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BACKGROUNDER

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Revising the Preferred Stock Purchase Agreements of Fannie Mae and Freddie Mac May Be the Biggest GSE Bailout Yet

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KEY TAKEAWAYS

GSEs received multiple bailouts since 2008 with capital infusions, Treasury credit lines, asset purchases, and a senior preferred stock dividend formula revision.

Rolling back dividend requirements or forgiving GSE debt would constitute another taxpayer bailout and would deprive taxpayers of compensation for prior bailouts.

Structured liquidation of the GSEs—rather than recapitalization and release through another bailout—will better secure competitive, private-sector housing finance.

The Trump Administration appears ready to end the nearly 11 years of conservatorship of America's largest government-sponsored enterprises (GSEs)—the Federal National Mortgage Association (Fannie Mae) and the Federal Home Loan Mortgage Corporation (Freddie Mac). However, the current terms of the government conservatorship would require the GSEs to raise the nearly $200 billion that they owe to the Treasury and an additional $200 billion to build a capital buffer. Many special interest groups are lobbying to alter the existing agreements to lessen the financial burden on the two GSEs, amounting to yet another taxpayer bailout for the failed companies. Fortunately, this bailout is not the only path to ending the conservatorship.

The Federal Housing Finance Agency (FHFA) has the authority to place the GSEs into receivership and proceed with a structured liquidation of their assets.

Although the FHFA cannot revoke the GSEs' charters without congressional approval, it can issue new charters—to new companies—with higher capital requirements, no credit lines with the Treasury, and neither implicit nor explicit taxpayer backing. Rather than invest in the GSEs, investors can provide capital to these new companies. This approach will reduce taxpayer risk, curtail the economic distortions caused by the government domination of the market, and gradually restore housing affordability.

I. The Housing Bubble Is Intertwined with the GSEs

In the 1990s, the GSEs Fannie Mae and Freddie Mac became the dominant actors in the secondary residential mortgage market by securitizing a growing share of residential mortgages. This process entailed buying residential mortgages, holding some of them as investments, and packaging others into securities for sale to the general public. These securities functioned like bonds, though their value was tied to the underlying residential mortgages, and the GSEs guaranteed the payment of principal and interest to the investors. The investors, in turn, understood these mortgage-backed securities (MBSs) to have implicit government backing because the GSEs had special charters and a line of credit with the U.S. Treasury. As a result, investors expected federal assistance in the event that the GSEs were unable to make scheduled principal and interest payments on their MBSs.

This implicit government backing led to riskier lending than would have otherwise taken place because it enabled investors in GSE bonds and MBSs to ignore the true financial risks of those underlying mortgages and securities.[1] Beginning in the late 1990s, trillions of dollars flowed into mortgage markets, which were covering more mortgages for second homes and investment properties,[2] as well as those with lower credit scores, minimal income documentation, less-stable employment history, and scant down payments.[3] This flow of credit kicked off a home-price boom, with prices rising by 112.4 percent from 1998 through the middle of 2006, more than quadruple the overall rate of inflation of just 24.7 percent.[4] The rapid run-up in home prices temporarily masked the decrease in credit quality, but home prices then plunged, losing 27 percent of their value by early 2012.[5] As prices fell, delinquency rates on single-family mortgages soared from 1.61 percent in early 2006 to 10.34 percent by the end of 2009, and continued to rise until peaking at 11.54 percent in 2010.[6] As delinquency rates climbed, mortgage defaults imperiled the GSEs' ability to make the required principal and interest payments on their MBSs.

II. The 2008 Treasury Bailout of the GSEs

As more borrowers defaulted on the mortgages underlying the MBSs, the danger of bankruptcy loomed for the GSEs. Without an infusion of capital, the GSEs would soon be unable to deliver the promised payments on their MBSs. However, because any new capital would likely be immediately diverted to mitigate losses—possibly much greater losses—for existing MBS investors, many equity investors and private-sector creditors had little interest in supplying new capital.

As special interest groups ratcheted up calls for some kind of government action, Congress passed the Housing and Economic Recovery Act (HERA) in July 2008.[7] This legislation placed regulatory control of the GSEs under the power of the new Federal Housing Finance Agency (FHFA), an agency with the newly created power to liquidate the GSEs through a receivership process (designed to dispose of their assets) or place the GSEs into conservatorship (designed to preserve their assets).[8] As insolvency rapidly approached, two options existed: (1) a wind-up of the GSEs through the statutory receivership process or (2) negotiating a government bailout to continue their operations indefinitely.

In the case of receivership, the HERA states that the FHFA shall

> place the regulated entity in liquidation and proceed to realize upon the assets of the regulated entity in such manner as the Agency deems appropriate, including through the sale of assets, the transfer of assets to a limited-life regulated entity established under subsection (i), or the exercise of any other rights or privileges granted to the Agency under this paragraph.[9]

For conservatorship, the HERA gave the FHFA the authority to:

> take such action as may be: (i) necessary to put the regulated entity in a sound and solvent condition; and (ii) appropriate to carry on the business of the regulated entity and preserve and conserve the assets and property of the regulated entity.[10]

On September 6, 2008, the FHFA chose to place the GSEs under conservatorship, rather than receivership. In accordance with its broad conservator powers, the FHFA entered into an agreement with the Treasury on behalf of the GSEs to bail the companies out of trouble with two $100 billion credit lines (one for each company). In exchange for this new line of credit, each GSE issued 1 million shares of a new class of senior preferred stock to the Treasury with an initial valuation of $1,000 per share.

The goal of this credit backstop was to bolster the capacity of the GSEs to make payments on their issued MBSs despite the growing defaults on the underlying mortgages, and to encourage investors to continue purchasing MBSs to keep the housing finance sector moving. The Preferred Stock Purchase Agreements (PSPAs) between the FHFA on behalf of the GSEs and the Treasury specify the terms and conditions of this bailout. The initial September 2008 PSPAs contained a number of taxpayer protections, such as:

1. Absent Treasury approval, dividend payments on classes of stock other than the specially created senior preferred stock are suspended until the GSEs repurchase this preferred stock from the Treasury.

2. Treasury holds the right (through warrants) to purchase up to 79.9 percent of the GSEs' common stock.

3. A "liquidation preference" specifies that any funds derived from either new capital infusions or the liquidation of assets must first be used to compensate taxpayers for the bailout, and the GSEs cannot emerge from conservatorship without paying this liquidation preference in full.[11] Initially set at $1,000 per share ($1 billion for each GSE's senior preferred stock), the liquidation preference adjusts upwards as the GSEs draw on their lines of credit and also if the GSEs choose not to pay periodic commitment fees on the senior preferred stock in cash to Treasury.[12] In the event of dissolution, the liquidation preference also specifies that honoring these obligations takes priority to liabilities due other investors or creditors.

4. GSEs must pay quarterly dividends on the Treasury's senior preferred stock. The initial PSPAs set these dividends equal to 10 percent (on an annualized basis) of the value of the liquidation preference if paid in cash and 12 percent if the GSEs choose to utilize the Treasury commitment (thereby increasing the liquidation preference).[13] Dividend payments increase as total credit extended by the Treasury increases. Notably, dividend payments on senior preferred stock do not diminish the value of the liquidation preference. In effect, the dividend payments on the senior preferred stock functioned as interest on a loan, and the balance of the liquidation preference reflects the unpaid principal.

