

The Tale of Two Balance Sheets

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Analysing changes in Indian households' balance sheets over a decade

Objectives

- To understand the changes in average Indian Household over a decade (2002-2012)
- How has the Financial Net-worth of Households changed?
 - Participation and allocation in different assets
- How has the change in wealth been leveraged?
- What is the impact of financial sector expansion on the FNW?
- Using a balance sheet approach to identify household financial behavior across various asset and liability classes
 - Extensive margin
 - Intensive margin

Data & Methodology

- Data from the two rounds of NSS All India Debt and Investment Survey from 2002 and 2012
- Estimates of value from 2002 were inflation-adjusted to 2012 prices
- We categorize assets into Real estate, Gold, Durable (and productive) assets and Financial assets including pensions.
- We classify liabilities in two ways: Collateral type and by type of lender
- Analysis based on Financial Net worth (FNW) which is households' inherited wealth, accumulated savings and capital gains

Model Specification

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

- 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
 - wealth quintile of the household
 - state-level index score of banking sector development

How has the financial net-worth changed and what has driven this change?

Changes in Balance-sheet I

Table 8 Changes in Balance sheet composition between 2002-2012

	(1)	(2)	(3)	(4)	(5)	(6)
	% Households			Value (in Rs.)		
	2002	2012	Difference	2002	2012	Difference
<i>Real estate</i>						
Residential	0.850	0.865	0.015***	322,866	603,660	280,794***
Agricultural	0.440	0.429	-0.011***	410,797	617,074	206,276***
Others	0.109	0.348	0.237***	187,960	472,908	284,947***
<i>Gold</i>	0.789	0.839	0.050***	22,084	51,457	29,373***
<i>Durable & Productive assets</i>						
Agricultural equipment	0.558	0.436	-0.122***	4,480	5,390	910***
Livestock	0.402	0.401	-0.002	18,919	26,870	7,951***
Business equipment	0.205	0.221	0.017***	15,467	18,537	3,070***
Bicycles	0.410	0.438	0.027***	1,594	1,482	-112***
Motorized vehicles	0.130	0.315	0.185***	79,064	89,200	10,136***
Transport vehicles	0.066	0.059	-0.007***	47,474	164,525	117,050***

Changes in Balance-sheet II

<i>Financial assets</i>						
Savings accounts	0.242	0.703	0.460***	23,665	17,143	-6,522***
Chit funds	0.128	0.032	-0.096***	4,465	9,819	5,354***
Retirement accounts	0.098	0.112	0.014***	164,581	187,709	23,129***
Shares and other investments	0.068	0.034	-0.034***	7,848	11,054	3,206***
Receivables	0.023	0.061	0.039***	34,641	32,727	-1,914**
<i>Liabilities</i>						
Banks	0.130	0.206	0.076***	89,339	186,717	97,378***
NBFCs	0.009	0.056	0.047***	135,792	71,914	-63,878***
Others	0.020	0.015	-0.005***	101,290	155,443	54,153***
Moneylenders	0.084	0.104	0.020***	45,756	84,355	38,599***
Social networks	0.177	0.199	0.021***	17,474	24,573	7,099***
<i>Financial Networth</i>				549,997	1,065,558	515,560***

Rupee values are inflation-adjusted and winsorized at the 95th percentile. Estimates are computed after controlling for state fixed effects.

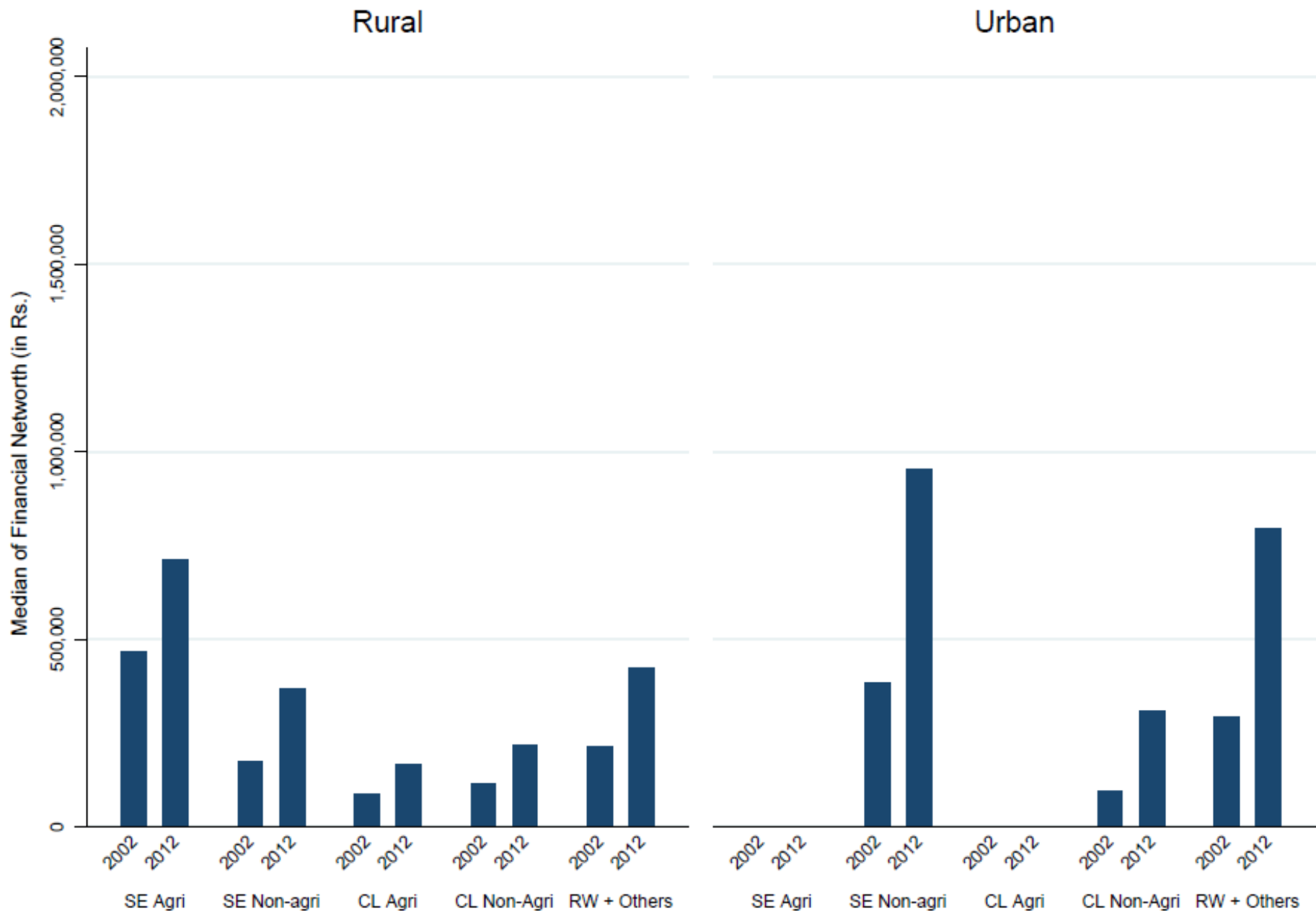
FNW nearly doubled over the decade!

