

A Tale of Two Balance Sheets

Analysing changes in Indian households' balance sheets over a decade

Nishanth Kumar
Asmita Chatterjee
Vaishnavi Prathap
Misha Sharma

1. Introduction

Household Finance research is a field of study devoted to studying the financial strategies that households adopt in order to move resources across time, space and states of the world. Financial strategies encompass not only the use of financial instruments such as bank accounts, crop loans, life insurance and mutual funds, but also the use of non-financial instruments and strategies such as buying livestock to hedge against rainfall risk and having children as a substitute for old-age pensions. Currently the outcomes of these financial strategies for low-income households are not systematically understood, and part of the reason for this is the lack of substantial research that treats the household as the unit for financial decision making. This is in contrast to conducting research in the field of corporate finance, where we often employ the idea of studying the financial positions, strategies and health of a collective unit when discussing corporate firms.

One of the primary tools in the household finance research toolkit is the study of market participation and portfolio allocation of households, also knowns as the extensive and intensive margin respectively (Campbell, 2006; Guiso et al., 2013). This method of analysis compares household financial behaviour across various asset and liability classes— similar to a firm’s balance sheet—to infer level of access, the use and desirability of market-prevalent products and drivers of systematic sub-optimal allocations, if any. In the Indian context, Badarinza et al. (2016) recently reviewed the state of Indian household balance sheets, using data from the decadal All India Debt and Investment Survey (AIDIS) conducted by the National Sample Survey Organisation (NSSO). They find that household wealth is held primarily in non-financial assets, and this trend is stronger in India compared to its international counterparts. Further, they show this trend to be stronger in states with more volatile historical inflation, suggesting that wealth allocation is highly responsive to consumers’ economic experiences and perceptions of value.

These findings also feature in the Report of the Committee on Household Finance (Ramadorai Committee, 2017) that was constituted by the Reserve Bank of India — perhaps the first acknowledgement in Indian policymaking of the complexity of household financial decision models. Decades of financial inclusion efforts focussed almost singularly on expanding the supply of banking or bank-led service delivery to unlock finance well-being. While these efforts have been successful at increasing bank account ownership, they have been less successful at delivering comprehensive financial services or promoting the financial security of Indians.

Given this context, the paper attempts to understand if supply led policies pertaining to inclusive finance had any impact on households demand for formal financial services measured through increased participation and allocation in financial markets, thereby leading to better

household outcomes and improved welfare. Specifically, we study changes in balance sheet composition across both extensive and intensive margins during this decade, allowing for heterogeneous effects of year and regional banking sector development by household occupation type. We explore the effects of rapid financial sector expansion on household balance sheets. Table 1 presents the decadal trends in banking sector development in India between 2002 and 2012. There is a significant increase in the households availing banking services. Balance sheets capture not only financial behaviour but also the residual impacts of all economic decisions that appreciate, leverage or depreciate household wealth. We learn from Sampantharak and Townsend (2009) modification of corporate financial statements (in this case, the balance sheet) to suit households in developing countries: low-income households are often both consumption and production units, leveraging a portion of their household equity as capital in cultivation, livestock farming or small businesses. Similarly, they hold their wealth not only in financial assets but also significantly in immovable or durable goods intended as productive or passive investments.

The objective of this paper is to understand how the average Indian household's balance sheet changed between 2002 and 2012 in the context of increasing policy efforts towards expanding access to finance during this period. This analysis is intended as a preliminary exploration of high-level decadal trends, and we hope to further use this analytical framework as a reality check of the impact of persistent financial inclusion efforts on how the average Indian household accumulates and deploys their wealth.

The rest of this paper is organized as follows. Section 2 sets out the context for the study by summarising the policy efforts in the financial inclusion during the study period (2002 to 2012), Section 3 reviews the literature and presents the rationale for the study, Section 4 details the empirical specification and data used, Section 5 discusses results and Section 6 concludes.

2. Background

Overview of Financial Inclusion Policies in India

Financial inclusion broadly definedⁱ as 'universal access to a wide range of financial services at a reasonable cost' has been a policy priority for the Indian Government, given the extensive evidence on links between financial sector development and economic growth (Beck et al., 2009).

