Another Bad Idea: Fannie and Freddie as Utilities

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In the more than twelve years since their 2008 failure, nobody has been able to figure out how to end Fannie Mae and Freddie Mac being wards of the state, as their continued existence is wholly dependent on the generosity of the taxpayer by way of the U.S. Treasury's credit. Many proposals, legislative and otherwise, for restructuring or replacing these behemoths have come and gone. Now, arguments are increasingly being made to retread these government sponsored enterprises (GSEs) as privately owned, public utilities. While this idea has its promoters, we believe it is fundamentally a bad idea. How the Government Mortgage Complex does love to propose rent-seeking solutions that operate with the largest possible government guarantee.

In March 2020, the Center for Responsible Lending published a paper by Eric Stein and Bob Ryan urging that a utility approach to regulation of the GSEs be implemented post-conservatorship, which they asserted was essentially how they were being regulated in conservatorship.[i] In December, 2020 the National Association of Realtors in a paper by Richard Cooperstein, Ken Fears, and Susan Wachter, reiterated and updated their earlier position that made the public utility model the centerpiece of their "enduring vision of housing finance reform."[ii] They recommend that the GSEs should be prevented from excessive competition for market share in good times and from hiking fees in bad times to an extent that would undermine their public missions. In January 2021, the former CEO of Freddie Mac, Don Layton, now at the Harvard Joint Center for Housing Studies, continued to argue for utility style regulation of GSE guarantee fees, the amount they change lenders for assuming mortgage credit risk.[iii]

Also in January 2021, the Treasury Department released a blueprint for GSE reform that called for continued regulatory oversight of GSE pricing post-conservatorship in a way that would simultaneously protect the safety and soundness of the GSEs while seeking to channel the benefits of federal support to homebuyers and renters rather than shareholders and managers.[iv] The blueprint builds on its earlier housing reform plan that appeared to endorse giving greatly enhanced regulatory authorities, such as a utility regulator might have, to the Federal Housing Finance Agency (FHFA) with regard to permissible activities and products.[v] And in February 2021, the Brookings institution published a paper by Michael Calhoun (president of the Center for Responsible Lending) and Lewis Ranieri calling for utility oversight focusing on increased transfers to affordable housing and racial equity programs.[vi] These proposals build on previous ideas going back more than 20 years[vii], but are now achieving greater visibility and wider mention.

These encomiums ignore the all too foreseeable consequences of a public utility structure, especially when applied to these national financial giants that have little in common with a local water company. The combination of political clout and a greatly expanded cookie jar of fees and cross subsidies would repeat, and in some respects worsen, the ills of the GSE structure that failed so spectacularly in 2008. Their insolvencies were critical precipitating events of the financial chaos in the fall of that year. In the early post-crisis years, there was general agreement that reliance on these giant institutions as the foundation of that market had revealed manifold problems that required a major change in approach. Fannie and Freddie:

- Were intended for public purposes, but controlled by private investors; they earned outsized returns for their owners during most of their existence, but in 2008 needed massive taxpayer bailouts exceeding all their previous profits;
- Used the advantages of their special status to expand their franchises into new activities, crowd out competitors, and dominate less favored firms;

- Concentrated mortgage risks in two entities with extraordinary leverage;
- In response to congressional low-income affordable housing mandates, used a portion of the subsidy provided by the taxpayer's implicit guarantee to increase debt, and subsidize the cost of that debt, rather than making homes more affordable and building wealth for low-income buyers.
- Failed to durably raise homeownership rates, but did contribute to significantly bigger houses for the all classes of homebuyers; and
- Wielded powerful economic and political clout to bully customers, suppliers, regulators, executive branch agencies, and Congress for their own benefit.

After they failed, they had few supporters, and almost all the recommended fixes would have unwound Fannie and Freddie and created new systems of one type or another, although many wanted to add explicit government guarantees to the old implicit ones. Gradually, though, as it proved impossible to get agreement on any comprehensive legislation, focus has shifted to more modest changes.

The argument for the public utility model runs more or less as follows: Congress has clearly shown its inability to adopt any broad plan that entails major change; FHFA as conservator(sometimes in conjunction with the Treasury Department) already has addressed many of the problems associated with the GSEs, and remaining issues can be remedied by regulation; the GSEs jointly share characteristics stylized as "natural monopolies," and the public utility model is the tried and true method for regulating such institutions; the GSEs are currently profitable and causing no urgent crisis so no major changes are really necessary, anyway; and utility style regulation can protect and expand the perceived housing market benefits provided by the GSEs.

