

Global inequality and poverty: Distribution, redistribution, and the case of natural resource ownership

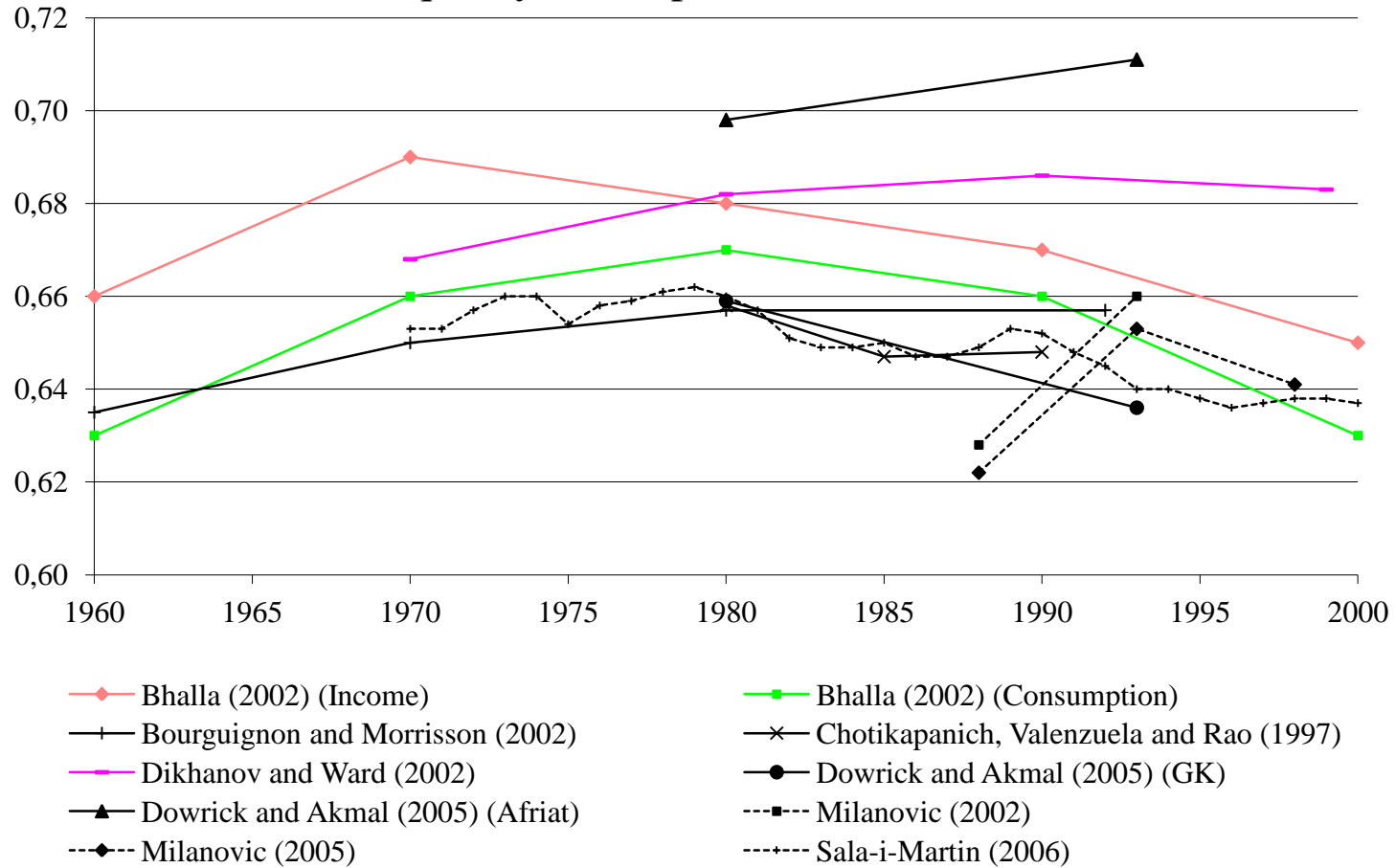
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Four concepts of global inequality

Concept	Unit	Metric	Uses
Zero	Country	Total GDP	Geopolitics Trade volumes
One	Country	Per capita GDP	Growth and convergence
Two	Individual	Per capita GDP of country	“Between-country global inequality”
Three	Individual	Individual income (per capita household income)	Global welfare/well-being/social justice

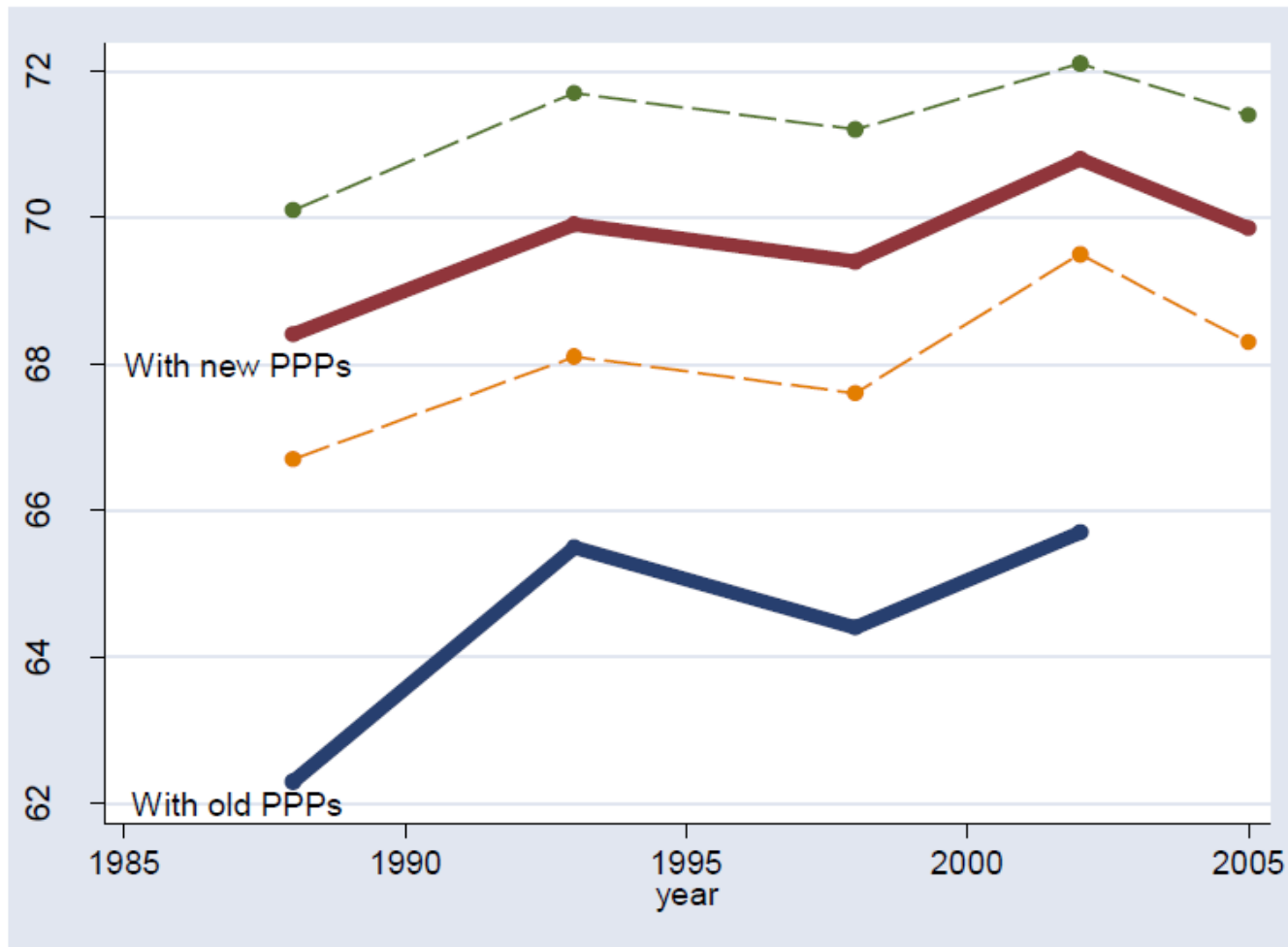
Global inequality (concept 3), various estimates



Source: Anand and Segal (2008)

- Most estimates are based on GDP per capita from National Accounts.
- This is a very poor proxy for individual incomes: conceptual and empirical problems.
- Milanovic consistently uses household survey data: directly measures the variable we want.

