

Food Security for All? Examining the Reach and Limitations of India's Public Distribution System

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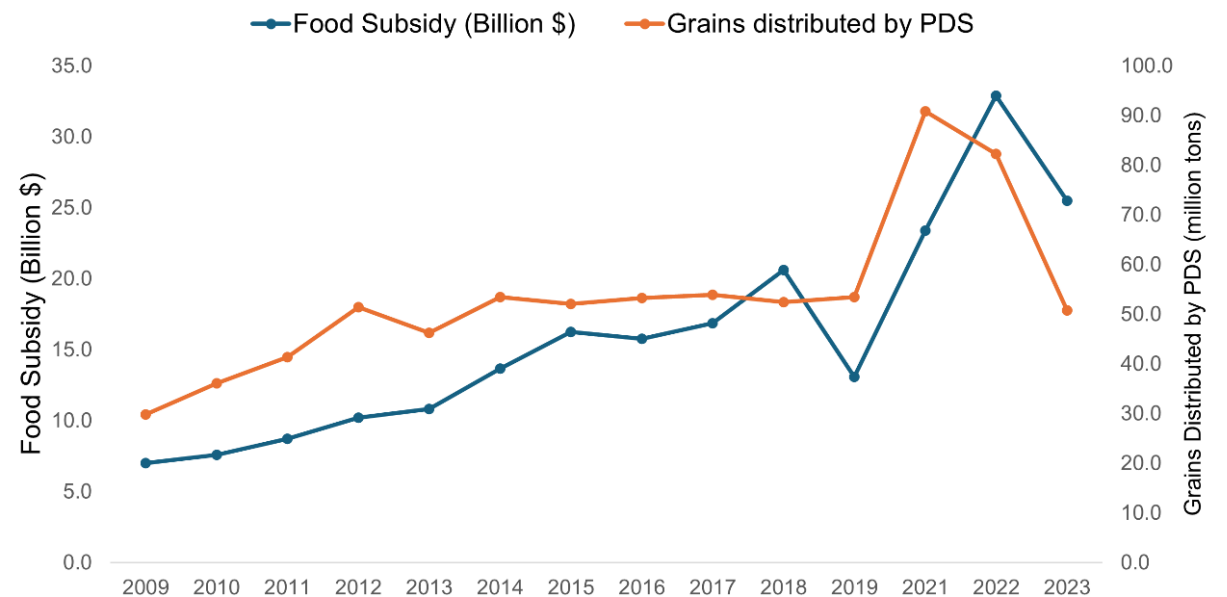
India's public distribution system



- 545,000 Fair Price Shops (FPS)
- Goals: Food security, reduce hunger, and ensure nutritional support to vulnerable populations.
- Annual Foodgrain Allocation: Over 60 million tons.

The National Food Security Act (NFSA) mandate

- Expanded coverage (extensive margin)
 - 75% of rural population covered
 - 50% of urban population covered
 - Total 66% covered
- Entitlement (intensive margin)
 - 5kg of rice/wheat/coarse grain per beneficiary per month
 - Subsidized Rates: Rice at ₹3/kg, Wheat at ₹2/kg, Coarse grains at ₹1/kg