The first proposition, that Congress is unlikely to pass any complex legislation to radically alter the housing finance system, seems well founded. Numerous quite varied bills have been introduced and considered, but all have foundered. A bill sponsored by Senators Johnson and Crapo nearly seven years ago came closest to success. However, it was unable to bridge the obvious conflict between those who wanted to maximize use of economic rents earned by GSEs from an underpriced federal guarantee to fund various affordable housing projects, and those who preferred to spread perceived benefits to borrowers more broadly.

This tension is unresolved by the various utility proposals. Calhoun-Ranieri appears to be strongly in the former camp, while NAR appears to be closer to the latter view. All utility proposals appear united in preferring weaker capital standards to the newly promulgated, stronger FHFA capital rule for GSEs. They like less capital and more leverage. Usually this preference is clothed in concern over expanding accessibility for low income households. However, these efforts are actually about increasing debt, and subsidizing the cost of that debt, rather than building wealth for low-income buyers.

All public utility proposals depend on preserving a political loophole which is fundamental to the GSE form. The loophole is that GSEs receive sizable implicit subsidies, but these are not recorded on the budget. They can be used to spend on politically desired programs without appropriations or budget approvals, and without raising current taxes or increasing the current reported deficit. The appeal to many politicians is obvious. This includes subsidies to the housing and financial industries, to support the 30-year mortgage and the To-Be-Announced (TBA) market, and to affordable housing groups and "duty to serve" products and activities. The GSEs-as-public-utilities model requires little change in existing institutions and markets and offers little fundamental reform. It doesn't depend on new, untried institutions, or regulators, or affordable housing schemes. The risk of serious market disruption is small. It could be implemented either by relatively simple legislation or, if Congress still can't act, by consent decrees or further changes to regulations or the existing Treasury-FHFA-GSE Senior Preferred Stock Purchase Agreements (PSPAs).

But the alleged benefits of the public utility model do not bear up under scrutiny: it is inadequate to correct the deficiencies basic to GSE structure that have manifested themselves with such unfortunate consequences. It moreover brings with it new or substantially exacerbated problems of its own. It continues the old-style focus on the subsidizing mortgage debt in a poorly targeted attempt to augment affordable housing.

CONSERVATORSHIP FIXES ARE NOT PERMANENT SOLUTIONS

It is true that the FHFA has addressed a number of weaknesses previously observed in the GSEs. It has cut the GSE asset portfolios, which the GSEs had used to out compete other investors by taking advantage of GSE interest rate subsidies to issue cheap debt. It has stopped the GSE practice of giving substantially more attractive pricing to their largest customers, which had disadvantaged small lenders. It has limited the portion of GSE business that involves some types of risky loans and forced the GSEs into credit risk transactions (CRT) that have off-loaded some of the credit risk on most of the new loans the GSEs have acquired, reducing taxpayer risks on new business. And it has, in principle, prohibited lobbying by the GSEs, limiting them to what is called "technical assistance," though that is a very fuzzy distinction. Most recently, FHFA has promulgated greatly strengthened capital requirements, which however the proponents of the utility model generally oppose.

The GSEs today take less risk and are better behaved than in the past, but there is good cause to question the effectiveness and durability of these changes under a public utilities structure. A politicized or captive utilities regulator could reverse them all. The improvements cited above were accomplished by FHFA acting alone, using its extremely broad discretion as conservator, or in conjunction with the Treasury Department through the amended PSPAs. Acting as conservator is more effective than acting purely as a legislatively limited regulator. Relying only on regulatory and supervisory powers under current law, FHFA would not have the authority to implement any of the above examples. To remedy that, Congress could explicitly expand statutory prerogatives, or, in the absence of legislation, additional specific GSE restrictions could be embodied in the Treasury-FHFA-GSE PSPAs or in consent decrees established before the end of the conservatorships.

Neither of these solutions is as effective as conservatorship directives, though, because in conservatorship GSE management reports to FHFA, not to private shareholders. FHFA can command action in meeting its goals in as much detail and with as much flexibility as it wishes, even by removing or reassigning executives if that were necessary. Controlling GSE activities and risks only through authorities explicitly provided by law and regulation requires following rulemaking procedures, providing due process, and constant examination to assess compliance. Given inevitable ambiguities and changes in circumstances, FHFA's efforts to design and enforce rules when management's goals are not aligned with those of the regulator's cannot be expected to produce the same results. Relying on the PSPAs or consent decrees after conservatorships may be even less flexible because FHFA could no longer force the GSEs to accept changes. Permanent use of such agreements as the foundation of supervisory control of sound financial institutions that are compliant with rules emanating with clear statutory authorities would be unprecedented and could raise legal issues.

