PennyMac Mortgage Investment Trust
Form 10-Q
November 07, 2018

UNITED STATES

SECURITIES AND EXCHANGE COMMISSION

Washington, DC 20549

Form 10-Q

(Mark One)

QUARTERLY REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934
For the quarterly period ended September 30, 2018

Or

TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934
For the transition period from to

Commission file number: 001-34416

PennyMac Mortgage Investment Trust

(Exact name of registrant as specified in its charter)

Maryland (State or other jurisdiction of incorporation or organization)	27-0186273 (IRS Employer Identification No.)
3043 Townsgate Road, Westlake Village, California (Address of principal executive offices)	91361 (Zip Code)

(818) 224-7442

(Registrant’s telephone number, including area code)

Indicate by check mark whether the registrant (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the registrant was required to file such reports) and (2) has been subject to such filing requirements for the past 90 days. Yes No

Indicate by check mark whether the registrant has submitted electronically every Interactive Data File required to be submitted pursuant to Rule 405 of Regulation S-T (§ 232.405 of this chapter) during the preceding 12 months (or for such shorter period that the registrant was required to submit such files). Yes No

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, smaller reporting company or an emerging growth company. See the definitions of “large accelerated filer”, “accelerated filer”, “smaller reporting company” and “emerging growth company” in Rule 12b-2 of the Exchange Act.

Large accelerated filer	Accelerated filer
Non-accelerated filer	Smaller reporting company
	Emerging growth company

If an emerging growth company, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided pursuant to Section 13(a) of the Exchange Act.

Indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Exchange Act): Yes No

Indicate the number of shares outstanding of each of the registrant’s classes of common stock, as of the latest practicable date.

Class	Outstanding at November 6, 2018
Common Shares of Beneficial Interest, $0.01 par value	60,951,444

PENNYMAC MORTGAGE INVESTMENT TRUST

FORM 10-Q

September 30, 2018

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SPECIAL NOTE REGARDING FORWARD-LOOKING STATEMENTS

This Quarterly Report on Form 10-Q ("Report") contains certain forward-looking statements that are subject to various risks and uncertainties. Forward-looking statements are generally identifiable by use of forward-looking terminology such as "may," "will," "should," "potential," "intend," "expect," "seek," "anticipate," "estimate," "approximately," "believe," " "predict," "continue," "plan" or other similar words or expressions.

Forward-looking statements are based on certain assumptions, discuss future expectations, describe future plans and strategies, contain financial and operating projections or state other forward-looking information. Examples of forward-looking statements include the following:

- projections of our revenues, income, earnings per share, capital structure or other financial items;
- descriptions of our plans or objectives for future operations, products or services;
- forecasts of our future economic performance, interest rates, profit margins and our share of future markets; and
- descriptions of assumptions underlying or relating to any of the foregoing expectations regarding the timing of generating any revenues.

Our ability to predict results or the actual effect of future events, actions, plans or strategies is inherently uncertain. Although we believe that the expectations reflected in such forward-looking statements are based on reasonable assumptions, our actual results and performance could differ materially from those set forth in the forward-looking statements. There are a number of factors, many of which are beyond our control that could cause actual results to differ significantly from management's expectations. Some of these factors are discussed below.

You should not place undue reliance on any forward-looking statement and should consider the following uncertainties and risks, as well as the risks and uncertainties discussed elsewhere in this Report and the section entitled "Risk Factors" in our Annual Report on Form 10-K for the year ended December 31, 2017, filed with the Securities and Exchange Commission ("SEC") on March 1, 2018.

Factors that could cause actual results to differ materially from historical results or those anticipated include, but are not limited to:

- changes in our investment objectives or investment or operational strategies, including any new lines of business or new products and services that may subject us to additional risks;
- the occurrence of natural disasters or other events or circumstances that could impact our operations;
- volatility in our industry, the debt or equity markets, the general economy or the real estate finance and real estate markets specifically, whether the result of market events or otherwise;
- events or circumstances which undermine confidence in the financial markets or otherwise have a broad impact on financial markets, such as the sudden instability or collapse of large depository institutions or other significant corporations, terrorist attacks, natural or man-made disasters, or threatened or actual armed conflicts;
- changes in general business, economic, market, employment and political conditions, or in consumer confidence and spending habits from those expected;
- declines in real estate or significant changes in U.S. housing prices or activity in the U.S. housing market;
- the availability of, and level of competition for, attractive risk-adjusted investment opportunities in mortgage loans and mortgage-related assets that satisfy our investment objectives;
- the inherent difficulty in winning bids to acquire mortgage loans, and our success in doing so;
- the concentration of credit risks to which we are exposed;
- the degree and nature of our competition;
- our dependence on our manager and servicer, potential conflicts of interest with such entities and their affiliates, and the performance of such entities;
- changes in personnel and lack of availability of qualified personnel at our manager, servicer or their affiliates;
- the availability, terms and deployment of short-term and long-term capital;

- the adequacy of our cash reserves and working capital;

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- our ability to maintain the desired relationship between our financing and the interest rates and maturities of our assets;
- the timing and amount of cash flows, if any, from our investments;
- unanticipated increases or volatility in financing and other costs, including a rise in interest rates;
- the performance, financial condition and liquidity of borrowers;
- the ability of our servicer, which also provides us with fulfillment services, to approve and monitor correspondent sellers and underwrite loans to investor standards;
- incomplete or inaccurate information or documentation provided by customers or counterparties, or adverse changes in the financial condition of our customers and counterparties;
- our indemnification and repurchase obligations in connection with mortgage loans we purchase and later sell or securitize;
- the quality and enforceability of the collateral documentation evidencing our ownership and rights in the assets in which we invest;
- increased rates of delinquency, default and/or decreased recovery rates on our investments;
- the performance of mortgage loans underlying mortgage-backed securities ("MBS") in which we retain credit risk;
- our ability to foreclose on our investments in a timely manner or at all;
- increased prepayments of the mortgages and other loans underlying our MBS or relating to our mortgage servicing rights ("MSRs"), excess servicing spread ("ESS") and other investments;
- the degree to which our hedging strategies may or may not protect us from interest rate volatility;
- the effect of the accuracy of or changes in the estimates we make about uncertainties, contingencies and asset and liability valuations when measuring and reporting upon our financial condition and results of operations;
- our failure to maintain appropriate internal controls over financial reporting;
- technologies for loans and our ability to mitigate security risks and cyber intrusions;
- our ability to obtain and/or maintain licenses and other approvals in those jurisdictions where required to conduct our business;
- our ability to detect misconduct and fraud;
- our ability to comply with various federal, state and local laws and regulations that govern our business;
- developments in the secondary markets for our mortgage loan products;
- legislative and regulatory changes that impact the mortgage loan industry or housing market;
- changes in regulations or the occurrence of other events that impact the business, operations or prospects of government agencies such as the Government National Mortgage Association ("Ginnie Mae"), the Federal Housing Administration (the "FHA") or the Veterans Administration (the "VA"), the U.S. Department of Agriculture ("USDA"), or government-sponsored entities such as the Federal National Mortgage Association ("Fannie Mae") or the Federal Home Loan Mortgage Corporation ("Freddie Mac") (Fannie Mae, Freddie Mac and Ginnie Mae are each referred to as an "Agency" and, collectively, as the "Agencies"), or such changes that increase the cost of doing business with such entities;
- the Dodd-Frank Wall Street Reform and Consumer Protection Act (the "Dodd-Frank Act") and its implementing regulations and regulatory agencies, and any other legislative and regulatory changes that impact the business, operations or governance of mortgage lenders and/or publicly-traded companies;
- the Bureau of Consumer Financial Protection and its issued and future rules and the enforcement thereof;
- changes in government support of homeownership;
- changes in government or government-sponsored home affordability programs;
- limitations imposed on our business and our ability to satisfy complex rules for us to qualify as a real estate investment trust ("REIT") for U.S. federal income tax purposes and qualify for an exclusion from the Investment Company Act of 1940 (the "Investment Company Act") and the ability of certain of our subsidiaries to qualify as REITs or as taxable REIT subsidiaries ("TRSs") for U.S. federal income tax purposes, as applicable, and our ability and the ability of our subsidiaries to operate effectively within the limitations imposed by these rules;

- changes in governmental regulations, accounting treatment, tax rates and similar matters (including changes to laws governing the taxation of REITs, or the exclusions from registration as an investment company);
- our ability to make distributions to our shareholders in the future;
- our failure to deal appropriately with issues that may give rise to reputational risk; and
- our organizational structure and certain requirements in our charter documents.

Other factors that could also cause results to differ from our expectations may not be described in this Report or any other document. Each of these factors could by itself, or together with one or more other factors, adversely affect our business, results of operations and/or financial condition.

Forward-looking statements speak only as of the date they are made, and we undertake no obligation to update any forward-looking statement to reflect the impact of circumstances or events that arise after the date the forward-looking statement was made.

PART I. FINANCIAL INFORMATION

Item 1. Financial Statements

PENNYMAC MORTGAGE INVESTMENT TRUST AND SUBSIDIARIES

CONSOLIDATED BALANCE SHEETS (UNAUDITED)

	September 30, 2018	December 31, 2017
	(in thousands, except share information)	
ASSETS		
Cash	$88,929	$ 77,647
Short-term investments at fair value	26,736	18,398
Mortgage-backed securities at fair value pledged to creditors	2,126,507	989,461
Mortgage loans acquired for sale at fair value (includes $1,930,547 and $1,249,277 pledged to creditors, respectively)	1,949,432	1,269,515
Mortgage loans at fair value (includes $624,267 and $1,081,893 pledged to creditors, respectively)	633,168	1,089,473
Excess servicing spread purchased from PennyMac Financial Services, Inc. at fair value pledged to secure Assets sold to PennyMac Financial Services, Inc. under agreements to repurchase	223,275	236,534
Derivative assets (includes $27,710 and $26,058 pledged to creditors, respectively)	143,577	113,881
Firm commitment to purchase credit risk transfer security at fair value	18,749	—
Real estate acquired in settlement of loans (includes $69,399 and $124,532 pledged to creditors, respectively)	95,605	162,865
Real estate held for investment (includes $31,795 and $31,128 pledged to creditors, respectively)	45,971	44,224
Deposits securing credit risk transfer agreements (includes $378,090 and $400,778 pledged to creditors, respectively)	662,624	588,867
Mortgage servicing rights (includes $1,109,741 and $91,459 at fair value; $1,090,406 and $831,892 pledged to creditors)	1,109,741	844,781
Servicing advances	48,056	77,158
Due from PennyMac Financial Services, Inc.	2,351	4,154
Other	92,857	87,975
Total assets	$7,267,578	$ 5,604,933
LIABILITIES		
Assets sold under agreements to repurchase	$4,394,500	$ 3,180,886
Mortgage loan participation purchase and sale agreements	31,578	44,488
Exchangeable senior notes	248,053	247,186
Notes payable	445,318	—

Asset-backed financing of a variable interest entity at fair value	278,113	307,419
Interest-only security payable at fair value	8,821	7,070
Assets sold to PennyMac Financial Services, Inc. under agreements to repurchase	133,128	144,128
Derivative liabilities	11,880	1,306
Accounts payable and accrued liabilities	70,362	64,751
Due to PennyMac Financial Services, Inc.	27,467	27,119
Income taxes payable	52,382	27,317
Liability for losses under representations and warranties	7,413	8,678
Total liabilities	5,709,015	4,060,348
Commitments and contingencies — Note 20		
SHAREHOLDERS' EQUITY		
Preferred shares of beneficial interest, $0.01 par value per share, authorized 100,000,000 shares, issued and outstanding 12,400,000 shares, liquidation preference $310,000,000	299,707	299,707
Common shares of beneficial interest—authorized, 500,000,000 common shares of $0.01 par value; issued and outstanding, 60,951,444 and 61,334,087 common shares, respectively	610	613
Additional paid-in capital	1,284,537	1,290,931
Accumulated deficit	(26,291)	(46,666)
Total shareholders' equity	1,558,563	1,544,585
Total liabilities and shareholders' equity	$7,267,578	$ 5,604,933

The accompanying notes are an integral part of these consolidated financial statements.

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PENNYMAC MORTGAGE INVESTMENT TRUST AND SUBSIDIARIES

CONSOLIDATED BALANCE SHEETS (UNAUDITED)

Assets and liabilities of consolidated variable interest entities ("VIEs") included in total assets and liabilities (the assets of each VIE can only be used to settle liabilities of that VIE):

	September 30, 2018	December 31, 2017
	(in thousands)	
ASSETS		
Mortgage loans at fair value	$292,174	$ 321,040
Derivative assets	126,354	98,640
Deposits securing credit risk transfer agreements	662,624	588,867
Other—interest receivable	855	904
	$1,082,007	$ 1,009,451
LIABILITIES		
Asset-backed financing at fair value	$278,113	$ 307,419
Interest-only security payable at fair value	8,821	7,070
Accounts payable and accrued liabilities—interest payable	855	904
	$287,789	$ 315,393

The accompanying notes are an integral part of these consolidated financial statements.

PENNYMAC MORTGAGE INVESTMENT TRUST AND SUBSIDIARIES

CONSOLIDATED STATEMENTS OF INCOME (UNAUDITED)

	Quarter ended September 30,		Nine months ended September 30,	
	2018	2017	2018	2017
	(in thousands, except per share amounts)			
Net investment income				
Net mortgage loan servicing fees:				
From nonaffiliates	$43,833	$21,543	$126,567	$48,466
From PennyMac Financial Services, Inc.	561	333	1,568	859
	44,394	21,876	128,135	49,325
Net gain on mortgage loans acquired for sale:				
From nonaffiliates	22,121	14,692	33,358	44,944
From PennyMac Financial Services, Inc.	2,689	3,275	8,221	9,340
	24,810	17,967	41,579	54,284
Mortgage loan origination fees	12,424	11,744	28,311	30,501
Net gain (loss) on investments:				
From nonaffiliates	7,977	17,499	24,233	69,067
From PennyMac Financial Services, Inc.	1,706	(3,665)	10,977	(10,920)
	9,683	13,834	35,210	58,147
Interest income:				
From nonaffiliates	58,584	47,579	144,064	139,052
From PennyMac Financial Services, Inc.	3,740	3,998	11,584	13,011
	62,324	51,577	155,648	152,063
Interest expense:				
To nonaffiliates	44,797	38,161	115,804	109,936
To PennyMac Financial Services, Inc.	1,812	2,116	5,686	5,946
	46,609	40,277	121,490	115,882
Net interest income	15,715	11,300	34,158	36,181
Results of real estate acquired in settlement of loans	(310)	(3,143)	(5,833)	(10,854)
Other	1,785	2,226	5,605	6,653
Net investment income	108,501	75,804	267,165	224,237
Expenses				
Earned by PennyMac Financial Services, Inc.:				
Mortgage loan fulfillment fees	26,256	23,507	52,759	61,184
Mortgage loan servicing fees	10,071	11,402	30,521	31,987
Management fees	6,482	6,038	17,906	16,684
Mortgage loan collection and liquidation	2,747	864	6,899	4,556
Professional services	2,616	1,331	5,692	5,531
Compensation	1,924	1,067	5,412	4,918
Real estate held for investment	1,713	1,898	4,452	4,339
Mortgage loan origination	2,136	2,230	3,980	5,735
Other	2,894	3,301	7,758	10,704
Total expenses	56,839	51,638	135,379	145,638
Income before provision for income taxes	51,662	24,166	131,786	78,599
Provision for income taxes	5,100	4,771	20,613	1,688
Net income	46,562	19,395	111,173	76,911

Dividends on preferred shares	6,235	6,125	18,703	9,032
Net income attributable to common shareholders	$40,327	$13,270	$92,470	$67,879
Earnings per common share				
Basic	$0.66	$0.20	$1.51	$1.01
Diluted	$0.62	$0.20	$1.44	$0.98
Weighted-average common shares outstanding				
Basic	60,950	66,636	60,880	66,702
Diluted	69,417	66,636	69,347	75,169
Dividends declared per common share	$0.47	$0.47	$1.41	$1.41

The accompanying notes are an integral part of these consolidated financial statements.

