

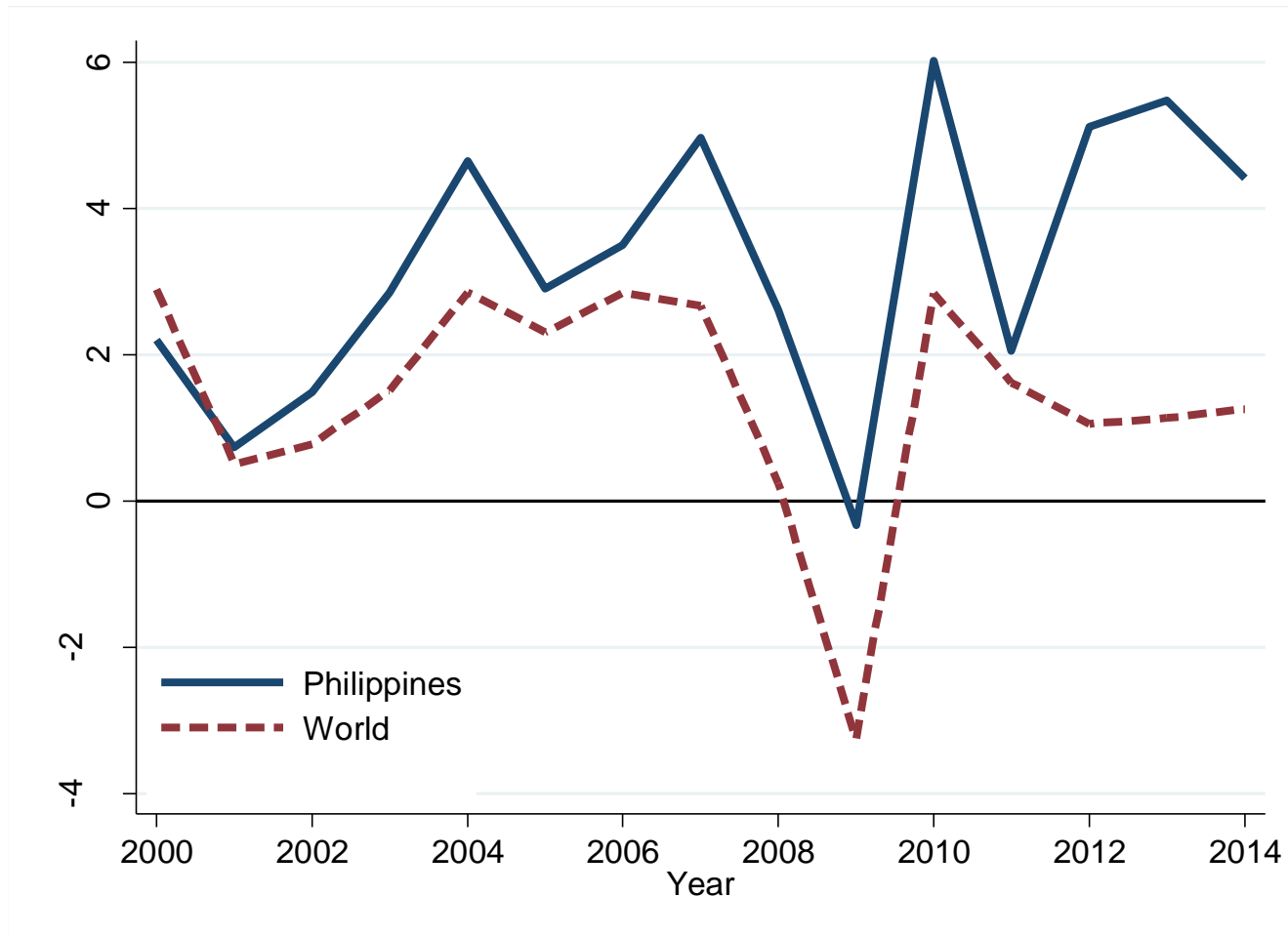
Human capital spending inequality and catch-up simulations for the Philippines

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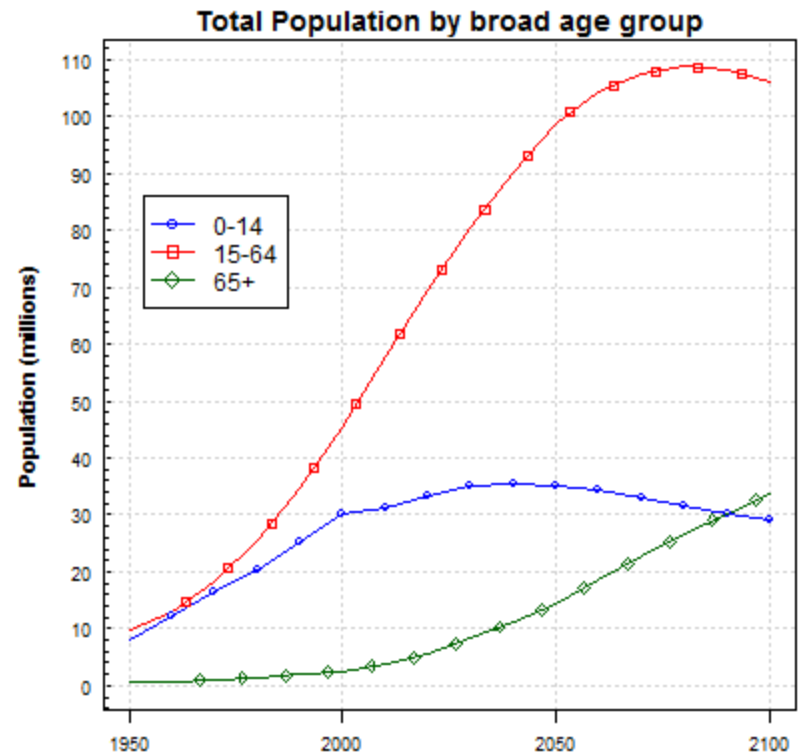
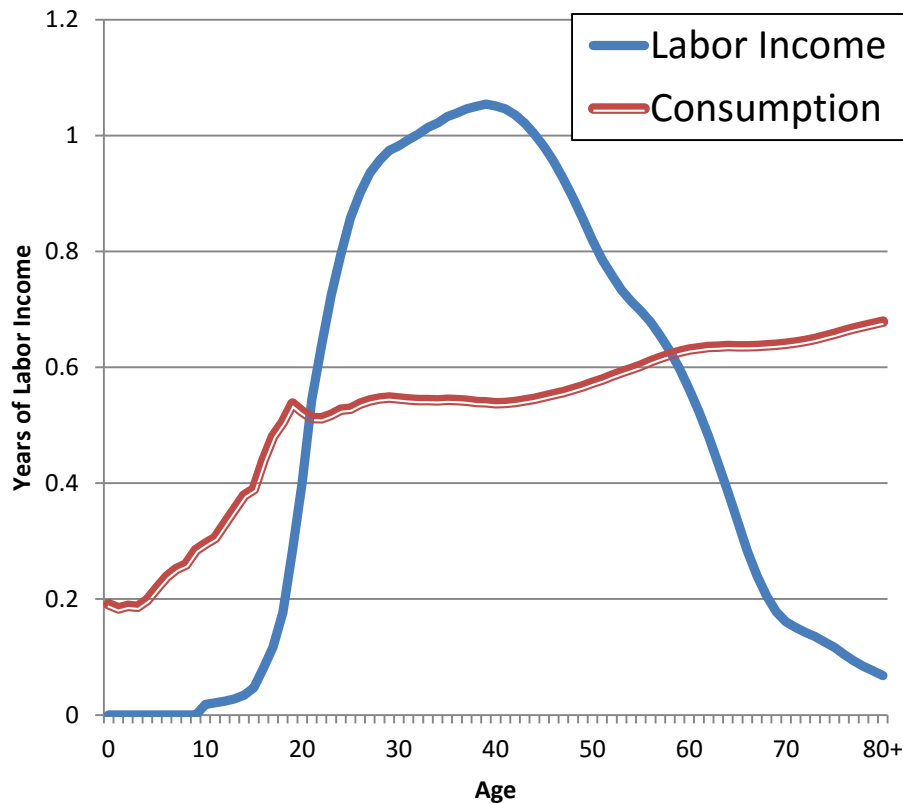
- Multi-year estimates
- Complete flow account: 1999, 2007
- Lifecycle only: 1991, 1994, 2002, 2004, 2011
- Sub-national estimates:
 - By sex: 2007
 - By income tercile: 2007
 - By income tercile and location: 1991, 1999, 2011
- Near-term plan: NTTA

