



HARVARD
T.H. CHAN

SCHOOL OF PUBLIC HEALTH

Department of Global Health
and Population

Poverty, equity & TB control

Stéphane Verguet

Department of Global Health and Population,
Harvard T.H. Chan School of Public Health

Email: verguet@hsph.harvard.edu

47th Union World Conference on Lung Health, October 29, 2016, Liverpool, United Kingdom

Acknowledgements

BILL & MELINDA
GATES *foundation*

Carlos Riumallo-Herl, Gabriela Gomez,
Nicolas Menzies, Rein Houben, Tom Sumner,
Marek Lalli, Richard White, Joshua Salomon,
Ted Cohen, Nicola Foster, Susmita Chatterjee,
Sedona Sweeney, Inés Garcia Baena,
Knut Lönnroth, Diana Weil, Anna Vassall



HARVARD
T.H. CHAN

SCHOOL OF PUBLIC HEALTH

Outline

Background

The post-2015 agenda and the discourse on poverty

Economic evaluation for health policy assessment

Quantifying the efficient purchase of poverty reduction & equity

Application to TB control in South Africa & India

Poverty impact of: (i) improved drug sensitive TB care; (ii) improved MDR-TB care; (iii) intensified case finding

Conclusions

Priority setting & anchoring TB control within the poverty alleviation agenda



HARVARD
T.H. CHAN

SCHOOL OF PUBLIC HEALTH

Background

The post-2015 agenda and the discourse on poverty



HARVARD
T.H. CHAN

SCHOOL OF PUBLIC HEALTH

End of poverty by 2030

Sustainable Development Goal 1

“End poverty in all its forms everywhere”



World Bank objectives

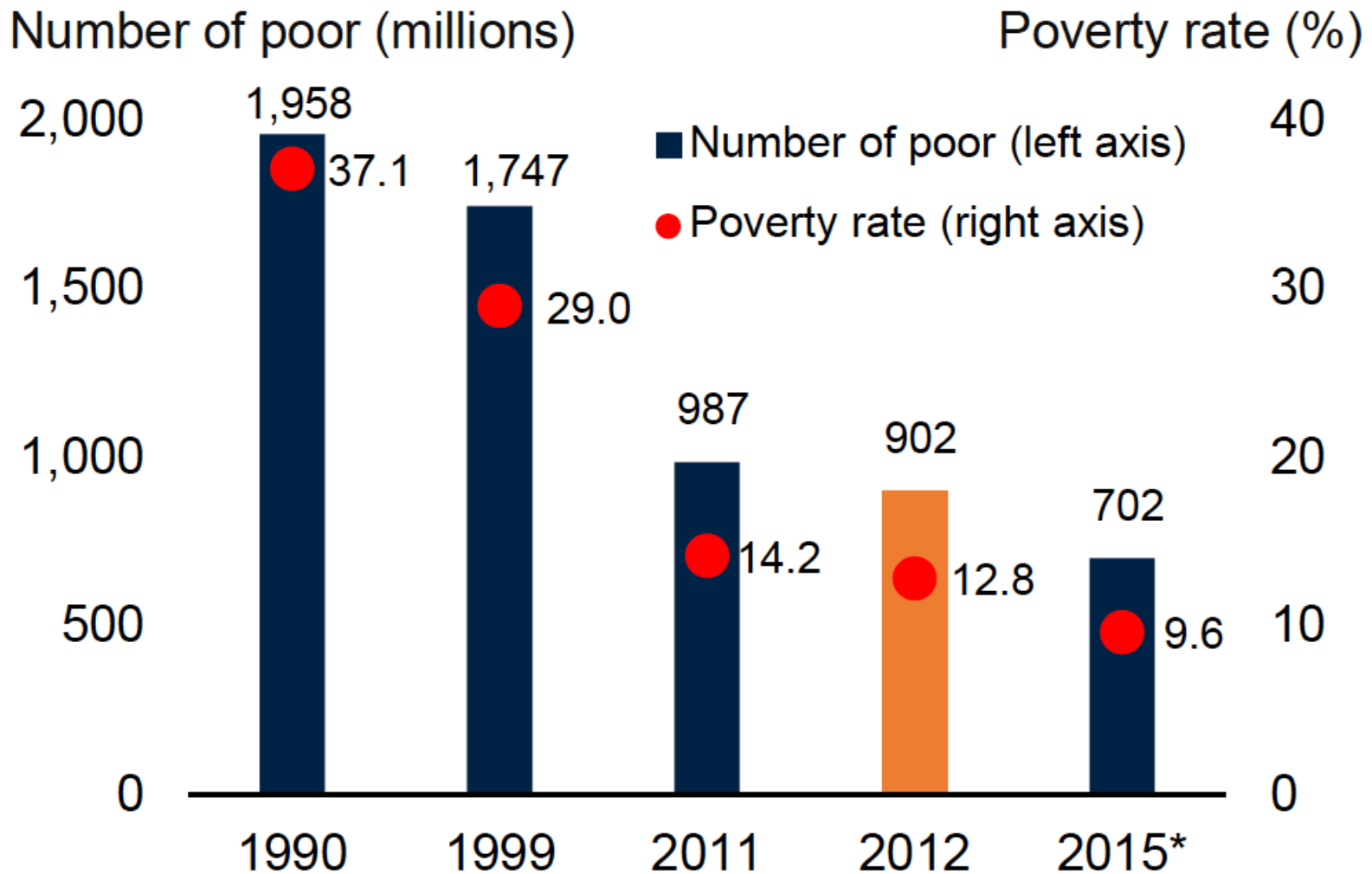
- (1) To eradicate extreme poverty (< \$1.90 per day) by 2030
- (2) To boost shared prosperity by raising the incomes of the bottom 40% of populations