This is not to say that keeping the conservatorships indefinitely is desirable. The current path is not sustainable and not good policy. We have nationalized the principal finance mechanism for one of the most important sectors of our economy. The benefits of letting markets steer economic activity in this area are replaced by reliance on the theories and motivations of regulators and GSE managers operating without market constraint. Over time, the result can only be expected to look more and more like a government corporation, a la FHA, which essentially is what the conservatorships are.

A key problem with the current reliance on conservatorships and PSPAs is that it is likely to lead to sharp swings in policy as presidential administrations change. Conservatorship dictates can be changed by a stroke of the pen, and even changes to the PSPAs require only agreement between FHFA and the Treasury.

THE SECONDARY MORTGAGE MARKET IS NOT A NATURAL MONOPOLY

Proponents of public utility style regulation argue that the GSEs, jointly considered, are a natural monopoly, a market structure that is frequently subject to utility regulation. The basic GSE business transaction is to acquire mortgages in exchange for their guaranteed mortgage securities. The securities have lower yields than the underlying mortgages, and that difference is the GSEs' price —a guarantee fee. For conventional loans with conforming balances that meet GSE credit standards, subsidies given to the GSEs generally insulate them from competition by other firms. Though there two GSEs, they can function similarly to a single monopolistic firm by tacitly colluding. It is not all that difficult for them to judge fairly accurately what the other is charging by talking to customers, looking at financial statements, and observing relative business volumes. For years Fannie Mae, as the bigger of the two and market leader, was able to keep its share of the aggregate GSE business just about wherever it wanted. In conservatorships with the Conservator being a single plenary management authority, the two behave even more like a monopolist. FHFA has harmonized pricing structures, servicing standards, mortgage insurance standards, mortgage security terms, and much more; they now even use the same software to issue securities to help ensure that securities investors will be indifferent about which GSE's guarantee is on securities received in trade.

Given free rein, monopolies will tend to raise prices well above the marginal cost of production, reducing output and the general welfare. Other characteristics may include ruthless attacks on any potential competitors, little attention to customer complaints, and a slow pace of innovation and new investment. In some industries, public policy has required divestiture. A classic example is the breakup of Standard Oil in 1911, which reestablished a competitive industry. When fixed capital costs are very high, and marginal costs relatively low, such an approach may seem to simply reduce economic efficiency. Electric power companies need enormously expensive power plants and distribution lines to reach customers throughout their service areas, but the additional cost to add one customer by extending one more line from the street to a house is small. Trying to force competition might mean several companies having to raise huge sums to build seemingly redundant power plants and delivery networks. Regulating power companies, or other firms viewed as natural monopolies, as utilities is intended to result in lower prices than would occur with either unregulated monopoly or forced, wasteful competition. Regulators have authority to set prices, require specific services and general customer access to those services, and approve or disapprove of major capital expenditures. In doing so, they must permit the utilities to earn a fair rate of return on their investors' capital.

In the case of the GSEs, the argument is that potential competitors, even if they had equal access to an implicit or explicit government guarantee, would face a set of impossible challenges: huge initial capital costs, inferior data with which to model risks, and an inability to provide securities of comparable desirability because their securities would always be less liquid. But these factors are not as daunting as is argued.

Capital needs of a firm like one of the existing GSEs would indeed be large, but the GSEs themselves have very little capital. Had the current capital rule been in place at midyear 2020, Fannie Mae would have needed $171 billion, and Freddie Mac $112 billion in equity. This means Fannie and Freddie are together short more than $250 billion in capital. As a result Fannie Mae and Freddie Mac suffer from the same problem as a potential startup. Some assume the GSEs can build a large portion of what they will need organically through retained profits while still in conservatorship. The Treasury and FHFA have now agreed to let Fannie Mae and Freddie Mac retain more earnings, but all of the new retained earnings, will be offset by increases in the preferred stock claims of the Treasury. Even if such additional amounts were gifted by the Treasury to the GSEs, most of it would still be owned by Treasury because it effectively owns 79.9% percent of all common stock. A rehabilitated GSE would not be under private control unless that stock was sold, which is equivalent to raising the funds in public markets—just like a new firm would need to do.