- Average Indian household grew their household wealth from Rs. 5,49,997 in 2002 to Rs. 10,65,558 in 2012
- Along Extensive Margin:
 - Savings accounts, Non-agricultural and non-residential real estate (including commercial use) and Motorized vehicles
 - Largest decreases were seen in Agricultural equipment and Chit funds.
 - Higher incidence of Bank and NBFC loans
- Along Intensive Margin:
 - Real estate and large transport vehicles while ownership and average value of bicycles declines.
 - Increase in size of bank loans but decrease in NBFC loan size

Increase in both formal and informal sector financial activity

- Higher incidence of informal lending (by 3.4%) and borrowing (by 2%), and
- Average amount outstanding to social networks (including loans received in-kind) increased nearly 41% over the 2002 baseline.
- Most significant financial service impacts on households were in terms of low-balance savings accounts, small ticket-size NBFC loans and larger Bank loans

Change in Net-worth by Household Type



Where is the increase in net worth coming from?

Household Type	Finl Networth (1)	Real estate (2)	Gold (3)	Durable assets (4)	Finl assets (5)
Regular Wage and others (Base)	529,324	545,186	27,760	14,157	0
Cultivator (R-CU)	706,268	685,800	27,760	14,157	8,105
Agri labour (R-AL)	198,959	159,761	27,760	14,157	0
Rural Self-emp (R-SE)	420,048	388,534	27,760	14,157	0
Rural Casual labour (R-CL)	291,218	270,673	27,760	14,157	0
Urban Self-emp (U-SE)	609,712	611,519	27,760	29,674	10,967
Urban Casual labour (U-CL)	266,440	238,385	20,631	1,808	0

- Biggest wealth gains over the decade accrue from allocations to real estate, especially for cultivator and urban self-employed households.
- 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.

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Household Type	Prod. assets ratio (1)	Finl Inv assets ratio (2)
RW (Base category)	0.05	-0.06
R-CU	-0.02	0.00
R-AL	0.05	0.10
R-SE	0.00	0.00
R-CL	0.05	-0.01
U-SE	0.05	-0.01
U-CL	0.05	0.02

- Increase in PR for households, almost across the board
- FIR saw a decline for all households except agriculture labourer and urban casual labour
- Decline in FIR arising from lower average allocation in savings, chit funds, retirement assets and shares

How has the allocation of net worth changed?

Household Type	Savings a/c (1)	Chit funds (2)	Retirement assets (3)	Shares & Inv (4)
RW (Base category)	0.326	-0.177	0.000	-0.051
R-CU	0.520	-0.037	0.066	-0.051
R-AL	0.326	-0.025	0.068	-0.014
R-SE	0.480	-0.080	0.048	-0.051
R-CL	0.499	-0.056	0.000	-0.051
U-SE	0.326	-0.177	0.000	-0.051
U-CL	0.405	-0.074	0.072	-0.051

- All household types report high in savings accounts ownership, and reduced participation in chit funds.
- Marginal gains in retirement investments are observed by overall, no household on type reported growth in market investments

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Household Type	Mortgage leverage (1)	Gold leverage (2)	USLIR (3)
RW (Base category)	-0.04	-0.48	11.6
R-CU	-0.04	-0.48	11.6
R-AL	-0.04	-0.48	11.6
R-SE	-0.04	-0.48	11.6
R-CL	-0.27	-0.48	11.6
U-SE	-0.04	-0.48	11.6
U-CL	-0.04	-0.48	11.6

- Overall leverage does not change significantly but mortgage Leverage Ratio and gold Leverage decreases while Unsecured Leverage increases

Summary

- Allocation of a significant portion of this net-worth in illiquid assets such as real estate
- Cultivator and urban self-employed households - increase in financial net-worth yet no significant change in the allocation of net-worth in financial assets.
- Labour households register the least increase in net worth - Increase in the allocation in financial assets over the decade while having no significant change in aggregate amount saved in financial investments.
- Uniform increase in the proportion of households holding in savings accounts – the largest increase is seen in cultivator households.
- Households are increasing their leverage to unsecured debt while the mortgage and gold leverage has reduced.
- Increase in participation or value in any type of financial assets is independent of the degree of access to banking services