HARVARD
T.H. CHAN

SCHOOL OF PUBLIC HEALTH

Trends in poverty



Cruz et al. World Bank 2015

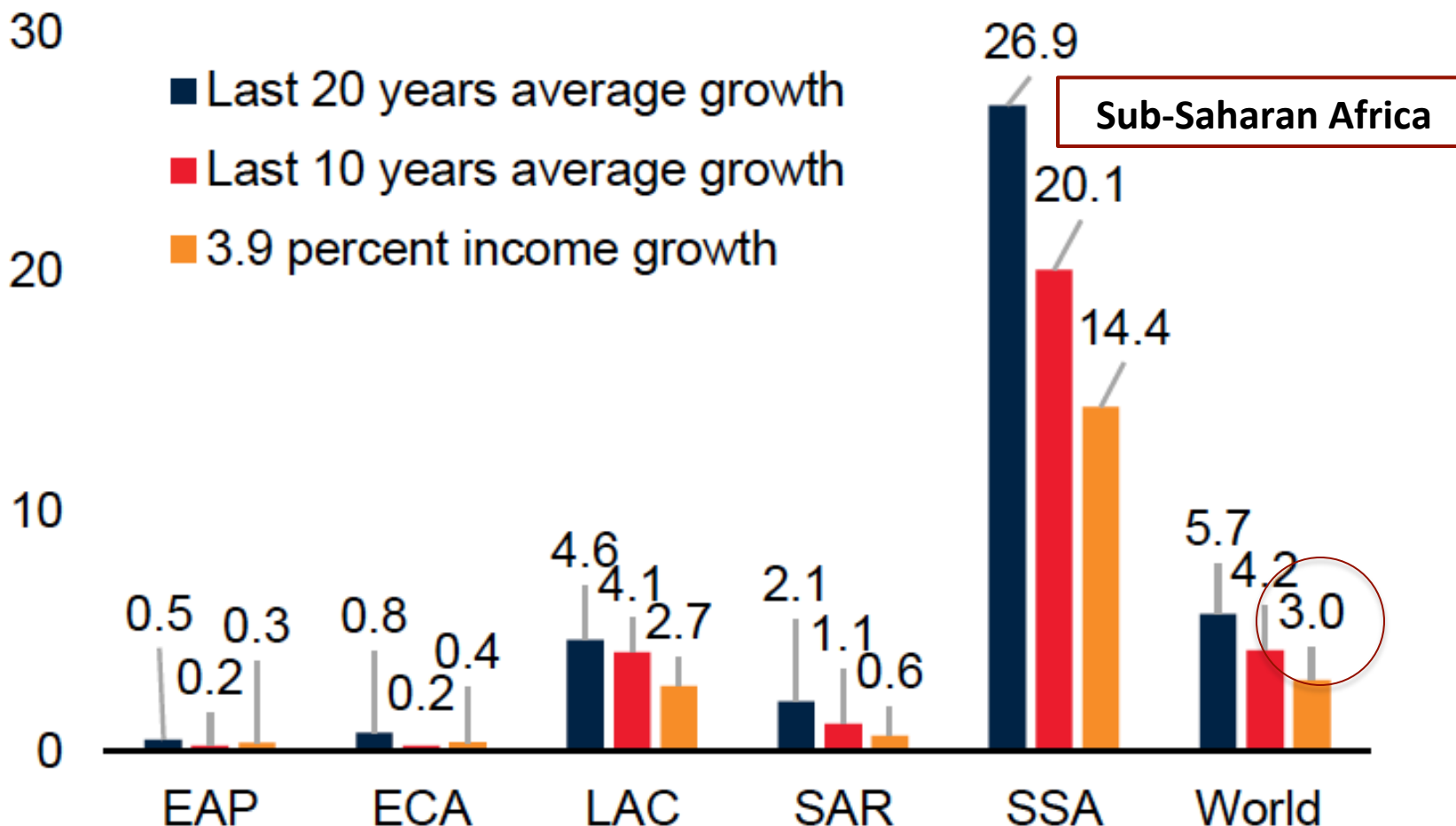


HARVARD
T.H. CHAN

SCHOOL OF PUBLIC HEALTH

Aspirational poverty by 2030

Simulations of poverty rate in 2030 (percent), by region and world



Sustainable Development Goal 3

“Achieve universal health
coverage,
including financial
risk protection for all”



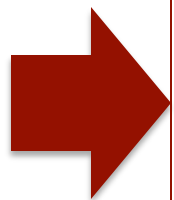
HARVARD
T.H. CHAN

SCHOOL OF PUBLIC HEALTH

How to achieve the poverty objective by 2030?

