

The Evolution of Asia's Poor and Middle Class: Alternative Policy Scenarios

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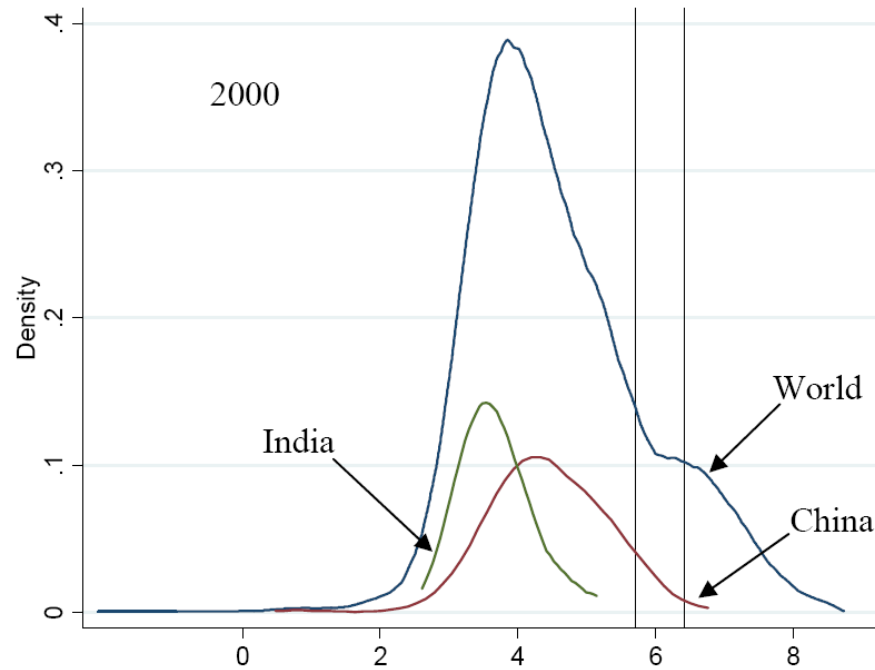
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Contents

1. Trends and implications of global and regional income distribution
2. Modeling long term Asian growth and structural change

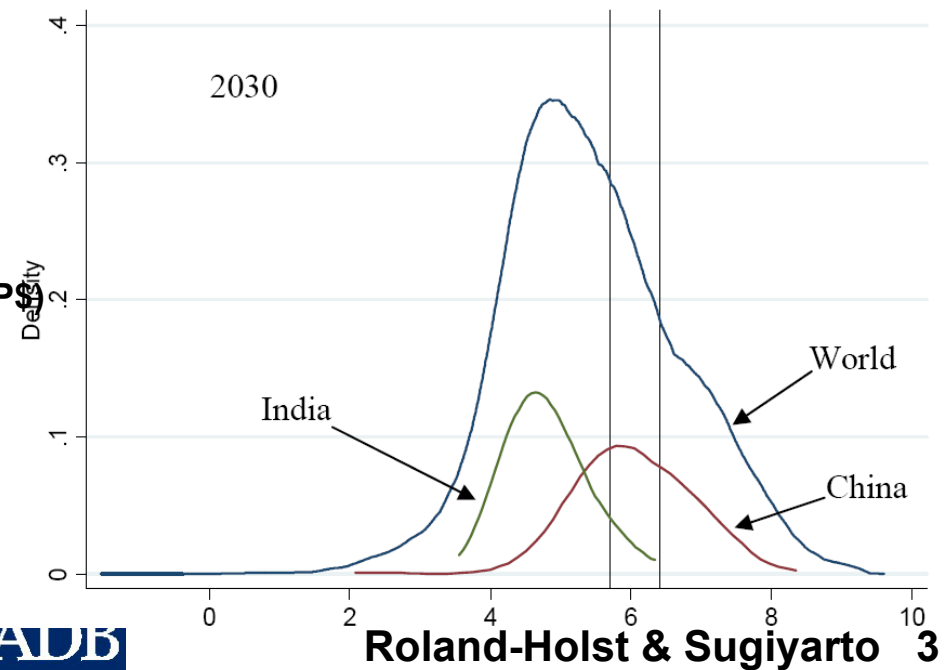
Emergent Demand: China and India in a Global Context



(monthly household income per capita, 1993PPP)

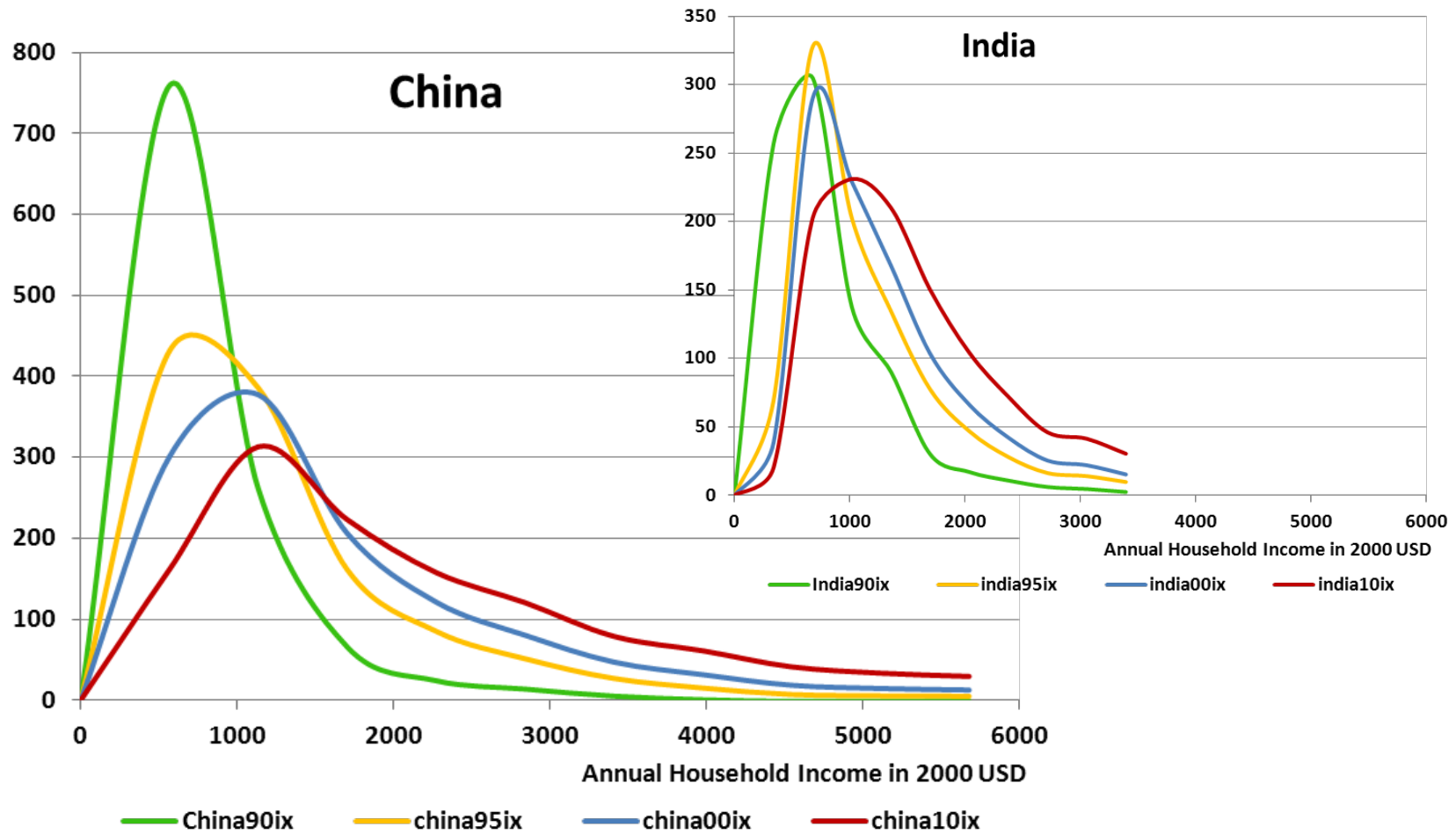
Because of greater inequality (Gini=.42 vs .29), China has more members of the middle class.

The World Bank estimates that China's progress across the global income distribution will be relatively inequality-neutral. Maybe.

