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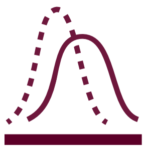

AUTUMN 2018

PERCSPECTIVES ON RESEARCH

HOUSEHOLD DEBT OVERHANG AND TRANSMISSION OF MONETARY POLICY

During past recessions and, in particular, in response to the Great Recession, policy makers sought to boost the economy through various stimulus programs. Some of these stimulus programs targeted entire industries, while some focused on individual households. In light of the economy's tepid recovery, how effective were monetary policy changes in stimulating consumption of households already burdened with high household debt? In PERC Working Paper 1806, PERC professor Sarah Zubairy and co-author Sami Alpanda investigate whether the prevailing level of household debt can lower the effectiveness on the transmission of monetary policy.

Although a large body of research has been devoted to the Great Recession and some is focused on the transmission of monetary policy, there is no consensus in the previous literature on the relationship between the levels of household debt and the strength of monetary policy transmission. Some studies found that after house prices collapsed during the recent recession, households significantly reduced spending in order to rebuild lost retirement savings. Others found that the reduction in spending was due to homeowners no longer having sufficient home equity to use as collateral for new borrowing.

Most of the research on the effectiveness of monetary policy has been studied in the context of recession versus expansion periods of the economy. This research shows that the effects of monetary policy are less powerful in recessions, as opposed to expansions and point out that since the financial crisis, monetary policy has been ineffective because it has directed interest savings to households that are the least likely to take advantage of a change in monetary policy. In contrast, households that were most likely to spend when interest rates are low were already at their credit limit and their home values had fallen.

In this paper, the role of household indebtedness is analyzed in the transmission of monetary policy by considering high- and low-debt episodes in the U.S. over the past several decades and ending in 2007 with the exclusion of the Great Recession period. State-dependent local projection methods are used to simulate impulse responses to monetary policy shocks in the U.S., subject to the existing level of household debt when the shock occurred.

The authors focus on the debt gap, which is the deviation of household debt-to-GDP from its trend, where financial development might be a factor driving the trend where previous studies focused on the level of debt versus savings or reserves. This study purposely isolates the effects of household debt on monetary policy effectiveness and notes that high debt and low debt periods are equally distributed across recessions for the time period analyzed.

> "If existing levels of high debt restricts [the amount of housing demand] coming from borrower households, the impact on house prices would likely be muted as well. This, in turn would lead to a further weakening in the home equity channel, and thus lower monetary policy effectiveness, as initial debt levels grow."

The results of this analysis show that the effects of monetary policy shocks on GDP, consumption, residential investment, house prices and household debt are significantly smaller when the initial level of household debt-to-GDP ratio is high relative to its long-term trend. These results are found to be true even when using a longer time span that includes post-crisis data after the Great Recession.

These results are then tested using a small-scale theoretical model that features two of the key channels of the monetary policy transmission mechanism used to reach borrower households: a policy rate cut on the interest burden of borrowers and new borrowing through home-equity loans featuring long-term fixed or adjustable-rate mortgages. The model tests how the effectiveness of these channels can grow or diminish based on the households' initial amount of debt when the policy shock occurs.

The model indicates that the effectiveness of both channels of monetary transmission can be reduced when existing debt levels are high, with the adjustable or fixed-rate nature of the debt contracts playing an important role. In particular, the ability to borrow becomes severely limited under high levels of initial debt since these households have limited net worth to borrow against, making the home-equity loan channel useless, despite the monetary stimulus' favorable effects on house prices and home equity levels.

The interest rate channel is effective in reducing a borrowers' interest burden on pre-existing debt if the loans are adjustable rate, regardless of debt levels. However, under fixed-rate contracts, the interest-rate channel of monetary policy can also be weakened, since homeowners are unable to lower the interest burden on their existing debt through refinancing when their existing debt levels are high and they do not possess adequate equity in their homes.

These findings show that the overall expansionary impact of monetary stimulus is curtailed under high initial debt levels through the weakening of both channels, especially the home-equity channel, and highly indebted households are forced to pay down current debts before they can benefit from an interest rate cut. The results indicate that the effectiveness of monetary policy was likely hindered during the recent recession, given the significant amount of debt households had accumulated previously. The results also suggest that, in general, when high levels of leverage accompany recessions, alternative tools to monetary policy should also be considered in order to stimulate the economy.

