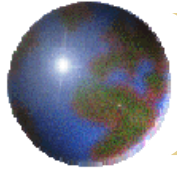


***Distortions in Global
Agricultural Markets:
A new Agricultural Distortions database
of the last fifty years***

Kym Anderson and Ernesto Valenzuela

11th Annual Conference on Global Economic Analysis
Helsinki, 13 June 2008

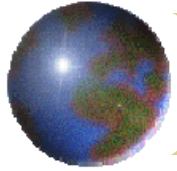
Research project details are at www.worldbank.org/agdistortions



Structure of WB research project

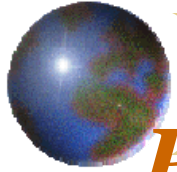
Leaders: Kym Anderson and Will Martin

- Stage 1 (2006-07):
 - Country case studies, to provide time series of the extent of distortions and an analytical narrative explaining the evolution of policies
 - leading to 4 regional volumes (on Africa, Asia, ECA and LAC) plus a global overview book (including the HICs)
- Stage 2 (2007-08):
 - Poverty analysis of agricultural distortions
 - Empirical analysis across countries and over time of political economy reasons behind chosen vs. alternative policies, and implications for the future



The new agric distortions database

- What indicators did we estimate?



Project's focus countries: shares (%) of global economy

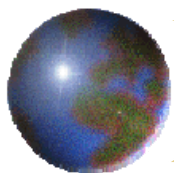
	No. of countries	Pop'n share	AgGDP share	GDP share
Africa	16(+5)	10	6	1
Asia	12	51	37	11
Latin America	8	7	8	5
European TEs	13(+5)	6	6	3
High-income	19	14	33	75
WORLD TOTAL	68(+10)	91%	90%	95%



Product coverage of NRA estimates

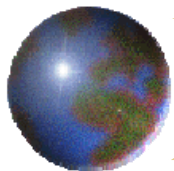
(% of national agric prod'n of focus countries)

	1980-84	1990-94	2000-04
Africa	71	71	72
Asia	75	73	66
Latin America	65	69	70
SUB-TOTAL, focus DCs	73	72	67
European transition econs	62	61	60
High-income countries	70	70	70
TOTAL, focus countries	71	70	68



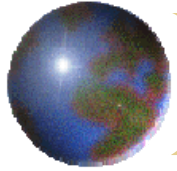
Global coverage of NRA estimates for 30 major agric products

	Share (%) of global ag production	Share (%) of global ag exports
Grains (10 products)	84	90
Oilseeds (6 products)	79	85
Tropical crops (7)	75	71
Livestock products (7)	70	88
SUM OF ABOVE (30)	75	85



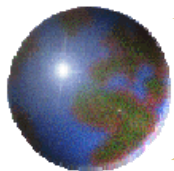
Coverage of global ag

	WB2008
Countries (and % of global ag GDP, 2000-04)	68 (+5) (90%)
Average no. of years	39
Ave. no. of products (and % of national agric prod'n, 2000-04)	11 (68%)
Total no. of NRA ests. (and % of global agric prod'n, 2000-04)	28,200 (61%)



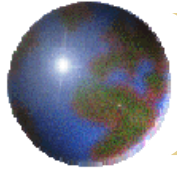
Coverage of instruments

- Covered agric product NRAs, decomposed into that due to the equivalent of:
 - ▣ Domestic farm **input** subsidies/taxes
 - ▣ domestic **output** subsidies/taxes
 - ▣ **import** taxes/subsidies
 - ▣ **export** subsidies/taxes



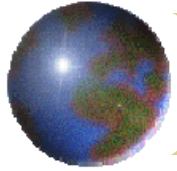
Contribution to NRAs by different policy measures, weighted average across countries, 2000-03 (%)

	Africa	Asia	LAC	ECA
Input tax/ subsidies	2	25	23	17
Prod'n tax/ subsidies	-13	-8	15	13
Border tax/ subsidies	-89	83	62	70
Total	100	100	100	100
NRA Total (covered), %	-8.0	12.3	6.2	17.9



Estimates in the global database (cont.)

- Covered agric product **CTEs**
- Guesstimates of NRAs for **non-covered agric** exportables, nontradables and import-competing products (30% of total ag sector)
- Current **US\$ values at undistorted prices** of Q, X, M, and C, hence self-sufficiency ratios for each covered product
- NRA from **non-product-specific** (NPS) agric measures
- **Total agric NRA** for exportables, import-competing products, all tradables, nontradables and all agric products (incl. NPS)
- Average **NRA for non-agric tradables**



Estimates derived from global database

Dispersion of covered agric products
(standard deviation of covered product NRAs)

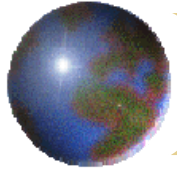
Trade bias index for all agric:

$$\text{TBI} = (1 + \text{NRA}_{\text{agm}}) / (1 + \text{NRA}_{\text{agx}}) - 1$$

Relative rate of assistance among tradables:

$$\text{RRA} = (1 + \text{NRA}_{\text{agt}}) / (1 + \text{NRA}_{\text{anonagt}}) - 1$$

Contribution of **multiple exchange rates** to
NRAs, TBI and RRA

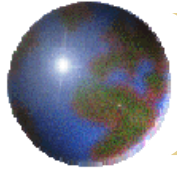


Estimates from the global database (cont.)