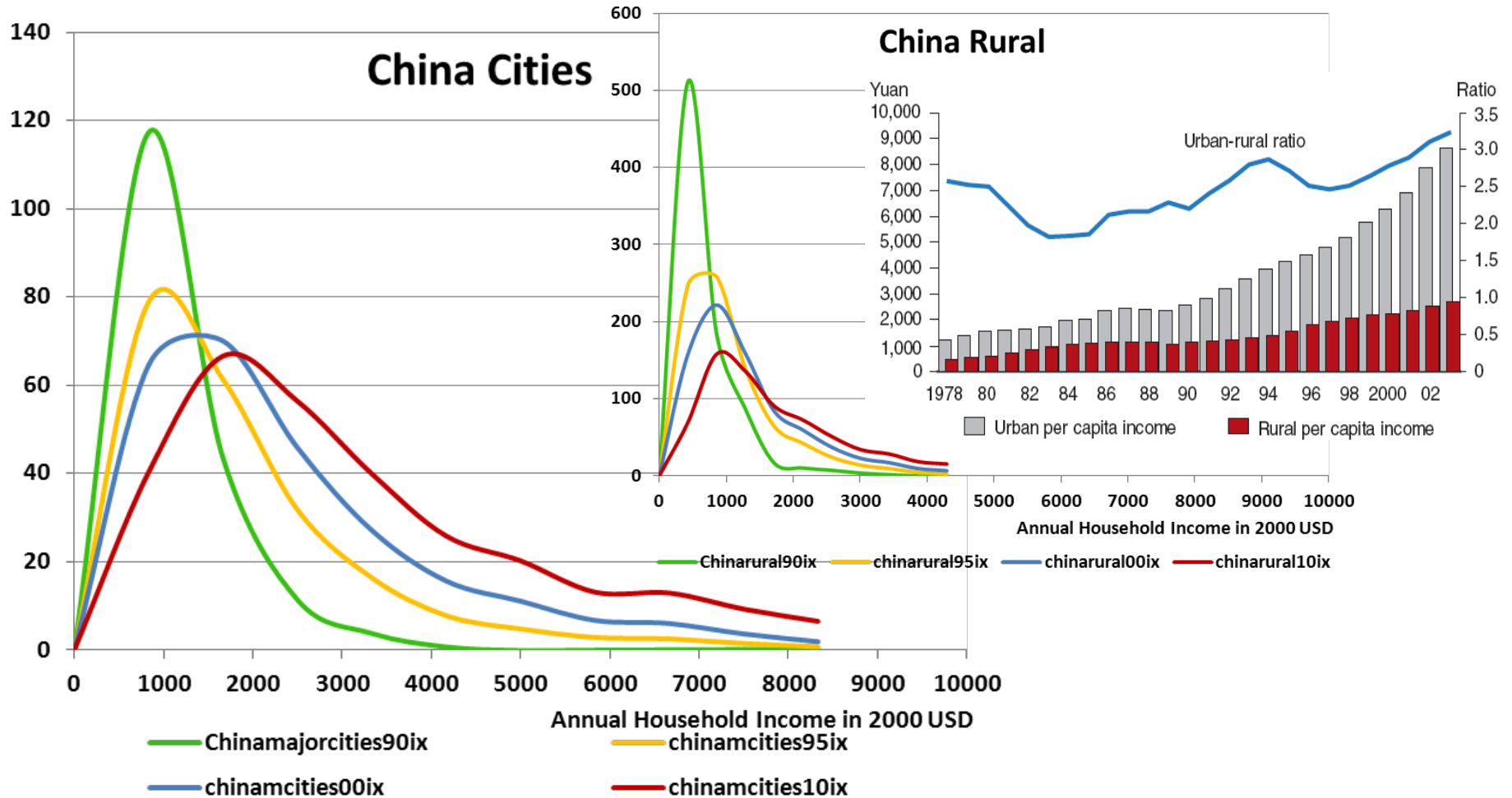


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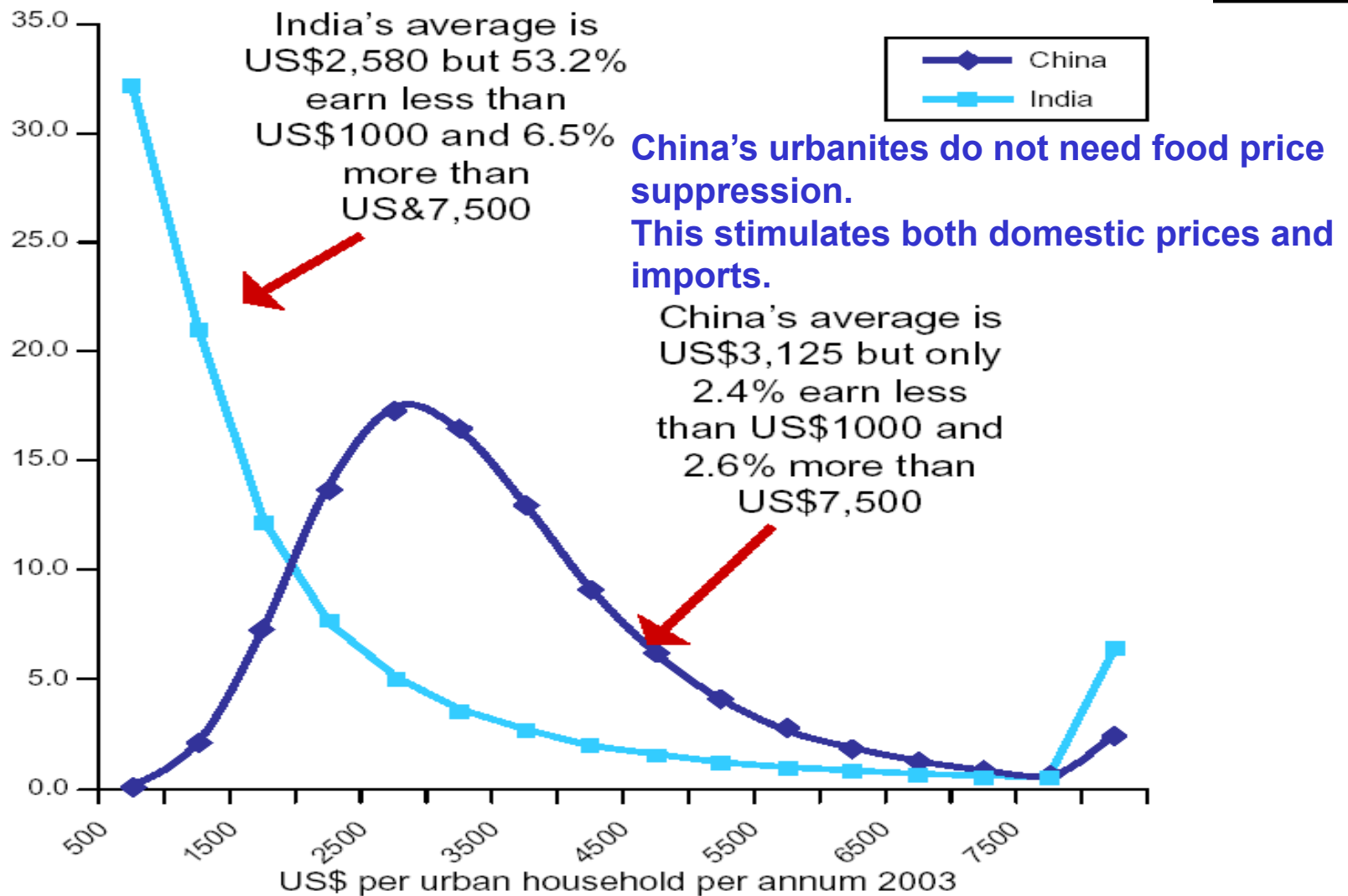
Poverty Alleviation in China and India



