credit. In the GSE space, FICO scores for banks and nonbanks have nearly converged; the differential is much larger in the Ginnie Mae space. FICO scores for banks and nonbanks in both GSE and Ginnie Mae segments increased over the course of 2019 and early 2020, due to increased refi activity; this activity is skewed toward higher FICO scores. This has been particularly pronounced the last four months: March, April, May, and June of 2020. Comparing Ginnie Mae FICO scores today versus five years ago (late 2014), FICO scores have risen significantly for the banks, while those of the non-banks were roughly constant; this reflects a sharp cut-back in FHA lending by many banks. As pointed out on page 11, banks comprise only about 12 percent of Ginnie Mae originations.

Agency FICO: Bank vs. Nonbank



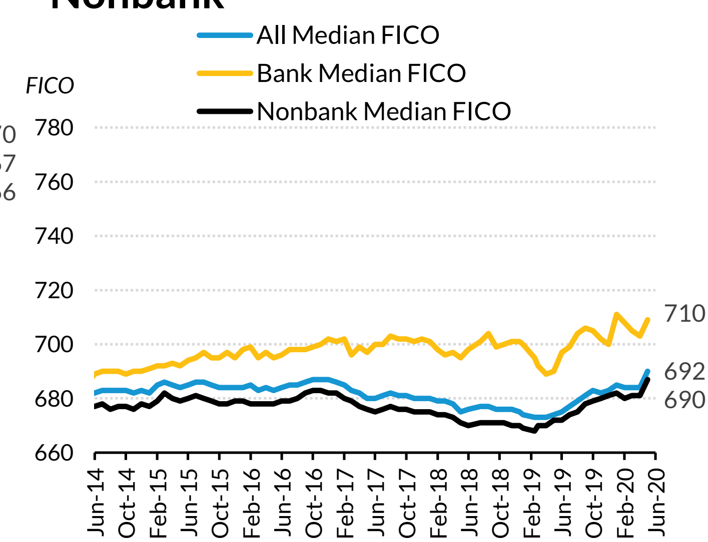
Sources: *eMBS and Urban Institute.*

GSE FICO: Bank vs. Nonbank



Sources: *eMBS and Urban Institute.*

Ginnie Mae FICO: Bank vs. Nonbank

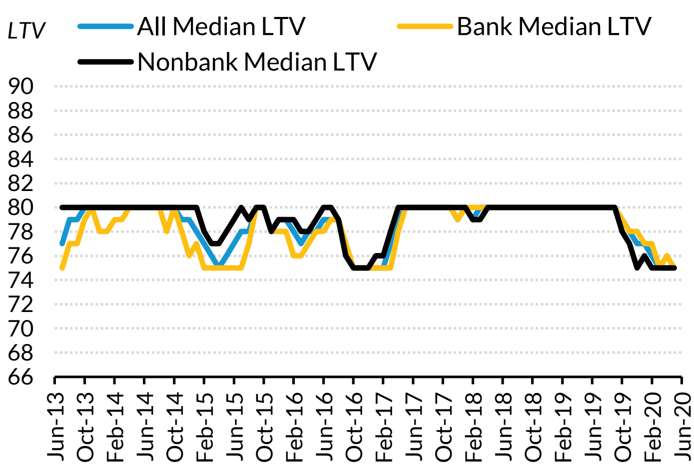


Sources: *eMBS and Urban Institute.*

AGENCY NONBANK CREDIT BOX

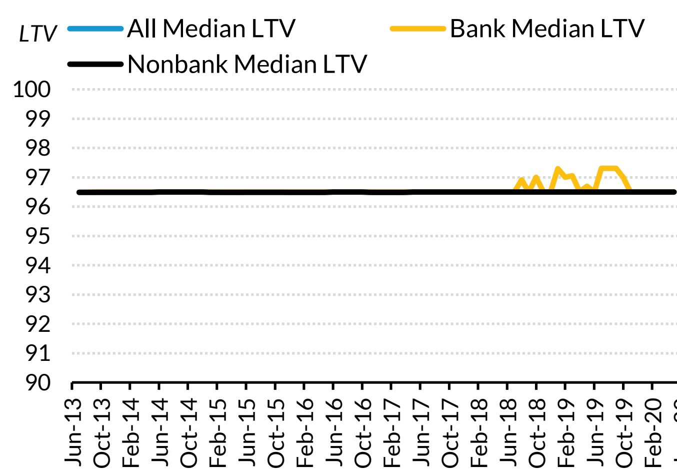
The median LTVs for nonbank and bank originations are comparable, while the median DTI for nonbank loans is higher than for bank loans, more so in the Ginnie Mae space. From early 2017 to early 2019, there was a sustained increase in DTIs, which has reversed beginning in the spring of 2019. This is true for both Ginnie Mae and the GSEs, for banks and nonbanks. As interest rates in 2017 and 2018 increased, DTIs rose, because borrower payments were driven up relative to incomes. As rates fell during most of 2019 and thus far in 2020, DTIs fell as borrower payments declined relative to incomes.

GSE LTV: Bank vs. Nonbank



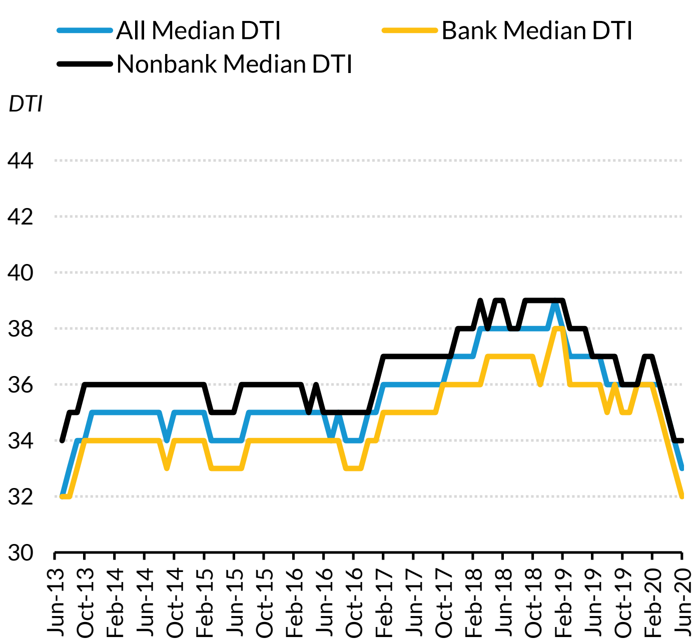
Sources: *eMBS and Urban Institute.*

Ginnie Mae LTV: Bank vs. Nonbank



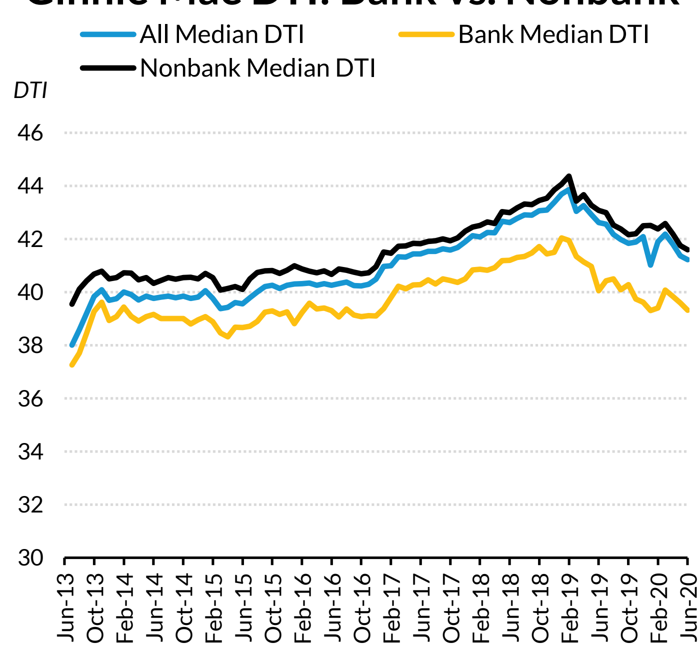
Sources: *eMBS and Urban Institute.*

GSE DTI: Bank vs. Nonbank



Sources: *eMBS and Urban Institute.*

Ginnie Mae DTI: Bank vs. Nonbank



Sources: *eMBS and Urban Institute.*

MORTGAGE ORIGINATION PROJECTIONS

Fannie Mae, Freddie Mac and the MBA estimate 2020 origination volume to be between $2.82 and $3.14 trillion, higher than the $1.68 to $1.77 trillion in 2018 and the $2.17 to $2.33 trillion in 2019. The increase in the 2020 origination volume is due to expectations of very strong refinance activity. All three groups expect the refinance share to be 13-18 percentage points higher than in 2019, based on continued low rates in the wake of COVID-19.

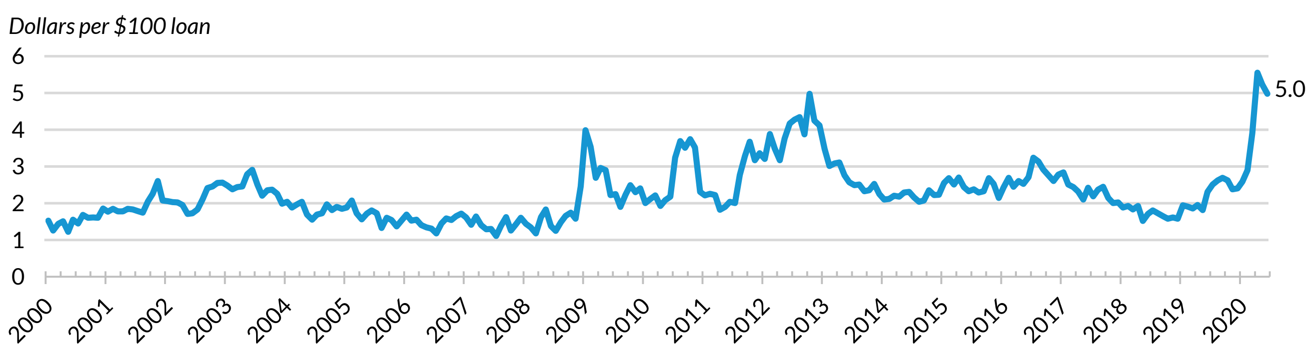
Total Originations and Refinance Shares

Period	Originations ($ billions)			Refi Share (percent)		
	Total, FNMA estimate	Total, FHLMC estimate	Total, MBA estimate	FNMA estimate	FHLMC estimate	MBA estimate
2019 Q1	334	350	325	32	35	30
2019 Q2	540	555	501	33	36	29
2019 Q3	716	695	651	47	47	42
2019 Q4	715	725	696	55	58	55
2020 Q1	739	670	563	61	60	54
2020 Q2	1072	770	928	72	66	63
2020 Q3	790	754	740	51	64	49
2020 Q4	538	723	585	48	66	46
2016	2052	2125	1891	49	47	49
2017	1826	1810	1760	36	37	35
2018	1766	1700	1677	30	32	28
2019	2305	2325	2173	44	46	41
2020	3139	2916	2816	60	64	54
2021	2345	2524	2115	45	51	34

Sources: Fannie Mae, Freddie Mac, Mortgage Bankers Association and Urban Institute.
Note: Shaded boxes indicate forecasted figures. All figures are estimates for total single-family market. Regarding interest rates, the yearly averages for 2016, 2017, 2018 and 2019 were 3.8, 4.0, 4.6, and 3.9 percent. For 2020, the respective projections for Fannie, Freddie, and MBA are 3.2, 3.4, and 3.3 percent.

