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Nutrition benefits of the world's largest perinatal cash transfer program

India's Pradhan Mantri Matru Vandana Yojana

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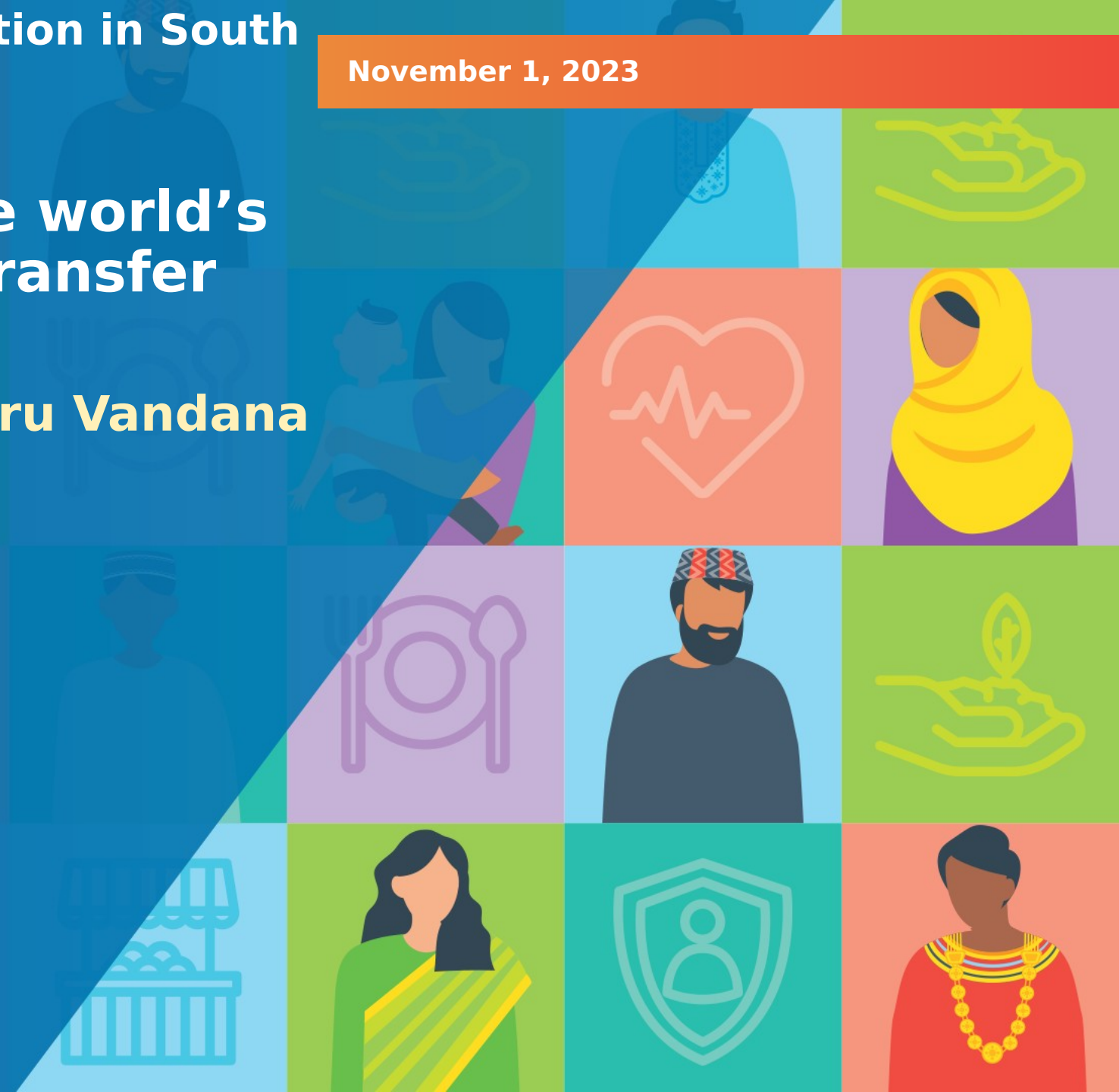
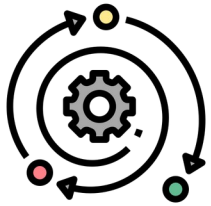


