

# CPD Anniversary Lecture 2018

## Assessing the Challenges of SDG Implementation Food, energy and inequality

By

**Professor Jomo Kwame Sundaram**

*Dhaka: 8 September 2018*



# Development Goals for Bangladesh

*Food, energy, inequality*

*Jomo Kwame Sundaram*

Centre for Policy Dialogue

Anniversary Lecture

Dhaka

8 September 2018

# Sustainable Development

From Environmental Protection  
to Sustainable Development

- Economic development
- Social progress
- Environmental, resource sustainability

# Agenda 2030 for Sustainable Development

- 2030 Agenda for Sustainable Development: development framework guiding international community over next 15 years
- 17 Goals and 169 targets covering 3 dimensions of sustainable development (economic, social, ecological)
- Inter-governmentally negotiated, agreed to by all Member States
- Universal in nature: for all countries

# 17 SDGs

1. Poverty	9. Infrastructure, industry
2. Food security, nutrition, sustainable agriculture	10. Inequality
3. Health	11. Sustainable cities
4. Education	12. Sustainable consumption, production
5. Gender	13. Climate change
6. Water	14. Marine ecosystems
7. Energy	15. Terrestrial ecosystems
8. Growth, employment	16. Peace and justice
17. Means of implementation, global partnership	

# SDGs of Agenda 2030

1. **End poverty** in all its forms everywhere
2. **End hunger**, achieve food security and adequate **nutrition**, and promote sustainable agriculture
3. Attain **healthy** lives for all at all ages
4. Provide **inclusive** and **equitable, quality** education and **life-long learning** opportunities for all
5. Achieve **gender equality; empower** all women and girls everywhere
6. Ensure availability and sustainable management of **water** and **sanitation** for all

7. Ensure access to affordable, sustainable and modern **energy for all**
8. Promote sustained, inclusive, sustainable economic growth, full and productive **employment and decent work for all**
9. Build resilient infrastructure, promote inclusive and **sustainable industrialization** and foster **innovation**
10. **Reduce inequality** within and among countries
11. Make cities and **human settlements** inclusive, safe, sustainable
12. Promote **sustainable consumption and production** patterns
13. Combat **climate change** and its impacts

14. Conserve and **sustainably use oceans, seas** and their resources for sustainable development
15. Protect and promote sustainable use of **terrestrial ecosystems, sustainably manage forests**; halt and reverse **land degradation, biodiversity** loss
16. Enable sustainable development by achieving **peaceful and inclusive societies**, promoting rule of law at all levels, providing **justice for all** and building effective and capable institutions nationally and internationally
17. Strengthen **means of implementation and global partnership** for sustainable development



# Balanced SDGs

- Links economic development to environmental and social (distributional) concerns
- Development requires industrialization
- Industrialization requires:
  - Industrial (investment + technology) policy
  - Affordable energy
- Climate **action** (vs development: trade-off, e.g., raise carbon price) or climate **justice** (sustainable development)

# Malnutrition: The problem

**Malnutrition** – major challenges:

- macronutrients (hunger)

Hunger **estimates** narrow, conservative

- micronutrient [minerals, vitamins] deficiencies ('hidden hunger')
- diet-related non-communicable diseases

Overweight, obesity

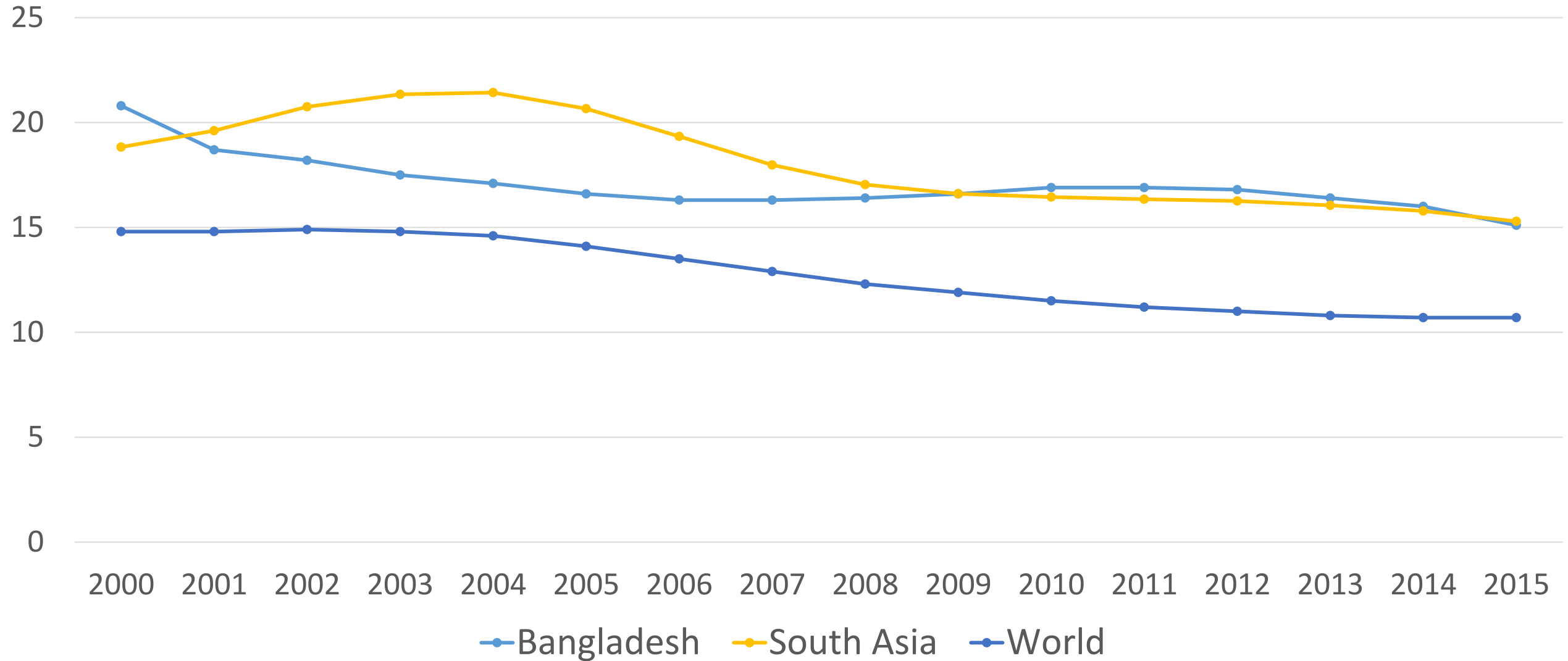
Malnutrition widespread, **costly**

# Multiple faces of malnutrition now

- > 800m people hungry in 2012-14
- > 2 bn suffer micronutrient deficiencies
- Children: 161m. stunted, 51m. wasted, 99m. underweight
- 45% of 6.9m. child deaths annually linked to malnutrition
- 42 m. overweight children < 5 years
- 2.1 bn overweight, ~700 m. adults obese

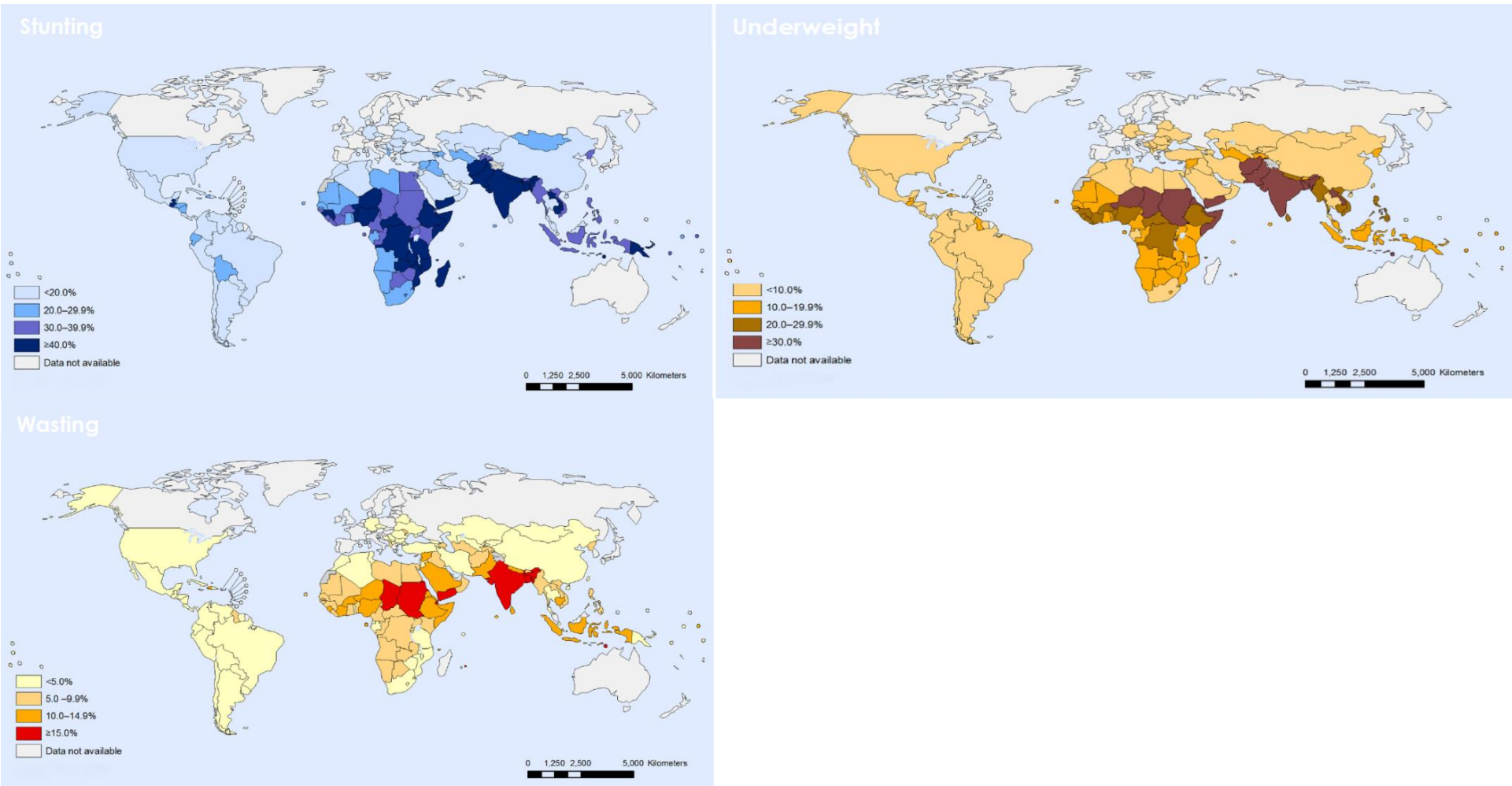
# Hunger in Bangladesh, South Asia, World

Prevalence of Undernourishment (%)

