

# Mortgage Modifications after the Great Recession

New Evidence and Implications for Policy

Executive Summary



# Executive Summary

For many, homeownership is a vital part of the American dream. Beyond providing a place of refuge, owning a home offers families a store of wealth, a long-term investment, and an asset that can be passed on to the next generation. In many cases, a home serves as the primary savings vehicle: as of 2013, the median homeowner had 87 percent of their net worth in their primary residence.<sup>1</sup> In the US, many policies have been enacted over the past 80 years to promote home ownership, and the mortgage has become the financing instrument of choice for most home buyers.

The aftermath of the Great Recession was a particularly difficult period for many homeowners.<sup>2</sup> From their peak in 2006 until they bottomed in 2011, houses across the country lost considerable value. As a result, by the end of 2011 many homeowners with a mortgage were “underwater”—they owed more on their mortgage than their home was worth. To make matters worse, over the same period the unemployment rate nearly doubled and delinquency rates on residential mortgages spiked. In response, various mortgage modification programs were introduced to help homeowners struggling to make their monthly mortgage payments remain in their homes.

In this JPMorgan Chase Institute report, we investigated the relative importance of reductions in monthly mortgage payments and long-term mortgage debt on default and consumption. To do so, we utilized the variation in the amount of payment and principal reduction provided by various mortgage modification programs. Using a de-identified sample of Chase customers who received a mortgage modification, we measured the effects of payment and principal reduction on default and consumption.

## Data

From a universe of over 1 million Chase mortgage customers who received a modification, we created a data asset of 450,000 de-identified modification recipients.



**1 MILLION** Chase Mortgage customers who received a modification

**450,000** de-identified mortgage customers who met the following three sampling criteria

- 1 Received a modification from one of the following:
  - The Home Affordable Modification Program introduced by the Federal Government
  - A modification program of the Government Sponsored Enterprises Fannie Mae and Freddie Mac
  - A Chase proprietary modification program
- 2 Modification completed between July 2009 and June 2015
- 3 First modifications only<sup>3</sup>



A subset of these Chase customers also had a Chase credit card and/or a Chase checking account, which provided a unique lens on the relationships between mortgage modifications, default, credit card spending, and income.

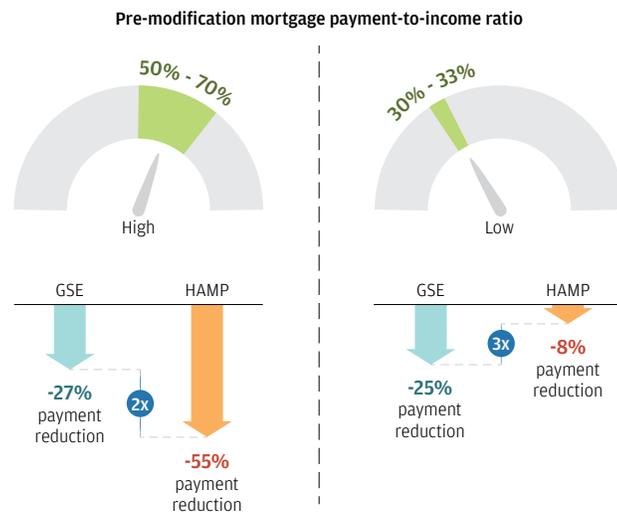
Source: JPMorgan Chase Institute

## Finding One

Payment reduction for borrowers with similar payment burdens varied by two to three times across different modification programs.

Borrowers with similar payment burdens (as measured by pre-modification mortgage payment-to-income (PTI) ratio) received considerably different payment reductions depending on the modification they received:

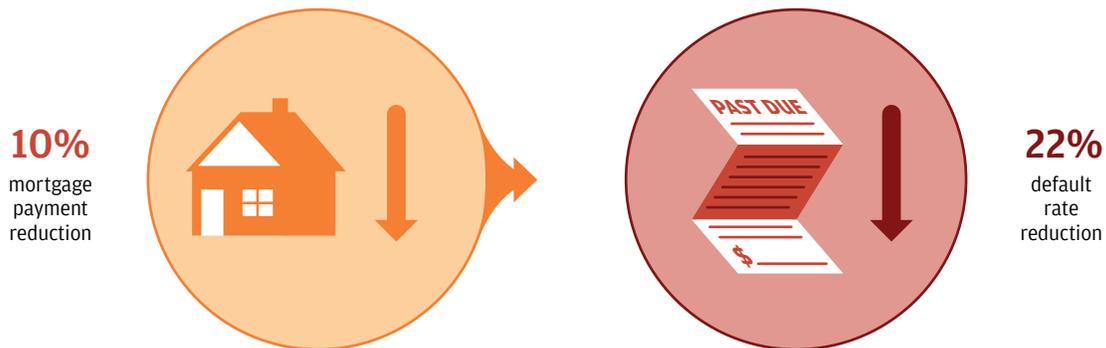
- Borrowers with a high mortgage PTI ratio (above 50 percent) received more than twice the payment reduction from the Home Affordable Modification Program (HAMP) sponsored by the Federal Government (55 percent) compared to the program from the Government Sponsored Enterprises (GSEs) Fannie Mae and Freddie Mac (27 percent).
- Borrowers with a low mortgage PTI ratio received three times the payment reduction from the GSE program (25 percent) compared to HAMP (8 percent).