Philippines in the last decade



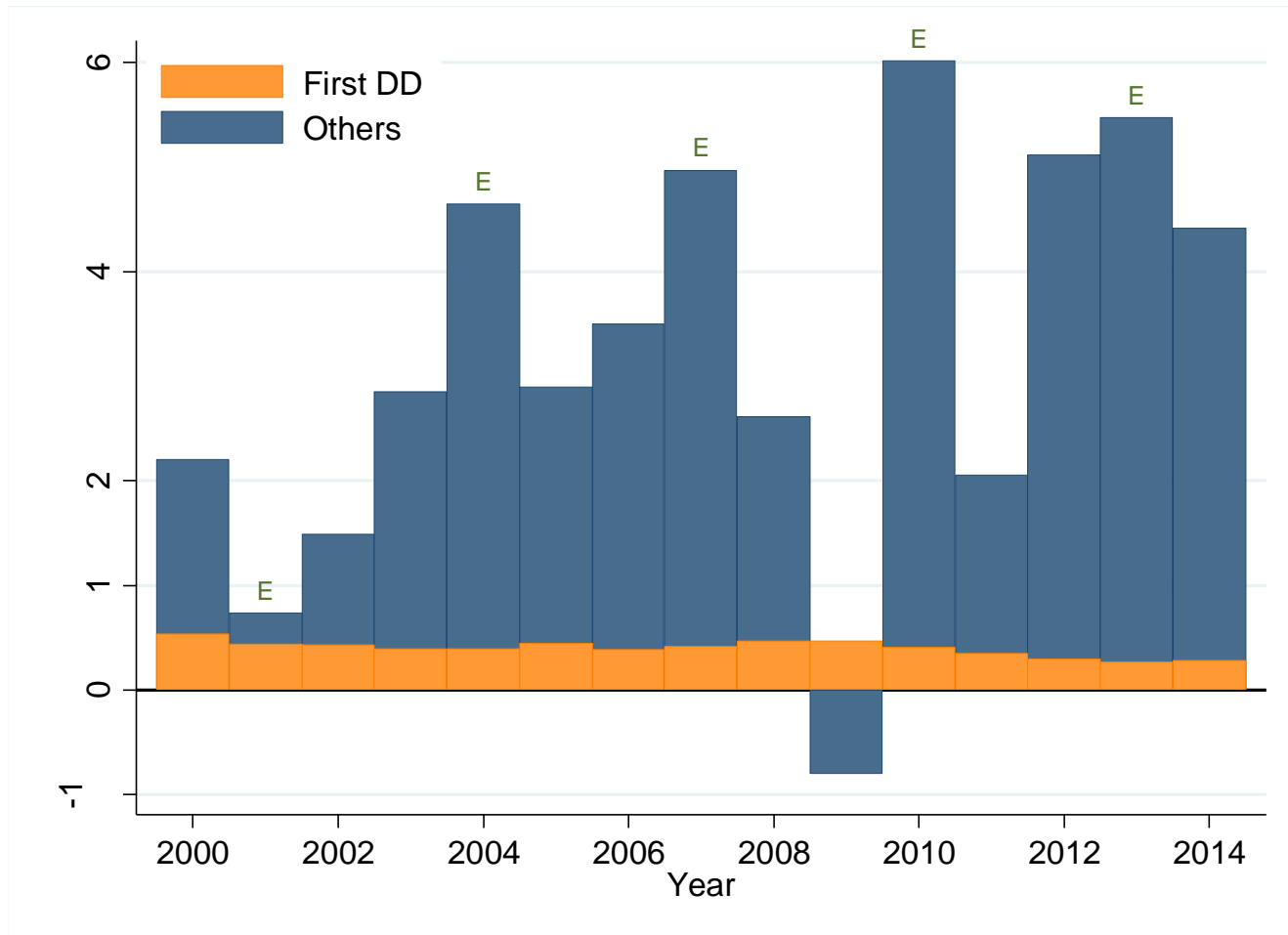
Population in sweet spot

- Increasingly concentrated in working ages



Source: UN WPP 2015

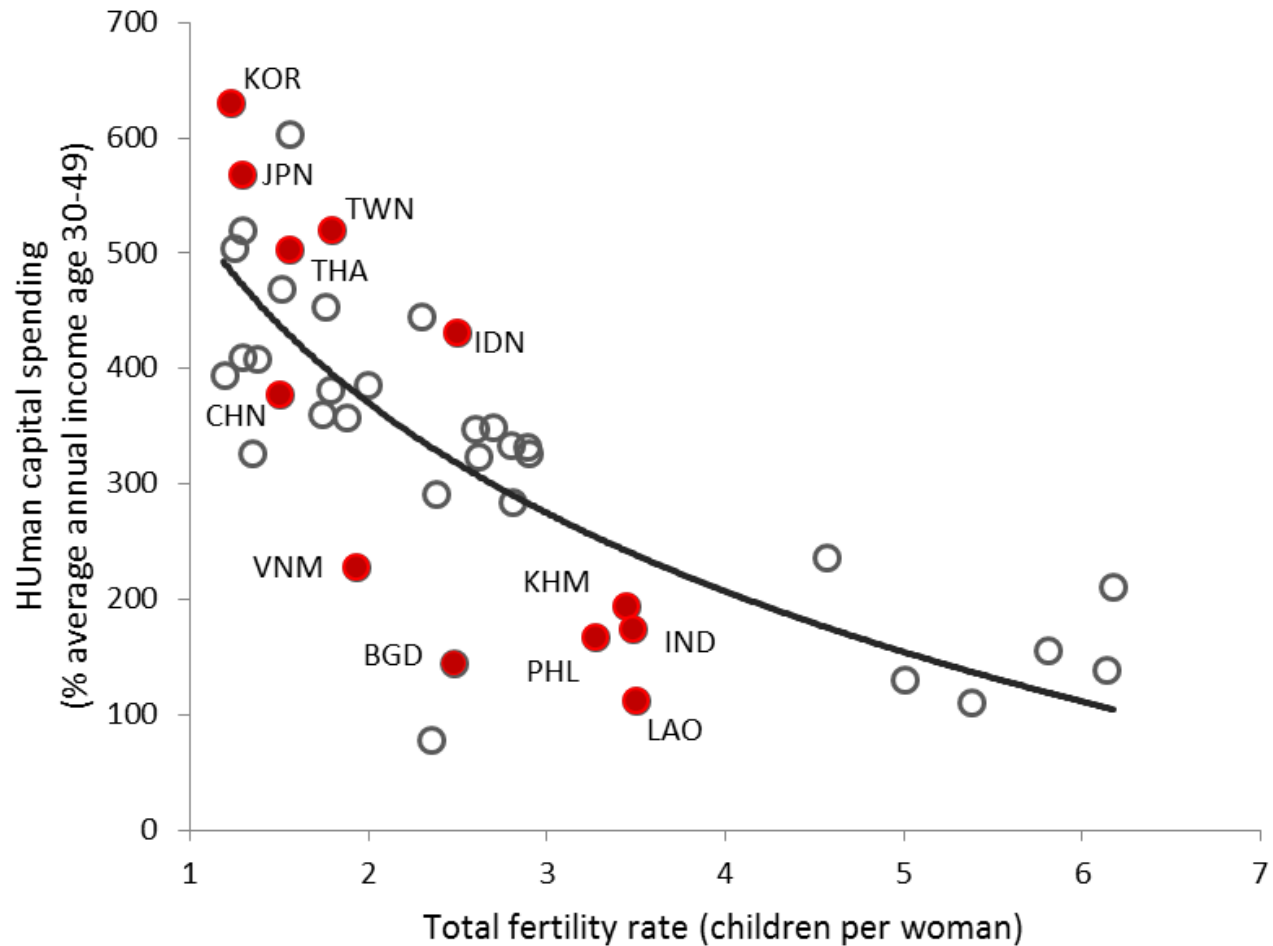
Growth decomposition



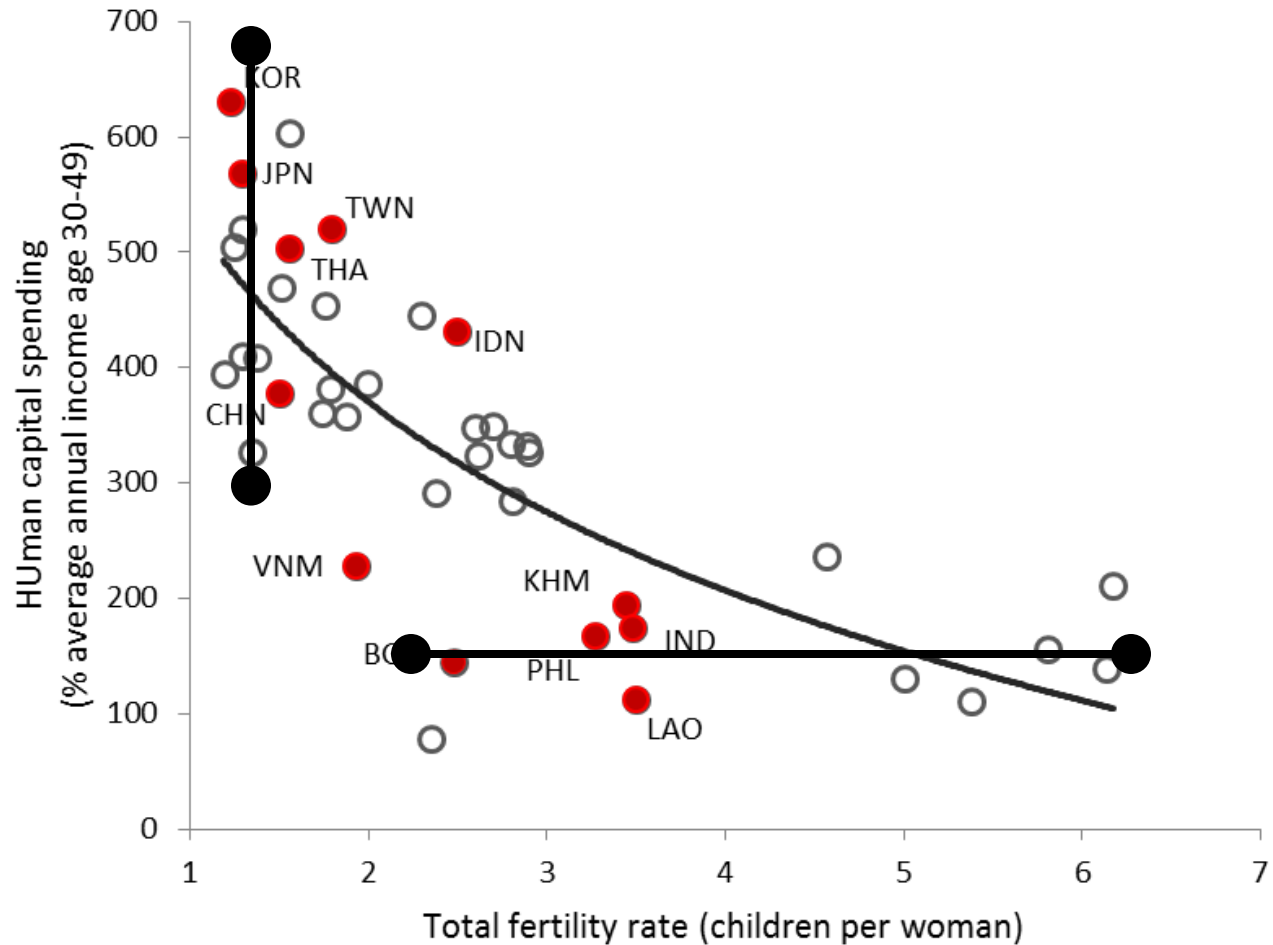
#walangforever

- First DD is mechanical – but not forever
 - NTA 1999 projection: 2057
 - NTA 2011 projection: 2045
- Second DD is typically larger – but not automatic; need to invest in
 - People
 - Physical capital
 - Institutions