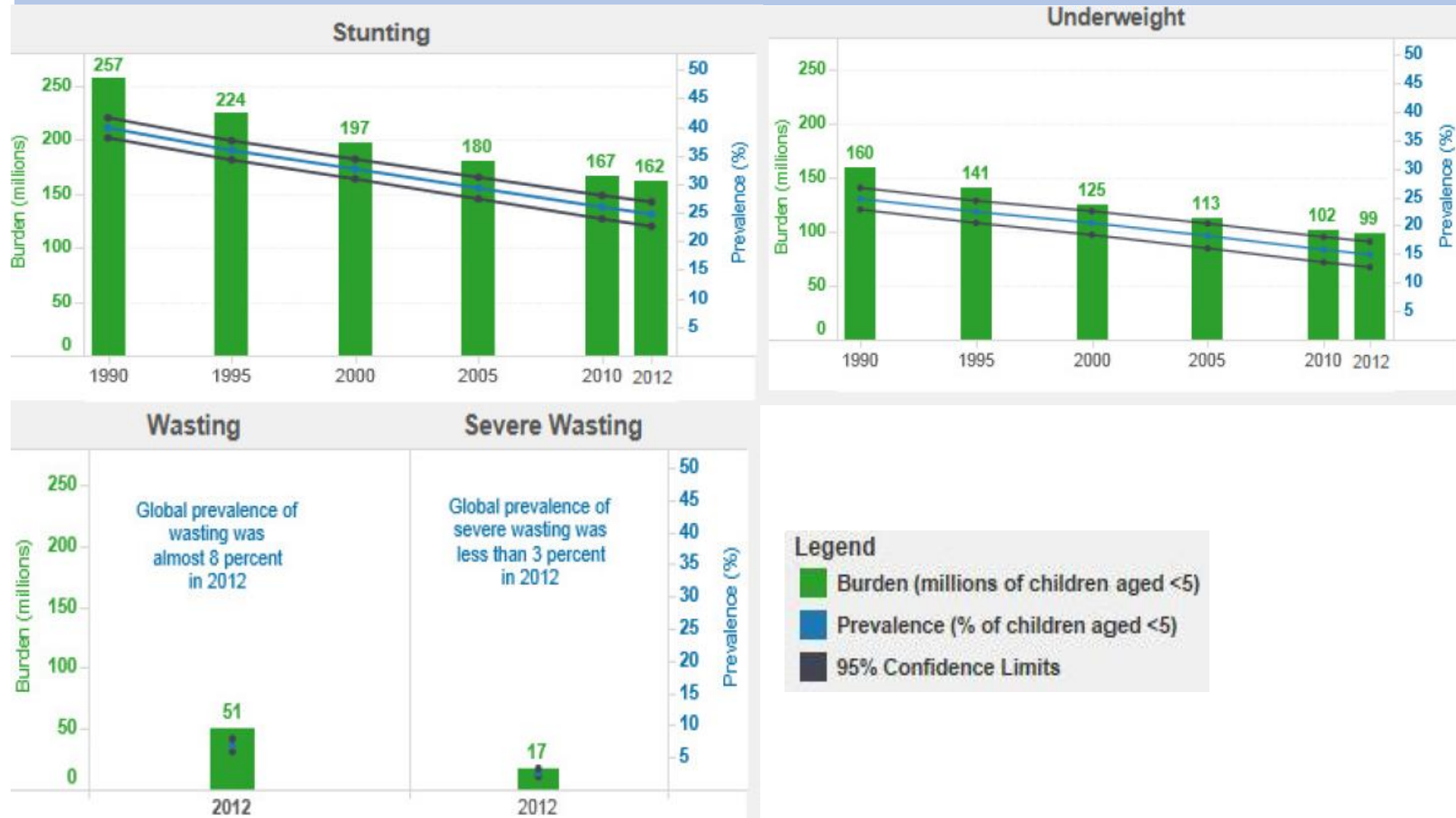


# But malnutrition still widespread

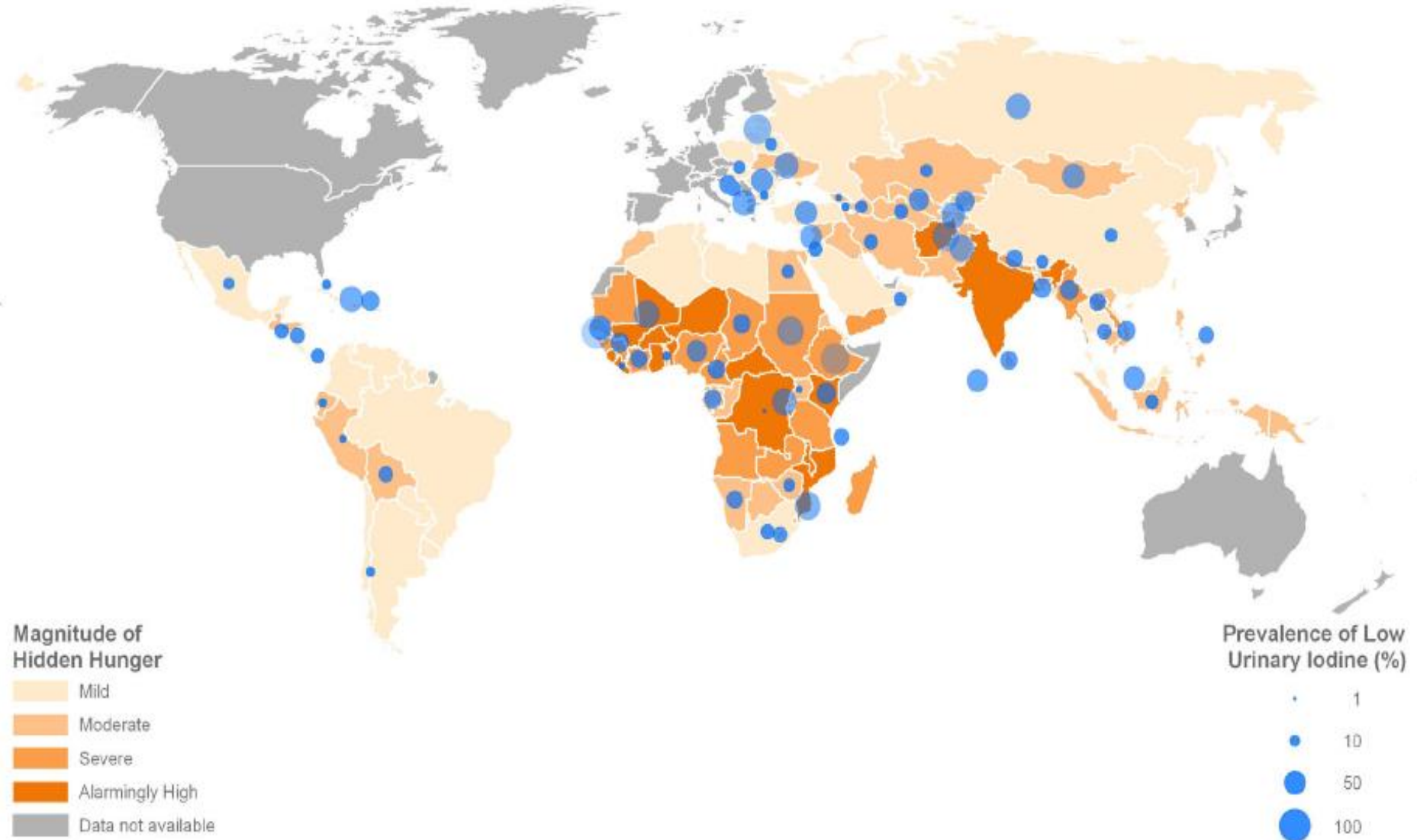
## Undernutrition among children under 5 years of age



# Undernutrition declining, but not fast enough



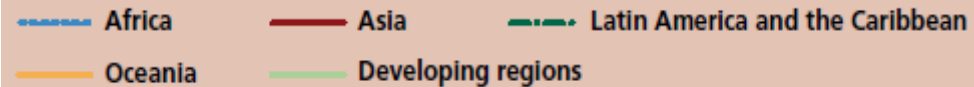
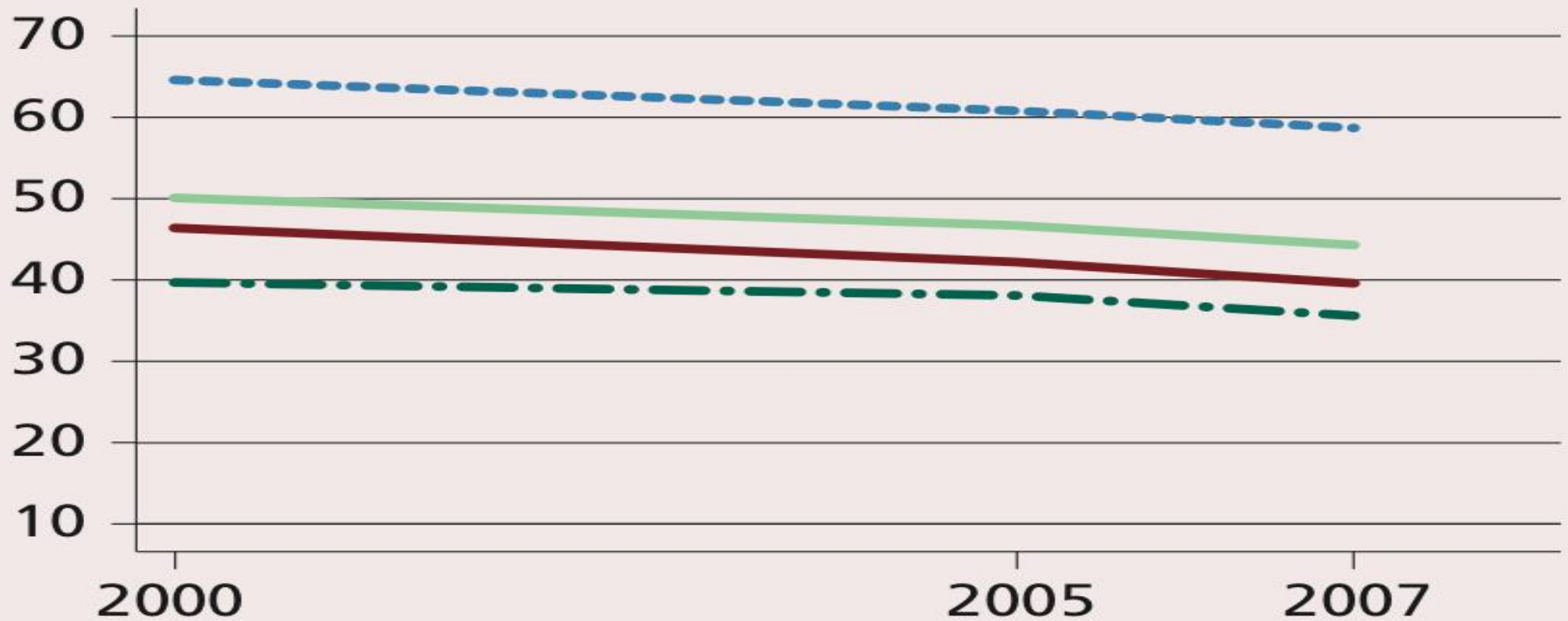
# Hidden hunger at global level



# Anaemia

## Anaemia\*\*

### Percentage of children

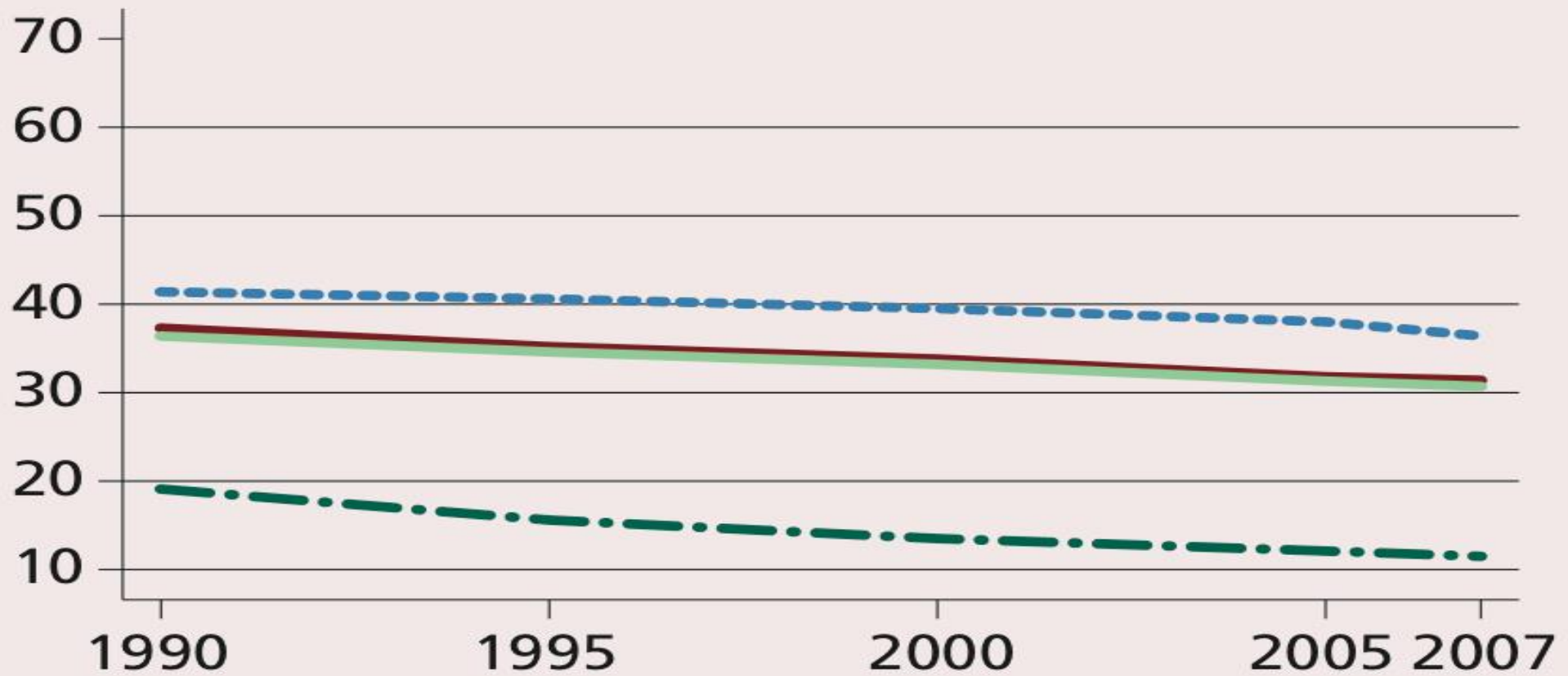




# Vitamin A deficiency

## Vitamin A deficiency

### Percentage of children

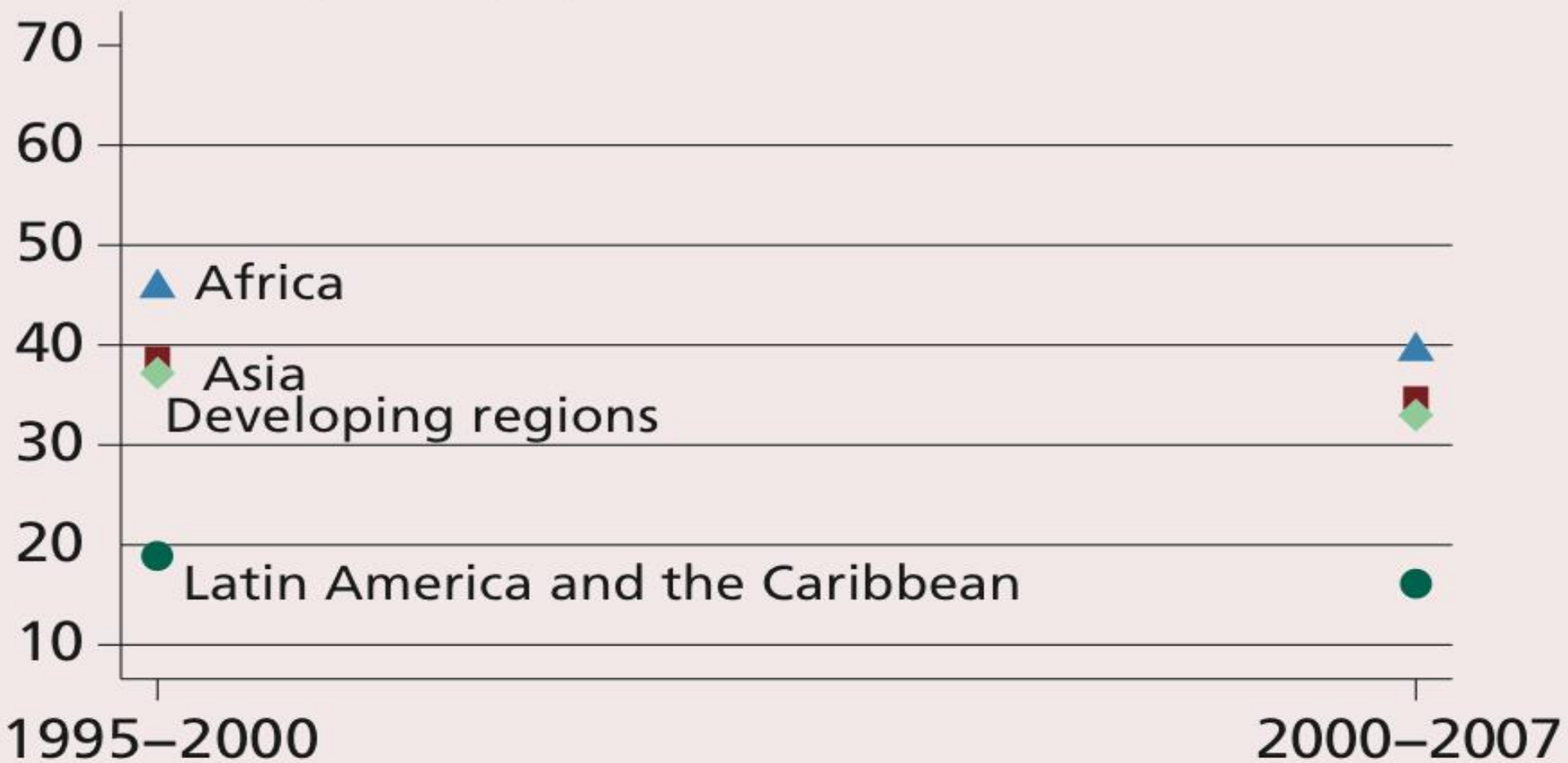


--- Africa    — Asia    -.- Latin America and the Caribbean  
— Oceania    — Developing regions