Usual requirements are put forward:

- **Sustaining growth:** leadership and governance, macroeconomic stability, market orientation
- **Investing in human development:** education, health
- **Insuring against risks:** social policies and programs, insurance



THEY LACK OF SPECIFIC PROPOSITIONS AND QUANTIFICATION OF IMPACT AND COST

Economic evaluation for health policy assessment

Quantifying the “efficient purchase” of poverty reduction & equity

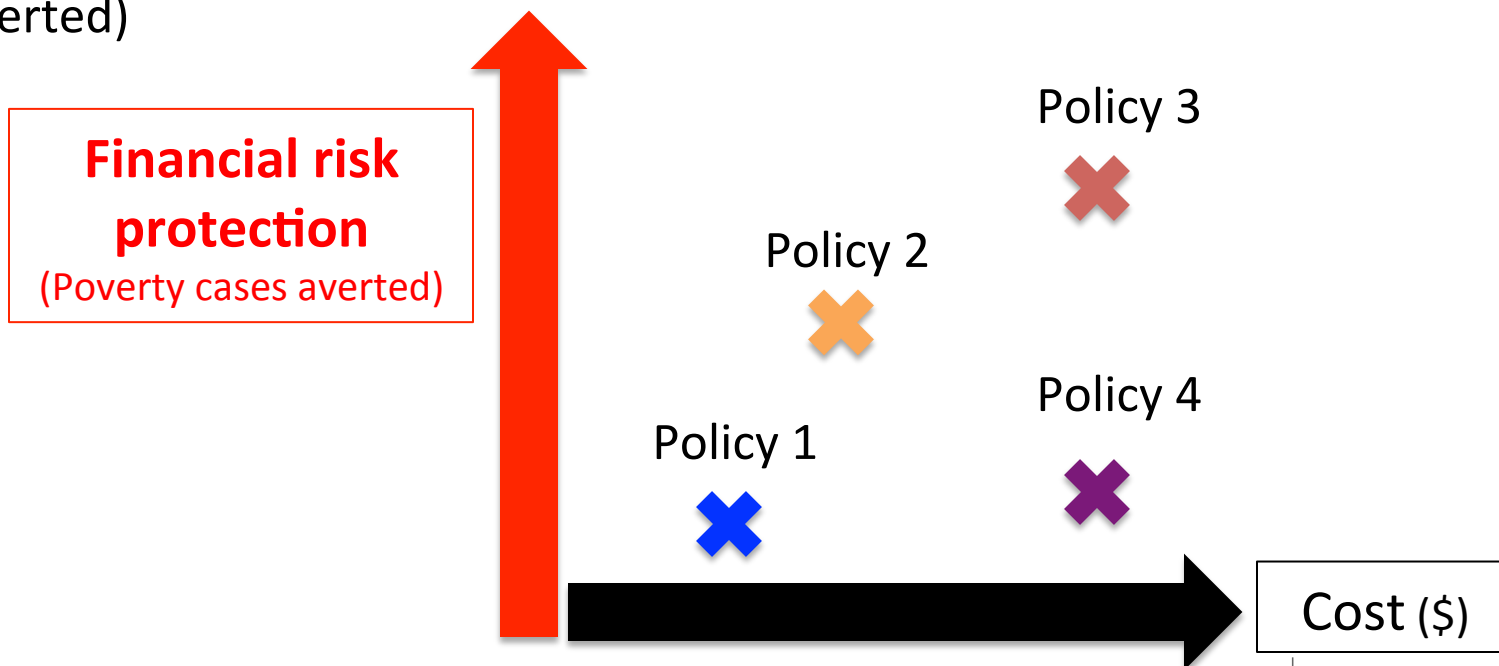


HARVARD
T.H. CHAN

SCHOOL OF PUBLIC HEALTH

Policy objective: “efficient” purchase of poverty reduction, financial risk protection

Estimate efficient purchase of financial risk protection in say
\$ per Financial Risk Protection provided (e.g. \$ per poverty case
averted)



Health Policy Assessment, with dimensions of equity & medical impoverishment

Extended Cost-Effectiveness Analysis (ECEA)

- (1) **Distributional consequences** across
distinct strata of populations
(e.g. socio-economic status, geographical setting, gender)
- (2) **Financial risk protection**: quantify
household medical impoverishment
averted by policy