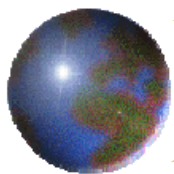
TRI (welfare- and trade-reducing indexes)

using combination of NRA and CTE rates across agric covered products (a variant of the J. Anderson/P. Neary measures)

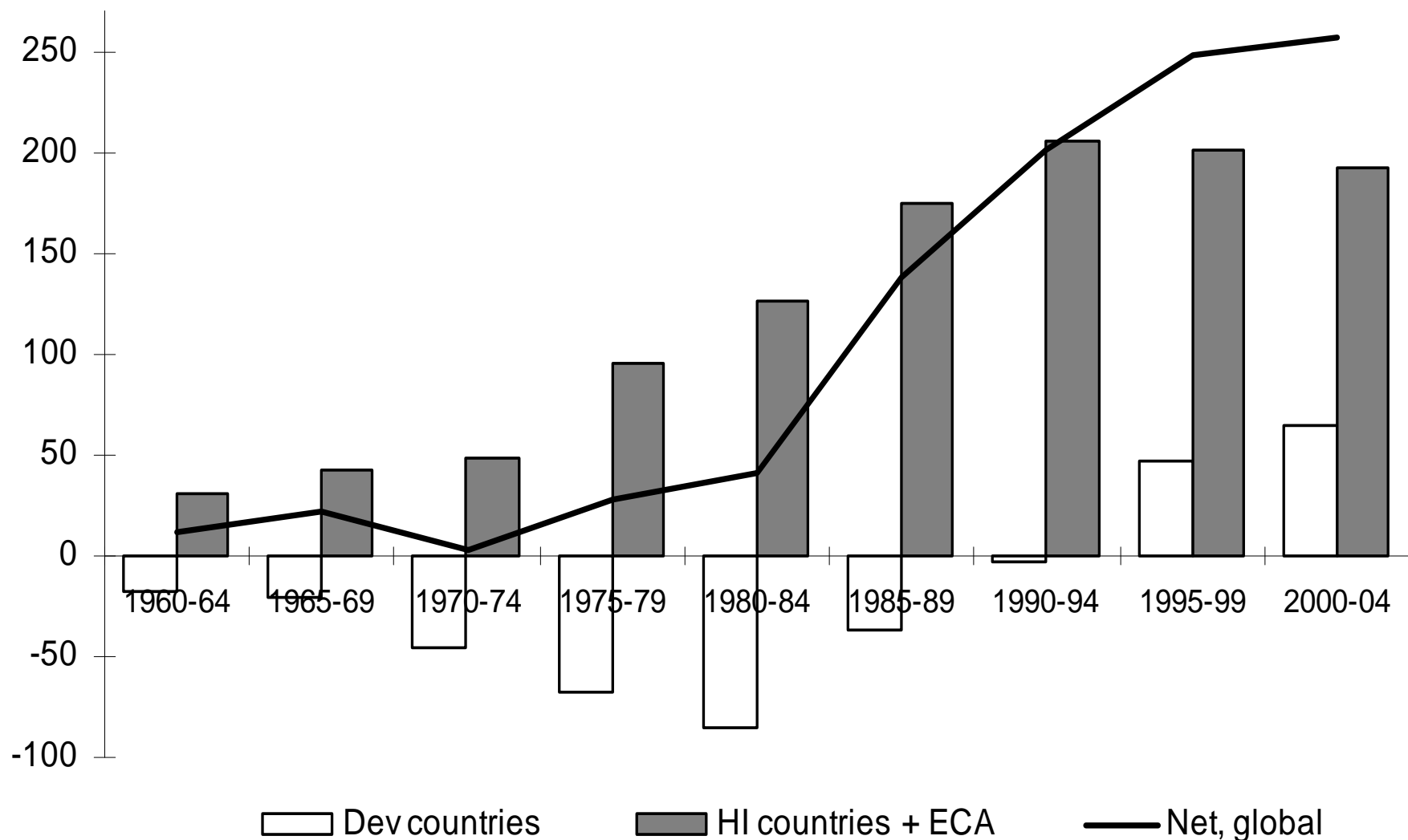
Gross subsidy equivalent of assistance to individual farm products, to exportables and importables, and to all agric, in total current and constant dollars and \$ per farmer