Efforts towards inclusive finance can be traced back to post-independence period with a series of steps taken by the Government in bringing the unbanked and the underserved within the ambit of formal financial system. These included nationalization of banks in 1969, priority sector lending mandate in 1970, establishment of regional rural banks in 1975-76, service area approach in 1989 and the launch of the Self-Help Group Bank Linkage Programme (SBLP) in 1989-90 with a view to expanding savings and credit facilities offered by the banking system.

However, financial inclusion emerged as a key focus area only in 2005 when its importance was highlighted by Reserve Bank of India (RBI) in its annual policy statement of 2005-06ⁱⁱ. Banks were urged to serve the financial requirements of those that were typically excluded from the formal financial system, such as pensioners, self-employed and those employed in the unorganized sector. Following this, the RBI took several concrete steps towards expanding access to financial services across the country. In 2006, the Business Correspondents (BC) model was institutionalized that enabled last mile delivery of financial products and services through an optimal combination of human touch and technology at lower transaction costs. Additionally, the Joint Liability Group (JLG) model was integrated into the banking system for delivery of microcredit among low-income population, thereby enhancing access to credit. In 2008, financial inclusion as a policy initiative received further push when it was identified as a high-priority area under the Rangarajan Committeeⁱⁱⁱ, that articulated the links between access to financial system and economic growth. Following this, all public and private banks were required to submit a board-approved Financial Inclusion Plan (FIP) beginning April 2010. Banks were also mandated to open 25 percent of new branches in a year in unbanked areas with population less than 10,000.

The FIP included self-targets for banks in terms of opening of brick-and-mortar branches in rural areas, increased coverage of villages, deployment of BCs, setting up of ATMs and digital kiosks, opening of no-frills accounts, dispensation of credit through Kisan Credit Cards (KCC) and General Credit Cards (GCC) and other specific products designed to cater to the requirements of the financially excluded population. These steps together led to a drastic increase in the access to and use of banking services between 2002 to 2012, the study period of interest, as depicted in table 1.

3. Review of Literature

A popular research theme in the field of household finance is to understand the deviations between positive (what households actually do) and normative (what households ought to do) theories of household finance by examining the participation and allocation of wealth in financial and non-financial markets (Campbell, 2006). This theme deals with percentage of households that participate in these markets, fraction of assets that they allocate to each category and differences in household behaviour by age, wealth, and other household characteristics. Several studies have found market participation and asset allocation in financial markets to lead to better household outcomes and improved household welfare. Adopting a balance sheet approach to understanding household financial behaviour is therefore a useful way to determine the status of household portfolios.

The Report of the Committee on Household Finance (Ramadorai Committee, 2017) conducts a comprehensive assessment of the Indian household finance landscape and finds Indian households to display significant deviations from optimal economic models in terms of their financial choices and behaviour. The report finds that the average Indian household allocates 84 percent of its wealth in real estate and physical goods, 11 percent in gold and a mere 5

percent in financial assets. On the liabilities side, over 50 percent of Indian households rely on non-institutional sources of debt with high cost-unsecured debt accounting for two-thirds of the total liabilities for the poorest and one-third for the rich. The report further finds that a shift of a fraction of resources from physical assets to financial assets, a full replacement of non-institutional with institutional debt and use of medical insurance to cover health costs can lead to significant financial gains for Indian households. Badarinza et al., (2016) in their research find financial assets to provide better liquidity and diversification properties than physical assets, thereby facilitating efficient household lifecycle portfolio management. Similarly, Prasad et al. (2014) find that extending the benefits of formal financial services to rural households could expand households' choice set and enable them to attain a more diversified, liquid and tradable portfolio that could protect them from fluctuations in the local market and enhance their liquidity. Using a comparative analysis with a hypothetical portfolio consisting of financial assets, they find large and significant efficiency losses for rural households as a result of their exclusion from formal financial services. These studies unambiguously highlight the benefits of participating and investing in formal financial markets compared to informal and physical markets such as real estate and gold.