Application to TB control

Poverty impact of: (i) improved drug sensitive TB care; (ii) improved MDR-TB care; (iii) intensified case finding



HARVARD
T.H. CHAN

SCHOOL OF PUBLIC HEALTH

Objective

To estimate poverty impact (2016-35) in India & South Africa of:

Improved drug sensitive TB care – India & South Africa

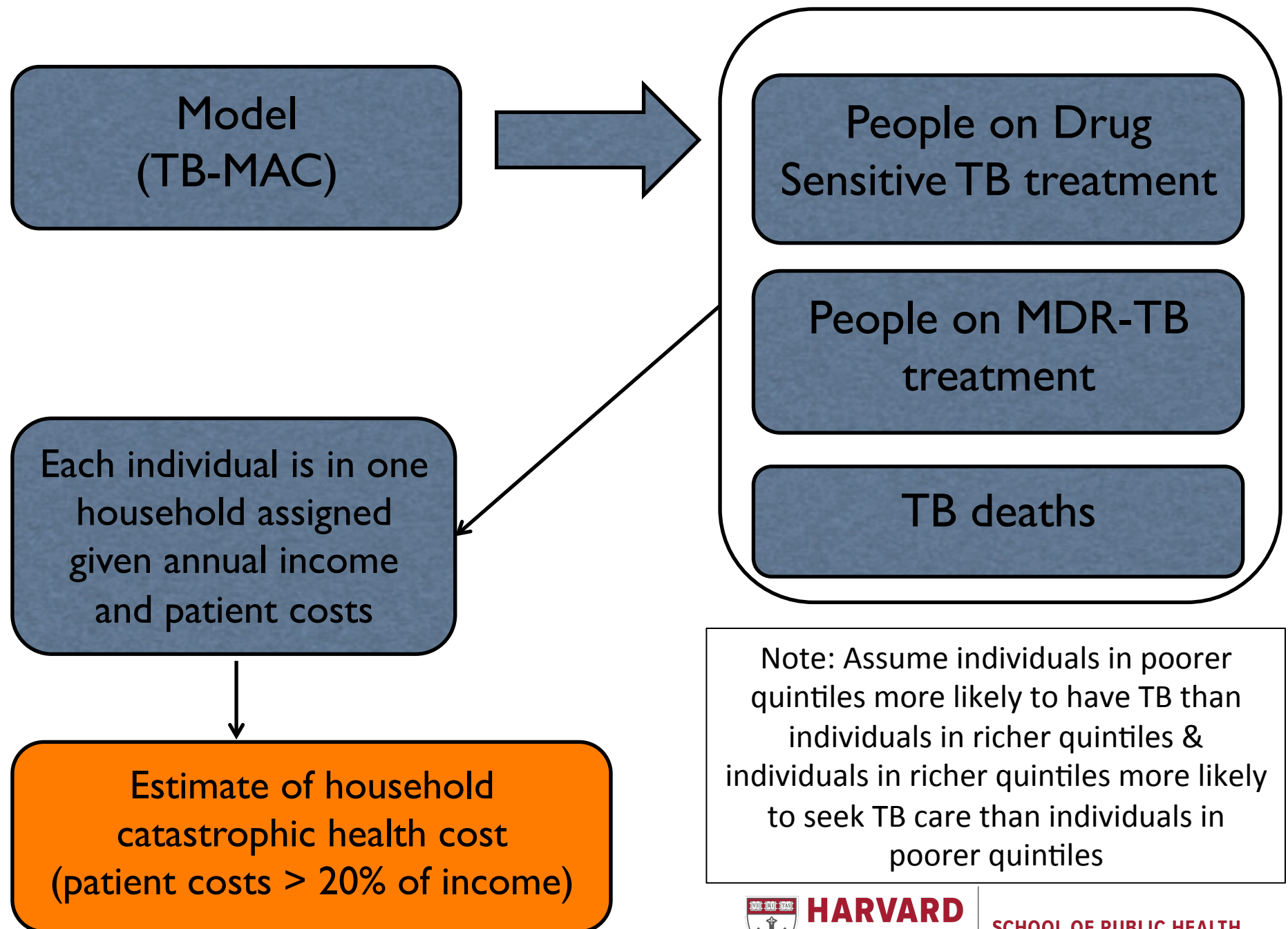
Improvement in quality increasing treatment success rate, with financial incentives and improved nutrition

Improved MDR-TB – India & South Africa

Improvement in quality increasing treatment success rate, with financial incentives and improved nutrition

Intensified case finding – South Africa

All individuals seeking health services are screened for TB



Epidemiologic inputs (over 2016-35)