In addition to capital, among the key assets of each GSE are its risk management models and the data from which they are derived. The models include, most importantly, automated underwriting systems (AUSs) and automated property value models (AVMs). These models have been developed at considerable expense using data on individual loans and properties. While the GSEs have been forced to release much more data in conservatorship than previously, their models take advantage of data on many more loans than are now publicly available and data relating to property value on any loan applications they see--data not now released on any loans. These models have been developed or greatly improved under conservatorship with taxpayer sponsorship. There is no good reason why these data and these models should not be in the public domain, with of course proper protection of borrowers' privacy rights.

The ability of the GSEs to issue immense volumes of sufficiently homogeneous securities that can be traded as acceptable substitutes based only on coupon interest rate and type of mortgage is a tremendous advantage for them and for Wall Street sales and trading operations. The liquidity of these securities reflects the effective federal guarantee, which eliminates concerns about the credit quality of the underlying loans, and the GSEs' data with respect to loan termination speeds. Even with a legislated extension of the guarantee to others, uncertainty about differences in speeds could lead to a market price penalty for securities of a new competitor, such as Freddie Mac had to pay before the two GSEs conformed their policies more closely in conservatorship. However, Freddie Mac was able compete with Fannie Mae for years despite such a price advantage, and the major reason for that advantage was basic differences in security terms, including the timing of payments, that have since been standardized.

New firms would presumably have to issue securities with identical payment terms and conform their servicing practices to the existing GSEs, but there is no reason why that should difficult.

An additional issue is the expense and time of developing the software for customers to send loans to a new securitizer, and for such a securitizer to issue securities, to send payments and report servicing information, and to send payments and information to investors. The two GSEs last year completed joint development of new securities-issuing software. This was a conservatorship project, and, like the data, this software should be in the public domain. The other software could be as well, with all competitors updating it privately and separately in the future as they wish.

In short, the GSEs are not a natural monopoly in the fashion of traditional utilities.

PUBLIC UTILITY STYLE REGULATION WOULD NOT ADDRESS OBSERVED SECONDARY MORTGAGE MARKET PROBLEMS

The public utility model calls for a regulator with authority over more aspects of GSE business than FHFA currently has in its regulatory capacity (as opposed to its all-encompassing conservatorship powers). FHFA has broad and powerful safety and soundness authorities, which are similar to those of bank regulators. In the programmatic area, it can set affordable housing goals and duty to serve requirements, though its enforcement powers in this area are much weaker. In addition, a utility regulator would set a target rate of return (or perhaps a range of return rates) and have to approve the full schedule of each GSE's prices and capital expenditures. If the realized returns are higher or lower, it could require adjustments, accordingly.   It could also be given stronger powers than FHFA now has to regulate new activities and to set service requirements. It could also play a bigger role in designing and overseeing the GSEs' affordable housing programs, with the ability to condition price levels or return rates on them.   It could specify the degree of cross-subsidization between politically favored loans and less favored loans. It is assumed by utility model proponents that the GSEs would have returns which are more stable than most firms, and therefore that investors will accept lower rates of return, as they have with electric and gas utilities. That would increase the rents that can be used to subsidize producers and consumers of affordable housing.   Thus, they argue, we can keep all economies of scale to retain efficiency, while regulating monopolistic pricing and enjoying social housing benefits.

Unfortunately, this vision is an illusion. Upon examination, the similarities between the GSEs and typical electric power, gas, and water utilities are much weaker than proponents of the public utility regulation approach assume. Those utilities rely primarily on time-tested technologies, are usually local, and provide a simple service without much in the way of additional public benefits. Public utility regulators can focus on keeping prices down, consistent with safe and dependable service.   Inadequate attention to safety and dependability sometimes occurs--for example water quality in Flint, Michigan or fire risk in California or winterization of supply chains in Texas--and executive pay and amenities are frequently higher than necessary, but with local monopolies it may work to an acceptable degree.

To keep prices down, regulators track how well management keeps costs down by comparing their regulatees' cost ratios with those of similar utilities and require approval for major capital spending.   It is particularly important to restrain capital spending because, with a fixed rate of return, increasing capital is a fairly clear path to increasing profits, and it is therefore attractive to managers whether or not that spending is in the public interest. Making judgements about cost ratios and capital projects depends on the availability of information about many other state or local utilities using similar and familiar technologies.

The nature and circumstances of a national GSE monopoly are in sharp contrast with traditional local utilities. The GSEs use fast-changing IT technologies, are national in scope, cannot be compared with any similar firms, and are expected to provide a portion of their earnings to support affordable housing benefits. Consequently, the operation and effects of public utility regulation would likely be quite different and less successful.