Originator Profitability and Unmeasured Costs

In June 2020, Originator Profitability and Unmeasured Costs (OPUC) stood at $4.98 per $100 loan, up substantially from $2.59 in January 2020, but down from April's $5.55, the highest level on record. Increased profitability reflects lender capacity constraints amidst strong refi demand. Additionally, the Fed's massive purchases of agency MBS in March and April pushed down secondary yields, thus widening the spread to primary rates. We would expect OPUC to remain elevated for some time, declining as the backlog of refinance activity is processed, volumes ebb and originators begin to compete more aggressively on price. OPUC, formulated and calculated by the Federal Reserve Bank of New York, is a good relative measure of originator profitability. OPUC uses the sales price of a mortgage in the secondary market (less par) and adds two sources of profitability; retained servicing (both base and excess servicing, net of g-fees), and points paid by the borrower. OPUC is generally high when interest rates are low, as originators are capacity constrained due to refinance demand and have no incentive to reduce rates. Conversely, when interest rates are higher and refi activity low, competition forces originators to lower rates, driving profitability down.



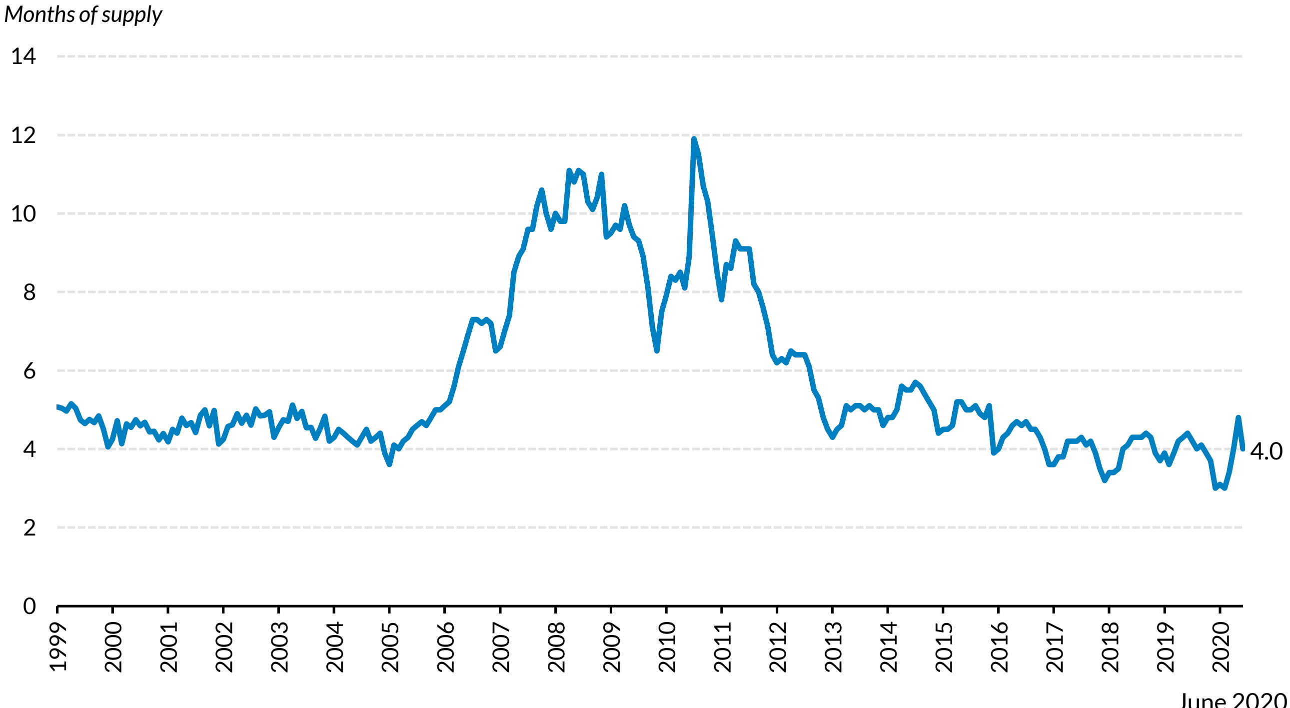
Sources: Federal Reserve Bank of New York, updated monthly and available at this link: http://www.ny.frb.org/research/epr/2013/1113fust.html and Urban Institute. Last updated June 2020.
Note: OPUC is a is a monthly (4-week moving) average as discussed in Fuster et al. (2013).

STATE OF THE MARKET

HOUSING SUPPLY

What appeared to be a small increase in the months supply in May brought on by COVID-19 was corrected in June. At 4.0 months, this is below the 4.4 months in June 2019. Strong demand for housing in recent years, fueled by low mortgage rates, and coupled with low home construction has kept the months supply limited. Fannie Mae, Freddie Mac, the MBA, and the NAHB forecast 2020 housing starts to be 1.11 to 1.28 million unit; these 2020 forecasts from Fannie Mae, the MBA, and the NAHB are below 2019 levels. Fannie Mae, Freddie Mac, and the MBA predict total home sales of 4.80 to 5.83 million units in 2020, also below 2019 levels.

Months of Supply



Source: National Association of Realtors and Urban Institute. Data as of June 2020.

Housing Starts and Home Sales

Year	Housing Starts, thousands				Home Sales. thousands			
	Total, FNMA estimate	Total, FHLMC estimate	Total, MBA estimate	Total, NAHB estimate	Total, FNMA estimate	Total, FHLMC estimate	Total, MBA estimate	Total, NAHB estimate*
2016	1174	1170	1177	1177	6011	6010	6001	5385
2017	1203	1200	1208	1208	6123	6120	6158	5522
2018	1250	1250	1250	1250	5957	5960	5956	5357
2019	1290	1250	1295	1295	6023	6000	6016	5439
2020	1186	1280	1177	1110	5606	4800	5825	4899
2021	1213	N/A	1260	1228	5794	5600	6252	5393

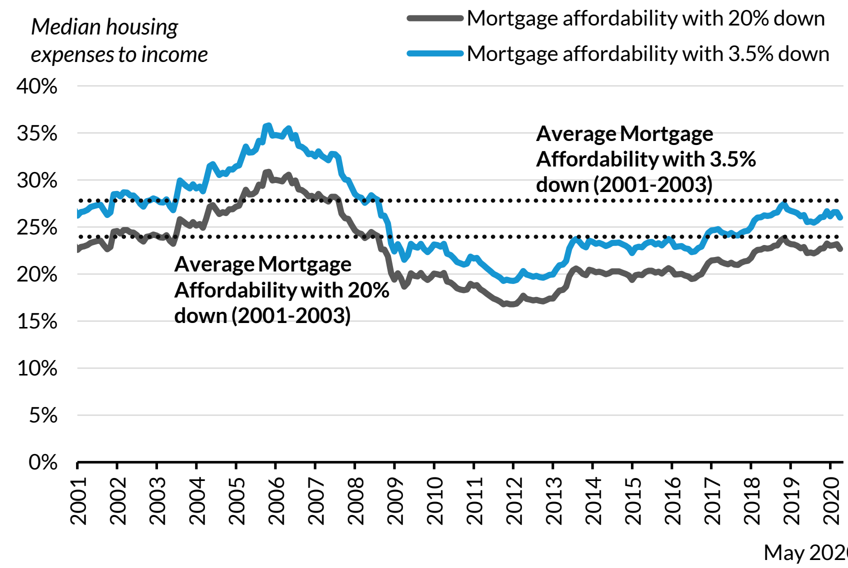
Sources: Mortgage Bankers Association, Fannie Mae, Freddie Mac, National Association of Home Builders and Urban Institute.
Note: Shaded boxes indicate forecasted figures; column labels indicate source of estimate. Freddie Mac numbers are now updated quarterly instead of monthly. *NAHB home sales estimate is for single-family structures only, it excludes condos and co-ops. Other figures include all single-family sales.