Source: JPMorgan Chase Institute

## Finding Two

A 10 percent mortgage payment reduction reduced default rates by 22 percent.

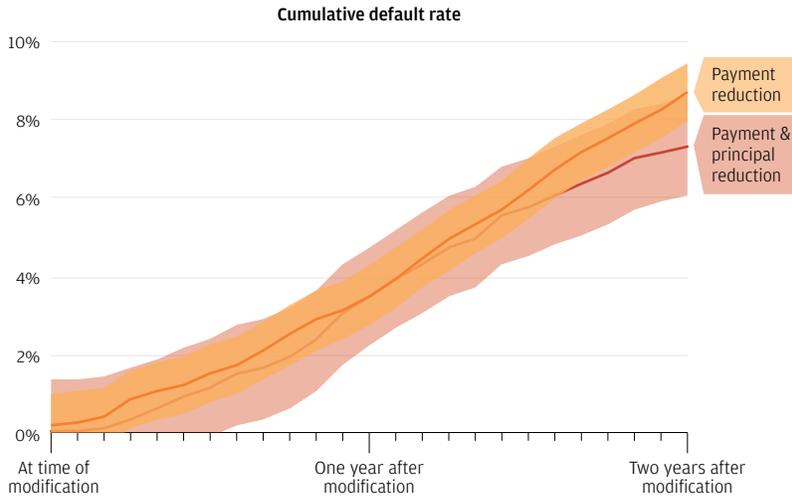


Source: JPMorgan Chase Institute

**Finding Three**

For borrowers who remained underwater, mortgage principal reduction had no effect on default.

There was no material difference between the post-modification default rates of borrowers who received principal plus payment reduction and borrowers who received only payment reduction. This finding suggests that “strategic default” was not the primary driver of default decisions for these underwater borrowers, meaning that they were not defaulting simply because they owed more on their mortgage than their house was worth.



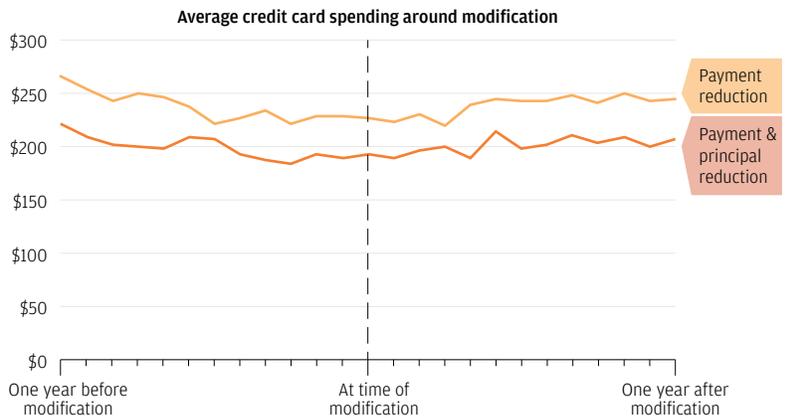
Note: shading indicates 95% confidence interval

Source: JPMorgan Chase Institute

**Finding Four**

For borrowers who remained underwater, mortgage principal reduction had no effect on consumption.

There was no difference in the post-modification credit card spending of borrowers who received principal plus payment reduction and borrowers who received only payment reduction relative to their spending 12 months before modification.