Examining households' financial portfolio in terms of participation and allocation of wealth has also been a popular tool in inferring the demand for financial services. This becomes crucial, especially in the Indian context that has seen persistent efforts by the Government to accelerate universal financial inclusion. For instance, the Government's flagship program, Pradhan Mantri Jan Dhan Yojana (PMJDY), launched in 2014, to provide access to bank account among every Indian household led to a massive surge in bank account ownership, however, the use of these accounts was substantially low. According to the 2017 Global Findex Database^{iv}, of the 80% of Indian adults who reported owning a bank account, close to 40% did not use their accounts in the year prior to the survey. Further, only 20% of Indian adults saved money using these accounts and only 8% borrowed money from a financial institution, in spite of 42% of Indian adults reporting outstanding debt (in the past year) at the time of the survey. These figures highlight that the provision of bank accounts has not necessarily translated into active use of these accounts and therefore is an indication of the poor demand for these services. The balance sheet approach of studying household portfolio allows for an examination of both the intensive (access to bank account) and extensive margin (amount of deposits in bank account, amount of outstanding debt, etc.) and is therefore a useful tool of inferring demand for formal financial services. In the Indian context, this approach has been used in several studies that seek to understand the impact of financial inclusion policies from a demand-side perspective.

For example, Kamath, Mukherji & Sandstrom (2010) use the size of institutional debt outstanding for a household as a measure of using financial services. They argue that at any given point in time, outstanding debt from institutional sources is at the very least an underestimate of the demand for credit by that household, as credit needs of the financially excluded households are largely met by informal, non-institutional sources rather than formal institutional sources. Using the AIDIS data from the 2002 round, they analyse the total

outstanding debt (participation and allocation rates) for all rural households to assess the demand for institutional finance.

Similar approach to understanding the demand for formal financial services is adopted by Mukhopadhyay (2016) who computes a financial inclusion index comprising of (i) accessibility measured by households with bank account (ii) usage measured by financial activity via those bank accounts and (iii) availability measured by households with proximate access to banking services. Average loan outstanding and savings amounts for households is also computed across various sources to infer the levels of access and use of formal financial services.

Pradhan (2013) compares the trends of formal versus informal credit in rural India to examine the issues of ‘access to’ and ‘demand for’ credit by capturing the changing share of institutional and non-institutional credit agencies in the outstanding cash dues of the rural households. Using the AIDIS data for the period 1951-2002, he finds a consistent decline in informal credit as a percentage of total household debt. He reports a drastic shift in the share of credit from informal to formal agencies during the period 1971 to 1981 and attributes this to two key initiatives by the Reserve Bank of India (RBI), i.e., the nationalization of banks in 1969 and 1980 and setting up of regional rural banks in 1975, and is therefore able to link the changes in demand-side household portfolio to supply-side policy efforts towards formalisation of financial services

The primary motivation for this paper stems from the need to understand the effect of supply-led policies pertaining to inclusive finance on households’ market participation and allocation of wealth. We measure this by examining households balance sheets and hypothesizing that during the study period (2002-2012), households’ market participation and allocation moved from physical assets to financial assets and informal debt to formal debt, thereby reflecting greater access to and use of formal financial services. Additionally, we hypothesize that these changes in the balance sheet are more pronounced for wealthier, younger and better educated households. Our assumption behind this hypothesis is based in the research work by Campbell (2006) where he attributes deviations from optimal economic model to failure of standard assumptions in normative theories of household finance. Some of the key reasons he cites for these deviations pertain to lack of knowledge and awareness about financial products, fixed and on-going costs (time, money and psychological factors) accrued on account of participation in financial markets, risk preferences and background risk (such as self-employed households and households with significant private business assets). The findings of the study in terms of changes in households’ financial portfolio and balance sheet can thus be interpreted in the light of these factors.

