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**Food Subsidies in India: Comparing the Medium Term Impacts of Physical Grain Transfers
and Different Types of Cash Transfers**

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FOOD SUBSIDIES IN INDIA:

COMPARING THE MEDIUM TERM IMPACTS OF
PHYSICAL GRAIN TRANSFERS AND DIFFERENT
TYPES OF CASH TRANSFERS

Annelies Deuss, Marcel Adenäuer



Outline

- Background on Food Security in India
- Methodology
- Comparing physical grain transfers to cash transfers
- Discussion



Food security in India

- Food security instruments have a long history in India with several instruments in place
- Main food security policy instrument: Public Distribution System (PDS) of subsidized food grains (Wheat and Rice) in place since 1943 (revised and improved over time)



Food security in India (cont.)

- In 2013, India enacted the National Food Security Act (NFSA) which extended the coverage, depth and scope of previous public distribution programs
 - Main changes compared to previous public distribution programs:
 - Larger coverage: 75% of rural, 50% of urban
 - Lower prices of subsidized food: Rs. 3/kg for rice, Rs. 2/kg for wheat and Rs. 1/kg for coarse cereals
 - Per capita entitlements for priority households: 5kg/capita/month for priority households (35kg/household/month for AAY households)
 - Right to food a legal entitlement



Food security in India (cont.)

- PDS has been successful at improving food security situation
- PDS/NFSA: higher coverage, lower prices of subsidized food - improve access
- ... but also faces several critiques:
 - **Targeting:** high rates of inclusion and exclusion errors
 - **Consumption:** focus on wheat and rice, ignores changing food preferences and importance of micro-nutrients
 - **Production:** skewed towards wheat and rice, away from crops that may yield higher incomes or crops that are better suited to agro-climatic conditions in cultivation area
 - **Large procurement quantities:** crowding out of private sector less grain in open market which leads to higher prices
 - **High fiscal cost**
 - High rates of **leakage** (illegal diversion of food grains from PDS to open market) and **wastage** (due to poor storage and transport facilities)



Question:

- Can a system of cash-transfers be more effective, more efficient and less expensive while reaching the same food security goals?

Advantages	Disadvantages
<ul style="list-style-type: none">• Lower administrative and transaction costs• Expanded choices for beneficiaries• Less leakage	<ul style="list-style-type: none">• Beneficiaries are exposed to food price inflation and volatility• Limited access to banking and underdeveloped banking infrastructure in rural areas



Are cash-transfers a realistic option in India?

- NFSA allows for delivering cash instead of in-kind food delivery
- NFSA promotes the introduction of direct cash transfers
- The Union Territories of Chandigarh, Puducherry and Dadra and Nagar Haveli introduced the Act in direct benefit transfer (DBT) mode as a pilot project in 2015
- Implementation gradually (proposal by High Level Committee on Restructuring of FCI, 2015)
 - starting with large cities (more than 1 million population)
 - extending to grain surplus states
 - giving option to deficit states to chose between cash and physical grain distribution