5. To further protect taxpayer interests, until the senior preferred stock is repaid or redeemed in full, the GSEs must also obtain permission from the Treasury prior to issuing additional capital stock.[14]

In 2008, the GSEs recorded combined net losses of $109 billion, a figure that surpassed their cumulative net income over the prior 40 years.[15] More important, these losses completely exhausted the $90 billion of total capital that the GSEs had available to cover such losses. The bailout through the FHFA conservatorship proved crucial in securing the GSEs' survival as going concerns.

Over the next four years, the companies continued to struggle and had difficulty meeting their financial obligations under the PSPAs. While the FHFA could have placed the GSEs into receivership, the FHFA and the Treasury chose instead to amend the PSPAs three times; each rendition effectively forced the taxpayers to bail out the GSEs again. These are the four bailouts from 2008 through 2012:

1. **In September 2008, Treasury bailed out Fannie Mae and Freddie Mac,** promising to provide each with up to $100 billion in credit. In return, the companies each gave the Treasury 1 million shares of senior preferred stock, worth $1 billion each. In just the first three quarters of conservatorship, Fannie Mae exhausted one-third of its Treasury credit commitment; Freddie Mac exhausted more than half of its commitment.[16]

2. **In May 2009, with losses rapidly consuming the existing commitment, Treasury promised to provide each GSE with up to $200 billion in credit** (double the prior agreement) and allowed them to own an additional $50 billion in mortgage assets.[17] The doubling of the credit commitment diminished the growing threat of imminently exhausting the entire line of credit.

3. **In December 2009 the companies were still struggling, so Treasury changed its commitment formula, allowing it to provide *more than* $200 billion.** Quarterly draws needed to maintain solvency in 2010, 2011, and 2012 would no longer count against the GSEs' $200 billion caps.[18] The $200 billion caps would adjust upwards by the amount of the draws throughout those three years minus any positive net worth of the GSEs at the end of 2012. The poor financial performance throughout those three years resulted in the commitment expanding from $400 billion in 2009 to $445.5 billion by the end of 2012.[19] As of the second quarter of 2019, the GSEs have drawn $191.4 billion of this $445.5 billion commitment, leaving more than $250 billion in credit available.[20]

4. **At the end of 2011, the combined liquidation preference was more than $187 billion.** The required 10 percent senior preferred stock dividends of nearly $19 billion annually exceeded the net income ever earned by the GSEs in a single year.[21] It had become obvious that the GSEs might become unable meet their obligations to the Treasury: From December 2008 through December 2011, the GSEs borrowed $36 billion from the Treasury in order to pay preferred dividends to the Treasury.[22] In August 2012, the Treasury changed the dividend formula in order to prevent the GSEs from drawing on the Treasury commitment in order to pay the dividends they owed the Treasury. Specifically, the Treasury amended the agreement in August 2012, so that beginning in August 2013 dividends would be set equal to the GSEs' net worth at the end of the prior quarter.[23] In effect, the Treasury would sweep the GSEs' profits each quarter to satisfy the dividend payments.[24] As FHFA Director Edward DeMarco explained, "The continued payment of a fixed dividend could have called into question the adequacy of the financial commitment contained in the PSPAs."[25]

In addition to these bailouts, the Treasury and Federal Reserve purchased more than $3 trillion in MBSs and GSE bonds, staving off further losses that would have required even more bailouts. From September 2008 through December 2009, the Treasury purchased more than $220 billion of GSE MBSs.[26] In November 2008, the Federal Reserve announced plans to purchase trillions of dollars of GSE bonds and MBSs over an extended time frame.[27] The Fed then purchased $134.5 billion of GSE bonds and more than $1.1 trillion of GSE MBSs from December 2008 through March 2010,[28] and an additional $2.2 trillion in MBSs from October 2011 through June 2019.[29]

Only because of these bailouts and the continued credit lines are the GSEs still operating today. Collectively, they owe approximately $200 billion to the Treasury[30] and suffer from an even larger capital deficit.

III. 10 Years After the First Bailout, Both GSEs Remain Undercapitalized

As with any company, the GSEs' capital acts as a cushion against insolvency and helps to absorb losses. The law imposes two capital requirements on the GSEs. The first is a risk-based *total* capital requirement set by the FHFA Director[31] and designed to keep the GSEs solvent through a "stress period."[32] The second is a *core* capital[33] requirement determined according to a statutory formula. The FHFA waived capital classifications and capital requirements for the duration of the conservatorships, but these will be reinstated upon release.[34] Significantly, based on the success in meeting these two capital requirements, the FHFA Director classifies each GSE into one of the following four categories: (1) adequately capitalized, (2) undercapitalized, (3) significantly undercapitalized, or (4) critically undercapitalized.[35]

The authority of the FHFA Director to intervene in GSE operations widens as capital classification levels deteriorate, culminating with the discretionary power to place the GSEs into receivership and liquidate their assets if they are classified as critically undercapitalized.[36] The HERA states that the FHFA director shall classify the GSEs as critically undercapitalized if they (1) fail to maintain an amount of total capital that is equal to or exceeds the risk-based capital level established by the FHFA and (2) fail to maintain an amount of core capital that is equal to or exceeds its critical capital level.[37] The current negative capital balances of both GSEs would certainly result in classification as critically undercapitalized if the standards are reinstated.[38] Although the FHFA has yet to establish the risk-based capital requirements, the severity of the GSEs' capital deficit—how much needs to be raised to avoid being classified as critically undercapitalized—can be estimated with a statutory formula and the FHFA's Conservatorship Capital Framework (CCF).[39]

Estimated Capital Shortfall: $203 Billion Critically Undercapitalized. Based on the CCF, Freddie Mac estimates its risk-based total capital requirement to be 2.44 percent of its reported assets.[40] Using this percentage for both GSEs at year end 2018, the estimated risk-based total capital requirements—if the FHFA were to reinstate capital requirements—would be approximately $84 billion for Fannie Mae and $50 billion for Freddie Mac ($134 billion total). Based on the negative core capital levels reported at the end of 2018 (approximately $115 billion for Fannie Mae and $68 billion for Freddie Mac), the GSEs have a combined $317 billion risk-based total capital deficit (for Fannie Mae, $115 billion + $84 billion = $199 billion; for Freddie Mac, $68 billion + 50 billion = $118 billion).[41]

Separately, the GSEs' core capital must exceed the critical capital level, essentially a statutory formula.[42] As seen in Table 1, Fannie Mae has a critical core capital deficit of $127 billion, and Freddie Mac has a critical core capital deficit of $76 billion.[43]

Thus, upon release from conservatorship, in order to avoid the "critically undercapitalized" classification, Fannie Mae must meet the lower of this core capital deficit of $127 billion or the estimated risk-based total capital deficit of $199 billion. Similarly, Freddie must meet the lower of the $76

TABLE 1

Fannie Mae and Freddie Mac Have a Core Capital Deficit of $203 Billion

Figures shown are in billions.

