Title: Who Needs Liquidity, When, and Where? Evidence from Penalized Withdrawals

Project Description:

Marginal utility smoothing across time and states of nature is a fundamental rule for economic efficiency. Deviations from this benchmark—in particular, the degree to which the marginal utility of consumption today differs from the marginal utility of consumption tomorrow—capture the household's liquidity needs. Understanding the determinants of households' valuation of liquidity—individual shocks, local market shocks, underlying economic conditions—is crucial for assessing the degree of market efficiency and for targeting policies to achieve the highest welfare returns from the allocation of the marginal dollar. Yet, uncovering the evolution and determinants of households' liquidity needs is challenging due to obstacles in making direct inference about household excess valuation of liquidity. Specifically, it requires identifying household preferences for consumption, comprehensive consumption data on both durable and non-durable goods, as well as estimation of scale economies to translate the utility from consumption into per capita terms. It is also inherently subject to a problem of lagged timing, as the necessary input of consumption levels tomorrow is revealed only in the future, which undermines the ability to design well-targeted policies that inject liquidity today.

In this paper, we offer a revealed preference approach to study the anatomy of household liquidity needs by leveraging a simple yet powerful intuition. Households who are willing to take up pricey borrowing—in the form of penalized early withdrawals from retirement savings accounts—reveal a high marginal rate of substitution between consumption today and consumption tomorrow. Hence, they have high valuation of liquidity. Based on this observation, we use U.S. tax records on American households from 1999-2018 to exploit different sources of variation across time and space. We first provide evidence on Americans' overall behavior of early withdrawals from retirement accounts, to provide informative under-studied patterns by age and household income. We also perform a validation exercise of the effects of household-level events that can lead to adverse income shocks—specifically, unemployment and job transitions—where we underscore how prevalently withdrawals are used as self-insurance in practice. We then move on to our main analysis that aims to characterize the determinants of spatial heterogeneity in household liquidity needs in the U.S., as revealed by early withdrawals. We begin with a cross-sectional analysis across space, where we find large differences across local regions (specifically, commuting zones), even accounting for individual characteristics and controls. Based on a movers' design across locations, we then provide one of our main takeaways: location plays an important role in determining household liquidity needs cross sectionally, as it can persistently explain 24% of the entire spatial variation in early withdrawals. To interpret this finding, we show that it is possible to systematically distinguish areas of high liquidity needs. We find that the frequency of early penalized withdrawals from retirement accounts is lower in communities with strong social cohesion, and that high inequality (as measured by the Gini coefficient) may make it harder to provide local credit. Moreover, we find that communities with higher percent of black residents have higher frequencies of penalized withdrawals, suggesting limited access to credit among some communities. Finally, we study the dynamics of the role of location by studying the evolution of local labor markets. Based on movers and analyzing the time varying component of spatial variation, we find that location credit supply evolves over time as measured by dynamics in penalized withdrawals. To dig deeper into what drives the dynamics of location effects, we study the Great Recession as a

leading episode that could have led to worsening of local credit. We find that communities who have experienced an additional 1 pp shock to local unemployment had an effect of an increase in penalized withdrawals that is more than three times the direct effect of household-level unemployment events; suggesting that the effect of aggregate local unemployment on valuation of liquidity is 25% due to increase in household demand and 75% due to decrease in local supply.

Overall, our work highlights penalized withdrawals as a powerful yet overlooked tool that carries information on the value of liquidity among American households. A main result so far is that local supply of credit is a key determinant of household valuation of liquidity, both cross sectionally and dynamically. There are two key policy takeaways: first, there are potential welfare improvements from enriching targeting to location and time; and, second, we can use penalized withdrawals as real-time tool to monitor evolving local valuation of liquidity to guide targeting. As such, and given the description above, our proposed project addresses the following focal areas. First, it directly relates to '***Focal Area #6: Economic Security of SSA Beneficiaries***.' Our work directly studies the evolving risks to economic security of American households and, by focusing on prime-age households of ages 45-59, how future beneficiary cohorts will fare. We appeal to taking a broad view and looking at different sources of economic security and the spectrum of resource needs to address financial risks in the following way. We directly analyze a key source of financial security among SSA beneficiaries—that is, retirement savings accounts and the potentially damaging early leakage from these accounts—in the context of a range of economic risks and shocks, both at the household level and at the local market level. We also examine differences across various population subgroups, by underscoring the variation in behaviors across local markets and communities in the U.S., and the social correlates that can predict those differences—specifically, social capital, inequality, and race composition. This analysis is immediately relevant to the following particular areas of interest in this focal area:

- *Impact of economic shocks*: impacts on the economic security of older workers and Social Security beneficiaries; impacts on the retirement preparedness of workers approaching retirement; what lessons can be learned from past economic shocks to better support (potential) beneficiaries' economic security?

- *Multiple impacts of economic insecurity*: impacts (for example, on health, retirement preparedness, claiming behavior, etc.) of financial insecurity?

By doing so, our analysis is also related to '***Focal Area #4: Informing Long-Term Projections and Models***.' The revealed patterns of early withdrawals, and their variation across communities, translates to the degree of economic preparedness, which could inform the economic and demographic assumptions underlying Trust Fund projections in terms of beneficiaries' reliance on Social Security benefits and its starting time in the life-cycle. Finally, our spatial analysis of communities and social local indicators is relevant to '***Focal Area #7: Disparities by Race and Ethnicity***.' We identify an important channel—barriers to local credit—by which location shapes behavior and creates disparities, which leads to differential reliance on retirement funds for liquidity needs in prime-age. In turn, this could create disparities in financial economic security and preparedness in retirement, and we specifically study the degree to which local characteristics—such as social capital, local inequality, and racial and ethnic composition—can explain and predict these disparities.