PENNYMAC MORTGAGE INVESTMENT TRUST AND SUBSIDIARIES

CONSOLIDATED STATEMENTS OF CHANGES IN SHAREHOLDERS' EQUITY (UNAUDITED)

	Preferred shares		Common shares				
	Number of shares	Amount	Number of shares	Par value	Additional paid-in capital	Accumulated deficit	Total
	(in thousands, except per share amounts)						
Balance at June 30, 2017	4,600	$111,172	66,842	$668	$1,377,990	$ (34,998)	$1,454,832
Net income	—	—	—	—	—	19,395	19,395
Share-based compensation	—	—	—	1	736	—	737
Issuance of preferred shares	7,800	195,000	—	—	—	—	195,000
Issuance costs relating to preferred shares	—	(6,465)	—	—	—	—	(6,465)
Dividends:							
Common shares ($0.47 per share)	—	—	—	—	—	(31,179)	(31,179)
Preferred shares	—	—	—	—	—	(5,338)	(5,338)
Repurchase of common shares	—	—	(966)	(10)	(16,407)	—	(16,417)
Balance at September 30, 2017	12,400	$299,707	65,876	$659	$1,362,319	$ (52,120)	$1,610,565
Balance at June 30, 2018	12,400	$299,707	60,951	$610	$1,282,971	$ (37,801)	$1,545,487
Net income	—	—	—	—	—	46,562	46,562
Share-based compensation	—	—	—	—	1,566	—	1,566
Dividends:							
Common shares ($0.47 per share)	—	—	—	—	—	(28,816)	(28,816)
Preferred shares	—	—	—	—	—	(6,236)	(6,236)
Balance at September 30, 2018	12,400	$299,707	60,951	$610	$1,284,537	$ (26,291)	$1,558,563

	Preferred shares		Common shares				
	Number of shares	Amount	Number of shares	Par value	Additional paid-in capital	Accumulated deficit	Total
	(in thousands, except per share amounts)						
Balance at December 31, 2016	—	$—	66,697	$667	$1,377,171	$ (26,724)	$1,351,114
Net income	—	—	—	—	—	76,911	76,911
Share-based compensation	—	—	284	3	3,861	—	3,864
Issuance of preferred shares	12,400	310,000	—	—	—	—	310,000
Issuance costs relating to preferred shares	—	(10,293)	—	—	—	—	(10,293)
Dividends:							
Common shares ($1.41 per share)	—	—	—	—	—	(94,477)	(94,477)
Preferred shares	—	—	—	—	—	(7,830)	(7,830)
Repurchase of common shares	—	—	(1,105)	(11)	(18,713)	—	(18,724)
Balance at September 30, 2017	12,400	$299,707	65,876	$659	$1,362,319	$ (52,120)	$1,610,565
Balance at December 31, 2017	12,400	$299,707	61,334	$613	$1,290,931	$ (46,666)	$1,544,585
Cumulative effect of a change in accounting	—	—	—	—	—	14,361	14,361

principle - Adoption of fair value accounting for mortgage servicing rights							
Balance at January 1, 2018	12,400	299,707	61,334	613	1,290,931	(32,305)	1,558,946
Net income	—	—	—	—	—	111,173	111,173
Share-based compensation	—	—	288	3	4,319	—	4,322
Dividends:							
Common shares ($1.41 per share)	—	—	—	—	—	(86,451)	(86,451)
Preferred shares	—	—	—	—	—	(18,708)	(18,708)
Repurchase of common shares	—	—	(671)	(6)	(10,713)	—	(10,719)
Balance at September 30, 2018	12,400	$299,707	60,951	$610	$1,284,537	$(26,291)	$1,558,563

The accompanying notes are an integral part of these consolidated financial statements.

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PENNYMAC MORTGAGE INVESTMENT TRUST AND SUBSIDIARIES

CONSOLIDATED STATEMENTS OF CASH FLOWS (UNAUDITED)

	Nine months ended September 30,	
	2018	2017
	(in thousands)	
Cash flows from operating activities		
Net income	$111,173	$76,911
Adjustments to reconcile net income to net cash (used in) provided by operating activities:		
Change in fair value, amortization and impairment of mortgage servicing rights, net of hedging results	27,368	75,403
Net gain on mortgage loans acquired for sale at fair value	(41,579)	(54,284)
Net gain on investments	(35,210)	(58,147)
Accrual of interest on excess servicing spread purchased from PennyMac Financial Services, Inc.	(11,584)	(13,011)
Capitalization of interest and fees on mortgage loans at fair value	(6,543)	(27,737)
Amortization of debt issuance (premiums) and costs, net	(3,193)	10,243
Accrual of unearned discounts and amortization of premiums on mortgage-backed securities, mortgage loans at fair value, and asset-backed secured financing of a VIE	2,731	4,625
Results of real estate acquired in settlement of loans	5,833	10,854
Share-based compensation expense	4,322	3,864
Purchase of mortgage loans acquired for sale at fair value from nonaffiliates	(46,127,315)	(49,769,392)
Purchase of mortgage loans acquired for sale at fair value from PennyMac Financial Services, Inc.	(2,336,162)	(373,108)
Repurchase of mortgage loans subject to representation and warranties	(8,243)	(8,706)
Sale and repayment of mortgage loans acquired for sale at fair value to nonaffiliates	18,992,722	17,683,444
Sale of mortgage loans acquired for sale to PennyMac Financial Services, Inc.	28,584,762	32,724,487
Settlement of repurchase agreement derivatives	5,626	—
Decrease in servicing advances	37,506	8,275
Decrease in due from PennyMac Financial Services, Inc.	1,769	2,043
(Increase) decrease in other assets	(31,419)	16,936
Increase (decrease) in accounts payable and accrued liabilities	5,938	(31,155)
Increase (decrease) in due to PennyMac Financial Services, Inc.	348	(454)
Increase in income taxes payable	19,713	1,982
Net cash (used in) provided by operating activities	(801,437)	283,073
Cash flows from investing activities		
Net (increase) decrease in short-term investments	(8,338)	116,442
Purchase of mortgage-backed securities at fair value	(1,316,200)	(251,872)
Sale and repayment of mortgage-backed securities at fair value	126,243	85,144
Sale and repayment of mortgage loans at fair value	398,488	345,824
Repayment of excess servicing spread by PennyMac Financial Services, Inc.	35,852	42,320

Net settlement of derivative financial instruments	1,300	(423)
Sale of real estate acquired in settlement of loans	84,645	140,862
Purchase of mortgage servicing rights	—	(79)
Sale of mortgage servicing rights	100	—
Contribution to deposits securing credit risk transfer agreements	(96,446)	(102,146)
Distribution from credit risk transfer agreements	87,596	41,823
Decrease (increase) in margin deposits	4,617	(2,350)
Net cash (used in) provided by investing activities	(682,143)	415,545

The accompanying notes are an integral part of these consolidated financial statements.

PENNYMAC MORTGAGE INVESTMENT TRUST AND SUBSIDIARIES

CONSOLIDATED STATEMENTS OF CASH FLOWS (UNAUDITED)

	Nine months ended September 30,	
	2018	2017
	(in thousands)	
Cash flows from financing activities		
Sale of assets under agreements to repurchase	60,463,168	58,275,935
Repurchase of assets sold under agreements to repurchase	(59,250,379)	(58,856,728)
Issuance of mortgage loan participation certificates	4,603,429	5,473,935
Repayment of mortgage loan participation certificates	(4,616,304)	(5,455,770)
Advance under notes payable	450,000	135,000
Repayment of notes payable	—	(330,000)
Repayment of asset-backed financing of a variable interest entity at fair value	(16,721)	(42,881)
Sale of assets sold to PennyMac Financial Services, Inc. under agreements to repurchase	2,208	—
Repurchase of assets sold to PennyMac Financial Services, Inc. under agreement to repurchase	(13,208)	(1,928)
Payment of debt issuance costs	(11,125)	(9,342)
Issuance of preferred shares	—	310,000
Payment of issuance costs related to preferred shares	—	(10,293)
Payment of dividends to preferred shareholders	(18,708)	(7,830)
Payment of dividends to common shareholders	(86,779)	(94,953)
Repurchase of common shares	(10,719)	(18,724)
Net cash provided by (used in) financing activities	1,494,862	(633,579)
Net increase in cash and restricted cash	11,282	65,039
Cash and restricted cash at beginning of period	77,647	34,476
Cash and restricted cash at end of period	$88,929	$99,515
Cash and restricted cash end of period are comprised of the following:		
Cash	$88,929	$99,515
Restricted cash	—	—
	$88,929	$99,515

The accompanying notes are an integral part of these consolidated financial statements.

PENNYMAC MORTGAGE INVESTMENT TRUST AND SUBSIDIARIES

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (UNAUDITED)

Note 1—Organization

PennyMac Mortgage Investment Trust ("PMT" or the "Company") was organized in Maryland on May 18, 2009, and commenced operations on August 4, 2009, when it completed its initial offerings of common shares of beneficial interest ("common shares"). The Company is a specialty finance company, which, through its subsidiaries (all of which are wholly-owned), invests primarily in residential mortgage-related assets.

The Company operates in four segments: correspondent production, credit sensitive strategies, interest rate sensitive strategies and corporate:

- The correspondent production segment represents the Company's operations aimed at serving as an intermediary between mortgage lenders and the capital markets by purchasing, pooling and reselling newly originated prime credit quality mortgage loans either directly or in the form of mortgage-backed securities ("MBS"), using the services of PNMAC Capital Management, LLC ("PCM" or the "Manager") and PennyMac Loan Services, LLC ("PLS"), both indirect controlled subsidiaries of PennyMac Financial Services, Inc. ("PFSI").
- Most of the mortgage loans the Company has acquired in its correspondent production activities have been eligible for sale to government-sponsored entities ("GSEs") such as the Federal National Mortgage Association ("Fannie Mae") and the Federal Home Loan Mortgage Corporation ("Freddie Mac") or through government agencies such as the Government National Mortgage Association ("Ginnie Mae"). Fannie Mae, Freddie Mac and Ginnie Mae are each referred to as an "Agency" and, collectively, as the "Agencies."
- The credit sensitive strategies segment represents the Company's investments in credit risk transfer agreements ("CRT Agreements"), distressed mortgage loans, real estate acquired in settlement of mortgage loans ("REO"), real estate held for investment, non-Agency subordinated bonds and small balance commercial real estate mortgage loans.
- The interest rate sensitive strategies segment represents the Company's investments in mortgage servicing rights ("MSRs"), excess servicing spread purchased from PFSI ("ESS"), Agency and senior non-Agency MBS and the related interest rate hedging activities.
- The corporate segment includes certain interest income, management fee and corporate expense amounts.

The Company conducts substantially all of its operations and makes substantially all of its investments through its subsidiary, PennyMac Operating Partnership, L.P. (the "Operating Partnership"), and the Operating Partnership's subsidiaries. A wholly-owned subsidiary of the Company is the sole general partner, and the Company is the sole limited partner, of the Operating Partnership.

The Company believes that it qualifies, and has elected to be taxed, as a real estate investment trust ("REIT") under the Internal Revenue Code of 1986, as amended, beginning with its taxable period ended on December 31, 2009. To maintain its tax status as a REIT, the Company has to distribute at least 90% of its taxable income in the form of qualifying distributions to shareholders.

Note 2—Basis of Presentation

The accompanying consolidated financial statements have been prepared in compliance with accounting principles generally accepted in the United States ("GAAP") as codified in the Financial Accounting Standards Board's ("FASB") Accounting Standards Codification ("ASC") for interim financial information and with the Securities and Exchange Commission's instructions to Form 10-Q and Rule 10-01 of Regulation S-X. Accordingly, these financial statements and notes do not include all of the information required by GAAP for complete financial statements. The interim consolidated information should be read together with the Company's Annual Report on Form 10-K for the fiscal year ended December 31, 2017 (the "Annual Report").

The accompanying unaudited consolidated financial statements reflect all normal recurring adjustments necessary to present fairly the financial position, results of operations, and cash flows for the interim periods, but are not necessarily indicative of the results of operations that may be anticipated for the full year. Intercompany accounts and transactions have been eliminated.

Preparation of financial statements in compliance with GAAP requires the Manager to make estimates and judgments that affect the reported amounts of assets and liabilities and the disclosure of contingent assets and liabilities at the date of the financial statements, and revenues and expenses during the reporting period. Actual results will likely differ from those estimates.

Note 3—Accounting Developments

Accounting Changes

Mortgage Servicing Rights

Effective January 1, 2018, the Company has elected to change the accounting for the classes of MSRs it accounted for using the amortization method through December 31, 2017, to the fair value method as allowed in the Transfers and Servicing topic of the ASC. The Manager determined that a single accounting treatment across all MSRs is consistent with lender valuation under its financing arrangements and simplifies hedging activities. As the result of this change, the Company recorded an adjustment to increase its investment in MSRs by $19.7 million, an increase in its liability for income taxes payable of $5.3 million and in increase in shareholders' equity of $14.4 million.

Revenue Recognition

As disclosed in Note 33 – Recently Issued Accounting Pronouncements to the consolidated financial statements included in the Annual Report, the Manager has concluded that the Company's revenues are not subject to ASU 2014-09 as they are financial instruments or other contractual rights and obligations accounted for under the Receivables, Investments and Debt and Equity Securities, Transfers and Servicing, Financial Instruments and Derivatives and Hedging topics of the ASC.

Cash Flows

During the nine months ended September 30, 2018, the Company adopted FASB Accounting Standards Update 2016-18, Statement of Cash Flows (Topic 230) – Restricted Cash ("ASU 2016-18"). ASU 2016-18 requires that a statement of cash flows explain the change during the reporting period in the total of cash, cash equivalents, and amounts generally described as restricted cash or restricted cash equivalents. Therefore, amounts generally described as restricted cash and restricted cash equivalents should be included with cash and cash equivalents when reconciling the beginning-of-period and end-of-period total amounts shown on the statement of cash flows. At present, the Company holds no restricted cash or restricted cash equivalents. The Company retrospectively changed the presentation of its statements of cash flows to conform to the requirements of ASU 2016-18. The adoption of ASU 2016-18 had no effect on previously reported amounts in the statements of cash flows.

Recently Issued Accounting Pronouncement

On June 20, 2018, the FASB issued ASU 2018-07, Compensation—Stock Compensation (Topic 718): Improvements to Nonemployee Share-Based Payment Accounting ("ASU 2018-07"). ASU 2018-07 is intended to reduce cost and complexity and improve financial reporting for non-employee share-based payments.

ASU 2018-07 expands the scope of the Compensation—Stock Compensation topic of the ASC, which currently provides accounting guidance relating to share-based payments issued to employees, to include share-based payments issued to non-employees for goods or services. Consequently, under ASU 2018-07, the accounting for share-based payments to non-employees will be substantially aligned with the Company's present accounting for share-based payments to its trustees.

The Company issues share-based compensation to certain employees of the Manager. Presently, the Company accounts for share-based payments to employees of the Manager under the guidance of Equity – Equity-Based Payments to Non-Employees topic of the ASC. Under that topic, the measure of cost relating to such grants is generally established based on the fair value of the shares upon vesting of the share-based awards. Accordingly, the Manager's estimate of compensation costs, and by extension periodic expense amounts, fluctuates with movements in the Company's common share price during the period that expense relating to the grants is being recognized. This guidance is being replaced by ASU 2018-07. As a result of the adoption of ASU 2018-07, the cost of share-based grants made to employees of the Manager will be fixed at the date of the grant for restricted share units issued to employees of the Manager and variable to the extent of changes in performance attainment expectations for performance share units issued to all grantees.

The amendments in this ASU are effective for the Company for the fiscal year ending December 31, 2019, including interim periods within that fiscal year. Upon adoption, the Manager does not expect to record a cumulative effect adjustment to its accumulated deficit.

Note 4—Concentration of Risks

As discussed in Note 1 — Organization above, PMT's operations and investing activities are centered in residential mortgage-related assets, including distressed mortgage loans and CRT Agreements.

Distressed Mortgage Loans

Due to the nature of the Company's investments in distressed mortgage loans, PMT is exposed, to a greater extent than traditional mortgage investors, to the risks associated with loan performance and resolution, including that borrowers may be in economic distress and/or may have become unemployed, bankrupt or otherwise unable or unwilling to make payments when due, and that fluctuations in the residential real estate market may affect the performance of its investments. Factors influencing these risks include, but are not limited to:

- changes in the overall economy, unemployment rates and residential real estate fair values in the markets where the properties securing the Company's distressed mortgage loans are located;
- PCM's ability to identify and PLS' ability to execute optimal resolutions of distressed mortgage loans;
- the accuracy of valuation information obtained during the Company's due diligence activities;
- PCM's ability to effectively model, and to develop appropriate model inputs that properly anticipate, future outcomes;
- the level of government support for resolution of distressed mortgage loans and the effect of current and future proposed and enacted legislative and regulatory changes on the Company's ability to effect cures or resolutions to distressed mortgage loans; and
- regulatory, judicial and legislative support of the foreclosure process, and the resulting effect on the Company's ability to acquire and liquidate the real estate securing its portfolio of distressed mortgage loans in a timely manner or at all.

Due to these uncertainties, there can be no assurance that risk management activities identified and executed on PMT's behalf will prevent significant losses arising from the Company's investments in real estate-related assets.