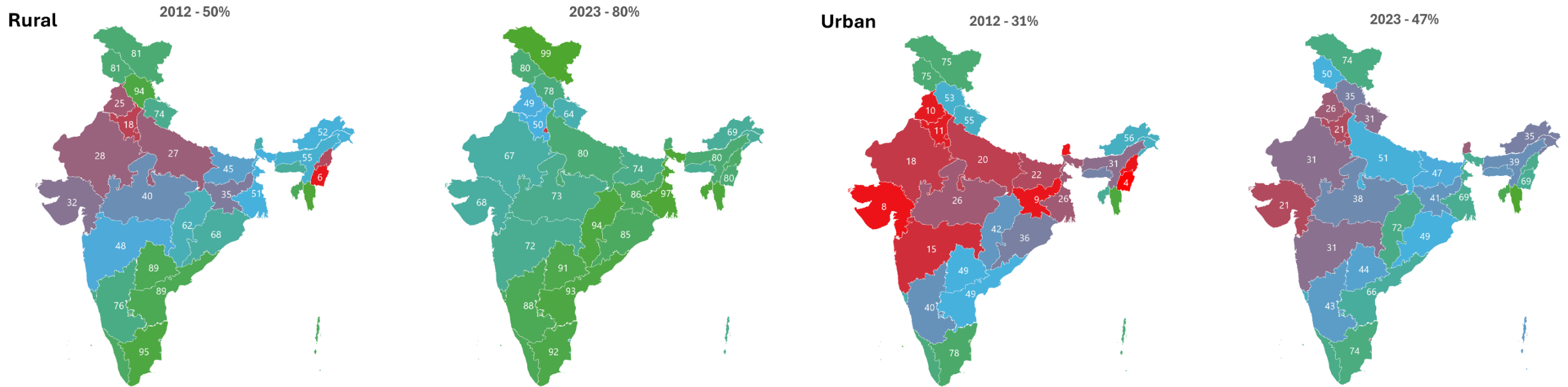


Research questions & Data

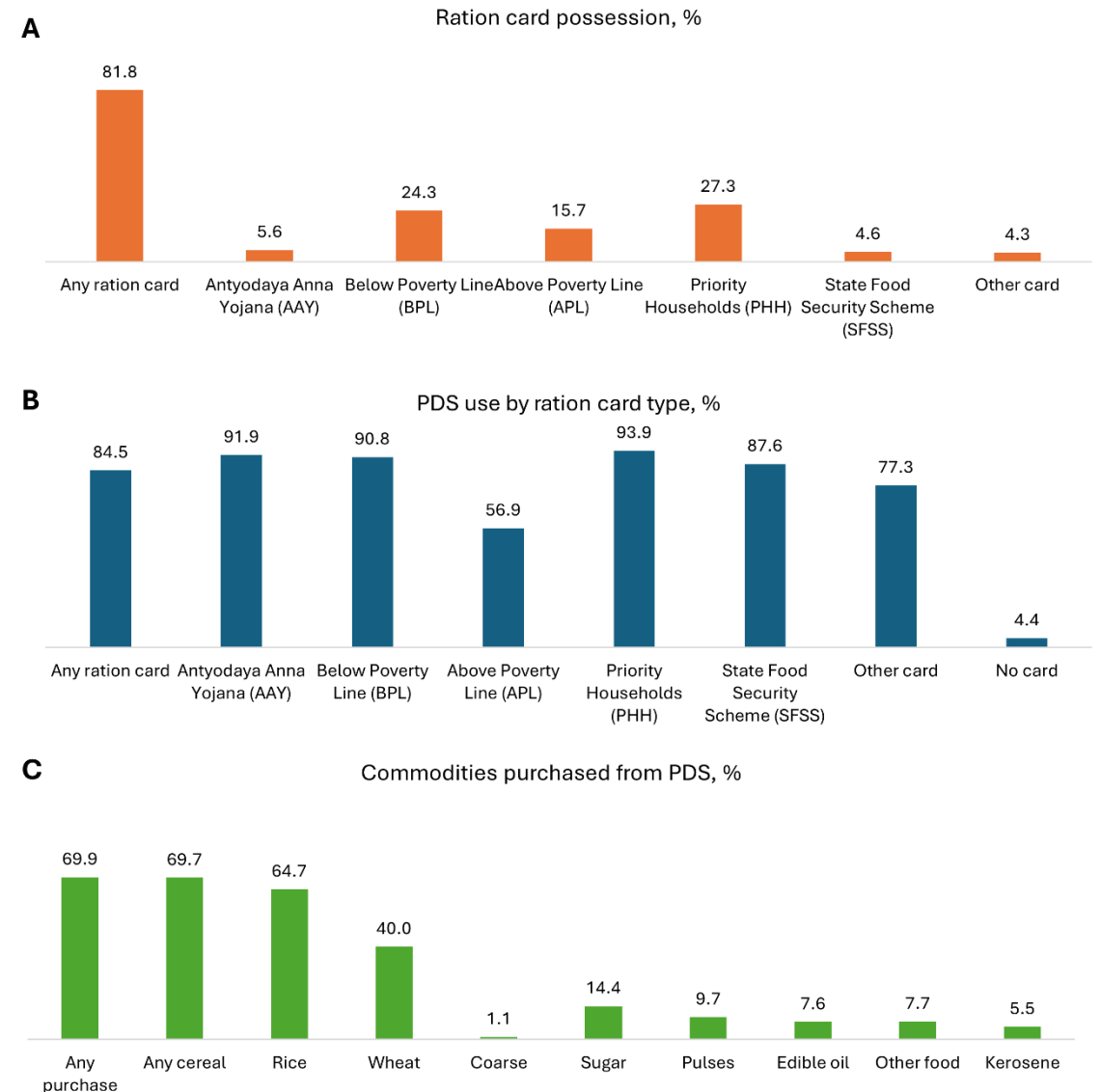
- Did the PDS meet the NFSA mandate in 2023?
- What are the problems with the NFSA design?
- Does PDS correlate with better diets?