Figure 2. Global Gini 1988-2005 calculated with new and old PPPs

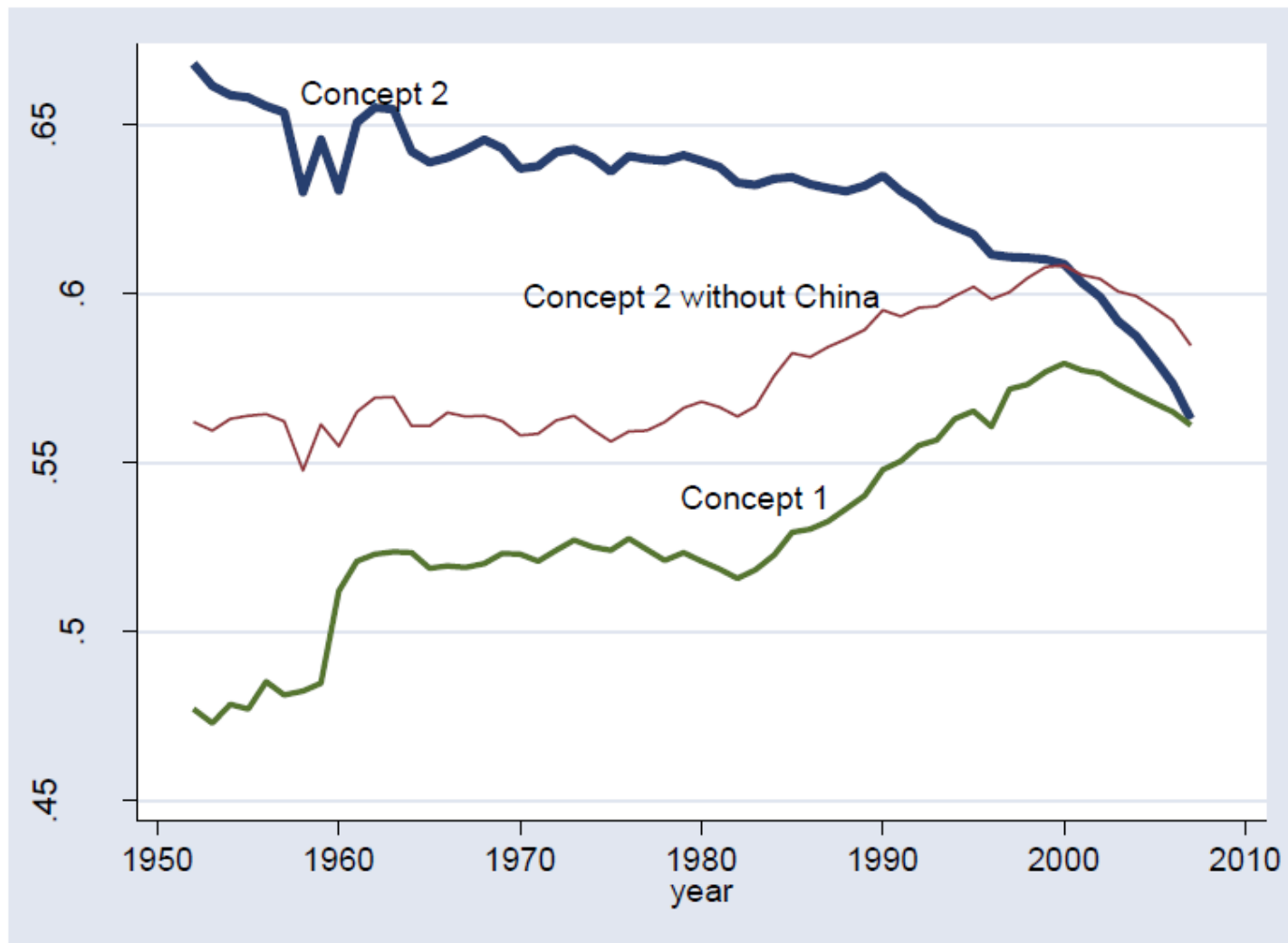


Source: Milanovic (2011)

Between-country inequality

- For the decomposable measure Theil L (MLD), the between-country component (concept 2) is larger than the within-country component: between 65% and 75%.
- Between-country inequality has declined due to China.
- NB. Once China passes global average, further rapid growth will increase inequality!

Figure 1. Concept 1 and Concept 2 (international) inequalities, 1952-2006



Source: Milanovic (2011)

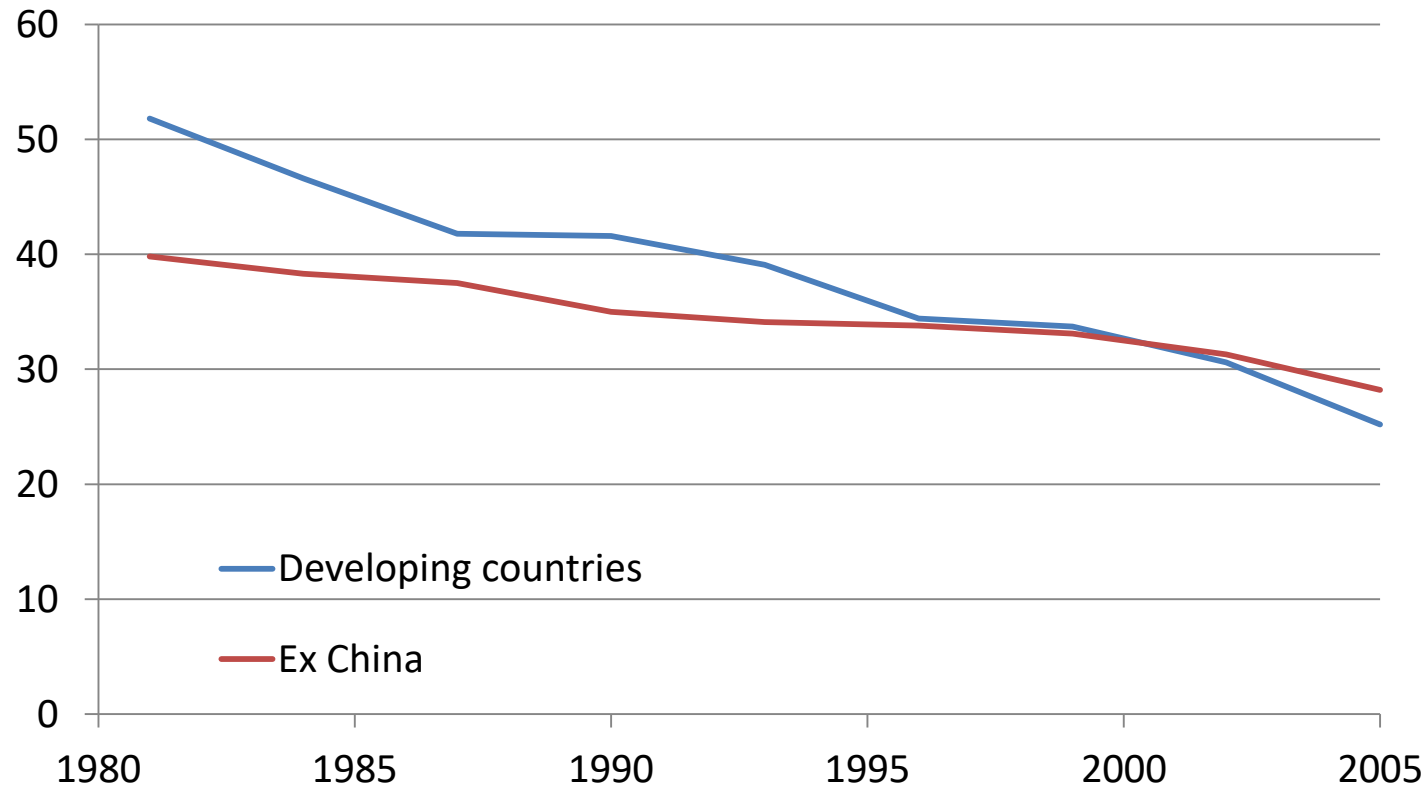
Within-country inequality

- Within-country inequality has been growing: most people live in countries where inequality has risen.
- This explains why there is no clear trend in global inequality (concept 3).
- Even though between-country is larger, within-country inequality is also important:
If between-country inequality were eliminated, global Gini would still be at least population- or GDP-weighted average Gini across countries.
⇒ This is close to a Gini of 40.

Global poverty

- World Bank (Chen and Ravallion) poverty line: PPP\$1.25/day.
⇒ This is the mean of national lines of the poorest 15 countries.

Global poverty at PPP\$1.25/day, %



Source: Chen and Ravallion (2008)

Inequality within countries and global poverty

Most economists argue that growth is *the* solution to poverty.

Kraay (2006): “sustained poverty reduction is impossible without sustained growth.” Growth is certainly important.

But:

1. Growth can be difficult – an “elusive quest” (e.g. Easterly 2001, Collier 2007).
2. Growth is not *sufficient* for poverty reduction.

E.g India 1981-2005: per capita GDP grew by 135 percent; people below \$1 a day rose from 421 to 456 million.

We will see that *plausible* redistribution within countries can massively reduce global poverty.

Poverty and redistribution

- Rich countries use redistribution as a powerful poverty reduction tool.
 - Cash benefits excluding pensions in the EU15 countries comprised 6.6 percent of GDP.
- At national poverty lines, 16% of the population of the EU15 were living in poverty in 2003.
- Without social payments other than pensions it would have been 25%; also taking out pensions, it would have been 39%.

Inequality represents a wasted opportunity for poverty reduction. Redistribution addresses that.

Redistribution *à la* Ravallion (2010)

- Rich country donors may argue that the rich in poor countries should be paying for poverty reduction.
- Ravallion asks which countries can afford to address their own poverty through redistribution, using taxes that are:
 1. only on those not poor *by rich country standards*;
 2. 'not too high' in terms of marginal rates.
- Thus he exempts poor country 'middle classes': richer than poor country poverty lines but poorer than rich country poverty lines.

- Poor country poverty line $z_p = \text{PPP}\$1.25$
- $z_r = \text{US poverty line} = \text{PPP}\$13/\text{day}$.
- Those with income $y > z_r$ subject to the tax.
- Tax is redistributed to the poorest.
- The tax is linear above z_r , so it is progressive:
 - Tax is zero for $y < z_r$.
 - Tax is $\tau(y - z_r)$ for $y > z_r$, $0 < \tau < 1$.
- With perfect redistribution, what marginal tax rate τ is required to fill the poverty gap?

- Brazil: MTR of 1% on those above \$13 a day will cover the whole poverty gap.
 - To eliminate poverty at Brazil's national poverty line of \$3/day, tax required is 12%.
- China: MTR of 37%.
 - National poverty line of \$1 requires 30% MTR.
- India: Too many poor, and not enough people above \$13, so it is not possible to fill the poverty gap.
 - Even at 100% MTR, only 20% of poverty gap filled.

- For one third of his 90 countries, the MTR required is over 100%: they are too poor to eliminate poverty *in this way*.
- For most countries with per capita expenditure (PCE) above PPP\$2,000, the MTR is 20% or less.
- For countries with PCE above PPP\$4,000, MTR averages 0.8% at \$1.25, and 2.4% at \$2 poverty line.