	Current Core Capital Deficit	Critical Capital Required	Total Core Capital Deficit
Fannie Mae	$115	$12	$127
Freddie Mac	$68	$8	$76
Total	**$183**	**$20**	**$203**

SOURCES: Federal Housing Finance Agency, "2018 Report to Congress," https://www.fhfa.gov/AboutUs/Reports/ReportDocuments/FHFA_2018_Report-to-Congress.pdf (accessed October 21, 2019); Securities and Exchange Commission, "Form 10-K, Annual Report Pursuant to Section 13 or 15(d) of the Securities Exchange Act of 1934, for the Fiscal Year Ended December 31, 2018, Federal Home Loan Mortgage Corporation, Freddie Mac," http://www.freddiemac.com/investors/financials/pdf/10k_021419.pdf (accessed October 21, 2019); and Securities and Exchange Commission, "Form 10–K, Annual Report Pursuant to Section 13 or 15(d) of the Securities Exchange Act of 1934, for the Fiscal Year Ended December 31, 2018, Federal National Mortgage Association, Fannie Mae," https://www.fanniemae.com/resources/file/ir/pdf/quarterly-annual-results/2018/q42018.pdf (accessed October 21, 2019).

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billion core capital deficit or the estimated $118 billion risk-based capital deficit in order to avoid the "critically undercapitalized" classification. Just as important, given the current negative capitalization of the GSEs, a major downturn in the near future could require another capital infusion from the Treasury. In fact, the FHFA recently conducted stress tests that estimate losses from $18 billion to $43.3 billion in a "severely adverse" economic scenario.[44]

Naturally, meeting these capital requirements far from guarantees future solvency. In the year prior to the 2008 housing collapse, the GSEs maintained risk-based total capital nearly double the statutory requirements. The FHFA's annual report to Congress released in June 2019 even warned that a reversion from the current low-interest-rate environment could lead to negative net worth of Fannie Mae and Freddie Mac.[45] Regardless, the GSEs are critically undercapitalized by more than $200 billion.

Critics of closing down the GSEs argue that the companies are now profitable and that they would not be undercapitalized if the Treasury had not started taking all of the GSE's profits. They also claim that Fannie and Freddie should be released because they have paid back more than the Treasury disbursed.[46] A main problem with these arguments is that they ignore that Fannie Mae and Freddie Mac would not exist today without the aid of four successive taxpayer bailouts and continued government support. The claims also ignore the GSEs' existing obligations to the Treasury under the PSPAs, obligations that were supposed to ensure that taxpayers were compensated for their risk under the bailouts. Finally, the notion that all should be forgiven because the GSEs paid back more in dividends than the amount they borrowed focuses strictly on cash-flow accounting while ignoring the ongoing risks borne by the taxpayers, as well as the opportunity costs associated with the cash infusions. Using a fair-value accounting approach to incorporate these economic costs into the equation suggests that the bailout was not a profitable endeavor for the taxpayers—it cost them more than $300 billion.[47]

IV. At the Crossroads Again: Liquidation or Another, Larger, Bailout?

The task of raising at least $200 billion to exit conservatorship is daunting, but the true financial hurdle is roughly twice as high because of the nearly $200 billion liquidation preference under the existing taxpayer bailout agreements. In spite of the recent changes to the PSPAs, the GSEs will have to raise most of the needed capital entirely from private investors instead of using retained profits to contribute to the total needed.[48] Even ignoring the obligations under the existing agreements, such a capital raise in the equities market would dwarf the largest initial public offerings in history, such as Alibaba's $25 billion in 2014, Facebook's $16 billion in 2012, General Motors' $18.1 billion in 2010 (after emergence from bankruptcy in 2009), and Uber's $9 billion in 2019.[49]

To surmount the challenge of raising approximately $400 billion in capital ($200 billion to meet capital requirements and another $200 billion to satisfy obligations under the existing PSPAs), shareholders and industry interest groups are lobbying for two one-sided changes to the bailout agreement: (1) forgiveness in part or in full of the $200 billion liquidation preference and (2) dividend formula revision in order to enable the GSEs to build capital.[50] If the federal government enacts either of these changes,[51] existing common stock shareholders, junior preferred shareholders, and purchasers of newly issued common shares would benefit at taxpayer expense in what amounts to yet another GSE bailout.

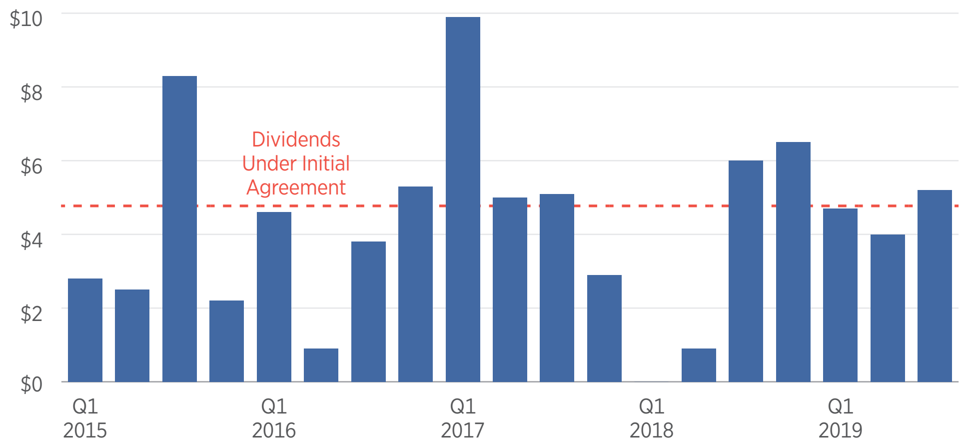
As justification for writing down the liquidation preference, some proponents contend that the Treasury's senior preferred stock "has been repaid with interest."[52] The $306 billion in dividends paid by the GSEs to the Treasury[53] exceed the $191.5 billion in Treasury cash infusions[54] by more than $116 billion. As discussed previously, though, this argument merely relies on cash-flow accounting and ignores all of the economic risks associated with

CHART 1

Since 2015, Dividends Under the Revised Agreement Fall Short

In 11 of the past 19 quarters, dividends under the net worth sweep have fallen short of what the payout would have been under the prior fixed rate. In aggregate during this period, the nearly $81 billion in dividends under the revised agreement resulted in $9.2 billion less in dividends than under the original formula.

DIVIDENDS UNDER REVISED AGREEMENT CONTRASTED WITH ORIGINAL FORMULA, IN BILLIONS



NOTE: Figures are authors' calculations based on the original agreement and the actual dividends paid.
SOURCES: Federal Housing Finance Agency, "Table 2: Dividends on Enterprise Draws from Treasury," https://www.fhfa.gov/DataTools/Downloads/Documents/Market-Data/Table_2.pdf (accessed October 21, 2019); Department of the Treasury, "GSE Agreement Letters," December 21, 2017, https://www.fhfa.gov/Conservatorship/Documents/GSEAgreementLetters_12-21-2017.pdf (accessed October 21, 2019); and Department of the Treasury, "Certificate of Creation, Designation, Powers, Preferences, Rights, Privileges, Qualifications, Limitations, Restrictions, Terms and Conditions of Variable Liquidation Preference Senior Preferred Stock (Par Value $1.00 per Share)," https://www.treasury.gov/press-center/press-releases/Documents/certificatefreb.pdf (accessed October 21, 2019).

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the bailout, an error that understates the true cost by approximately $200 billion.[55] And, of course, the return on an investment (preferred dividends) is distinct from the investment itself (the credit commitment). At issue is the $123 billion in additional dividends paid since the start of 2013 (the date the net worth sweep went into effect) through the third quarter (Q3) of 2019 relative to the original fixed 10 percent dividend formula.