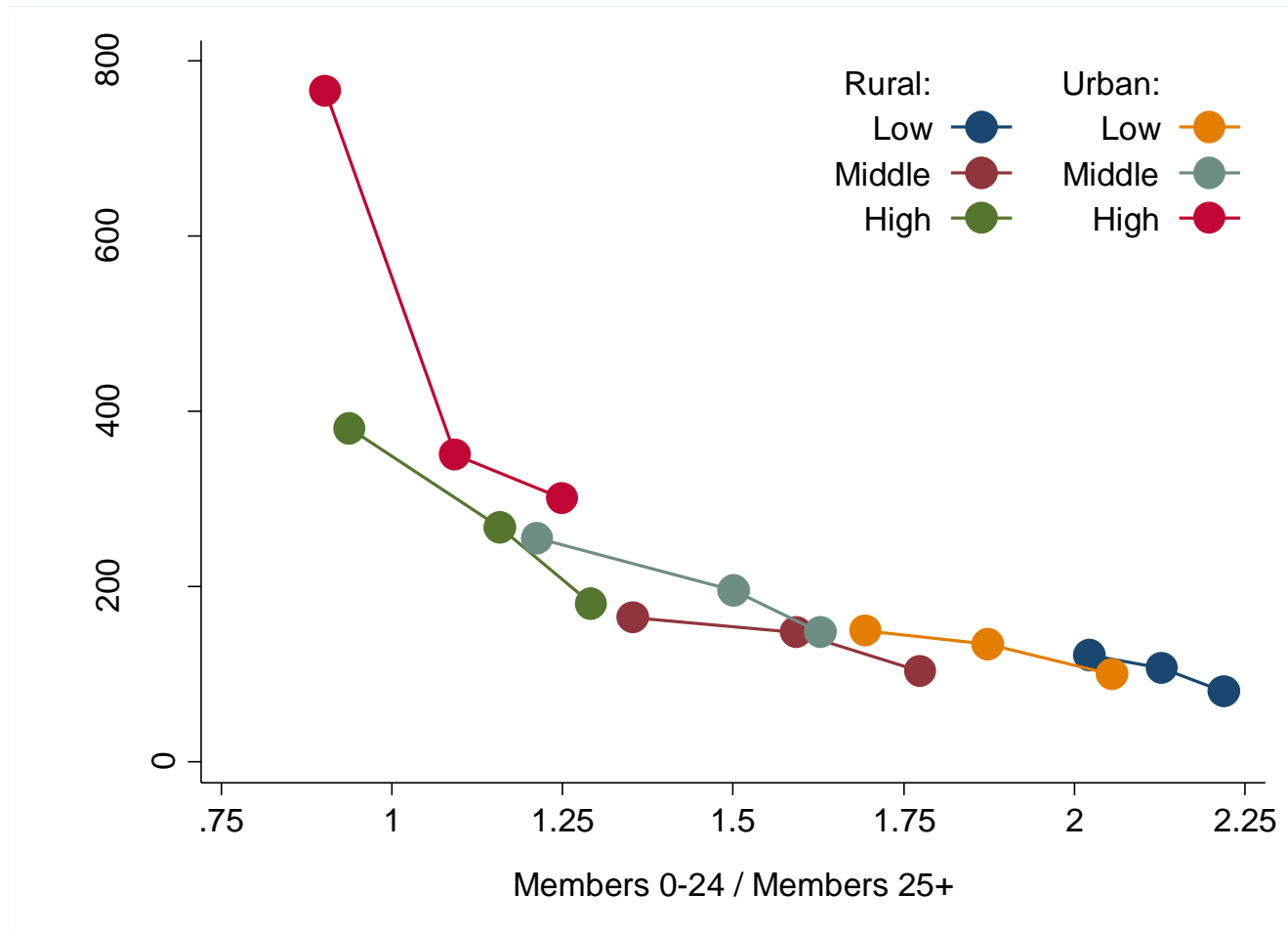
Quantity-Quality Trade-off



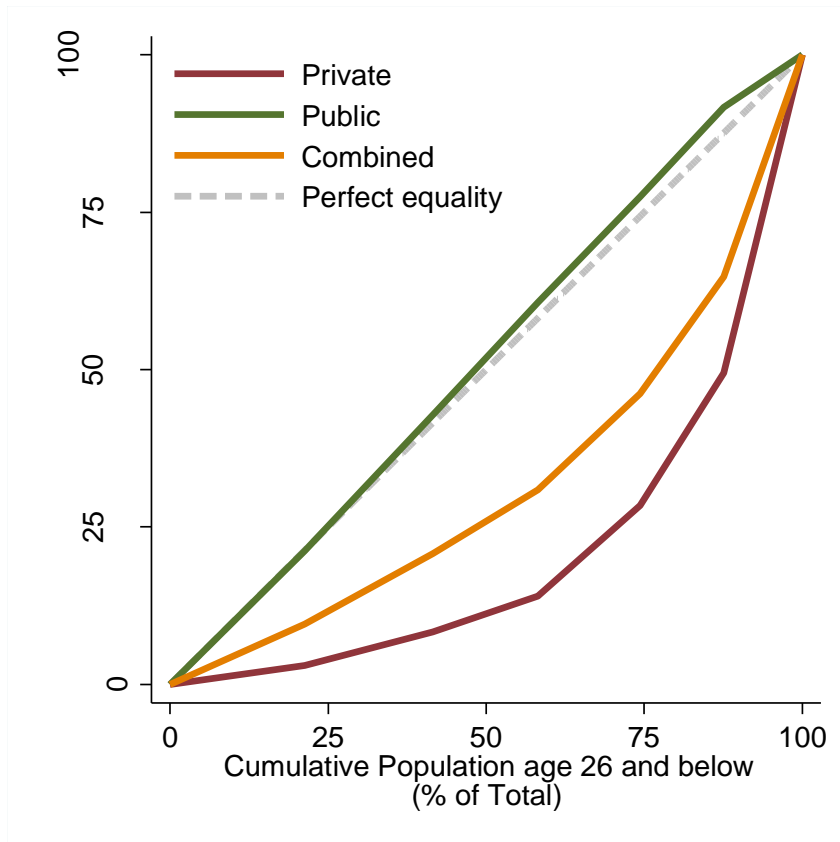
Large variation across countries



Also within countries



Human capital spending inequality



- Private human capital spending highly skewed
- 13% of population age 3-26 receives 50% of private resources for human capital
- More or less equal allocation across the board by government