Another approach to distribution: natural resources and global poverty

- First interesting fact: commodity prices are very high, and affect global poverty.

High commodity prices

⇒ high food prices

⇒ high poverty

In 2008 the World Bank estimated that increased food prices could undo 7 years of poverty reduction.

IMF real commodity prices to Feb 2011 (deflated by US CPI)



Second interesting fact: natural resources are owned by all citizens in a country

In international law they belong to “peoples” (Wenar 2007):

- Both the *International Covenant on Civil and Political Rights* and the *International Covenant on Economic, Social, and Cultural Rights* state:

All peoples may, for their own ends, freely dispose of their natural wealth and resources.
- The *African Charter on Human and Peoples’ Rights* states

All peoples shall freely dispose of their wealth and natural resources. This right shall be exercised in the exclusive interest of the people. In no case shall a people be deprived of it.
- The (US-approved) Iraqi constitution of 2005 states

Oil and gas are the property of the Iraqi people in all the regions and provinces.

The Resource Dividend

- Natural resource rents distributed directly, equally and unconditionally to every adult citizen: a “basic income” funded by resource rents.
- *Rents* are the payment to a factor of production *over* that necessary to induce it to do its work.
 - => *Resource rents* = revenues remaining after competitive costs of extraction have been paid
- Hence oil or mineral companies still get paid!
- NB: The RD is *distribution*, but not *redistribution*: no individual owns them to start with, unlike most income.

Antecedents

- The idea has a long pedigree:
 - Thomas Paine's *Agrarian Justice*, 1795.
 - British North Sea oil. Brittan and Riley (1978, 1980): "The simplest and also the wisest answer to the question 'What should we do with the state's oil revenues?' is 'Give them to the people'."
 - Alaska Permanent Fund Dividend since 1983; typically \$1,000-\$2,000 per year.
 - Recent proposals: Nigeria, Iraq, Bolivia.
- I consider the *global impact on poverty* if all countries adopted it, for all natural resources.
- NB Thomas Pogge's *Global Resource Dividend*.

Data

1. Resource Rents: value of output less competitive cost of production. World Bank data.

15 resources: oil, natural gas, hard coal, lignite, forestry, bauxite, copper, gold, iron ore, lead, nickel, phosphate, silver, tin and zinc

2. Distributional data: World Bank's Povcalnet website

- 115 countries comprising 5.2 billion people, or 96% of the population of the developing world.
- Incomes (or consumption) in 2005 direct from surveys.
- Deciles for all countries with populations below 50 million. 17 larger countries divided into 1,000 income groups each

⇒ Largest income group <5 million people, or < 0.1% of total.

Calculating the Resource Dividend

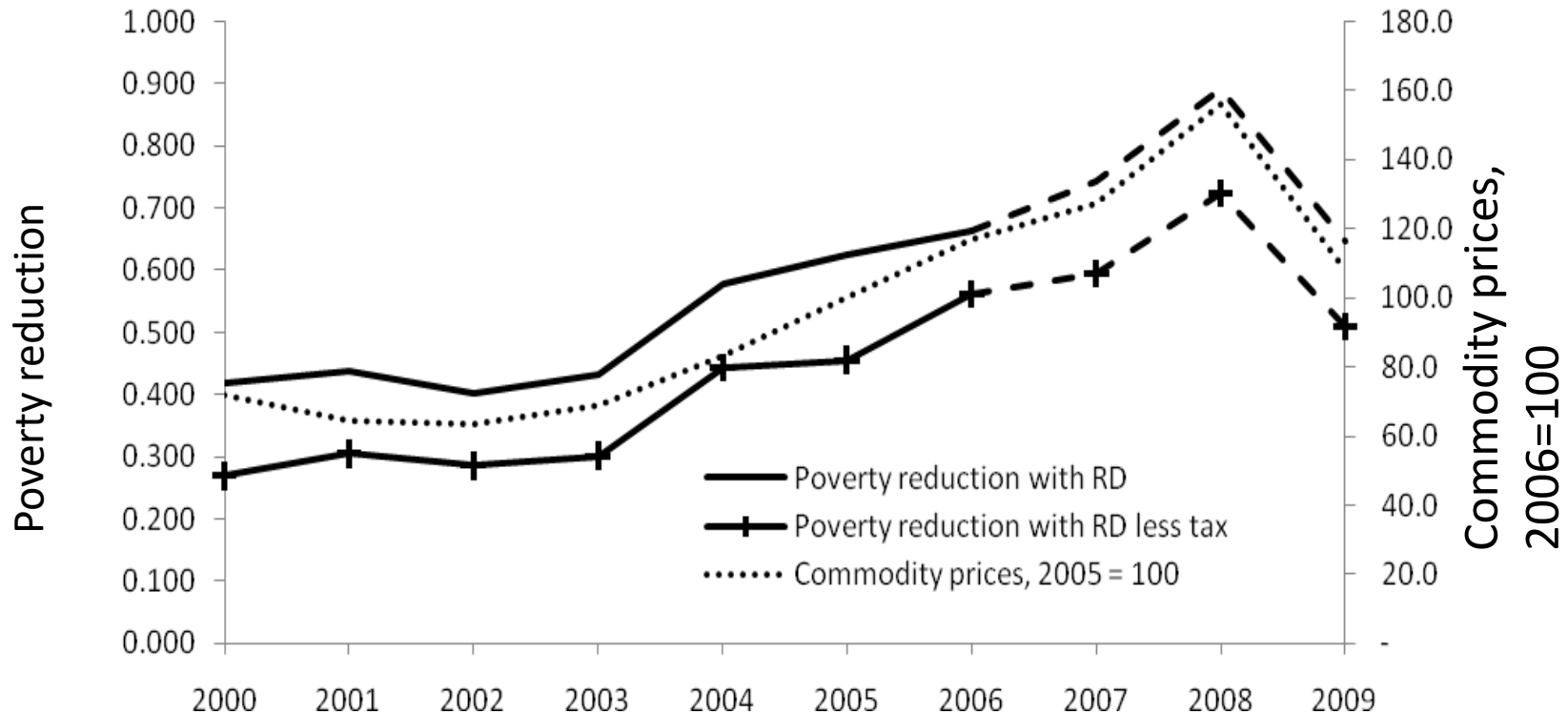
- RD calculated for individual years, and 5-year averages, over 2000 – 06. RD is total rents / population.
- If governments are currently taxing resource rents then they have to raise other taxes to maintain expenditures.
 1. One extreme: the government does not raise other taxes; or, equivalently for poverty, all new taxes fall on the non-poor.
 2. Other extreme: taxes fully compensate for the total Resource Dividend, levied on each individual in proportion to income.
- Thus I perform two sets of calculations.
 1. Add Resource Dividend to everyone's income.
 2. Add Resource Dividend, and subtract tax equal to $r\%$ of income where $r\%$ is the rent-share of GDP.

2005 Global Poverty Estimates with the Resource Dividend

Year of rents	With RD			With RD, less tax		
	Number (millions)	Share	Poverty reduction	Number (millions)	Share	Poverty reduction
2000	770	14.9%	42%	930	17.9%	30%
2001	747	14.4%	44%	885	17.1%	33%
2002	795	15.3%	40%	914	17.6%	31%
2003	753	14.5%	43%	893	17.2%	33%
2004	561	10.8%	58%	696	13.4%	48%
2005	499	9.6%	62%	682	13.2%	49%
2006	448	8.6%	66%	545	10.5%	59%
2000-04	709	13.7%	47%	846	16.3%	36%
2001-05	639	12.3%	52%	773	14.9%	42%
2002-06	567	10.9%	57%	689	13.3%	48%

Without RD: 1,327m poor, or 25.6% of developing world population.

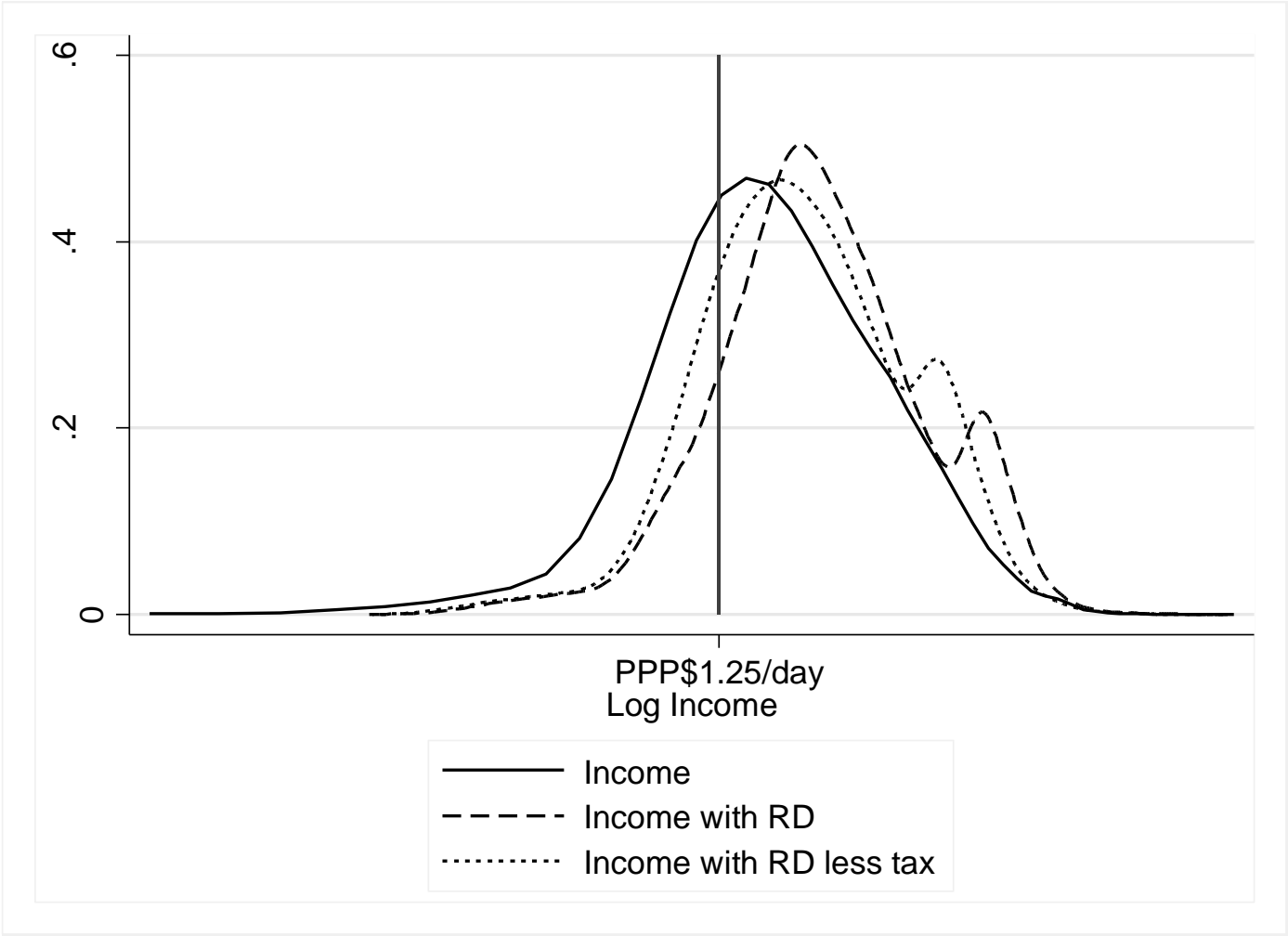
Estimated poverty reduction as a function of commodity prices