These statistics in isolation present an incomplete view of reality. The Treasury made this change in the dividend formula because the GSEs were in such bad shape that they were borrowing from the Treasury simply to make the promised dividend payments.[56] Furthermore, this net worth sweep did not result in exorbitant Treasury profits. More than 80 percent of the $123 billion in excess dividends was due to an anomalous surge in net income during a brief stretch in 2013 and 2014. In 11 of the past 19 quarters (since the start of 2015), dividends based on net worth have fallen short of what the payout would have been under the prior fixed rate. In fact, since the start of 2015, dividends under the sweep relative to the 10 percent fixed rate have resulted in $9.2 billion *less* in dividends.[57] Retroactively reclassifying dividends paid as repayment of the principal balance is yet another bailout.

Massive shareholder dilution and the likelihood of dismally small returns on the shareholder equity also create significant hurdles to raising the entirety of this needed capital in a share offering. First, a $400 billion capital raise would massively dilute the ownership stake of existing common stock shares by more than 95 percent.[58] Second, unlike typical capital raises, the proceeds will not be directed to investment in the expansion of business operations intended to increase net income. Instead, the capital raise will be earmarked for paying down the liquidation preference and restoring the required capital buffer. Over the past 30 years, the average annual return on equity for all U.S. banks is approximately 12 percent.[59] Obtaining this return on $400 billion of newly raised capital would require more than $47 billion in combined GSE net income, a feat achieved only once in their history. For the five years from 2014 to 2018, Fannie Mae earned $11.2 billion annually[60], and Freddie Mac earned $7.3 billion annually.[61] The combined $18.5 billion in net income represents just a 4.6 percent annual return on the $400 billion of newly raised equity.

V. There Is an Alternative to Another Bailout or the Status Quo

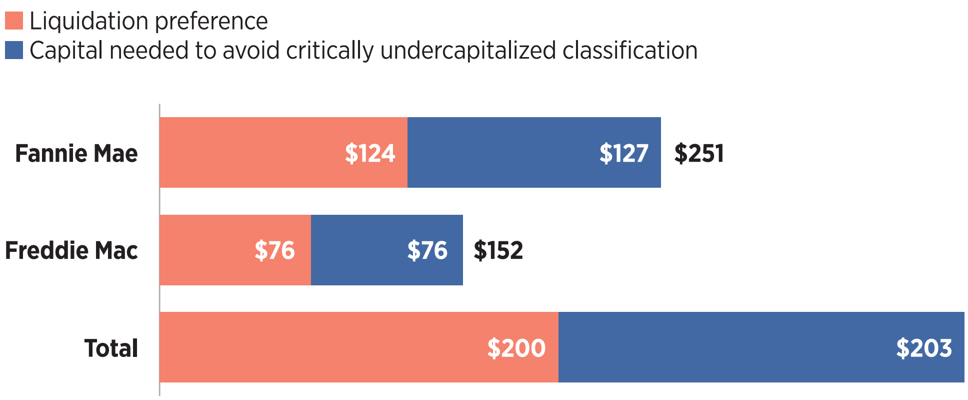
An alternative does exist to another series of bailouts, a continuation of the status quo of conservatorship, or a recapitalization of the government-guaranteed GSEs. The HERA gives the FHFA the authority to place the GSEs into receivership and liquidate the companies, provided that certain conditions are met. Under the terms of the PSPAs, capital from asset sales in such a wind-up of the GSEs would first go to pay down the liquidation preference—thus compensating the taxpayers—and then flow to other debt holders and shareholders of the GSES.

The FHFA Has the Administrative Authority to Liquidate the GSEs. Shutting down the GSEs requires first removing the GSEs from conservatorship and placing them into receivership (with the goal of liquidation). In order to place the GSEs into receivership, the FHFA must reinstate the

CHART 2

Capital Needed to Exit Conservatorship

In order for Fannie Mae and Freddie Mac to avoid classification as "critically undercapitalized," they must raise approximately $200 billion. However, the true financial hurdle to exit conservatorship is roughly twice that amount because of the approximately $200 billion liquidation preference under the existing taxpayer bailout agreements.



NOTE: Capital needed to avoid "critically undercapitalized" classification is the lesser of critical core capital deficit or the risk-based capital deficit.
SOURCE: Securities and Exchange Commission, "Form 10-K, Annual Report Pursuant to Section 13 or 15(d) of the Securities Exchange Act of 1934, for the Fiscal Year Ended December 31, 2018, Federal Home Loan Mortgage Corporation, Freddie Mac," p. 2, http://www.freddiemac.com/investors/financials/pdf/10k_021419.pdf (accessed October 21, 2019); and Securities and Exchange Commission, "Form 10–K, Annual Report Pursuant to Section 13 or 15(d) of the Securities Exchange Act of 1934, for the Fiscal Year Ended December 31, 2018, Federal National Mortgage Association, Fannie Mae," p. 13, https://www.fanniemae.com/resources/file/ir/pdf/quarterly-annual-results/2018/q42018.pdf (accessed October 21, 2019).

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suspended capitalization requirements and classify the GSEs as critically undercapitalized. The negative capitalization levels elicit such a classification.[62] Upon this classification, the FHFA Director can then place the GSEs under receivership,[63] which immediately terminates the pre-existing conservatorship.[64]

Once the GSEs enter receivership, the FHFA Director may begin the liquidation process, including the transfer of GSE assets and liabilities into newly chartered limited-life regulated entities (LLREs)[65] with a board of directors appointed entirely by the FHFA.[66] The GSE charters are immediately transferred to the LLREs upon their creation,[67] and each LLRE assumes the powers and attributes of the GSE being liquidated during its temporary period of operation. The remaining assets and liabilities of the

GSEs can be transferred to the respective LLREs in one or more transfers[68] which need no "further approval under Federal or State law."[69]

The FHFA has just two years to wind up all the affairs of the LLRE, unless granted an extension by the Director. Only three additional one-year periods may be granted by the Director.[70] As such, the maximum wind-up time is five years.

The law also specifies an expedited time frame for complete wind up, depending on how quickly the FHFA sells at least 80 percent of the LLRE's capital stock to third parties. Once this threshold is met, the LLRE terminates automatically.[71] The FHFA must then divest any remaining capital stock of the former LLRE within one year unless the Director extends the deadline.[72] The entire span from reaching the 80 percent liquidation threshold to complete disposal of all the GSEs' assets may not exceed three years.

Prior to the end of the statutory deadline for liquidation of the GSEs assets, Congress would need to revoke the GSE charters in order to prevent them from being re-released into the marketplace. Although the HERA prohibits the FHFA from terminating these charters,[73] the FHFA could choose to issue new charters for companies to operate in the secondary mortgage market rather than immediately release the current charters of the GSEs into the marketplace to other enterprises.[74] Unlike the existing GSEs, these charters could specify higher capital requirements akin to banks. The new charters could also be issued without any Treasury credit lines and with neither explicit nor implicit federal guarantees. In this open system, investors who would have provided capital to the GSEs for secondary market operations may form their own companies to securitize mortgages. These actions will reduce taxpayer risk, end the economic distortions caused by the government domination of the market, and gradually restore housing affordability.

Conclusion

Without the commitment by the Treasury to extend up to $445 billion in credit to the GSEs, both would have long since dissolved. From 2008 through 2011, the GSEs relied heavily on this commitment to remain in business and to make timely payments to their debt holders and MBS investors. Though the GSEs drew less frequently on the line of credit after 2011, they could not continue operating without the continuing Treasury commitment.