Intervention	India	South Africa
Treated drug sensitive TB cases	50,000,000	6,000,000
Treated MDR-TB cases	1,000,000	200,000
TB-related deaths	7,000,000	1,000,000
Relative risk of TB disease, from poorest to richest	1; 0.7; 0.5; 0.3; 0.2	1; 0.7; 0.5; 0.3; 0.2
Relative ratio of health services utilization, from poorest to richest	0.2; 0.4; 0.6; 0.8; 1	0.7; 0.8; 0.8; 0.9; 1



Patient costs

Intervention	India	South Africa
Drug sensitive (DS) TB treatment (monthly), base case	\$61	\$38
MDR TB treatment (monthly), base case	\$61	\$123
Improved DS TB care (monthly)	\$48	\$38
Improved MDR TB care (monthly)	\$48	\$123
Funeral costs	\$300	\$1,900



Annual household income

INDIA

Quintile I	Quintile II	Quintile III	Quintile IV	Quintile V
< \$700	> \$700 < \$1,200	> \$1,200 < \$1,700	> \$1,700 < \$2,300	> \$2,500

SOUTH AFRICA

Quintile I	Quintile II	Quintile III	Quintile IV	Quintile V
< \$2,800	> \$2,800 < \$4,500	> \$4,500 < \$6,600	> \$6,600 < \$9,600	> \$9,600

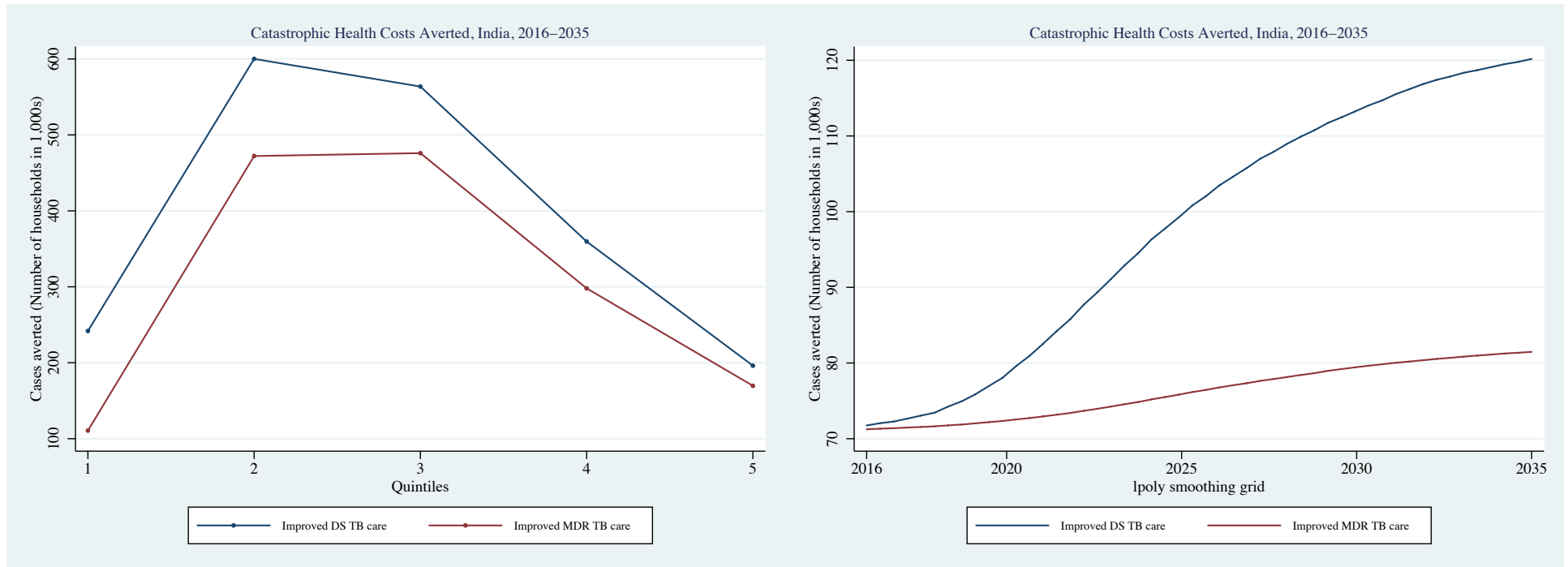
Note: Drawn from Gamma distribution based on GDP per capita and Gini index