METHODOLOGY



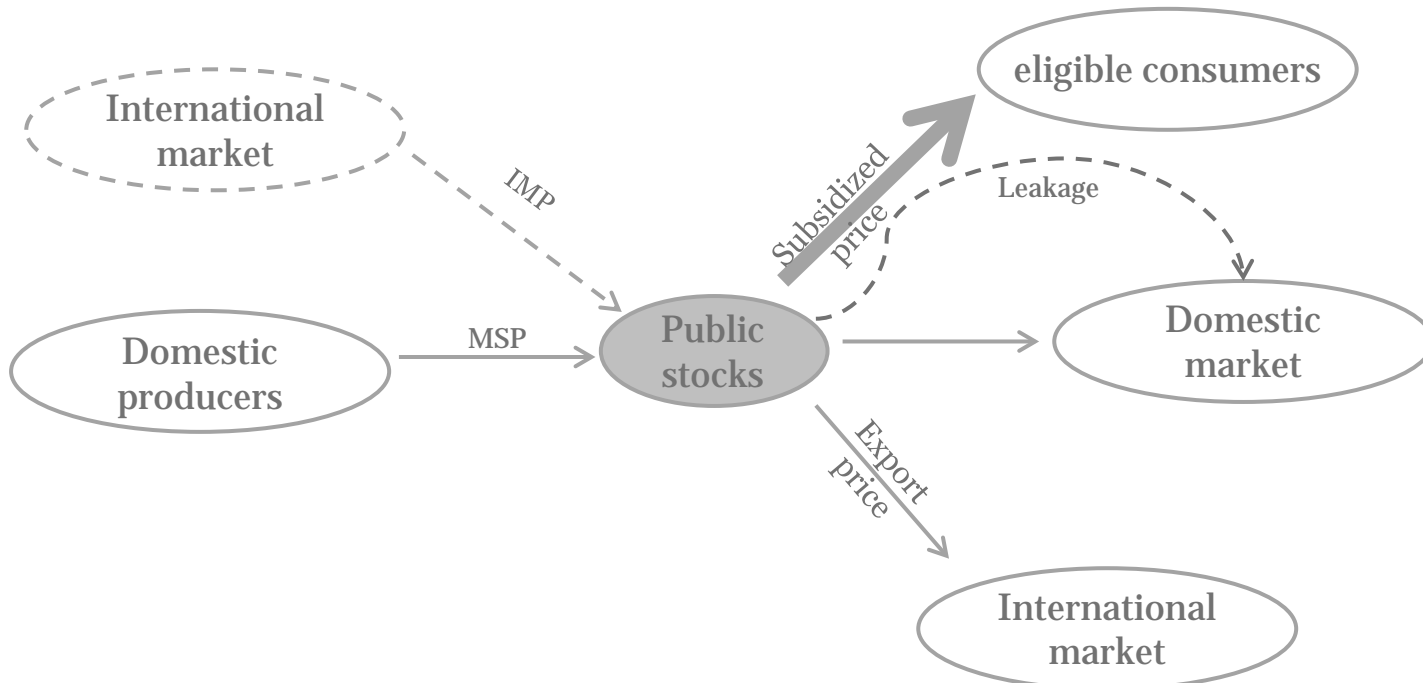
The Aglink-Cosimo Model

- Aglink-Cosimo: an economic model of world agriculture managed by the Secretariats of the OECD and FAO
- Aglink-Cosimo is
 - recursive-dynamic (over 10 years),
 - partial equilibrium
 - used to simulate developments of annual market balances and prices for the main agricultural commodities produced, consumed and traded worldwide.
 - used in the production process of the OECD-FAO Agricultural Outlook and policy scenarios



Model Adjustments for this study (1)

- Explicit modelling of the grain procurement and distribution system for wheat and rice in India:



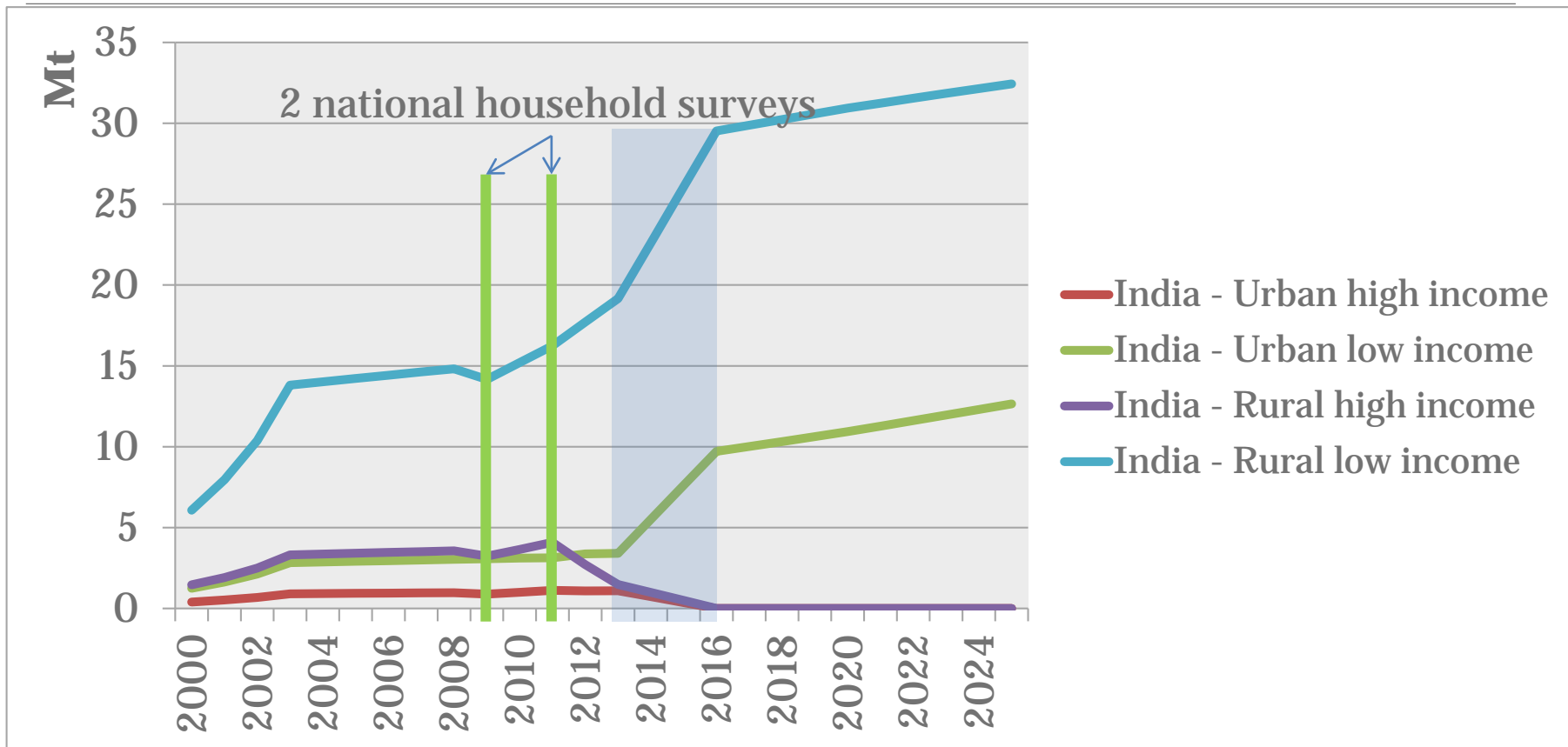


Model Adjustments for this study (2)

- Demand represented at 4 Household groups:
 - Urban high income
 - Urban low income (*eligible for PDS grains*)
 - Rural high income
 - Rural low income (*eligible for PDS grains*)
- Information on food demand and expenditures were taken from 2 national household surveys (NSSO 2009 & 2011)
- Demand elasticities based on (Kumar et al, 2011)



Data construction example (PDS Rice demand - baseline)



- Info from 2 national household surveys (NSSO 2009&2011) used to construct PDS consumption
- Shaded area: implementation NFSA (2013-2016) – low income get PDS rice, high income not eligible
- Post 2016: trend based on population growth

COMPARING PHYSICAL GRAIN TRANSFERS TO CASH TRANSFERS



Scenario assumptions

- **Baseline:** PDS/NFSA remains in place
- **Scenarios:** cash transfer (consumers) + structural reform (producers)
 - **Consumers: Cash transfer**
 - Gradual: start in 2017, full implementation after 5 years
 - Partial: 30% of original PDS is maintained in rural areas beyond 2021
 - Eligible: low income groups (75% rural, 50% urban)
 - **Producers: Structural reform**
 - Reduce gap between international and domestic prices over 10 year period -> better market integration