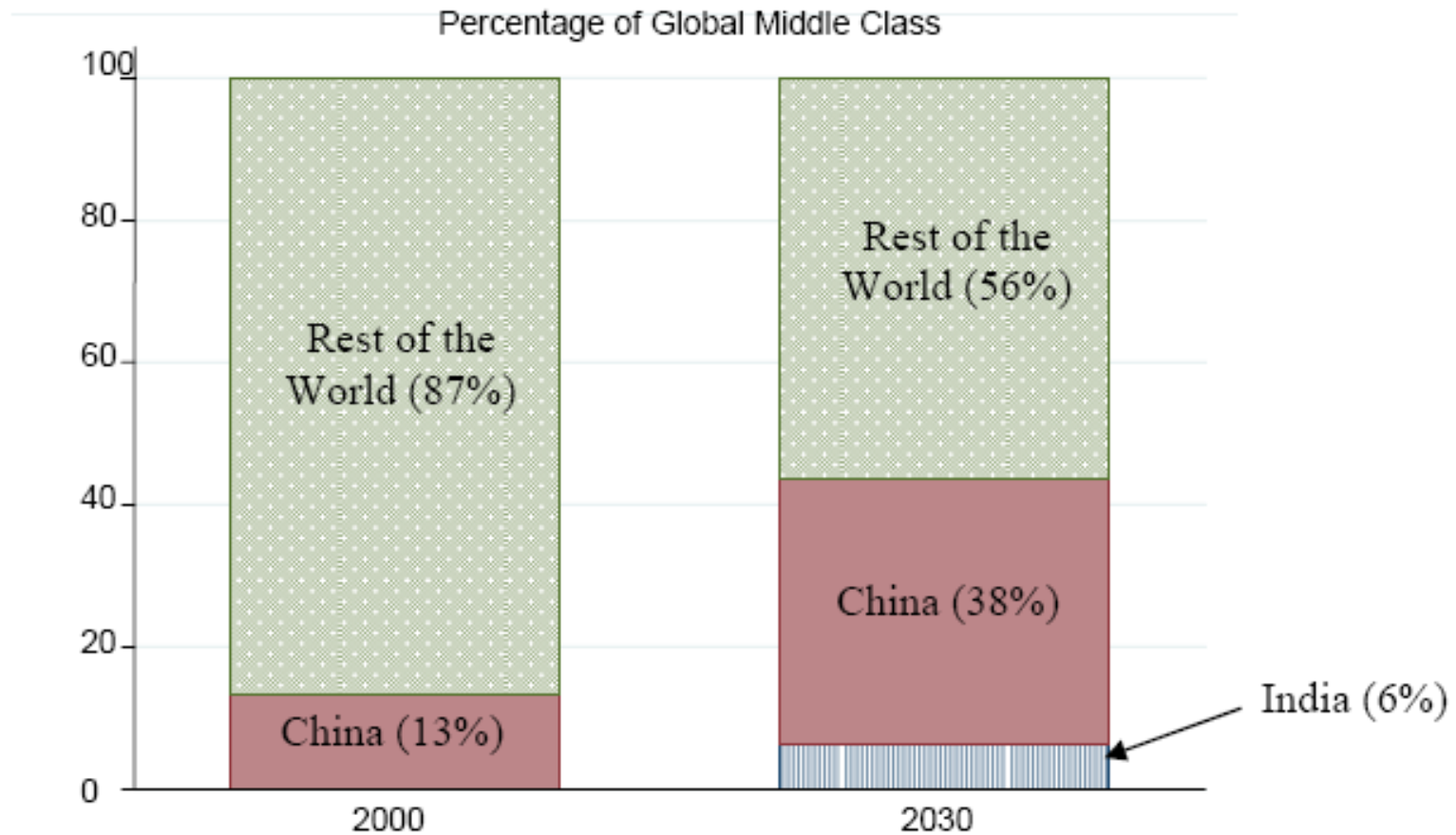
Urban-Rural Growth with Divergence



Completely Different Consumer Societies



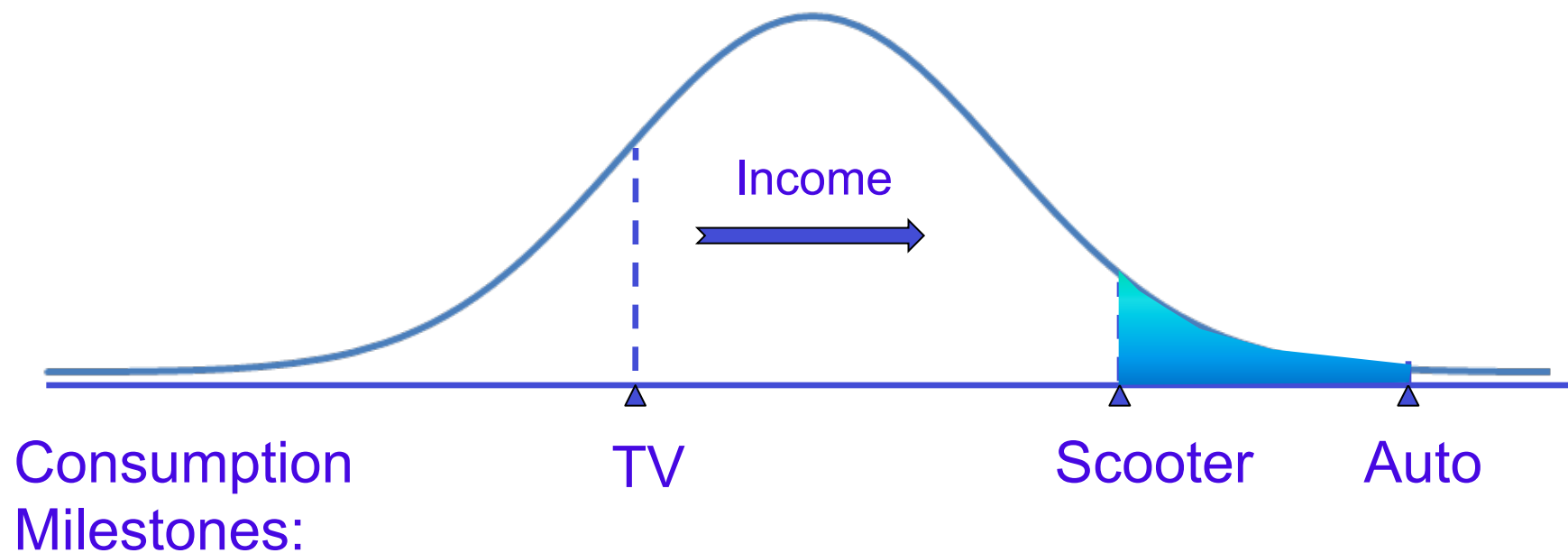
Asian Middle Class Emergence



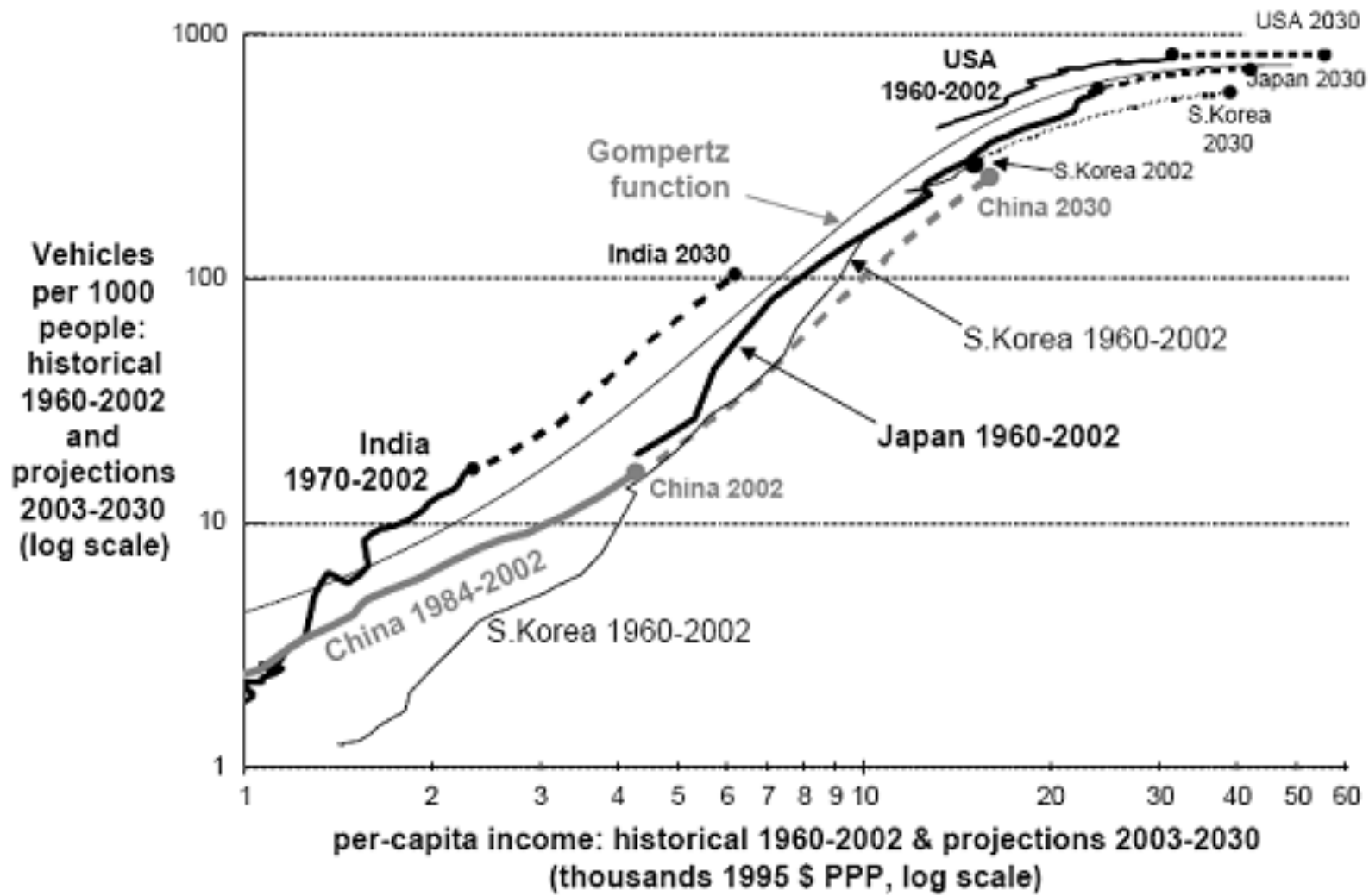
Source: World Bank

Why we need to prepare for this...