- National Sample Survey of Consumer Expenditure (2022-2023)

Change in coverage of households under India's Public Distribution System, 2012-2023



Ration cards and commodities purchased by households from India's Public Distribution System in 2023



Exclusion & inclusion errors in PDS based on wealth rankings

Exclusion errors in the NFSA target population

% who purchased no PDS cereal

Rural Urban

16% 27%

% who purchased less than 5 kg of cereal per month using AAY/BPL/PHH/APL cards

58% 68%

Inclusion errors in the NFSA excluded population

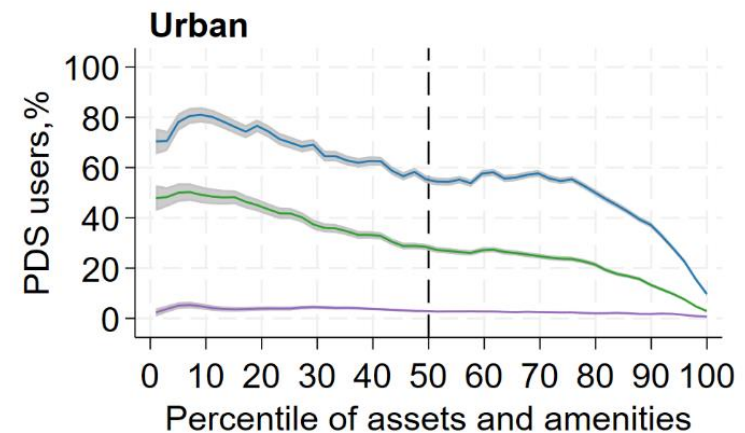
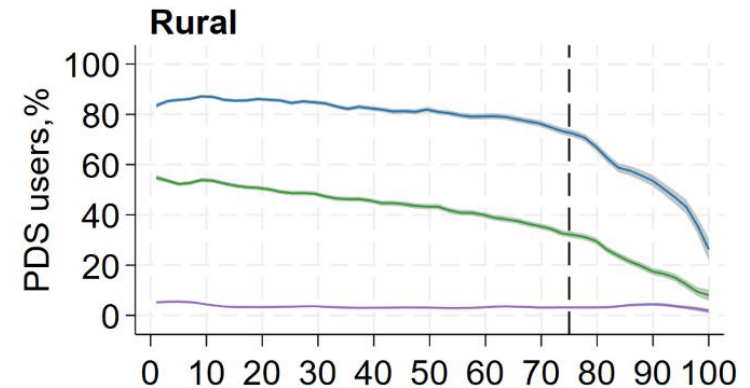
% who purchased any PDS cereal