# Iodine

## Low urinary iodine

### Percentage of population



# Child, maternal malnutrition worst social burden

Regions	Child, maternal malnutrition		Underweight				Overweight, obesity			
	Total DALYs ('000s)		<i>Total DALYs ('000s)</i>		DALYs per 1000 population		Total DALYs ('000s)		DALYs per 1000 population	
	<b>1990</b>	<b>2010</b>	<b>1990</b>	<b>2010</b>	<b>1990</b>	<b>2010</b>	<b>1990</b>	<b>2010</b>	<b>1990</b>	<b>2010</b>
World	339,951	166,147	197,774	77,346	313	121	51,613	93,840	20	25
Developed regions	2,243	1,731	160	51	2	1	29,956	37,959	41	44
Developing regions	337,708	164,416	197,614	77,294	356	135	21,657	55,882	12	19
Africa	121,492	78,017	76,983	43,990	694	278	3,571	9,605	15	24
Asia	197,888	80,070	115,049	32,210	297	90	12,955	34,551	9	16
Latin America & the Caribbean	17,821	6,043	5,292	979	94	18	5,062	11,449	26	36

# Economic costs of malnutrition unacceptably high @ 5% of GDP

- Under-nutrition, micronutrient deficiencies cost **2-3% of global GDP**
- Total output loss, healthcare costs due to NCDs, for which obesity is key risk factor, about US\$47 trillion over next 2 decades
- **Total costs** of malnutrition may be as high as **5% of global GDP**, equivalent to US\$3.5trn or US\$500/person/year
- Poorer countries -> higher malnutrition costs

# Economic costs of obesity

by McKinsey Global Institute (2014)

About 1.9~**2.1 bn** people overweight  
(including about **a third [BMI] obese**),  
i.e. **30%** of global population

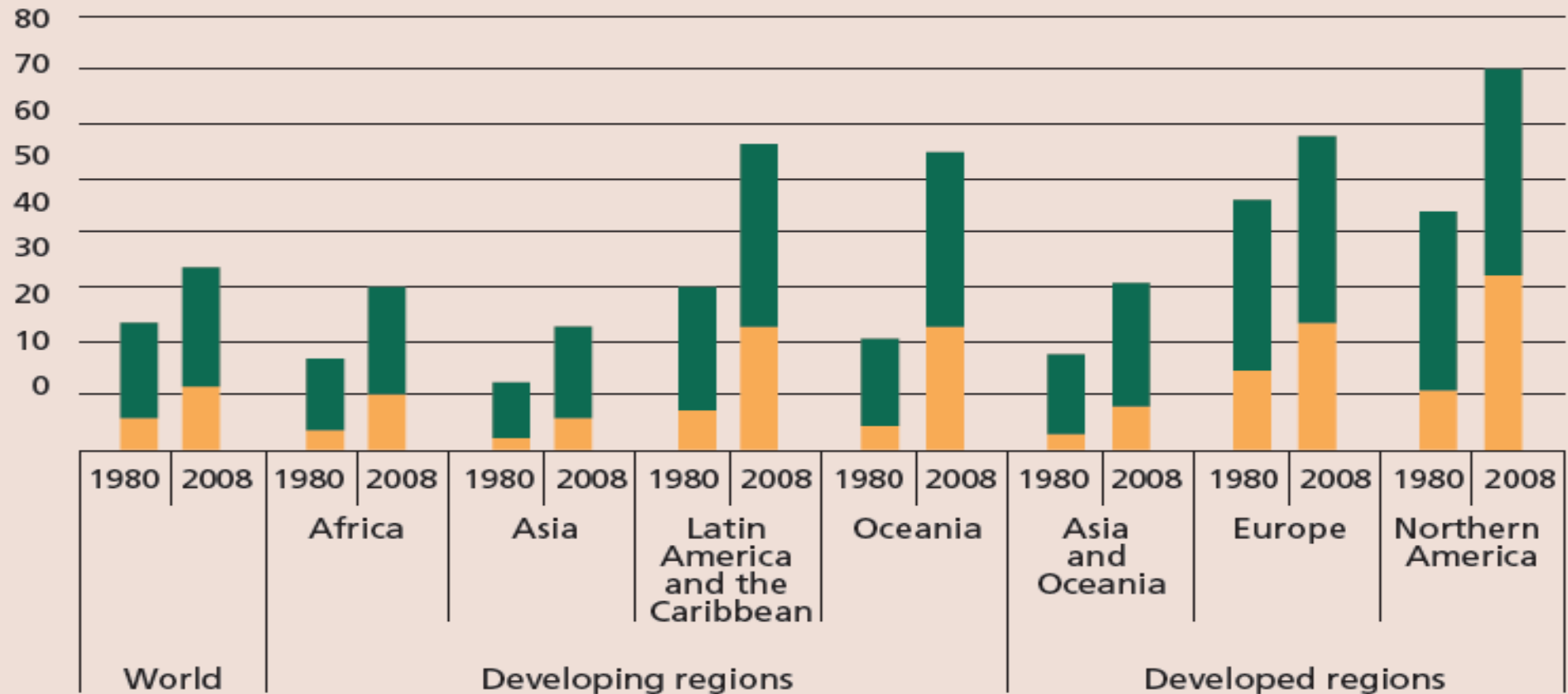
## Comparative economic burden

armed conflicts (\$2.1 trillion)

smoking (\$2.1 trillion)

**obesity** (\$2.0 trillion)

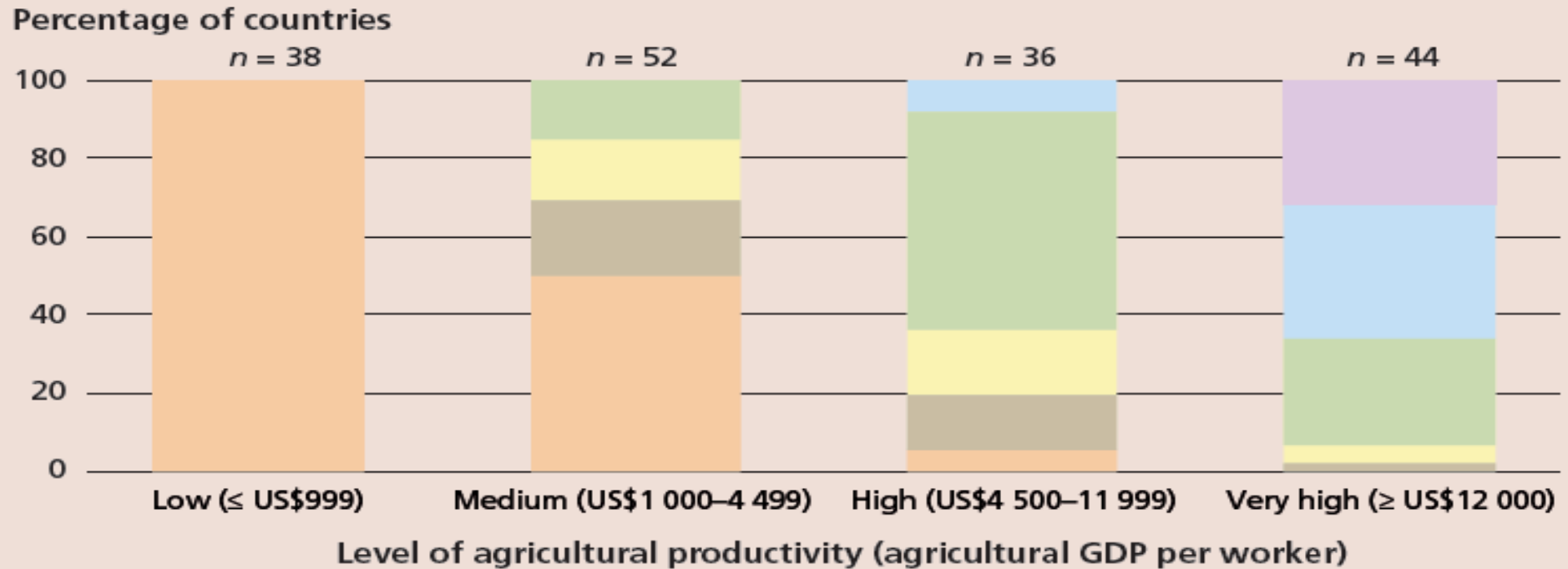
# Overweight, obesity rising rapidly



Obesity

Overweight, excluding obesity

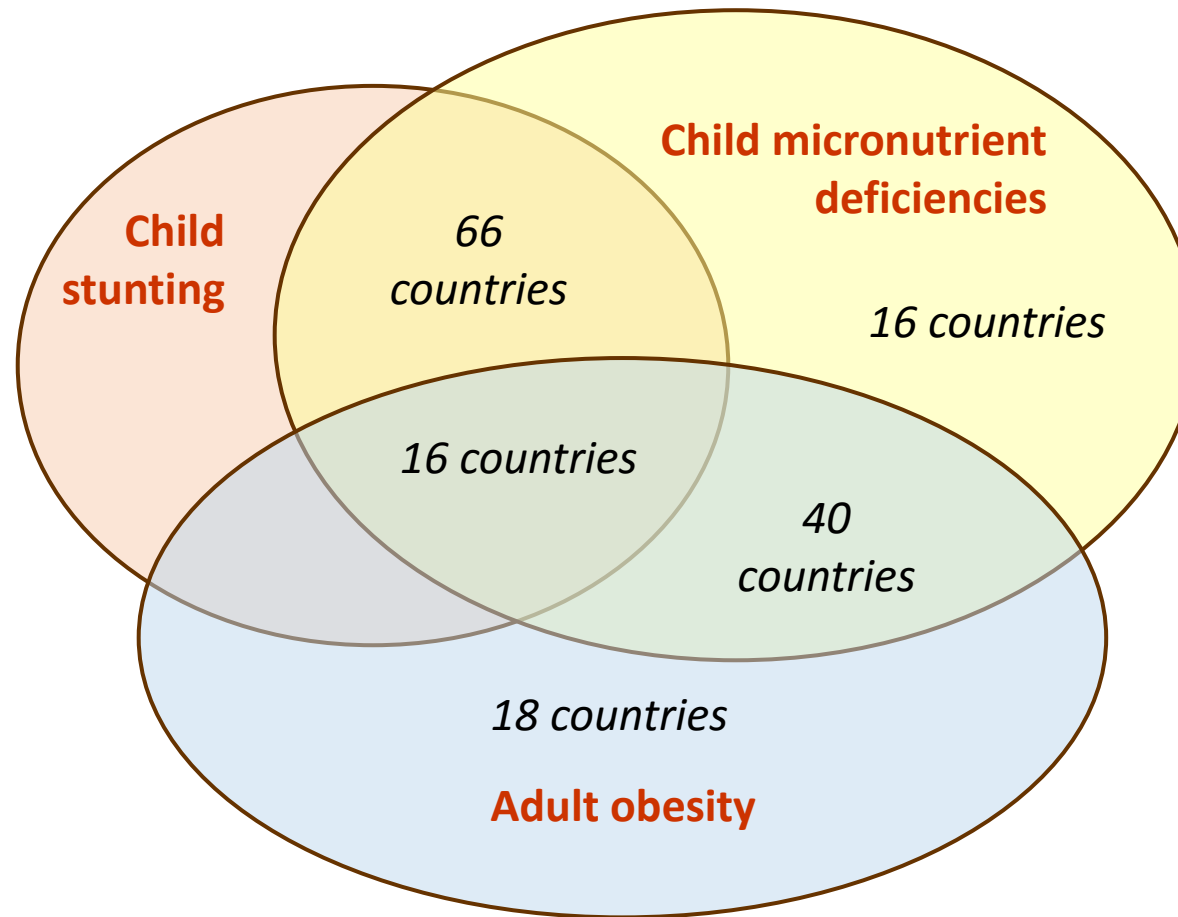
# Nutrition transition: malnutrition patterns change with diets, lifestyles



## Malnutrition category:

- Stunting and micronutrient deficiencies (AB)
- Micronutrient deficiencies (B)
- Micronutrient deficiencies and obesity (BC)
- Stunting, micronutrient deficiencies and obesity (ABC)
- Obesity (C)
- No malnutrition problem (D)