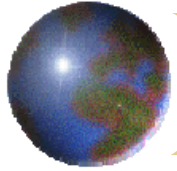


*What have we learned,
what should we try to explain?*



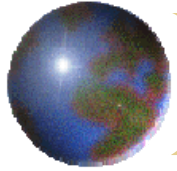
Gross subsidy equivalent of NRAs (current US\$ billion): keeps growing





Findings for high-income countries:

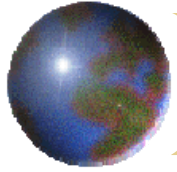
- **Growth in NRA_{ag}** from the 1950s, mostly via import tariffs, while NRA_{anonag}^t was declining continually
- Use too of **export subsidies** in WE and NA from 1980s
- Support began changing in WE and US in 1990s toward ‘**decoupled**’ measures and in WE to more-direct **farm income support**
- Dispersion in ave. NRA_{ag} **across** HICs remains high
- Dispersion in product NRAs **within** each HIC remains high, with rice pudding ingredients dominant
- Only two reach **near-zero RRA and low dispersion of NRAs** within agric (Australia and NZ)



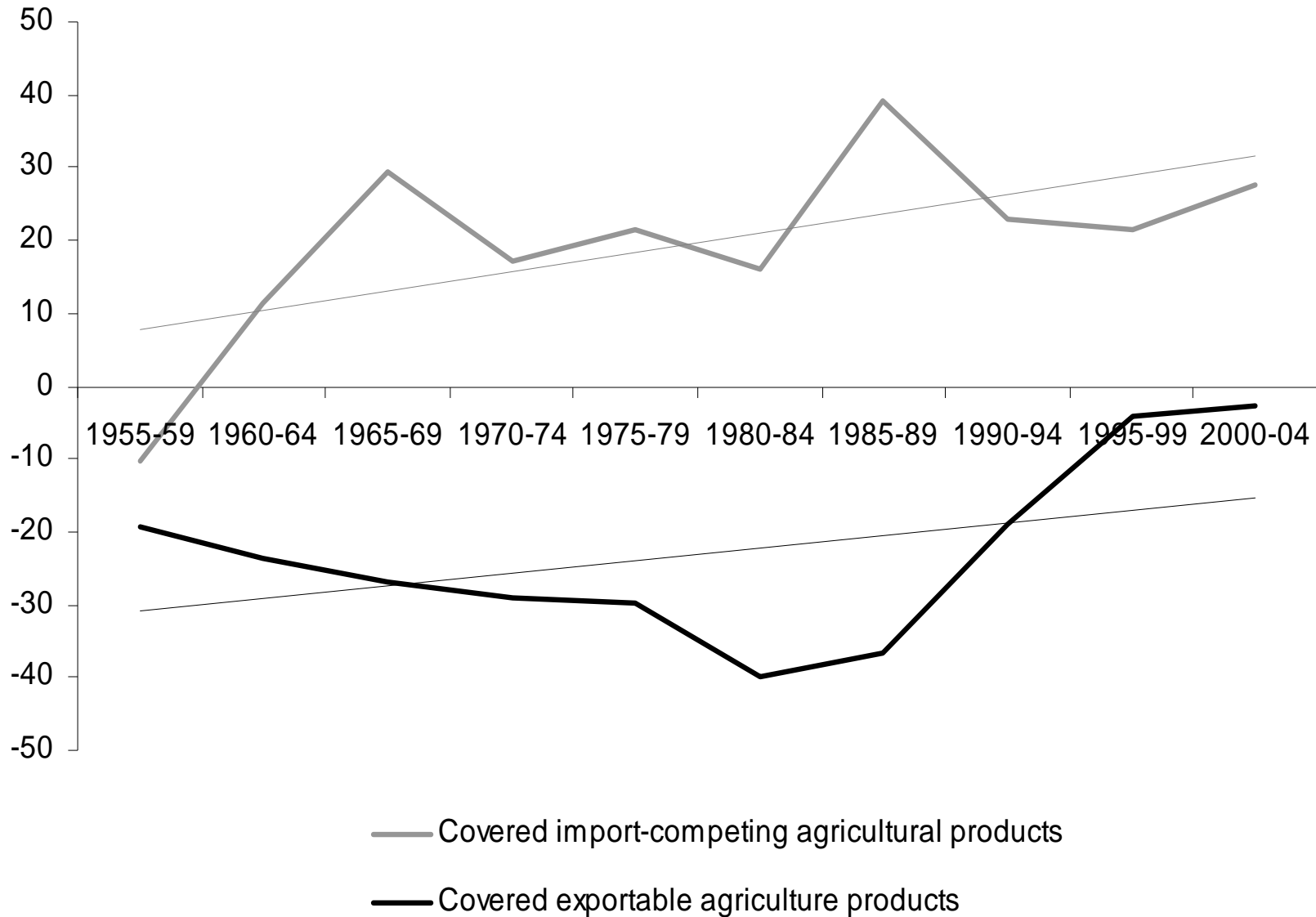
Findings for developing countries:

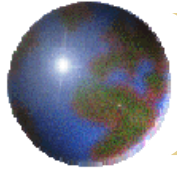
- NRAag_x trend initially became **more negative from 1950s to 1980s** before then becoming **less negative since**
- Annual **fluctuations around trend NRAag_x**
- NRAag_m has been **positive from 1950s** and **trend has been upwards**

- Weighted average of NRAag_x and NRAag_m has **'overshot'**, going from **-20% to 10%** over 5 decades
- **Large differences across regions**
- **Anti-trade bias** within agric **first increased** but has **lessened since 1980s**



NRA ag import-competing and exportable covered products, DCs





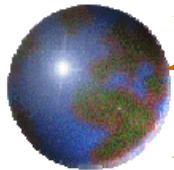
Av. standard deviation of NRAs among agric products within each country

	1960s	1980s	2000s
Africa	29	42	38
Asia	14	17	12
LAC	16	32	19

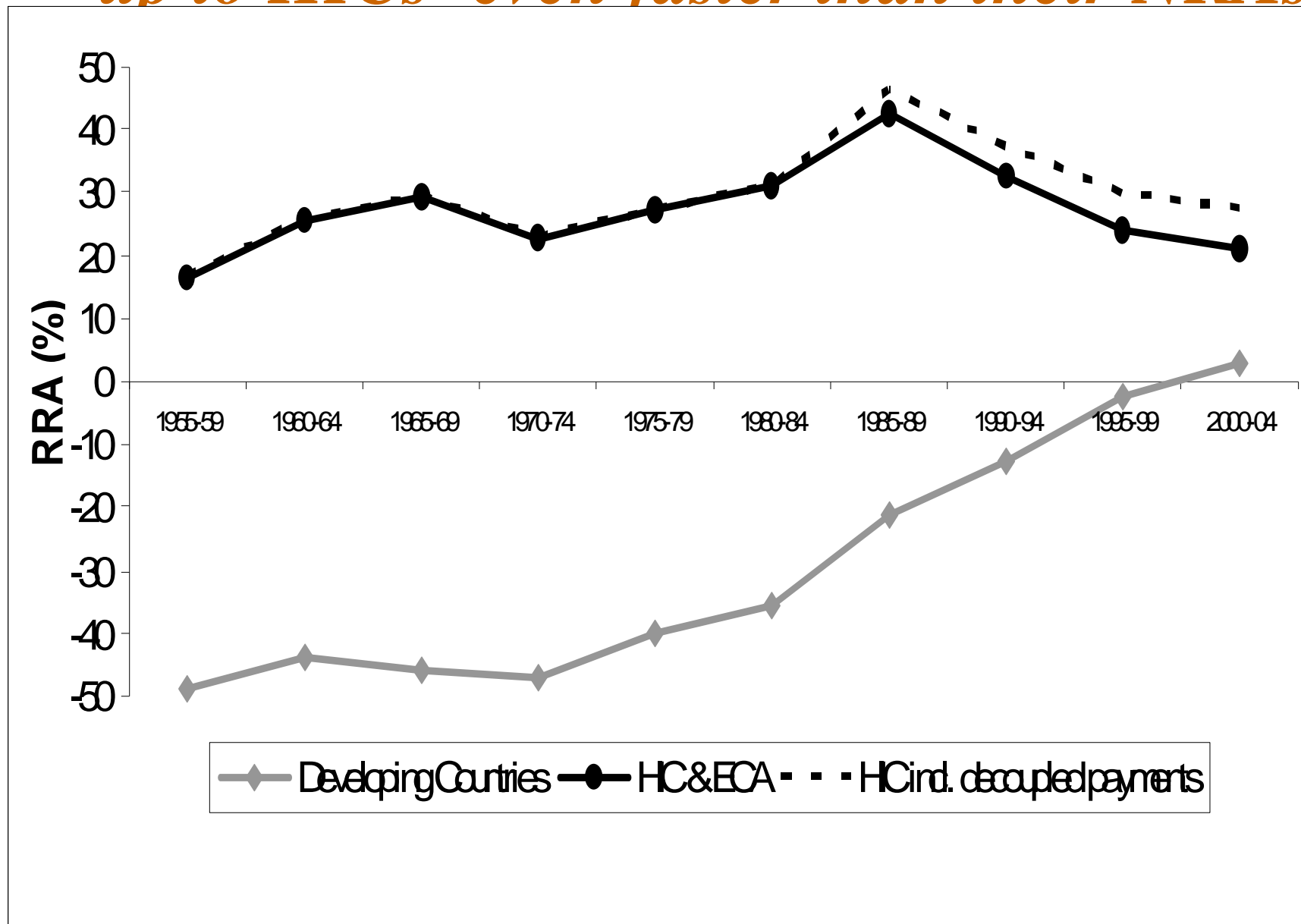


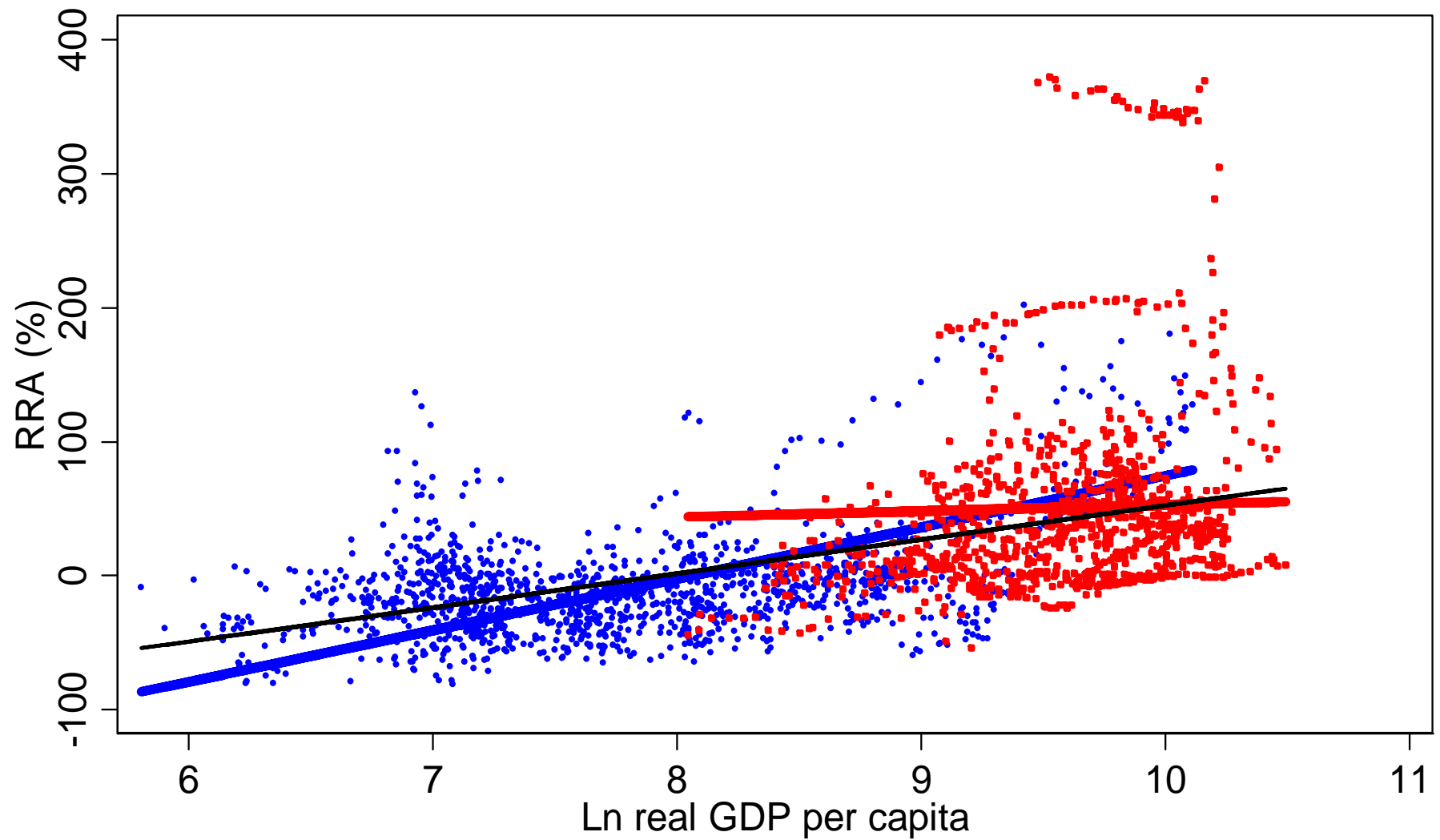
Findings for developing countries (cont):




- **NRA_m is trending up for DCs at the same rate as for HICs**
 - ▣ Underscoring the importance of getting tariff bindings in WTO down to applied rates and beyond
- And the **dispersion of NRAs among industries** has not diminished within DCs on av. over past 5 decades
 - ▣ which means **resources in agric are still far from efficiently allocated within each DC**, even though its *average* NRA_{ag} may be now close to zero
- When trading, degree of trade is dampened by insulating policy that shows up as a **negative correlation between NRA and international price**