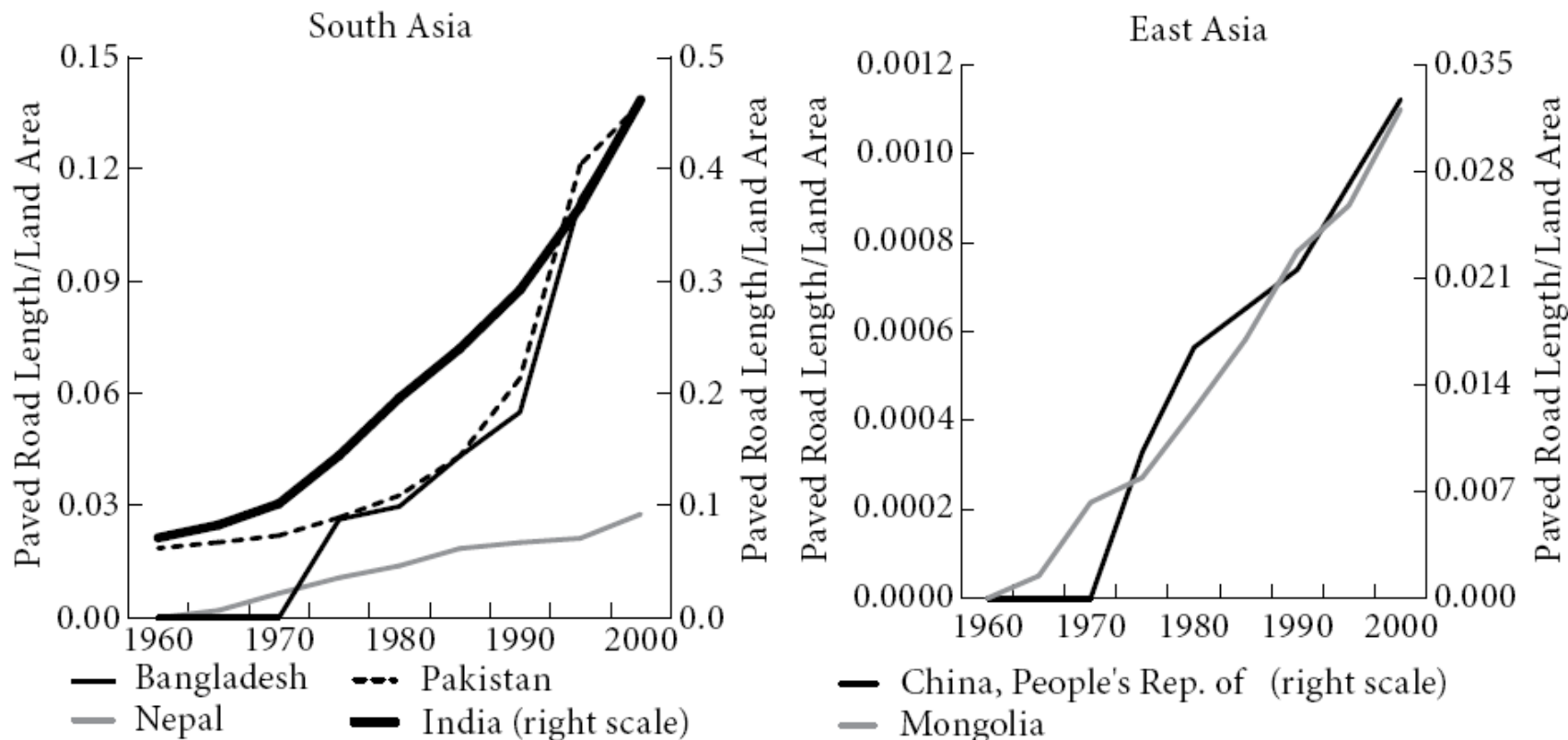
Durable Goods: Linear Growth of Average Income
Induces Exponential Growth of New Demand



Vehicle Demand Growth: 1960-2030

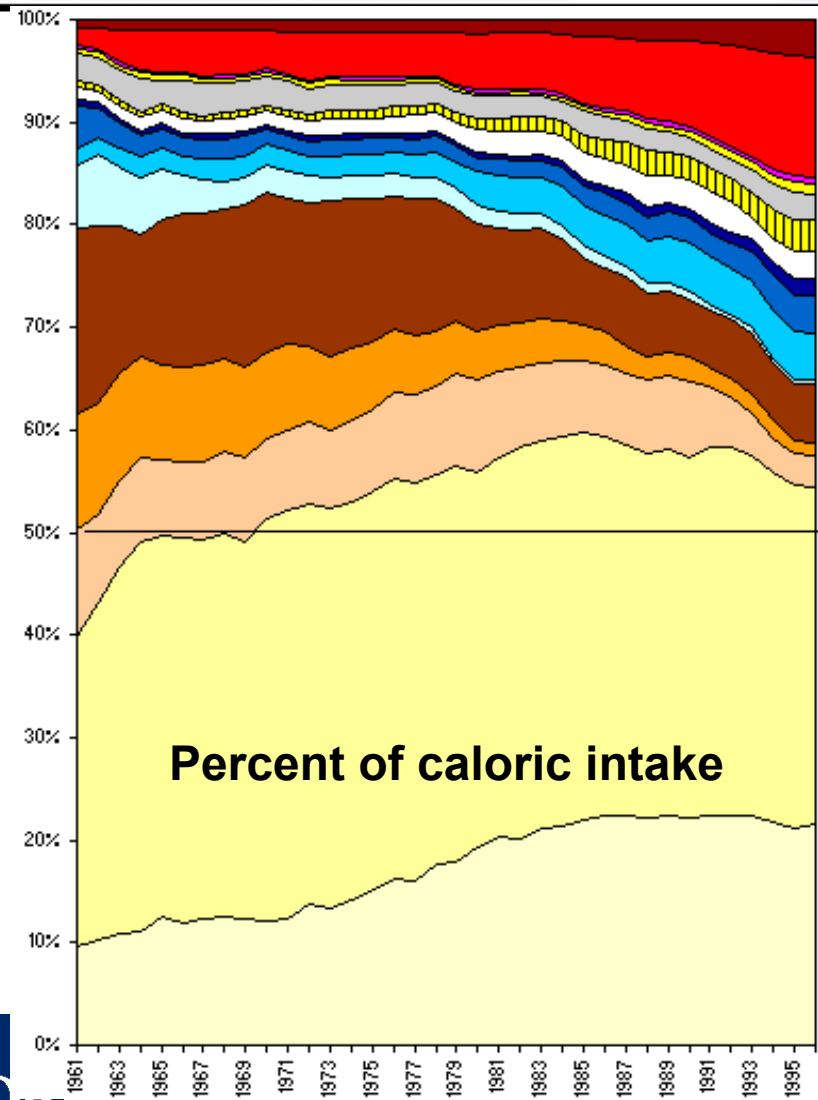
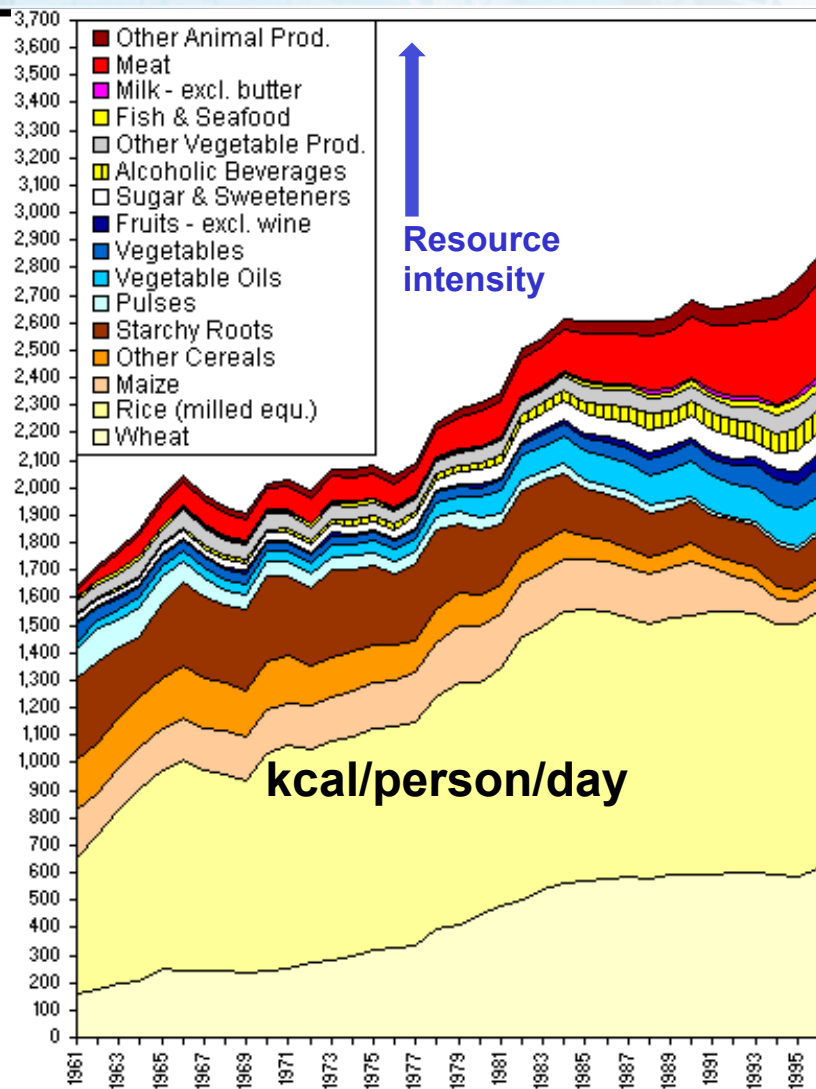


Policy Facilitation – Paved Roads



Source: Fay and Yepes (2003).