HARVARD
T.H. CHAN

SCHOOL OF PUBLIC HEALTH

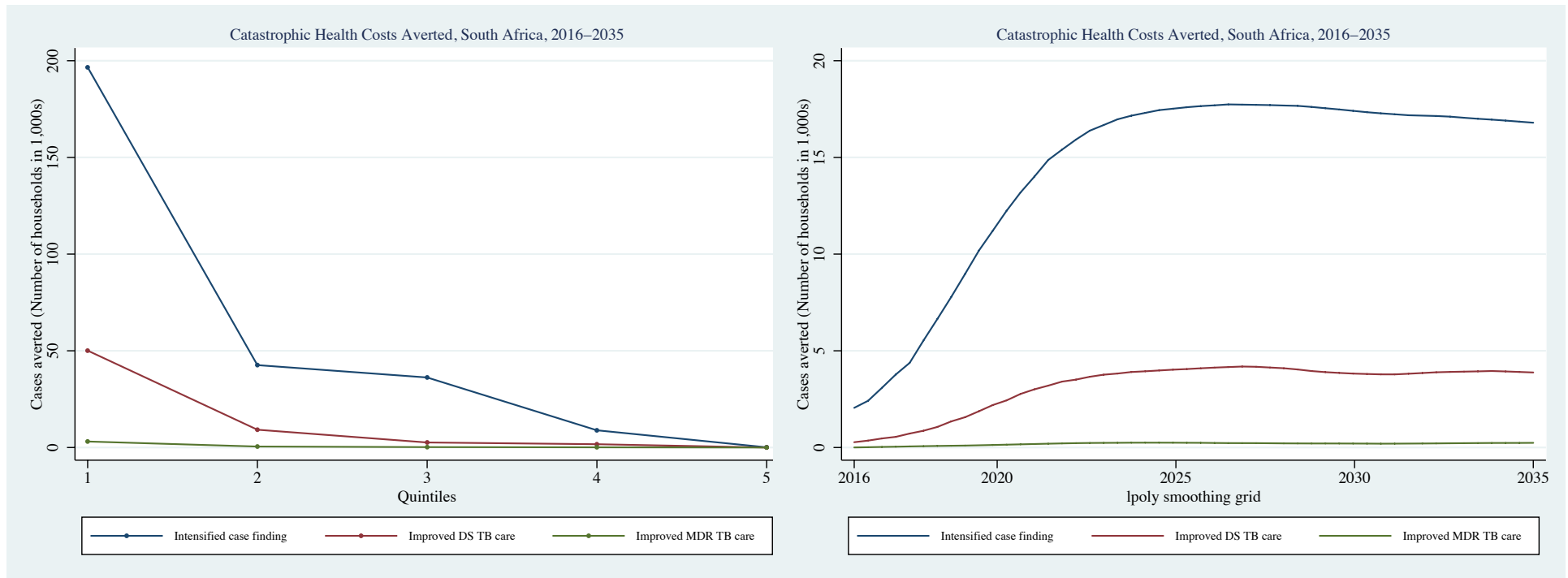
Financial risk protection afforded, 2016-2035, India