The importance of IT technologies to the GSEs has significant implications for the pace of innovation under a utility regulation regime. Public utility style regulation is not favorable to innovation, or efficient operation, because it generally fixes the utilities' rates of return. There is little profit incentive to try new technologies if the returns are fixed. The dynamic nature of changes in computers, techniques of data management, and communications between businesses with different systems makes this a bigger problem for GSEs than, for example, water utilities. Under conservatorship, the GSEs have modernized some of their key software for processing loans and modeling collateral values, but the quality of these and other critical infrastructure components could be expected to atrophy under utility style regulation. The spectacular burst of innovation in telecommunications following the break-up of the Bell System in the 1970s, which many had claimed was a natural, national monopoly, is indicative of the extent to which progress had been delayed.

The role of the GSEs in providing housing benefits that do not require explicit tax funding can be expected to turn some of the traditional aims of public utility regulation on their heads when applied to GSEs instead of power or water companies. Regulators of GSEs have always faced strong national political pressure to expand the GSEs role in assisting the housing and financial industries, as well as suppliers and consumers of affordable housing. For the GSEs, these activities are costly and, in the past, GSEs have attempted to appear cooperative while fighting fiercely for favorable technical details in rules affecting them and by mobilizing important political allies as quietly as possible. With utility regulation setting a target rate of return, the GSEs would have little to lose by adopting a more generous attitude. The regulator, in turn, feeling little pushback from the GSEs and having much more controlling programmatic authorities could comfortably set and enforce more expensive standards for the GSEs' affordable housing cross-subsidies. To maintain the rates of return, higher GSE costs would imply higher GSE fees. Those fees are not visible to the public, unlike traditional utility charges. Thus, rather than focus on keeping prices down, a utility-style regulator for the GSEs may be incented to keep GSE fees as high as possible to maximize monopoly rents that could be distributed from a centralized cookie jar as unappropriated affordable housing subsidies.

A similar calculus would affect other aspects of GSE regulation. Rate of return regulation allows the costs of higher capital requirements to be passed on to the housing market. The regulator, though, may not wish to establish stronger capital standards because they would reduce subsidies available to housing programs. Indeed, all of the recent utility proponents have sharply criticized FHFA's stronger capital requirements. This could be quite dangerous for systemic financial risk; two of us have argued elsewhere for even stronger capital requirements than FHFA ultimately adopted.[viii]

On the issue of new activities, GSEs would be even more eager than before to extend their government-sponsored advantages to as broad a range of activities as they possibly could, as that would lead to more capital expenditures. And more capital at a fixed rate of return produces more profits. The greater their business volumes, the greater their rents; hence, the regulator can be expected to be generous in allowing new activities to compete with private firms to help fund more housing benefits. GSEs also would also be incented to accept more risk and to resist credit risk transfer activities in order to similarly raise capital and profits. Bigger, more risky GSEs would increase mortgage risk concentration, exacerbating their already far- too-big-to-fail status.

The result of a utility model applied to the GSEs then is likely to be higher prices, not lower prices; broader interpretation of statutory limits on lines of business, not narrower; and increased, not decreased risk concentration. Other historical weaknesses of a housing finance structure dependent on GSEs would remain. The overall benefits of the GSEs would continue to go primarily to above average income households because that is where most GSE funding dollars go. The relatively well off, who can afford to buy houses in any event, would continue to buy bigger houses than they otherwise would. Those big houses would continue to favor the profits of the housing industry, while crowding out other types of investment spending, such as industrial equipment or human capital that have potential to increase economic growth. .

Nor would the proposed utility regime enhance market stability. Past experience has been that the GSEs, in addition to concentrating risk, also encourage other risk-takers to amass greater risk exposures, reducing rather than enhancing stability. With or without GSEs, real estate lending has always been cyclical. Sometimes the cycles are long, but the longer they are the more potential for sizable corrections. This is another way the GSEs line of business is unlike those of typical gas, water, and electric utilities. Real estate lending returns vary widely with swings in loan losses, which can be quite large, as we have repeatedly observed. Calling the GSEs “utilities” won’t change that. The smooth earnings pattern Freddie Mac displayed before 2002 led to the nickname “Steady Freddie,” which had to be abandoned when it turned out to be an accounting fiction. The political temptation will always be to make the GSEs expand loan eligibility over time, which raises the risks of developing market bubbles and the distortions that arise from cross-subsidies. Over the past few years, such efforts have sent the prices of relatively less expensive houses shooting up at rates far exceeding those of prices on more expensive houses.[ix] Utility regulation that directly controls the degree of cross-subsidization may well exacerbate the problem.