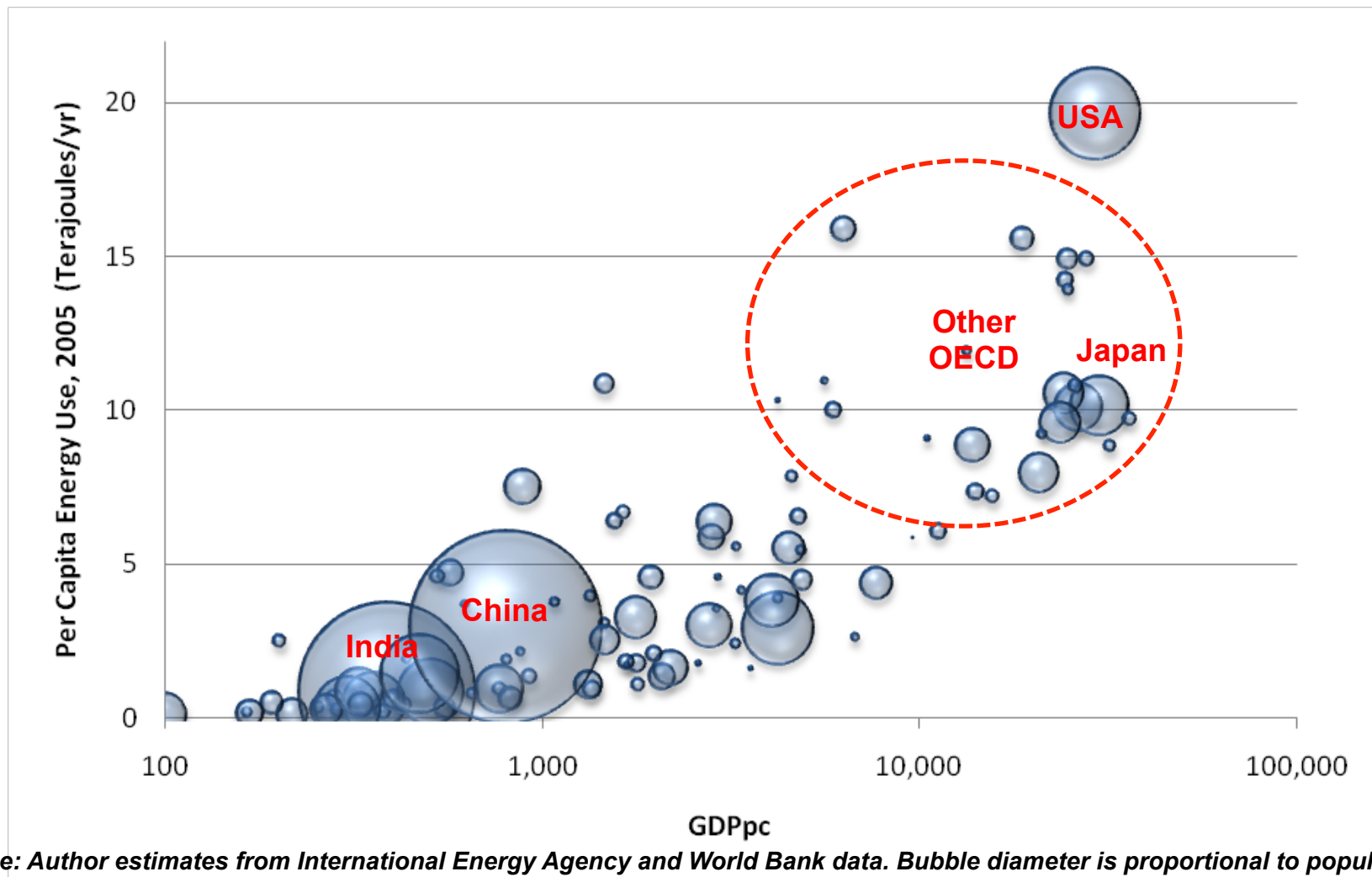
Chinese Diets are Changing



15 May 2009



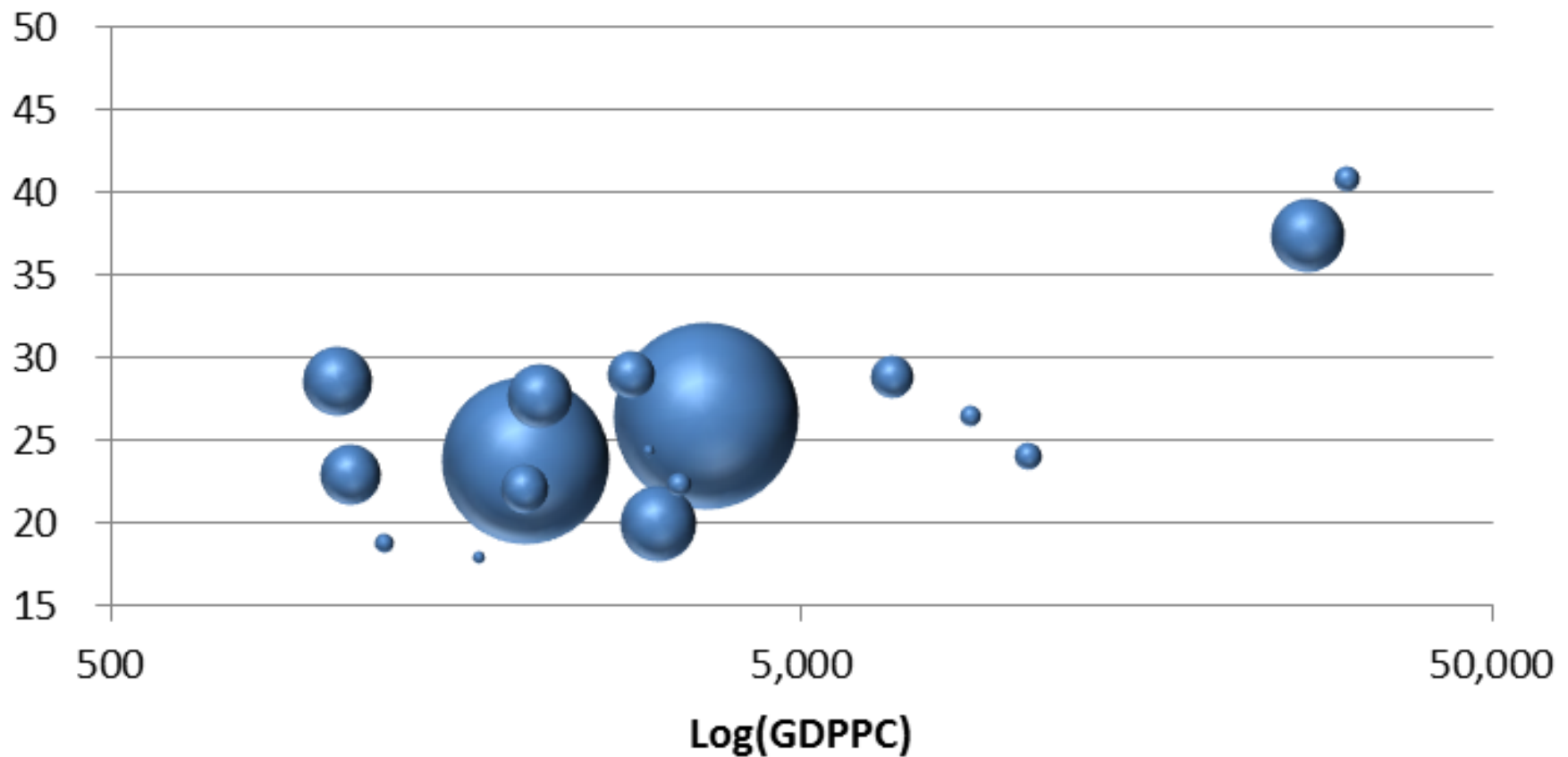
Resource Intensity and Income



Source: Author estimates from International Energy Agency and World Bank data. Bubble diameter is proportional to population