# Overlapping burdens of malnutrition



No significant malnutrition problems: **15 countries**



# Better nutrition: Why? How?

- Malnutrition costs lives, money
- Healthier diets need better food systems
- Health, education, water, sanitation, lifestyles, etc. needed
- Appropriate policies, incentives, governance
- Sustainable food systems central
- Without full employment, decent work, need **social protection floor** for right to food [Sen: SP to ensure **entitlements**]

# Climate situation dire

Paris UNFCCC CoP: Agreed global temperatures should not increase by  $> 2^{\circ}\text{C}$

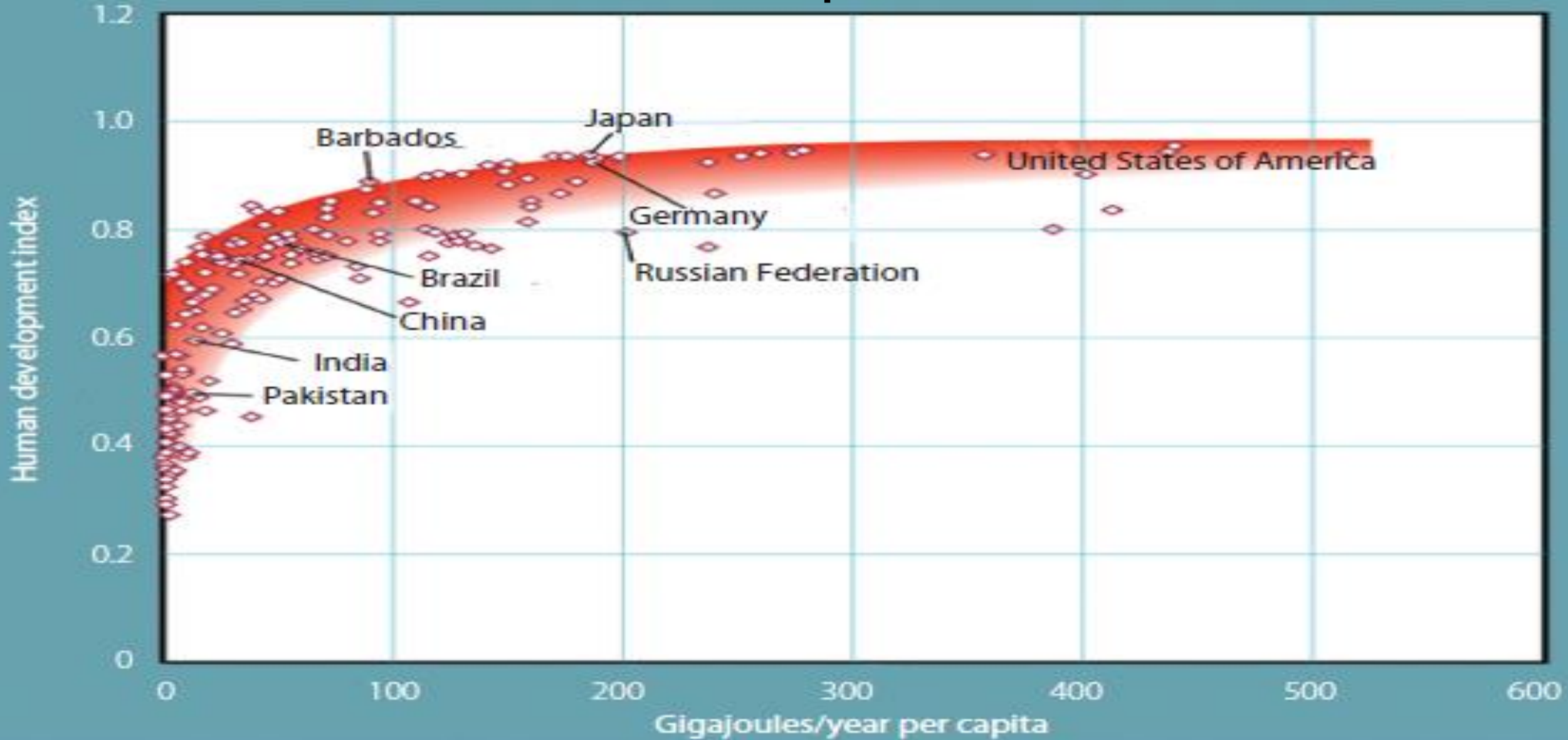
Scientists advise limiting temperature **increase to  $1.5^{\circ}\text{C}$ , not  $2^{\circ}\text{C}$**

$\text{CO}_2$  concentrations currently around 390ppm; 450ppm means a 50-78% probability of  $> 2^{\circ}\text{C}$  increase.

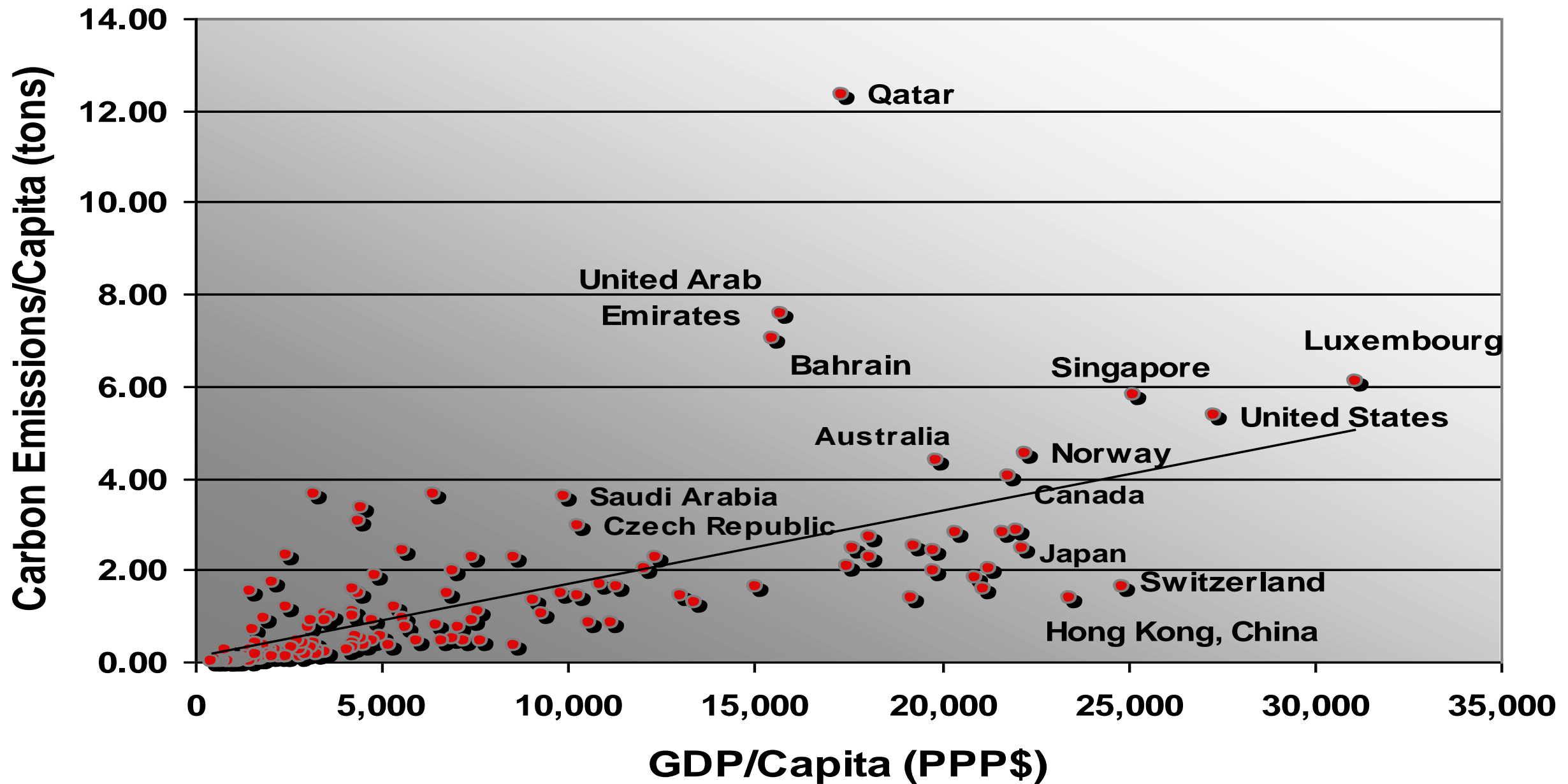
Ensuring  $< 2^{\circ}\text{C}$  (let alone  $< 1.5^{\circ}\text{C}$ ) increase requires **targeting 300-350ppm.**

Almost impossible to stabilize at 450ppm without reducing global emissions by 80-90% by 2050; even at 450ppm, more than 50-50 chance of reaching  $> 2^{\circ}\text{C}$