STATE OF THE MARKET

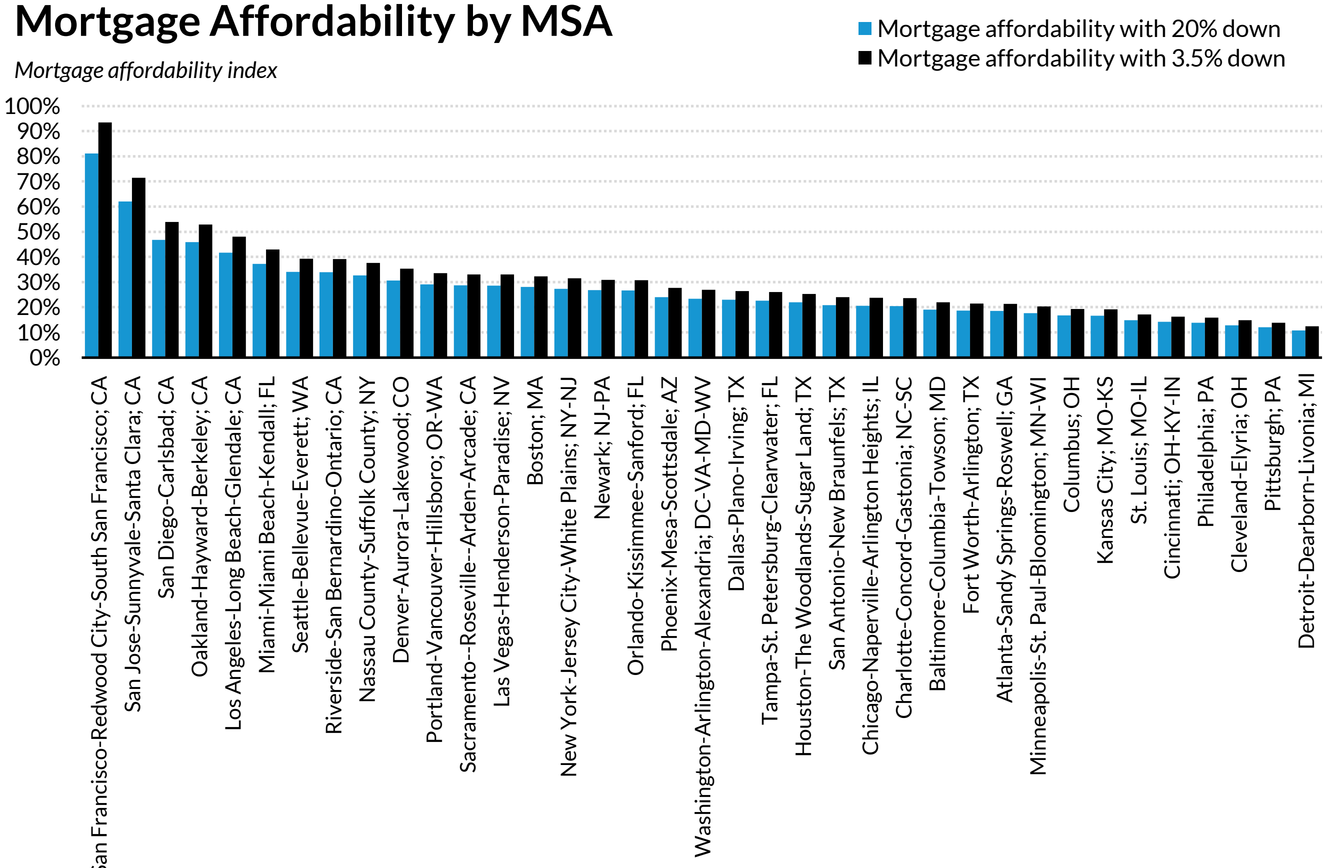
HOUSING AFFORDABILITY

National Mortgage Affordability Over Time

Home prices remain affordable by historic standards, despite price increases over the last 8 years, as interest rates are now near generational lows. As of May 2020, with a 20 percent down payment, the share of median income needed for the monthly mortgage payment stood at 21.7 percent; with 3.5 down, it is 29.4 percent. Since February 2019, the median housing expenses to income ratio has been slightly lower than the 2001-2003 average. As shown in the bottom picture, mortgage affordability varies widely by MSA.



Mortgage Affordability by MSA



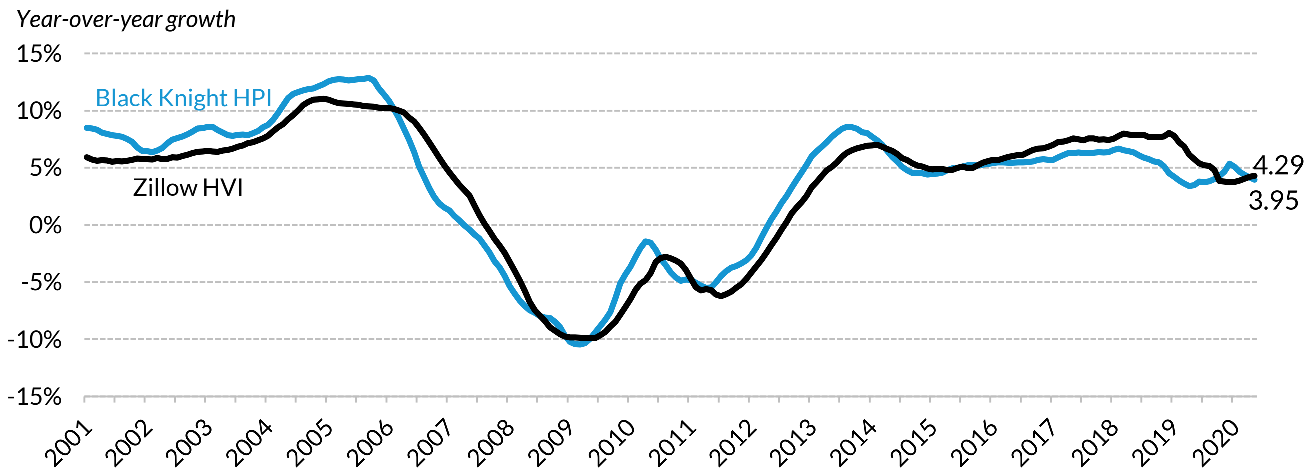
Sources: National Association of Realtors, US Census Bureau, Current Population Survey, American Community Survey, Moody's Analytics, Freddie Mac Primary Mortgage Market Survey, and the Urban Institute.

Note: Mortgage affordability is the share of median family income devoted to the monthly principal, interest, taxes, and insurance payment required to buy the median home at the Freddie Mac prevailing rate *2018* for a 30-year fixed-rate mortgage and property tax and insurance at 1.75 percent of the housing value. Data for the bottom chart as of Q2 2019.

HOME PRICE INDICES

National Year-Over-Year HPI Growth

According to Black Knight's repeat sales index, year-over-year home price appreciation declined to 3.95 percent in May 2020. Year-over-year home price appreciation measured by Zillow's hedonic lace was 4.29 percent in May 2020, up slightly from April. Although housing affordability remains constrained, especially at the lower end of the market, recent declines in rates serve as a partial offset. These numbers do not fully reflect the effect of the pandemic; high frequency data indicates a deceleration, but not a decline in home prices.



Sources: Black Knight, Zillow, and Urban Institute. **Note:** Data as of May 2020.

Changes in Black Knight HPI for Top MSAs

After rising 59.5 percent from the trough, national house prices are now 19.1 percent higher than pre-crisis peak levels. At the MSA level, twelve of the top 15 MSAs have exceeded their pre-crisis peak HPI: New York, NY; Los Angeles, CA; Atlanta, GA; Washington, DC; Houston, TX; Phoenix, AZ; Dallas, TX; Minneapolis, MN; Seattle, WA; Denver, CO; San Diego, CA; and Anaheim, CA. Three MSAs particularly hard hit by the boom and bust—Chicago, IL; Riverside, CA; and Baltimore, MD—are 8.2, 5.1, and 5.5 percent, respectively, below peak values.

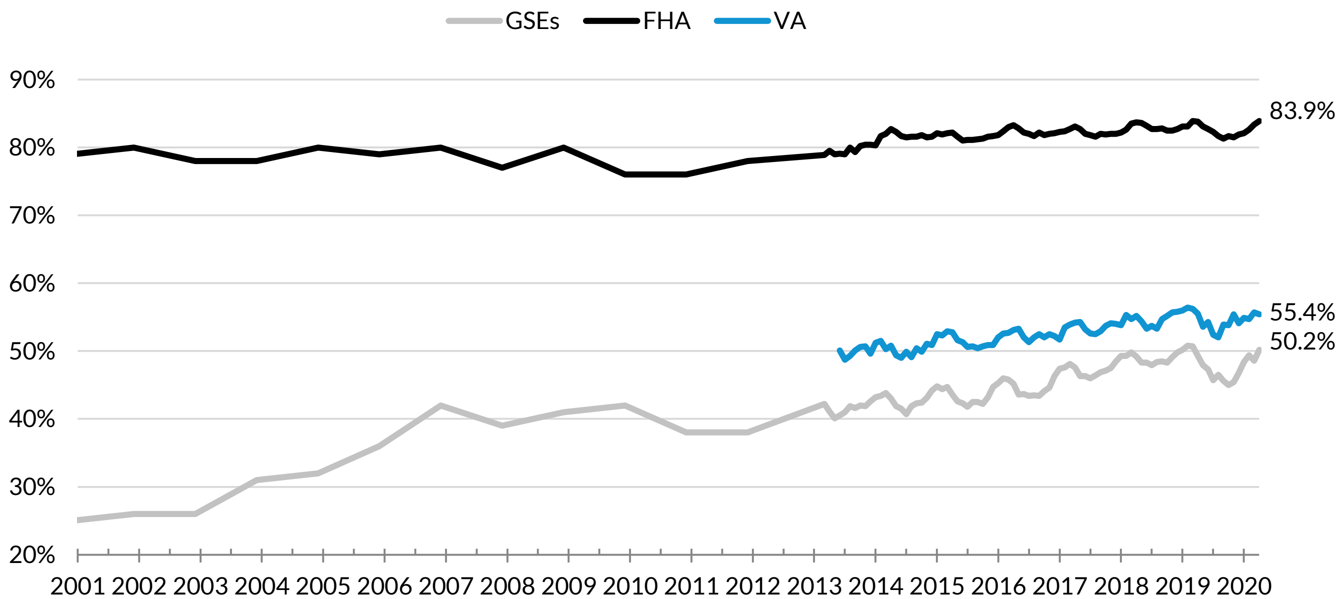
MSA	HPI changes (%)			% above peak
	2000 to peak	Peak to trough	Trough to current	
United States	75.1	-25.3	59.5	19.1
New York-Jersey City-White Plains, NY-NJ	127.8	-22.5	48.8	15.3
Los Angeles-Long Beach-Glendale, CA	179.5	-38.1	94.5	20.3
Chicago-Naperville-Arlington Heights, IL	67.2	-38.4	49.0	-8.2
Atlanta-Sandy Springs-Roswell, GA	32.4	-35.1	85.8	20.6
Washington-Arlington-Alexandria, DC-VA-MD-WV	149.0	-28.3	42.6	2.2
Houston-The Woodlands-Sugar Land, TX	29.3	-6.6	51.7	41.6
Phoenix-Mesa-Scottsdale, AZ	113.2	-51.1	106.8	1.1
Riverside-San Bernardino-Ontario, CA	174.9	-51.7	96.3	-5.1
Dallas-Plano-Irving, TX	26.3	-7.3	72.1	59.6
Minneapolis-St. Paul-Bloomington, MN-WI	69.2	-30.6	66.9	15.8
Seattle-Bellevue-Everett, WA	90.4	-33.2	116.2	44.5
Denver-Aurora-Lakewood, CO	34.1	-12.2	98.3	74.1
Baltimore-Columbia-Towson, MD	123.2	-24.4	25.0	-5.5
San Diego-Carlsbad, CA	148.3	-37.5	85.5	15.9
Anaheim-Santa Ana-Irvine, CA	163.2	-35.2	70.3	10.3

Sources: Black Knight HPI and Urban Institute. Data as of May 2020.
Note: This table includes the largest 15 Metropolitan areas by mortgage count.