Poverty better-than halved:

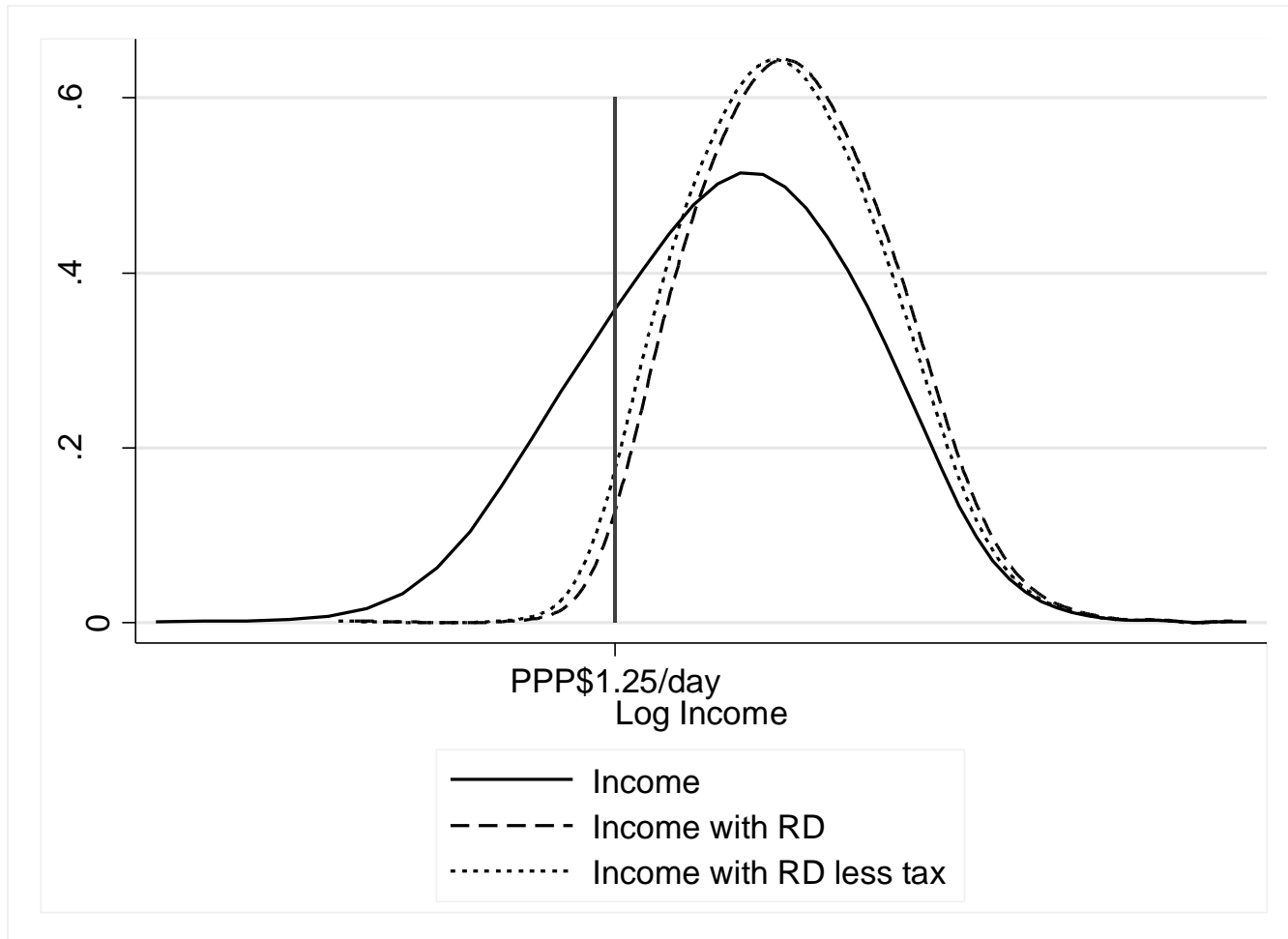
- since 2004 if the poor do not pay increased taxes
- since 2006 if they do

Figure 1: Log income distributions for all developing countries, 2002-06 RD

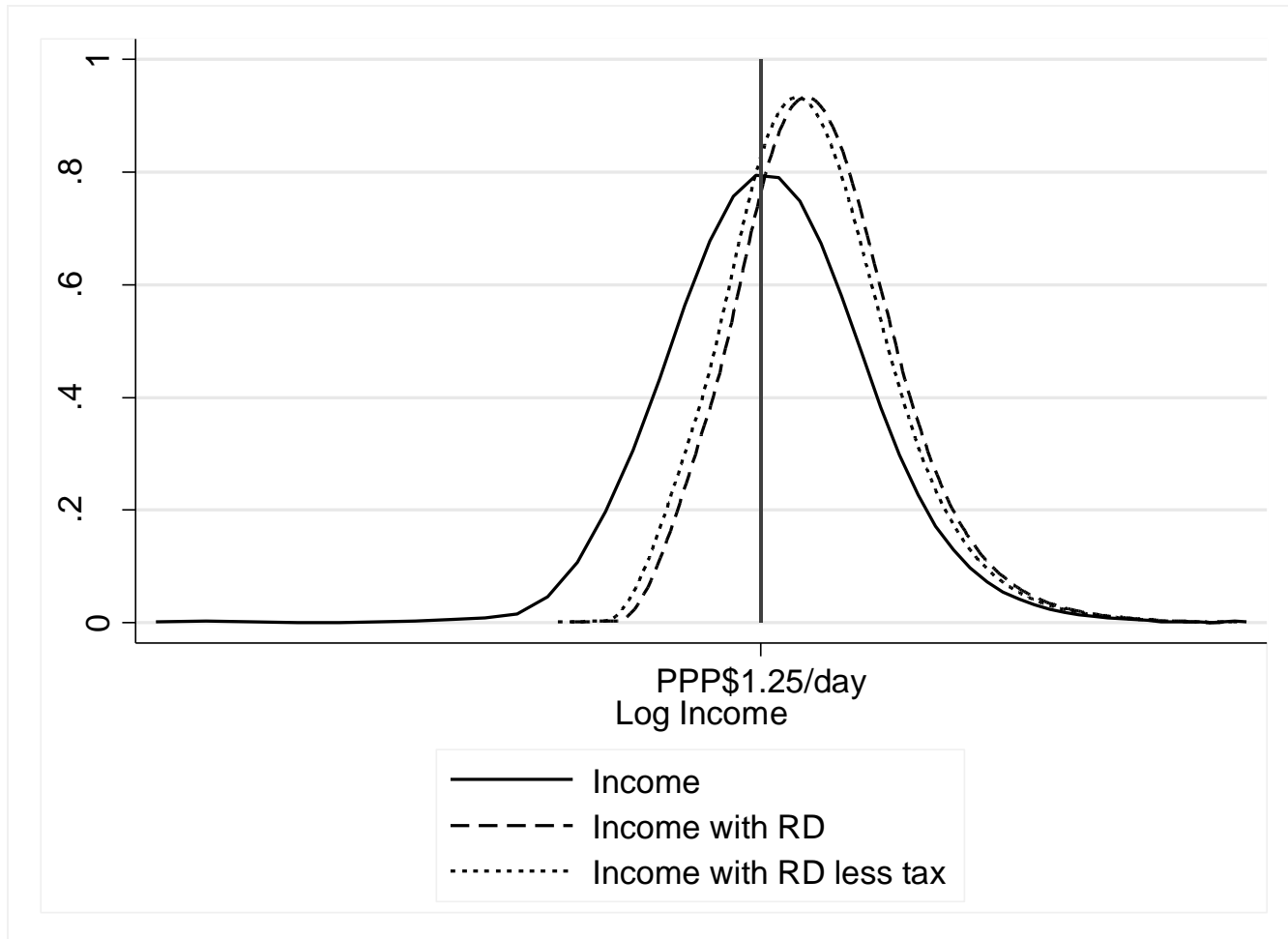


Notes: Kernel density estimation using Epanechnikov kernel.