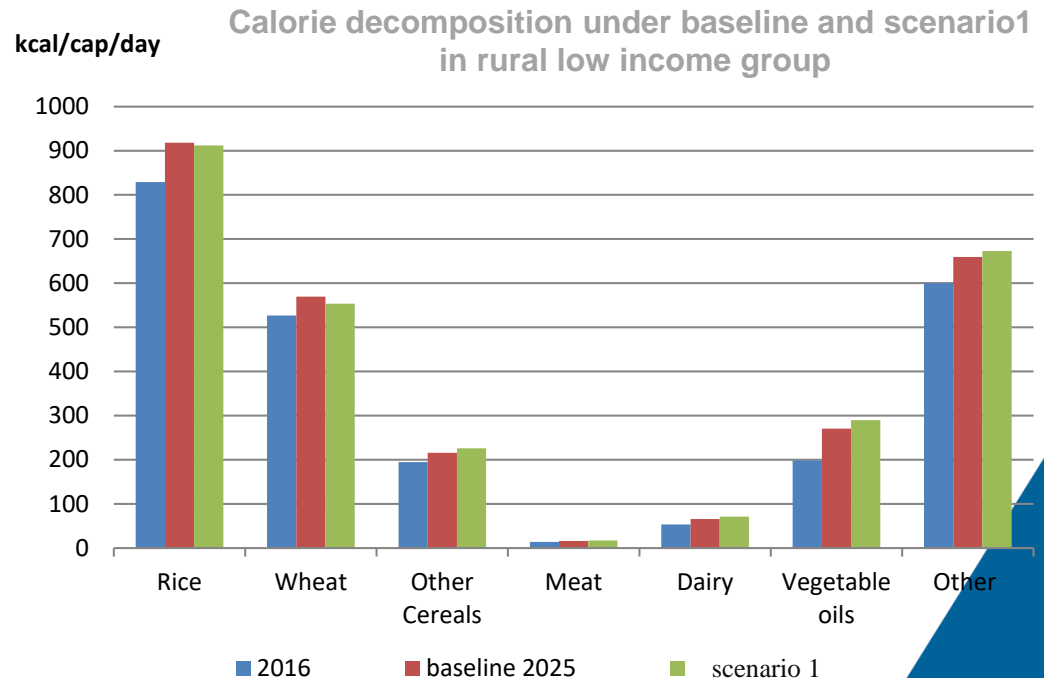
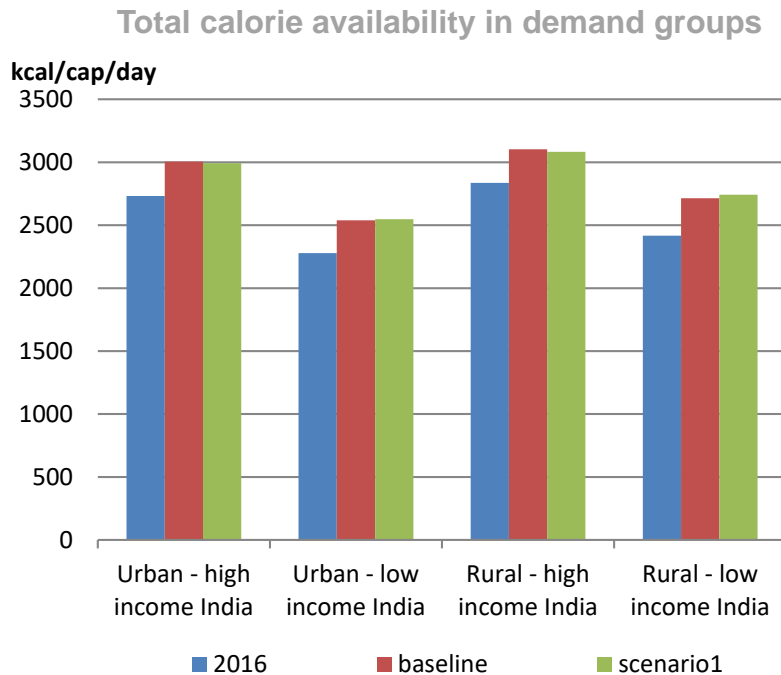
Scenario assumptions