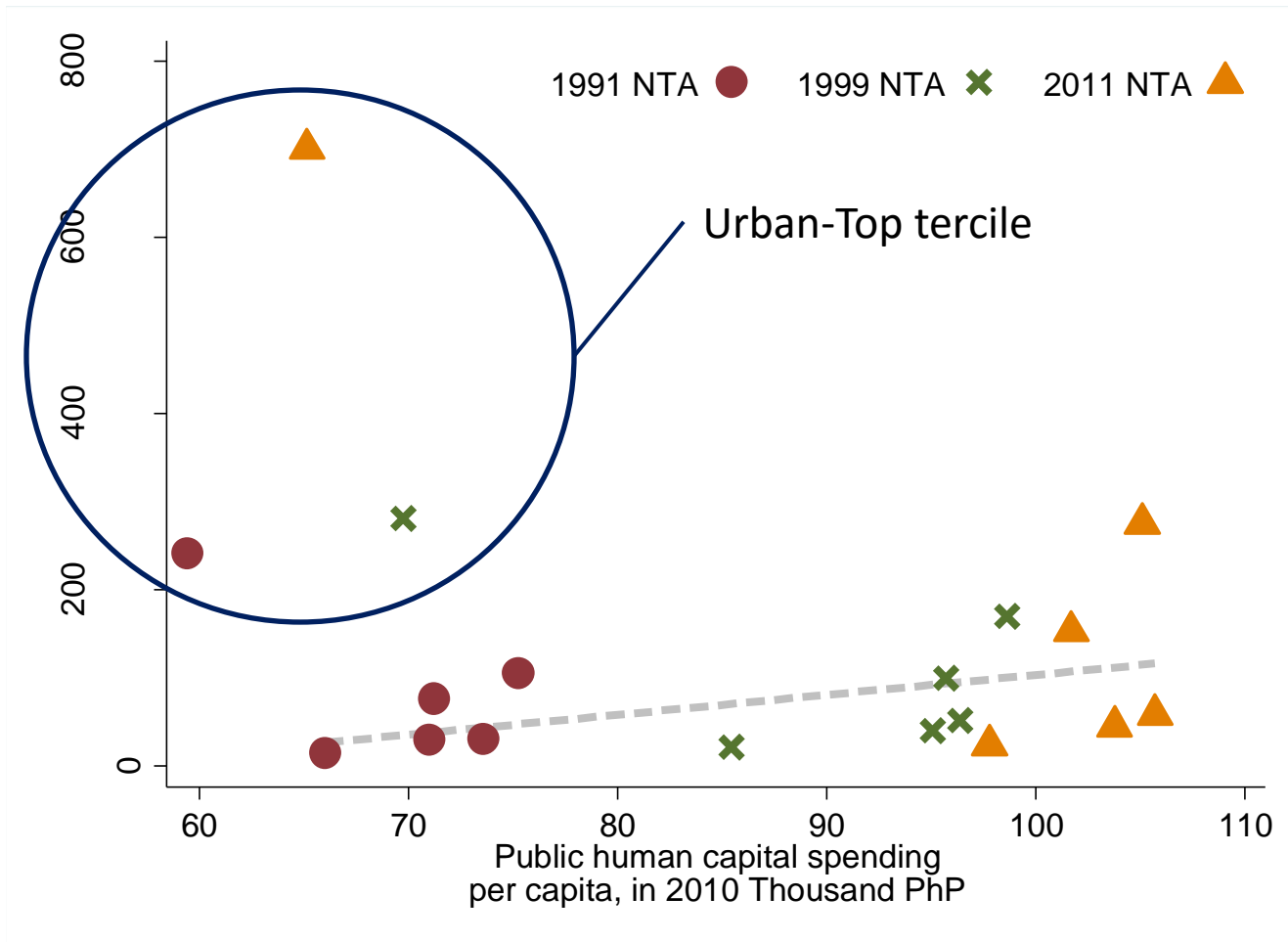
Catch-up

- Human capital inequality associated with slower economic growth and capital accumulation (Castello and Domenech, 2002)
- Is there a role for government?

Policy simulation

- Based on subnational 2011 Philippine NTA
- Assumptions
 - Government finances all catch-up; private human capital age profile remains fixed
 - 1:1 correspondence between human capital spending and expected lifetime labor income
 - Age population distribution across location and income groups is stable
 - Tax schedule in National Internal Revenue Code

Public-Private Spending



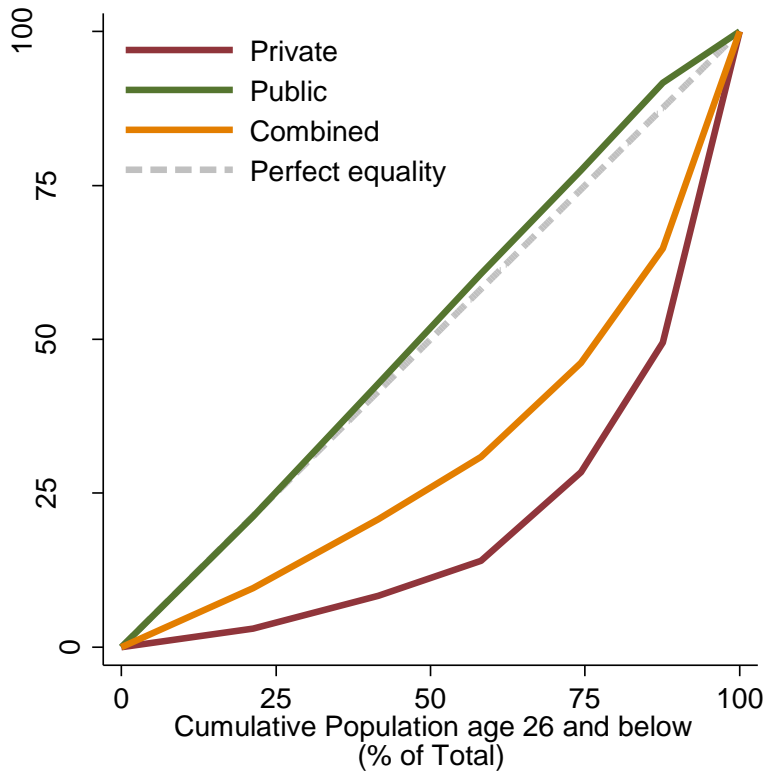
Policy Experiments

- Status Quo
- Catch-up 1: Rural-urban
- Catch up 2: Low-Middle/Middle-high
- Catch up 3: Target urban-middle