# Energy consumption strongly correlated with human development indicators

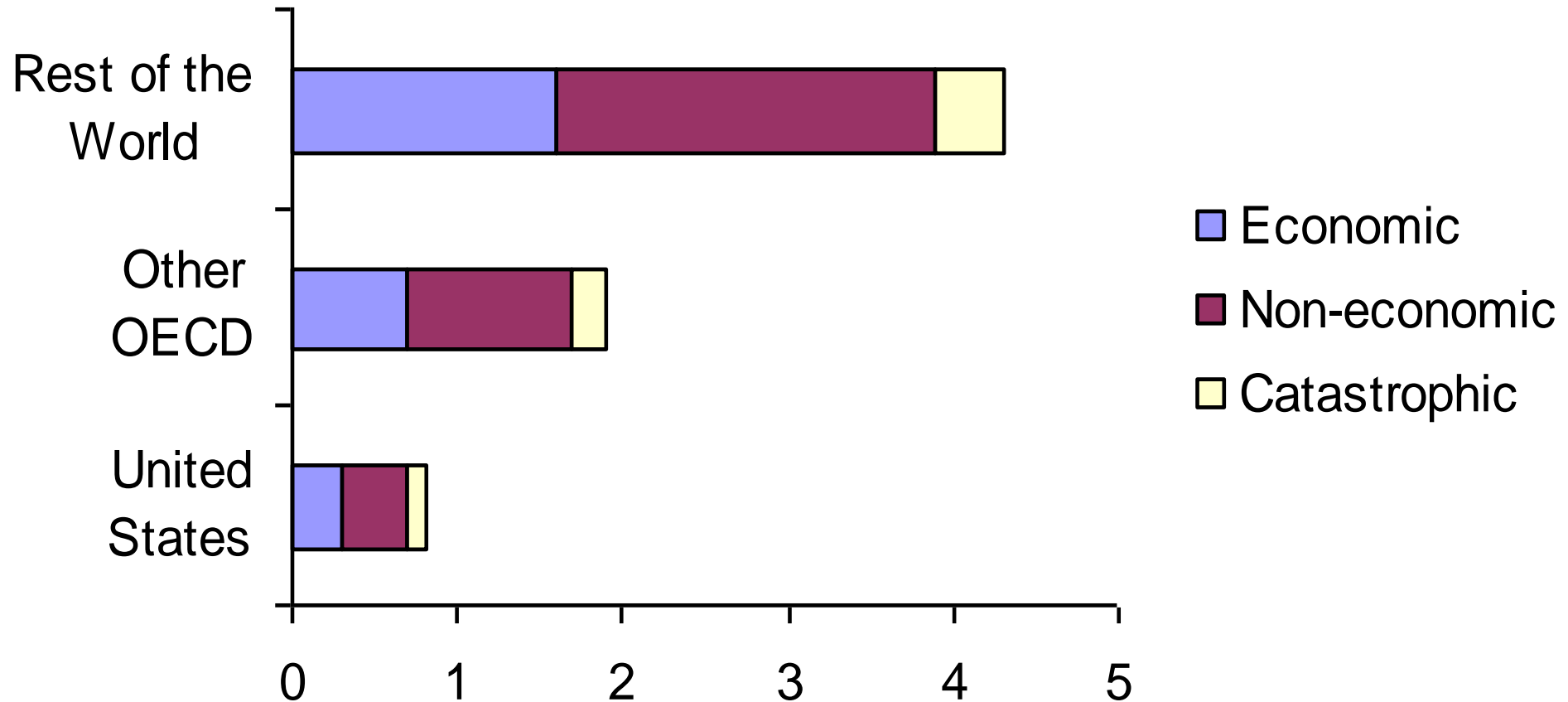


# Economic growth $\rightarrow$ carbon emissions



# Damage to South > twice North

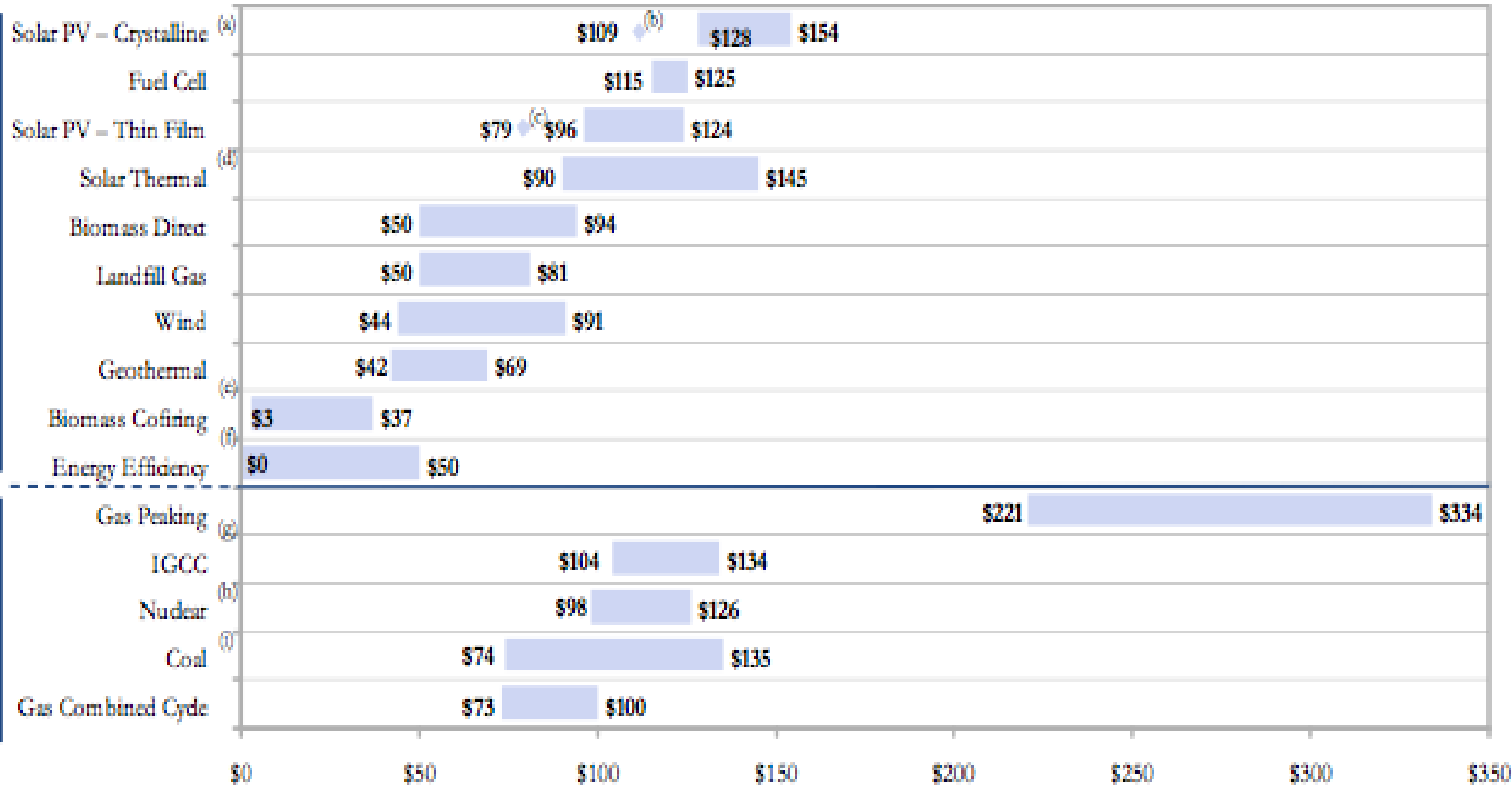
Annual damages as percentage of GDP in 2100



Warming world much more unequal, conflictual

# Renewable energy more expensive

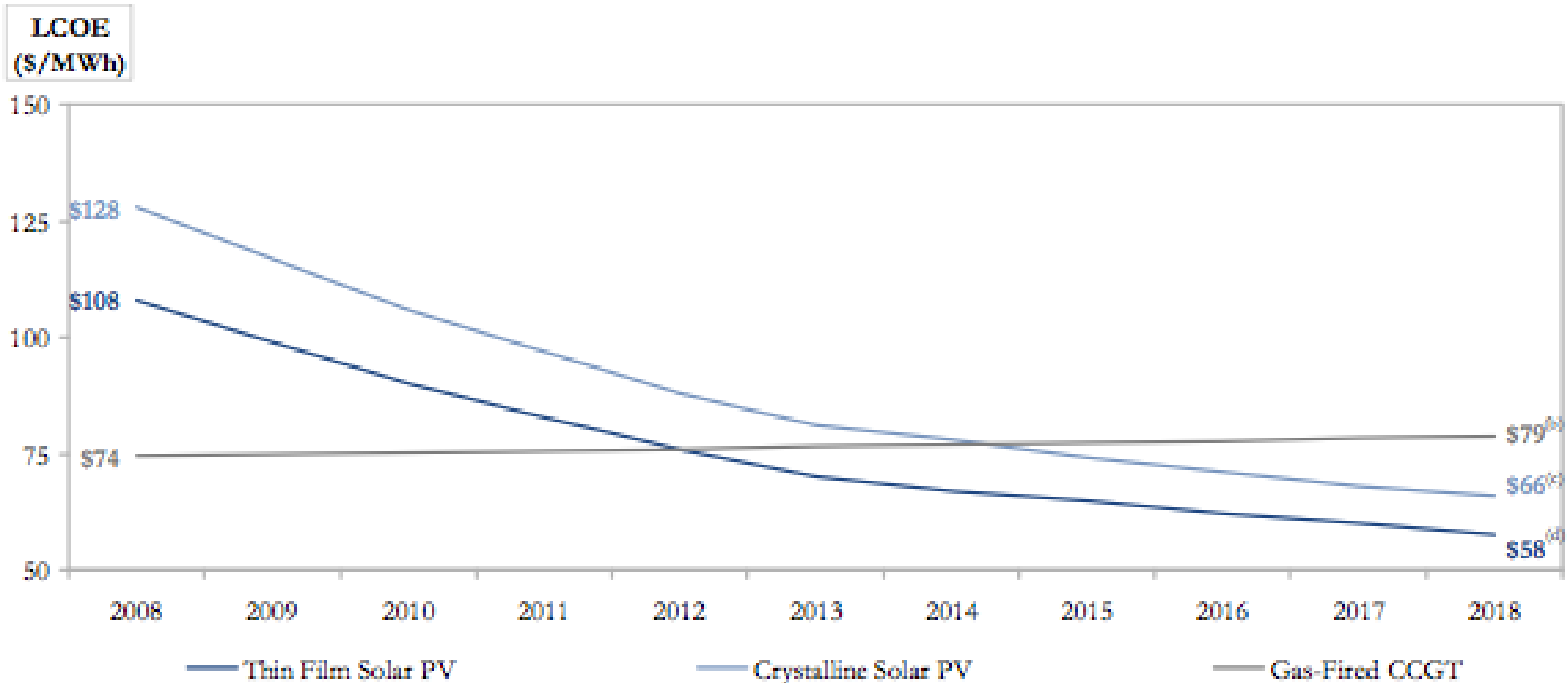
ALTERNATIVE ENERGY



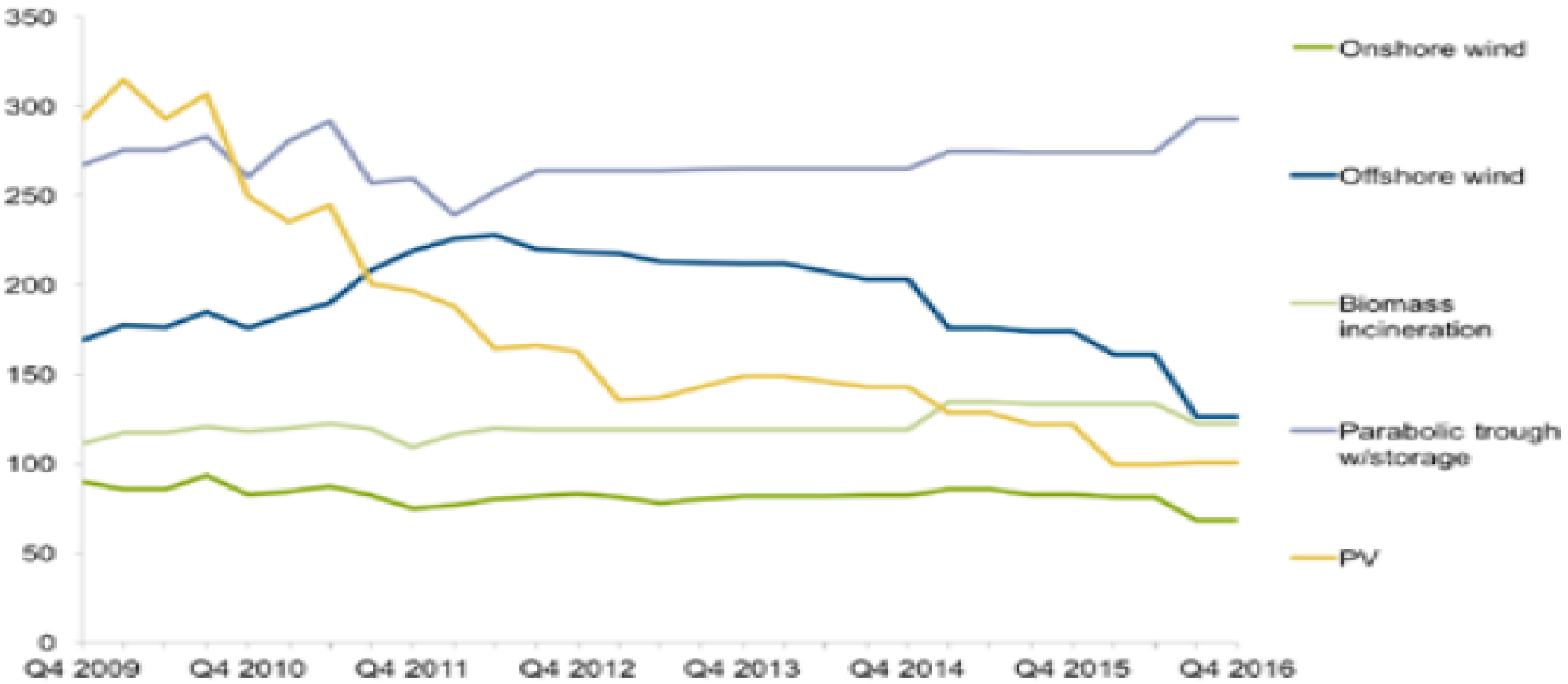
CONVENTIONAL

Levelized Cost (\$/MWh)