THE RELATIONSHIP BETWEEN HEALTH INSURANCE AND EARLY RETIREMENT: EVIDENCE FROM THE AFFORDABLE CARE ACT

The Medicaid program is a means-tested health insurance program that expanded health coverage to individuals below 138 percent of the federal poverty level under the Affordable Care Act (ACA). The ACA's Medicaid expansion specifically targeted low-income adults without dependent children, or "childless adults," – a group that had limited access to Medicaid prior to the ACA.

On the one hand, the uninsured rate reached a record low of 11.4 percent in 2015. On the other hand, there has been a steady decline in retiree benefits offered by large firms, defined as 200 or more workers, from 40% in 1999 to 25% in 2017. Given the availability of Medicaid as an alternative to retiree health insurance, understanding the relationship between the ACA's Medicaid expansion and early retirement has become crucial.

In PERC Working Paper 1807, PERC Researcher Erkmen Giray Aslim investigates the effect of the Affordable Care Act's Medicaid expansion on the decision to retire of low-educated adults aged 55-64.

Previous studies mainly focus on the availability of retiree health insurance and its impact on early retirement. The findings consistently show that workers who are able to receive retiree health insurance are more likely to retire, although some studies show different effects for men and women, where men are more likely to choose to retire early, but women are unaffected. These studies focus on retiree health insurance due to the limited availability of alternatives to health insurance that may incentivize early retirement. An alternative

> "The nature of the Medicaid program is changing with the adoption of these welfare rules. Thus, it has become crucial to formally investigate the spillover effects under the ACA."

health insurance option, however, is made available under the ACA's Medicaid expansion.

Although Medicaid is viewed as a substitute for retiree health insurance, little is known about how it affects retirement. At the time of publication, five studies explore the aforementioned relationship, and the findings are mixed.

The studies that do not find statistically significant effects on the probability of retirement either use both childless adults and parents in the study's sample or have data limitations in capturing the effects of the ACA's Medicaid expansion. When all adults are pooled together in the sample, it is likely to underestimate the effect of Medicaid on retirement since parents have access to Medicaid in both expansion and non-expansion states in the pre- and post-2014 period. Note also that the inclusion of parents in the analysis may confound the estimates on labor supply due to "woodwork effects," where previously-eligible adults take up Medicaid due to increased community outreach.

In this paper, the author uses a simple static model to show the effect of health insurance on leisure. Two cases are considered, one where the decision to enroll in Medicaid is unrelated to other factors, and the second, where individuals self-select into Medicaid by reducing working hours.

While health insurance generates positive income by reducing medical expenses, it also increases the time spent on leisure and work through fewer sick days. Assuming leisure is a normal good, both cases imply that Medicaid enrollment and leisure have a positive relationship. This prediction is tested using data from the Public Use Micro Samples of the American Community Survey. One of the benefits of using the this data set is that it provides access to geographic identifiers and allows the ability to test for the differences in outcomes with respect to the policy variation in states.

This study differs from previous studies, especially those that look at the retirement effects of the ACA, in several aspects. First, the author specifically focuses on the ACA's Medicaid expansion, one of the largest provisions of the ACA in terms of coverage gains, and restricts the sample to low-educated childless adults – those who are most likely affected by the expansions. Second, the study uses actual Medicaid enrollment, and alleviates concerns on selection using an instrumental variables model. Additionally, some studies omit key variables on job characteristics and health status that bias the estimates. In the benchmark model, the author controls for health, class of workers, and occupation.

Findings suggest that the expansions increase Medicaid enrollment by 5 percentage points for men and 6 percentage points for women. The expansions do not affect the retirement decision of men, whereas women increase their probability of retirement by 0.6 percentage points. Findings also show that the retirement effect is stronger for women aged 59-64.

These findings imply that men and women have different responses to acquiring health insurance and that women's retirement decisions may depend on men's labor market responses to health insurance: Medicaid enrollment results in women retiring early, whereas there is no significant change in the retirement behavior of men. When the sample is restricted to high-educated men and women, however, no significant effects were found on retirement.

The simple static model in the paper shows that Medicaid allows beneficiaries to increase leisure and consumption of non-medical goods and services. Therefore, the ACA's Medicaid expansion is shown to improve the welfare of its targeted populations. Early retirements, however, increase the tax burden of the Medicaid program on nonparticipants through implicit taxes. An expected consequence of implicit taxes is a reduction in total output of labor.

Policy makers, however, are responding to the spillover effects of the ACA's Medicaid expansion as states adopt work requirements for low-income individuals to be eligible for Medicaid. The nature of the Medicaid program is changing with the adoption of these welfare rules.

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