Overview of PMMVY Program

- National prenatal conditional cash transfer program launched in 2017
- Eligible beneficiaries are women who will have first live birth.
- Total amount of INR 5000 is disbursed in three tranches.
  a) First tranche of INR 1000 after registering the pregnancy
  b) Second tranche of INR 2000 after at least one ANC and 180 days of pregnancy
  c) Third tranche of INR 2000 after childbirth registration and first cycle of immunization.
- Ministry of women and child development (MWCD) at the Central while at the State/UT have the option to implement the either through WCD/Social Welfare Department or Health Department
- Funds are allocated by both center and state govt in 60:40 or 90:10 (special category states).

Research Questions (3E’s)

RQ1: Did potential PMMVY beneficiaries do better on anthropometric outcomes compared to similar potential non- beneficiaries?



RQ2: What are the possible pathways through which PMMVY might be working and have shown impact on the anthropometric outcomes?

RQ3: What is the association between government spending under PMMVY and its impact on the children's nutrition outcomes?

RQ4: Is PMMVY program economically viable?: A cost benefit analysis

Effectiveness

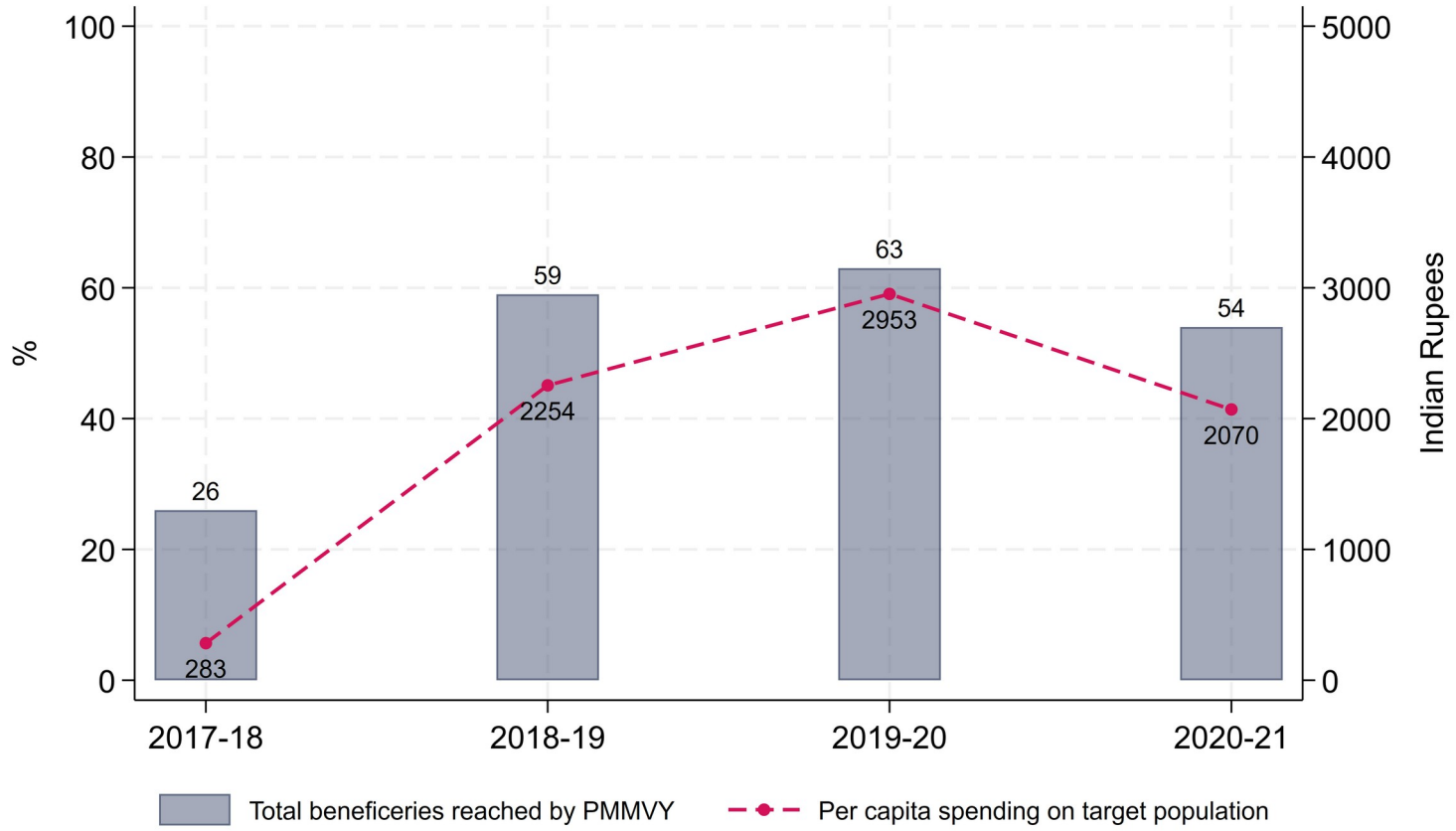
Efficiency

Economics

Data sources

Source	Period	Unit	Key data points
National Family Health Survey (NFHS)	2005; 2015; 2019 - 2021	Village	• Anthropometric outcomes • Mother & household characteristics
PMMVY statistics, Indian Parliament Q&A	2017 – 2020	State	• Beneficiaries under PMMVY *(Annually)* • Total amount disbursed *(Annually)*
Health Management Information System (HMIS)	2017 – 2020	State	• Total live births *(Annually)*
Sample Registration System (SRS), Indian census	2017 – 2020	State	• Birth order distribution of the total live births *(Annually)*

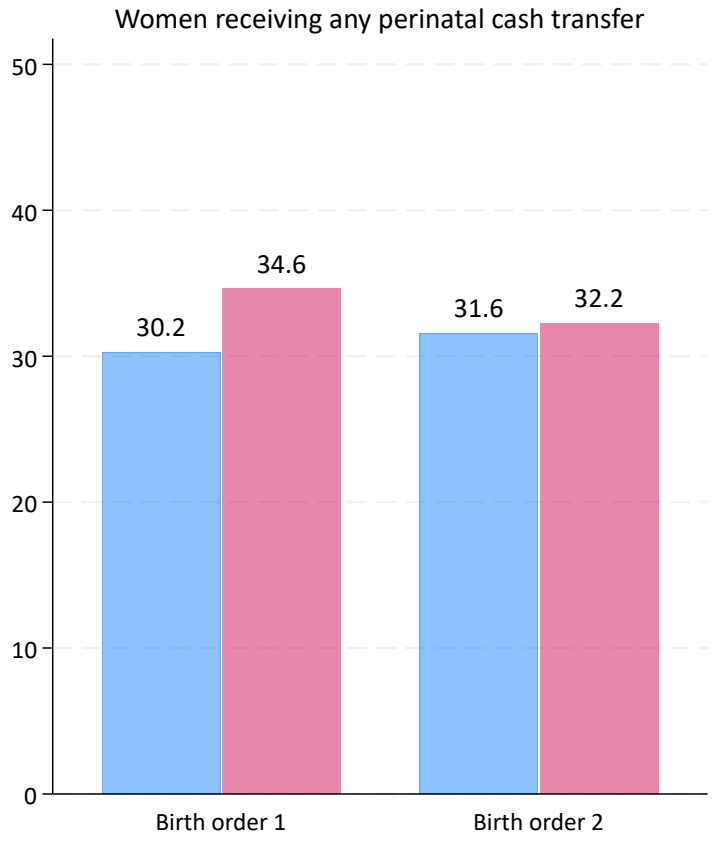
Coverage and resource allocation for the PMMVY program has remained *low*