60% 47%

% who purchased 5 or more kg of cereal per month using AAY/BPL/PHH/APL cards

20% 16%

— Any PDS purchase — NFSA quota met with AAY/BPL/APL/PHH

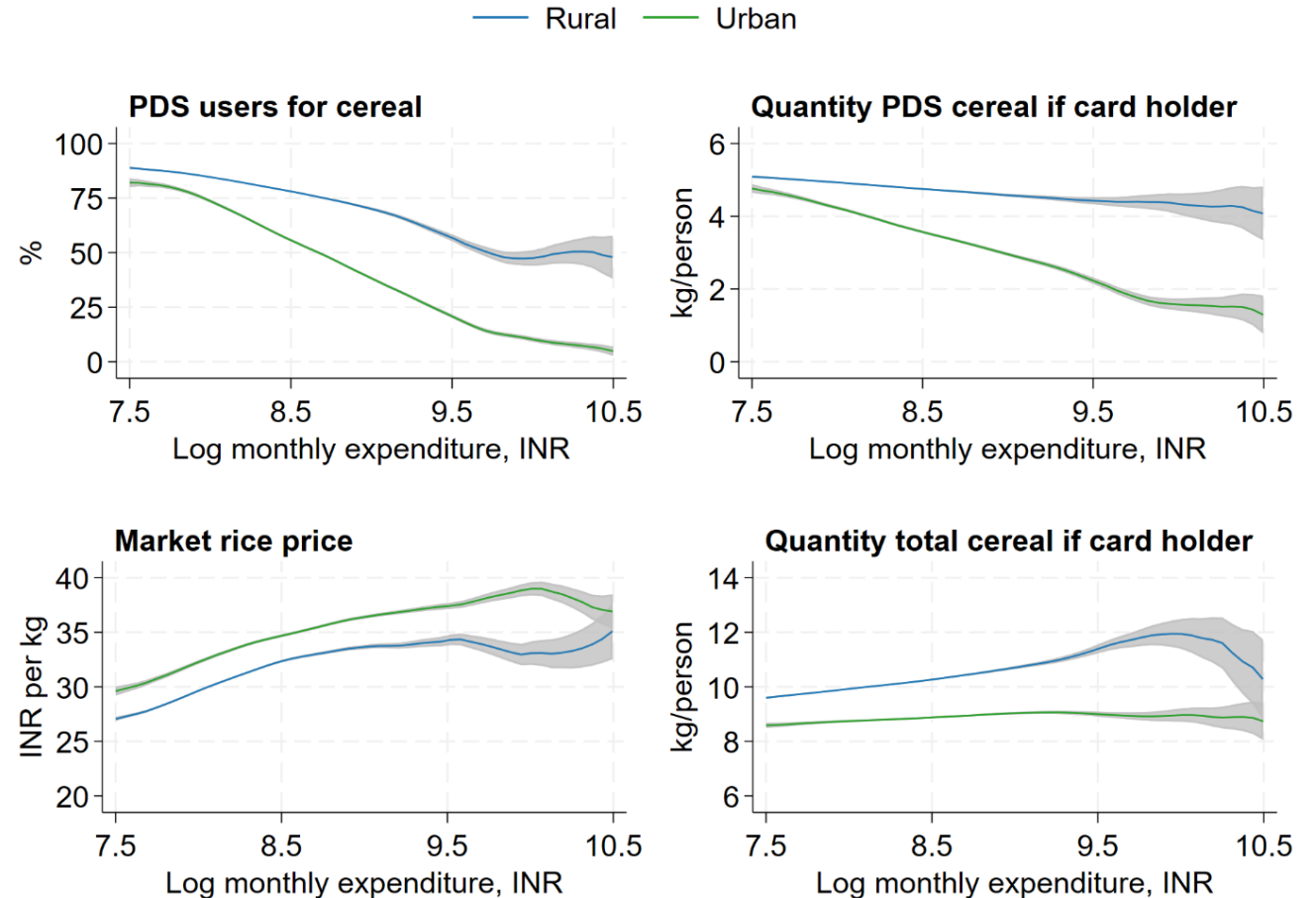


3 potential sources of errors

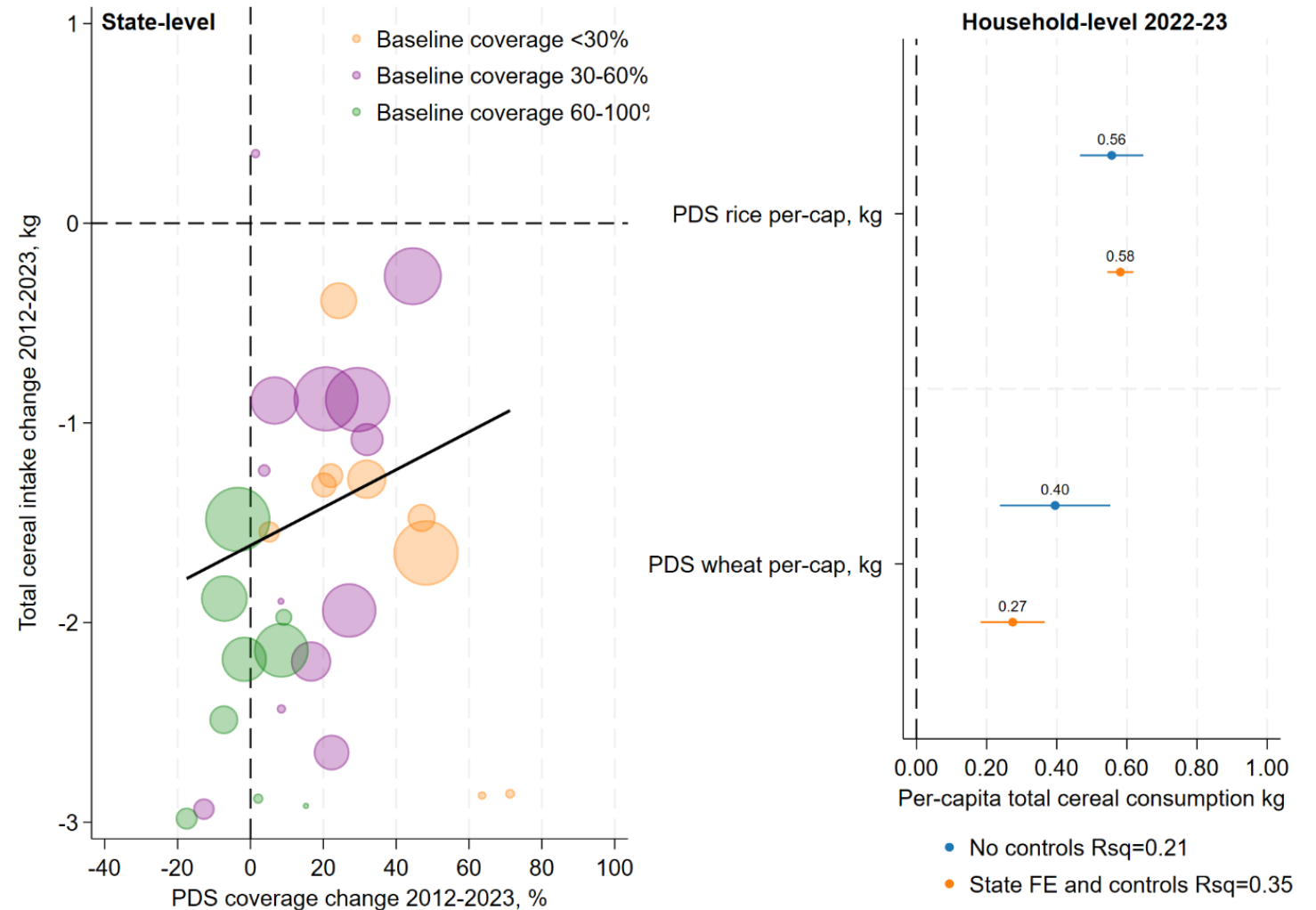
- Population growth and urbanization with time
 - PDS covers 50% of urban and 75% of rural population of India in 2011, not 2022-23
- NFSA identified priority households based on assets and social characteristics
 - Gives more weight to enduring characteristics that predispose families to chronic poverty.
 - The IHDS panel data shows large scale movement of households in and out of poverty between 2004-05 and 2022-24 (Desai et al., 2024)
- We have not managed to rank households by NFSA criteria

Tax on urban migration (?)

- Urban households are significantly less likely to be buying or getting subsidized free grains from PDS at each MPCE level
- This is by design (50% vs. 75%)



Does more PDS use correlate with higher cereal intake?



Does more PDS use correlate with better diet quality?