4. Methodology

Data

The primary data sources are two waves of the All India Debt and Investment Survey (AIDIS), a nationally representative sample survey capturing a snapshot of household assets and liabilities as on June 2002 and June 2012 respectively. In each round the survey captures self-reported financial data for over one lakh households, sampled across all regions, household types and socioeconomic classes. The questionnaires for both rounds are similar but not identical, and we re-coded and re-categorized balance sheet items to render them comparable. AIDIS dataset has been used previously by several other researchers to examine the state of Indian household finance and is one of the most comprehensive and nationally representative datasets providing information about both the extent and magnitude of the use of financial services by Indian households.

Estimates of value from 2002 were inflation-adjusted to 2012 prices using the WPI series^v. The purpose of inflation adjustment is merely to permit reasonable comparison of data points captured a decade apart and by no means will WPI-based adjustment adequately capture price changes in all asset categories. For example, real estate prices may have far out-performed inflation. In such cases, the appreciation of value in excess of inflation would accrue to household Financial Net-worth, which we believe is reasonable given that real estate is often intended—at least partially—as an investment and hedge against inflation.

In addition, we also use state-level population from the Census of India (2001 and 2011 respectively) and data on banking sector development from the RBI Database on India Economy (2004 and 2012 respectively).

Household balance sheets

The household balance sheet is structured like its corporate counterpart—the assets side captures all tangible immovable, movable, durable, consumption and financial goods and investments owned by the household. We exclude intangible assets such as future earnings capacity or other forms of human capital. The liabilities side of the balance sheet captures all sources of funding for households including borrowings and transfers reported in the survey and (residually) equity or household wealth. We term the residual Financial Net-Worth (FNW) and understand it to capture households' inherited wealth, accumulated savings and capital gains, but are unable to identify each component individually. FNW, although an abstract concept, is an important indicator of economic prosperity and it would be consistent with both the life-cycle hypothesis and bequest motive to expect that households would optimally deploy their FNW in the current period and seek to increase their FNW over time.

We categorize assets into Real estate, Gold, Durable (and productive) assets and financial assets including pensions. We classify liabilities in two ways. First, corresponding to the asset categories, we classify them by collateral type as Mortgage loans, gold loans, Other secured debt and Unsecured debt, Second, we also classify loans by lender type^{vi}.

Table 5 reports the composition of household balance sheets between 2002 and 2012, and the significance of the difference. Columns 1-3 report estimates along the extensive margin and

columns 4-6 along the intensive margin, measured here as the average value in Rupees only for the households reporting ownership. Along the extensive margin, the largest gains between 2002 and 2012 were seen in Savings accounts, Non-agricultural and Non-Residential Real Estate (including commercial use) and Motorized vehicles respectively, while the largest decreases were seen in Agricultural equipment and Chit funds. Along the intensive margin, we find gains in almost every asset category— the largest absolute gains are in real estate while the largest relative gain is in the value of large transport vehicles. Unsurprisingly, both ownership and average value of bicycles declines. Savings account see a 46-percentage point increase in ownership, but a Rs. 6,522 decline in average value, consistent with the tremendous push to universalize access to savings through zero-balance accounts. On the liabilities side, loans from NBFCs sees a similar trend (a higher incidence of micro-credit loans), whereas loans from Banks increased in loan size suggesting an expansion in scale of credit rather than an expansion of bank loan access.

Interestingly, Table 5 suggests an increase in both formal and informal sector financial activity. Households reported a higher incidence of informal lending (by 3.4%) and borrowing (by 2%), and while they reported a decrease in average receivables, the average amount outstanding to social networks (including loans received in-kind) increased nearly 41% over the 2002 baseline. The aggregate trends suggest that most significant financial service impacts on households were in terms of low-balance savings accounts, small ticket-size NBFC loans and larger Bank loans but none of these effects seemed adequate to edge out informal sector financial transactions.

The subtraction of liabilities from total assets derives Financial Net-worth (FNW). We estimate that, inflation-adjusted and at 2012 prices, the average Indian household grew their household wealth from Rs. 5,49,997 in 2002 to Rs. 10,65,558 in 2012, i.e. they nearly doubled their wealth within a decade. Figure 1 suggests that the largest increases in FNW accrued to urban business households and regular wage earners while all household types experienced a moderate growth in FNW overall.