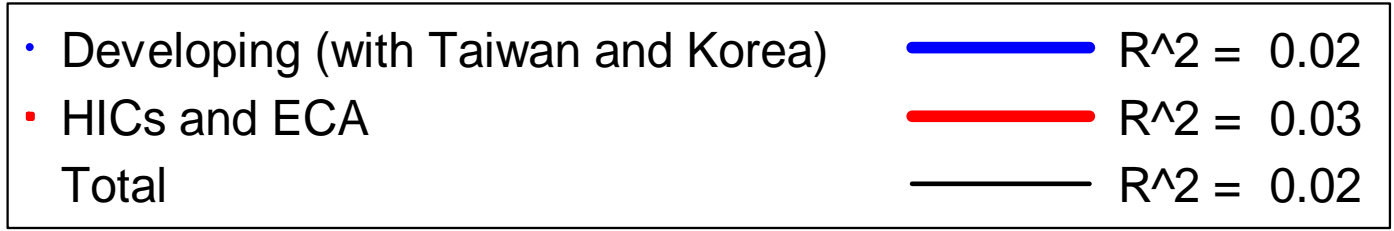
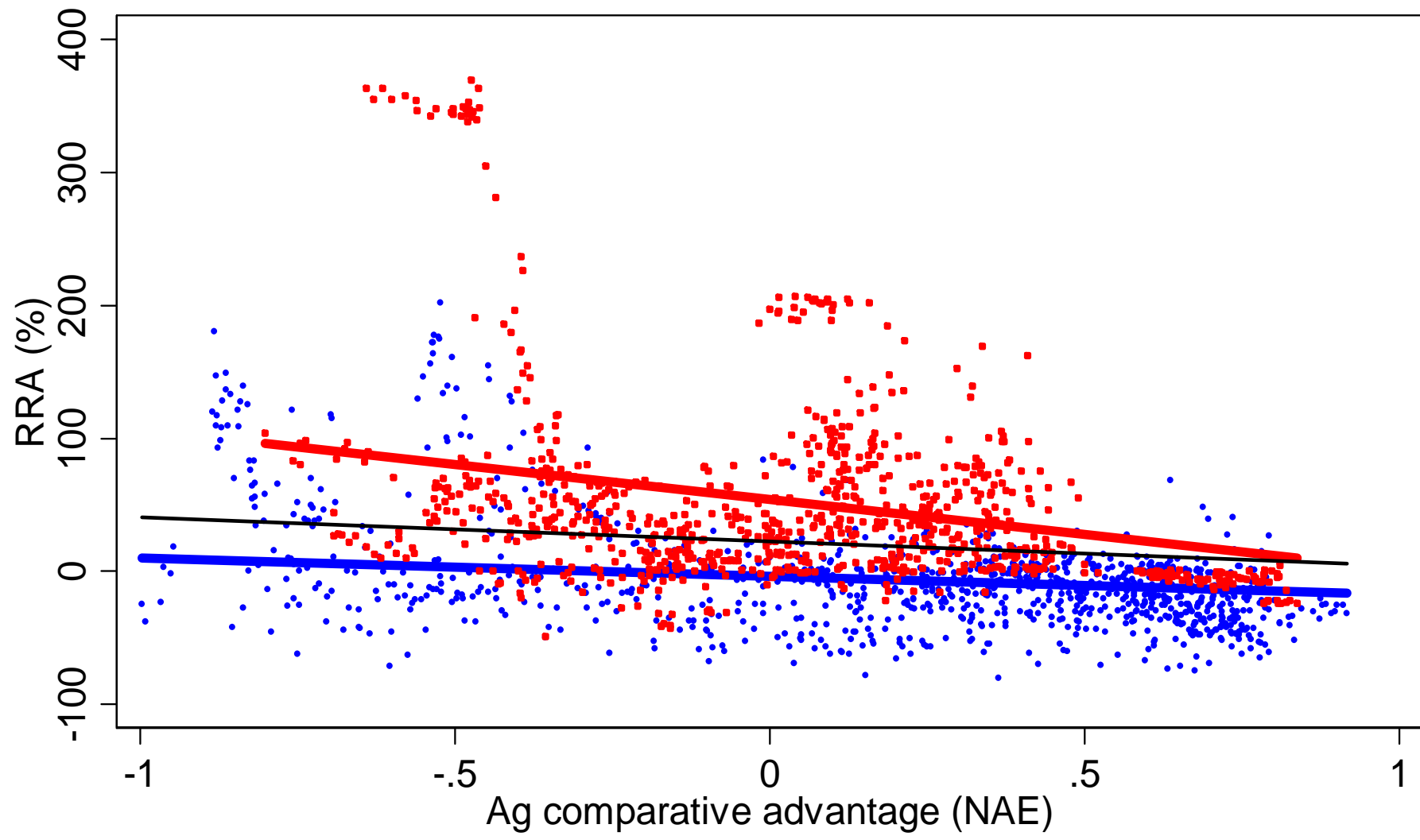


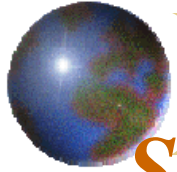
Developing countries' RRAs are catching up to HICs' even faster than their NRAs