Understandably, shareholders desire a release from conservatorship in order to enjoy a resumption of dividends and long-term growth in shareholder value. Yet release from conservatorship in accordance with the current PSPAs and reinstated capitalization standards would require a capital raise of more than $400 billion. The burden of the senior preferred stock dividends—whether in the form of a fixed payment or a net worth sweep—makes it nearly impossible for the GSEs to retain net income and enhance shareholder value. Given the combined market cap of the GSEs of under $8 billion, acquiring this capital through an equity offering would substantially dilute common stock shareholders and likely deliver inadequate returns on investment.

To reduce the amount of capital needed, special interests are proposing forgiveness of at least a portion of the nearly $200 billion liquidation preference on the senior preferred stock. Such a write-down on the credit extended by the Treasury to the GSEs would be a blatant taxpayer-funded bailout. In addition, more changes to the dividend formula in order to enable the GSEs to retain added capital is coming closer to realization. If done improperly, such a change could deprive taxpayers of proper compensation for the risks undertaken over the past 11 years for the GSE bailouts.

The dominance of the federal government in the housing finance market through the GSE conservatorships stifles private competition and is re-inflating the housing bubble. Americans are in poorer financial condition as a result of the extreme leverage encouraged and made possible by the GSEs.

The best approach is to completely wind up the affairs of the GSEs through receivership, a process that the FHFA should have undertaken in 2008. Although the FHFA cannot revoke the GSEs' charters, the agency can issue new charters for companies with bank-like capital requirements and no credit lines with the Treasury. Rather than invest in the GSEs, investors can provide capital to new companies that do not have either implicit or explicit taxpayer backing, thus reducing taxpayer risk, ending the economic distortions caused by the government domination of the market, and gradually restoring housing affordability.

Robust homeownership existed in the U.S. long before the government became heavily involved in the housing market, and a competitive, private market is not possible if the current government-guaranteed duopoly is allowed to continue. Liquidation of the GSEs—rather than recapitalization and release—is the most prudent way to create this competitive marketplace.

In the absence of liquidation, any recapitalization plan must ensure that taxpayers remain compensated for the prior bailouts and ongoing credit risk. The liquidation preference should be paid in full before a resumption of dividends to private shareholders. Any dividend formula revisions should be constructed in a manner that respects taxpayer interests.

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Endnotes

1. The Congressional Budget Office advises that "the unpriced implicit guarantee, which reduced interest rates for mortgage borrowers, helped cause more of the economy's capital to be invested in housing than might otherwise have been the case." Congressional Budget Office, "Transitioning to Alternative Structures for Housing Finance: An Update," August 2018, p. 7, https://www.cbo.gov/system/files?file=2018-08/54218-GSEupdate.pdf (accessed September 16, 2019).
2. "At the peak of the boom in 2006, over a third of all U.S. home-purchase lending was made to people who already owned at least one house. In the four states with the most pronounced housing cycles, the investor share was nearly half—45 percent. Investor shares roughly doubled between 2000 and 2006. While some of these loans went to borrowers with 'just' two homes, the increase in percentage terms is largest among those owning three or more properties. In 2006, Arizona, California, Florida, and Nevada investors owning three or more properties were responsible for nearly 20 percent of originations, almost triple their share in 2000." Andrew Haughwout et al., "'Flip this House': Investor Speculation and the Housing Bubble," Federal Reserve Bank of New York *Liberty Street Economics*, December 5, 2011, https://libertystreeteconomics.newyorkfed.org/2011/12/flip-this-house-investor-speculation-and-the-housing-bubble.html (accessed September 16, 2019).
3. By the middle of 2008, 56 percent of all 55 million first-lien mortgages in the United States financial system were subprime or Alt-A (31 million). Of the $9.42 trillion in outstanding first-lien mortgages, 57 percent ($5.3 trillion) were subprime and Alt-A. Edward Pinto, "Three Studies of Subprime and Alt-A Loans in the U.S. Mortgage Market," American Enterprise Institute, February 5, 2011 (updated January 6, 2015), p. 11, https://www.aei.org/wp-content/uploads/2014/09/Pinto-Government-Housing-Policies-in-the-Lead-up-to-the-Financial-Crisis-3-Studies-1.6.15.pdf (accessed October 2, 2019).
4. As a comparison: From 1990 through 1997, home prices rose just 13.6 percent, less than half the cumulative inflation of 28.1 percent. S&P/Case-Shiller U.S. National Home Price Index [CSUSHPINSA], retrieved from FRED, Federal Reserve Bank of St. Louis, https://fred.stlouisfed.org/series/CSUSHPINSA (accessed September 16, 2019), and Consumer Price Index for All Urban Consumers: All Items [CPIAUCSL] https://fred.stlouisfed.org/series/CPIAUCSL (accessed September 16, 2019).
5. Ibid.
6. Delinquency rates nearly doubled (to more than 3 percent) from early 2006 to the end of 2007. Delinquency Rate on Single-Family Residential Mortgages, Booked in Domestic Offices, All Commercial Banks [DRSFRMACBS], retrieved from FRED, Federal Reserve Bank of St. Louis, https://fred.stlouisfed.org/series/DRSFRMACBS (accessed September 16, 2019).
7. Housing and Economic Recovery Act of 2008, https://www.govinfo.gov/content/pkg/PLAW-110publ289/pdf/PLAW-110publ289.pdf, (accessed September 16, 2019).
8. Prior to the HERA, the Director of the HUD Office of Federal Housing Enterprise Oversight possessed the power to appoint a conservator for GSEs classified as critically undercapitalized. (See §§ 1365–1367 of the Federal Housing Financial Safety and Soundness Act of 1992.) The HERA vested the authority to appoint a conservator in the Director of a newly created agency (the FHFA). A conservator appointed under the HERA possesses broader powers than those held by a conservator under the 1992 act.
9. 12 U.S. Code § 4617(b)(2)(E).
10. 12 U.S. Code § 4617(b)(2)(D).
11. U.S. Department of the Treasury, "Certificate of Designation of Terms of Variable Liquidation Preference Senior Preferred Stock, Series 2008-2" (Fannie Mae Preferred Stock Certificate), p. 4, https://www.treasury.gov/press-center/press-releases/Documents/certificatefnm2.pdf (accessed September 16, 2019), and U.S. Department of the Treasury, "Certificate of Creation, Designation, Power, Preferences, Rights, Privileges, Qualifications, Limitations, Restrictions, Terms and Conditions of Variable Liquidation Preference Senior Preferrred Stock (Par Value $1.00 Per Schare)" (Freddie Mac Preferred Stock Certificate), p. 4, https://www.treasury.gov/press-center/press-releases/Documents/certificatefreb.pdf (accessed September 16, 2019).
12. Federal Housing Finance Agency, "Amended and Restated Senior Preferred Stock Purchase Agreement" (Fannie Mae Senior Preferred Stock Purchase Agreement with Treasury), September 26, 2008, p. 6, https://www.fhfa.gov/Conservatorship/Documents/Senior-Preferred-Stock-Agree/2008-9-26_SPSPA_FannieMae_RestatedAgreement_N508.pdf (accessed September 16, 2019), and Federal Housing Finance Agency, "Amended and Restated Senior Preferred Stock Purchase Agreement" (Freddie Mac Senior Preferred Stock Purchase Agreement with Treasury), September 2008, p. 6, https://www.fhfa.gov/Conservatorship/Documents/Senior-Preferred-Stock-Agree/2008-9-26_SPSPA_FreddieMac_RestatedAgreement_508.pdf (accessed September 16, 2019).
13. Fannie Mae Preferred Stock Certificate, p. 2, and Freddie Mac Preferred Stock Certificate, p. 2.
14. Fannie Mae Senior Preferred Stock Purchase Agreement with Treasury, September 26, 2008, p. 8, and Freddie Mac Senior Preferred Stock Purchase Agreement with Treasury, September 26, 2008, p. 8.
15. Federal Housing Finance Agency, "2018 Report to Congress," June 2019, pp. 79 and 96, https://www.fhfa.gov/AboutUs/Reports/ReportDocuments/FHFA_2018_Report-to-Congress.pdf (accessed July 9, 2019).
16. Federal Housing Finance Agency, "Treasury and Federal Reserve Purchase Programs for GSE and Mortgage-Related Securities," Table 1. "Quarterly Draws on Treasury Commitments to Fannie Mae and Freddie Mac per the Senior Preferred Stock Purchase Agreements," data as of September 30, 2019, https://www.fhfa.gov/DataTools/Downloads/Pages/Treasury-and-Federal-Reserve-Purchase-Programs-for-GSE-and-Mortgage-Related-Securities.aspx (accessed October 22, 2019).

