Working Paper 2015-06. Washington: Congressional Budget Office. https://www. cbo.gov/publication/50871.

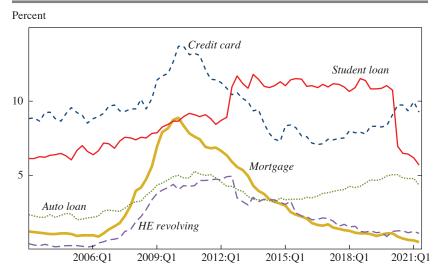
- Fuster, Andreas, and Paul S. Willen. 2017. "Payment Size, Negative Equity, and Mortgage Default." *American Economic Journal: Economic Policy* 9, no. 4: 167–91.
- Ganong, Peter, and Pascal Noel. 2020a. "Liquidity versus Wealth in Household Debt Obligations: Evidence from Housing Policy in the Great Recession." *American Economic Review* 110, no. 10: 3100–3138.
- Ganong, Peter, and Pascal Noel. 2020b. "Why Do Borrowers Default on Mortgages? A New Method for Causal Attribution." Working Paper 27585. Cambridge, Mass.: National Bureau of Economic Research. https://www.nber.org/papers/ w27585.
- Government Accounting Office (GAO). 2012. Foreclosure Mitigation: Agencies Could Improve Effectiveness of Federal Efforts with Additional Data Collection and Analysis. GAO-12-296. Washington: Author. https://www.gao.gov/products/ gao-12-296.
- Hsu, Joanne W., David A. Matsa, and Brian T. Melzer. 2018. "Unemployment Insurance as a Housing Market Stabilizer." *American Economic Review* 108, no. 1: 49–81.
- Piskorski, Tomasz, and Amit Seru. 2018. "Mortgage Market Design: Lessons from the Great Recession." *Brookings Papers on Economic Activity*, Spring, 429–513.
- Piskorski, Tomasz, Amit Seru, and Vikrant Vig. 2010. "Securitization and Distressed Loan Renegotiation: Evidence from the Subprime Mortgage Crisis." *Journal of Financial Economics* 97, no. 3: 369–97.
- Scharlemann, Therese, and Stephen H. Shore. 2017. "The Effect of Mortgage Payment Size on Default and Prepayment: Evidence from HAMP Resets." Working Paper. https://www.aeaweb.org/conference/2018/preliminary/paper/SQSrbS2d.
- Tracy, Joseph, and Joshua Wright. 2016. "Payment Changes and Default Risk: The Impact of Refinancing on Expected Credit Losses." *Journal of Urban Economics* 93, no. C: 60–70.

## COMMENT BY

**SUSAN WACHTER** With the onset of COVID-19 in early 2020, Congress quickly passed the Coronavirus Aid, Relief, and Economic Security (CARES) Act to help indebted households. Despite unemployment hitting 15 percent highs in April 2020, mortgage delinquencies declined with the act's implementation, as the law intended. This paper documents the public and private debt relief that the law provided and the positive outcomes for avoiding debt distress. The authors' documentation of these outcomes is an important contribution to the evaluation of debt relief assistance for policymakers and future historians.

The paper analyzes the results of debt forbearance in the aggregate and by credit type, identifying how the mechanisms of the law varied with





Source: New York Fed Consumer Credit Panel/Equifax.

differing outcomes for the various categories of household debt, including for mortgages (both government and private), auto loans, student loans, and credit card debt. The act mandates forbearance for mortgage debt provided by government-backed entities (75 percent of mortgage providers) upon a simple request, with no documentation needed (Kim and others 2018). That is, publicly backed mortgage borrowers self-selected for assistance. The law put into place automatic relief with no request needed for student debt. In contrast, borrowers needed to negotiate debt relief with private providers of auto loans and consumer credit and for privately backed mortgages.<sup>1</sup>

As figure 1 indicates, student debt and mortgage debt delinquency plummeted, with student debt payments on hold and with substantial use of mortgage forbearance, while credit card and auto loan delinquencies remained elevated. As shown in figure 2, according to a report by the Philadelphia Federal Reserve Bank (RADAR 2021), which counts forborne loans as delinquent, foreclosure activity stopped abruptly in March

<sup>1.</sup> The act required that there be no reporting of missed debt payments to credit scoring agencies once forbearance is granted. Gerardi and others (forthcoming) show the importance of this in preventing deterioration in borrowers' credit ratings.