# But costs have been declining (thanks to learning + scale economies)

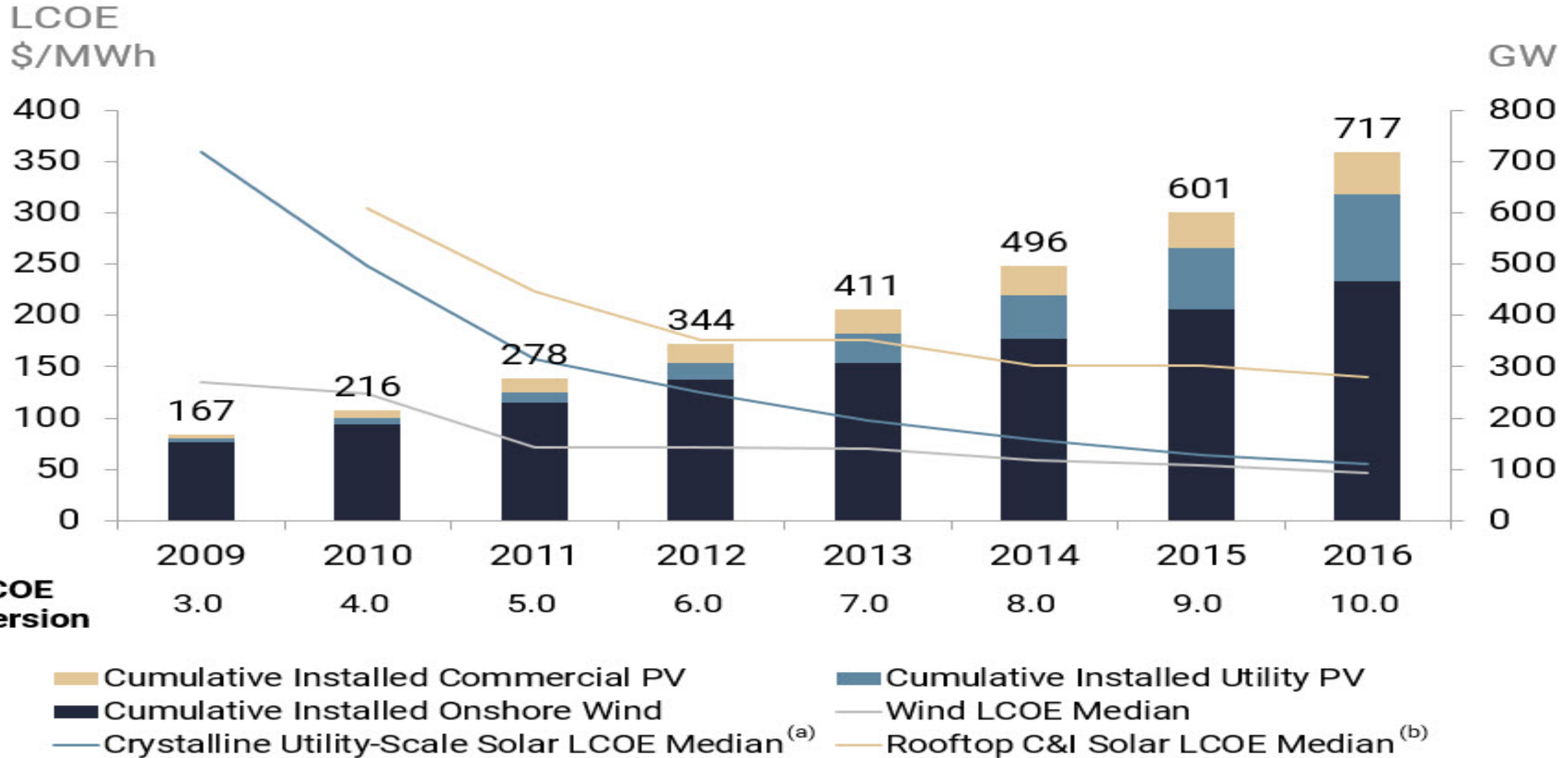


# Electricity cost from renewable sources, 2009-2016





# Unsubsidized cost of wind/solar PV energy

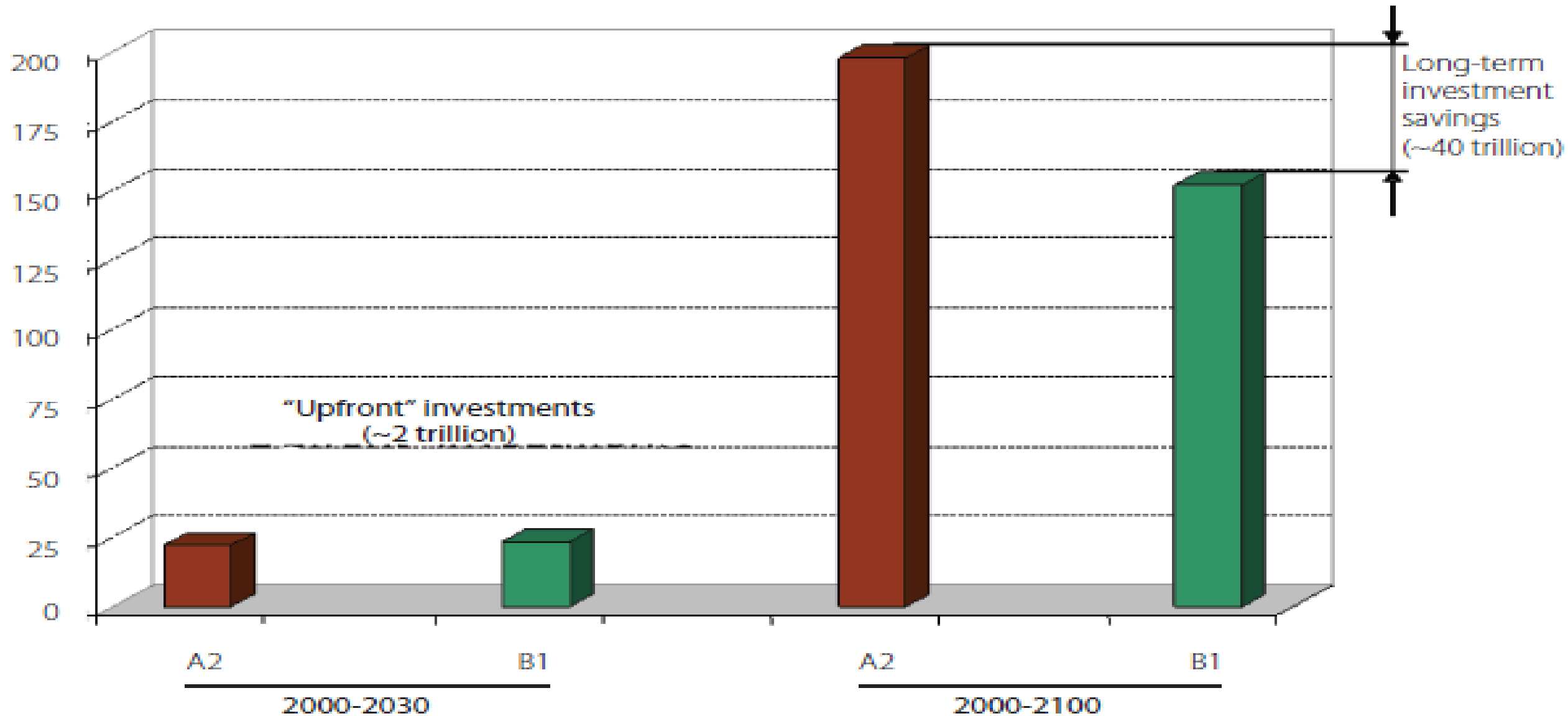


# Price of crystalline silicon photovoltaic cells, 1977-2013



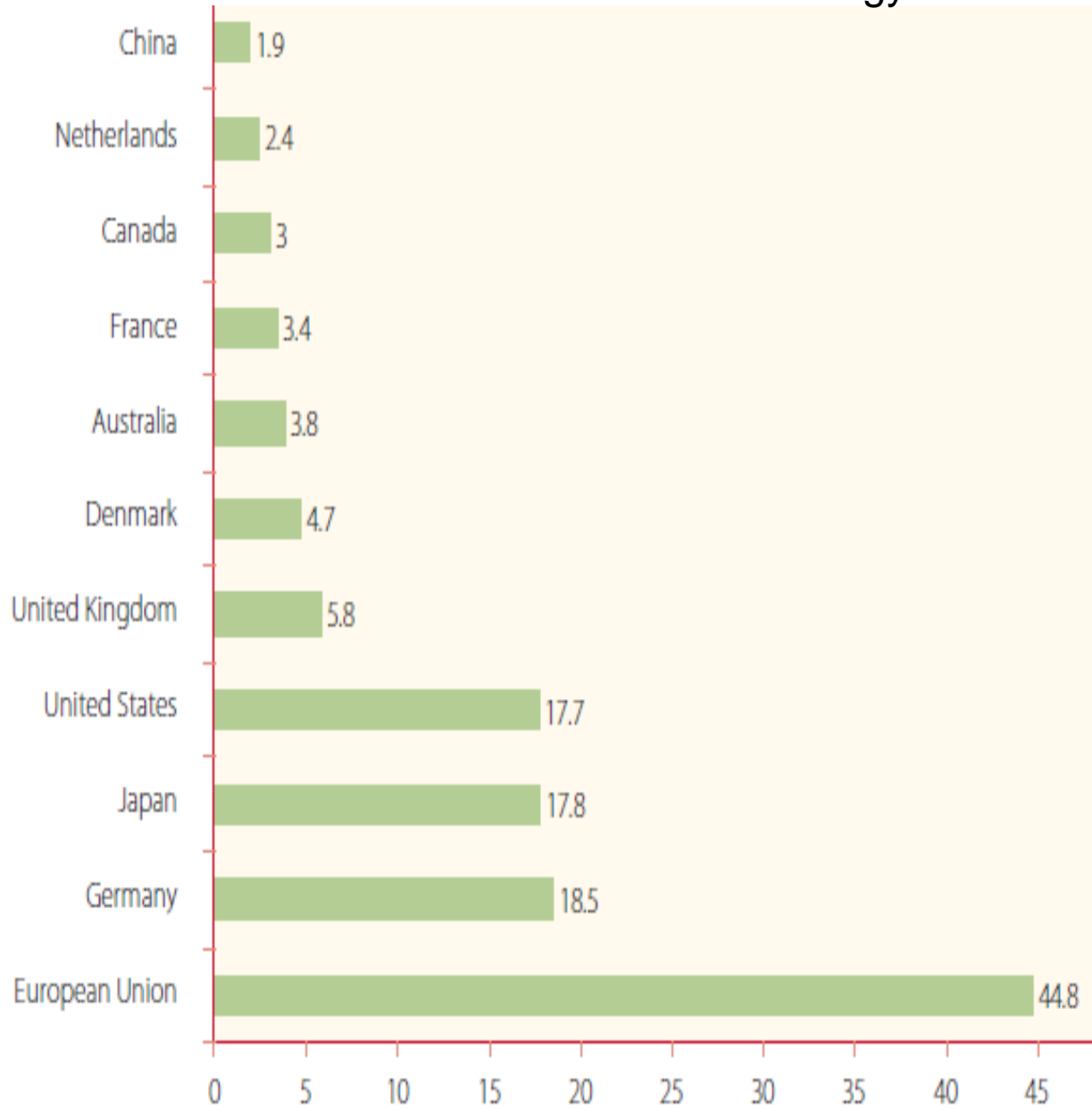
Major price declines:  
1977-1989  
2008-2012

More upfront investments →  
long-term investment savings

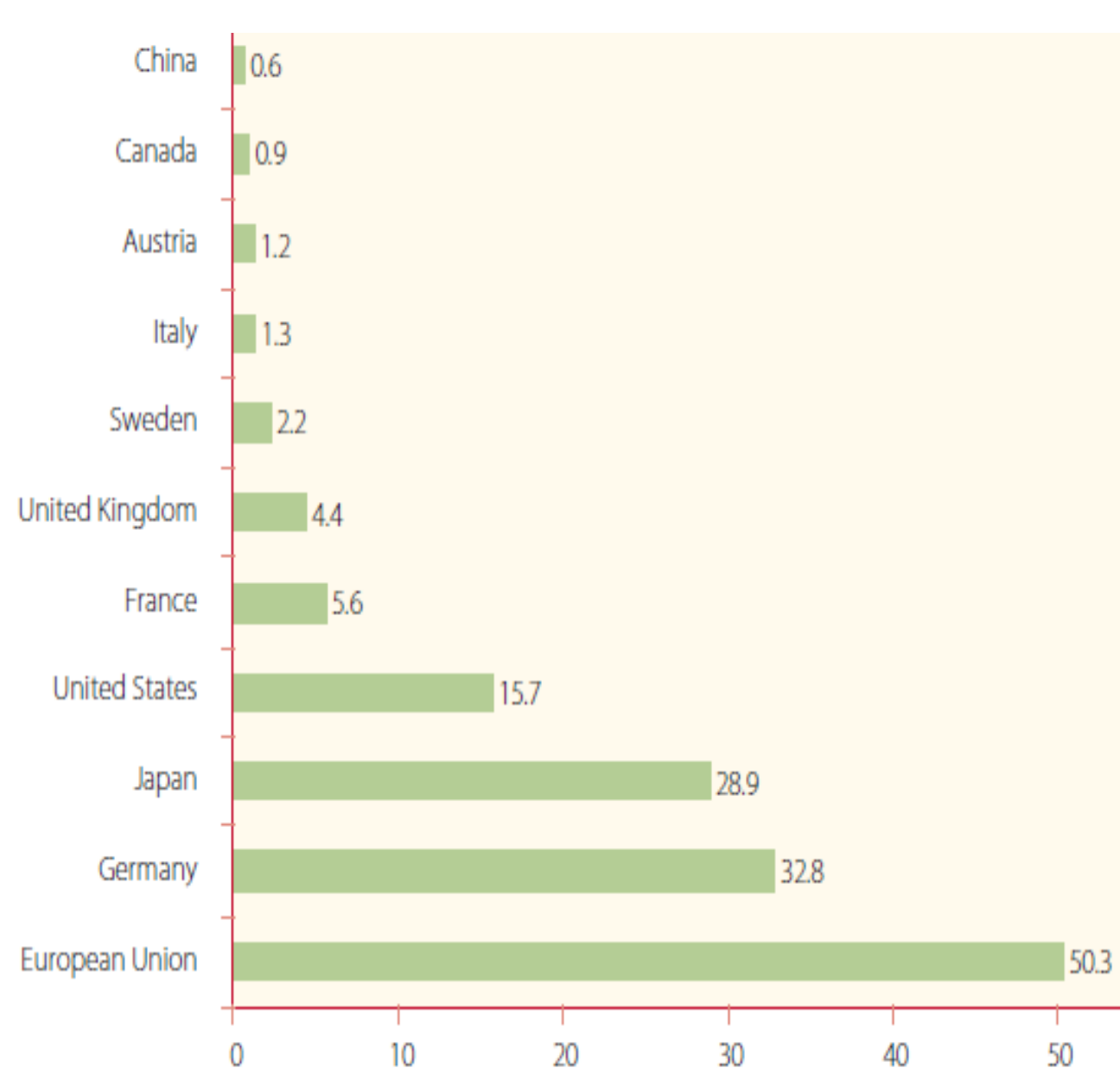


# Most patents controlled by North

## Renewable Energy



## Motor vehicle abatement



# Climate change and development

Need to **reduce emissions** in rich countries, **slow** – and eventually reduce – emissions in developing countries

**Investment-led approach** to address both climate change + development goals

Investments must be **front-loaded**, given danger of lock-in and importance of **scale** and **learning economies** for technology leapfrogging

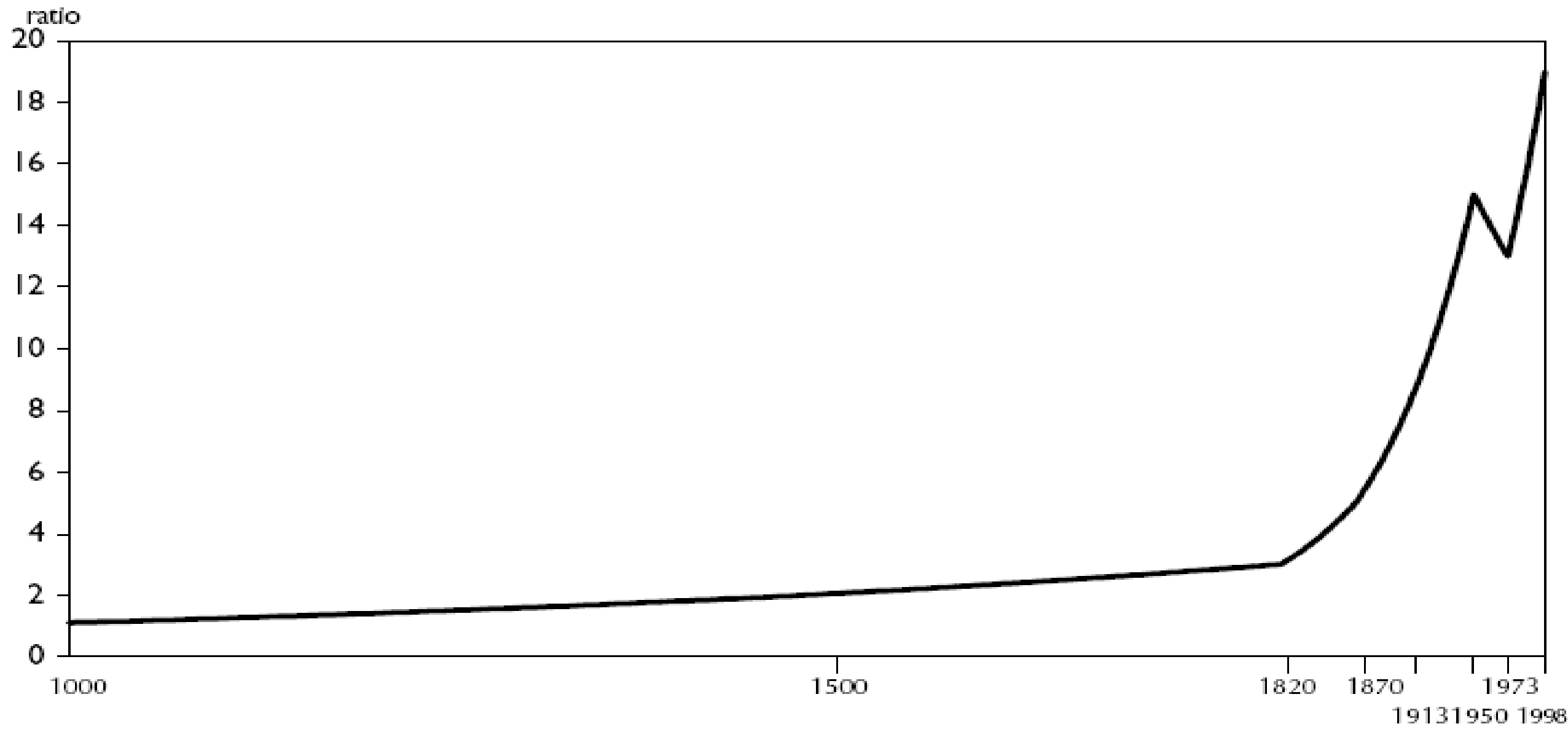
Public investment to **crowd-in** private investment to sustain new development pathway