17. Federal Housing Finance Agency, "Amendment to Amended and Restated Senior Preferred Stock Purchase Agreement" (First Amendment to Fannie Mae's Senior Preferred Stock Purchase Agreement with Treasury), May 6, 2009, pp. 1 and 4, https: //www.fhfa.gov/Conservatorship/Documents/Senior-Preferred-Stock-Agree/2009-5-6_SPSPA_FreddieMac_Amendment_508.pdf (accessed September 16, 2019), and "Amendment to Amended and Restated Senior Preferred Stock Purchase Agreement" (First Amendment to Freddie Mac's Senior Preferred Stock Purchase Agreement with Treasury), May 6, 2009, pp. 1 and 4, https://www.fhfa.gov/Conservatorship/Documents/Senior-Preferred-Stock-Agree/2009-5-6_SPSPA_FreddieMac_Amendment_508.pdf (accessed September 16, 2019).
18. The December 2009 amendment to the PSPAs specified that any positive net worth on the balance sheet at the end of 2012 would be subtracted from the needed draws to cover any deficiencies from 2010 through 2012 in order to determine how much the Treasury commitment would be increased or decreased over this period. Federal Housing Finance Agency, "Second Amendment to Amended and Restated Senior Preferred Sock Purchase Agreement" (Second Amendment to Freddie Mac's Senior Preferred Stock Purchase Agreement with Treasury), December 24, 2009, p. 2, https://www.fhfa.gov/Conservatorship/Documents/Senior-Preferred-Stock-Agree/2009-12-24_SPSPA_FreddieMac_Amendment2_N508.pdf (accessed September 16, 2019), and Federal Housing Finance Agency, "Second Amendment to Amended and Restated Senior Preferred Stock Purchase Agreement" (Second Amendment to Fannie Mae's Senior Preferred Stock Purchase Agreement with Treasury), December 24, 2009), p. 2, https://www.fhfa.gov/Conservatorship/Documents/Senior-Preferred-Stock-Agree/2009-12-24_SPSPA_FannieMae_Amendment2_508.pdf (accessed September 16, 2019).
19. The Treasury commitment stands at $233.7 billion for Fannie Mae and $211.8 billion for Freddie Mac. See U.S. Securities and Exchange Commission, "Form 10-Q," Fannie Mae, for the Quarterly Period ending March 31, 2019, p. 3, https://www.fanniemae.com/resources/file/ir/pdf/quarterly-annual-results/2019/q12019.pdf (accessed September 16, 2019), and U.S. Securities and Exchange Commission, "Form 10-K," Freddie Mac, for the fiscal year ended December 31 2018, p. 2, http://www.freddiemac.com/investors/financials/pdf/10k_021419.pdf (accessed September 16, 2019).
20. The GSEs have not utilized the Treasury commitment as heavily since 2011. Fannie Mae requested a $3.687 billion draw in fourth quarter (Q4) 2017. Freddie Mac requested a $0.019 billion draw in Q1 2012 and a $0.312 billion draw in Q4 2017. Federal Housing Finance Agency, "Treasury and Federal Reserve Purchase Programs for GSE and Mortgage-Related Securities," Table 1. "Quarterly Draws on Treasury Commitments to Fannie Mae and Freddie Mac per the Senior Preferred Stock Purchase Agreements."
21. Federal Housing Finance Agency, "2018 Report to Congress," pp. 79 and 96.
22. Federal Housing Finance Agency, "Treasury and Federal Reserve Purchase Programs for GSE and Mortgage-Related Securities," Table 1. "Quarterly Draws on Treasury Commitments to Fannie Mae and Freddie Mac per the Senior Preferred Stock Purchase Agreements," and Federal Housing Finance Agency, "Treasury and Federal Reserve Purchase Programs for GSE and Mortgage-Related Securities," Table 2. "Dividends on Enterprise Draws from Treasury," data as of September 30, 2019, https://www.fhfa.gov/DataTools/Downloads/Documents/Market-Data/Table_2.pdf (accessed September 16, 2019).
23. Federal Housing Finance Agency, "Third Amendment to Amended and Restated Senior Preferred Stock Purchase Agreement" (Third Amendment to Fannie Mae's Senior Preferred Stock Purchase Agreement with Treasury), August 2012, p. 4, https://www.fhfa.gov/Conservatorship/Documents/Senior-Preferred-Stock-Agree/2012-8-17_SPSPA_FannieMae_Amendment3_508.pdf (accessed September 16, 2019), and Federal Housing Finance Agency, "Third Amendment to Amended and Restated Senior Preferred Stock Purchase Agreement (Third Amendment to Freddie Mac's Senior Preferred Stock Purchase Agreement with Treasury), August 2012, p. 4, https://www.fhfa.gov/Conservatorship/Documents/Senior-Preferred-Stock-Agree/2012-8-17_SPSPA_FreddieMac_Amendment3_N508.pdf (accessed September 16, 2019). See also, letter from the Treasurey to the FHFA, December 21, 2017, https://www.fhfa.gov/Conservatorship/Documents/GSEAgreementLetters_12-21-2017.pdf (accessed October 22, 2019).
24. The August 2012 amendment to the agreement allowed each GSE to retain capital in order to maintain $3 billion net worth. This agreement was extended in 2017. See letter from Department of the Treasury to the FHFA, December 21, 2017.
25. News release, "Changes to Fannie Mae and Freddie Mac Preferred Stock Purchase Agreements," Federal Housing Finance Agency, August 17, 2012, https://www.fhfa.gov/Media/PublicAffairs/Pages/Statement-of-FHFA-Acting-Director-Edward-J-DeMarco-on-Changes-to-Fannie-Mae-and-Freddie-Mac-Preferred-Stock-Purchas.aspx (accessed September 16, 2019).
26. Federal Housing Finance Agency, "Treasury and Federal Reserve Purchase Programs for GSE and Mortgage-Related Securities," Table 3. "Treasury Purchases of GSE Mae MBS," data as of September 30, 2019, https://www.fhfa.gov/DataTools/Downloads/Documents/Market-Data/Table_3.pdf (accessed September 16, 2019).
27. News release, "Federal Reserve Announces It Will Initiate a Program to Purchase the Direct Obligations of Housing-Related Government-Sponsored Enterprises and Mortgage-Backed Securities Backed by Fannie Mae, Freddie Mac, and Ginnie Mae," Board of Governors of the Federal Reserve System, November 25, 2008, https://www.federalreserve.gov/newsevents/pressreleases/monetary20081125b.htm (accessed September 16, 2019).
28. Financial Housing Finance Agency, "Treasury and Federal Reserve Purchase Programs for GSE and Mortgage-Related Securities," February 2016, Tables 3, 4a, 4b, and 5, https://www.fhfa.gov/DataTools/Downloads/Documents/Market-Data/Current_Market_Data-2016-02-19.pdf (accessed September 16, 2019).
29. Ibid., Table 4b. "Federal Reserve Purchases of Agency MBS, October 2011–Present," https://www.fhfa.gov/DataTools/Downloads/Documents/Market-Data/Table_4b.pdf (accessed September 16, 2019).
30. "Form 10-K," Fannie Mae, for fiscal year ended December 31, 2018, p. 13, and "Form 10-K," Freddie Mac, for fiscal year ended December 31, 2018, p. 2.
31. 12 U.S. Code § 4611(a)(1).