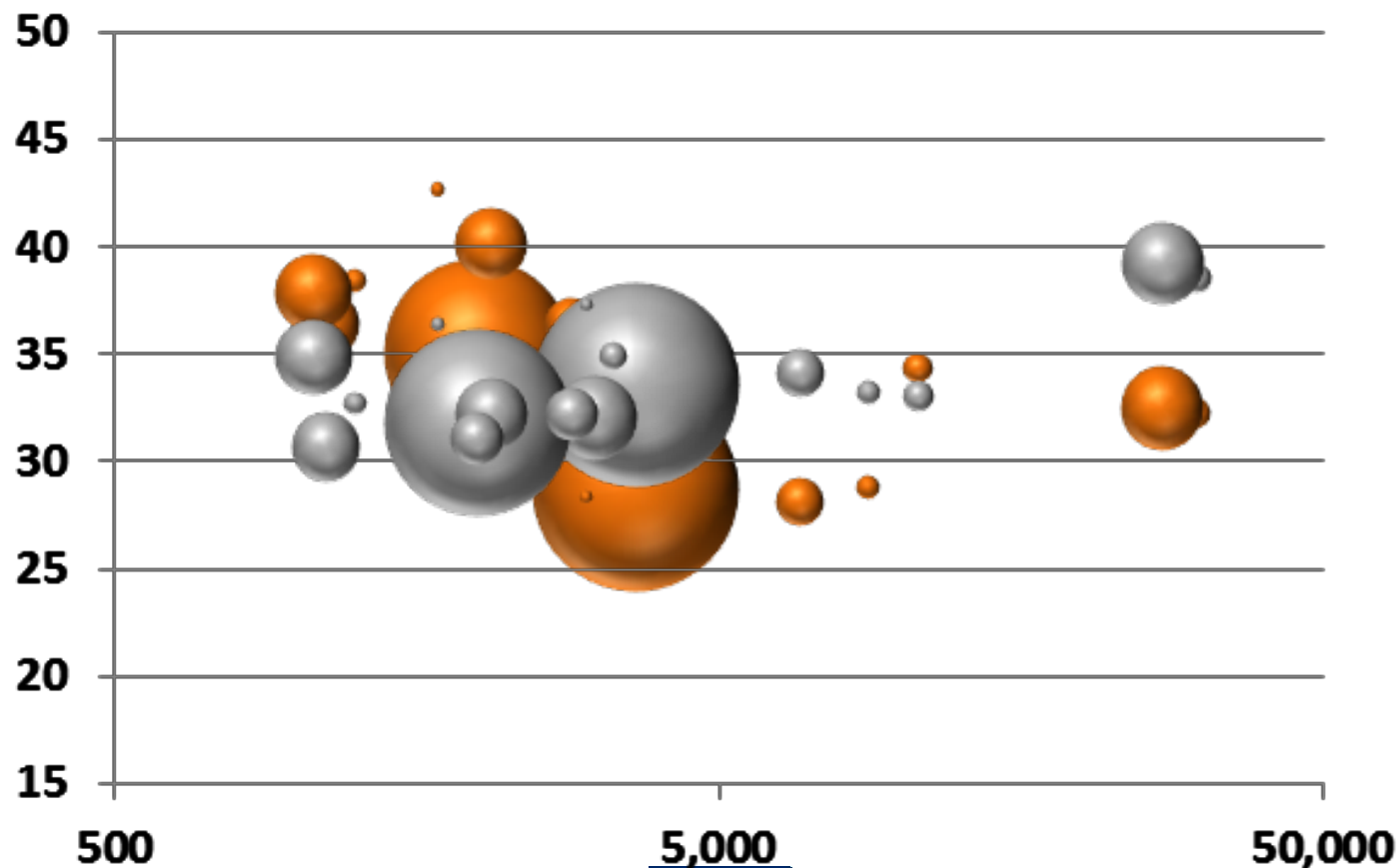
Asian growth remains constrained by labor productivity

Share of Skilled Workers



East Asia is aging

Dependent Share of Population, 2030



Defining Middle Class

Chin_10	Threshold	Percent	Pop
Median	\$ 6.15	62%	817
Percentile	\$ 2.02	80%	1,062
Absolute	\$ 2.00	80%	1,066
	\$ 4.00	56%	741
	\$ 8.00	29%	381

Indi_10	Threshold	Percent	Pop
Median	\$ 4.93	65%	790
Percentile	\$ 1.95	80%	976
Absolute	\$ 2.00	79%	965
	\$ 4.00	46%	559
	\$ 8.00	15%	188

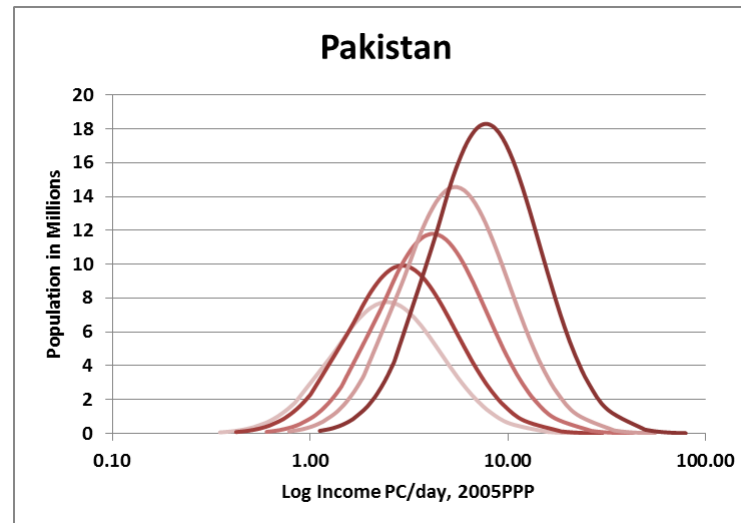
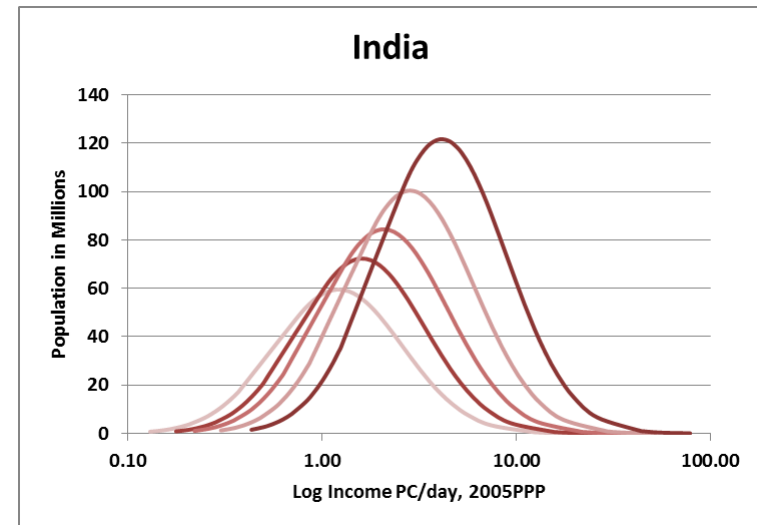
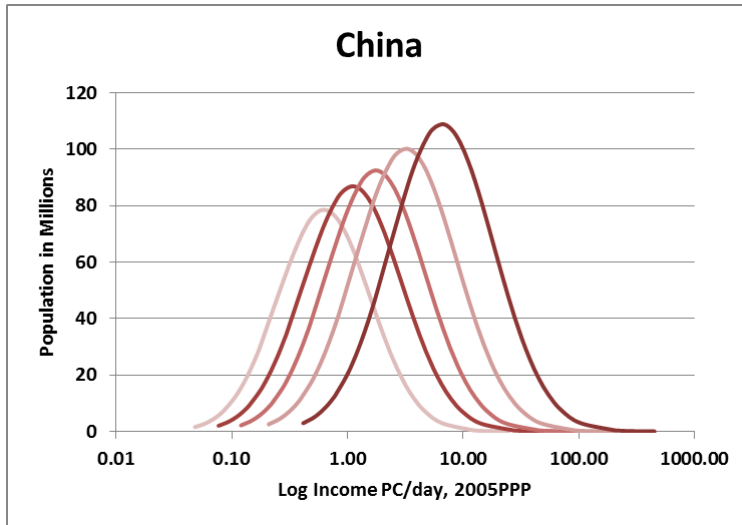
Viet_10	Threshold	Percent	Pop
Median	\$ 5.15	66%	59
Percentile	\$ 2.13	80%	72
Absolute	\$ 2.00	82%	74
	\$ 4.00	48%	43
	\$ 8.00	15%	14

Chin_30	Threshold	Percent	Pop
Median	\$ 25.25	61%	954
Percentile	\$ 7.97	80%	1,251
Absolute	\$ 2.00	99%	1,541
	\$ 4.00	93%	1,461
	\$ 8.00	80%	1,249

Indi_30	Threshold	Percent	Pop
Median	\$ 9.87	65%	1,137
Percentile	\$ 3.89	80%	1,406
Absolute	\$ 2.00	96%	1,682
	\$ 4.00	79%	1,388
	\$ 8.00	46%	807

Viet_30	Threshold	Percent	Pop
Median	\$ 12.39	67%	83
Percentile	\$ 5.30	80%	100
Absolute	\$ 2.00	99%	123
	\$ 4.00	90%	112
	\$ 8.00	59%	73

Are we too optimistic?