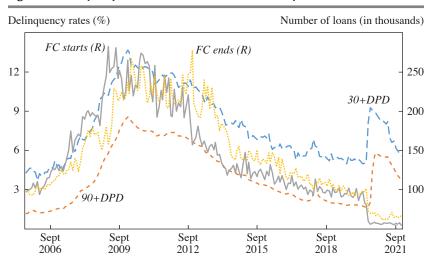


Figure 2. Delinquency Rates and Foreclosure Flows as of September 2021

Source: Black Knight McDash Data and Black Knight Data and Analytics, LLC. Used with permission from the Federal Reserve Bank of Philadelphia, www.philadelphiafed.org/consumer- finance/mortgage-markets/examining-resolution-of-mortgage-forbearances-and-delinquencies- october-2021.

Note: These delinquency figures reflect investor reporting and will not match reporting to the credit bureaus; the CARES Act prohibits reporting as delinquent if the mortgage was current on March 1, 2020, and is past due and in CARES Act forbearance.

2020 and fell to unprecedented low levels.<sup>2</sup> The authors' analysis shows that the law delivered debt relief, most importantly for the large category of mortgage debt, to intended beneficiaries.<sup>3</sup> In particular, the authors show that forbearance mitigated temporary liquidity problems, as about 50 percent of borrowers either did not use or repaid their forbearance requests within a few months. Self-selection of borrowers for mortgage forbearance was instrumental in providing assistance quickly and to those in immediate need. While much of the forborne debt has been repaid, the paper shows that as of September 2021, 40 percent remained outstanding and needed to be repaid going forward.

2. The report shows that even with the expiration of the federal foreclosure moratorium on July 31, 2021, foreclosure activity has not increased; however, the report notes that such activity would be likely to rise after Consumer Financial Protection Bureau safeguards end on January 1, 2022.

3. The paper demonstrates that forbearing debt collection benefited borrowers in need, particularly by regional exposure to COVID-19 and by region minority status. While individual borrower characteristics on minority status were not available to the authors, see An and others (2022) for similar results based on individual characteristics.

The paper also uncovers two somewhat surprising, stylized facts, discussed further below: government-backed and non-government-backed (jumbo) mortgage lenders (without mandates) provided similar levels of debt relief. And despite the same requirements across servicers of governmentbacked loans, nonbanks delivered less debt relief, all else equal.

A major conclusion of the paper is that debt forbearance, brought about by public and private action, prevented debt distress such as occurred during the global financial crisis. The centerpiece contribution of the paper is the measurement of how and by how much mortgage debt relief prevented mortgage debt delinquency or, in the authors' term, debt distress.

In the empirical analysis, the authors estimate missing delinquencies, that is, the mortgage delinquencies that would have been expected due to elevated unemployment but that did not occur. To calculate missing delinquencies, the authors use the historical relationship of unemployment to mortgage delinquency to predict what mortgage delinquency rates would have been in the absence of debt relief. Using data from 2007 through 2017, the authors regress mortgage delinquencies (thirty days or more) against the unemployment rate, with house price change, loan characteristics, and location factors as controls. Using parameters from the historical relationship, the authors forecast expected mortgage delinquencies from March 2020 through September 2021 and then subtract actual delinquencies from predicted delinquencies to calculate their measure of missing defaults. The authors use the Equifax Analytic Dataset, constructed to be a randomized 10 percent sample of the US population, which includes credit information on payment history as well as characteristics of households and their debt and debt payment history.

The authors estimate between 1 million and 2.5 million missing delinquencies. They also estimate that the number of forbearance requests and forbearance requests used were substantially higher than this. They therefore reasonably conclude that the number of loans requested and used in forbearance was more than sufficient to account for missing delinquencies.

The authors go on to discuss the implications of missing defaults for financial stability. If borrowers cannot make their mortgage payments, forced sales or foreclosures may follow. All else equal, the additional supply of housing on the market would produce downward pressure on housing prices. In the global financial crisis, lenders foreclosed on 8 million homes, with downward price spirals due to the additional housing supply forcing additional foreclosures (Levitin and Wachter 2020).