32. 12 CFR § 1750.13. The regulation defines the "stress period" as "a hypothetical ten-year period immediately following the day for which capital is being measured, which is a period marked by the severely adverse economic circumstances defined in 12 CFR 1750.13 and appendix A to this subpart."
33. Core capital is the sum of the stated value of outstanding common stock, the stated value of outstanding noncumulative preferred stock, paid in capital, and retained earnings. Senior preferred stock is excluded. Total capital is broader, including core capital plus the total allowance for loan losses and the guarantee liability for MBSs, less any specific loss allowance. The core capital definition can be found at 12 U.S. Code § 2279bb(2). The total capital definition can be found at 12 U.S. Code § 4502(23).
34. In October 2008, the FHFA announced a suspension of capital classifications and binding capital requirements for the duration of the conservatorship. News release, "FHFA Announces Suspension of Capital Classifications During Conservatorship," Federal Housing Finance Agency, October 9, 2008, https://www.fhfa.gov/Media/PublicAffairs/Pages/FHFA-Announces-Suspension-of-Capital-Classifications-During-Conservatorship-and-Discloses-Minimum-and-RiskBased-Cap.aspx (accessed September 16, 2019).
35. The capital levels and capital classifications can be found at 12 U.S. Code § 4612–§ 4614.
36. 12 U.S. Code § 4617(a)(3)(K). Core capital for the GSEs fell $223 billion short of statutory requirements for adequately capitalized classification at the end of 2018. Federal Housing Finance Agency, "2018 Report to Congress," pp. 90 and 107. The amount of capital needed to avoid classification as critically undercapitalized is slightly less.
37. 12 U.S. Code § 4614(a)(4). The *critical capital* level is essentially a statutory formula that is the sum of 1.25 percent of total on-balance sheet assets, 0.25 percent of the unpaid principal balance of outstanding mortgage-backed securities (and their equivalent) that are off-balance sheet, and 0.25 percent of other off-balance sheet obligations (though the FHFA director can adjust this last percentage). See 12 U.S. Code § 4613(a).
38. The August 2012 amendments allowed each GSE to retain capital sufficient to maintain $3 billion net worth. This agreement was extended in 2017. See letter from Department of the Treasury to the FHFA, December 21, 2017, https://www.fhfa.gov/Media/PublicAffairs/Documents/GSEletteragreementfnm12-21-2017.pdf (accessed October 22, 2019).
39. In 2017, despite the GSEs' limited ability to build capital, the FHFA identified the need "to develop an aligned risk measurement framework to better evaluate each Enterprise's business decisions while they are in conservatorship." This framework is the Conservatorship Capital Framework (CCF). See Federal Housing Finance Agency, "Enterprise Capital Requirements," Notice of proposed rulemaking, *Federal Register*, Vol. 83, No. 137 (July 17, 2018), p. 33313, https://www.govinfo.gov/content/pkg/FR-2018-07-17/pdf/2018-14255.pdf (accessed September 19, 2019).
40. Estimated at $51.9 billion for second quarter 2019, or 2.44 percent of current assets. News release, "Freddie Mac Reports Net Income of $1.5 Billion and Comprehensive Income of $1.8 Billion for Second Quarter 2019," Freddie Mac, July 31, 2019, pp. 5 and 13. http://www.freddiemac.com/investors/financials/pdf/2019er-2q19_release.pdf (accessed September 16, 2019).
41. Total capital is not currently reported. Core capital is used as an approximation for total capital.
42. 12 U.S. Code § 4613(a).
43. The FHFA does not report the critical core capital numbers during conservatorship. However, the FHFA does report the "minimum capitalization" levels ($22.6 billion for Fannie Mae and $17.6 billion for Freddie Mac) required to be considered "adequately capitalized." Applying the statutory definition to the current reported minimum capital balances, the authors of this *Backgrounder* estimate a critical core capital requirement for Fannie Mae at $12 billion and Freddie Mac at $7.7 billion. The critical core capital requirement is the sum of 1.25 percent of the on-balance-sheet assets, 0.25 percent of the unpaid principal balance of outstanding MBSs issued or guaranteed, and 0.25 percent of other off-balance-sheet obligations. Fannie Mae and Freddie Mac had negative core capital of $114.9 billion and negative $68 billion, respectively, in 2018. This amounts to a critical core capital deficit for Fannie Mae and Freddie Mac of $127 billion and $76 billion, respectively. See Federal Housing Finance Agency, "2018 Report to Congress," pp. 90 and 107.
44. Federal Housing Finance Agency, "Dodd–Frank Act Stress Tests Results: Severely Adverse Scenario," August 15, 2019, p. 6, https://www.fhfa.gov/AboutUs/Reports/ReportDocuments/2019_DFAST_Severely-Adverse-Scenario.pdf (accessed September 26, 2019).
45. Federal Housing Finance Agency, "2018 Report to Congress," p. 5.
46. Moelis & Company, "Blueprint for Restoring Safety and Soundness to the GSEs: One Year Later," November 2018, https://gsesafetyandsoundness.com/wp-content/uploads/2018/11/Blueprint-for-Restoring-Safety-and-Soundness-to-the-GSEs-Final.pdf (accessed September 23, 2019).
47. Deborah Lucas, "Measuring the Cost of Bailouts," working paper prepared for the Annual Review of Financial Economics, November 2018, http://gcfp.mit.edu/wp-content/uploads/2018/11/Lucas-Bailouts-Nov2018.pdf (accessed September 25, 2019).
48. Under the modifications announced on September 30, 2019, Fannie and Freddie will be permitted to maintain capital reserves of $25 billion and $20 billion, respectively. See news release, "Treasury Department and FHFA Modify Terms of Preferred Stock Purchase Agreements for Fannie Mae and Freddie Mac," U.S. Department of the Treasury, September 30, 2019, https://home.treasury.gov/news/press-releases/sm786 (accessed October 24, 2019).
49. Lucinda Shen, "These Are the 9 Biggest IPOs of All Time," *Fortune*, April 26, 2019, https://fortune.com/2019/04/26/biggest-ipos-history-uber/ (accessed September 16, 2019).