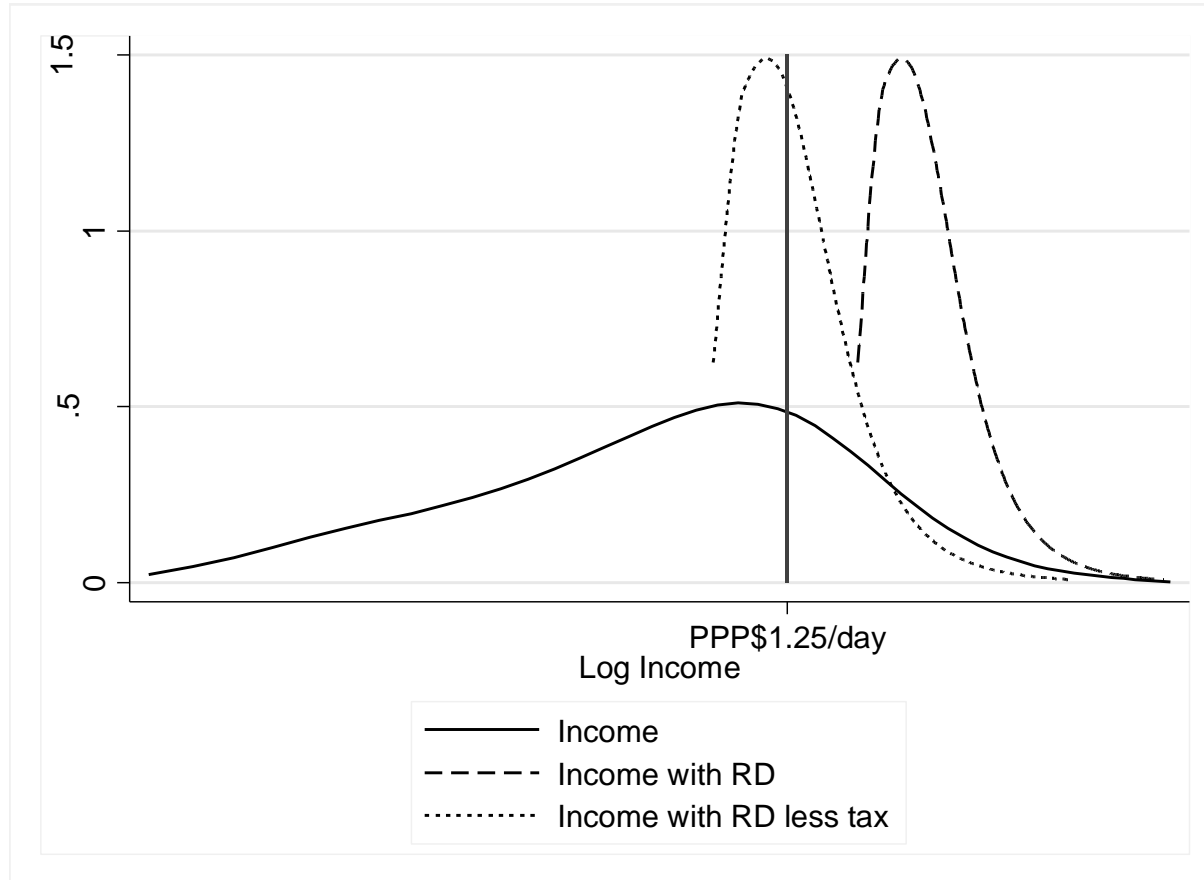
China



India



Nigeria



Selected Countries, 2002-06 Rents

Country	Rents % of GDP	RD (monthly)		Poverty at PPP\$1.25 a day				Gini coefficient	
		PPP\$	US\$	Current Millions	Share	RD, no taxes	RD, with taxes	Current	With RD
Bangladesh	3.9	3.3	1.3	70.4	49.6%	42.1%	45.8%	31.0	29.0
Brazil	4.6	27.1	17.5	14.5	7.8%	0.0%	0.0%	55.4	50.4
China	5.2	rural: 19.6 urban: 14.3	7.16	211.9	16.2%	1.1%	1.9%	41.7	35.2
India	4.9	rural: 11.1 urban: 7.3	2.86	455.4	41.6%	18.2%	19.5%	34.9	29.8
Indonesia	11.4	rural: 32.3 urban: 22.9	11.6	47.3	21.5%	0.0%	0.0%	36.2	26.2
Nigeria	51	49.4	29.6	91.1	64.4%	0.0%	48.8%	42.9	19.1
Pakistan	5.3	9	3.1	35.2	22.6%	7.5%	7.8%	31.2	27.4

How big is the RD? In 2002-06:

- Median of 104 countries with $RD > 0$ is 4.3% of GDP.
 - Bangladesh, Brazil, China, India, Pakistan, South Africa: 57% of total population, 68% of poverty reduction due to the RD; each has $RD < 6\%$ of GDP.
 - ⇒ Poverty reduction not due to resource-rich countries.
 - Compare with social benefits in the EU15:
 - Cash benefits are 6.6% of GDP.
 - 16% of EU15 population is below national poverty lines. Without these cash benefits, this would be 25%.
- ⇒ Hence RD is not particularly large as a redistributive scheme, and its effect should not be surprising.

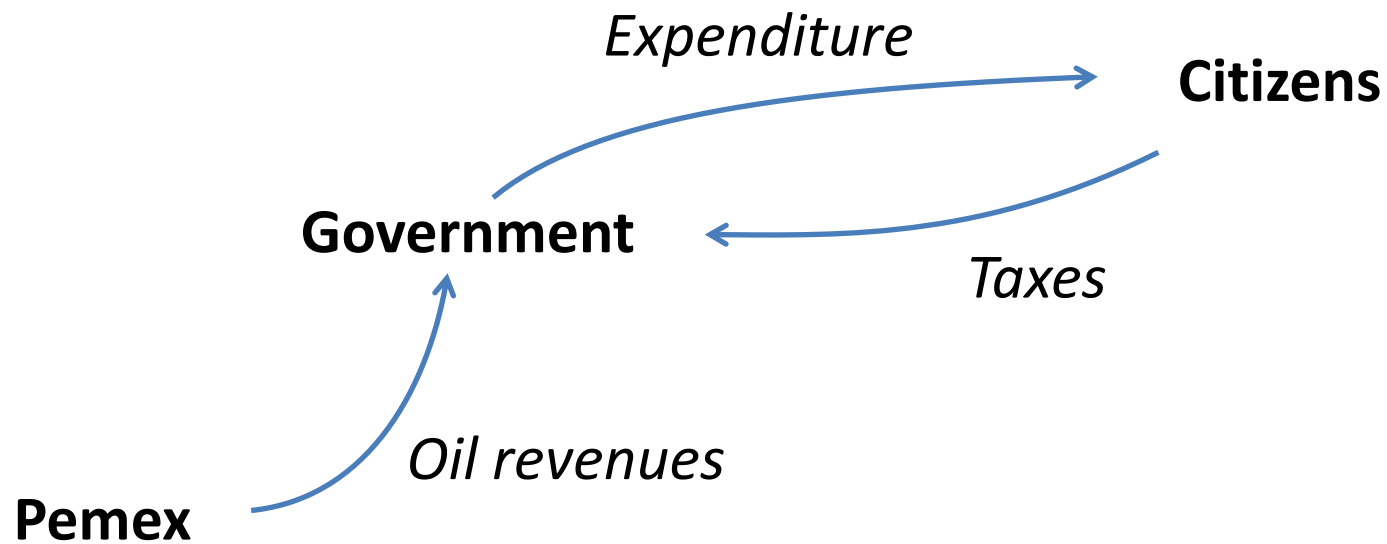
Five advantages of universal benefits

1. Easier to administer (even in “Swiss cheese states”).
2. Minimize errors of exclusion.
 - Bolsa Familia and Oportunidades reach only 41% and 30% of the poor.
3. No substitution effect on work/leisure.
4. Political support from the middle classes (Cornia and Stewart, Skocpol).
5. Reduces risk of corruption and clientelism.