In the pandemic, a Federal Reserve Board study (Anenberg and Scharlemann 2021) shows that this effect did not occur. The study estimates that prices were higher by 0.6 percentage points in the months of April through August 2020, relative to the same period in 2019, due to this missing mechanism of forced sales. As house price growth increased on average about 1 percentage point over that period, this is not a small effect. Forbearance contributed to house price stability during this period.

From the second quarter of 2020 onward, housing prices increased at a far more rapid rate, with overall housing prices rising about 10 percent over the year. Other substantial government support, including monetary easing together with the rapid adoption of work-from-anywhere technology, caused a surge in the demand for homes. Refinancing at the now substantially lower mortgage rates lowered mortgage payments, easing forbearance exits.<sup>4</sup>

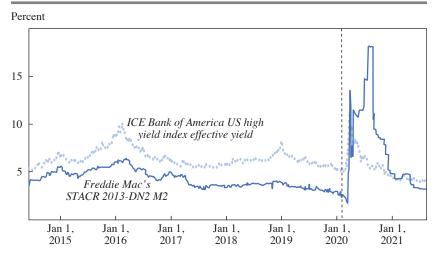
Preconditions also mattered to the ability to repay forborne debt. Data from the Federal Reserve of Philadelphia's RADAR group show that by June 2021, only 2 percent of households were underwater with negative equity as compared to 45 percent in 2009 (An and others 2022). The banking system was well capitalized going into the crisis, as were the governmentsponsored entities (GSEs) Fannie Mae and Freddie Mac. Policies put into place in the aftermath of the global financial crisis that strengthened the mortgage system enabled borrowers to repay their forborne debt and lenders to refinance and lend more. As the authors state, it was illiquidity that was the problem, not insolvency.

Nonetheless, as figure 3 shows, there was a spike in default fears with the onset of COVID-19.<sup>5</sup> This raises the question of what would have happened if bank and household balance sheets had been as highly levered as they were in the global financial crisis. If there had been an insolvency crisis, say due to high loan-to-value ratios and low equity at the start of the pandemic, together with a pandemic-induced recession, it is arguable whether forbearance would have been sufficient to prevent negative price feedback loops and financial and household debt distress. Regulatory policy

4. Lowered mortgage rates resulted in about \$100 billion in lower payments for mortgage borrowers who refinanced (Gerardi and others 2021). See Gerardi, Lowenstein, and Willen (2021) for a discussion of the additional potential benefits of a more streamlined refinance program.

5. The immediate response to COVID-19 shown in trades of credit risk transfers was a large spike in the price of default risk, before the underlying stability of mortgage markets was recognized. The existence of these instruments to price default risk is a post–global financial crisis innovation, as described in Gete, Tsouderou, and Wachter (2022).





Source: Gete, Tsouderou, and Wachter (2022).

Note: The figure plots the daily spread (yield to maturity minus one month US dollar LIBOR) in the secondary market of the mezzanine tranche M2 of Freddie Mac's STACR CRT security 2013-DN2, and the effective yield index of US high-yield corporate bonds from Bank of America. The vertical line indicates February 1, 2020, which was the onset of COVID-19 in the United States.

and heightened risk concerns would have required lending institutions to halt or slow their lending due to a lack of capital, as they did in the global financial crisis. Borrowers also would have had to deleverage as they did in the global financial crisis. However, due in part to enforced lending standards most homeowners had substantial equity in their homes prior to the pandemic. Dodd Frank policies, including stress tests, provided cushions to bank balance sheets. The substantial government role overseeing the banking system and the GSEs had established, in the years prior to the pandemic, what amounted to an ad hoc macro prudential framework (Hanson, Kashyap, and Stein 2011; Wachter forthcoming).

Arguably, a second outcome of a pervasive public role in mortgage lending was the speed at which the forbearance rules were put into place across mortgage lenders and the rapidity in the delivery of relief. The authors, however, have a different and opposite interpretation of the implementation of forbearance. The authors conclude that the private sector would have granted relief on its own and in substantially the same amount, without government mandates to do so.