HARVARD
T.H. CHAN

SCHOOL OF PUBLIC HEALTH

Financial risk protection afforded, 2016-2035, South Africa



HARVARD
T.H. CHAN

SCHOOL OF PUBLIC HEALTH

Conclusions

Priority setting & anchoring TB control within
the poverty alleviation agenda



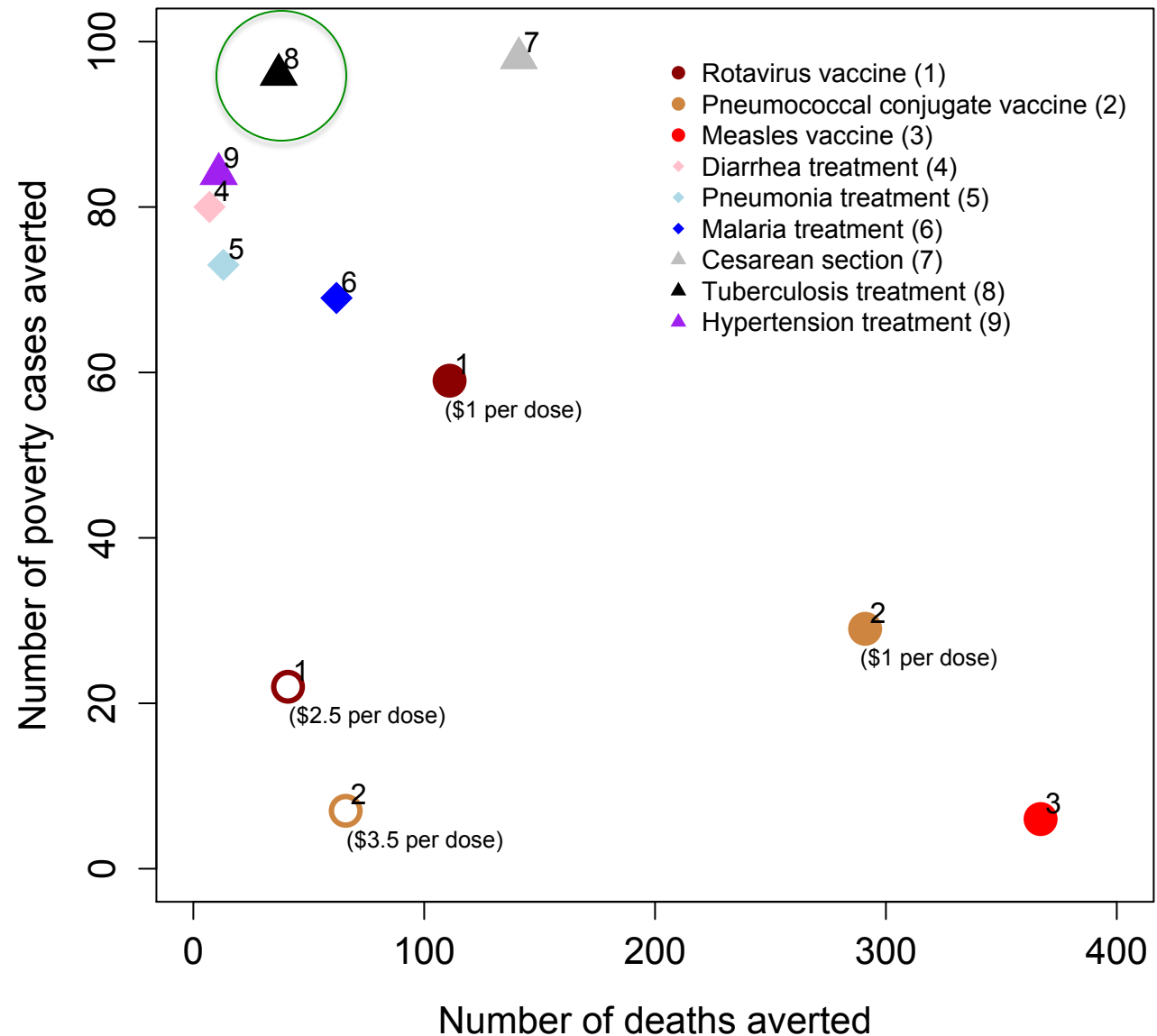
HARVARD
T.H. CHAN

SCHOOL OF PUBLIC HEALTH

ECEA Progressive prioritization

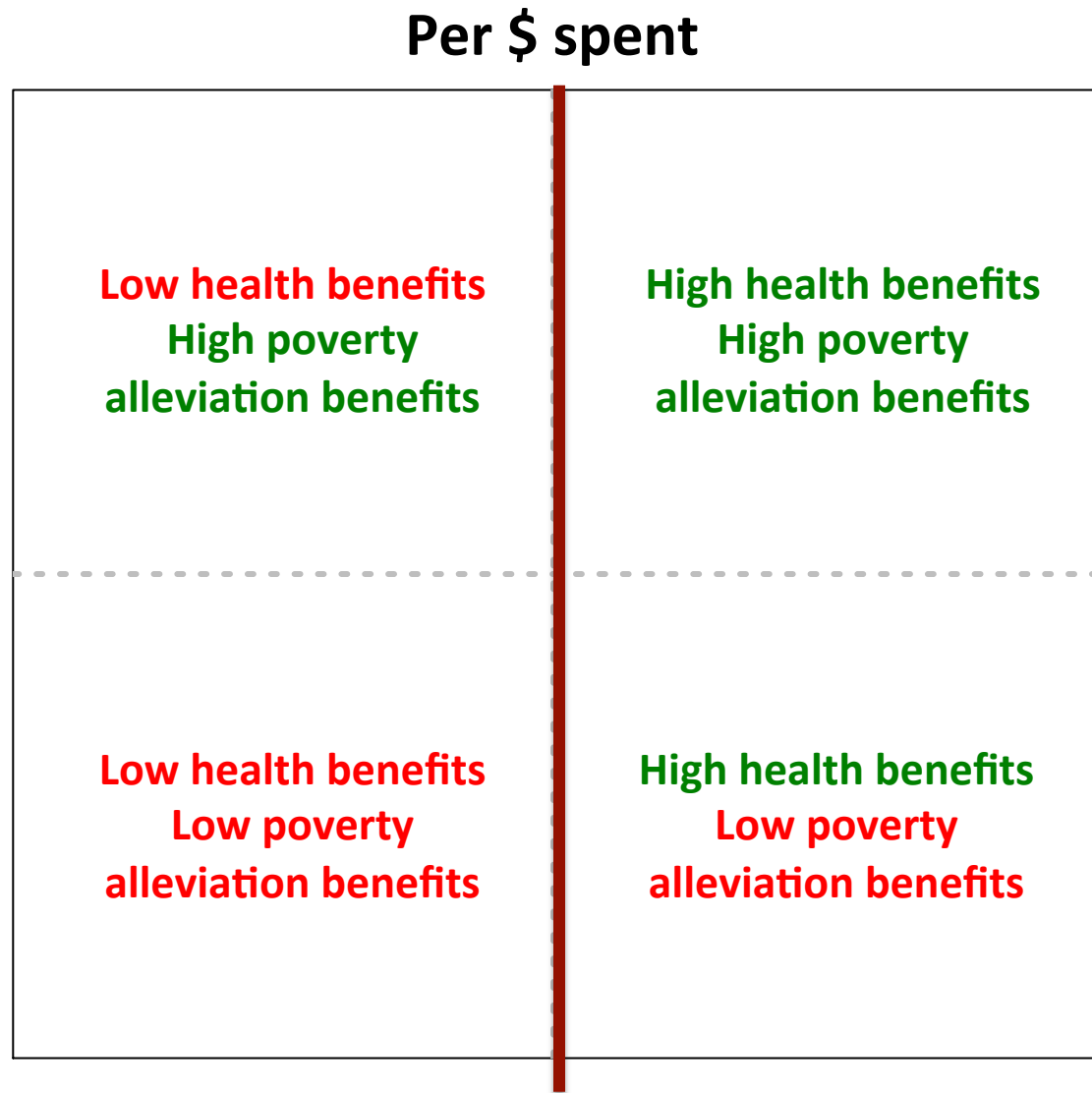
9 publicly financed
interventions in
Ethiopia