Finally, releasing the GSEs from conservatorship with utility regulation would almost certainly lead to the rebirth of their awe-inspiring political power. While rules against lobbying and political contributions can be written by a regulator or by Congress, they are almost impossible to enforce. What one calls “lobbying,” another can call “technical assistance” and “understandings with lobbies of unrestricted allies.” Cash contributions are easily replaced by other forms of influence such as offering special demonstration programs in the states or districts of key legislators. The more unappropriated housing subsidies the GSEs provide, the stronger is their political power, and the more they will circumvent the normal process in a democracy-- to require votes on legislation to tax and spend.

Overall, the public utility approach to the GSE problem is as bad as recreating the deeply flawed structure we had before the housing market crash.

A BETTER WAY TO PREPARE FOR AN END TO THE CONSERVATORSHIPS

A better way to move toward the end of the conservatorships and to deal with the GSE problems that contributed so much to the housing market crash is to gradually let private markets replace the unnecessary activities of the GSEs. This approach doesn't require any legislation while Fannie Mae and Freddie Mac are in conservatorship, though a minimal amount of legislation would help ensure the changes are lasting. We should start with two GSE businesses that have little or nothing to do with their mission to support homeownership and assist lower-income borrowers, the first being refinance loans (refis). These loans do not help anyone buy a house or become a homeowner. On the contrary, subsidizing refis increases uncertainty about prepayments for investors. That uncertainty is reflected in value of mortgagors' prepayment options. Investors, in turn, need to be compensated for providing those options, and that raises mortgage interest rates, including those for first time homebuyers. Furthermore, refis increase credit risks—most obviously in the case of cashout refis, by increasing the amount owed, but in the case rate/term refis because they almost always extend the maturity date of the loan, which lowers the rate at which principal is paid down.

Next to go should be high loan balance loans. Subsidizing large balance loans doesn't help families become homeowners; the prices of houses those loans finance are far above those of starter homes. What they promote is not homeownership, but rather they increase the size of loans upper middle class families can afford, which just encourages them to buy bigger houses. The opportunity cost of subsidizing this type of housing investment is the failure to subsidize a comparable amount of investment in productivity-enhancing investment like human capital or plant and equipment.

Refis and high balance loans will not disappear, though there could be fewer of them. The private sector will certainly move in to replace the GSEs, just like they now do for jumbo loans. To avoid market disruption, the process should be gradual, which will give the private sector time to adjust to new circumstances. The TBA market will continue to function for GSE securities backed by pools of lower balance purchase loans and for GNMA securities backed by FHA and VA loans. The market will still provide 30-year fixed rate loans for those that want them, just like they currently do for jumbo loans.

The housing sector will be less at risk. Credit risks will be better dispersed by not being concentrated in two GSEs; it will be spread more widely and to firms that are not as leveraged as the GSEs are likely to be, even with much higher standards than they had pre-crisis. The reduction in the federal government's direct involvement in housing finance markets and the greater distribution of risks will likely reduce the assumption of market participants that government will protect them if house prices decline.

NOTES

[i] Stein, Eric and Bob Ryan, *Treat Fannie and Freddie as Utilities*, Center for Responsible Lending, March 2020..
[ii] Cooperstein, Richard, Ken Fears, and Susan Wachter, *GSEs: Their Viability as Public Utilities*, Penn Institute for Urban Research White Paper, December 2020. See also by the same authors, *A vision for Enduring Housing Finance Reform*, National Association of Realtors, 2019.
[iii] Don Layton, *The GSE "Utility Model" and Why I Am a Supporter*, presentation at the National Association of Realtors, January 14, 2021. See also Don Layton, *What Should We Do with the GSEs?,* Joint Center for Housing Studies of Harvard University, November 12, 2020.
[iv] U. S. Department of Treasury, *Treasury Department Blueprint on Next Steps for GSE Reform*, January 14, 2021.
[v] U. S. Department of Treasury, *Housing Reform Plan*, September 2019.
[vi] Calhoun, Michael and Lewis Ranieri, *Government-sponsored enterprises at the crossroads*, Brookings Institution, February 2021.
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[ix] Pinto, March 2021, "The paradox of accessible lending", U.S. Senate Committee on Banking Housing and Urban Affairs, https://www.aei.org/research-products/testimony/testimony-the-paradox-of-accessible-lending/