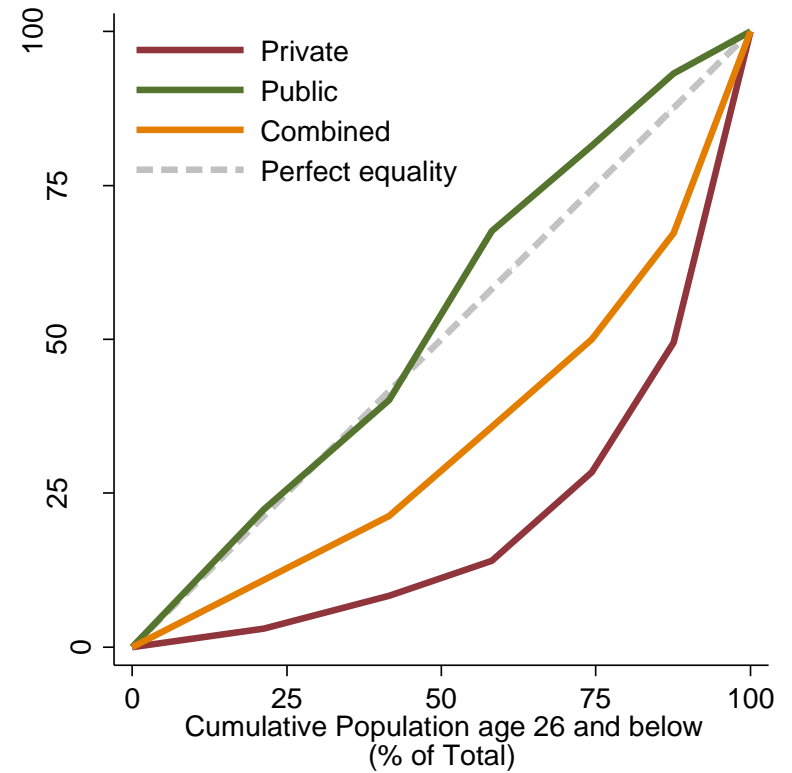
How will government-led catch-up affect human capital inequality?