FIRST-TIME HOMEBUYERS

First-Time Homebuyer Share

In May 2020, the FTHB share for FHA, which has always been more focused on first time homebuyers, grew slightly to 83.9 percent. The FTHB share of VA lending decreased slightly in May, to 55.4 percent. The GSE FTHB share in May was up from April to 50.2 percent. The bottom table shows that based on mortgages originated in May 2020, the average FTHB was more likely than an average repeat buyer to take out a smaller loan, have a lower credit score, and higher LTV, thus paying a higher interest rate.



Sources: eMBS, Federal Housing Administration (FHA) and Urban Institute.
Note: All series measure the first-time homebuyer share of purchase loans for principal residences.

May 2020

Comparison of First-Time and Repeat Homebuyers, GSE and FHA Originations

	GSEs		FHA		GSEs and FHA	
Characteristics	First-time	Repeat	First-time	Repeat	First-time	Repeat
Loan Amount ($)	265,765	293,779	224,907	249,037	249,879	287,463
Credit Score	746	758	673	677	718	747
LTV (%)	88	80	96	94	91	82
DTI (%)	34	36	43	44	38	37
Loan Rate (%)	3.50	3.42	3.58	3.50	3.53	3.43

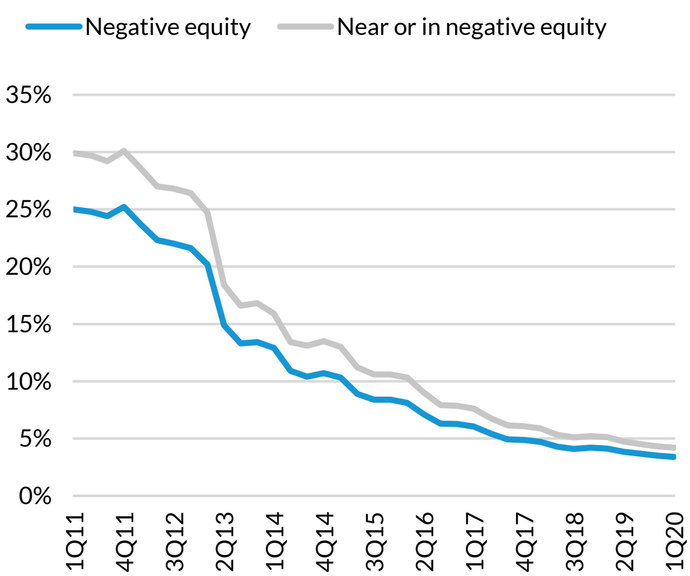
Sources: eMBS and Urban Institute.
Note: Based on owner-occupied purchase mortgages originated in May 2020.

STATE OF THE MARKET

DELINQUENCIES AND LOSS MITIGATION ACTIVITY

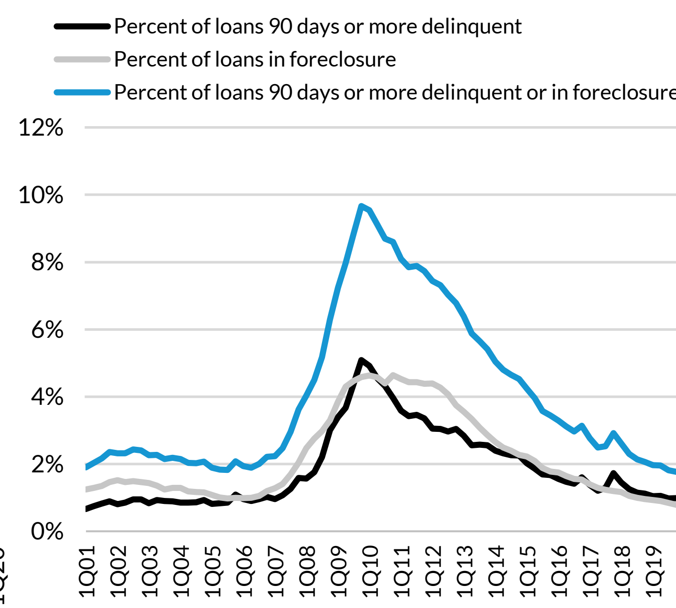
Loans in and near negative equity continued to decline in 1Q 2020; 3.4 percent now have negative equity, an additional 0.8 percent have less then 5 percent equity. Loans that are 90 days delinquent or in foreclosure have also been in a long decline, falling to 1.7 percent in Q1 2020. As the impacts of COVID-19 continue to be felt by homeowners, we anticipate a rise in serious delinquency rates moving forward in 2020. New loan modifications and liquidations (bottom) have continued to decline. Since Q3, 2007, total loan modifications (HAMP and proprietary) are roughly equal to total liquidations. Hope Now reports show 8,644,182 borrowers received a modification from Q3 2007 to Q3 2019, compared with 8,871,863 liquidations in the same period.

Negative Equity Share



Sources: CoreLogic and Urban Institute.
Note: Loans with negative equity refer to loans above 100 percent LTV. Loans near negative equity refer to loans above 95 percent LTV. *Last updated June 2020.*

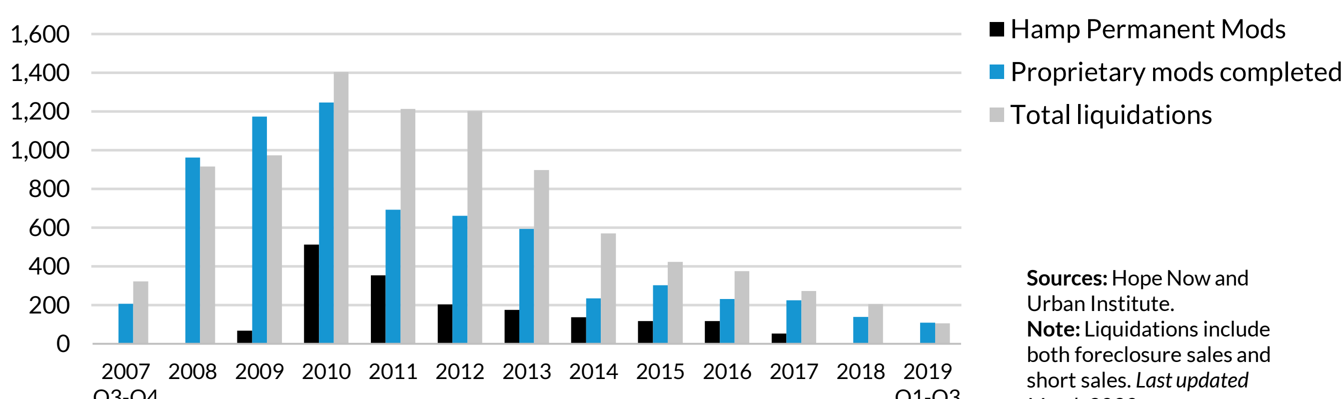
Loans in Serious Delinquency/Foreclosure



Sources: Mortgage Bankers Association and Urban Institute. *Last updated May 2020.*

Loan Modifications and Liquidations

Number of loans (thousands)

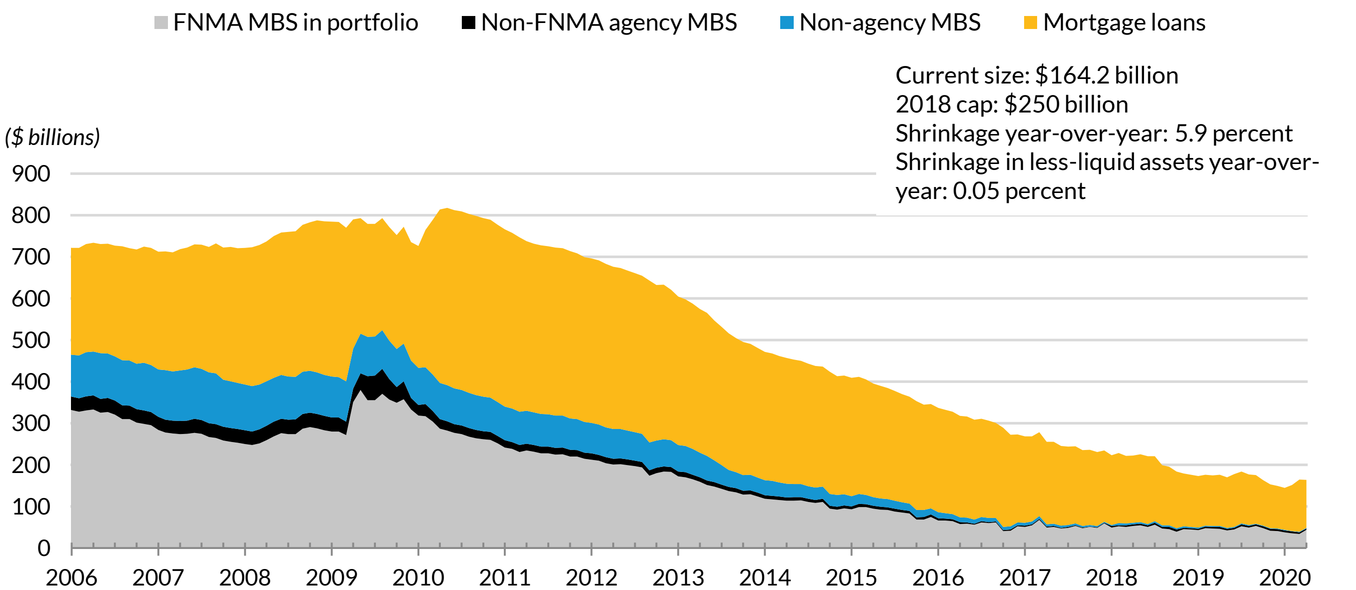


Sources: Hope Now and Urban Institute.
Note: Liquidations include both foreclosure sales and short sales. *Last updated March 2020.*

GSE PORTFOLIO WIND-DOWN

Even though the Fannie Mae and Freddie Mac portfolios are well below the $250 billion size they were required to reach by year-end 2018, the portfolios have continued to shrink. From May 2019 to May 2020, the Fannie portfolio contracted by 5.9 percent, and the Freddie portfolio contracted by 7.1 percent. Within the portfolio, Freddie Mac and Fannie Mae held their less liquid assets (mortgage loans, non-agency MBS), constant from the year prior.