Most of the distressed mortgage loans and REO has been acquired by the Company in prior years from or through one or more subsidiaries of JPMorgan Chase & Co., Citigroup Inc., and Bank of America Corporation, as presented in the following summary:

	September 30, 2018	December 31, 2017
	(in thousands)	
JPMorgan Chase & Co.		
Mortgage loans at fair value	$135,486	$ 315,437
REO	42,003	66,294
	177,489	381,731
Citigroup Inc.		
Mortgage loans at fair value	133,547	280,488
REO	13,223	26,702
	146,770	307,190
Bank of America Corporation		
Mortgage loans at fair value	60,884	143,969
REO	15,786	27,970
	76,670	171,939
	$400,929	$ 860,860
Total carrying value of distressed mortgage loans at fair value and REO	$436,599	$ 931,298

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CRT Agreements

As detailed in Note 6 — Loan Sales and Variable Interest Entities, the Company invests in CRT Agreements whereby it sells pools of recently-originated mortgage loans into Fannie Mae-guaranteed securitizations while retaining a portion of the credit risk underlying such mortgage loans either as part of the retention of an interest-only ("IO") ownership interest in such mortgage loans along with an obligation to absorb credit losses arising from such mortgage loans ("Recourse Obligations") or, beginning in June 2018, by entering into firm commitments to purchase credit risk transfer securities.

The Company's retention of credit risk through its investment in CRT Agreements subjects it to risks associated with delinquency and foreclosure similar to the risks associated with owning the related mortgage loans, and exposes the Company to risk of loss greater than the risks associated with selling such mortgage loans to Fannie Mae without the retention of such credit risk. Further, under agreements that include Recourse Obligations, the risks associated with delinquency and foreclosure may in some instances be greater than the risks associated with owning the related mortgage loans because the structure of certain of the CRT Agreements provides that the Company may be required to realize losses in the event of delinquency or foreclosure even where there is ultimately no loss realized with respect to such loans (e.g., as a result of a borrower's re-performance).

Beginning in June 2018, the Company entered into a new form of CRT Agreement under which PMT sells pools of recently-originated mortgage loans into Fannie Mae-guaranteed securities and purchases related credit transfer securities that are entitled to receive a portion of the mortgage loans' interest payments in exchange for absorbing certain losses on such mortgage loans. At the commencement of the aggregation period and before the settlement of the credit-subordinated securities, the Company makes a firm commitment to purchase the securities. Accordingly, the Company recognizes the fair value of such commitment as it sells loans subject to the CRT Agreement, and also recognizes changes in fair value of the firm commitment during the time it is outstanding. Unlike the Company's investment in CRT Agreements before June 2018, the structure of its investment in credit risk transfer securities only requires the Company to realize losses as the reference mortgage loans realize actual losses.

In addition to the risks specific to credit, the Company is exposed to market risk and, as a result of prevailing market conditions or the economy generally, may be required to recognize losses associated with adverse changes to the fair value of the CRT Agreements, the firm commitment to purchase credit risk transfer securities and of the credit risk transfer securities.

Note 5—Transactions with Related Parties

Operating Activities

Correspondent Production Activities

The Company is provided fulfillment and other services by PLS under an amended and restated mortgage banking services agreement.

Pursuant to the terms of the agreement, the monthly fulfillment fee is an amount that shall equal (a) no greater than the product of (i) 0.35% and (ii) the aggregate initial unpaid principal balance (the "Initial UPB") of all mortgage loans purchased in such month, plus (b) in the case of all mortgage loans other than mortgage loans sold to or securitized through Fannie Mae or Freddie Mac, no greater than the product of (i) 0.50% and (ii) the aggregate Initial UPB of all such mortgage loans sold and securitized in such month; provided however, that no fulfillment fee shall be due or payable to PLS with respect to any mortgage loans underwritten to the Ginnie Mae MBS Guide.

The Company does not hold the Ginnie Mae approval required to issue securities guaranteed by Ginnie Mae MBS and act as a servicer. Accordingly, under the agreement, PLS currently purchases loans saleable in accordance with the Ginnie Mae MBS Guide “as is” and without recourse of any kind from the Company at cost less any administrative fees paid by the correspondent to the Company plus accrued interest and a sourcing fee ranging from two to three and one-half basis points, generally based on the average number of calendar days loans are held by the Company prior to purchase by PLS.

In consideration for the mortgage banking services provided by PLS with respect to the Company’s acquisition of mortgage loans under PLS’s early purchase program, PLS is entitled to fees accruing (i) at a rate equal to $1,500 per annum per early purchase facility administered by PLS, and (ii) in the amount of $35 for each mortgage loan that the Company acquires.

The mortgage banking services agreement expires on September 12, 2020, subject to automatic renewal for additional 18-month periods, unless terminated earlier in accordance with the terms of the agreement.

The Company purchases newly originated loans from PLS under a mortgage loan participation purchase and sale agreement and a flow commercial mortgage loan purchase agreement. Historically, the Company has used the mortgage loan participation purchase and sale agreement for the purpose of purchasing from PLS prime jumbo residential mortgage loans. Beginning in the quarter ended September 30, 2017, the Company also purchases non-government insured or guaranteed mortgage loans from PLS under the mortgage loan participation purchase and sale agreement. The Company uses the flow commercial mortgage loan purchase agreement for the purpose of purchasing from PLS small balance commercial mortgage loans, including multifamily mortgage loans, originated as part of PLS's commercial lending activities.

Following is a summary of correspondent production activity between the Company and PLS:

	Quarter ended September 30,		Nine months ended September 30,	
	2018	2017	2018	2017
	(in thousands)			
Mortgage loans fulfillment fees earned by PLS	$26,256	$23,507	$52,759	$61,184
Unpaid principal balance ("UPB") of mortgage loans fulfilled by PLS	$7,517,883	$6,530,036	$17,139,884	$17,079,969
Sourcing fees received from PLS included in Net gain on mortgage loans acquired for sale	$2,689	$3,275	$8,221	$9,340
UPB of mortgage loans sold to PLS	$8,916,654	$10,915,194	$27,404,022	$31,131,154
Early purchase program fees paid to PLS included in Mortgage loan servicing fees	$—	$1	$—	$7
Purchases of mortgage loans acquired for sale from PLS	$908,525	$332,886	$2,336,162	$373,108
Tax service fee paid to PLS included in Other expense	$2,119	$2,108	$4,869	$5,377

	September 30, 2018	December 31, 2017
	(in thousands)	
Mortgage loans included in Mortgage loans acquired for sale at fair value pending sale to PLS	$217,334	$ 279,571

Mortgage Loan Servicing Activities

The Company, through its Operating Partnership, has an amended and restated mortgage loan servicing agreement with PLS dated as of September 12, 2016. The servicing agreement provides for servicing fees earned by PLS that are based on a percentage of the mortgage loan's unpaid principal balance or fixed per loan monthly amounts based on the delinquency, bankruptcy and/or foreclosure status of the serviced mortgage loan or the REO. PLS is also entitled to market-based fees and charges including boarding and deboarding fees, liquidation and disposition, assumption, modification and origination fees and a percentage of late charges relating to mortgage loans it services for the Company.

- The base servicing fee rates for distressed whole mortgage loans range from $30 per month for current loans up to $100 per month for loans where the borrower has declared bankruptcy. The base servicing fee rate for REO is $75 per month.
- To the extent that the Company rents its REO under an REO rental program, the Company pays PLS an REO rental fee of $30 per month per REO, an REO property lease renewal fee of $100 per lease renewal, and a property management fee in an amount equal to PLS' cost if property management services and/or any related software costs are outsourced to a third-party property management firm or 9% of gross rental income if PLS provides property management services directly. PLS is also entitled to retain any tenant paid application fees and late rent fees and seek reimbursement for certain third party vendor fees.
- Except as otherwise provided in the MSR recapture agreement, when PLS effects a refinancing of a mortgage loan on behalf of the Company and not through a third-party lender and the resulting mortgage loan is readily saleable, or PLS originates a loan to facilitate the disposition of an REO, PLS is entitled to receive from the Company market-based fees and compensation consistent with pricing and terms PLS offers unaffiliated parties on a retail basis.
- PLS is required to provide a range of services and activities significantly greater in scope than the services provided in connection with a customary servicing arrangement because the Company has limited employees and infrastructure. For these services, PLS received a supplemental fee of $25 per month for each distressed whole loan. PLS is entitled to reimbursement for all customary, good faith reasonable and necessary out-of-pocket expenses incurred in the performance of its servicing obligations.

- PLS, on behalf of the Company, is entitled to retain any incentive payments made to it and to which it is entitled under the U.S. Department of Treasury's Home Affordable Modification Plan ("HAMP"); provided, however, that with respect to any such incentive payments paid to PLS under HAMP in connection with a mortgage loan modification for which the Company previously paid PLS a modification fee, PLS shall reimburse the Company an amount equal to the incentive payments.
- PLS is also entitled to certain activity-based fees for distressed whole mortgage loans that are charged based on the achievement of certain events. These fees range from $750 for a streamline modification to $1,750 for a liquidation and $500 for a deed-in-lieu of foreclosure. PLS is not entitled to earn more than one liquidation fee, reperformance fee or modification fee per mortgage loan in any 18-month period.
- The base servicing fees for non-distressed mortgage loans subserviced by PLS on the Company's behalf are also calculated through a monthly per-loan dollar amount, with the actual dollar amount for each loan based on whether the mortgage loan is a fixed-rate or adjustable-rate loan. The base servicing fees for loans subserviced on the Company's behalf are $7.50 per month for fixed-rate loans and $8.50 per month for adjustable-rate mortgage loans.
- To the extent that these non-distressed mortgage loans become delinquent, PLS is entitled to an additional servicing fee per mortgage loan ranging from $10 to $55 per month and based on the delinquency, bankruptcy and foreclosure status of the mortgage loan or $75 per month if the underlying mortgaged property becomes REO. PLS is also entitled to customary ancillary income and certain market-based fees and charges, including boarding and deboarding fees, liquidation and disposition fees, assumption, modification and origination fees.

The term of the servicing agreement expires on September 12, 2020, subject to automatic renewal for additional 18-month periods, unless terminated earlier in accordance with the terms of the servicing agreement.

Pursuant to the terms of an amended and restated MSR recapture agreement, if PLS refinances mortgage loans for which the Company previously held the MSRs, PLS is generally required to transfer and convey to one of the Company's wholly-owned subsidiaries cash in an amount equal to 30% of the fair market value of the MSRs related to all the loans so originated. The MSR recapture agreement expires, unless terminated earlier in accordance with the agreement, on September 12, 2020, subject to automatic renewal for additional 18-month periods.

Following is a summary of mortgage loan servicing fees earned by PLS and MSR recapture income earned from PLS:

	Quarter ended September 30,		Nine months ended September 30,	
	2018	2017	2018	2017
	(in thousands)			
Mortgage loans servicing fees:				
Mortgage loans acquired for sale at fair value:				
Base	$98	$88	$250	$235
Activity-based	218	188	489	507
	316	276	739	742
Mortgage loans at fair value:				
Distressed mortgage loans:				
Base	614	1,571	2,328	5,284
Activity-based	657	2,702	3,200	6,859
	1,271	4,273	5,528	12,143
Mortgage loans held in VIE - Base	35	54	103	96

MSRs:				
Base	8,291	6,648	23,772	18,631
Activity-based	158	151	379	375
	8,449	6,799	24,151	19,006
	$10,071	$11,402	$30,521	$31,987
Average investment in:				
Mortgage loans acquired for sale at fair value	$1,833,232	$1,460,054	$1,460,547	$1,271,158
Mortgage loans at fair value:				
Distressed mortgage loans	$417,487	$1,104,738	$537,300	$1,210,328
Mortgage loans held in a VIE	$299,415	$339,464	$306,856	$350,607
Average MSR portfolio	$81,350,980	$63,584,416	$77,522,709	$61,764,228
MSR recapture income recognized included in Net mortgage loan servicing fees from PennyMac Financial Services, Inc.	$561	$333	$1,568	$859

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Management Fees

Under a management agreement, the Company pays PCM management fees as follows:

- A base management fee that is calculated quarterly and is equal to the sum of (i) 1.5% per year of average shareholders' equity up to $2 billion, (ii) 1.375% per year of average shareholders' equity in excess of $2 billion and up to $5 billion, and (iii) 1.25% per year of average shareholders' equity in excess of $5 billion.
- A performance incentive fee that is calculated quarterly at a defined annualized percentage of the amount by which "net income," on a rolling four-quarter basis and before deducting the incentive fee, exceeds certain levels of return on "equity."

The performance incentive fee is equal to the sum of: (a) 10% of the amount by which "net income" for the quarter exceeds (i) an 8% return on equity plus the high watermark, up to (ii) a 12% return on equity; plus (b) 15% of the amount by which "net income" for the quarter exceeds (i) a 12% return on equity plus the high watermark, up to (ii) a 16% return on equity; plus (c) 20% of the amount by which "net income" for the quarter exceeds a 16% return on equity plus the high watermark.

For the purpose of determining the amount of the performance incentive fee:

"Net income" is defined as net income or loss attributable to common shares of beneficial interest computed in accordance with GAAP and certain other non-cash charges determined after discussions between PCM and the Company's independent trustees and after approval by a majority of the Company's independent trustees.

"Equity" is the weighted average of the issue price per common share of all of the Company's public offerings, multiplied by the weighted average number of common shares outstanding (including restricted share units) in the rolling four-quarter period.

The "high watermark" is the quarterly adjustment that reflects the amount by which the "net income" (stated as a percentage of return on equity) in that quarter exceeds or falls short of the lesser of 8% and the average Fannie Mae 30-year MBS yield (the target yield) for the four quarters then ended. The "high watermark" starts at zero and is adjusted quarterly. If the "net income" is lower than the target yield, the high watermark is increased by the difference. If the "net income" is higher than the target yield, the high watermark is reduced by the difference. Each time a performance incentive fee is earned, the high watermark returns to zero. As a result, the threshold amounts required for PCM to earn a performance incentive fee are adjusted cumulatively based on the performance of PMT's "net income" over (or under) the target yield, until the "net income" in excess of the target yield exceeds the then-current cumulative high watermark amount.

The base management fee and the performance incentive fee are both payable quarterly in arrears. The performance incentive fee may be paid in cash or a combination of cash and the Company's common shares (subject to a limit of no more than 50% paid in common shares), at the Company's option.

The management agreement expires on September 12, 2020, subject to automatic renewal for additional 18-month periods, unless terminated earlier in accordance with the terms of the agreement. In the event of termination of the management agreement between the Company and PCM, PCM may be entitled to a termination fee in certain circumstances. The termination fee is equal to three times the sum of (a) the average annual base management fee, and (b) the average annual performance incentive fee earned by PCM, in each case during the 24-month period immediately preceding the date of termination.

Following is a summary of the base management and performance incentive fees payable to PCM recorded by the Company:

	Quarter ended September 30,		Nine months ended September 30,	
	2018	2017	2018	2017
	(in thousands)			
Base management	$5,799	$6,038	$17,223	$16,380
Performance incentive	683	—	683	304
	$6,482	$6,038	$17,906	$16,684

In the event of termination of the management agreement between the Company and PCM, PCM may be entitled to a termination fee in certain circumstances. The termination fee is equal to three times the sum of (a) the average annual base management fee, and (b) the average annual performance incentive fee earned by PCM, in each case during the 24-month period before termination.

Expense Reimbursement and Amounts Payable to and Receivable from PCM

Under the management agreement, PCM is entitled to reimbursement of its organizational and operating expenses, including third-party expenses, incurred on the Company's behalf, it being understood that PCM and its affiliates shall allocate a portion of their personnel's time to provide certain legal, tax and investor relations services for the direct benefit of the Company. With respect to the allocation of PCM's and its affiliates' compensation expenses, from and after September 12, 2016, PCM shall be reimbursed $120,000 per fiscal quarter, such amount to be reviewed annually and to not preclude reimbursement for any other services performed by PCM or its affiliates.

The Company is required to pay PCM and its affiliates a portion of rent, telephone, utilities, office furniture, equipment, machinery and other office, internal and overhead expenses of PCM and its affiliates required for the Company's and its subsidiaries' operations. These expenses are allocated based on the ratio of the Company's and its subsidiaries' proportion of gross assets compared to all remaining gross assets managed by PCM as calculated at each fiscal quarter end.

Following is a summary of the Company's reimbursements to PCM and its affiliates for expenses:

	Quarter ended September 30,		Nine months ended September 30,	
	2018	2017	2018	2017
	(in thousands)			
Reimbursement of:				
Common overhead incurred by PCM and its affiliates	$1,210	$1,193	$3,387	$4,220
Compensation	120	—	360	—
Expenses incurred on the Company's behalf, net	527	196	586	849
	$1,857	$1,389	$4,333	$5,069
Payments and settlements during the period (1)	$21,650	$22,786	$45,265	$63,249

(1) Payments and settlements include payments and netting settlements made pursuant to master netting agreements between the Company and PFSI for the operating, investment and financing activities itemized in this Note.