TIGER - Trade Integrated Global Energy and Resources Model



➤ Model

- Global dynamic CGE base on LINKAGE
- Projects annually to 2030
- Includes migration and demographic transition

➤ Database

- GTAP-7.1
- Occupational data on skilled and unskilled
- Income distribution data by country and historically

Scenarios for Asian Growth

1. G1 – Baseline, BAU to 2030
2. G1P – 50% energy fuel and food price increase to 2030
3. G1PE – G1P with 1% annual energy efficiency gains
4. G1PA – G1P with 1% annual agricultural productivity growth
5. G1PS – G1P with 1% annual labor productivity growth
6. G1PEAS – G1P with 1% annual energy efficiency, agricultural, and labor productivity gains

Decomposing Productivity Effects

Growth accounting for China

$$\frac{Y_t}{Y_t} = \frac{W_t}{W_t} + \frac{W_t}{W_t} \left(\frac{K_t}{K_t} \right) + \frac{W_t}{W_t} \left(\frac{L_t}{L_t} \right)$$

- Before reform (1952-78)

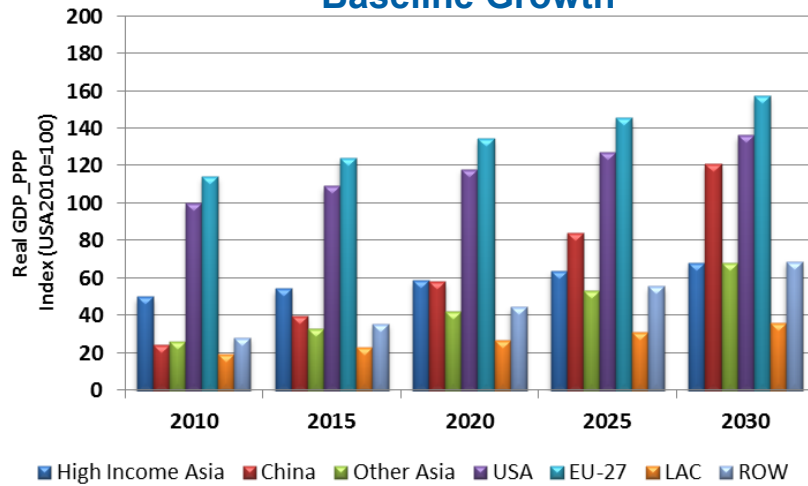
$$\begin{aligned} 5.5\% &= 0\% + (3/4)(6.1\%) + (1/4)(3.6\%) \\ &= 0\% + 4.6\% + 0.9\% \end{aligned}$$

- After reform (1978-98)

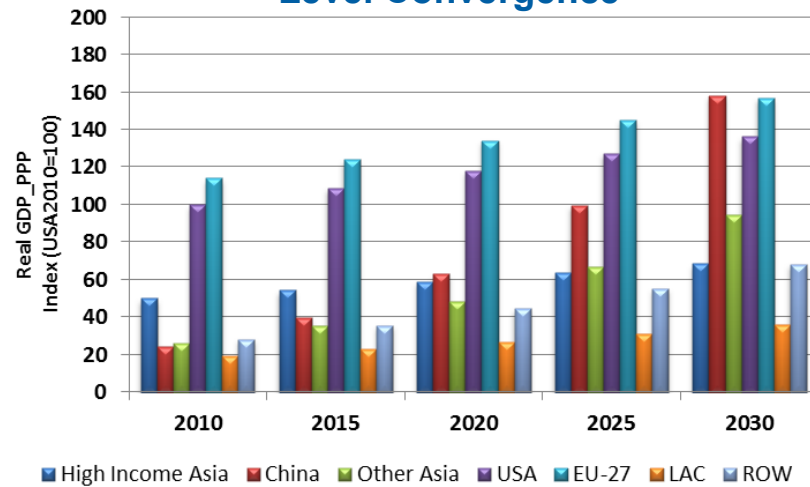
$$\begin{aligned} 9.3\% &= 2.7\% + (3/4)(7.6\%) + (1/4)(3.6\%) \\ &= 2.7\% + 5.7\% + 0.9\% \end{aligned}$$