**Significant transfers** (finance + technology) necessary

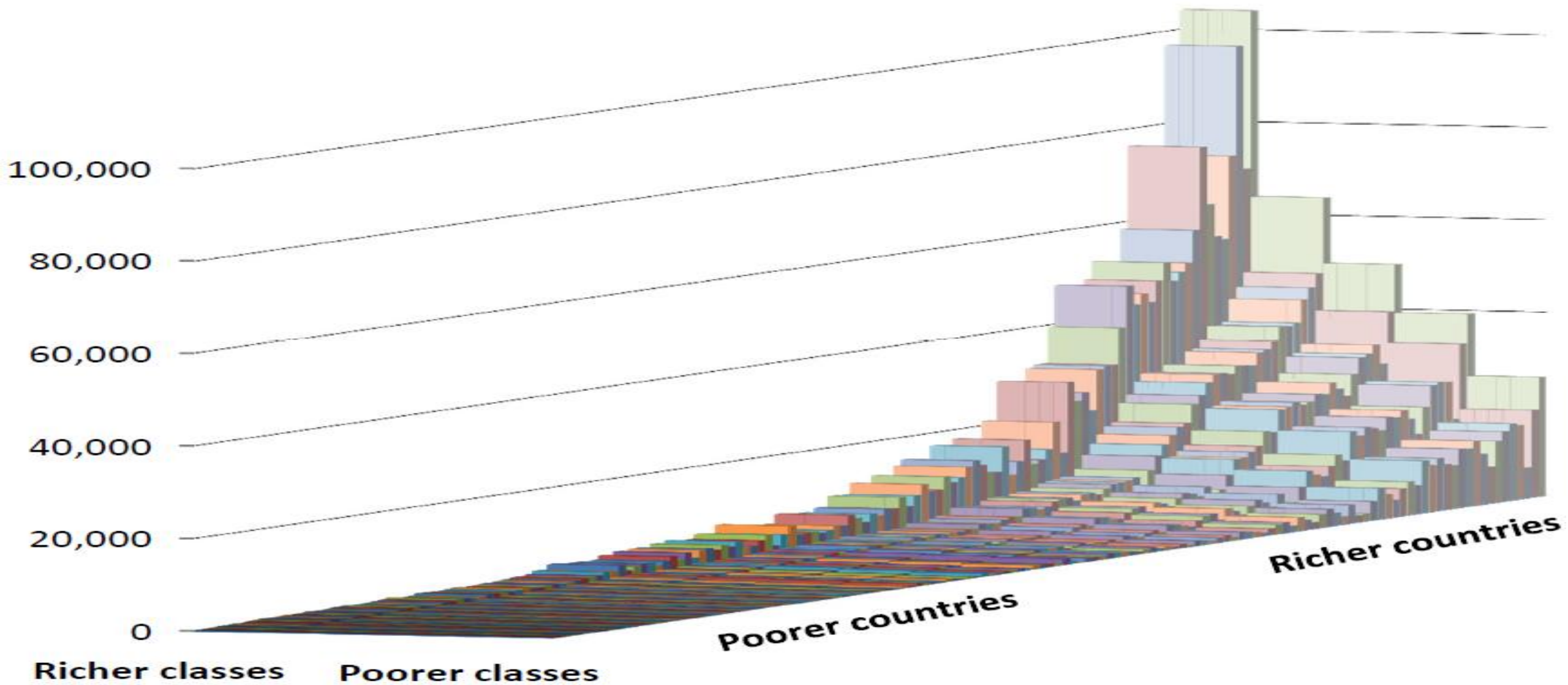
# Climate change policy implications

- Reduce climate change while raising living standards for all
- More renewable energy to mitigate
- Cannot rely on markets alone
- Need new mechanisms for developing and transferring technologies
- Need more R&D and more flexible IPR rules
- Much more needed for adaptation

# World income inequality increase



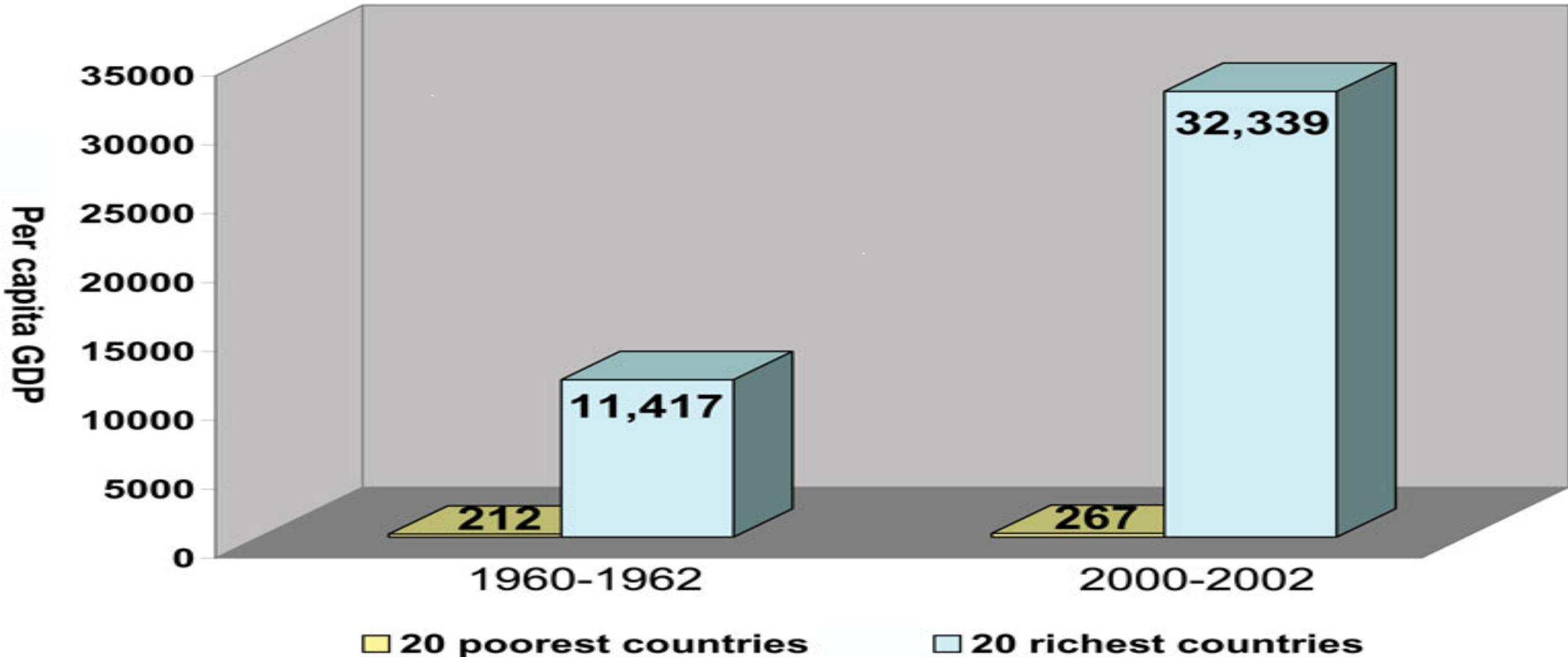
# 2/3s of world inequality due to international inequalities





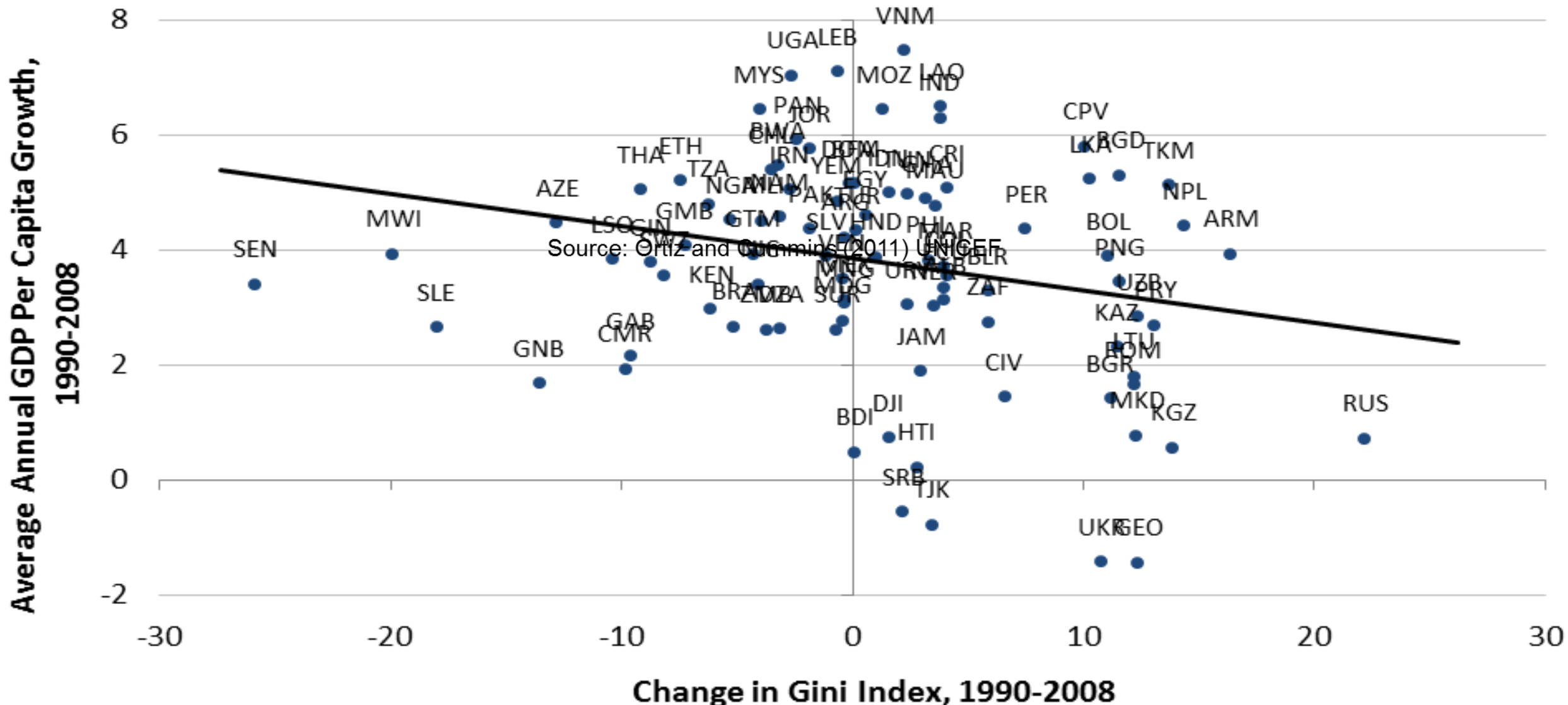
# Huge inequalities have increased

*Between 20 poorest + 20 richest countries*



# Inequality slows growth

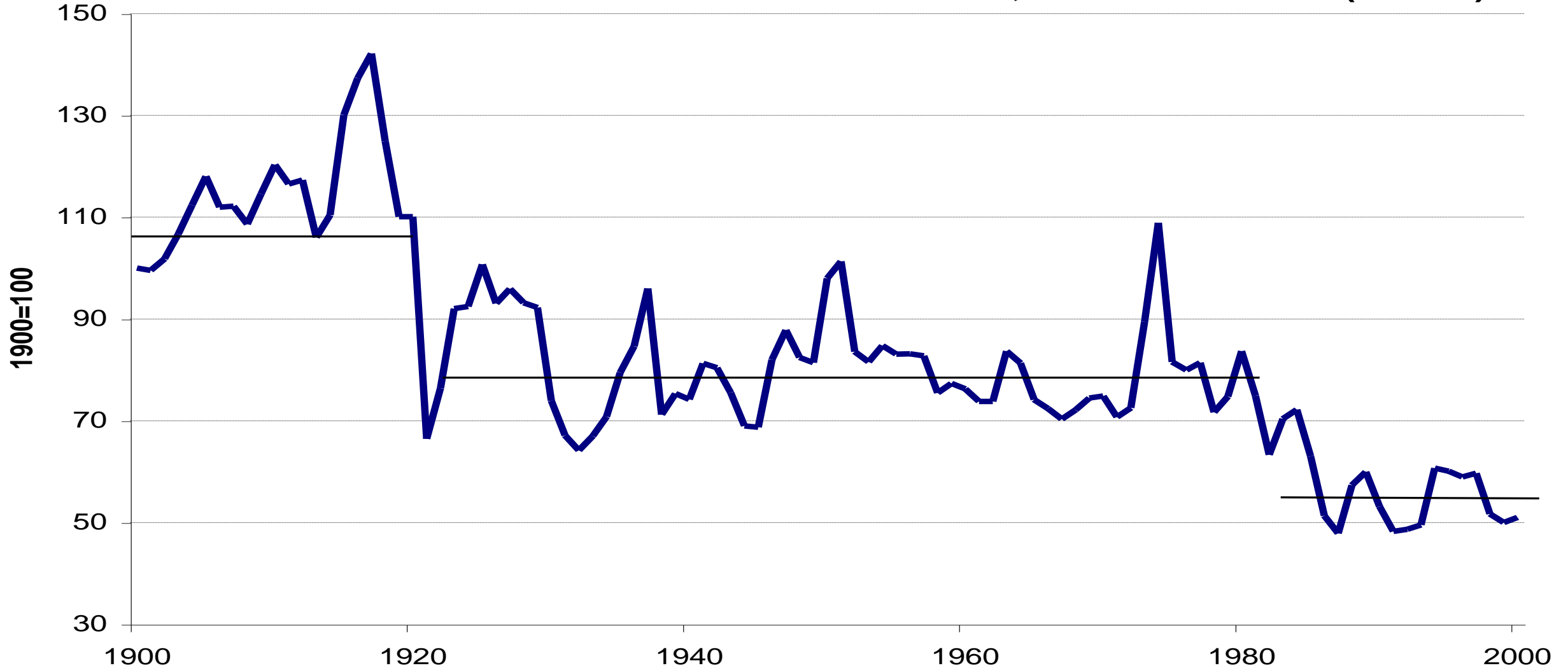
Per Capita Growth + Inequality Change in 94 Developing Countries, 1990-2008