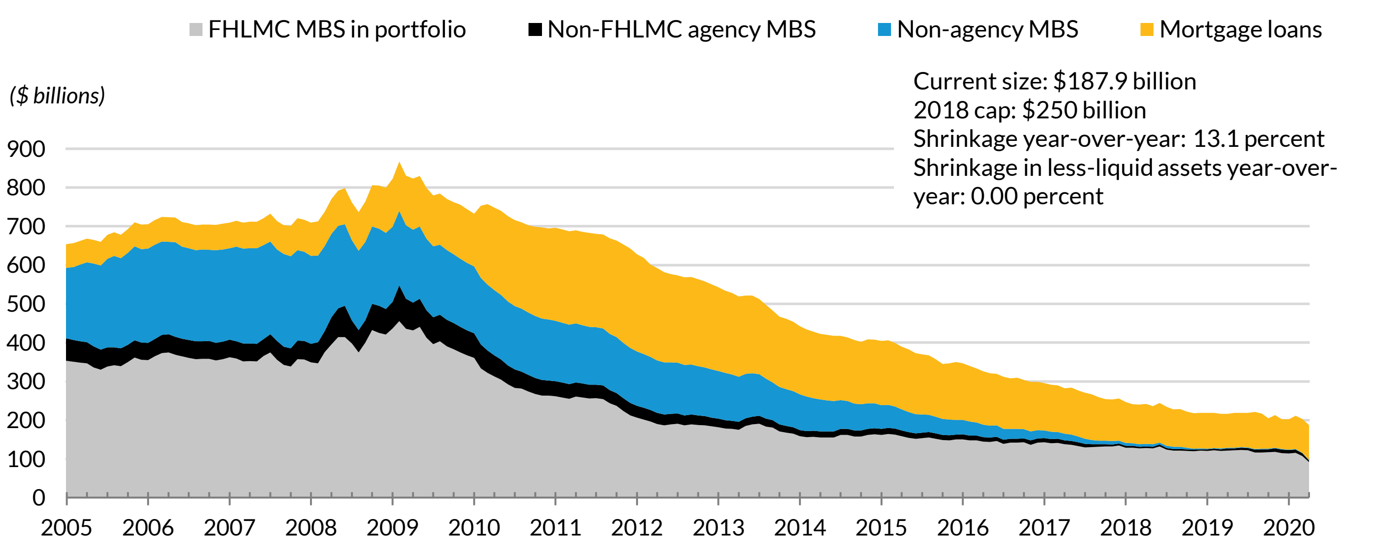
Fannie Mae Mortgage-Related Investment Portfolio Composition



Sources: Fannie Mae and Urban Institute.

May 2020

Freddie Mac Mortgage-Related Investment Portfolio Composition



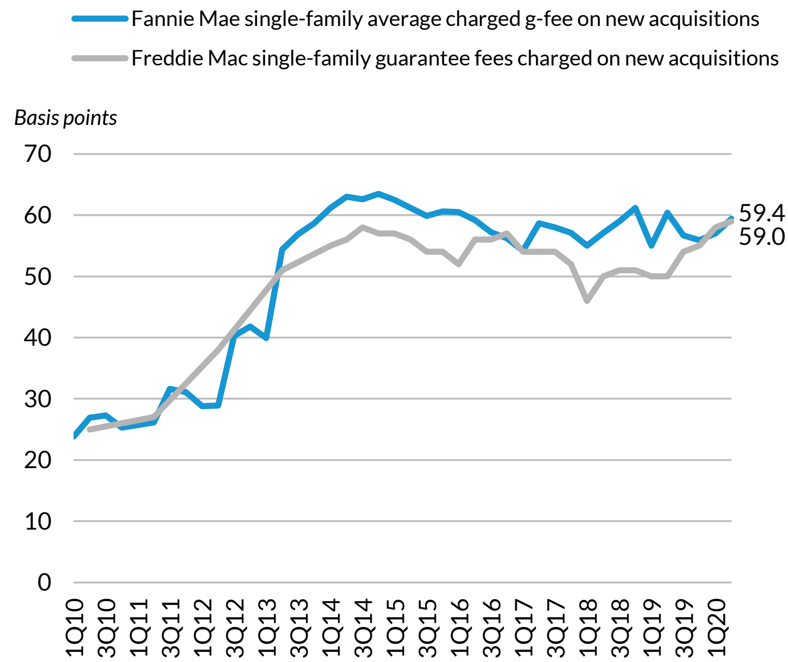
Sources: Freddie Mac and Urban Institute.

May 2020

EFFECTIVE GUARANTEE FEES

Guarantee Fees Charged on New Acquisitions

Fannie Mae's average g-fees charged on new acquisitions rose from 57.0 bps in Q4 2019 to 59.4 bps in Q1 2020. Freddie's rose slightly from 58.0 bps to 59.0 bps. The gap between the two g-fees was only 0.4 bps in Q1 2020, which is the smallest gap since Q4 2016. Today's g-fees are markedly higher than g-fee levels in 2011 and 2012, and have contributed to the GSEs' earnings; the bottom table shows Fannie Mae LLPAs, which are expressed as upfront charges.



Sources: Fannie Mae, Freddie Mae and Urban Institute.
Last updated May 2020.

Fannie Mae Upfront Loan-Level Price Adjustments (LLPAs)

	LTV (%)								
Credit Score	≤60	60.01 – 70	70.01 – 75	75.01 – 80	80.01 – 85	85.01 – 90	90.01 – 95	95.01 – 97	>97
> 740	0.00	0.25	0.25	0.50	0.25	0.25	0.25	0.75	0.75
720 – 739	0.00	0.25	0.50	0.75	0.50	0.50	0.50	1.00	1.00
700 – 719	0.00	0.50	1.00	1.25	1.00	1.00	1.00	1.50	1.50
680 – 699	0.00	0.50	1.25	1.75	1.50	1.25	1.25	1.50	1.50
660 – 679	0.00	1.00	2.25	2.75	2.75	2.25	2.25	2.25	2.25
640 – 659	0.50	1.25	2.75	3.00	3.25	2.75	2.75	2.75	2.75
620 – 639	0.50	1.50	3.00	3.00	3.25	3.25	3.25	3.50	3.50
< 620	0.50	1.50	3.00	3.00	3.25	3.25	3.25	3.75	3.75
Product Feature (Cumulative)									
Investment Property	2.125	2.125	2.125	3.375	4.125	4.125	4.125	4.125	4.125

Sources: Fannie Mae and Urban Institute.
Last updated March of 2019.

GSE RISK-SHARING TRANSACTIONS

Fannie Mae and Freddie Mac have been laying off back-end credit risk through CAS and STACR deals and through reinsurance transactions. They have also done front-end transactions with originators and reinsurers, and experimented with deep mortgage insurance coverage with private mortgage insurers. FHFA's 2020 scorecard requires the GSEs to transfer a significant amount of credit risk to private markets. This is a departure from the 2019 scorecard, which required risk transfer specifically on 90% of new acquisitions. Fannie Mae's CAS issuances since inception total $1.65 trillion; Freddie's STACR totals $1.52 trillion. Freddie's DNA3 is the first new issuance since the massive spread widening in March 2020.

Fannie Mae – Connecticut Avenue Securities (CAS)

Date	*Transaction*	*Reference Pool Size ($ m)*	*Amount Issued ($m)*	*% of Reference Pool Covered*
2013	CAS 2013 deals	$26,756	$675	2.5
2014	CAS 2014 deals	$227,234	$5,849	2.6
2015	CAS 2015 deals	$187,126	$5,463	2.9
2016	CAS 2016 deals	$236,459	$7,392	3.1
2017	CAS 2017 deals	$264,697	$8,707	3.3
2018	CAS 2018 deals	$205,900	$7,314	3.6
January 2019	CAS 2019 - R01	$28,000	$960	3.4
February 2019	CAS 2019 - R02	$27,000	$1,000	3.7
April 2019	CAS 2019 - R03	$21,000	$857	4.1
June 2019	CAS 2019 - R04	$25,000	$1,000	4.0
July 2019	CAS 2019 - R05	$24,000	$993	4.1
October 2019	CAS 2019 - R06	$33,000	$1,300	3.9
October 2019	CAS 2019 - R07	$26,600	$998	3.8
November 2019	CAS 2019 - HRP1	$106,800	$963	0.9
January 2020	CAS 2020 - R01	$29,000	$1,030	3.6
February 2020	CAS 2020 - R02	$29,000	$1,134	3.9
March 2020	CAS 2020 - SBT1	$152,000	$966	0.6
Total		**$1,649,572**	**$46,601**	**2.8**

Freddie Mac – Structured Agency Credit Risk (STACR)