The authors show in a difference-in-differences analysis that, at the size break point at which mortgage loans receive government backing,

there is little difference between whether forbearance is granted or not. That is, there is about a 20 percent to one-third higher probability that government-backed loans will be forborne relative to non-government-backed mortgage loans. The authors conclude that most of the forbearance (two-thirds to 80 percent) would have occurred without public action or subsidy that comes from the public sector.

The data certainly demonstrates that loans that did not qualify for government support were also generally forborne. However, the CARES Act requirement, and the Federal Housing Administration (FHA) and GSE regulations put into place in support of the act, likely set uniform standards for and spurred a collective action response that otherwise might not have occurred at all or so quickly. Once these policies for publicly backed mortgage debt were in place, what would have been the reputational implications for large banks, for example, if they had not gone along in their jumbo mortgage lending? For many large and small lenders, would not a standard set of forbearance protocols make sense?

Similarly, a surprising finding that the authors uncover is differences in how nonbank servicers handled forbearance requests even though these were to be automatically granted. Might capacity (size of the entities) help to explain this? Previous research warned that liquidity pressures on thinly capitalized nonbank servicers might well cause a crisis if delinquency overwhelmed the capacity of these servicers.<sup>6</sup> This was a real concern prior to GSE action.<sup>7</sup>

These comments are not meant to question the importance of the paper's findings for the role of forbearance in alleviating illiquidity. The analysis solidly shows that delinquencies declined and by an amount associated with the amount of the forbearance. The authors show that debt forbearance put money into the hands of borrowers when they needed it. Importantly, households who were losing jobs and did not know how they were going

6. Kim and others (2018) point to the limited capital of many servicers and the strains they would be under in the event of a spike in FHA defaults. As argued in Wachter (2018), the fact that such mortgages are backed by the government contains risk; nonetheless, severe capacity and capital constraints could lead to market disruptions. See An and others (2022). Student debt is likely to require further intervention as loan repayment requirements are contemplated.

7. While there was initial uncertainty about such risks and GSE mortgage-backed securities rates spiked, the Federal Reserve stepped in to purchase mortgage-backed securities; in addition, the GSEs' book of business was sufficiently healthy due to the maintenance of lending standards, enabling them to take steps to backstop servicers in this crisis (Golding, Goodman, and Zhu 2021).

to pay their debts were put into a safer position until fiscal and monetary support and the waning of the pandemic could bring the economy back.

## REFERENCES FOR THE WACHTER COMMENT

- An, Xudong, Larry Cordell, Liang Geng, and Keyoung Lee. 2022. "Inequality in the Time of COVID-19: Evidence from Mortgage Delinquency and Forbearance." Working Paper 21-09. Philadelphia: Federal Reserve Bank of Philadelphia. https://www.philadelphiafed.org/consumer-finance/mortgage-markets/inequalityin-the-time-of-covid-19-evidence-from-mortgage-delinquency-and-forbearance.
- Anenberg, Elliot, and Therese Scharlemann. 2021. "The Effect of Mortgage Forbearance on House Prices during COVID-19." FEDS Notes. Washington: Board of Governors of the Federal Reserve System.
- Gerardi, Kristopher, Lara Lowenstein, and Paul S. Willen. 2021. "Evaluating the Benefits of a Streamlined Refinance Program." *Housing Policy Debate* 31, no. 1: 51–65.
- Gerardi, Kristopher, Laurie S. Goodman, Lauren Lambie-Hanson, Susan M. Wachter, and Paul S. Willen. Forthcoming. "Lessons Learned from Housing Policy during COVID-19." In *Recession Remedies: Lessons Learned from the U.S. Economic Policy Response to COVID-19*, edited by Wendy Edelberg, Louise Sheiner, and Davis Wessel. Washington: Brookings Institution.
- Gete, Pedro, Athena Tsouderou, and Susan M. Wachter. 2022. "Pricing Mortgage Stress: Lessons from COVID-19 and the Credit Risk Transfers." Working Paper. Social Science Research Network, March 1. https://papers.ssrn.com/sol3/papers.cfm?abstract\_id=3613211.
- Golding, Edward, Laurie S. Goodman, and Jun Zhu. 2021. "Analysis of the Proposed 2020 FHFA Rule on Enterprise Capital." *Housing Policy Debate* 31, no. 1: 16–32.
- Hanson, Samuel G., Anil K. Kashyap, and Jeremy C. Stein. 2011. "A Macroprudential Approach to Financial Regulation." *Journal of Economic Perspectives* 25, no. 1: 3–28.
- Kim, You Suk, Steven M. Laufer, Karen Pence, Richard Stanton, and Nancy Wallace. 2018. "Liquidity Crises in the Mortgage Market." *Brookings Papers on Economic Activity*, Spring, 347–428.
- Levitin, Adam J., and Susan M. Wachter. 2020. *The Great American Housing Bubble: What Went Wrong and How We Can Protect Ourselves in the Future.* Cambridge, Mass.: Harvard University Press.
- Risk Assessment, Data Analysis, and Research Group (RADAR). 2021. *Examining Resolution of Mortgage Forbearances and Delinquencies*. Philadelphia: Federal Reserve Bank of Philadelphia. https://www.philadelphiafed.org/consumer-finance/mortgage-markets/examining-resolution-of-mortgage-forbearances-and-delinquencies-august-2021.
- Wachter, Susan M. 2018. Comment on "Liquidity Crises in the Mortgage Market," by You Suk Kim, Steven M. Laufer, Karen Pence, Richard Stanton, and Nancy Wallace. *Brookings Papers on Economic Activity*, Spring, 420–23.

