Real Time Measurement of Household Electronic Financial Transactions in a Population Representative Panel

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Since July 2016, we have been collecting data on household financial transactions, balances, and expenditures from electronic records in the Understanding America Study (UAS), a population-representative household Internet panel run by the Center for Economic and Social Research at the University of Southern California. To this end, we have partnered with the financial management company Yodlee, that aggregates individual consumer data across financial institutions and accounts, and provides overviews of expenditures to its clients. For this study, we ask UAS panel members to sign-up with Yodlee in order to receive its financial aggregation services and to allow Yodlee to make their electronic transaction data available to us for research purposes. The advantage of this innovative data collection effort is to combine accurate information on household income and expenditure flows, which are notoriously difficult to obtain in surveys and prone to measurement error, with a wide range of socio-demographic characteristics elicited by means of survey questions. These range from education, marital status and labor force status to health, cognitive ability and financial literacy, among others. We have invited 1,000 UAS members to join this study. About 350 have expressed an interest in participating and created an account with Yodlee. Out of these, we have electronic transaction data for 135 individuals, who have taken the necessary steps for Yodlee to access their accounts and aggregate their financial transactions.

While undertaking several activities to increase the number of active study participants (e.g., phone contacts, help line, educational material), we have used the preliminary data to replicate results by Gelman et al. (2014) on intertemporal smoothing of consumption. In line with the literature, we find evidence of consumers' inability to smooth spending between paydays. Unlike previous studies relying on electronic transaction information from financial aggregators, our data allow us to explore heterogeneity in consumer behavior as driven by demographics, health, cognitive ability and financial literacy. Our preliminary results indicate that consumers with lower cognitive capabilities and lower education are less able to smooth their consumption. In this paper, we plan to exploit the available data further. In particular, we aim to relate the observed inability of individuals to smooth consumption across pay cycles to measures of liquidity constraints. Access to account balances allows us to precisely compute debt-to-credit

and debt-to-income ratios for each sample participant and to assess the allocation of household wealth amongst assets with different degrees of liquidity (e.g., savings account versus tax-deferred retirement accounts). Hence, we will be able to study to what extent liquidity constraints prevent consumption smoothing and whether individuals with lower education, cognitive ability and financial literacy fail to smooth their spending because of more binding liquidity constraints. For each study participant, we have at our disposal high frequency data on both household income and expenditures over a period of more than a year. Hence, we can observe actual income variations and quantify the degree of income volatility faced by each individual. We can also assess the extent to which observed changes in income are temporary or permanent. We, therefore, are in an ideal position to study the relationship between income dynamics and consumption and to gauge how consumption responds to permanent and transitory income shocks. Importantly, the possibility of distinguishing nonrecurring (e.g., restaurant bill) from recurring expenses (e.g., monthly mortgage payments that coincide with salary receipt), will make available suitable measures of discretionary spending to better analyze the response of household consumption to income variations.

Finally, we will investigate any feedback effect that access to a financial aggregator may have on individual financial behavior. With account aggregation technology, consumers are able to obtain comprehensive understanding of their financial records, spending habits, net worth, investment performances, budgeting and saving plans. Whether this leads to changes in behavior is an open and interesting research question. We can reasonably address it since we have income, spending and wealth information (elicited by survey questions) for the entire UAS pool of respondents and an extensive set of variables to account for selectivity of those who signed-up with Yodlee.