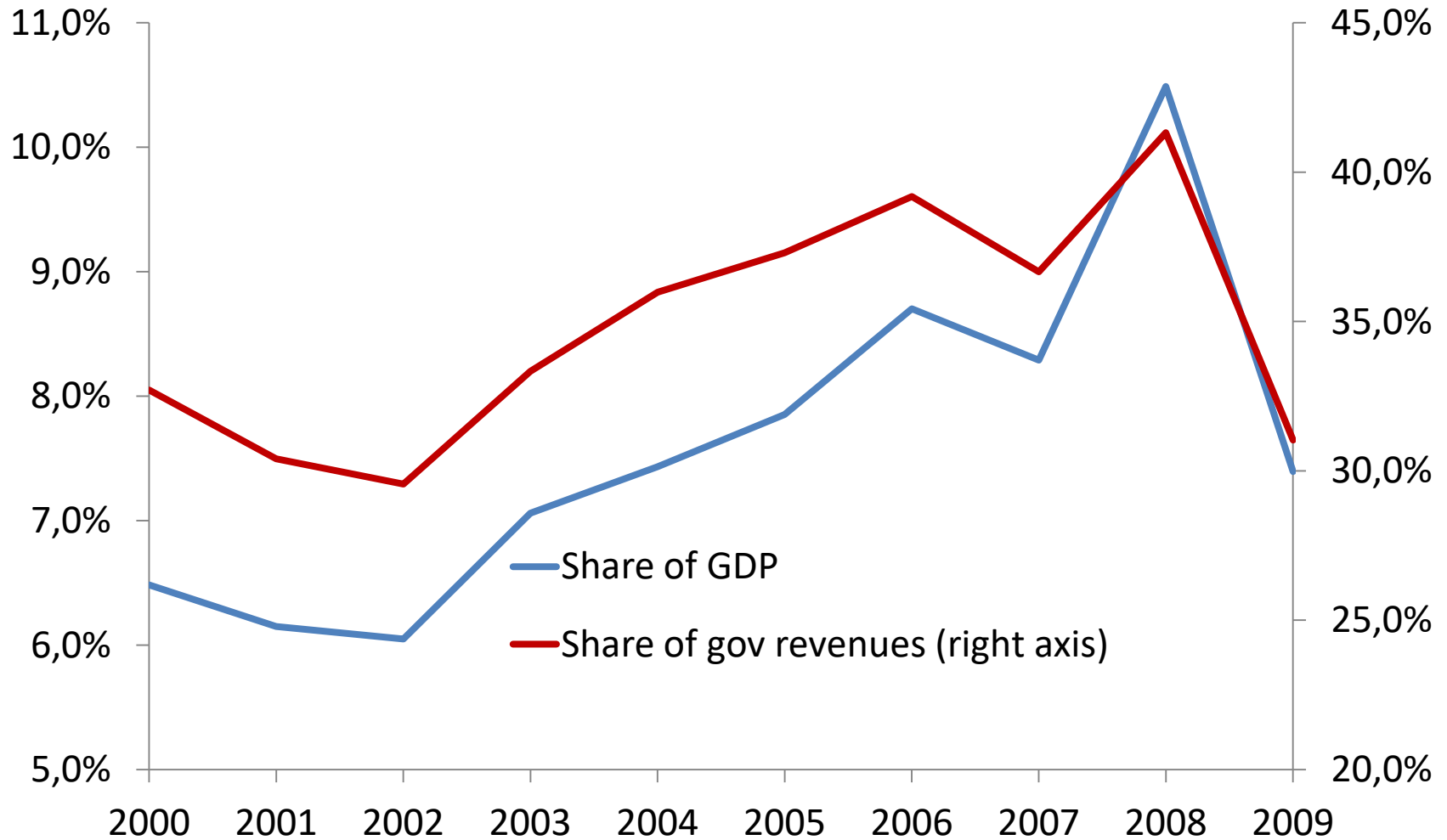
The RD, Output and Growth

- The RD may lower output:
 - Reduced work effort through income effect
 - But effect largest for least productive workers.
 - Distortions due to increased taxes.
- The RD may raise output:
 - “Efficiency wages” argument: better nutrition etc.
- The RD may raise growth:
 - Eases credit constraints on the poor.

The Case of Oil in Mexico: Who benefits?



Oil revenues have recently comprised 8-10% of GDP and about 35-40% of government revenues.



Despite oil revenues, the Mexican government is very small:

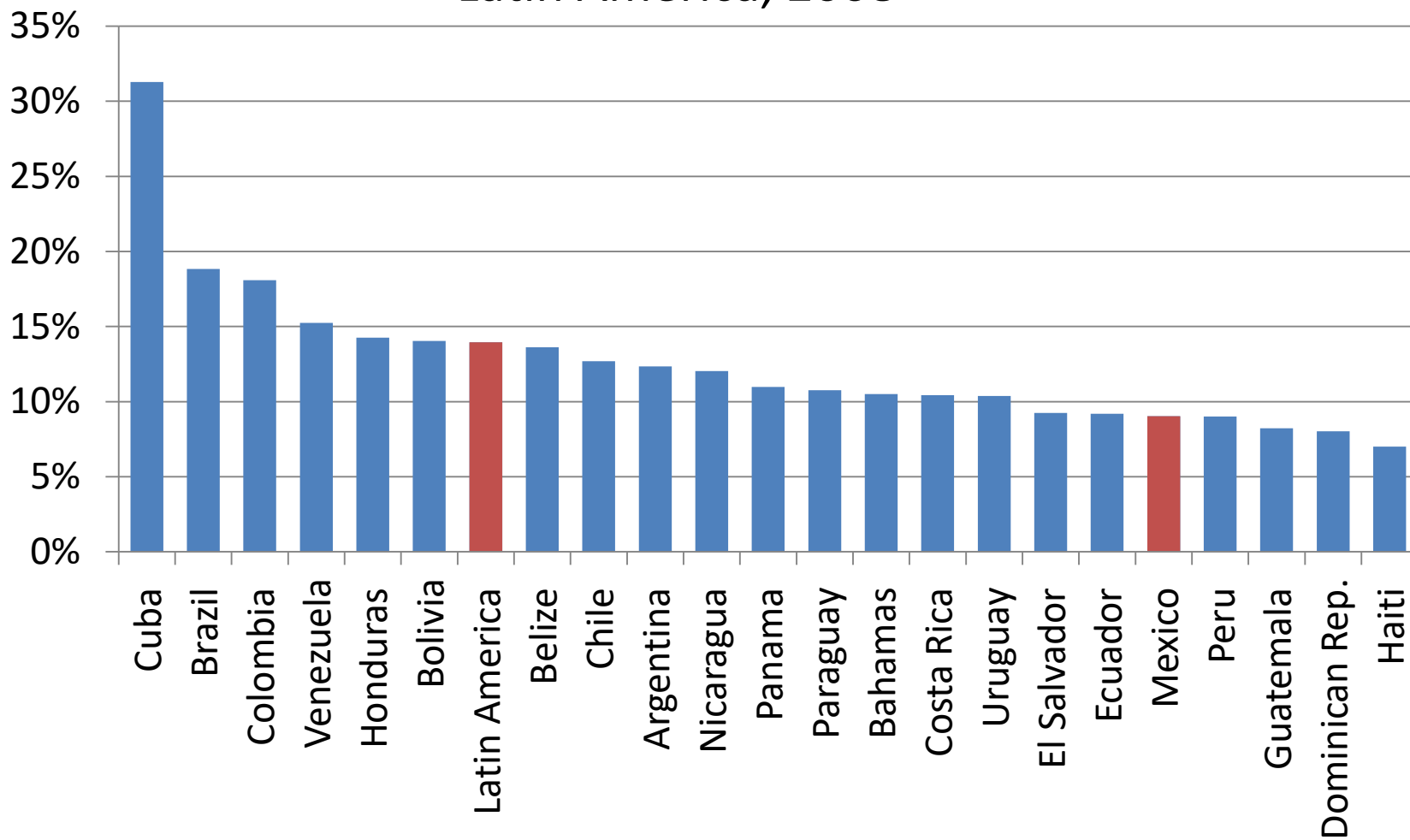
- Government consumption: 9% of GDP
- Government revenue: 21% of GDP.

(Also spent on investment, debt payments, etc.)

Since up to 10.5% of this is from oil, the impact on Mexican households and businesses is even smaller.

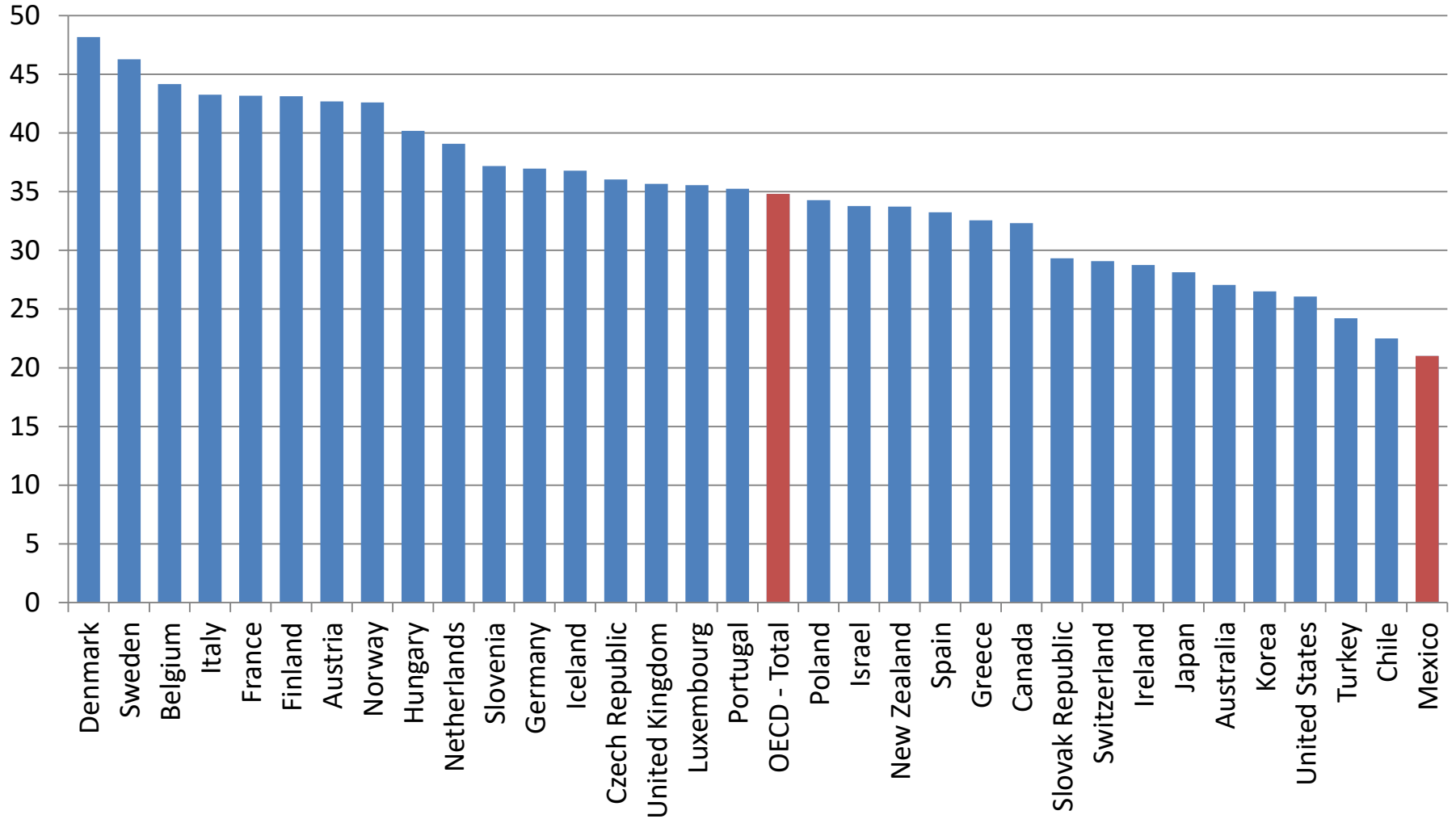
Government consumption expenditure as % of GDP