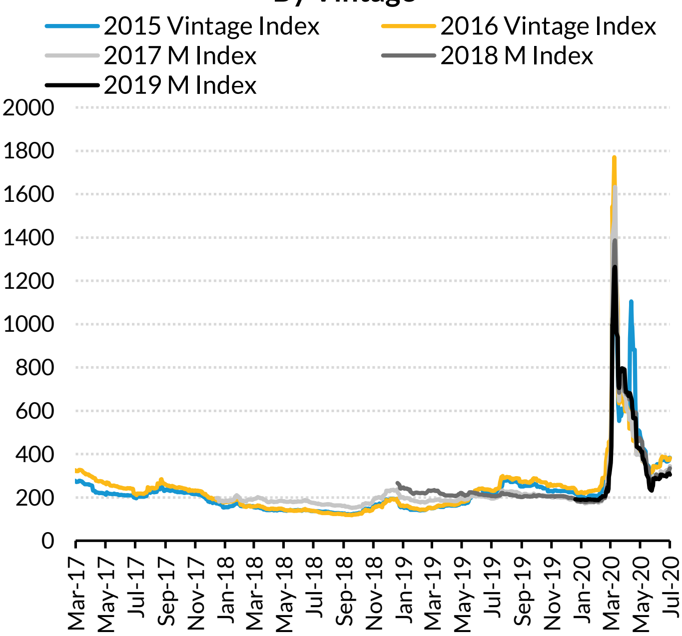
Date	*Transaction*	*Reference Pool Size ($ m)*	*Amount Issued ($m)*	*% of Reference Pool Covered*
2013	STACR 2013 deals	$57,912	$1,130	2.0
2014	STACR 2014 deals	$147,120	$4,916	3.3
2015	STACR 2015 deals	$209,521	$6,658	3.2
2016	STACR 2016 deals	$183,421	$5,541	2.8
2017	STACR 2017 deals	$248,821	$5,663	2.3
2018	STACR 2018 deals	$216,581	$6,055	2.8
January 2019	STACR Series 2019 – DNA1	$24,600	$714	2.9
February 2019	STACR Series 2019 – HQA1	$20,760	$640	3.1
March 2019	STACR Series 2019 – DNA2	$20,500	$608	3.0
May 2019	STACR Series 2019 – HQA2	$19,500	$615	3.2
May 2019	STACR Series 2019 – FTR1	$44,590	$140	0.3
June 2019	STACR Series 2019 – HRP1	$5,782	$281	4.9
July 2019	STACR Series 2019 – DNA3	$25,533	$756	3.0
August 2019	STACR Series 2019 – FTR2	$11,511	$284	2.5
September 2019	STACR Series 2019 – HQA3	$19,609	$626	3.2
October 2019	STACR Series 2019 – DNA4	$20,550	$589	2.9
November 2019	STACR Series 2019 – HQA4	$13,399	$432	3.2
December 2019	STACR Series 2019 – FTR3	$22,508	$151	0.7
December 2019	STACR Series 2019 – FTR4	$22,263	$111	0.5
January 2020	STACR Series 2020 – DNA1	$29,641	$794	2.7
February 2020	STACR Series 2020 – HQA1	$24,268	$738	3.0
February 2020	STACR Series 2020 – DNA2	$43,596	$1,169	2.7
March 2020	STACR Series 2020 – HQA2	$35,066	$1,006	2.9
July 2020	STACR Series 2020 – DNA3	$48,328	$1,106	2.3
Total		**$1,515,380**	**$40,723**	**2.7**

Sources: Fannie Mae, Freddie Mac and Urban Institute. **Note**: Classes A-H, M-1H, M-2H, and B-H are reference tranches only. These classes are not issued or sold. The risk is retained by Fannie Mae and Freddie Mac. "CE" = credit enhancement.

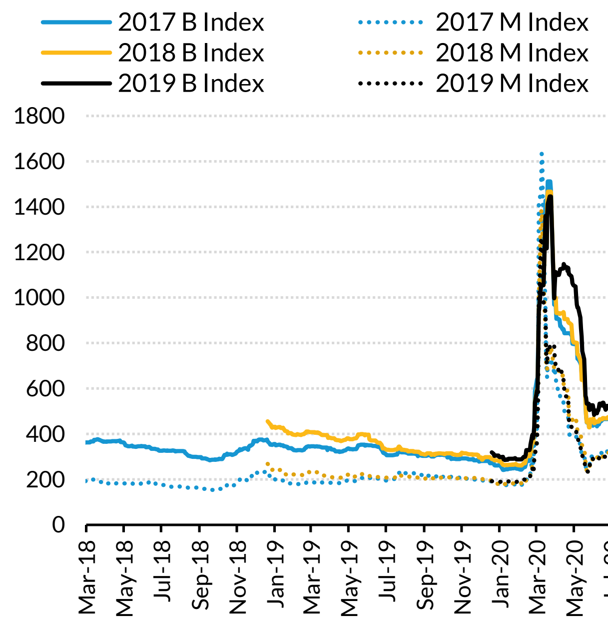
GSES UNDER CONSERVATORSHIP
GSE RISK-SHARING INDICES

The figures below show the spreads on the 2015, 2016, 2017, 2018, and 2019 indices, as priced by dealers. Note the substantial spread widening in March 2020. This reflected investor expectations of higher defaults and potential credit losses owing to COVID-19, as well as some forced selling. Spreads have tightened considerably since then, but remain well above pre-COVID levels. The 2015 and 2016 indices consist of the bottom mezzanine tranche in each deal, weighted by the original issuance amount; the equity tranches were not sold in these years. The 2017, 2018, and 2019 indices contain both the bottom mezzanine tranche as well as the equity tranche (the B tranche), in all deals when the latter was sold.

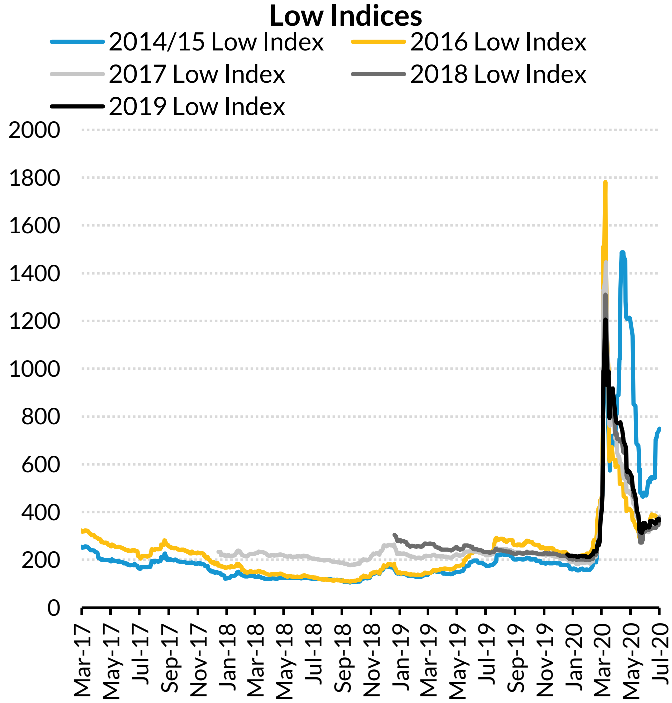
By Vintage



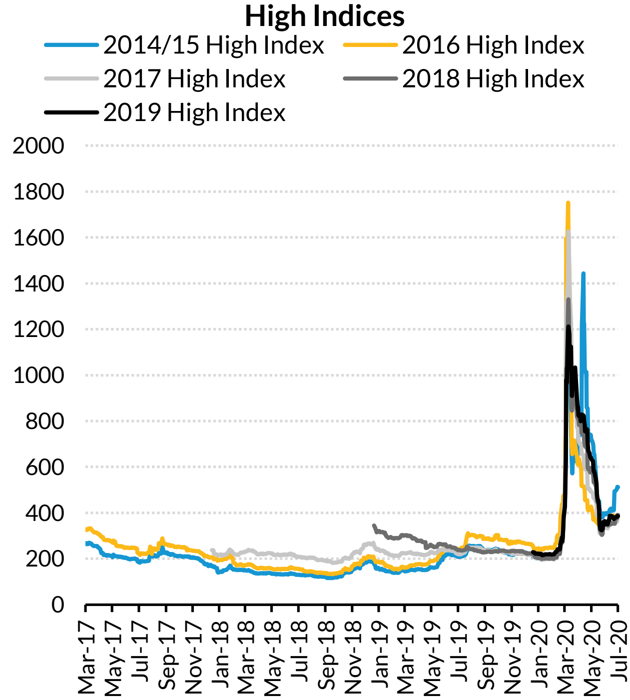
2017 and 2018 Indices



Low Indices



High Indices

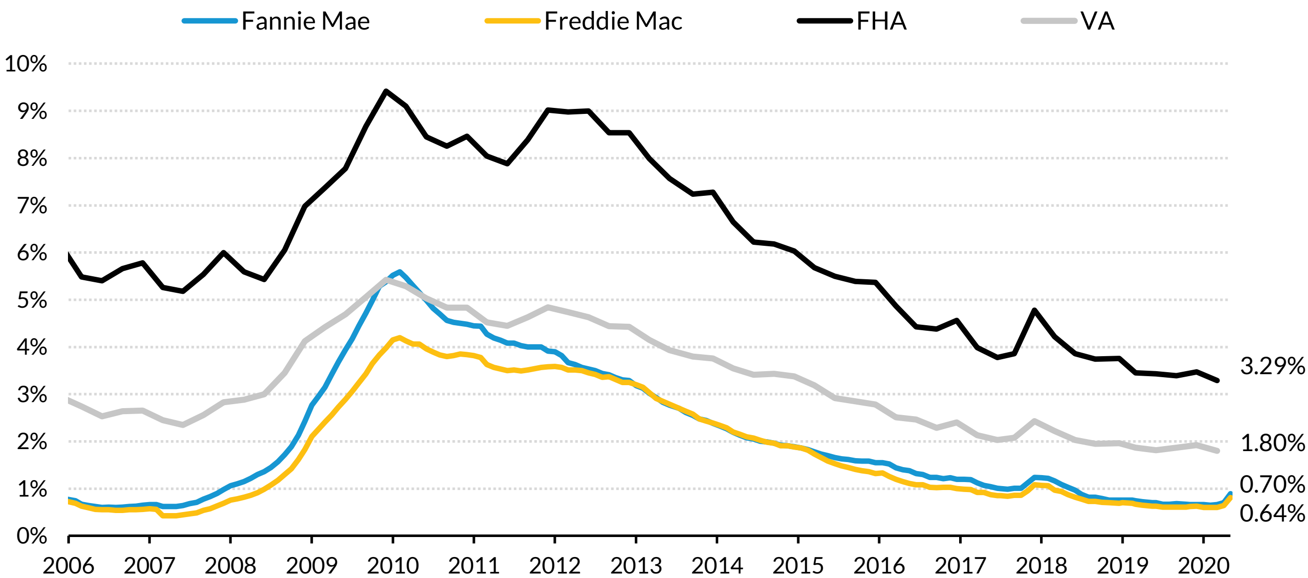


Sources: Vista Data Services and Urban Institute.
Note: Data as of July 15, 2020.