50. "The first step to accomplish these objectives must be to begin rebuilding capital at Fannie and Freddie by suspending dividends to Treasury. The second step is to recognize the government's historical profits, by acknowledging that Treasury's senior preferred stock has now been repaid in full, with the original 10% annual return. With the senior preferred outstanding, it will be impossible for the GSEs to raise equity from the private markets, as the senior preferred stock would effectively block any path to the return of invested capital." Moelis & Company, "Blueprint for Restoring Safety and Soundness to the GSEs: One Year Later," p. 6. Also see the Community Mortgage Lenders America's advocacy for undoing the current net worth dividend sweep, "CMLA Policy on GSE Reform," April 2016, p. 2, http://thecmla.com/cmla/wp-content/uploads/2016/04/cmla-2016-gse-reform-policy-.pdf (accessed September 23, 2019).
51. On September 27, 2019, the Treasury and the FHFA amended the PSPAs in order to allow Fannie Mae and Freddie Mac to maintain capital reserves of $25 billion and $20 billion, respectively. This represents an increase of $22 billion and $17 billion, respectively, in the amount of capital the GSEs may maintain. The liquidation preferences for the Treasury preferred stock will gradually increase by the amount of the capital reserves retained by the GSEs under this revised agreement. News release, "Treasury Department and FHFA Modify Terms of Preferred Stock Purchase Agreements for Fannie Mae and Freddie Mac," U.S. Department of the Treasury, September 30, 2019, https://home.treasury.gov/news/press-releases/sm786 (accessed October 2, 2019).
52. Moelis & Company, "Blueprint for Restoring Safety and Soundness to the GSEs: One Year Later," p. 23.
53. Federal Housing Finance Agency, "Treasury and Federal Reserve Purchase Programs for GSE and Mortgage-Related Securities," Table 2, "Dividends on Enterprise Draws from Treasury."
54. Federal Housing Finance Agency, "Treasury and Federal Reserve Purchase Programs for GSE and Mortgage-Related Securities," Table 1., "Quarterly Draws on Treasury Commitments to Fannie Mae and Freddie Mac per the Senior Preferred Stock Purchase Agreements."
55. Lucas, "Measuring the Cost of Bailouts."
56. The United States Court of Appeals for the Fifth Circuit did find in September 2019 that sweeping the entirety of net worth each quarter to the Treasury exceeds the statutory powers of the FHFA as conservator. However, this finding was tangential to the core of the case: the constitutionality of the FHFA's governance structure. The court declined to mandate the end of the net worth sweep but did hold that the for-cause removal protection of the FHFA Director (rather than serving at the pleasure of the President) is unconstitutional for an independent agency. *Collins v. Mnuchin*, 896 F.3d 640 (5th Cir. 2018), http://www.ca5.uscourts.gov/opinions/pub/17/17-20364-CV2.pdf (accessed October 22, 2019). This decision could portend a future court-mandated change to the dividend formula. While the shareholders should have their day in court, the legal merits of their claims do nothing to change the fact that the GSEs are critically undercapitalized and would need to raise hundreds of billions in new capital if released from conservatorship without yet another taxpayer bailout.
57. Furthermore, the sweep has not resulted in excess returns for taxpayers. Viewed as return on investment, taxpayers have earned a (annually compounded) return of about 12 percent (annualized since 2013) on the GSEs' credit draws, nearly identical to the return on equity for all United State banks over the past 30 years. Federal Financial Institutions Examination Council (US), Return on Average Equity for all U.S. Banks [USROE], retrieved from FRED, Federal Reserve Bank of St. Louis, https://fred.stlouisfed.org/series/USROE (accessed July 24, 2019).
58. Based on closing prices September 25, 2019, Fannie Mae would need to issue 66.1 billion shares at current prices to exit conservatorship ($251 billion / 3.8 per share = 66.1 billion shares); Freddie Mac would need to issue 42.6 billion shares at current prices to exit conservatorship ($151.6 billion / $3.56 per share = 42.6 billion shares). Ownership dilution would exceed 95 percent for both GSEs. Fannie Mae: 1.16 billion existing shares outstanding/ (1.16 billion existing shares outstanding + 66.1 billion newly issued shares) = 1.7%. Freddie Mac: 0.65 billion existing shares outstanding / (0.65 billion existing shares + 42.6 billion newly issued shares) = 1.5%.
59. Federal Financial Institutions Examination Council (US), Return on Average Equity for all U.S. Banks [USROE], retrieved from FRED, Federal Reserve Bank of St. Louis, https://fred.stlouisfed.org/series/USROE (accessed July 24, 2019).
60. Federal Housing Finance Agency, "2018 Report to Congress," p. 79.
61. Ibid., p. 96.
62. Although a 30-day notice of this reclassification is typically required, the notice period can be shortened if the GSEs consent. 12 U.S. Code § 4618(a)-(c). Regardless of whether the notice period is shortened, after considering the provided information, the FHFA Director then is required to provide notice (of unspecified duration) of his decision on the classification change to (1) the entity, (2) the House Financial Services Committee, and (3) the Senate Committee on Banking, Housing, and Urban Affairs. Upon receipt of this notice, the classification change takes effect. See 12 U.S. Code § 4618(d) and (e).
63. The FHFA Director possesses an array of escalating discretionary (or mandatory) actions in response to undercapitalization. In instances where assets are less than obligations, or the enterprise is failing to pay its debts, receivership is mandatory—even if the enterprise is not classified as critically undercapitalized. See 12 U.S. Code § 4617(a)(4).
64. 12 U.S. Code § 4617(a)(4)(D). Upon the appointment, the enterprise has 30 days to demand judicial review of the receivership decision. The court must decide based on the merits. See 12 U.S. Code § 4617(a)(5).
65. 12 U.S. Code § 4617(b)(2)(E).
66. The FHFA appoints the entire board of directors of the LLRE. This board is required to adopt bylaws approved by the FHFA. 12 U.S. Code §4617(i)(2)(D).

67. 12 U.S. Code S4617(i)(2)(A).
68. 12 U.S. Code § 4617(i)(7)(A)(ii) and 12 USC § 4617(i)(1)(A).
69. 12 U.S. Code § 4617(i)(7)(A)(iii).
70. 12 U.S. Code § 4617(i)(6)A) and (B).
71. 12 U.S. Code S4617(i)(6)(C)(i).
72. The Director can extend this deadline for up to two years. 12 U.S. Code § 4617(i)(6)(C)(ii).
73. 12 U.S. Code § 4617(k).
74. FHFA Director Mark Calabria helped to craft the HERA receivership guidelines as a staff member on the Senate Banking Committee. He has also noted the statutory prohibition against the FHFA terminating the GSEs' charters. He has explained, "The law is quite clear. FHFA would continue to run the GSEs, with the option of a good/bad bank model to resolve bad assets, and the only way FHFA can terminate the receivership is to sell the charters back into the marketplace." Mark A. Calabria, "Receivership Does NOT End GSEs," Cato Institute, November 14, 2012, https://www.cato.org/blog/receivership-does-not-end-gses (accessed September 26, 2019).