Latin America, 2008



Source: ECLAC

Total tax revenue as % of GDP, OECD, 2008



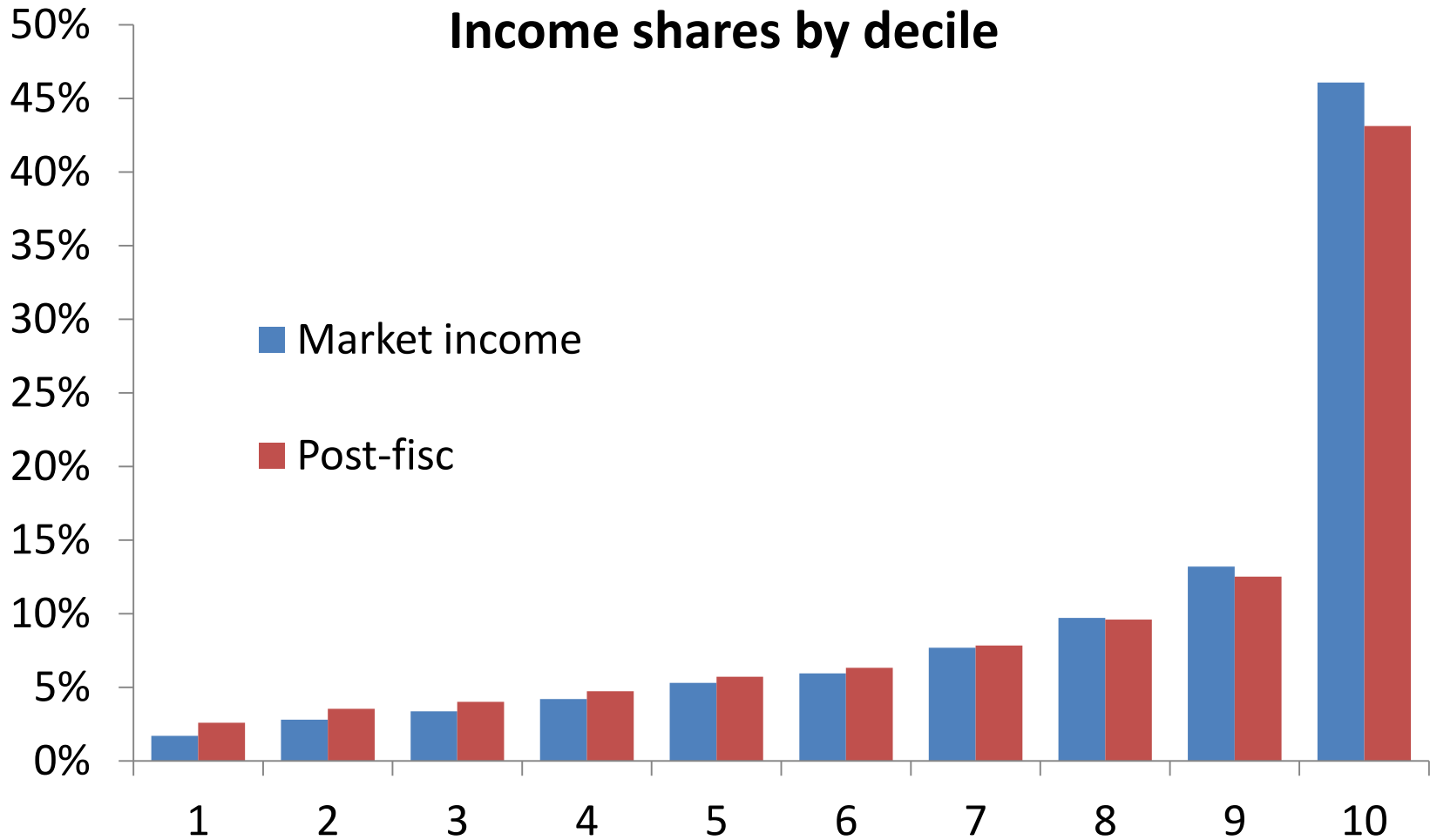
Source: OECD

Who benefits from fiscal policy?

Consider the distribution of income before and after taxes and spending.

Compared with market incomes, fiscal policy is progressive:

Fiscal policy benefits poorer Mexicans relative to market income:



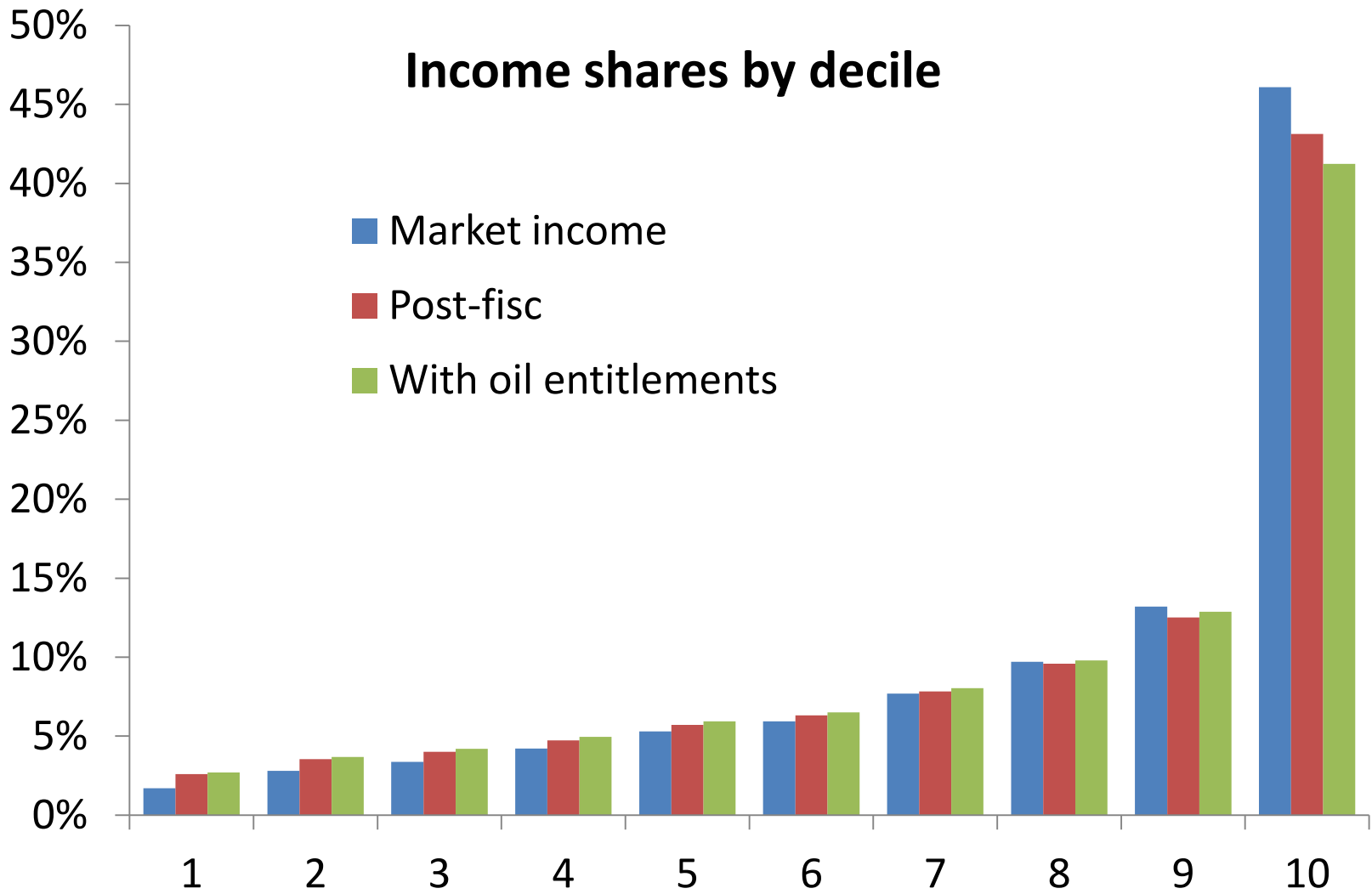
But this ignores the fact that *all Mexicans have an equal right to their country's oil revenues.*

In 2008, 10.5 percent of GDP belonged in equal share to all Mexicans:

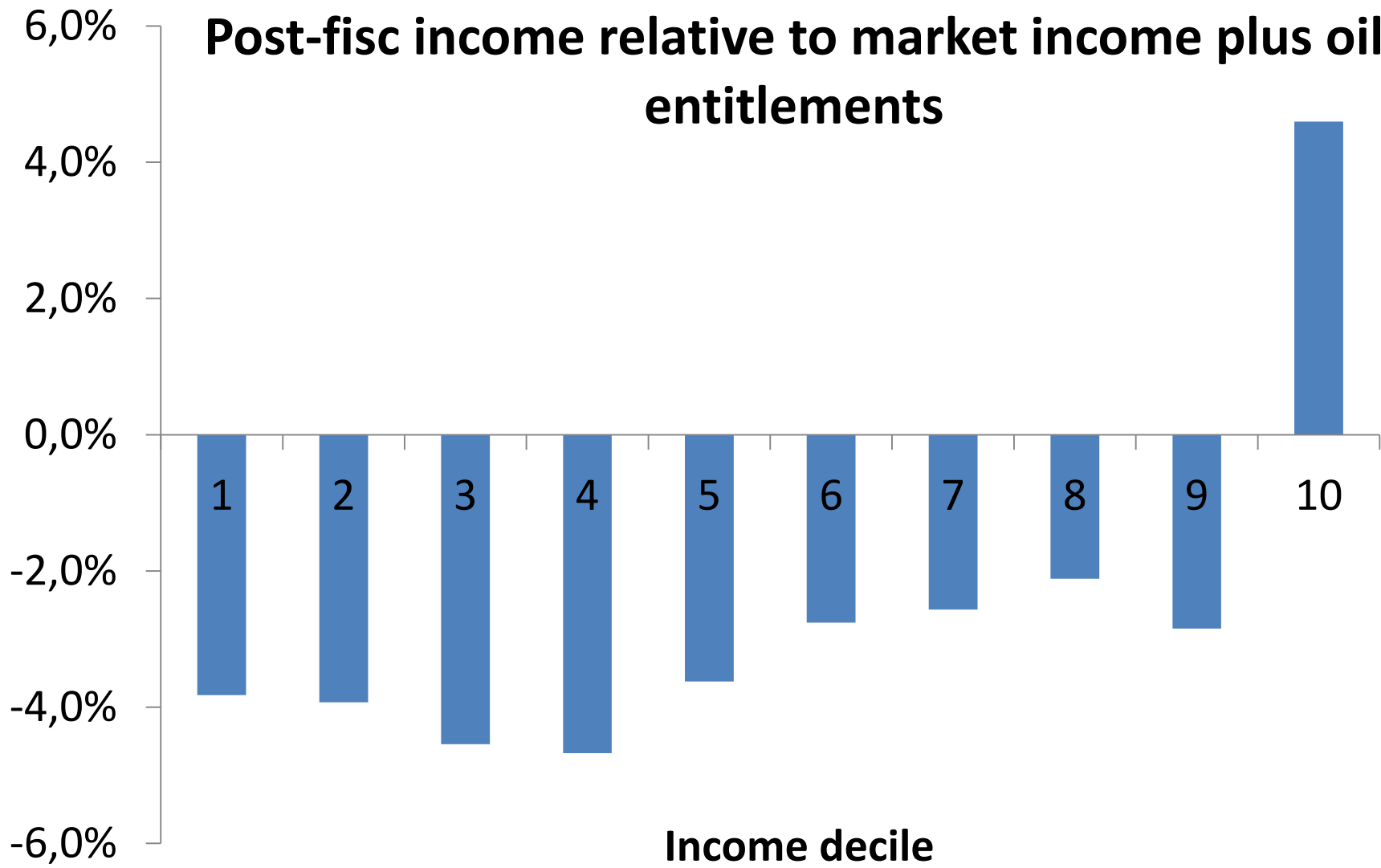
M\$11,925 (US\$1,055 or PPP\$1,529) per person per year.

Given this, fiscal policy is *regressive*:

Fiscal policy gives the poorest 90% of citizens less than their share of oil revenues:



Post-fisc income relative to market income plus oil entitlements



The net effect of fiscal policy is to transfer oil entitlements from the poorer 90 percent of the population to the richest 10 percent.

- Those in the bottom 90 percent lose on average M\$1,750 (US\$170) per year.
- Those in the richest 10 percent gain an extra M\$16,000 (US\$1,500) per person per year.

Mexico's famous conditional cash transfer *oportunidades*: Nice, but tiny

Decile	Share of total benefit received by decile, %	Average yearly payment per capita, M\$	
1	33.3	1266	<ul style="list-style-type: none"> •Total expenditure: 0.35% of GDP •<i>And</i>: it reaches only 30% of the poorest 20%.
2	18.5	703	
3	12.7	483	
4	9.4	357	
5	6.4	243	
6	7.3	278	
7	4.8	182	
8	3.3	125	
9	2.7	103	
10	1.7	65	
Total /average	100	381	

Can fiscal policy be made fairer?

A long-term proposal:

In addition to current fiscal policy, give every citizen her/his share of oil revenues.

5-year average of oil revenues: M\$9,800 (US\$880) per person per year

- Could be cash, or could be public services.
- Requires raising taxation to accommodate.
- Compare: *Renta dignidad* is paid to all Bolivians over the age of 60, and is Bs2,400 (US\$340 or PPP\$860).

Under this policy, over the past 5 years government revenue would have averaged **27.1% of GDP**.

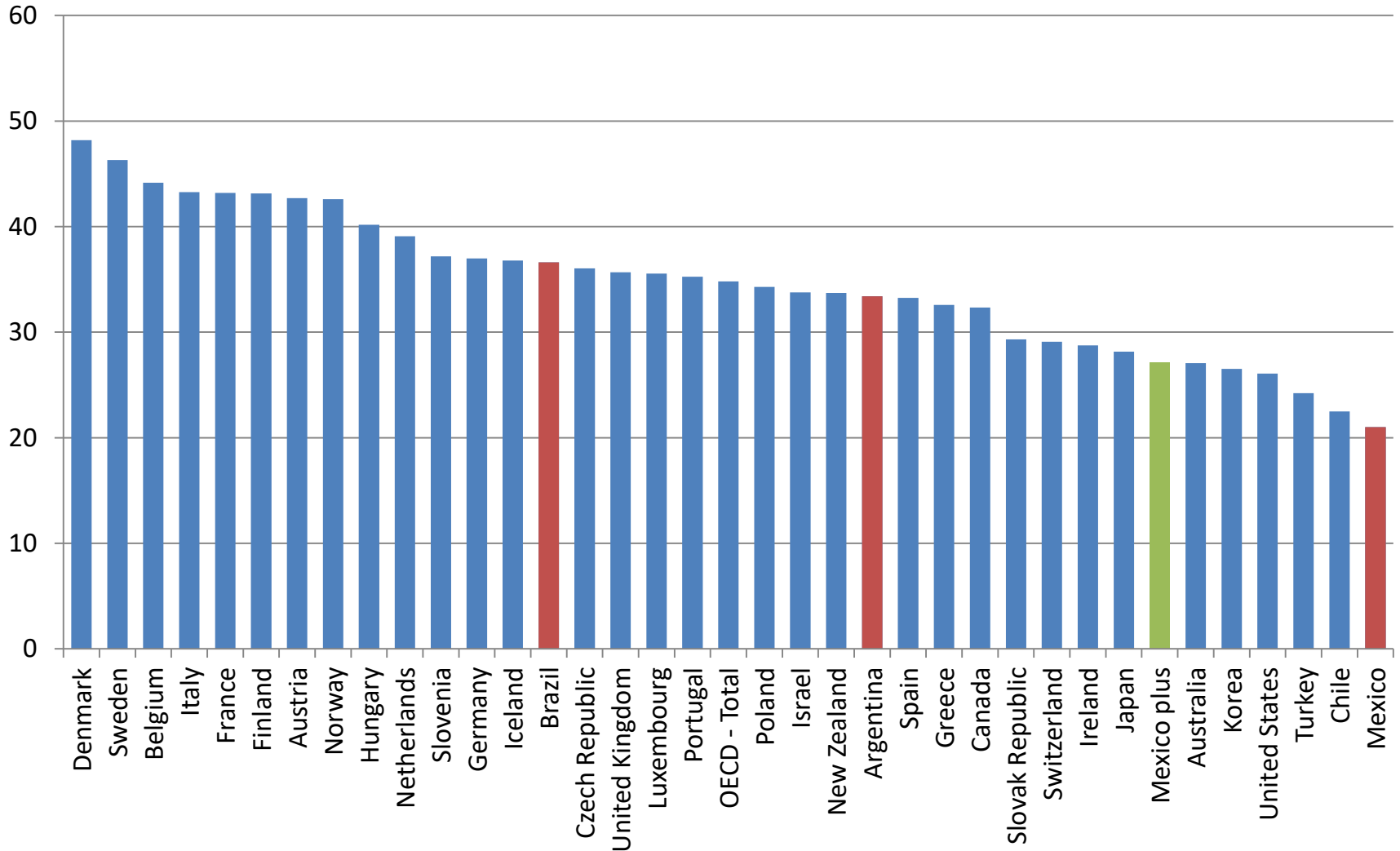
= 5-year average government revenue of 18.5% of GDP
plus

5-year average oil revenues of 8.6% of GDP.

This maintains current expenditures, *plus* giving citizens their oil entitlements.

Would 27.1% be dramatic?

Gov revenue as % of GDP, OECD plus Argentina, Brazil



Effect on poverty

In 2008 16.5% were below the national extreme poverty line:

- M\$611/month in rural areas (US\$51)
- M\$870/month in urban areas (US\$73)

5-year average oil entitlement is M\$815 per month.

Even accounting for additional taxation, this would eliminate extreme poverty.

Effect on inequality

Gini coefficient would decline from 49 to 44.

Market inequality is 54; total decline would be 10.1.

Total redistributive impact of fiscal policy would remain lower than most European countries.

This redistribution is not radical by international standards:

	Reduction in Gini due to fiscal policy		Reduction in Gini due to fiscal policy
Mexico	5.1	EU-15	12.5
Mexico with oil entitlements	10.1	Denmark	18.1
Bolivia	4.3	Ireland	17.4
Colombia	5.4	Italy	9.1
Costa Rica	6.8	Portugal	10.2
El Salvador	1.6	Spain	10.8
Guatemala	3.7	Sweden	14.5
Honduras	2.7		
Nicaragua	3.1		
Panama	8.0		
Peru	3.1		