Investing Activities

Spread Acquisition and MSR Servicing Agreements

On December 19, 2016, the Company, through a wholly-owned subsidiary, PennyMac Holdings, LLC ("PMH"), amended and restated a master spread acquisition and MSR servicing agreement with PLS (the "Spread Acquisition Agreement"), pursuant to which the Company may purchase from PLS, from time to time, the right to receive participation certificates representing beneficial ownership in ESS arising from Ginnie Mae MSRs acquired by PLS, in which case PLS generally would be required to service or subservice the related mortgage loans for Ginnie Mae. The primary purpose of the amendment and restatement was to facilitate the continued financing of the ESS owned by the Company in connection with the parties' participation in the GNMA MSR Facility (as defined below).

To the extent PLS refinances any of the mortgage loans relating to the ESS the Company has acquired, the Spread Acquisition Agreement also contains recapture provisions requiring that PLS transfer to the Company, at no cost, the ESS relating to a certain percentage of the unpaid principal balance of the newly originated mortgage loans. However, under the Spread Acquisition Agreement, in any month where the transferred ESS relating to newly originated Ginnie Mae mortgage loans is not equivalent to at least 90% of the product of the excess servicing fee rate and the unpaid principal balance of the refinanced mortgage loans, PLS is also required to transfer additional ESS or cash in the amount of such shortfall. Similarly, in any month where the transferred ESS relating to modified Ginnie Mae mortgage loans is not equivalent to at least 90% of the product of the excess servicing fee rate and the unpaid principal balance of the modified mortgage loans, the Spread Acquisition Agreement contains provisions that require PLS to transfer additional ESS or cash in the amount of such shortfall. To the extent the fair market value of the aggregate ESS to be transferred for the applicable month is less than $200,000, PLS may, at its option, settle its recapture liability to the Company in cash in an amount equal to such fair market value in lieu of transferring such ESS.

Following is a summary of investing activities between the Company and PFSI:

	Quarter ended September 30,		Nine months ended September 30,	
	2018	2017	2018	2017
	(in thousands)			
ESS:				
Received pursuant to a recapture agreement	$499	$ 1,207	$1,983	$4,160
Repayments	$11,543	$ 13,410	$35,852	$42,320
Interest income	$3,740	$ 3,998	$11,584	$13,011
Net gain (loss) included in Net gain (loss) on investments:				
Valuation changes	$1,109	$ (4,828)	$9,026	$(14,757)
Recapture income	597	1,163	1,951	3,837
	$1,706	$ (3,665)	$10,977	$(10,920)

	September 30, 2018	December 31, 2017
	(in thousands)	
Excess servicing spread purchased from PennyMac Financial Services, Inc. at fair value	$223,275	$ 236,534

Financing Activities

PFSI held 75,000 of the Company’s common shares at both September 30, 2018 and December 31, 2017.

Repurchase Agreement with PLS

On December 19, 2016, the Company, through PMH, entered into a master repurchase agreement with PLS (the “PMH Repurchase Agreement”), pursuant to which PMH may borrow from PLS for the purpose of financing PMH’s participation certificates representing beneficial ownership in ESS acquired from PLS under the Spread Acquisition Agreement. PLS then re-pledges such participation certificates to PNMAC GMSR ISSUER TRUST (the “Issuer Trust”) under a master repurchase agreement by and among PLS, the Issuer Trust and Private National Mortgage Acceptance Company, LLC, as guarantor (the “PC Repurchase Agreement”). The Issuer Trust was formed for the purpose of allowing PLS to finance MSRs and ESS relating to such MSRs (the “GNMA MSR Facility”).

In connection with the GNMA MSR Facility, PLS pledges and/or sells to the Issuer Trust participation certificates representing beneficial interests in MSRs and ESS pursuant to the terms of the PC Repurchase Agreement. In return, the Issuer Trust (a) has issued to PLS, pursuant to the terms of an indenture, the Series 2016-MSRVF1 Variable Funding Note, dated December 19, 2016, known as the “PNMAC GMSR ISSUER TRUST MSR Collateralized Notes, Series 2016-MSRVF1” (the “VFN”), and (b) may, from time to time pursuant to the terms of any supplemental indenture, issue to institutional investors additional term notes (“Term Notes”), in each case secured on a pari passu basis by the participation certificates relating to the MSRs and ESS. The maximum principal balance of the VFN is $1 billion.

The principal amount paid by PLS for the participation certificates under the PMH Repurchase Agreement is based upon a percentage of the market value of the underlying ESS. Upon PMH’s repurchase of the participation certificates, PMH is required to repay PLS the principal amount relating thereto plus accrued interest (at a rate reflective of the current market and consistent with the weighted average note rate of the VFN and any outstanding Term Notes) to the date of such repurchase. PLS is then required to repay the Issuer Trust the corresponding amount under the PC Repurchase Agreement.

Conditional Reimbursement of Initial Public Offering ("IPO") Underwriting Fees

In connection with its IPO, the Company conditionally agreed to reimburse PCM up to $2.9 million for underwriting fees paid to the IPO underwriters by PCM on the Company's behalf (the "Conditional Reimbursement"). Also in connection with its IPO, the Company agreed to pay the IPO underwriters up to $5.9 million in contingent underwriting fees. There were no reimbursements during the quarter and nine months ended September 30, 2018. The Company reimbursed PCM $30,000 and paid the underwriters $61,000 for the quarter and nine months ended September 30, 2017. During the quarter ended September 30, 2018, the Company incurred performance incentive fees of $683,000. Accordingly, the Company will reimburse PCM $68,000 during the quarter ending December 31, 2018.

Following is a summary of financing activities between the Company and PFSI:

	Quarter ended September 30,		Nine months ended September 30,	
	2018	2017	2018	2017
	(in thousands)			
Interest expense	$1,812	$2,116	$5,686	$5,946
Conditional Reimbursements paid to PCM	$—	$30	$—	$30

	September 30, 2018	December 31, 2017
	(in thousands)	
Assets sold to PFSI under agreement to repurchase	$133,128	$ 144,128
Conditional Reimbursement payable to PFSI included in Accounts payable and accrued liabilities	$870	$ 870

Amounts Receivable from and Payable to PFSI

Amounts receivable from and payable to PFSI are summarized below:

	September 30, 2018	December 31, 2017
	(in thousands)	
Due from PFSI:		
MSR recapture receivable	$250	$ 282
Other	2,101	3,872
	$2,351	$ 4,154
Due to PFSI:		
Fulfillment fees	$12,078	$ 346
Management fees	6,482	5,901
Mortgage loan servicing fees	3,765	6,583
Allocated expenses and expenses paid by PFSI on PMT's behalf	2,295	11,542
Correspondent production fees	1,864	1,735
Conditional Reimbursement	870	870
Interest on Assets sold to PFSI under agreement to repurchase	113	142
	$27,467	$ 27,119

Note 6—Loan Sales and Variable Interest Entities

The Company is a variable interest holder in various special purpose entities that relate to its mortgage loan transfer and, financing activities and credit risk investment. These entities are classified as VIEs for accounting purposes. The

Company has distinguished its involvement with VIEs between those VIEs which the Company does not consolidate and those VIEs which the Company consolidates.

Unconsolidated VIEs with Continuing Involvement

The following table summarizes cash flows between the Company and transferees in transfers of mortgage loans that are accounted for as sales where the Company maintains continuing involvement with the mortgage loans:

	Quarter ended September 30,		Nine months ended September 30,	
	2018	2017	2018	2017
	(in thousands)			
Cash flows:				
Proceeds from sales	$8,435,791	$7,035,994	$18,992,722	$17,683,444
Mortgage loan servicing fees received (1)	$49,864	$42,237	$147,262	$119,223

(1) Net of guarantee fees

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The following table summarizes collection status information for mortgage loans that are accounted for as sales where the Company maintains continuing involvement for the dates presented:

	September 30, 2018	December 31, 2017
	(in thousands)	
UPB of mortgage loans outstanding	$83,913,215	$71,639,351
UPB of delinquent mortgage loans:		
30-89 days delinquent	$601,114	$532,673
90 or more days delinquent:		
Not in foreclosure	$140,122	$280,786
In foreclosure	$36,069	$25,258
UPB of mortgage loans in bankruptcy	$66,377	$52,202
Custodial funds managed by the Company (1)	$1,203,229	$879,321

(1) Custodial funds include borrower and investor custodial cash accounts relating to mortgage loans serviced under mortgage servicing agreements and are not included on the Company's consolidated balance sheets. The Company earns placement fees on certain of the custodial funds it manages on behalf of the mortgage loans' investors, which are included in Interest income in the Company's consolidated statements of income.

Consolidated VIEs

Credit Risk Transfer Transactions

The Company has entered into mortgage loan sales arrangements pursuant to which it accepts credit risk relating to certain of its mortgage loan sales. These arrangements include CRT Agreements and sales of mortgage loans that include commitments to purchase credit risk transfer securities that absorb credit losses on such mortgage loans.

The Company, through PennyMac Corp. ("PMC"), entered into CRT Agreements with Fannie Mae, pursuant to which PMC, through subsidiary trust entities, sells pools of mortgage loans into Fannie Mae-guaranteed securitizations while retaining the Recourse Obligations as part of the retention of an IO ownership interest in such mortgage loans. Transfers of mortgage loans subject to CRT Agreements received sale accounting treatment. The Deposits securing CRT Agreements represent the Company's maximum contractual exposure to claims under its Recourse Obligations and is the sole source of settlement of losses under the CRT Agreements. Gains and losses on derivatives related to CRT Agreements are included in Net gain (loss) on investments in the consolidated statements of income. The final sales of mortgage loans subject to the CRT Agreements were made during the quarter ended June 30, 2018.

Following is a summary of the CRT Agreements:

	Quarter ended September 30,		Nine months ended September 30,	
	2018	2017	2018	2017
	(in thousands)			
UPB of mortgage loans sold under CRT Agreements	$—	$4,126,946	$5,546,977	$9,722,067
Deposits securing CRT Agreements	$18,558	$44,998	$96,446	$102,146
(Decrease) increase in commitments to fund Deposits securing CRT Agreements resulting from sale of mortgage loans under CRT Agreements	$(18,558)	$108,051	$96,037	$264,165
Interest earned on Deposits securing CRT Agreements	$3,190	$1,440	$8,788	$2,703
Gains recognized on CRT Agreements included in Net gain (loss) on investments				
Realized	$23,367	$10,798	$64,907	$27,595
Resulting from valuation changes	7,185	4,162	27,714	41,268
	30,552	14,960	92,621	68,863
Change in fair value of Interest-only security payable at fair value	(3,083)	191	(4,105)	(2,272)
	$27,469	$15,151	$88,516	$66,591
Payments made to settle losses	$443	$539	$1,452	$950

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	September 30, 2018	December 31, 2017
	(in thousands)	
UPB of mortgage loans subject to credit guarantee obligations	$30,648,306	$26,845,392
Collection status (in UPB):		
Current	$30,342,833	$26,540,953
30—89 days delinquent	$226,447	$179,144
90—180 days delinquent	$32,852	$101,114
180 or more days delinquent	$15,520	$5,146
Foreclosure	$9,339	$5,463
Bankruptcy	$21,315	$13,572
Carrying value of CRT Agreements:		
Derivative assets	$126,354	$98,640
Deposits securing CRT agreements	$662,624	$588,867
Interest-only security payable at fair value	$8,821	$7,070
CRT Agreement assets pledged to secure Assets sold under agreements to repurchase:		
Deposits securing CRT Agreements	$378,090	$400,778
Derivative assets	$27,710	$26,058
Commitments to fund Deposits securing credit risk transfer agreements	$578,508	$482,471

Effective in June 2018, the Company began selling mortgage loans subject to agreements that require the Company to purchase securities that absorb credit losses on such mortgage loans. The Company has elected to account for the firm commitments to purchase such securities at fair value. The Company recognizes these purchase commitments initially as a component of Gain on sale of mortgage loans; subsequent changes in fair value are recognized in Net gain (loss) on investments.

Following is a summary of activity under these purchase commitments during the quarter and nine months ended September 30, 2018:

	Periods ended September 30, 2018	
	Quarter	Nine months
	(in thousands)	
UPB of mortgage loans sold	$6,773,336	$8,308,708
Fair value of firm commitment recognized in Gain on sale of mortgage loans	$12,311	$16,737
Gains recognized on CRT Agreements included in Net gain (loss) on investments	$2,012	$2,012
Increase in face amount of firm commitment to purchase securities backed by mortgage loans sold	$236,875	$294,698

	September 30, 2018

	(in thousands)
Firm commitment to purchase CRT securities	$294,698
Fair value of firm commitment	$18,749
UPB of mortgage loans sold subject to firm commitment to purchase securities related to such loans	$8,097,660
Collection status (in UPB):	
Current	$8,073,018
30—89 days delinquent	$24,439
90—180 days delinquent	$203
180 or more days delinquent	$—
Foreclosure	$—
Bankruptcy	$—

Jumbo Mortgage Loan Financing

On September 30, 2013, the Company completed a securitization transaction in which PMT Loan Trust 2013-J1, a VIE, issued $537.0 million in UPB of certificates backed by fixed-rate prime jumbo mortgage loans, at a 3.9% weighted yield. The fair value of the certificates retained by the Company was $14.1 million and $9.7 million as of September 30, 2018 and December 31, 2017, respectively. The Company includes the balance of certificates issued to nonaffiliates in Asset backed financing of a variable interest entity at fair value.

Note 7—Fair Value

The Company's consolidated financial statements include assets and liabilities that are measured based on their fair values. Measurement at fair value may be on a recurring or nonrecurring basis depending on the accounting principles applicable to the specific asset or liability and whether the Manager has elected to carry the item at its fair value as discussed in the following paragraphs.

The Company groups its assets and liabilities at fair value in three levels, based on the markets in which the assets and liabilities are traded and the observability of the inputs used to determine fair value. These levels are:

- Level 1—Quoted prices in active markets for identical assets or liabilities.
- Level 2—Prices determined or determinable using other significant observable inputs. Observable inputs are inputs that other market participants would use in pricing the asset or liability and are developed based on market data obtained from sources independent of the Company. These may include quoted prices for similar assets or liabilities, interest rates, prepayment speeds, credit risk and other inputs.
- Level 3—Prices determined using significant unobservable inputs. In situations where significant observable inputs are unavailable, unobservable inputs may be used. Unobservable inputs reflect the Company's own judgments about the factors that market participants use in pricing assets and liabilities, and are based on the best information available in the circumstances.
- As a result of the difficulty in observing certain significant valuation inputs affecting "Level 3" fair value assets and liabilities, the Manager is required to make judgments regarding these items' fair values. Different persons in possession of the same facts may reasonably arrive at different conclusions as to the inputs to be applied in valuing these assets and liabilities and to their fair values. Such differences may result in significantly different fair value measurements. Likewise, due to the general illiquidity of some of these assets and liabilities, subsequent transactions may be at values significantly different from those reported.

Fair Value Accounting Elections

The Manager identified all of the Company's non-cash financial assets, firm commitment to purchase credit risk transfer securities and MSRs to be accounted for at fair value. The Manager has elected to account for these assets at fair value so such changes in fair value will be reflected in income as they occur and more timely reflect the results of the Company's performance. Before January 1, 2018, originated MSRs backed by mortgage loans with initial interest rates of less than or equal to 4.5% were accounted for using the amortization method. Beginning January 1, 2018, the Company elected to account for all MSRs at fair value prospectively. The Manager determined that this change makes the accounting treatment for MSRs consistent with lender valuation under financing arrangements and simplifies hedging activities.

The Manager has also identified the Company's asset-backed financing of a VIE and interest only security payable at fair value to be accounted for at fair value to reflect the generally offsetting changes in fair value of these borrowings to changes in fair value of the assets at fair value collateralizing these financings. For other borrowings, the Manager has determined that historical cost accounting is more appropriate because under this method debt issuance costs are amortized over the term of the debt facility, thereby matching the debt issuance cost to the periods benefiting from the availability of the debt.