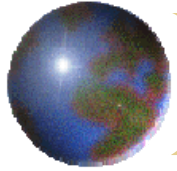
• Developing (with Taiwan and Korea)		$R^2 = 0.29$
• HICs and ECA		$R^2 = 0.00$
Total		$R^2 = 0.11$





Strength of linkage between NRA and income per capita varies by commodity

- **Strongest for foodgrains** (esp. rice), beef and cotton
- **Weak for feedgrains** and soybean, and pork and poultry, which are distorted relatively little in most places
- No positive relationship for **sugar and dairy**, which are **protected everywhere**
- Coffee trend also is strong among DCs



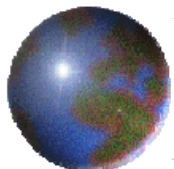
Current Research

- Welfare and Poverty Implications
Collaboration with

Dominique van der Mensbrugghe

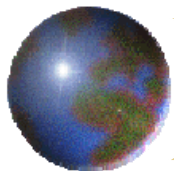
Lead Economist, The World Bank

- Political Economy
analysis across countries and over time of political economy
reasons behind chosen vs. alternative policies, and
implications for the future.
Potential for not only national studies but also commodity
specific markets.



*New (& GTAP 7) agric distortions,
2004-05, percent*

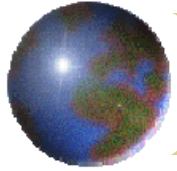
	<i>Tariff</i>	<i>Export subsidy</i>	<i>Prod'n subsidy</i>
Sub-Saharan Africa	17(18)	-1(0)	0(0)
India	8(50)	2(0)	7(3)
East Asia (ex. Ko&Ta)	10(11)	-1(0)	0(0)
Latin America	7(10)	-4(0)	0(0)
<i>All dev. countries</i>	<i>14(14)</i>	<i>-1(0)</i>	<i>0(0)</i>
<i>All high-income</i>	<i>11(11)</i>	<i>2(2)</i>	<i>1(1)</i>



Costs of policies to global economy (%), 2004

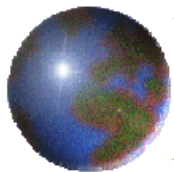
<i>% due to sectoral policies in: Gain to:</i>	Agric & food	Other merch.	ALL GOODS SECTORS
High-income countries	64	36	100
Developing countries	70	30	100
WORLD (all countries)	66	34	100