- 3 Scenarios differ in the way cash transfer is calculated:
 - Scenario 1: $1.5 * \text{MSP} - \text{CIP} * \text{PDS} - \text{entitlement}$
 - Scenario 2: $\text{CP} - \text{CIP} * \text{PDS} - \text{entitlement}$
 - Scenario 3: $\text{Base-transfer} * \text{change in food price index} * \text{PDS} - \text{entitlement}$
- Under Baseline conditions the three scenarios lead to very similar cash transfer quantities -> results



Main findings in Scenario 1

People entitled to PDS food grains are projected to be at least as well off in terms of per capita calorie consumption (availability) when they receive cash transfers instead of physical grain and the composition of diets is projected to be more varied when consumers receive cash than when they can buy rice and wheat at subsidized prices:



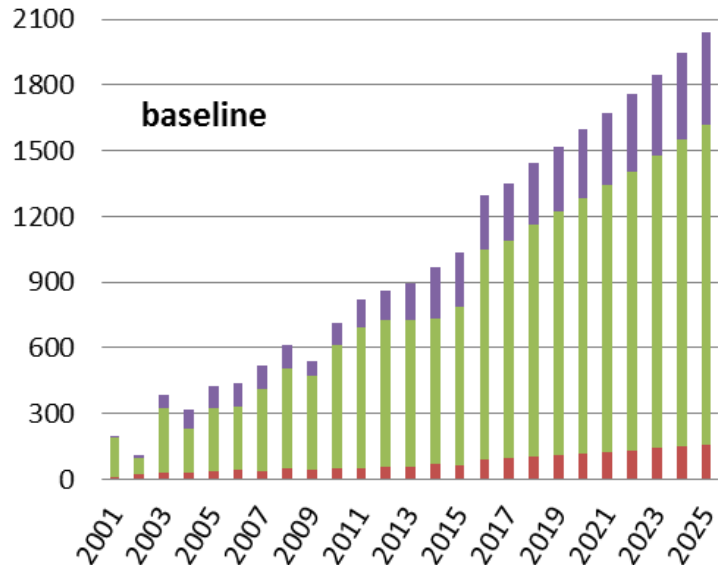


Main findings in Scenario 1

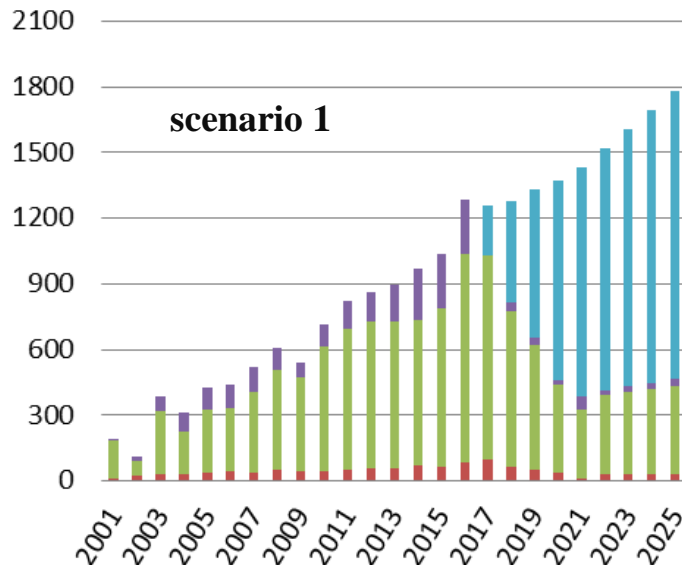
Consumer prices for rice and wheat are projected to be relatively higher under the scenario 1 than under the baseline and the cash transfer program is projected to be less costly than the PDS