Results from PSM models

Panel A	Rural (N=119,725)		Urban (N=75,561)	
	ATE	95%CI	ATE	95%CI
M-GDQS plus				
All	0.57*	[0.46; 0.26]	1.00*	[0.92; 1.09]
Poor (1-5 wealth quintile)	0.66*	[0.55; 0.78]	1.55*	[1.36; 1.74]
Non-poor (6-10 wealth quintile)	0.30*	[0.06; 0.55]	0.51*	[0.41; 0.61]
M-GDQS minus				
All	-0.10*	[-0.14; -0.06]	-0.19*	[-0.23; -0.16]
Poor (1-5 wealth quintile)	-0.14*	[-0.19; -0.10]	-0.27*	[-0.34; -0.20]
Non-poor (6-10 wealth quintile)	0.03	[-0.04; 0.11]	-0.11	[-.015; -0.07]

Takeaways

- Did the PDS meet the NFSA mandate in 2023?
 - 66% of population has access to the PDS but many do not get their full entitlements.
 - There are high exclusion errors in urban India, likely due to a dated census.
- What are the problems with the NFSA design?
 - Urban PDS users pay higher prices for food but get lower PDS coverage.
- Does PDS correlate with better diets?
 - PDS users are marginally nudged towards higher cereal consumption.
 - PDS users eat more healthy and unhealthy foods
 - PDS has larger benefits for diets of the poor

Thank you!