Figures 2-5 report participation and portfolio allocation both by time, age and wealth distributions. These figures follow the format and structure of the figures reported in Ramadorai Committee (2017) but add the dimension of decadal change. The overall findings are consistent with the analysis above, but further localize observed changes in financial behaviour to either younger households (lower allocation in real estate and durable assets) or wealthier households (higher use of mortgage loans and decreased allocation to unsecured debt).

Model specification

The descriptive analyses in Section 2.2 suggests that in addition to the time/year effects the household type, age and wealth rank are important covariates that mediate the change in household Financial Networkth. To study these relationships more formally and to understand

the heterogeneous experiences of different household types, we estimate a pooled OLS regression of the form:

$$Y_{it} = a_1 + a_2 State + b_1 Year + b_2 HhType + b_3 Year \times HhType + c_1 Bankindex + c_2 Bankindex \times HhType + d' \bar{X} + e$$

Y is the dependent variable of interest and varies by each specification, either as an indicator or value variable. Each specification however uses the same set of explanatory variables—

- **Main effects** of a year dummy variable (2002 as the base group), household type dummy variables (regular wage earners as the base group) and a state-level index score of banking sector development. The score is derived from the first principal component of the Number of bank branches, Deposits per-capita and Credit disbursed per-capita; scores are computed independently for each year.
- **Interaction effects** of Household type with Year and Household Type with the Bank index score
- **State fixed effects and household-level controls** including age and educational attainment of head of household, number of children in the household, number of daughters in the household and wealth quintile of the household. Wealth quintiles were computed independently for each year are included to ensure a balanced like-to-like comparison of observations within each household type.

As before, all values are inflation-adjusted to 2012 prices and Rupee amounts are winsorized at the 95th percentile.

5. Results

This section discusses the results from pooled OLS regressions in four sections below. For ease of interpretation, we report a subset of the marginal effects^{vii} below and the full set of regression results in the appendix.

Changes in Household Financial Net-worth

We estimate the change in FNW and the main asset categories in which wealth is deployed over the decade. Table 5 reports the full regression results. We observe that the biggest wealth gains over the decade accrue from allocations to real estate, especially for cultivator and urban self-employed households. We also see an almost uniform increase in wealth deployed in gold and durable assets for all rural household types, but a huge disparity in durable asset accumulation is evident among urban households. We note here that productive assets like business equipment and transport vehicles are included as durable goods. Interestingly, there

the main effect of Year on FNW is insignificant, but significant increases in allocation were observed for Cultivators and Urban Self-employed categories respectively.

We observe from table 5, a significant uniform impact of a unit increase in Bankindex on FNW of households in that state. However, the drivers of this increase in wealth are unclear. Overall, however, all household types, on average, appear to have grown their FNW over and above a modest inflation factor. Recall that FNW is intended to capture both accumulated earnings and capital gains, so an increase in FNW per se is unsurprising. However, the weak effects associated with Bankindex show that wealth over this decade has not accumulated in financial assets. Later in this section we also explore if there were any decadal shifts in household financial product use, even if such intermediation was transient and did not result in financial asset accumulation

Changes in asset allocation

The previous section provides evidence to suggest that the increase in FNW is driven by the increase in the value of real estate assets which are typically ill-liquid, long term investment assets. Evidence from Cocco (2000) suggests that household investment in real estate drives portfolio choice of households. For these households, investment in housing keeps overall liquidity low and thus, crowds out investment in other productive investments. Curcuro et al., (2004) also find that the probability of stock ownership decreases with an increase in the ratio of home equity to net worth. This motivates the question of how the allocation of FNW held in income-generating or productive assets has changed over the decade. Income generating assets typically constitute about 30% of total assets for the average household and is predominantly comprised of physical assets. We define a Productive Ratio (PR)— the ratio of productive assets^{viii} and the total assets held by the household and estimate the change of this ratio for the different household types. Column 1 in Table 6 provides the coefficient estimates from the model estimated for the Productive ratio with specification in section 2.3.