Composition of the cost of the food subsidy program: baseline and scenario 1

Million Rupees



Million Rupees



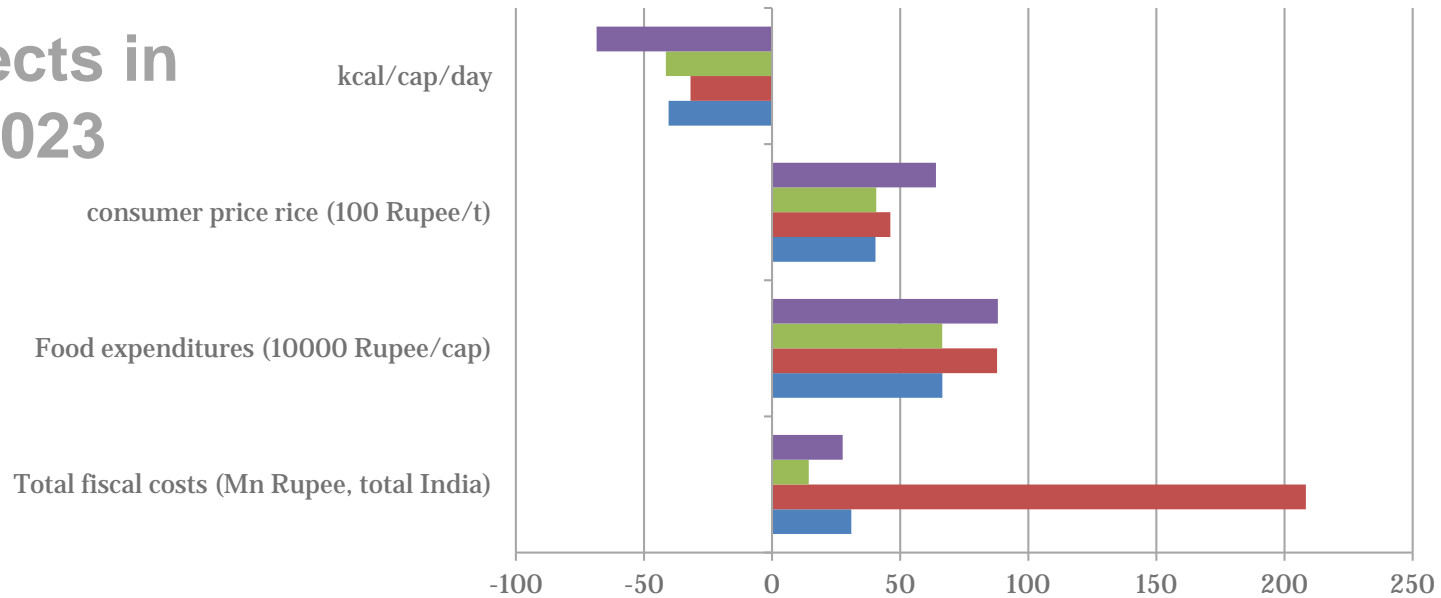
- Cash Transfer costs
- Stock Distribution Costs
- Stock Procurement Costs
- Stock carry over costs



But what if a shock appears?

- Same scenarios, but yields for rice and wheat 10 % lower in 2022 and 2023.

Effects in 2023



■ Baseline

■ Cash-transfer based on MSP

■ Cash-transfer based on actual consumer price

■ Cash-transfer based on food price index



What about the farmers?

- Improving market performance has strong potential to improve income security of producers
 - Key aspects of complementary reform agenda include:
 - More stable trade policies (no more export bans/restrictions)
 - Reforming regulatory restrictions in wholesale market
 - Investing in agricultural infrastructure and producer capabilities



Discussion

- Results suggest that moving from the existing PDS system to a partial system of cash transfers has advantages
- The calculation method for cash transfers based on a food price index seems appropriate
- Without MSPs farmers become more market oriented and face new challenges and opportunities
- Catastrophic risk management tools have to accompany the system