Financial Statement Items Measured at Fair Value on a Recurring Basis

Following is a summary of financial statement items that are measured at fair value on a recurring basis:

	September 30, 2018			
	Level 1	Level 2	Level 3	Total
	(in thousands)			
Assets:				
Short-term investments	$26,736	$—	$—	$26,736
Mortgage-backed securities at fair value	—	2,126,507	—	2,126,507
Mortgage loans acquired for sale at fair value	—	1,942,335	7,097	1,949,432
Mortgage loans at fair value	—	292,174	340,994	633,168
Excess servicing spread purchased from PFSI	—	—	223,275	223,275
Derivative assets:				
Interest rate lock commitments	—	—	2,317	2,317
CRT Agreements	—	—	126,354	126,354
Repurchase agreement derivatives	—	—	9,415	9,415
Forward purchase contracts	—	1,761	—	1,761
Forward sale contracts	—	19,238	—	19,238
MBS call options	—	7	—	7
MBS put options	—	2,302	—	2,302
Put options on interest rate futures	141	—	—	141
Total derivative assets before netting	141	23,308	138,086	161,535
Netting	—	—	—	(17,958)
Total derivative assets after netting	141	23,308	138,086	143,577
Firm commitment to purchase credit risk transfer security at fair value	—	—	18,749	18,749
Mortgage servicing rights at fair value	—	—	1,109,741	1,109,741
	$26,877	$4,384,324	$1,837,942	$6,231,185
Liabilities:				
Asset-backed financing of a VIE at fair value	$—	$278,113	$—	$278,113
Interest-only security payable at fair value	—	—	8,821	8,821
Derivative liabilities:				
Interest rate lock commitments	—	—	3,418	3,418
Forward purchase contracts	—	11,964	—	11,964
Forward sales contracts	—	1,719	—	1,719
Total derivative liabilities before netting	—	13,683	3,418	17,101
Netting	—	—	—	(5,221)
Total derivative liabilities after netting	—	13,683	3,418	11,880
	$—	$291,796	$12,239	$298,814

	December 31, 2017			
	Level 1	Level 2	Level 3	Total
	(in thousands)			
Assets:				
Short-term investments	$18,398	$—	$—	$18,398
Mortgage-backed securities at fair value	—	989,461	—	989,461
Mortgage loans acquired for sale at fair value	—	1,261,380	8,135	1,269,515
Mortgage loans at fair value	—	321,040	768,433	1,089,473
Excess servicing spread purchased from PFSI	—	—	236,534	236,534
Derivative assets:				
Interest rate lock commitments	—	—	4,859	4,859
CRT Agreements	—	—	98,640	98,640
Repurchase agreement derivatives	—	—	3,748	3,748
Forward purchase contracts	—	4,343	—	4,343
Forward sale contracts	—	387	—	387
MBS put options	—	3,170	—	3,170
Put options on interest rate futures	656	—	—	656
Total derivative assets before netting	656	7,900	107,247	115,803
Netting	—	—	—	(1,922)
Total derivative assets after netting	656	7,900	107,247	113,881
Mortgage servicing rights at fair value	—	—	91,459	91,459
	$19,054	$2,579,781	$1,211,808	$3,808,721
Liabilities:				
Asset-backed financing of a VIE at fair value	$—	$307,419	$—	$307,419
Interest-only security payable at fair value	—	—	7,070	7,070
Derivative liabilities:				
Interest rate lock commitments	—	—	227	227
Forward purchase contracts	—	248	—	248
Forward sales contracts	—	2,830	—	2,830
Total derivative liabilities before netting	—	3,078	227	3,305
Netting	—	—	—	(1,999)
Total derivative liabilities after netting	—	3,078	227	1,306
	$—	$310,497	$7,297	$315,795

The following is a summary of changes in items measured at fair value on a recurring basis using Level 3 inputs that are significant to the estimation of the fair values of the assets and liabilities at either the beginning or end of the years presented:

	Quarter ended September 30, 2018								
	Mortgage loans acquired for sale at fair value	Mortgage loans at fair value	Excess servicing spread	Interest rate lock commitments (1)	CRT Agreements	Repurchase agreement derivatives	Firm commitment to purchase CRT securities	Mortgage servicing rights	Total
	(in thousands)								
Assets:									
Balance, June 30, 2018	$6,540	$447,473	$229,470	$2,807	$119,169	$6,912	$4,426	$1,010,507	$1,827,304
Purchases and issuances	2,640	—	—	(3,699)	—	5,671	—	—	4,612
Repayments and sales	(2,481)	(98,622)	(11,543)	—	(23,367)	(3,131)	—	(100)	(139,244)
Capitalization of interest	—	2,297	3,740	—	—	—	—	—	6,037
Capitalization of advances	—	1,373	—	—	—	—	—	—	1,373
ESS received pursuant to a recapture agreement with PFSI	—	—	499	—	—	—	—	—	499
Amounts received as proceeds from sales of mortgage loans	—	—	—	—	—	—	12,311	96,383	108,694
Changes in fair value included in income									

arising from:									
Changes in instrument- specific credit risk	—	4,407	—	—	—	—	—	—	4,407
Other factors	(324)	(7,458)	1,109	(4,001)	30,552	(37)	2,012	2,951	24,804
	(324)	(3,051)	1,109	(4,001)	30,552	(37)	2,012	2,951	29,211
Transfers of mortgage loans to REO and real estate held for investment	—	(8,476)	—	—	—	—	—	—	(8,476)
Transfers of mortgage loans acquired for sale at fair value from "Level 2" to "Level 3" (2)	722	—	—	—	—	—	—	—	722
Transfers of interest rate lock commitments to mortgage loans acquired for sale	—	—	—	3,792	—	—	—	—	3,792
Balance, September 30, 2018	$7,097	$340,994	$223,275	$(1,101)	$126,354	$9,415	$18,749	$1,109,741	$1,834,524
Changes in fair value recognized during the	$(257)	$(6,711)	$1,109	$(1,101)	$7,185	$—	$2,012	$2,951	$5,188

quarter relating to assets still held at September 30, 2018

(1) For the purpose of this table, the interest rate lock commitment ("IRLC") asset and liability positions are shown net.
(2) During the quarter ended September 30, 2018, the Manager identified certain "Level 2" fair value mortgage loans acquired for sale that were not saleable into the prime mortgage market and therefore transferred them to "Level 3".

	Quarter ended September 30, 2018 Interest-only security payable (in thousands)
Liabilities:	
Balance, June 30, 2018	$ 7,652
Changes in fair value included in income arising from:	
Changes in instrument-specific credit risk	—
Other factors	1,169
	1,169
Balance, September 30, 2018	$ 8,821
Changes in fair value recognized during the quarter relating to liability outstanding at September 30, 2018	$ 1,169

	Quarter ended September 30, 2017						
	Mortgage loans at fair value	Excess servicing spread	Interest rate lock commitments (1)	CRT Agreements	Repurchase agreement derivatives	Mortgage servicing rights	Total
	(in thousands)						
Assets:							
Balance, June 30, 2017	$1,184,620	$261,796	$ 395	$ 52,716	$ —	$ 77,624	$1,577,151
Purchases and issuances	—	—	9,264	—	181	10	9,455
Repayments and sales	(156,821)	(13,410)	—	(10,798)	—	—	(181,029)
Capitalization of interest	7,020	3,998	—	—	—	—	11,018
Capitalization of advances	4,611	—	—	—	—	—	4,611
ESS received pursuant to a recapture agreement with PFSI	—	1,207	—	—	—	—	1,207
Amounts received as proceeds from sales of mortgage loans	—	—	—	—	—	8,655	8,655
Changes in fair value included in income arising from:							
	6,035	—	—	—	—	—	6,035

Changes in instrument-specific credit risk							
Other factors	(2,758)	(4,828)	15,430	14,960	—	(3,977)	18,827
	3,277	(4,828)	15,430	14,960	—	(3,977)	24,862
Transfers of mortgage loans to REO and real estate held for investment	(26,705)	—	—	—	—	—	(26,705)
Transfers of interest rate lock commitments to mortgage loans acquired for sale	—	—	(23,814)	—	—	—	(23,814)
Balance, September 30, 2017	$1,016,002	$248,763	$ 1,275	$ 56,878	$ 181	$ 82,312	$1,405,411
Changes in fair value recognized during the quarter relating to assets still held at September 30, 2017	$(7,302)	$(4,828)	$ 1,275	$ 4,162	$ —	$(3,977)	$(10,670)

(1) For the purpose of this table, the IRLC asset and liability positions are shown net.

	Quarter ended September 30, 2017 Interest-only security payable (in thousands)
Liabilities:	
Balance, June 30, 2017	$ 6,577
Changes in fair value included in income arising from:	
Changes in instrument-specific credit risk	—
Other factors	(191)
	(191)
Balance, September 30, 2017	$ 6,386
Changes in fair value recognized during the quarter relating to liability outstanding at September 30, 2017	$ (191)

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	Nine months ended September 30, 2018								
	Mortgage loans acquired for sale at fair value	Mortgage loans at fair value	Excess servicing spread	Interest rate lock commitments (1)	CRT Agreements	Repurchase agreement derivatives	Firm commitment to purchase CRT securities	Mortgage servicing rights	Total
	(in thousands)								
Assets:									
Balance, December 31, 2017	$8,135	$768,433	$236,534	$4,632	$98,640	$3,748	$—	$91,459	$1,211,581
Cumulative effect of a change in accounting principle — Adoption of fair value accounting for mortgage servicing rights	—	—	—	—	—	—	—	773,035	773,035
Balance, January 1, 2018	8,135	768,433	236,534	4,632	98,640	3,748	—	864,494	1,984,616
Purchases and issuances	8,243	—	—	2,140	—	11,411	—	—	21,794
Repayments and sales	(10,441)	(381,646)	(35,852)	—	(64,907)	(5,626)	—	(100)	(498,572)
Capitalization of interest	—	6,543	11,584	—	—	—	—	—	18,127
Capitalization of advances	—	4,733	—	—	—	—	—	—	4,733
ESS received pursuant to a	—	—	1,983	—	—	—	—	—	1,983

recapture agreement with PFSI									
Amounts received as proceeds from sales of mortgage loans	—	—	—	—	—	—	16,737	228,337	245,074
Changes in fair value included in income arising from:									
Changes in instrument-specific credit risk	—	6,864	—	—	—	—	—	—	6,864
Other factors	(176)	(24,566)	9,026	(28,571)	92,621	(118)	2,012	17,010	67,238
	(176)	(17,702)	9,026	(28,571)	92,621	(118)	2,012	17,010	74,102
Transfers of mortgage loans to REO and real estate held for investment	—	(39,367)	—	—	—	—	—	—	(39,367)
Transfers of mortgage loans acquired for sale at fair value from "Level 2" to "Level 3" (2)	1,336	—	—	—	—	—	—	—	1,336

Transfers of interest rate lock commitments to mortgage loans acquired for sale	—	—	—	20,698	—	—	—	—	20,698
Balance, September 30, 2018	$7,097	$340,994	$223,275	$(1,101)	$126,354	$9,415	$18,749	$1,109,741	$1,834,524
Changes in fair value recognized during the period relating to assets still held at September 30, 2018	$(330)	$(18,170)	$9,026	$(1,101)	$27,714	$77	$2,012	$17,010	$36,238

(1) For the purpose of this table, the IRLC asset and liability positions are shown net.
(2) During the nine months ended September 30, 2018, the Manager identified certain “Level 2” fair value mortgage loans acquired for sale that were not saleable into the prime mortgage market and therefore transferred them to “Level 3”.

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	Nine months ended September 30, 2018 Interest-only security payable (in thousands)
Liabilities:	
Balance, December 31, 2017	$ 7,070
Changes in fair value included in income arising from:	
Changes in instrument- specific credit risk	—
Other factors	1,751
	1,751
Balance, September 30, 2018	$ 8,821
Changes in fair value recognized during the period relating to liability outstanding at September 30, 2018	$ 1,751

	Nine months ended September 30, 2017						
	Mortgage loans at fair value	Excess servicing spread	Interest rate lock commitments (1)	CRT Agreements	Repurchase agreement derivatives	Mortgage servicing rights	Total
	(in thousands)						
Assets:							
Balance, December 31, 2016	$1,354,572	$288,669	$ 3,777	$ 15,610	$ —	$64,136	$1,726,764
Purchases and issuances	—	—	26,185	—	181	79	26,445
Repayments and sales	(302,829)	(42,320)	—	(27,595)	—	—	(372,744)
Capitalization of interest	27,737	13,011	—	—	—	—	40,748
Capitalization of advances	17,759	—	—	—	—	—	17,759
ESS received pursuant to a recapture agreement with PFSI	—	4,160	—	—	—	—	4,160
Amounts received as proceeds from sales of mortgage loans	—	—	—	—	—	28,467	28,467
Changes in fair value included in income arising from:							
	23,498	—	—	—	—	—	23,498

Changes in instrument-specific credit risk							
Other factors	(15,975)	(14,757)	43,946	68,863	—	(10,370)	71,707
	7,523	(14,757)	43,946	68,863	—	(10,370)	95,205
Transfers of mortgage loans to REO and real estate held for investment	(88,760)	—	—	—	—	—	(88,760)
Transfers of interest rate lock commitments to mortgage loans acquired for sale	—	—	(72,633)	—	—	—	(72,633)
Balance, September 30, 2017	$1,016,002	$248,763	$ 1,275	$ 56,878	$ 181	$82,312	$1,405,411
Changes in fair value recognized during the period relating to assets still held at September 30, 2017	$(6,650)	$(14,757)	$ 1,275	$ 41,268	$ —	$(10,370)	$10,766

(1) For the purpose of this table, the IRLC asset and liability positions are shown net.

	Nine months ended September 30, 2017 Interest-only security payable (in thousands)
Liabilities:	
Balance, December 31, 2016	$ 4,114
Changes in fair value included in income arising from:	
Changes in instrument- specific credit risk	—
Other factors	2,272
	2,272
Balance, September 30, 2017	6,386
Changes in fair value recognized during the period relating to liability outstanding at September 30, 2017	$ 2,272

The Company had transfers among the fair value levels arising from transfers of IRLCs to mortgage loans held for sale at fair value upon purchase of the respective mortgage loans.

Following are the fair values and related principal amounts due upon maturity of mortgage loans accounted for under the fair value option (including mortgage loans acquired for sale, mortgage loans held in a consolidated VIE, and distressed mortgage loans at fair value):

	September 30, 2018			December 31, 2017		
	Fair value	Principal amount due upon maturity	Difference	Fair value	Principal amount due upon maturity	Difference
	(in thousands)					
Mortgage loans acquired for sale at fair value:						
Current through 89 days delinquent	$1,949,285	$ 1,900,556	$48,729	$1,268,121	$ 1,221,125	$46,996
90 or more days delinquent:						
Not in foreclosure	147	187	(40)	950	1,120	(170)
In foreclosure	—	—	—	444	496	(52)
	147	187	(40)	1,394	1,616	(222)
	$1,949,432	$ 1,900,743	$48,689	$1,269,515	$ 1,222,741	$46,774
Mortgage loans at fair value:						
Mortgage loans held in a consolidated VIE:						

Current through 89 days delinquent	$292,174	$ 299,843	$(7,669)	$321,040	$ 316,684	$4,356
90 or more days delinquent:						
Not in foreclosure	—	—	—	—	—	—
In foreclosure	—	—	—	—	—	—
	—	—	—	—	—	—
	292,174	299,843	(7,669)	321,040	316,684	4,356
Distressed mortgage loans at fair value:						
Current through 89 days delinquent	200,176	261,808	(61,632)	414,785	519,009	(104,224)
90 or more days delinquent:						
Not in foreclosure	66,791	113,308	(46,517)	166,749	257,038	(90,289)
In foreclosure	74,027	113,067	(39,040)	186,899	267,911	(81,012)
	140,818	226,375	(85,557)	353,648	524,949	(171,301)
	340,994	488,183	(147,189)	768,433	1,043,958	(275,525)
	$633,168	$ 788,026	$(154,858)	$1,089,473	$ 1,360,642	$(271,169)

Following are the changes in fair value included in current period income by consolidated statement of income line item for financial statement items accounted for under the fair value option:

	Quarter ended September 30, 2018				
	Net mortgage loan servicing fees	Net gain on mortgage loans acquired for sale	Net gain (loss) on investments	Net interest income	Total
	(in thousands)				
Assets:					
Short-term investments at fair value	$—	$ —	$ —	$ —	$—
Mortgage-backed securities at fair value	—	—	(19,030)	(1,229)	(20,259)
Mortgage loans acquired for sale at fair value	—	751	—	—	751
Mortgage loans at fair value	—	—	(6,681)	2,458	(4,223)
ESS at fair value	—	—	1,109	3,740	4,849
Firm commitment to purchase credit risk transfer security at fair value	—	12,311	2,012	—	14,323
MSRs at fair value	2,951	—	—	—	2,951
	$2,951	$ 13,062	$ (22,590)	$ 4,969	$(1,608)
Liabilities:					
Interest-only security payable at fair value	$—	$ —	$ (1,169)	$ —	$(1,169)
Asset-backed financing of a VIE at fair value	—	—	3,516	(201)	3,315
	$—	$ —	$ 2,347	$ (201)	$2,146

	Quarter ended September 30, 2017				
	Net mortgage loan servicing fees	Net gain on mortgage loans acquired for sale	Net gain (loss) on investments	Net interest income	Total
	(in thousands)				
Assets:					
Short-term investments at fair value	$—	$ —	$ —	$ —	$—
Mortgage-backed securities at fair value	—	—	5,001	(1,481)	3,520
Mortgage loans acquired for sale at fair value	—	32,935	—	—	32,935
Mortgage loans at fair value	—	—	5,415	7,617	13,032
ESS at fair value	—	—	(4,828)	3,998	(830)
MSRs at fair value	(3,977)	—	—	—	(3,977)