Financial risk protection afforded & health gains, per \$100,000 spent



Priority
setting
within
the health
sector

Poverty alleviation benefits

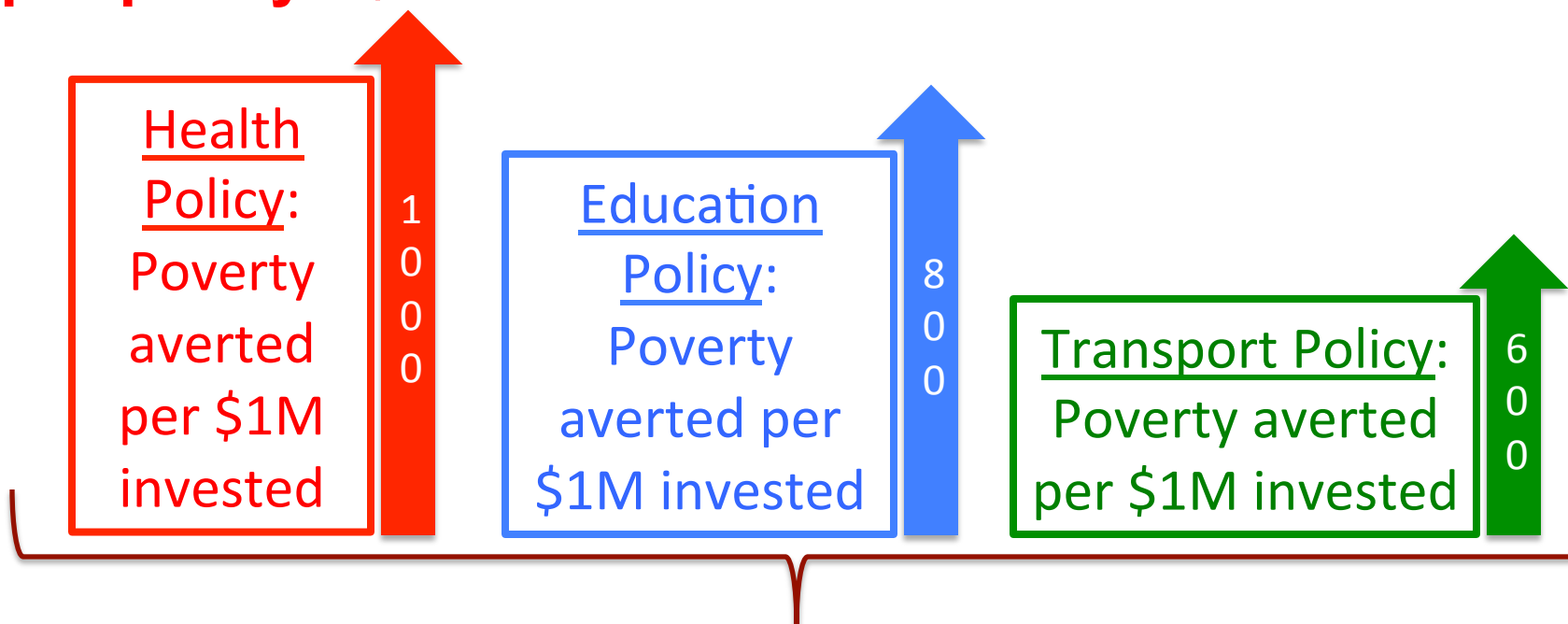


HARVARD
T.H. CHAN

SCHOOL OF PUBLIC HEALTH

Priority setting **beyond** the health sector

Estimate efficient purchase of poverty alleviation benefits by health policies i.e. **poverty cases averted per policy 1\$M invested**



Intersectoral comparison by Ministry of Finance & Development



HARVARD
T.H. CHAN

SCHOOL OF PUBLIC HEALTH

Email:

verguet@hsph.harvard.edu

Web:

www.hsph.harvard.edu/stephane-verguet/



HARVARD
T.H. CHAN

SCHOOL OF PUBLIC HEALTH