SERIOUS DELINQUENCY RATES

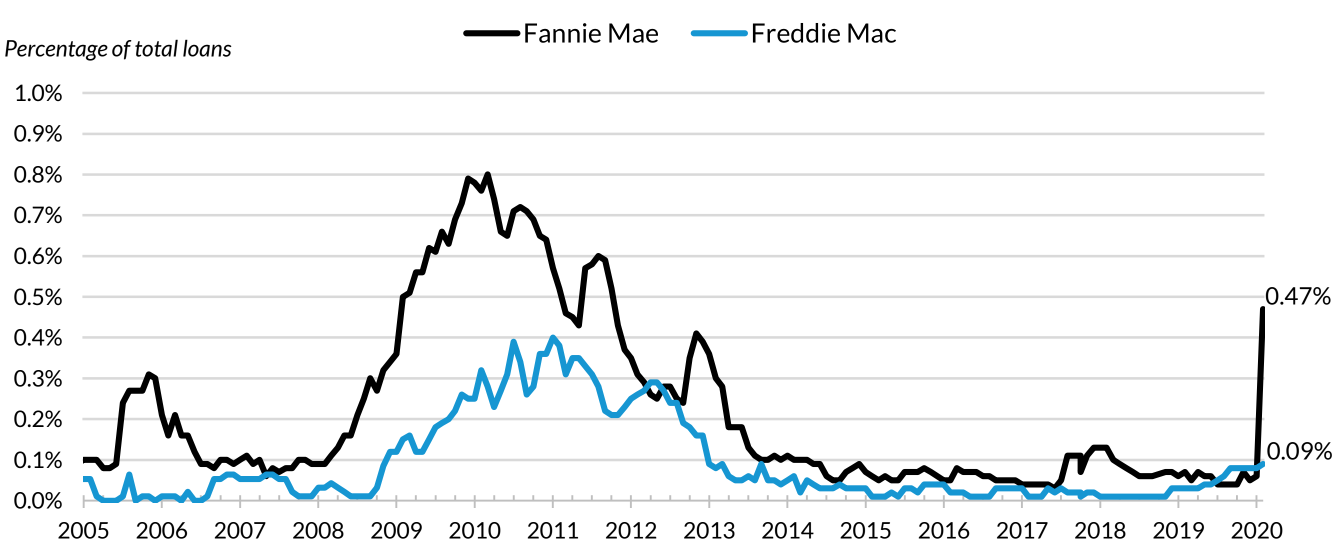
Serious delinquency rates for single-family GSE loans grew slightly in April and May of 2020, and we expect them to grow as more borrowers affected by COVID-19 become 90 days DQ. FHA loans and VA delinquency rates fell slightly through during Q1, but that is pre-COVID information. We expect increases in the months ahead. GSE delinquencies remain just above their 2006-2007 level, while FHA and VA delinquencies (which are higher than their GSE counterparts) are well below 2006-2007 levels. Fannie multifamily delinquencies spiked to 0.47 percent in April due to complications from COVID-19. Freddie multifamily delinquencies also grew but much more slightly.

Serious Delinquency Rates–Single-Family Loans



Sources: Fannie Mae, Freddie Mac, MBA Delinquency Survey and Urban Institute. **Note:** Serious delinquency is defined as 90 days or more past due or in the foreclosure process. Not seasonally adjusted. FHA and VA delinquencies are reported on a quarterly basis, last updated May 2020. GSE delinquencies are reported monthly, last updated July 2020.

Serious Delinquency Rates–Multifamily GSE Loans



Sources: Fannie Mae, Freddie Mac and Urban Institute.
Note: Multifamily serious delinquency rate is the unpaid balance of loans 60 days or more past due, divided by the total unpaid balance.

AGENCY GROSS AND NET ISSUANCE

Agency gross issuance was $1.23 trillion through the first six months of 2020, more than double the volume through June 2019. The sharp increase is due to the refinance wave, which did not begin in earnest until Q2 2019, and accelerated significantly in 2020. Net issuance (new securities issued less the decline in outstanding securities due to principal pay-downs or prepayments) totaled $256.0 billion in the first six months of 2020, up 137.9 percent from the same period in 2019.

Agency Gross Issuance

Issuance Year	GSEs	Ginnie Mae	Total
2001	$885.1	$171.5	$1,056.6
2002	$1,238.9	$169.0	$1,407.9
2003	$1,874.9	$213.1	$2,088.0
2004	$872.6	$119.2	$991.9
2005	$894.0	$81.4	$975.3
2006	$853.0	$76.7	$929.7
2007	$1,066.2	$94.9	$1,161.1
2008	$911.4	$267.6	$1,179.0
2009	$1,280.0	$451.3	$1,731.3
2010	$1,003.5	$390.7	$1,394.3
2011	$879.3	$315.3	$1,194.7
2012	$1,288.8	$405.0	$1,693.8
2013	$1,176.6	$393.6	$1,570.1
2014	$650.9	$296.3	$947.2
2015	$845.7	$436.3	$1,282.0
2016	$991.6	$508.2	$1,499.8
2017	$877.3	$455.6	$1,332.9
2018	$795.0	$400.6	$1,195.3
2019	$1,042.6	$508.6	$1,551.2
2020 YTD	$889.7	$340.9	$1,230.6
2020 YTD % Change YOY	135.4%	75.7%	115.1%
2020 Ann.	$1,779.4	$681.7	$2,461.4

Agency Net Issuance

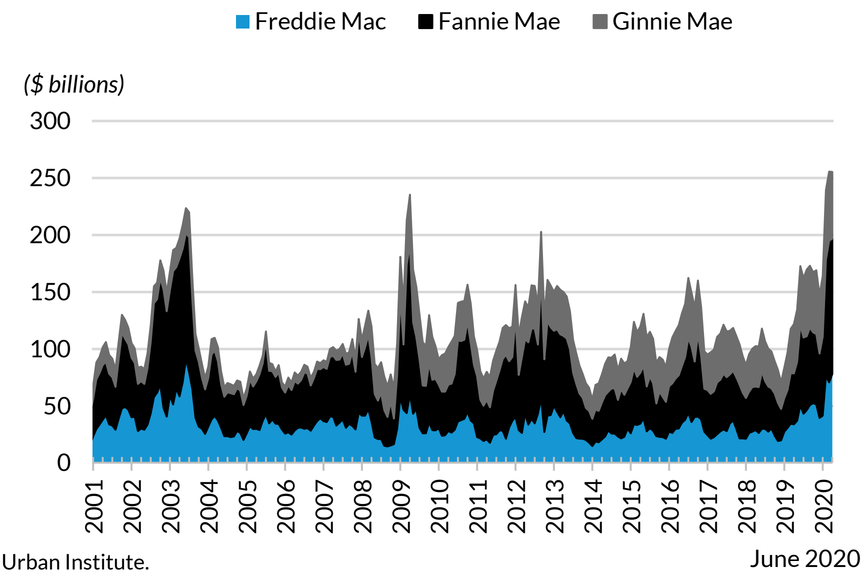
Issuance Year	GSEs	Ginnie Mae	Total
2001	$368.40	-$9.90	$358.50
2002	$357.20	-$51.20	$306.10
2003	$334.90	-$77.60	$257.30
2004	$82.50	-$40.10	$42.40
2005	$174.20	-$42.20	$132.00
2006	$313.60	$0.20	$313.80
2007	$514.90	$30.90	$545.70
2008	$314.80	$196.40	$511.30
2009	$250.60	$257.40	$508.00
2010	-$303.20	$198.30	-$105.00
2011	-$128.40	$149.60	$21.20
2012	-$42.40	$119.10	$76.80
2013	$69.10	$87.90	$157.00
2014	$30.5	$61.6	$92.1
2015	$75.1	$97.3	$172.5
2016	$127.4	$125.8	$253.1
2017	$168.5	$131.3	$299.7
2018	$149.4	$112.0	$261.5
2019	$197.8	$95.7	$293.5
2020 YTD	$214.4	$41.6	$256.0
2020 YTD % Change YOY	248.3%	-9.7%	137.9%
2020 Ann.	$428.9	$83.2	$512.1

Sources: eMBS and Urban Institute.
Note: Dollar amounts are in billions. Data as of June 2020.

AGENCY GROSS ISSUANCE & FED PURCHASES

Monthly Gross Issuance

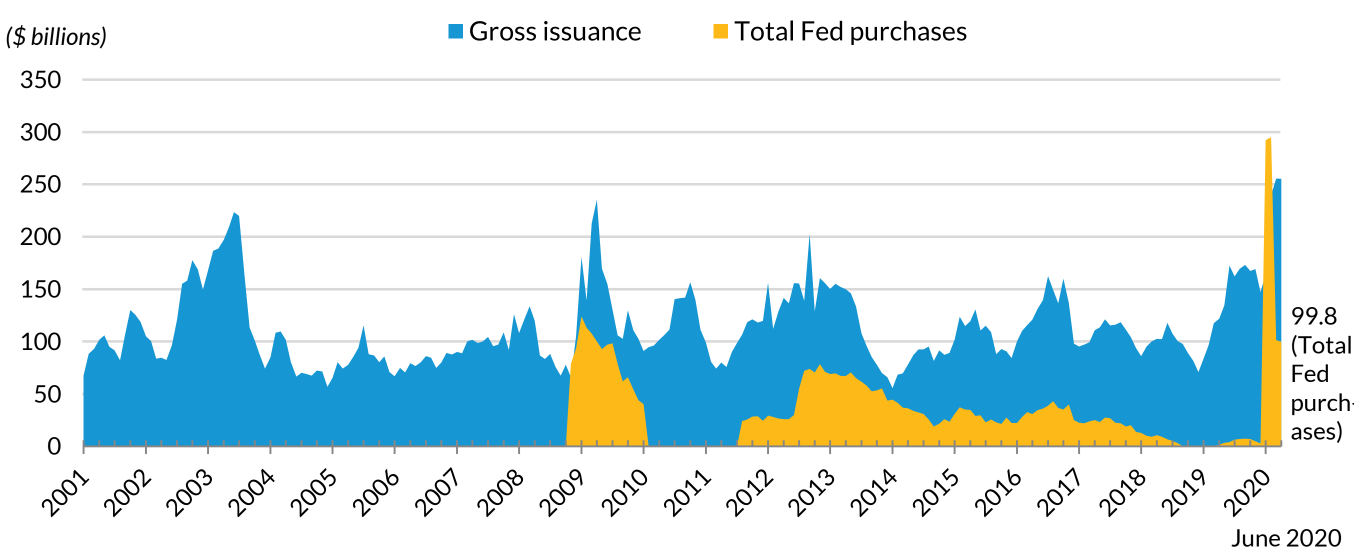
While FHA, VA and GSE lending have dominated the mortgage market since the 2008 housing crisis, there has been a change in the mix. The Ginnie Mae share of new issuances has risen from a pre-crisis level of 10-12 percent to 34.8 percent in February 2020, reflecting gains in both purchase and refinance shares. Since then, the Ginnie share had declined, reaching 22.9 percent in June 2020; the drop reflects the more robust ramp up in GSE refinances relative to Ginnie Mae refinances.