	$(3,977)	$ 32,935	$ 5,588	$ 10,134	$44,680
Liabilities:					
Interest-only security payable at fair value	$—	$ —	$ 191	$ —	$191
Asset-backed financing of a VIE at fair value	—	—	(2,158)	(735)	(2,893)
	$—	$ —	$ (1,967)	$ (735)	$(2,702)

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	Nine months ended September 30, 2018				
	Net mortgage loan servicing fees	Net gain on mortgage loans acquired for sale	Net gain (loss) on investments	Net interest income	Total
	(in thousands)				
Assets:					
Short-term investments at fair value	$—	$ —	$ —	$ —	$—
Mortgage-backed securities at fair value	—	—	(50,288)	(2,623)	(52,911)
Mortgage loans acquired for sale at fair value	—	(27,397)	—	—	(27,397)
Mortgage loans at fair value	—	—	(29,694)	6,509	(23,185)
ESS at fair value	—	—	9,026	11,584	20,610
Firm commitment to purchase credit risk transfer security at fair value	—	16,737	2,012	—	18,749
MSRs at fair value	17,010	—	—	—	17,010
	$17,010	$ (10,660)	$ (68,944)	$ 15,470	$(47,124)
Liabilities:					
Interest-only security payable at fair value	$—	$ —	$ (1,751)	$ —	$(1,751)
Asset-backed financing of a VIE at fair value	—	—	12,658	(74)	12,584
	$—	$ —	$ 10,907	$ (74)	$10,833

	Nine months ended September 30, 2017				
	Net mortgage loan servicing fees	Net gain on mortgage loans acquired for sale	Net gain (loss) on investments	Net interest income	Total
	(in thousands)				
Assets:					
Short-term investments at fair value	$—	$ —	$ —	$ —	$—
Mortgage-backed securities at fair value	—	—	9,168	(4,276)	4,892
Mortgage loans acquired for sale at fair value	—	83,839	—	—	83,839
Mortgage loans at fair value	—	—	13,832	29,195	43,027
ESS at fair value	—	—	(14,757)	13,011	(1,746)
MSRs at fair value	(10,370)	—	—	—	(10,370)
	$(10,370)	$ 83,839	$ 8,243	$ 37,930	$119,642
Liabilities:					
Interest-only security payable at fair value	$—	$ —	$ (2,272)	$ —	$(2,272)

Asset-backed financing of a VIE at fair value	—	—	(5,581)	(1,807)	(7,388)
	$—	$ —	$ (7,853)	$ (1,807)	$(9,660)

Financial Statement Items Measured at Fair Value on a Nonrecurring Basis

Following is a summary of the carrying value at year end for financial statement items that were re-measured at fair value on a nonrecurring basis during the periods presented:

	September 30, 2018			
	Level 1	Level 2	Level 3	Total
	(in thousands)			
Real estate acquired in settlement of loans	$—	$ —	$37,722	$37,722
	$—	$ —	$37,722	$37,722

	December 31, 2017			
	Level 1	Level 2	Level 3	Total
	(in thousands)			
Real estate acquired in settlement of loans	$—	$ —	$71,380	$71,380
MSRs at lower of amortized cost or fair value	—	—	312,995	312,995
	$—	$ —	$384,375	$384,375

The following table summarizes the fair value changes recognized during the period on assets held at period end that were remeasured at fair value on a nonrecurring basis:

	Quarter ended September 30,		Nine months ended September 30,	
	2018	2017	2018	2017
	(in thousands)			
Real estate asset acquired in settlement of loans	$(2,285)	$(5,666)	$(6,209)	$(7,454)
MSRs at lower of amortized cost or fair value	—	(1,702)	—	(4,287)
	$(2,285)	$(7,368)	$(6,209)	$(11,741)

Real Estate Acquired in Settlement of Loans

The Company evaluates its REO for impairment with reference to the respective properties' fair values less cost to sell. The initial carrying value of the REO is measured at cost as indicated by the purchase price in the case of purchased REO or as measured by the fair value of the mortgage loan immediately before REO acquisition in the case of acquisition in settlement of a mortgage loan. REO may be subsequently revalued due to the Company receiving greater access to the property, the property being held for an extended period or receiving indications that the property's fair value may not be supported by developing market conditions. Any subsequent change in fair value to a level that is less than or equal to the property's cost is recognized in Results of real estate acquired in settlement of loans in the Company's consolidated statements of income.

Mortgage Servicing Rights at Lower of Amortized Cost or Fair Value

Before the Company adopted fair value accounting for all of its existing classes of MSRs on January 1, 2018, the Manager evaluated the Company's MSRs at lower of amortized cost or fair value for impairment with reference to the asset's fair value. For purposes of performing its MSR impairment evaluation, the Company stratified its MSRs at lower of amortized cost or fair value based on the interest rates borne by the mortgage loans underlying the MSRs. Mortgage loans were grouped into pools with 50 basis point interest rate ranges for fixed-rate mortgage loans with interest rates between 3.0% and 4.5% and a single pool for mortgage loans with interest rates below 3.0%. MSRs relating to adjustable rate mortgage loans with initial interest rates of 4.5% or less were evaluated in a single pool. If the fair value of MSRs in any of the interest rate pools was below the amortized cost of the MSRs, those MSRs were impaired.

When MSRs were impaired, the change in impairment was recognized in current-period income and the carrying value of the MSRs was adjusted using a valuation allowance. If the fair value of the MSRs subsequently increased, the increase in fair value was recognized in current period income only to the extent of the valuation allowance for the respective impairment stratum.

The Manager periodically reviewed the various impairment strata to determine whether the fair value of the impaired MSRs in a given stratum was likely to recover. When the Manager deemed recovery of fair value to be unlikely in the foreseeable future, a write-down of the cost of the MSRs for that stratum to its estimated recoverable value was charged to the valuation allowance.

Fair Value of Financial Instruments Carried at Amortized Cost

Most of the Company’s borrowings are carried at amortized cost. The Company’s Assets sold under agreements to repurchase, Mortgage loan participation purchase and sale agreements, Exchangeable senior notes, Notes payable and Assets sold to PennyMac Financial Services, Inc. under agreements to repurchase are classified as “Level 3” fair value liabilities due to the Company’s reliance on unobservable inputs to estimate these instruments’ fair values.

The Manager has concluded that the fair values of Assets sold under agreements to repurchase, Mortgage loan participation purchase and sale agreements, Notes payable, and Assets sold to PennyMac Financial Services, Inc. under agreements to repurchase approximate the agreements’ carrying values due to the borrowing agreements’ variable interest rates. The fair value of the Exchangeable senior notes at September 30, 2018 and December 31, 2017 was $248.7 million and $244.9 million, respectively. The fair value of the Exchangeable senior notes is estimated using a broker indication of fair value.

Valuation Governance

Most of the Company's assets, its Asset-backed financing of a VIE, Interest-only security payable and Derivative liabilities are carried at fair value with changes in fair value recognized in current period income. A substantial portion of these items are "Level 3" fair value assets and liabilities which require the use of unobservable inputs that are significant to the estimation of the fair values of the assets and liabilities. Unobservable inputs reflect the Manager's own judgments about the factors that market participants use in pricing an asset or liability, and are based on the best information available under the circumstances.

Due to the difficulty in estimating the fair values of "Level 3" fair value assets and liabilities, the Manager has assigned responsibility for estimating fair value of these assets and liabilities to specialized staff and subjects the valuation process to significant executive management oversight. The Manager's Financial Analysis and Valuation group (the "FAV group") is responsible for estimating the fair values of "Level 3" fair value assets and liabilities other than IRLCs and maintaining its valuation policies and procedures.

With respect to the non-IRLC "Level 3" valuations, the FAV group reports to the Company's senior management valuation committee, which oversees the valuations. The FAV group monitors the models used for valuation of the Company's "Level 3" fair value assets and liabilities, including the models' performance versus actual results, and reports those results to the Company's senior management valuation committee. The Company's senior management valuation committee includes the Company's executive chairman, chief executive, chief financial, chief risk and deputy chief financial officers.

The FAV group is responsible for reporting to the Manager's valuation committee on the changes in the valuation of the non-IRLC "Level 3" fair value assets and liabilities, including major factors affecting the valuation and any changes in model methods and inputs. To assess the reasonableness of its valuations, the FAV group presents an analysis of the effect on the valuation of changes to the significant inputs to the models.

The fair value of the Company's IRLCs is developed by the Manager's Capital Markets Risk Management staff and is reviewed by the Manager's Capital Markets Operations group.

Valuation Techniques and Inputs

The following is a description of the techniques and inputs used in estimating the fair values of "Level 2" and "Level 3" fair value assets and liabilities:

Mortgage-Backed Securities

The Company categorizes its current holdings of MBS as "Level 2" fair value assets. Fair value of these MBS is established based on quoted market prices for the Company's MBS holdings or similar securities. Changes in the fair value of MBS are included in Net gain (loss) on investments in the consolidated statements of income.

Mortgage Loans

Fair value of mortgage loans is estimated based on whether the mortgage loans are saleable into active markets:

- Mortgage loans that are saleable into active markets, comprised of most of the Company's mortgage loans acquired for sale at fair value and all of the mortgage loans at fair value held in a VIE, are categorized as "Level 2" fair value assets. The fair values of mortgage loans acquired for sale at fair value are established using their quoted market or contracted price or market price equivalent. For the mortgage loans at fair value held in a VIE, the quoted fair values of all of the individual securities issued by the securitization trust are used to derive a fair value for the mortgage loans. The Company obtains indications of fair value from nonaffiliated brokers based on comparable securities and validates the brokers' indications of fair value using pricing models and inputs the Manager believes are similar to the models and inputs used by other market participants.

- Mortgage loans that are not saleable into active markets, comprised primarily of distressed mortgage loans, are categorized as "Level 3" fair value assets and their fair values are estimated using a discounted cash flow approach. Inputs to the discounted cash flow model include current interest rates, loan amount, payment status, property type, discount rates and forecasts of future interest rates, home prices, prepayment speeds, default speeds, loss severities or contracted selling price when applicable.

The valuation process for "Level 3" fair value mortgage loans includes the computation by stratum of the mortgage loans' fair values and a review for reasonableness of various measures such as weighted average life, projected prepayment and default speeds, and projected default and loss percentages. The FAV group computes the effect on the valuation of changes in inputs such as interest rates, home prices, and delinquency status to assess the reasonableness of changes in the mortgage loan valuation.

Changes in fair value attributable to changes in instrument-specific credit risk are measured by the effect on fair value of the change in the respective mortgage loan's delinquency status and performance history at period-end from the later of the beginning of the period or acquisition date.

The significant unobservable inputs used in the fair value measurement of the Company's mortgage loans at fair value are discount rate, home price projections, voluntary prepayment speeds and default speeds. Significant changes in any of those inputs in isolation could result in a significant change to the mortgage loans' fair value measurement. Increases in home price projections are generally accompanied by an increase in voluntary prepayment speeds. Changes in the fair value of mortgage loans at fair value are included in Net gain (loss) on investments in the consolidated statements of income.

Following is a quantitative summary of key inputs used in the valuation of the Company's "Level 3" mortgage loans at fair value:

Key inputs (1)	September 30, 2018	December 31, 2017
Discount rate		
Range	2.8% – 16.7%	2.9% – 15.0%
Weighted average	7.3%	6.9%
Twelve-month projected housing price index change		
Range	3.5% – 4.4%	3.6% – 4.6%
Weighted average	4.1%	4.4%
Prepayment speed (2)		
Range	2.5% – 8.1%	3.2% – 11.0%
Weighted average	4.1%	4.2%
Total prepayment speed (3)		
Range	10.4% – 22.3%	10.8% – 23.8%
Weighted average	15.6%	16.5%

(1) Weighted-average inputs are based on fair value amounts of the mortgage loans.
(2) Prepayment speed is measured using Life Voluntary Conditional Prepayment Rate ("CPR").
(3) Total prepayment speed is measured using Life Total CPR.

Excess Servicing Spread Purchased from PFSI

The Company categorizes ESS as a "Level 3" fair value asset. The Company uses a discounted cash flow approach to estimate the fair value of ESS. The key inputs used in the estimation of the fair value of ESS include pricing spread (discount rate) and prepayment speed. Significant changes to those inputs in isolation may result in a significant change in the ESS fair value measurement. Changes in these key inputs are not necessarily directly related. Changes in the fair value of ESS are included in Net gain (loss) on investments in the consolidated statements of income.

Following are the key inputs used in determining the fair value of ESS:

Key inputs (1)	September 30, 2018	December 31, 2017
UPB of underlying mortgage loans (in thousands)	$24,058,366	$27,217,199
Average servicing fee rate (in basis points)	34	34
Average ESS rate (in basis points)	19	19
Pricing spread (2)		
Range	3.4% - 3.9%	3.8% - 4.3%
Weighted average	3.7%	4.1%
Annual total prepayment speed (3)		
Range	7.5% - 38.4%	8.4% - 41.4%
Weighted average	9.0%	10.8%
Life (in years)		
Range	1.4 - 8.0	1.4 - 7.7
Weighted average	7.1	6.5

(1) Weighted-average inputs are based on UPB of underlying amounts of mortgage loans.

(2) Pricing spread represents a margin that is applied to a reference interest rate's forward rate curve to develop periodic discount rates. The Company applies a pricing spread to the United States Dollar London Interbank Offered Rate ("LIBOR") curve for purposes of discounting cash flows relating to ESS.

(3) Prepayment speed is measured using Life Total CPR.

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Firm commitment to purchase credit risk transfer securities

The Company categorizes its firm commitment to purchase credit risk transfer securities as a “Level 3” fair value asset. The fair value of the firm commitment is estimated using a discounted cash flow approach to estimate the fair value of the credit risk transfer security to be purchased related to the loans subject to the commitment. Key inputs used in the estimation of fair value of the firm commitment are the discount rate and the voluntary and involuntary prepayment speeds of the reference mortgage loans. The firm commitment to purchase credit transfer securities is recognized initially as a component of Gain on sale of mortgage loans acquired for sale. Subsequent changes in fair value are recorded in Net gain (loss) on investments.

Key inputs	September 30, 2018
Discount rate	8.2%
Voluntary prepayment speed (1)	12.0%
Involuntary prepayment speed (2)	0.1%

(1) Voluntary prepayment speed is measured using Life Voluntary CPR.

(2) Involuntary prepayment speed is measured using Life Involuntary CPR.

Derivative Financial Instruments

Interest Rate Lock Commitments

The Company categorizes IRLCs as “Level 3” fair value assets and liabilities. The Company estimates the fair value of IRLCs based on quoted Agency MBS prices, its estimate of the fair value of the MSRs it expects to receive in the sale of the mortgage loan and the probability that the mortgage loan will be purchased under the commitment (the “pull-through rate”).

The significant unobservable inputs used in the fair value measurement of the Company’s IRLCs are the pull-through rate and the MSR component of the Company’s estimate of the fair value of the mortgage loans it has committed to purchase. Significant changes in the pull-through rate or the MSR component of the IRLCs, in isolation, may result in a significant change in the IRLCs’ fair value. The financial effects of changes in these inputs are generally inversely correlated as increasing interest rates have a positive effect on the fair value of the MSR component of IRLC fair value, but also increase the pull-through rate for the mortgage loan principal and interest payment cash flow component that has decreased in fair value. Changes in fair value of IRLCs are included in Net gain on mortgage loans acquired for sale in the consolidated statements of income.

Following is a quantitative summary of key unobservable inputs used in the valuation of IRLCs:

Key inputs (1)	September 30, 2018	December 31, 2017
Pull-through rate		
Range	43.8% – 100%	58.0% - 100%
Weighted average	92.6%	90.3%
MSR value expressed as		

Servicing fee multiple		
Range	2.5 - 5.9	2.1 - 5.8
Weighted average	4.7	4.9
Percentage of UPB		
Range	0.8% – 2.8%	0.0% - 2.4%
Weighted average	1.4%	1.3%

(1) Weighted-average inputs are based on notional amounts.

CRT Agreements

The Company categorizes CRT Agreement derivatives as “Level 3” fair value assets. The fair value of CRT Agreements is established based on whether the aggregation period has been completed and the CRT Agreements have been securitized. For securitized CRT Agreements, fair value is based on indications of fair value provided to the Company by nonaffiliated brokers for the certificates representing the beneficial interest in CRT Agreements which include the deposits securing the CRT Agreements, the Recourse Obligations and the IO ownership interest. Together, the Recourse Obligations and the IO ownership comprise the CRT derivative. Fair value of the CRT derivative is derived by deducting the balance of the Deposits securing CRT Agreements from the indication of fair value of the certificates provided by the nonaffiliated brokers. For CRT Agreements that have not been securitized, fair value is estimated by the Manager’s FAV group using a discounted cash flow analysis.