Real GDP, Baseline

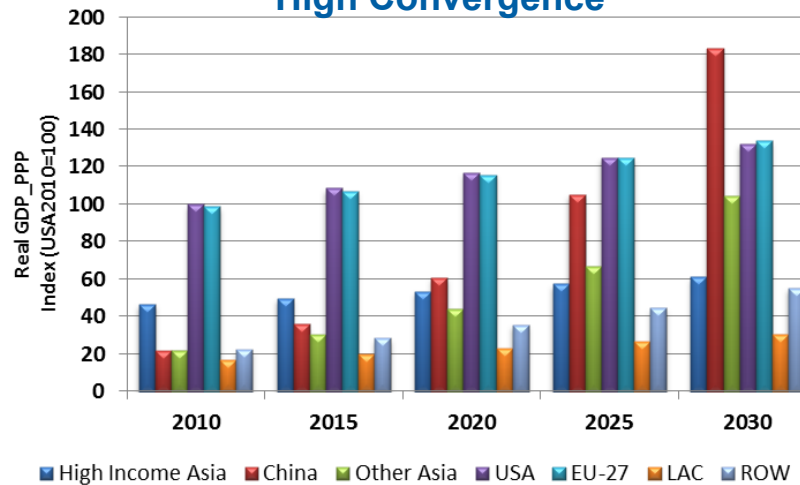
Baseline Growth



Level Convergence

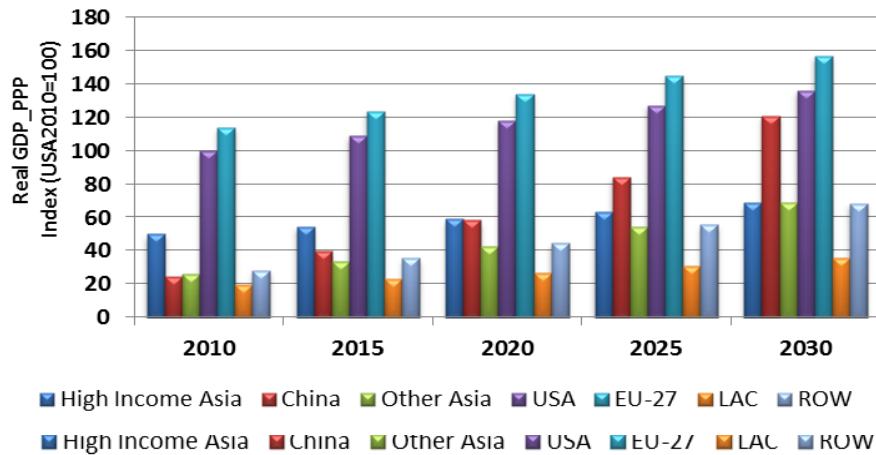


High Convergence

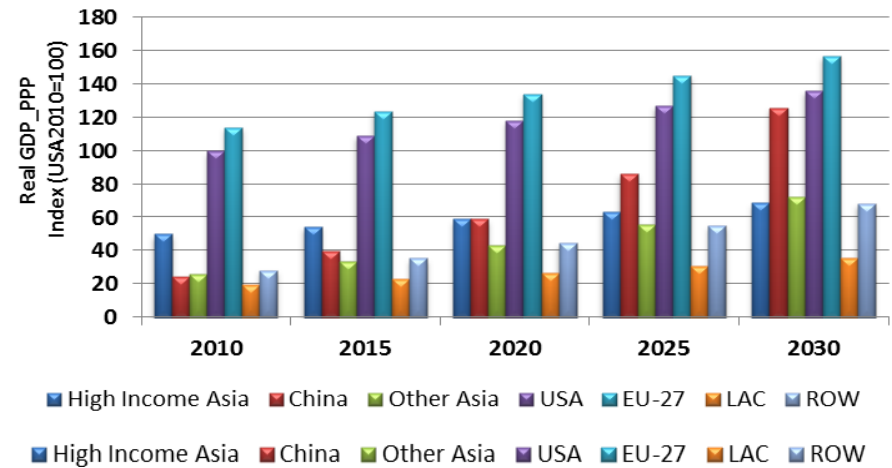


Component Scenarios under Level Convergence

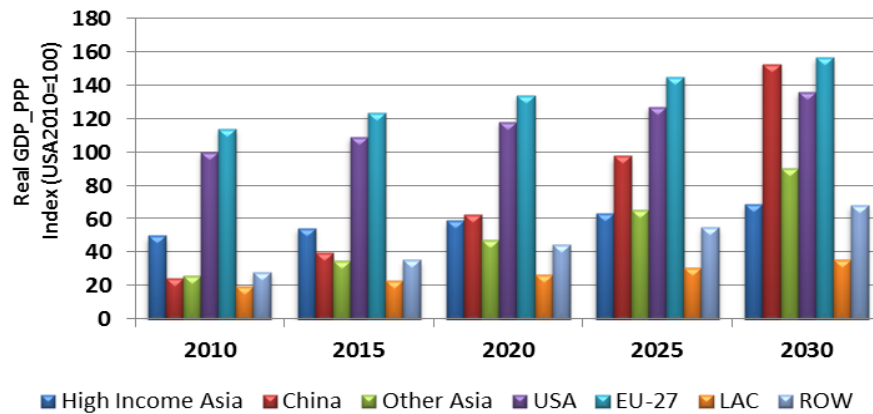
TLB



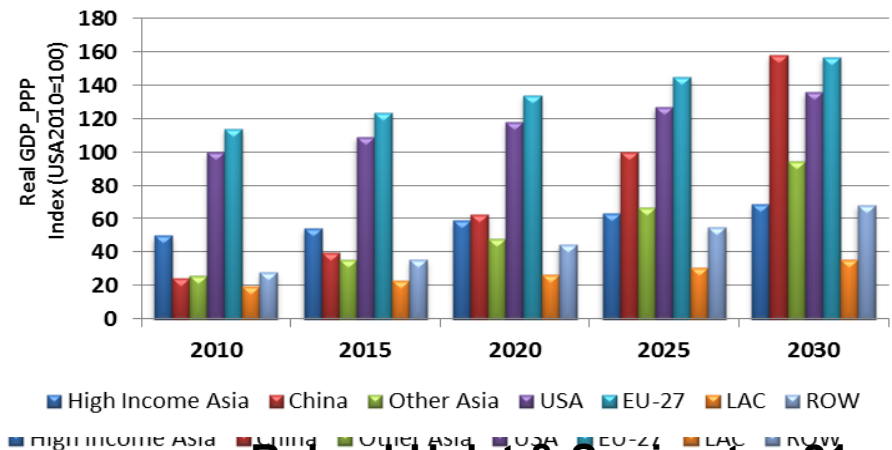
LPD



KPD



TFP



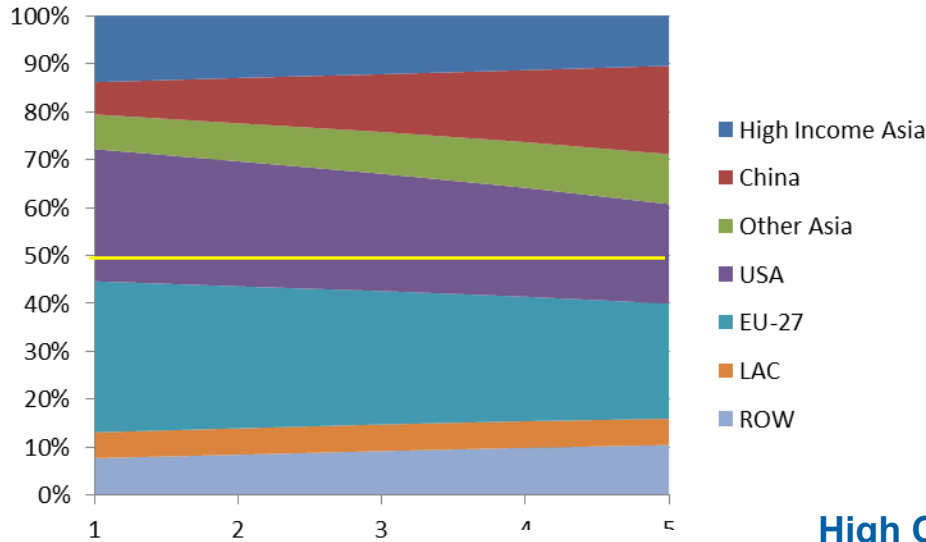
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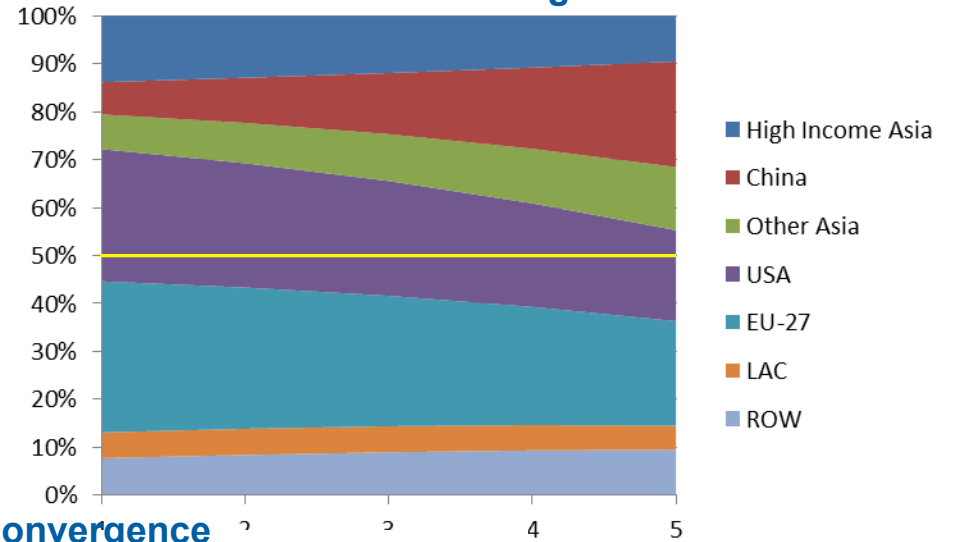
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Shares of Global GDP

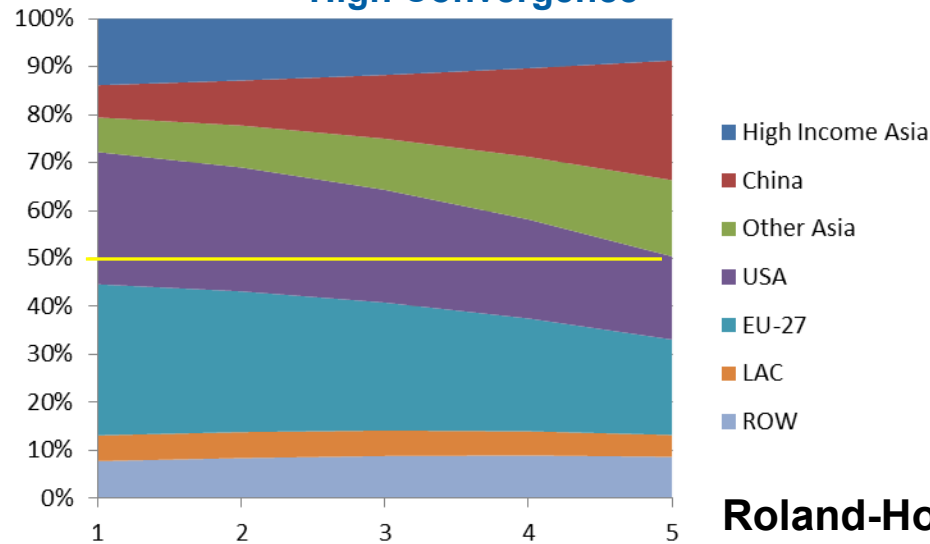
Baseline Growth



Level Convergence



High Convergence



Real GDP Impacts by Source, Level Convergence

	Percent Change from Baseline in 2030					Incremental Contribution in 2030				
	TLB	LPD	KPD	TFP	CCG	TLB	LPD	KPD	TFP	CCG
1 Australia and New Zealand	1.4%	1.4%	1.8%	1.9%	0.5%	1.4%	0.1%	0.4%	0.1%	-1.4%
2 Bangladesh	0.4%	6.3%	41.9%	49.7%	45.4%	0.4%	6.0%	35.6%	7.7%	-4.2%
3 China	0.0%	5.7%	38.6%	45.5%	44.1%	0.0%	5.7%	32.9%	7.0%	-1.4%
4 Georgia	0.0%	1.0%	4.9%	5.6%	6.9%	0.0%	1.0%	3.9%	0.7%	1.3%
5 High Income Asia	0.3%	0.3%	0.2%	0.2%	0.0%	0.3%	0.0%	0.0%	0.0%	-0.2%
6 Indonesia	1.4%	7.2%	41.0%	48.2%	45.3%	1.4%	5.8%	33.8%	7.2%	-3.0%
7 India	0.4%	5.8%	37.6%	44.4%	40.7%	0.4%	5.4%	31.8%	6.8%	-3.7%
8 Kazakhstan	-0.1%	6.6%	48.0%	57.2%	54.6%	-0.1%	6.7%	41.4%	9.2%	-2.6%
9 Cambodia	2.7%	7.8%	36.3%	42.3%	37.2%	2.7%	5.0%	28.6%	6.0%	-5.1%
10 Lao PDR	-0.5%	2.3%	18.2%	21.4%	13.9%	-0.5%	2.9%	15.8%	3.2%	-7.5%
11 Sri Lanka	1.9%	5.7%	27.7%	32.3%	29.5%	1.9%	3.9%	22.0%	4.6%	-2.8%
12 Malaysia	4.3%	12.6%	64.6%	76.4%	75.7%	4.3%	8.3%	52.0%	11.8%	-0.6%
13 Pakistan	0.7%	4.2%	23.4%	27.2%	22.2%	0.7%	3.5%	19.2%	3.8%	-5.0%
14 Philippines	0.2%	4.2%	26.6%	31.2%	27.9%	0.2%	4.0%	22.4%	4.6%	-3.3%
15 Thailand	4.2%	7.4%	24.4%	27.8%	25.3%	4.2%	3.1%	17.0%	3.4%	-2.5%
16 Viet Nam	6.1%	11.4%	42.1%	48.7%	46.3%	6.1%	5.2%	30.7%	6.6%	-2.4%
17 Rest of Asia	1.1%	6.8%	40.6%	47.9%	45.2%	1.1%	5.8%	33.8%	7.3%	-2.7%
Region Total	0.3%	4.5%	28.9%	34.1%	32.6%	0.3%	4.2%	24.4%	5.2%	-1.5%



Thank you

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