Catch-up 1

Observed

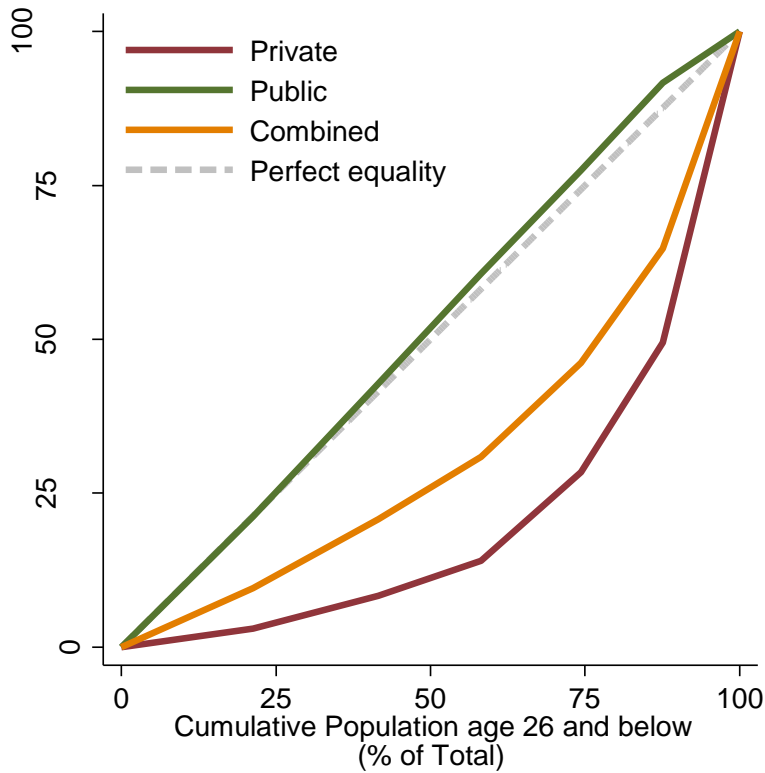


Simulated

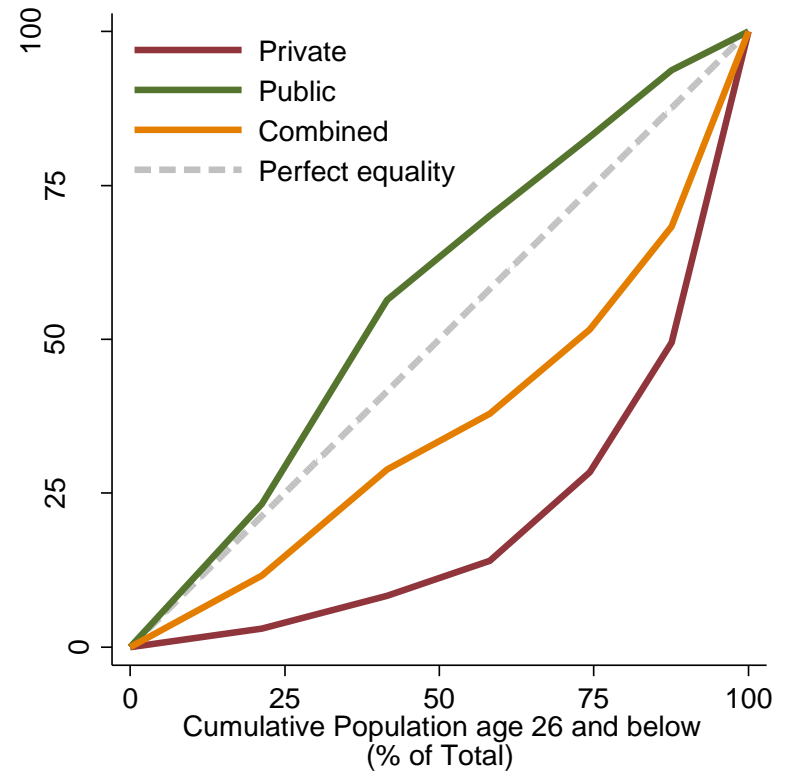


Catch-up 2

Observed

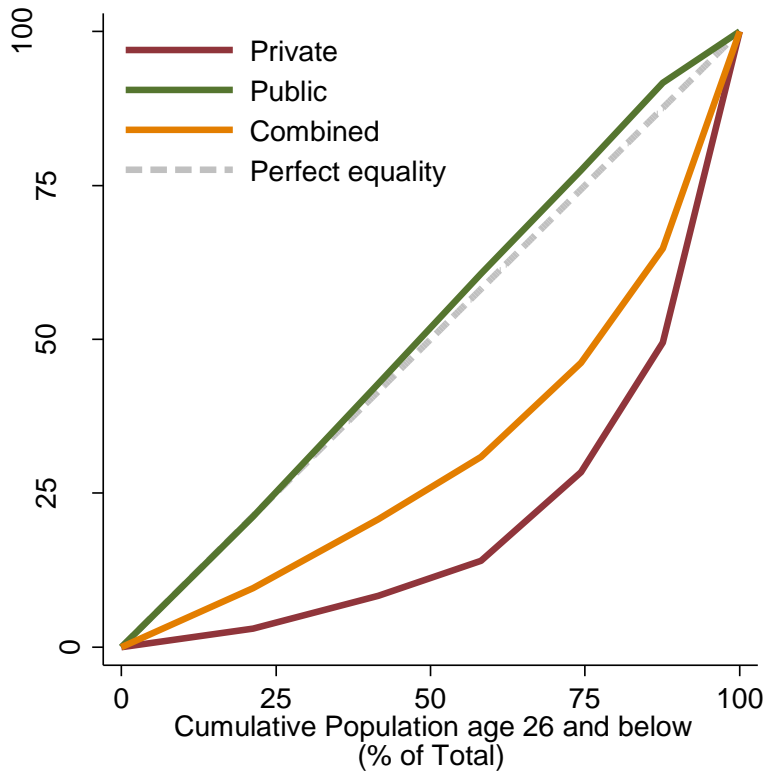


Simulated

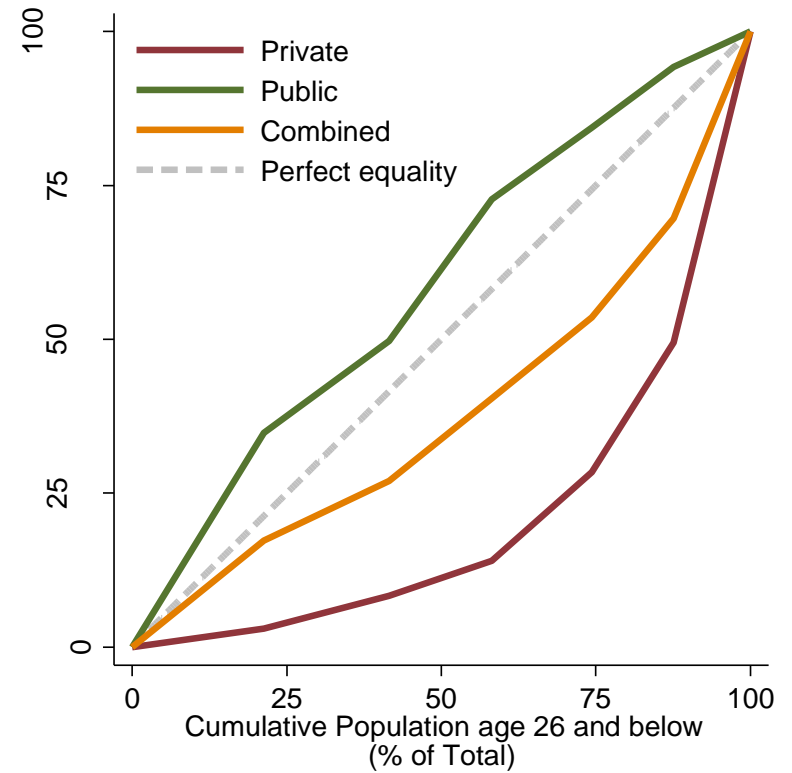


Catch-up 3

Observed



Simulated



| Scenario | Human capital spending | | Gini coefficient | |
|-----------------------|------------------------|----------|------------------|--------|
| | Combined* | % Public | Combined | Public |
| Baseline (Status Quo) | 100.0 | 40.0 | 0.19 | 0.01 |
| Catch-up 1 | 108.9 | 44.9 | 0.17 | -0.01 |
| Catch-up 2 | 158.4 | 62.1 | 0.15 | -0.05 |
| Catch-up 3 | 128.3 | 53.3 | 0.14 | -0.05 |

Note: * as percentage of baseline human capital spending. Catch-up 1 refers to rural-urban catch-up scenario. Catch-up 2 refers to low-middle/middle-high catch-up scenario. Catch-up 3 refers to target urban-middle catch-up scenario.

Catch-up is good.

What is it for the government?

| Scenario | IRR (%) | | Labor Income Tax | |
|-----------------------|------------|------------|------------------|------|
| | Individual | Government | Level* | Rate |
| Baseline (Status Quo) | - | - | 100.0 | 8.9 |
| Catch-up 1 | 18.0 | 10.8 | 142.2 | 11.2 |
| Catch-up 2 | 15.0 | 7.6 | 255.0 | 15.0 |
| Catch-up 3 | 16.7 | 8.6 | 183.9 | 12.8 |

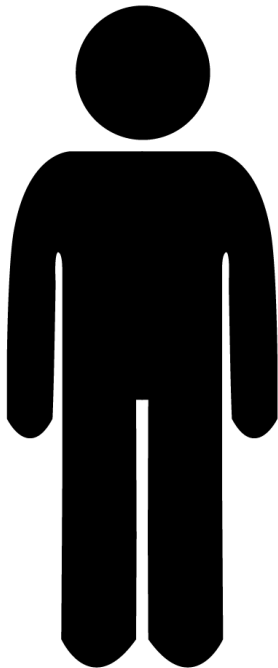
Note: * as percentage of baseline lifetime labor income tax. Catch-up 1 refers to rural-urban catch-up scenario. Catch-up 2 refers to low-middle/middle-high catch-up scenario. Catch-up 3 refers to target urban-middle catch-up scenario.

Bottom-line

How much is needed?

Can government afford the program?