The significant unobservable inputs into the valuation of CRT derivatives are the discount rate and voluntary and involuntary prepayment rates of the reference mortgage loans. Changes in fair value of CRT Agreements are included in Net gain (loss) on investments.

Following is a quantitative summary of key unobservable inputs used in the valuation of non-securitized CRT Agreements:

Key inputs (1)	September 30, 2018	December 31, 2017
Discount rate		
Range	5.8% – 6.7%	5.1% – 6.2%
Weighted average	6.2%	5.6%
Voluntary prepayment speed (2)		
Range	7.5% – 8.7%	12.1% – 15.0%
Weighted average	8.1%	13.0%
Involuntary prepayment speed (3)		
Range	0.2% – 0.3%	0.3% – 0.3%
Weighted average	0.3%	0.3%

(1) Weighted-average inputs are based on fair value amounts of the CRT Agreements.
(2) Voluntary prepayment speed is measured using Life Voluntary CPR.
(3) Involuntary prepayment speed is measured using Life Involuntary CPR.

Repurchase Agreement Derivatives

The Company has a master repurchase agreement that includes incentives for financing mortgage loans approved for satisfying certain consumer relief characteristics. These incentives are classified as embedded derivatives for accounting purposes and are reported separate from the repurchase agreements. The Company classifies repurchase agreement derivatives as “Level 3” fair value assets. The significant unobservable inputs into the valuation of these derivative assets are the discount rate and the expected approval rate of the mortgage loans financed under the master repurchase agreement. The resulting ratio included in the Company’s fair value estimate was 97% at both September 30, 2018, and December 31, 2017. Changes in fair value of repurchase agreement derivatives are included in Interest expense in the consolidated statements of income.

Hedging Derivatives

Fair values of derivative financial instruments based on exchange traded market prices are categorized by the Company as “Level 1” fair value assets and liabilities; fair values of derivative financial instruments based on observable interest rates, volatilities and prices in the MBS market are categorized by the Company as “Level 2” fair value assets and liabilities. Changes in the fair value of hedging derivatives are included in Net gain on mortgage loans acquired for sale, Net gain (loss) on investments, or Net mortgage loan servicing fees, as applicable, in the consolidated statements of income.

Real Estate Acquired in Settlement of Loans

REO is measured based on its fair value on a nonrecurring basis and is categorized as a “Level 3” fair value asset. Fair value of REO is established by using a current estimate of fair value from a broker’s price opinion or a full appraisal, or the price given in a pending contract of sale.

REO fair values are reviewed by the Manager’s staff appraisers when the Company obtains multiple indications of fair value and there is a significant difference between the fair values received. The Manager’s staff appraisers will attempt to resolve the difference between the indications of fair value. In circumstances where the appraisers are not able to generate adequate data to support a fair value conclusion, the staff appraisers will order an additional appraisal to determine fair value. Recognized changes in the fair value of REO are included in Results of real estate acquired in settlement of loans in the consolidated statements of income.

Mortgage Servicing Rights

MSRs are categorized as “Level 3” fair value assets. The Company uses a discounted cash flow approach to estimate the fair value of MSRs. The key inputs used in the estimation of the fair value of MSRs include the applicable pricing spread, the prepayment and default rates of the underlying mortgage loans, and annual per-loan cost to service mortgage loans, all of which are unobservable. Significant changes to any of those inputs in isolation could result in a significant change in the MSR fair value measurement. Changes in these key inputs are not necessarily directly related. Recognized changes in the fair value of MSRs are included in Net mortgage loan servicing fees in the consolidated statements of income.

MSRs are generally subject to loss in fair value when mortgage interest rates decrease. Decreasing mortgage interest rates normally encourage increased mortgage refinancing activity. Increased refinancing activity reduces the expected life of the underlying mortgage loans, thereby reducing the cash flows expected to accrue to the MSRs. Reductions in the fair value of MSRs affect income primarily through change in fair value and change in impairment. Through December 31, 2017, the Company accounted for certain of its MSRs using the amortization method. Beginning January 1, 2018 and prospectively, the Company accounts for all MSRs at fair value.

Following are the key inputs used in determining the fair value of MSRs at the time of initial recognition:

	Quarter ended September 30,		
	2018	2017	
	Fair value	Fair value	Amortized cost
	(MSR recognized and UPB of underlying mortgage loan amounts in thousands)		
MSR recognized	$96,383	$8,655	$74,183
Key inputs (1)			
UPB of underlying mortgage loans	$8,290,310	$794,770	$6,050,337
Weighted-average annual servicing fee rate (in basis points)	25	25	25
Pricing spread (2)			
Range	7.3% – 12.9%	7.6% – 7.6%	7.6% – 12.6%
Weighted average	7.3%	7.6%	7.6%
Annual total prepayment speed (3)			
Range	3.5% – 34.6%	8.3% – 29.5%	3.5% – 31.1%
Weighted average	10.6%	10.5%	8.1%
Life (in years)			
Range	2.3 - 11.7	2.8 - 8.5	2.6 - 11.2
Weighted average	7.3	7.4	8.4
Annual per-loan cost of servicing			
Range	$77 - $79	$79 - $79	$79 - $79
Weighted average	$79	$79	$79

(1) Weighted-average inputs are based on UPB of the underlying mortgage loans.
(2) The Company applies a pricing spread to the United States Dollar LIBOR curve for purposes of discounting cash flows relating to MSRs.
(3) Prepayment speed is measured using Life Total CPR.

	Nine months ended September 30,		
	2018	2017	
	Fair value	Fair value	Amortized cost
	(MSR recognized and UPB of underlying mortgage loan amounts in thousands)		
MSR recognized	$228,337	$28,467	$178,894
Key inputs (1)			
UPB of underlying mortgage loans	$18,687,615	$2,613,258	$14,624,151
Weighted-average annual servicing fee rate (in basis points)	26	25	25
Pricing spread (2)			
Range	7.3% – 12.9%	7.6% – 7.6%	7.6% – 12.6%
Weighted average	7.4%	7.6%	7.6%
Annual total prepayment speed (3)			
Range	3.2% – 34.6%	7.9% – 29.5%	3.2% – 31.1%
Weighted average	9.6%	10.7%	8.1%
Life (in years)			
Range	2.3 - 11.9	2.8 - 8.5	2.6 - 11.9
Weighted average	7.7	7.3	8.3
Annual per-loan cost of servicing			
Range	$77 - $79	$79 - $79	$79 - $79
Weighted average	$79	$79	$79

(1) Weighted-average inputs are based on the UPB of the underlying mortgage loans.
(2) The Company applies a pricing spread to the United States Dollar LIBOR curve for purposes of discounting cash flows relating to MSRs.
(3) Prepayment speed is measured using Life Total CPR.

Following is a quantitative summary of key inputs used in the valuation of MSRs as of the dates presented, and the effect on the fair value from adverse changes in those inputs:

	September 30, 2018	December 31, 2017	
	Fair value	Fair value	Amortized cost
	(Carrying value, UPB of underlying mortgage loans and effect on fair value amounts in thousands)		
Carrying value	$1,109,741	$91,459	$753,322
Key inputs (1):			
UPB of underlying mortgage loans	$84,351,431	$8,273,696	$63,853,606
Weighted-average annual servicing fee rate (in basis points)	25	25	25
Weighted-average note interest rate	4.1%	4.7%	3.9%
Pricing spread (2)			
Range	7.3% – 12.9%	7.6% – 12.6%	7.6% – 13.1%
Weighted average	7.3%	7.6%	7.6%
Effect on fair value of (3):			
5% adverse change	$(16,686)	$(1,347)	$(11,848)
10% adverse change	$(32,897)	$(2,655)	$(23,352)
20% adverse change	$(63,970)	$(5,162)	$(45,379)
Prepayment speed (4)			
Range	6.2% – 24.3%	7.3% – 20.9%	7.1% – 27.1%
Weighted average	7.6%	11.1%	8.4%
Life (in years)			
Range	2.9 - 8.5	3.1 - 6.8	2.9 - 8.0
Weighted average	8.1	6.8	7.6
Effect on fair value of (3):			
5% adverse change	$(15,209)	$(1,954)	$(12,267)
10% adverse change	$(29,926)	$(3,827)	$(24,120)
20% adverse change	$(57,978)	$(7,352)	$(46,668)
Annual per-loan cost of servicing			
Range	$78 - $79	$77 – $79	$78 – $79
Weighted average	$79	$79	$79
Effect on fair value of (3):			
5% adverse change	$(7,834)	$(744)	$(5,721)
10% adverse change	$(15,668)	$(1,488)	$(11,441)
20% adverse change	$(31,337)	$(2,976)	$(22,883)

(1) Weighted-average inputs are based on the UPB of underlying mortgage loans.
(2)

The Company applies a pricing spread to the United States Dollar LIBOR curve for purposes of discounting cash flows relating to MSRs.

(3) For MSRs carried at fair value, an adverse change in one of the above-mentioned key inputs is expected to result in a recognized reduction in fair value which would be recorded in income. For MSRs carried at lower of amortized cost or fair value, an adverse change in one of the above-mentioned key inputs may have resulted in recognition of MSR impairment. The extent of the recognized MSR impairment depended on the relationship of fair value to the carrying value of such MSRs.

(4) Prepayment speed is measured using Life Total CPR.

The preceding sensitivity analyses are limited in that they were performed as of a particular date; only account for the estimated effect of the movements in the indicated inputs; do not incorporate changes in the inputs in relation to other inputs; are subject to the accuracy of the models and inputs used; and do not incorporate other factors that would affect the Company's overall financial performance in such events, including operational adjustments made by the Manager to account for changing circumstances. For these reasons, the preceding estimates should not be viewed as earnings forecasts.

Note 8—Mortgage Backed Securities

Following is a summary of MBS:

	September 30, 2018				December 31, 2017			
	Principal balance	Net premiums	Accumulated valuation changes	Fair value	Principal balance	Net premiums	Accumulated valuation changes	Fair value
	(in thousands)							
Agency: (1)								
Fannie Mae	$1,592,192	$40,413	$(46,691)	$1,585,914	$774,473	$30,355	$(7,975)	$796,853
Freddie Mac	543,239	6,963	(9,609)	540,593	187,127	3,518	1,963	192,608
	$2,135,431	$47,376	$(56,300)	$2,126,507	$961,600	$33,873	$(6,012)	$989,461

(1) All MBS are fixed-rate pass-through securities.

All MBS are pledged to secure Assets sold under agreements to repurchase at both September 30, 2018 and December 31, 2017.

Note 9—Mortgage Loans Acquired for Sale at Fair Value

Mortgage loans acquired for sale at fair value is comprised of recently originated mortgage loans purchased by the Company for resale. Following is a summary of the distribution of the Company's mortgage loans acquired for sale at fair value:

Loan type	September 30, 2018	December 31, 2017
	(in thousands)	
Agency-eligible	$1,708,928	$971,910
Held for sale to PLS — Government insured or guaranteed	217,334	279,571
Commercial real estate	8,500	9,898
Jumbo	7,573	—
Repurchased pursuant to representations and warranties	7,097	8,136
	$1,949,432	$1,269,515
Mortgage loans pledged to secure:		
Assets sold under agreements to repurchase	$1,898,155	$1,201,992
Mortgage loan participation purchase and sale agreements	32,392	47,285
	$1,930,547	$1,249,277

The Company is not approved by Ginnie Mae as an issuer of Ginnie Mae-guaranteed securities which are backed by government-insured or guaranteed mortgage loans. The Company transfers government-insured or guaranteed mortgage loans that it purchases from correspondent sellers to PLS, which is a Ginnie Mae-approved issuer, and earns a sourcing fee ranging from two to three and one-half basis points, generally based on the average number of calendar days that mortgage loans are held prior to purchase by PLS.

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Note 10—Mortgage Loans at Fair Value

Mortgage loans at fair value are comprised of mortgage loans that are not acquired for sale and, to the extent they are not held in a VIE securing an asset-backed financing, may be sold at a later date pursuant to the Manager's determination that such a sale represents the most advantageous disposition strategy for the identified mortgage loan.

Following is a summary of the distribution of the Company's mortgage loans at fair value:

Loan type	September 30, 2018 Fair value	September 30, 2018 Unpaid principal balance	December 31, 2017 Fair value	December 31, 2017 Unpaid principal balance
	(in thousands)			
Distressed mortgage loans:				
Nonperforming mortgage loans	$140,818	$226,375	$353,648	$524,949
Performing mortgage loans:				
Interest rate step-up	125,063	170,066	189,724	242,335
Fixed interest rate	58,179	73,769	186,929	236,840
Adjustable-rate/hybrid	16,934	17,973	38,132	39,834
	200,176	261,808	414,785	519,009
	340,994	488,183	768,433	1,043,958
Fixed interest rate jumbo mortgage loans held in a VIE	292,174	299,843	321,040	316,684
	$633,168	$788,026	$1,089,473	$1,360,642
Mortgage loans at fair value pledged to secure:				
Assets sold under agreements to repurchase	$332,093		$760,853	
Asset-backed financing of a VIE at fair value	292,174		321,040	
	$624,267		$1,081,893	

Following is a summary of certain concentrations of credit risk in the portfolio of distressed mortgage loans at fair value:

Concentration	September 30, 2018	December 31, 2017
	(percentages are of fair value)	
Portion of mortgage loans originated between 2005 and 2007	71%	73%
Mortgage loans with unpaid-principal balance-to-current -property-value in excess of 100%	31%	38%
States contributing 5% or more of mortgage loans	New York California Florida New Jersey	New York California New Jersey Florida

	Massachusetts

Note 11—Derivative Activities

The Company holds and issues derivative financial instruments in connection with its operating activities. Derivative financial instruments are created as a result of certain of the Company's operations and the Company also enters into derivative transactions as part of its interest rate risk management activities.

Derivative financial instruments created as a result of the Company's operations include:

- IRLCs that are created when the Company commits to purchase mortgage loans acquired for sale;
- CRT Agreements whereby the Company retains a Recourse Obligation relating to certain mortgage loans it sells into Fannie Mae guaranteed securitizations as part of the retention of an IO ownership interest in such mortgage loans; and
- Derivatives that are embedded in a master repurchase agreement that provides for the Company to receive interest expense offsets if it finances mortgage loans approved as satisfying certain consumer credit relief characteristics under the master repurchase agreement. The master repurchase agreement is subject to a rolling six-month term through August 18, 2019, unless terminated earlier by the lender. There can be no assurance that the lender will not terminate this agreement before its stated maturity.

The Company engages in interest rate risk management activities in an effort to reduce the variability of earnings caused by the effects of changes in interest rates on the fair value of certain of its assets and liabilities. The Company is exposed to price risk relative to the IRLCs it issues to correspondent sellers and to the mortgage loans it purchases as a result of issuing the IRLCs. The Company bears price risk from the time an IRLC is issued to a correspondent seller until the time the purchased mortgage loan is sold. The Company is exposed to loss if market mortgage interest rates increase, because market interest rate increases generally cause the fair value of the IRLC or mortgage loan acquired for sale to decrease. The Company is exposed to losses related to its investment in MSRs if market mortgage interest rates decrease, because market mortgage interest rate decreases generally encourage mortgage refinancing activity, which reduces the expected life of the mortgage loans underlying the MSRs, causing the fair value of MSRs to decrease.

To manage the price risk resulting from interest rate risk, the Company uses derivative financial instruments with the intention of moderating the risk that changes in market interest rates will result in unfavorable changes in the fair value of the Company's inventory of mortgage loans acquired for sale, mortgage loans held in a VIE, IRLCs, MSRs and MBS financing.

The Company records all derivative financial instruments at fair value and records changes in fair value in current period income.