Sources: eMBS, Federal Reserve Bank of New York, and Urban Institute.

Fed Absorption of Agency Gross Issuance

On March 23, 2020, in response to the market dislocations caused by the coronavirus pandemic, the Fed announced they would purchase Treasuries and agency MBS in an amount necessary to support smooth functioning markets. In March the Fed bought $292.2 billion in agency MBS, and April clocked in at $295.1 billion, the largest two months of mortgage purchases ever; and well over 100 percent of gross issuance for each of those two months. After pumping the breaks in May, purchases remained steady in June at $99.8 billion, 39 percent of monthly issuance, still sizeable from a historical perspective. Prior to the COVID-19 intervention, the Fed was winding down its MBS portfolio from its 2014 prior peak.

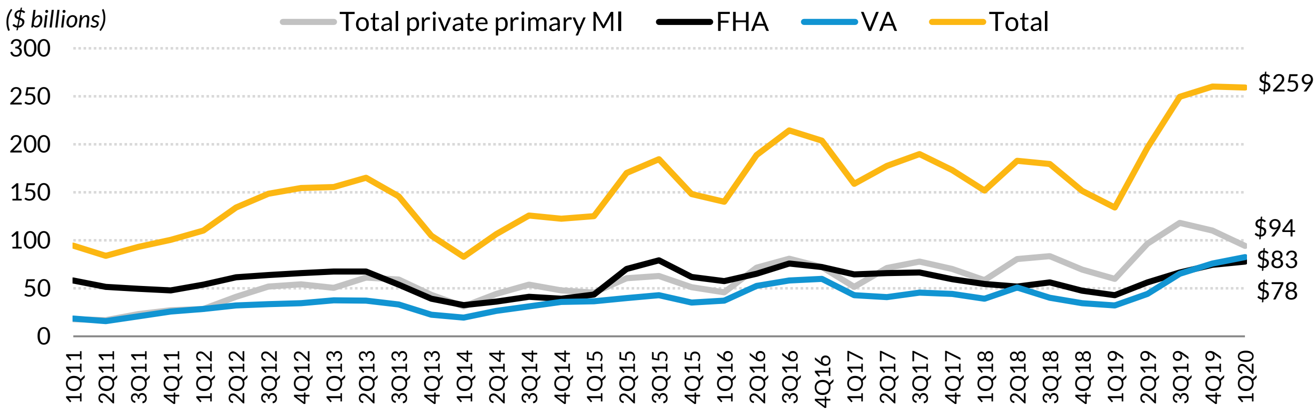


Sources: eMBS, Federal Reserve Bank of New York and Urban Institute.

MORTGAGE INSURANCE ACTIVITY

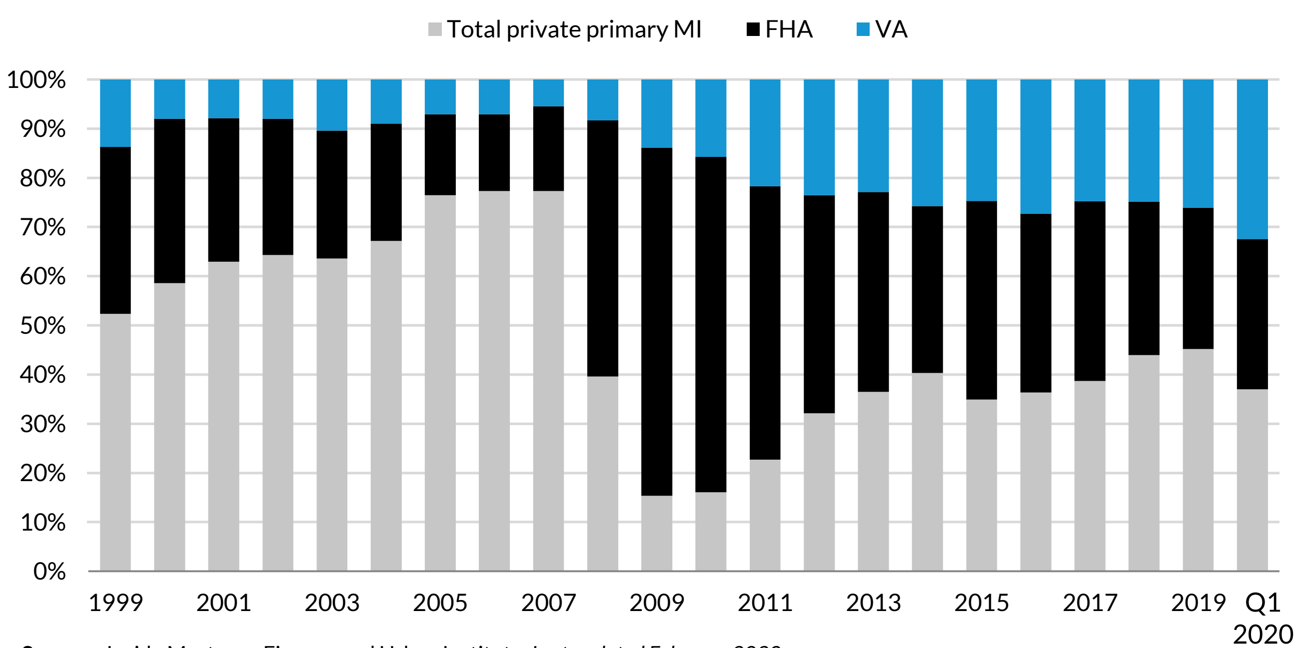
MI Activity

Mortgage insurance activity via the FHA, VA and private insurers increased from $134 billion in Q1 2019 to $259 billion in Q1 2020, a 93.1 percent increase. In the first quarter of 2020, private mortgage insurance written decreased by $15.9 billion, FHA increased by $3.3 billion and VA increased by $6.9 billion from the previous quarter. During this period, the VA share grew from 29.1 to 31.9 percent and the FHA share also grew, from 28.6 to 30.0 percent. The private mortgage insurers share fell significantly, from 42.3 to 36.3 percent compared to the previous quarter.



Sources: Inside Mortgage Finance and Urban Institute. *Last updated May 2020.*

MI Market Share



Sources: Inside Mortgage Finance and Urban Institute. *Last updated February 2020.*

MORTGAGE INSURANCE ACTIVITY

FHA premiums rose significantly in the years following the housing crash, with annual premiums rising from 50 to 135 basis points between 2008 to 2013 as FHA worked to shore up its finances. In January 2015, President Obama announced a 50 bps cut in annual insurance premiums, making FHA mortgages more attractive than GSE mortgages for the overwhelming majority of borrowers putting down less than 5%. The April 2016 reduction in PMI rates for borrowers with higher FICO scores and April 2018 reduction for lower FICO borrowers has partially offset that. As shown in the bottom table, a borrower putting 3.5 percent down with a FICO of less than 720 will find FHA financing to be more financially attractive, borrowers with FICOs of 720 and above will find GSE execution with PMI to be more attractive.

FHA MI Premiums for Typical Purchase Loan

Case number date	Upfront mortgage insurance premium (UFMIP) paid	Annual mortgage insurance premium (MIP)
1/1/2001 - 7/13/2008	150	50
7/14/2008 - 4/5/2010*	175	55
4/5/2010 - 10/3/2010	225	55
10/4/2010 - 4/17/2011	100	90
4/18/2011 - 4/8/2012	100	115
4/9/2012 - 6/10/2012	175	125
6/11/2012 - 3/31/2013[a]	175	125
4/1/2013 – 1/25/2015[b]	175	135
Beginning 1/26/2015[c]	175	85

Sources: Ginnie Mae and Urban Institute.
Note: A typical purchase loan has an LTV over 95 and a loan term longer than 15 years. Mortgage insurance premiums are listed in basis points.
* For a short period in 2008 the FHA used a risk based FICO/LTV matrix for MI.
[a] Applies to purchase loans less than or equal to $625,500. Those over that amount have an annual premium of 150 bps.
[b] Applies to purchase loans less than or equal to $625,500. Those over that amount have an annual premium of 155 bps.
[c] Applies to purchase loans less than or equal to $625,500. Those over that amount have an annual premium of 105 bps.

Initial Monthly Payment Comparison: FHA vs. PMI

Assumptions	
Property Value	$250,000
Loan Amount	$241,250
LTV	96.5
Base Rate	
Conforming	3.16
FHA	3.37

FICO	620 - 639	640 - 659	660 - 679	680 - 699	700 - 719	720 - 739	740 - 759	760 +
FHA MI Premiums								
FHA UFMIP	1.75	1.75	1.75	1.75	1.75	1.75	1.75	1.75
FHA MIP	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
PMI								
GSE LLPA*	3.50	2.75	2.25	1.50	1.50	1.00	0.75	0.75
PMI Annual MIP	1.86	1.65	1.54	1.21	0.99	0.87	0.70	0.58
Monthly Payment								
FHA	$1,255	$1,255	$1,255	$1,255	$1,255	$1,255	$1,255	$1,255
PMI	$1,506	$1,444	$1,408	$1,321	$1,277	$1,239	$1,199	$1,175
PMI Advantage	-$251	-$188	-$152	-$66	-$22	$16	$57	$81

Sources: Genworth Mortgage Insurance, Ginnie Mae, and Urban Institute. FHA rate from MBA Weekly Applications Survey. Conforming rate from Freddie Mac Primary Mortgage Market Survey.
Note: Rates as of June 2020.
Mortgage insurance premiums listed in percentage points. Grey shade indicates FHA monthly payment is more favorable, while blue indicates PMI is more favorable. The PMI monthly payment calculation does not include special programs like Fannie Mae's HomeReady and Freddie Mac's Home Possible (HP), both offer more favorable rates for low- to moderate-income borrowers.
LLPA= Loan Level Price Adjustment, described in detail on page 25.

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Date: May 19, 2020

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