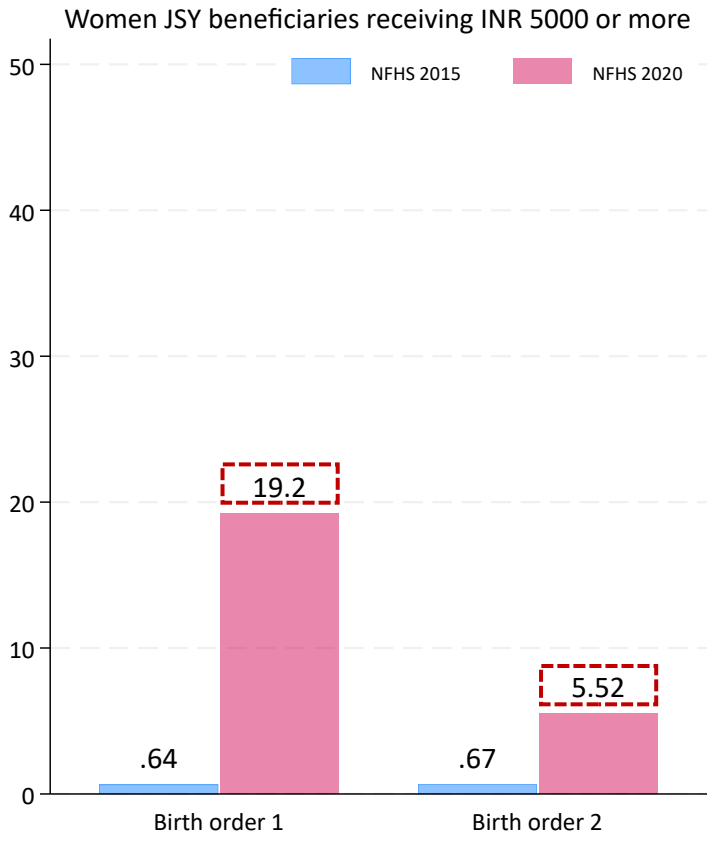


Note: a) *Figures for total eligible beneficiaries are estimated using HMIS, Census SRS and NFHS data;*
b) *Statistics on enrolled beneficiaries of PMMVY program is as per MWCD response to Lok Sabha*

Strategy to identify the PMMVY beneficiaries in NFHS 5

Panel A. Changes in perinatal cash transfer coverage by birth order and year from NFHS





Beneficiaries of the PMMVY program experienced *higher* anthropometric outcomes as compared to non-beneficiaries.

Pre-post comparison

- Baseline – NFHS 4 (No PMMVY)
- Endline – NFHS 5 (Post PMMVY)

Comparison 1

- Cash transfer (JSY/other schemes)