Derivative Notional Amounts and Fair Value of Derivatives

The Company had the following derivative assets and liabilities recorded within Derivative assets and Derivative liabilities and related margin deposits recorded in Other assets on the consolidated balance sheets:

Instrument	September 30, 2018 Notional amount (in thousands)	September 30, 2018 Fair value Derivative assets	September 30, 2018 Derivative liabilities	December 31, 2017 Notional amount	December 31, 2017 Fair value Derivative assets	December 31, 2017 Derivative liabilities
Derivatives not designated as hedging instruments:						
Not subject to master netting arrangements:						
Interest rate lock commitments	1,682,007	$2,317	$ 3,418	1,250,803	$4,859	$ 227
CRT Agreements	30,648,306	126,354	—	26,845,392	98,640	—
Repurchase agreement derivatives		9,415	—		3,748	—
Subject to master netting agreements used for hedging purposes:						
Forward purchase contracts	3,350,125	1,761	11,964	1,996,235	4,343	248
Forward sale contracts	5,124,927	19,238	1,719	2,565,271	387	2,830
MBS put options	2,600,000	2,302	—	2,375,000	3,170	—
MBS call options	750,000	7	—	—	—	—
Put options on interest rate futures	100,000	141	—	550,000	656	—
Swap futures	—	—	—	275,000	—	—
Bond futures	815,000	—	—	—	—	—
Eurodollar future sale contracts	30,000	—	—	937,000	—	—
		161,535	17,101		115,803	3,305

Total derivative instruments before netting				
Netting	(17,958)	(5,221)	(1,922)	(1,999)
	$143,577	$ 11,880	$113,881	$ 1,306
Margin deposits placed with (from) derivatives counterparties included in Other assets, net	$(12,736)		$76	
Derivative assets pledged to secure Assets sold under agreements to repurchase	$27,710		$26,058	

The following tables summarize the notional amount activity for derivative contracts used to hedge the Company's MBS financing, inventory of mortgage loans acquired for sale, mortgage loans at fair value held in a VIE, IRLCs and MSRs.

	Quarter ended September 30, 2018			
Instrument	Amount, beginning of quarter	Additions	Dispositions/ expirations	Amount, end of quarter
	(in thousands)			
Forward purchase contracts	2,628,934	26,864,290	(26,143,099)	3,350,125
Forward sales contracts	3,793,355	36,205,542	(34,873,970)	5,124,927
MBS put options	1,550,000	1,050,000	—	2,600,000
MBS call options	—	750,000	—	750,000
Call options on interest rate futures	50,000	200,000	(250,000)	—
Put options on interest rate futures	600,000	1,300,000	(1,800,000)	100,000
Bond futures	815,000	2,205,000	(2,205,000)	815,000
Eurodollar future sale contracts	35,000	5,000	(10,000)	30,000

	Quarter ended September 30, 2017			
Instrument	Amount, beginning of quarter	Additions	Dispositions/ expirations	Amount, end of quarter
	(in thousands)			
Forward purchase contracts	1,933,390	20,560,886	(20,895,864)	1,598,412
Forward sales contracts	3,644,636	27,214,513	(28,050,302)	2,808,847
MBS put options	1,475,000	3,200,000	(3,550,000)	1,125,000
MBS call options	200,000	275,000	(400,000)	75,000
Call options on interest rate futures	200,000	450,000	(400,000)	250,000
Put options on interest rate futures	925,000	2,500,000	(2,950,000)	475,000
Swap futures	175,000	100,000	—	275,000
Eurodollar future sale contracts	1,139,000	202,000	(303,000)	1,038,000
Treasury future buy contracts	—	55,000	(55,000)	—
Treasury future sale contracts	—	55,000	(55,000)	—

	Nine months ended September 30, 2018			
Instrument	Amount, beginning of period	Additions	Dispositions/ expirations	Amount, end of period
	(in thousands)			
Forward purchase contracts	1,996,235	67,406,528	(66,052,638)	3,350,125
Forward sales contracts	2,565,271	88,131,417	(85,571,761)	5,124,927
MBS put options	2,375,000	9,625,000	(9,400,000)	2,600,000
MBS call options	—	750,000	—	750,000
Call options on interest rate futures	—	525,000	(525,000)	—
Put options on interest rate futures	550,000	11,700,000	(12,150,000)	100,000
Swap futures	275,000	—	(275,000)	—
Bond futures	—	3,020,000	(2,205,000)	815,000

Eurodollar future sale contracts	937,000	119,597	(1,026,597)	30,000

Instrument	Nine months ended September 30, 2017 Amount, beginning of period	Additions	Dispositions/ expirations	Amount, end of period
	(in thousands)			
Forward purchase contracts	4,840,707	54,953,063	(58,195,358)	1,598,412
Forward sales contracts	6,148,242	73,030,446	(76,369,841)	2,808,847
MBS put options	925,000	5,125,000	(4,925,000)	1,125,000
MBS call option	750,000	475,000	(1,150,000)	75,000
Call options on interest rate futures	200,000	575,000	(525,000)	250,000
Put options on interest rate futures	550,000	5,875,000	(5,950,000)	475,000
Swap futures	150,000	950,000	(825,000)	275,000
Eurodollar future sale contracts	1,351,000	303,000	(616,000)	1,038,000
Treasury future buy contracts	—	110,700	(110,700)	—
Treasury future sale contracts	—	110,700	(110,700)	—

Netting of Financial Instruments

The Company has elected to net derivative asset and liability positions, and cash collateral placed with or received from its counterparties when subject to a legally enforceable master netting arrangement. The derivative financial instruments that are not subject to master netting arrangements are IRLCs, CRT Agreement derivatives and repurchase agreement derivatives. As of September 30, 2018 and December 31, 2017, the Company did not enter into reverse repurchase agreements or securities lending transactions that are required to be disclosed in the following tables.

Offsetting of Derivative Assets

Following is a summary of net derivative assets:

	September 30, 2018			December 31, 2017		
	Gross amounts of recognized assets	Gross amounts offset in the consolidated balance sheet	Net amounts of assets presented in the consolidated balance	Gross amounts of recognized assets	Gross amounts offset in the consolidated balance sheet	Net amounts of assets presented in the consolidated balance

			sheet			sheet
	(in thousands)					
Derivative assets:						
Not subject to master netting arrangements:						
Interest rate lock commitments	$2,317	$ —	$ 2,317	$4,859	$ —	$ 4,859
CRT Agreement derivatives	126,354	—	126,354	98,640	—	98,640
Repurchase agreement derivatives	9,415	—	9,415	3,748	—	3,748
	138,086	—	138,086	107,247	—	107,247
Subject to master netting arrangements:						
Forward purchase contracts	1,761	—	1,761	4,343	—	4,343
Forward sale contracts	19,238	—	19,238	387	—	387
MBS call options	7	—	7	—	—	—
MBS put options	2,302	—	2,302	3,170	—	3,170
Put options on interest rate futures	141	—	141	656	—	656
Netting	—	(17,958)	(17,958)	—	(1,922)	(1,922)
	23,449	(17,958)	5,491	8,556	(1,922)	6,634
	$161,535	$ (17,958)	$ 143,577	$115,803	$ (1,922)	$ 113,881

Derivative Assets, Financial Instruments and Collateral Held by Counterparty

The following table summarizes by significant counterparty the amount of derivative asset positions after considering master netting arrangements and financial instruments or cash pledged that do not meet the accounting guidance qualifying for setoff accounting:

	September 30, 2018				December 31, 2017			
	Net amount of assets presented in the consolidated balance sheet	Gross amounts not offset in the consolidated balance sheet			Net amount of assets presented in the consolidated balance sheet	Gross amounts not offset in the consolidated balance sheet		
		Financial instruments	Cash collateral received	Net amount		Financial instruments	Cash collateral received	Net amount
	(in thousands)							
CRT Agreements	$126,354	$ —	$ —	$126,354	$98,640	$ —	$ —	$98,640
Interest rate lock commitments	2,317	—	—	2,317	4,859	—	—	4,859
Deutsche Bank Securities LLC	9,415	—	—	9,415	3,748	—	—	3,748
Citigroup Global Markets Inc.	2,116	—	—	2,116	429	—	—	429
Wells Fargo Securities, LLC	950	—	—	950	146	—	—	146
J.P. Morgan Securities LLC	637	—	—	637	2,020	—	—	2,020
Bank of America, N.A.	627	—	—	627	—	—	—	—
Goldman Sachs	558	—	—	558	—	—	—	—
RJ O'Brien & Associates, LLC	141	—	—	141	656	—	—	656
Federal National Mortgage Association	9	—	—	9	1,606	—	—	1,606
Credit Suisse Securities (USA) LLC	—	—	—	—	809	—	—	809
Morgan Stanley & Co. LLC	—	—	—	—	457	—	—	457
Other	453	—	—	453	511	—	—	511
	$143,577	$ —	$ —	$143,577	$113,881	$ —	$ —	$113,881

Offsetting of Derivative Liabilities and Financial Liabilities

Following is a summary of net derivative liabilities and assets sold under agreements to repurchase. Assets sold under agreements to repurchase do not qualify for setoff accounting.

	September 30, 2018			December 31, 2017		
	Gross amounts	Gross amounts	Net amounts	Gross amounts	Gross amounts	Net amounts

	of recognized liabilities	offset in the consolidated balance sheet	of liabilities presented in the consolidated balance sheet	of recognized liabilities	offset in the consolidated balance sheet	of liabilities presented in the consolidated balance sheet
	(in thousands)					
Derivative liabilities:						
Not subject to master netting arrangements:						
Interest rate lock commitments	$3,418	$ —	$3,418	$227	$ —	$227
	3,418	—	3,418	227	—	227
Subject to master netting arrangements:						
Forward purchase contracts	11,964	—	11,964	248	—	248
Forward sales contracts	1,719	—	1,719	2,830	—	2,830
Netting	—	(5,221)	(5,221)	—	(1,999)	(1,999)
	13,683	(5,221)	8,462	3,078	(1,999)	1,079
	17,101	(5,221)	11,880	3,305	(1,999)	1,306
Assets sold under agreements to repurchase:						
UPB	4,394,597	—	4,394,597	3,182,504	—	3,182,504
Unamortized debt issuance costs	(97)	—	(97)	(1,618)	—	(1,618)
	4,394,500	—	4,394,500	3,180,886	—	3,180,886
	$4,411,601	$ (5,221)	$4,406,380	$3,184,191	$ (1,999)	$3,182,192

Derivative Liabilities, Financial Liabilities and Collateral Pledged by Counterparty

The following table summarizes by significant counterparty the amount of derivative liabilities and assets sold under agreements to repurchase after considering master netting arrangements and financial instruments or cash pledged that do not meet the accounting guidance qualifying for setoff accounting. All assets sold under agreements to repurchase represent sufficient collateral or exceed the liability amount recorded on the consolidated balance sheet.

	September 30, 2018				December 31, 2017			
	Net amount of liabilities presented in the consolidated balance sheet	Gross amounts not offset in the consolidated balance sheet: Financial instruments	Cash collateral pledged	Net amount	Net amount of liabilities presented in the consolidated balance sheet	Gross amounts not offset in the consolidated balance sheet: Financial instruments	Cash collateral pledged	Net amount
	(in thousands)							
Interest rate lock commitments	$3,418	$—	$ —	$3,418	$227	$—	$ —	$227
Bank of America, N.A.	1,424,559	(1,424,559)	—	—	839,057	(838,771)	—	286
Deutsche Bank Securities LLC	701,294	(701,294)	—	—	374,526	(374,526)	—	—
Credit Suisse Securities (USA) LLC	683,565	(683,339)	—	226	845,567	(845,567)	—	—
J.P. Morgan Securities LLC	448,773	(448,773)	—	—	373,186	(373,186)	—	—
Mizuho Securities	276,791	(276,791)	—	—	—	—	—	—
Daiwa Capital Markets	262,985	(262,940)	—	45	153,833	(153,730)	—	103
Morgan Stanley & Co. LLC	224,035	(223,627)	—	408	164,530	(164,530)	—	—
Citigroup Global Markets Inc.	118,762	(116,091)	—	2,671	235,541	(235,319)	—	222
RBC Capital Markets, L.P.	95,027	(95,027)	—	—	92,014	(91,805)	—	209
BNP Paribas	91,062	(91,062)	—	—	45,411	(45,411)	—	—
Wells Fargo Securities, LLC	71,094	(71,094)	—	—	50,360	(50,360)	—	—
Federal National Mortgage Association	4,350	—	—	4,350	—	—	—	—
Barclays Capital Inc.	270	—	—	270	9,374	(9,299)	—	75
Other	492	—	—	492	184	—	—	184
Unamortized debt issuance costs	(97)	97	—	—	(1,618)	1,618	—	—
	$4,406,380	$(4,394,500)	$ —	$11,880	$3,182,192	$(3,180,886)	$ —	$1,306

Following are the net gains (losses) recognized by the Company on derivative financial instruments and the consolidated statements of income line items where such gains and losses are included:

Derivative activity	Income statement line	Quarter ended September 30, 2018	2017	Nine months ended September 30, 2018	2017
		(in thousands)			
Interest rate lock commitments	Net gain on mortgage loans acquired for sale	$(7,700)	$24,694	$(26,431)	$70,131
CRT agreements	Net gain (loss) on investments	$30,552	$14,960	$92,621	$68,863
Repurchase agreement derivatives	Interest expense	$(37)	$—	$(118)	$—
Hedged item:					
Interest rate lock commitments and mortgage loans acquired for sale	Net gain on mortgage loans acquired for sale	$15,584	$(16,943)	$56,818	$(32,308)
Mortgage servicing rights	Net mortgage loan servicing fees	$(12,093)	$4,576	$(44,378)	$(1,731)
Fixed-rate assets and LIBOR-indexed repurchase agreements	Net gain (loss) on investments	$691	$(5,910)	$1,029	$(14,943)

Note 12—Real Estate Acquired in Settlement of Loans

Following is a summary of financial information relating to REO:

	Quarter ended September 30,		Nine months ended September 30,	
	2018	2017	2018	2017
	(in thousands)			
Balance at beginning of period	$109,271	$ 207,034	$162,865	$274,069
Transfers:				
From mortgage loans at fair value and advances	7,508	22,951	26,229	76,981
To real estate held for investment	(559)	(2,555)	(4,123)	(14,300)
From real estate held for investment	655	—	1,112	—
Results of REO:				
Valuation adjustments, net	(3,323)	(6,423)	(13,990)	(21,749)
Gain on sale, net	3,013	3,280	8,157	10,895
	(310)	(3,143)	(5,833)	(10,854)
Sales	(20,960)	(39,253)	(84,645)	(140,862)
Balance at end of period	$95,605	$ 185,034	$95,605	$185,034

	September 30, 2018	December 31, 2017
	(in thousands)	
REO pledged to secure assets sold under agreements to repurchase	$43,970	$ 76,037
REO held in a consolidated subsidiary whose stock is pledged to secure financings of such properties	25,429	48,495
	$69,399	$ 124,532

Note 13—Mortgage Servicing Rights

Carried at Fair Value:

Following is a summary of MSRs carried at fair value:

	Quarter ended September 30,		Nine months ended September 30,	
	2018	2017	2018	2017
	(in thousands)			
Balance at beginning of period	$1,010,507	$ 77,624	$91,459	$64,136
Transfer of mortgage servicing rights from mortgage servicing rights carried at lower of amortized cost or fair value pursuant to a change in accounting principle	—	—	773,035	—
Balance after reclassification	1,010,507	77,624	864,494	64,136
Purchases	—	10	—	79
Sales	(100)	—	(100)	—
MSRs resulting from mortgage loan sales	96,383	8,655	228,337	28,467
Changes in fair value:				
Due to changes in valuation inputs used in valuation model (1)	33,004	(2,628)	101,699	(6,956)
Other changes in fair value (2)	(30,053)	(1,349)	(84,689)	(3,414)
	2,951	(3,977)	17,010	(10,370)
Balance at end of period	$1,109,741	$ 82,312	$1,109,741	$82,312

	September 30, 2018	December 31, 2017
	(in thousands)	
Fair value of mortgage servicing rights pledged to secure Assets sold under agreements to repurchase and Notes payable (3)	$1,090,406	$ 90,284

(1) Principally reflects changes in pricing spread (discount rate) and prepayment speed inputs, primarily due to changes in market interest rates.
(2) Represents changes due to realization of expected cash flows.
(3) During 2018, beneficial interests in Fannie Mae MSRs are pledged as collateral for both Assets sold under agreements to repurchase and Notes payable as discussed in Note 17 – Notes Payable.

Carried at Lower of Amortized Cost or Fair Value:

Following is a summary of MSRs carried at lower of amortized cost or fair value:

	Quarter ended September 30,	Nine months ended September 30,	
	2017	2018	2017
	(in thousands)		
Amortized Cost:			
Balance at beginning of period	$673,433	$772,870	$606,103
Transfer of mortgage servicing right to mortgage servicing rights carried at fair value pursuant to a change in accounting principle	—	(772,870)	—
Balance after reclassification	673,433	—	606,103
MSRs resulting from mortgage loan sales	74,183	—	178,894
Amortization	(21,634)	—	(59,015)
Balance at end of period	725,982	—	725,982
Valuation Allowance:			
Balance at beginning of period	(16,257)	(19,548)	(13,672)
Reduction resulting from change in accounting principle	—	19,548	—
Balance after reclassification	(16,257)	—	(13,672)
Additions to valuation allowance	(1,702)	—	(4,287)
Balance at end of period	(17,959)	—	(17,959)
MSRs, net	$708,023	$—	$708,023
Fair value at beginning of period	$682,437		$626,334
Fair value at end of period	$728,828		

	December 31, 2017
	(in thousands)