It shows us that there is a uniform increase of 5 basis points in the PR for all household types except the cultivator and rural self-employed households, suggesting that while the increase in financial net-worth of households is primarily driven by real estate, relative allocation to productive assets increased for both rural and urban household types.

In table 5, we observed that except for cultivator and urban self-employed households, no other household types saw a significant change in value of financial assets held. We compute the ratio of Financial Investments to total assets (FIR) to understand whether the proportional allocations to financial investments has changed over time. From Column 2 in Table 6, we learn that only Agricultural labourers (10%) and Urban Casual labour households (2%) saw any significant increase in FIR over the decade, even though on average they did not have a significant increase in savings balances. We see little or no significant change in the FIR for cultivator and urban self-employed households (who were significant in Table 5). Further, table 5 suggests that Regular Wage-earning households are divesting (relatively speaking) from financial investments. Marginal effects for Bankindex are not reported as they are insignificant.

Changes in Financial assets

In this section, we break-down the financial assets held by households into four different categories: savings accounts, chit fund accounts, retirement assets and market investments. We study the change in participation of households in different financial assets and the corresponding change in value of each type of financial asset. Table 7 reports marginal effects of Year along extensive margin for each asset category as well as reports the intensive margin, measured here as average savings balance.

A general trend observed is that across the board, all household types report high in savings accounts ownership, and reduced participation in chit funds. Marginal gains in retirement investments are observed but overall, no household type reported growth in market investments. The uniform decline over the decade is curious and is matched by a corresponding decline in asset values in Table 7. We note that these are marginal effects, computed while holding the level of banking sector development (a proxy for access) constant. As before, we do not report marginal effects for Bankindex but the regression estimates are reported in the appendix.

Changes in Leverage

In this section, we study the leverage and liquidity of households by taking into consideration the financial liabilities in the balance sheets. In particular, we study three ratios: the leverage of loans secured against real estate divided by the value of real estate, a similar gold leverage ratio, and the ratio of unsecured debt divided by the value of liquid assets.

Marginal effects in Table 6 reveal that Mortgage-leverage and Gold-leverage of all household types have decreased on average, but the leverage of liquid assets (and essentially, human capital) has increased. In further analysis, we will explore whether the decrease in leverage ratios is a result of growth in the denominator outpacing growth in the numerator. It is commonly believed that at least one of the motivations to accumulate wealth in gold is the ease of leveraging it for credit, but the evidence here support this, even with the rapid expansion (and formalisation) of the jewel loan market in this decade. On the other hand, the availability and use of unsecured debt seems to have outpaced (by a high factor) the accumulation of liquid assets. While this is not surprising—our understanding of unsecured credit, especially micro-loans is that they are in-principle leveraged against human capital and basic indicators of permanent wealth—it underscores an inefficiency in the form of under-leverage of collateral-friendly assets while ever-increasing (and more expensive) demands are made on future earnings.

6. Discussion

The preliminary analysis in this paper is intended as reality check on the effects of systematic, highly-motivated and persistent financial inclusion efforts on the average Indian households' use of financial intermediation and the resulting effects of that on how they accumulate, leverage and deploy household wealth. We find that, on average, household wealth has grown handsomely over the decade but very little is accumulated in financial assets. There is a huge and significant increase in bank account ownership but only negative or no effects overall in relative allocation in financial assets and asset leverage. On the liabilities side, we see a decrease in the value and volume of loans from institutional agencies and an increase in the value and volume of loans from non-institutional agencies. The study results therefore reject our hypothesis of a shift towards formalisation of financial services by Indian households and highlight deviations from optimal economic model in the financial behaviour of Indian households.