vs non-beneficiaries

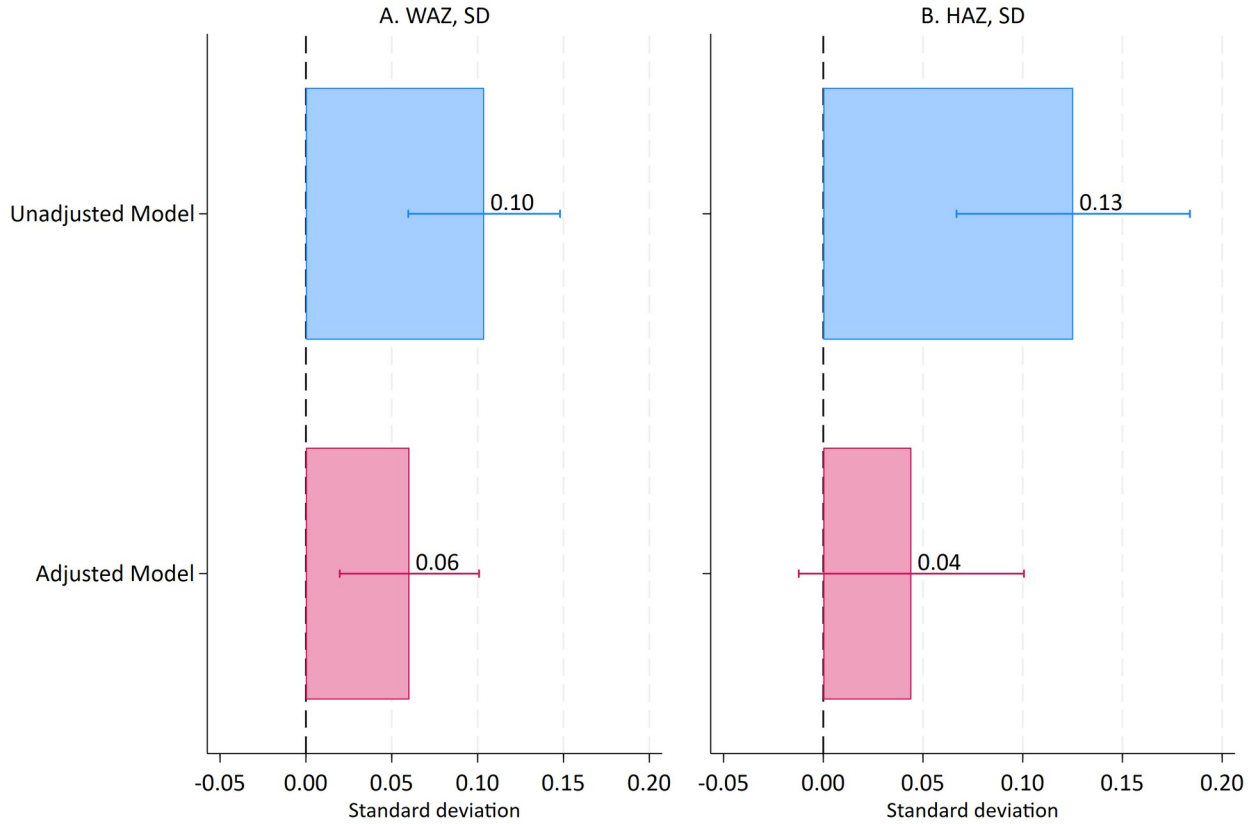
Comparison 2

- First (PMMVY beneficiary)