# Commodity prices decline

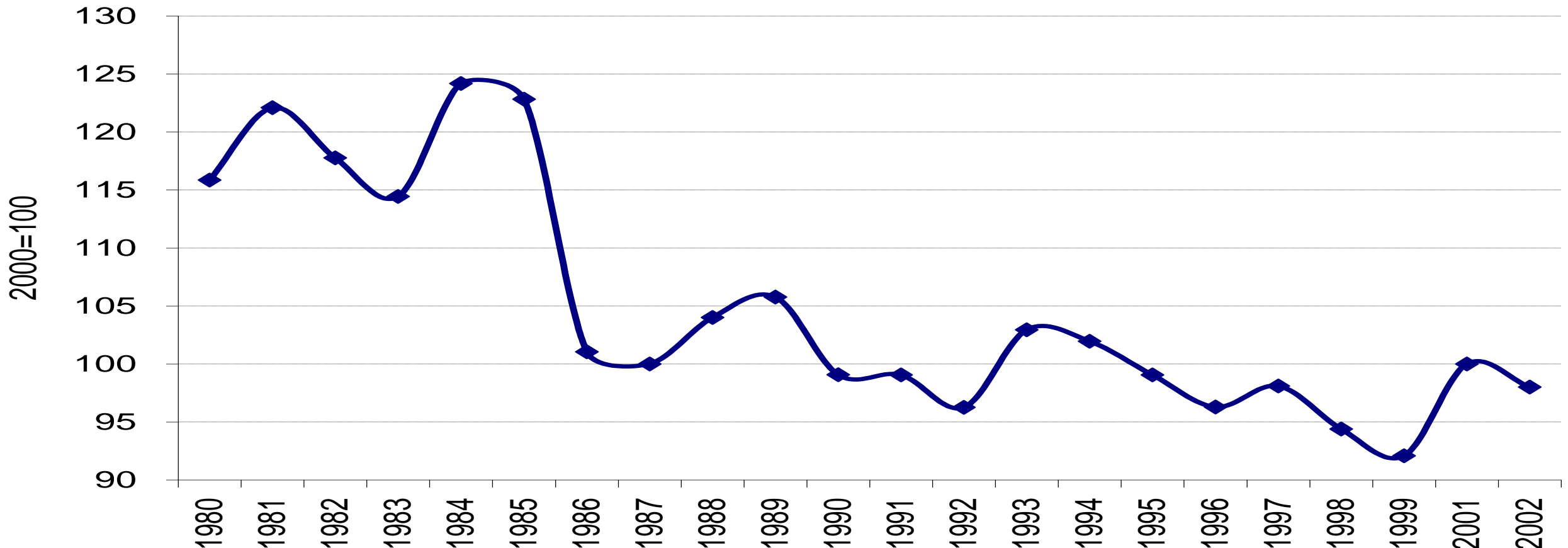
Figure 1

**AGGREGATE REAL COMMODITY PRICE INDEX, EXCLUDING OIL (GYCPI)**



# South vs North manufactures' terms of trade

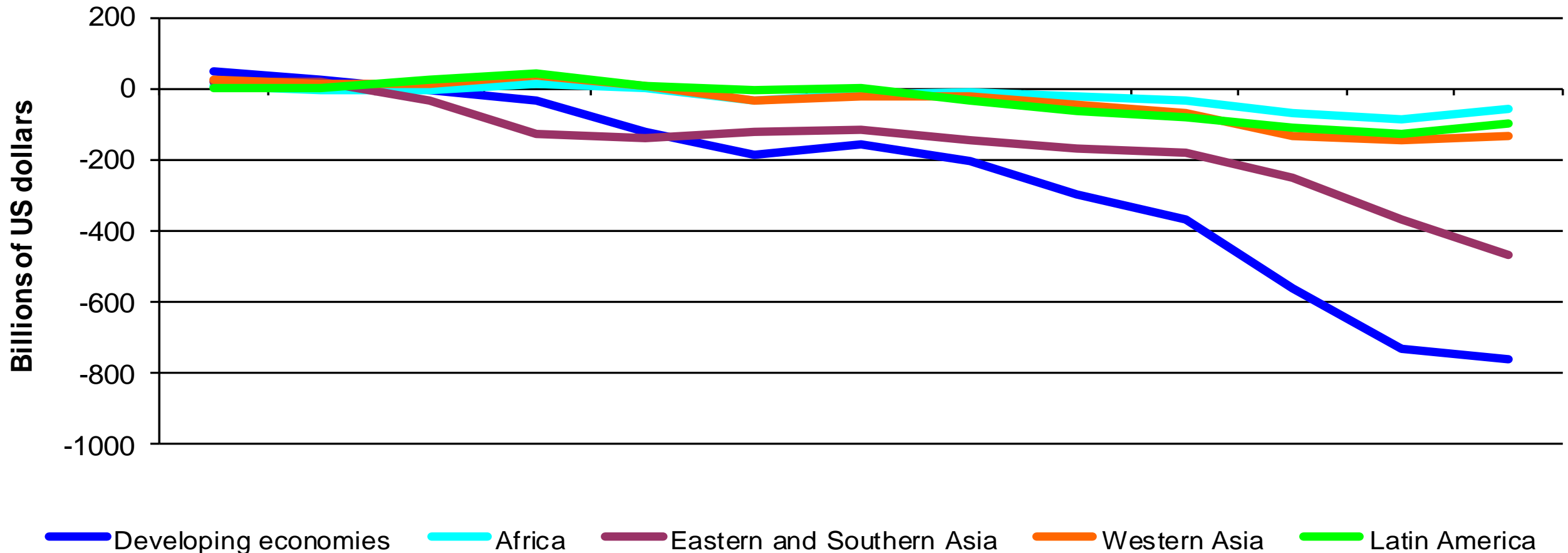
Unit value of manufactures exported by developing countries  
relative to manufactures exported by developed countries



# Financial globalization

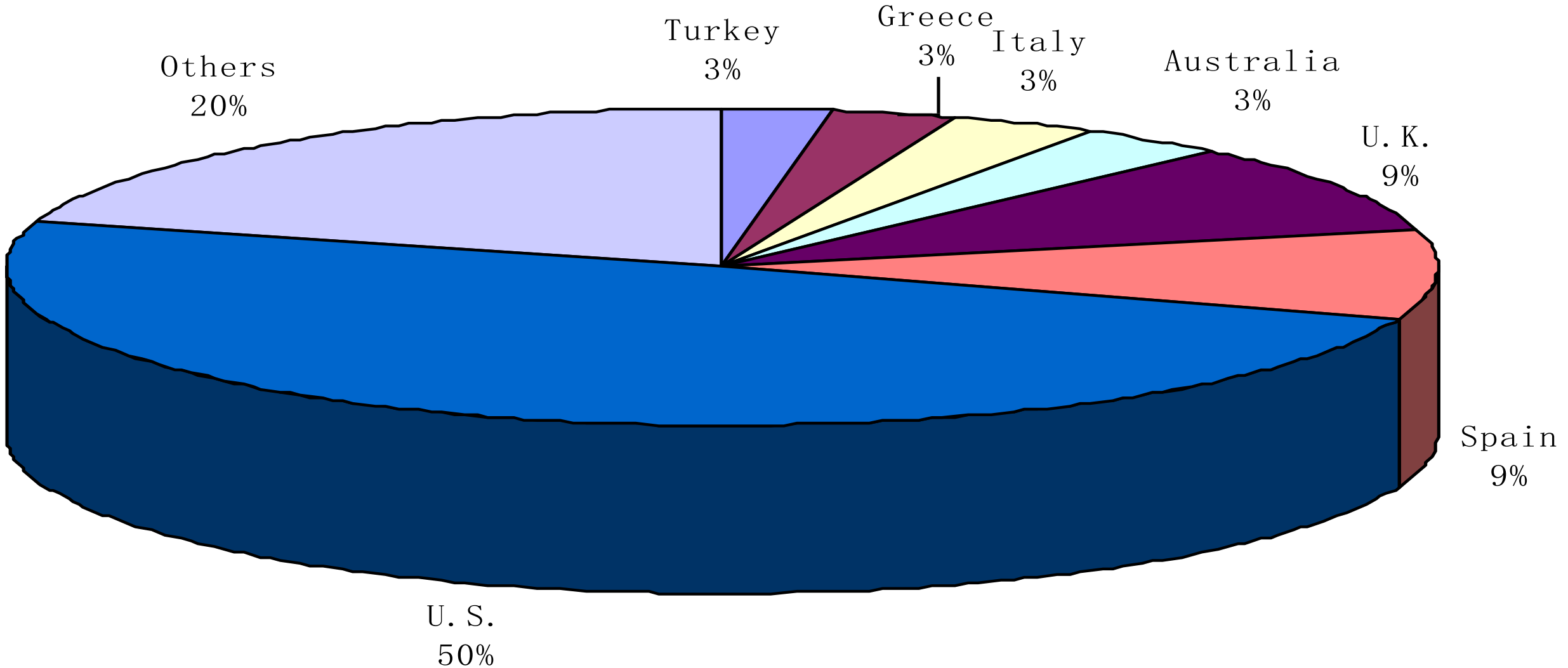
- *Net capital flows* from South to North (US largest borrower)
- *Cost of funds* not generally lower due to financial deepening (more intermediation, financial rents)

# Net transfer of financial resources from South to North



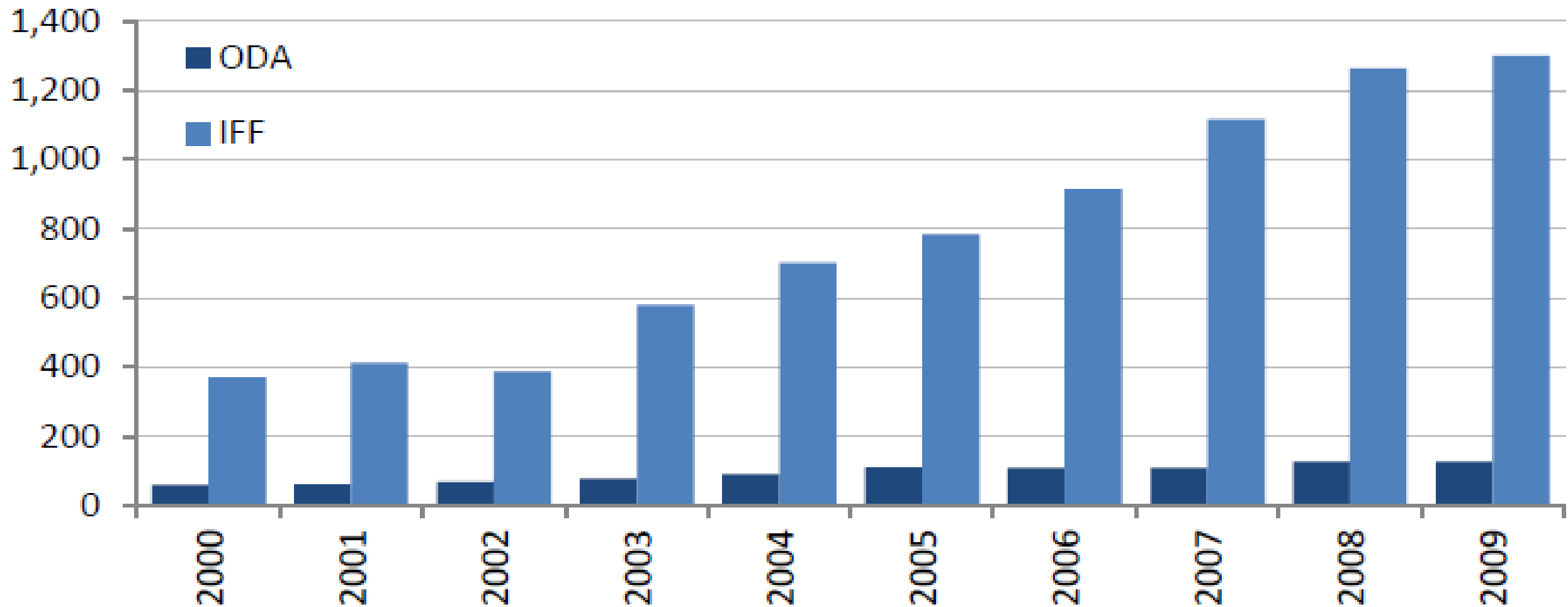
# Net capital importers

## Capital Importers



# Illicit financial outflows

Main IFFs due to: (1) trade mispricing; (2) tax evasion  
IFFs versus ODA, 2000-09 (current US\$ billions)





*Thank you*