Further, a basic measure of banking sector development appears largely uncorrelated with investments in financial assets, calling into question whether financial inclusion efforts have had an effect at all on how households manage and deploy their resources. This result is similar to the findings of a recent study that examines the relative importance of removing demand-side barriers and eliminating supply-side constraints to enhance financial inclusion in India. The study finds that *“while availability of banking services has a significant positive effect on usage of formal financial services, its contribution in inducing households to use formal financial services is very small compared to the contribution of factors, such as education, income, employment status, gender and social norms”* (Kumar, Pal and Pal, 2018). Moreover, increases in wealth may accrue as a result of a number of economic or social factors, even if not financial. However, the primary motivation for inclusion is to equip households with right suite of financial services with which to grow and deploy their wealth effectively and successfully over-time.

While cultivator and urban self-employed households see a significant increase in financial net-worth, we see little or no significant change in their allocation of net-worth in financial assets. Labour households, who register the least increase in net worth, see a significant increase in the allocation of net-worth in financial assets over the decade while having no significant change in aggregate amount saved in financial investments. We observe that there has been a uniform increase in the proportion of households holding assets in savings accounts – the largest increase is seen in cultivator households. This increase in participation or value in any type of financial assets is independent of the degree of access to banking services. In all our analysis, we understand that increased access to banking services has no marginal effect on the participation of households in financial assets. We also find that households are increasing their leverage to unsecured debt while the mortgage and gold leverage has reduced. This potentially points towards a market inefficiency as households are unable to leverage their collateral-friendly assets for acquiring credit and are instead highly dependent on liquid assets such as cash surplus and human capital, which could have negative implications on the debt serving capacity of households. While the value of assets might appreciate projecting a high financial net worth, the allocation of a significant portion of this net-worth in illiquid assets such as real estate raises the question of whether households face significant efficiency losses.

Prasad et. al (2014) and Ramadorai et al. (2017) show that households could earn a significantly higher level of return at the same level of risk that they presently hold by including a significant portion of assets into financial assets.

In a decade which saw unprecedented initiatives to eliminate financial exclusion and create innovative financial service delivery models, the reality appears to be that households continue to store wealth in trusted physical assets and use high-cost credit from non-institutional agencies to meet their financial requirements. Even household types that benefited tremendously from India's economic transformation stayed true to this pattern of wealth allocation (Ramadorai Report, 2017).

Overall, the results of our study suggest that the Government led efforts on inclusive finance have not had any significant impact on the demand and use of formal financial services, potentially indicating limitations in the supply side approach of expanding access to finance. The classic case of an increase in the number of bank accounts accompanied with little to no increase in the value of savings in these bank accounts during the study period, highlights the gap between access and usage, thereby pointing towards market inefficiencies, that turn benefits of participation into costs (Campbell, 2006). This result has important policy implications in the context of the current Government's effort on accelerating access to finance, largely through the Pradhan Mantri Jan Dhan Yojana that aims to further expand the program by providing every individual with a bank account. We believe these observations raise important questions about the efficacy of both policies and practices aimed at financial inclusion, and what they hope to achieve.

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ⁱ Definition as per the Rangarajan Committee, 2008

ⁱⁱ RBI's Annual Policy Statement for the Year 2005-06 by Dr. Y. Venugopal Reddy, Governor, RBI
https://www.rbi.org.in/scripts/BS_ViewMonetaryCreditPolicy.aspx?Id=2217

ⁱⁱⁱ A Hundred Small Steps- Report of the Committee on Financial Sector Reforms (2009)
<http://www.microfinancegateway.org/sites/default/files/mfg-en-paper-a-hundred-small-steps-report-of-the-committee-on-financial-sector-reforms-2009.pdf>

^{iv} The Global Findex Database 2017 report can be found [here](#)

^v Although the Consumer Price Inflation series would be a better fit, it is not available as a continuous series for this period. The Wholesale Price Index was found to be highly correlated with CPI for the years available.

^{vi} This classification was first used in the Ramadorai Committee Report, 2017 as a simple way of aggregating assets and liabilities across different categories

^{vii} Marginal effects are computed as the total of only significant main and interaction effects. Insignificant results (p-value>0.05) are reset to zero.

^{viii} Defined under durable and productive assets in table 2. Income generating assets or productive assets consists of livestock, Agricultural and business equipment and transport vehicles.