vs to second born children

Triple difference model

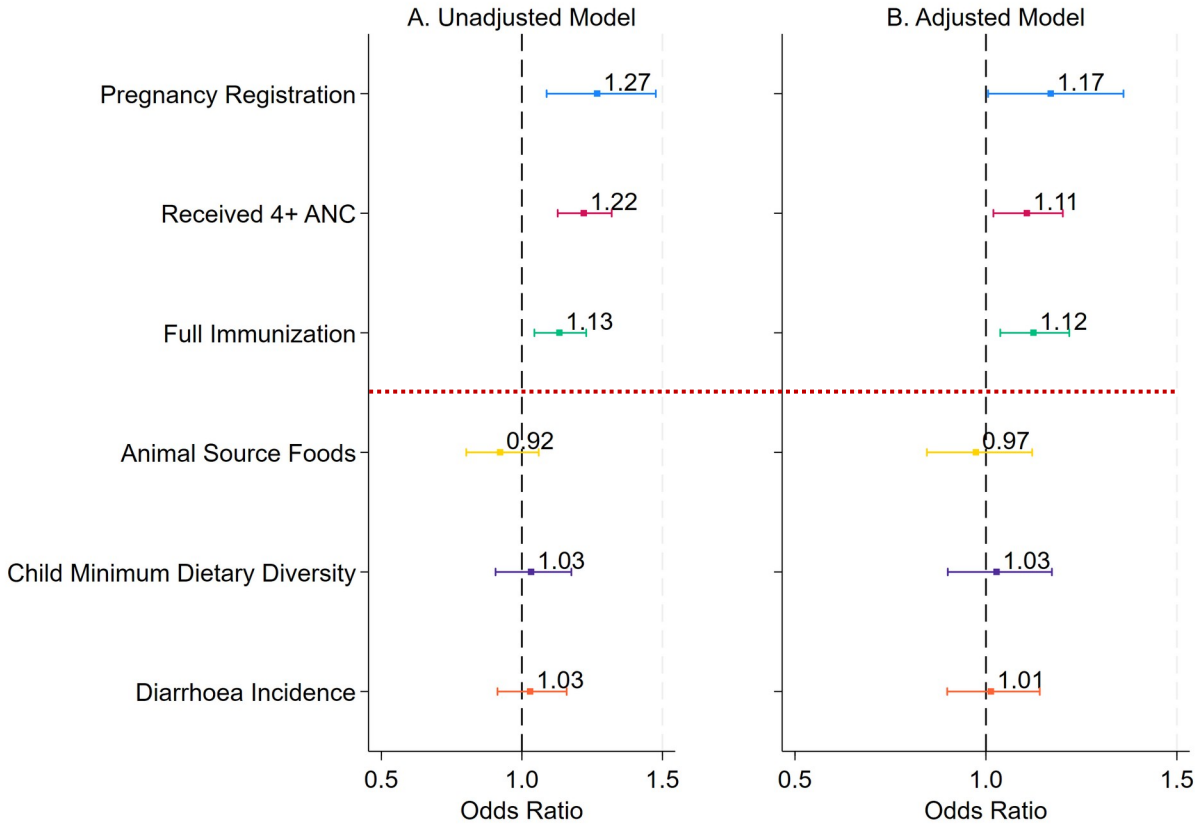
- A difference of two DIDs



Adjusted model controls for mother and household level covariates along with district fixed effect.

Beneficiaries of the PMMVY program have a higher likelihood of fulfilling the conditionalities as compared to non-beneficiaries.