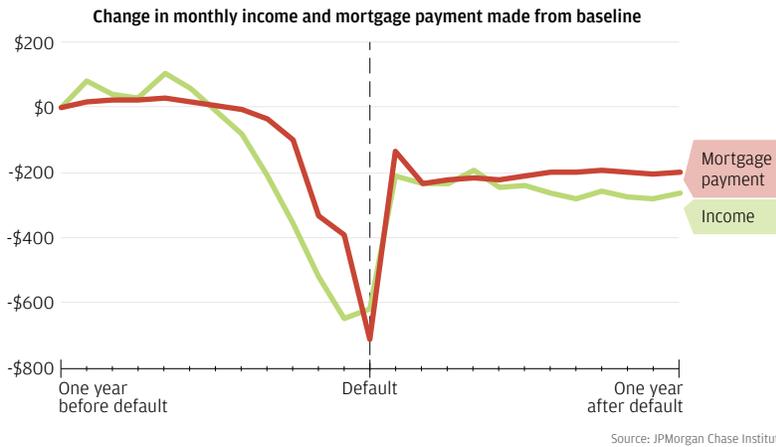


Source: JPMorgan Chase Institute

**Finding Five**

Default was correlated with income loss, regardless of debt-to-income ratio or home equity.

Mortgage default closely followed a substantial drop in income. This pattern held regardless of pre-modification mortgage PTI or loan-to-value (LTV) ratio, suggesting that it was an income shock rather than a high payment burden or negative home equity that triggered default.



## Conclusion

In this report, we measured the impact of mortgage payment and principal reduction on default and consumption. Our results have implications for both housing policy and monetary policy.

Our findings suggest that mortgage modification programs that are designed to target substantial payment reduction will be most effective at reducing mortgage default rates. Modification programs designed to reach affordability targets based on debt-to-income measures without regard to payment reduction will be less effective. Principal-focused mortgage debt reduction programs that target a specific LTV ratio but leave borrowers underwater will also be less effective at reducing defaults.

To the extent that a mortgage modification can be considered a re-origination, our findings may have application to underwriting standards as well. The fact that default was correlated with income loss provides evidence that static affordability measures such as debt-to-income ratio were not a good predictor of default. Both high and low mortgage PTI borrowers experienced a similar income drop just prior to default, suggesting that even among those borrowers whose mortgages would be categorized as unaffordable by conventional standards, it was a drop in income rather than a high level of payment burden that triggered default. Therefore, policies that help borrowers establish and maintain a suitable cash buffer that can be drawn down in the event of an income shock or an expense spike could be an effective tool to prevent mortgage default.

The housing wealth effect is one of the important mechanisms that transmits changes in monetary policy to household consumption. This transmission mechanism relies on accommodative monetary policy leading to higher house prices, and the increase in housing wealth that in turn stimulates consumption. The lack of consumption response from underwater borrowers to principal reductions suggests that the marginal propensity to consume out of housing wealth is nearly zero for these homeowners. For underwater borrowers, the inability to translate increased home equity into liquid resources (e.g., through equity extraction) may nullify the housing wealth effect and thus constrain this transmission mechanism.

# Endnotes

---

- 1 Ratio of Median Family Holding of Non-Financial Assets, Primary Residence to Median Family Net Worth among Homeowners from the 2013 Survey of Consumer Finances, sourced from Haver Analytics.
- 2 As per the National Bureau of Economic Research, the Great Recession began in December 2007 and lasted until June 2009.
- 3 We limit our sample to first modifications only because we would expect subsequent modifications to be different along many observable and unobservable dimensions.

This material is a product of JPMorgan Chase Institute and is provided to you solely for general information purposes. Unless otherwise specifically stated, any views or opinions expressed herein are solely those of the authors listed and may differ from the views and opinions expressed by J.P. Morgan Securities LLC (JPMS) Research Department or other departments or divisions of JPMorgan Chase & Co. or its affiliates. This material is not a product of the Research Department of JPMS. Information has been obtained from sources believed to be reliable, but JPMorgan Chase & Co. or its affiliates and/or subsidiaries (collectively J.P. Morgan) do not warrant its completeness or accuracy. Opinions and estimates constitute our judgment as of the date of this material and are subject to change without notice. The data relied on for this report are based on past transactions and may not be indicative of future results. The opinion herein should not be construed as an individual recommendation for any particular client and is not intended as recommendations of particular securities, financial instruments, or strategies for a particular client. This material does not constitute a solicitation or offer in any jurisdiction where such a solicitation is unlawful.

©2017 JPMorgan Chase & Co. All rights reserved. This publication or any portion hereof may not be reprinted, sold, or redistributed without the written consent of J.P. Morgan. [www.jpmorganchaseinstitute.com](http://www.jpmorganchaseinstitute.com)