Favorable demography



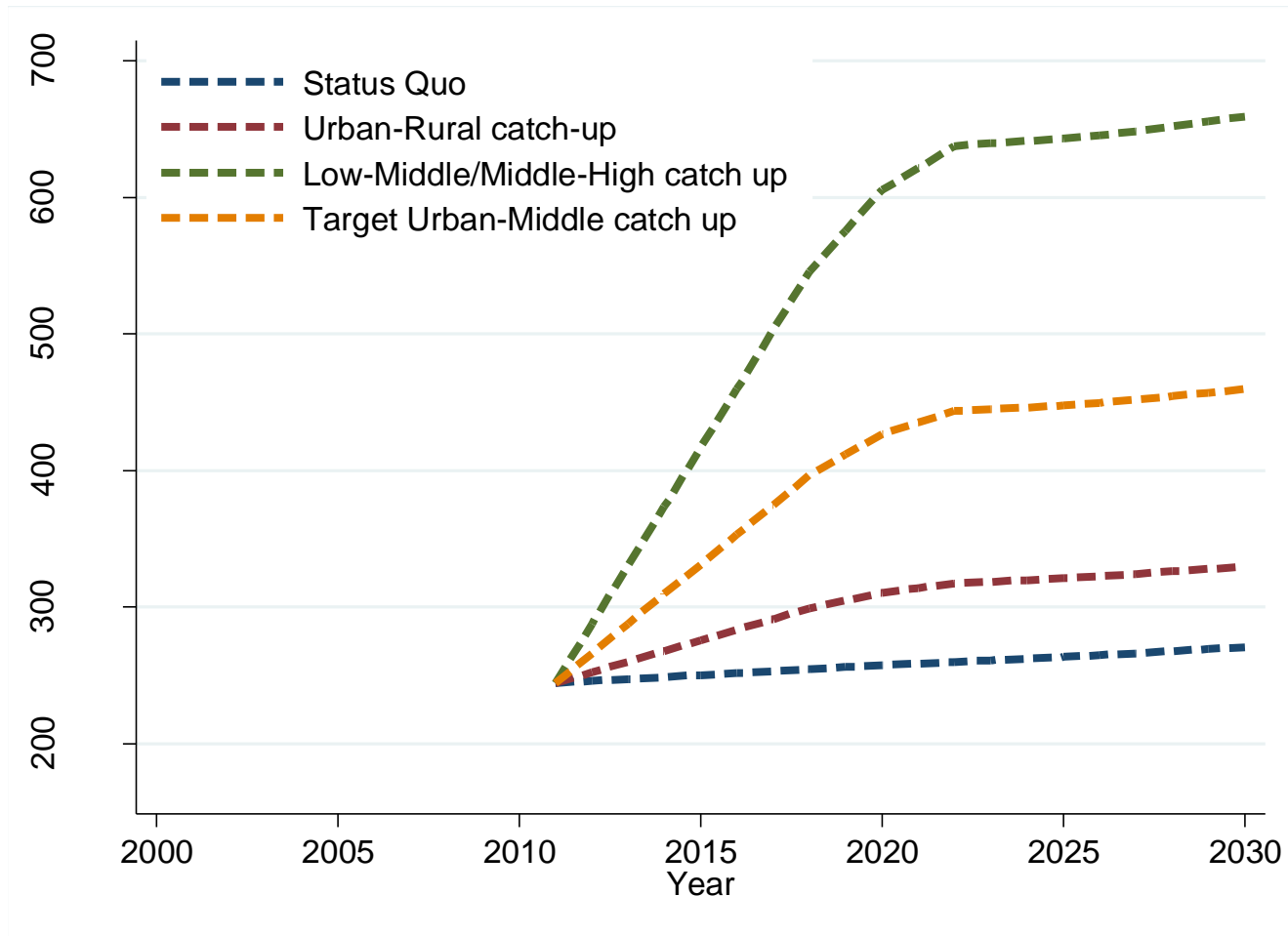
| Year | Effective Number (Million) | | Fiscal Support Ratio |
|------|----------------------------|---------------|----------------------|
| | Tax Payers | Beneficiaries | |
| 2015 | 61.0 | 54.4 | 1.1 |
| 2030 | 83.2 | 65.9 | 1.3 |
| 2045 | 107.1 | 76.0 | 1.4 |

Note: Based on 1999 Philippine NTA per capita public transfer age profile estimates and the 2012 UN World Population Projections.

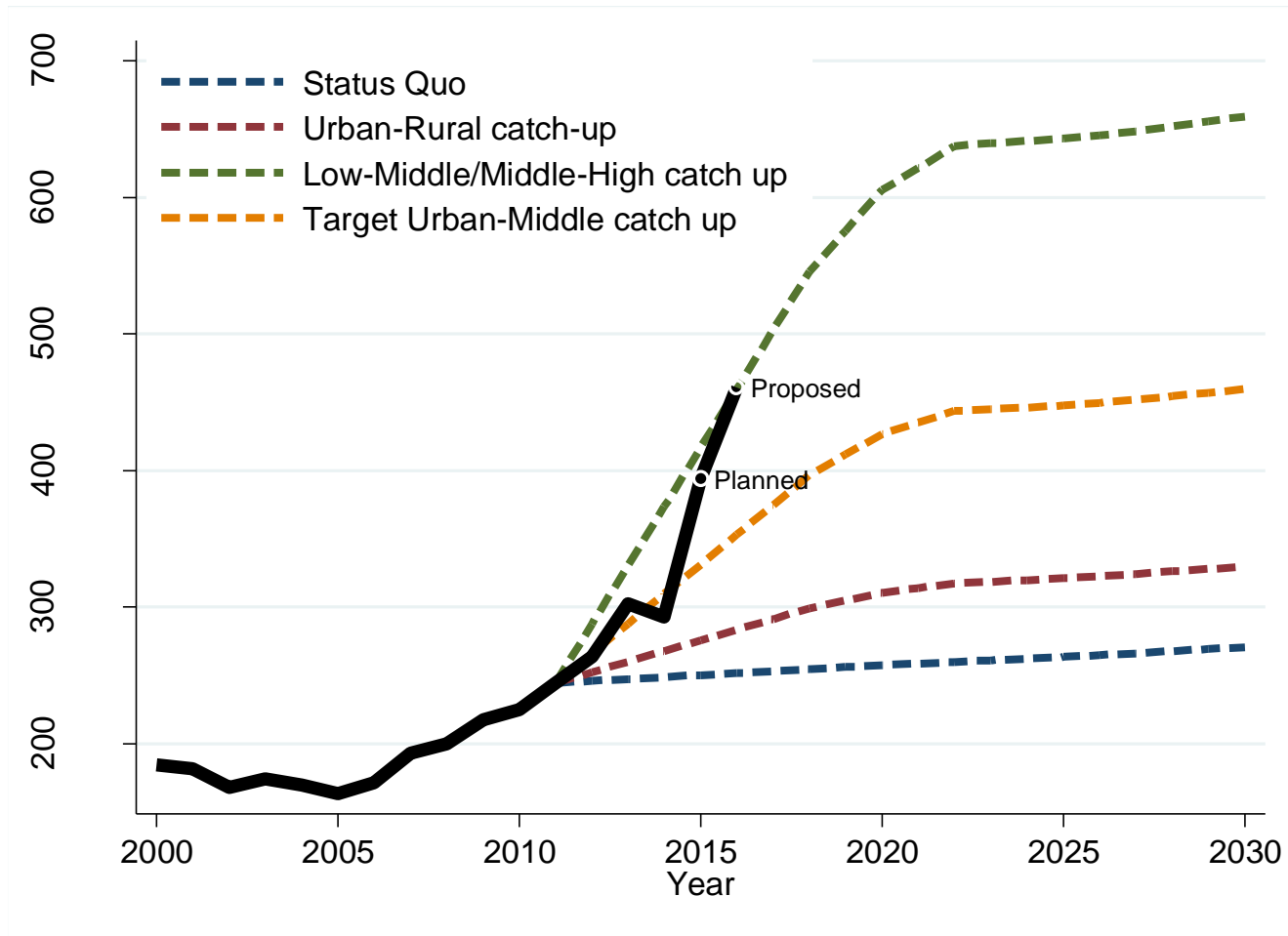
(Some) Government Programs

- K+12 program
- Conditional cash transfer
- Student financial assistance program
- Salary standardization law 2015 (Proposed)

Target 2020



Target 2020



Some Insights

- Investing in human capital is not only good for the individual but also for the government
- Time to act is now! Ride on the sweet spot
- Parallel investments on physical, socio-political infrastructure also needed