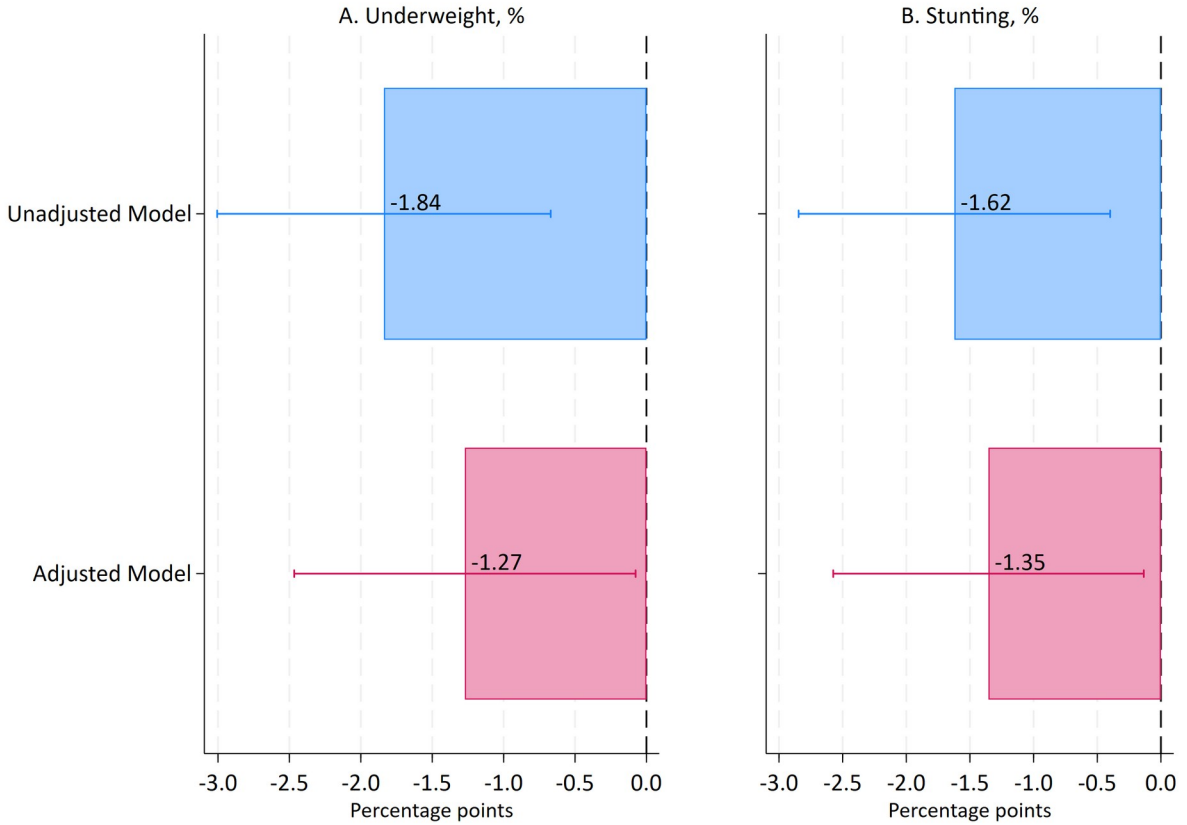
- PMMVY Conditionalities
  - Pregnancy Registration
  - Received ANC
  - Full Immunization
- Maternal CCT systematic review
  - Animal source food
  - Child MDD
  - Diarrhoea Incidence
- Tripple difference logit model



Adjusted model controls for mother and household level covariates along with district fixed effect.

Higher per-capita spending by the government under the PMMVY results in a decrease in underweight and stunting

- Aggregate NFHS data by state, birth-year, and CCT.
- Sample is restricted the sample to only the first born.
- Integrated the parliamentary expenditure data
- Per-capita expenditure varies by state and birth-cohort and is represents 1000 Indian rupees



Adjusted model controls for mother and household level covariates along with district fixed effect.

Program is cost effective with high overall returns (38%) ! It costs 1/3 of GDP per-capita (~$650) to avert a DALY with PMMVY

Underweight and stunting regression Coefficient per Rs 1000

→

Impact of PMMVY spending on underweight and stunting prevalence

↓

Number of stunting and underweight cases averted by PMMVY

→

Total Disability-Adjusted Life Year (DALYs**) averted

Method 1

(Benefit : Cost)

- Calculate the economic value of health benefit (DALYs * GDP per Capita)
- **Benefit : Cost = 1.38**

Method 2

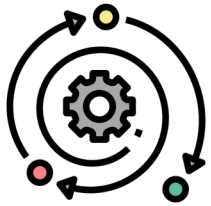
(Cost per DALY averted % GDP per capita)

- Cost to avert a DALY (Total DALYs averted / Cost incurred to PMMVY)
- **Cost per DALY averted % GDP per capita = 31%**

*** One DALY represents the loss of the equivalent of one year of full health.*

Key takeaways (3E's)

Exposure to PMMVY is associated with **improvements** in WAZ and HAZ among firstborn children.



Uptake of Program conditionalities, are **positively** associated with PMMVY beneficiaries.

Effectiveness

Higher program expenditure was linked to **improvements** in child anthropometric outcomes

Efficiency

Economic analyses suggest that PMMVY has a benefit-cost ratio of 1.38, indicating **cost-effectiveness**.

Economics

Thank You

Any Questions ?