Wachter, Susan M. Forthcoming. "Current Issues for Housing Finance and the Macro Economy." In *Routledge Handbook of Housing Economics*. New York: Routledge.

**GENERAL DISCUSSION** Robert Hall noted that the COVID-19 recession was different from recessions in the past. The rise in unemployment during the pandemic has been driven by those on temporary layoff, and the economy has since returned to a normal unemployment rate of about 5 percent.<sup>1</sup> While there has been a huge social loss from people being out of work, Hall argued that households did not suffer as much dislocation as they have during past recessions since job losses have not been permanent. According to data in the Current Population Survey, those laid off had a reasonable expectation of returning to their jobs.<sup>2</sup> Indeed, Hall observed that data showed workers did return, which coincided with the implementation of the debt forbearance policy.<sup>3</sup> As such, Hall recommended exercising caution in interpreting the unemployment rate.

Caroline Hoxby considered the effect of forbearance on student loans. In the COVID-19 situation, students who would have gone into default were, instead, automatically put into forbearance or another delayed repayment scheme, she observed.<sup>4</sup> Noting that students do not expect to repay their loans with a high probability in many countries—repayment rates in Brazil and Chile are less than 50 percent, for example—Hoxby wondered whether the intervention in the United States may have created an expectation that student loans will not have to be repaid. The issue is that student loans do

1. Erin Wolcott, Mitchell G. Ochse, Marianna Kudlyak, and Noah A. Kouchekinia, "Temporary Layoffs and Unemployment in the Pandemic," *FRBSF Economic Letter*, Federal Reserve Bank of San Francisco, November 16, 2020, https://www.frbsf.org/economic-research/ publications/economic-letter/2020/november/temporary-layoffs-unemployment-pandemic/.

2. Bureau of Labor Statistics, "28.4 Percent of Unemployed Were on Temporary Layoff in December 2020," TED: The Economics Daily, January 13, 2021, https://www.bls.gov/opub/ted/2021/28-point-4-percent-of-unemployed-were-on-temporary-layoff-in-december-2020.htm.

3. Elizabeth Weber Handwerker, Paul B. Meyer, Joseph Piacentini, Michael Schultz, and Leo Sveikauskas, "Employment Recovery in the Wake of the COVID-19 Pandemic," *Monthly Labor Review*, December 2020, Bureau of Labor Statistics, https://www.bls.gov/opub/mlr/2020/article/employment-recovery.htm.

4. US Department of Education, "Department of Education Announces Expansion of COVID-19 Emergency Flexibilities to Additional Federal Student Loans in Default," March 30, 2021, https://www.ed.gov/news/press-releases/department-education-announces-expansion-covid-19-emergency-flexibilities-additional-federal-student-loans-default.