Collaboration with **Dominique van der Mensbrugghe**

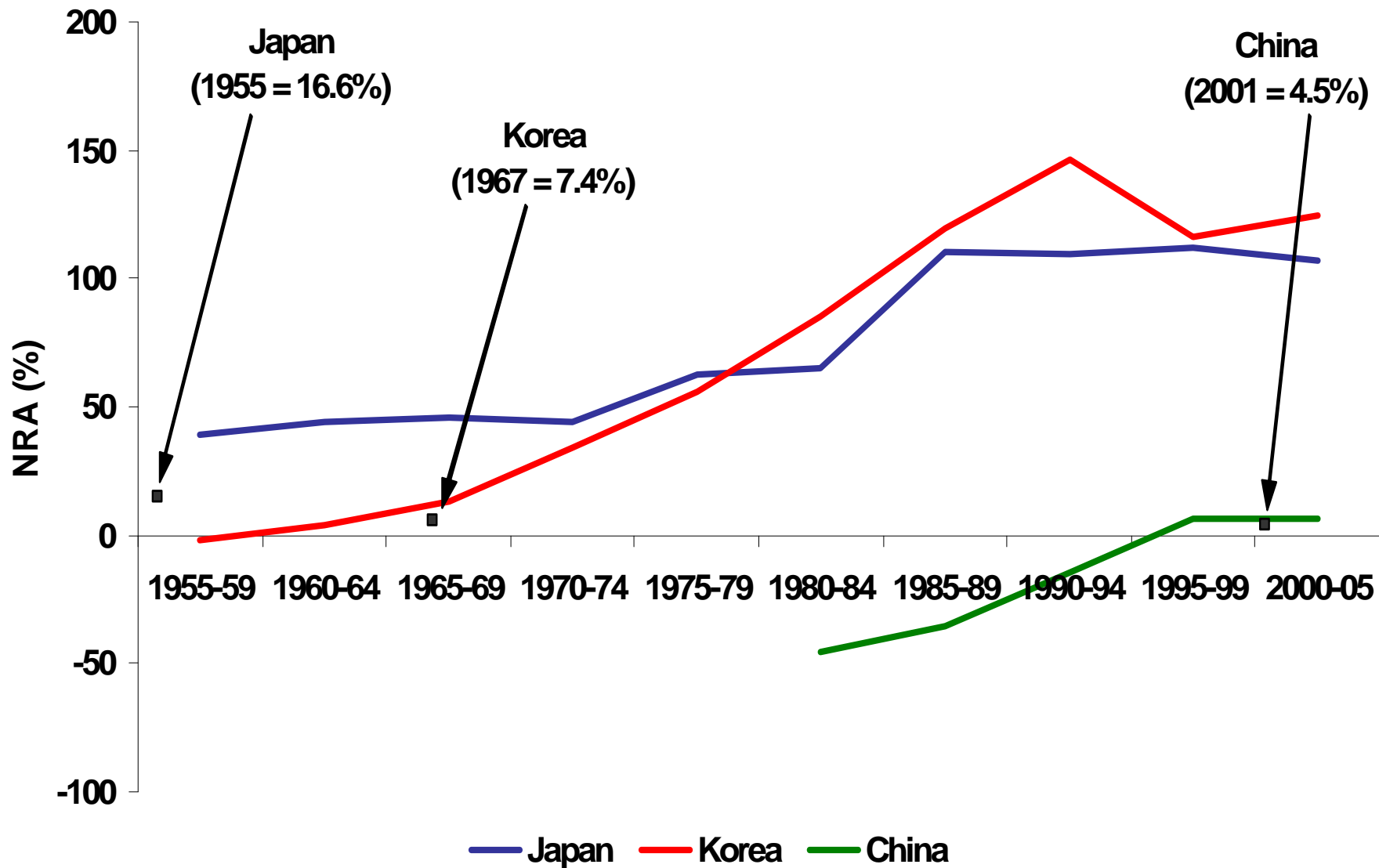


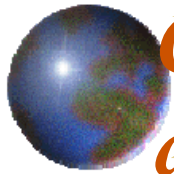
What is still to be learned?

- Setting of different counterfactuals, increasing of protection instead of current situation
 - What would be NRAag in Japan and Korea today if GATT had disciplined agric of new members?
 - Will China and India follow Japan, Korea and Taiwan in raising RRA above zero, e.g. to avoid social unrest from widening urban-rural income gap?
 - What is the food price hike of 2007-08 going to do to DCs' NRAag?



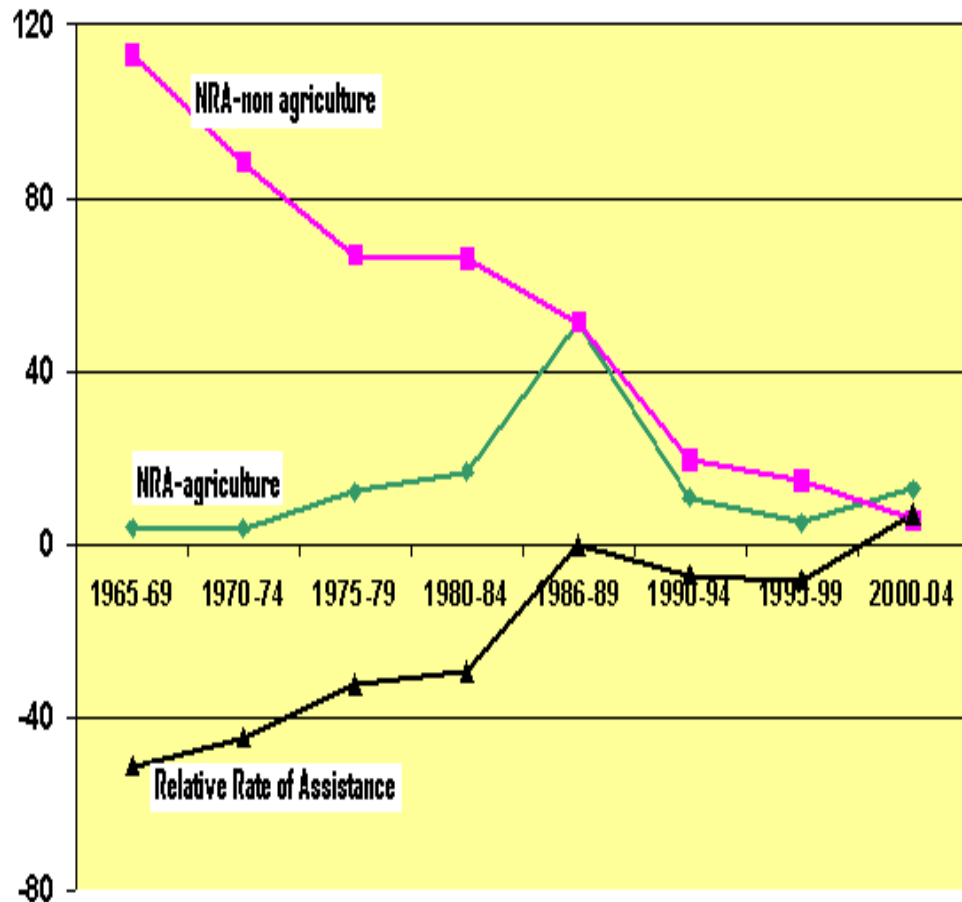
A low ag protection in Japan and Korea was not bound when they joined GATT



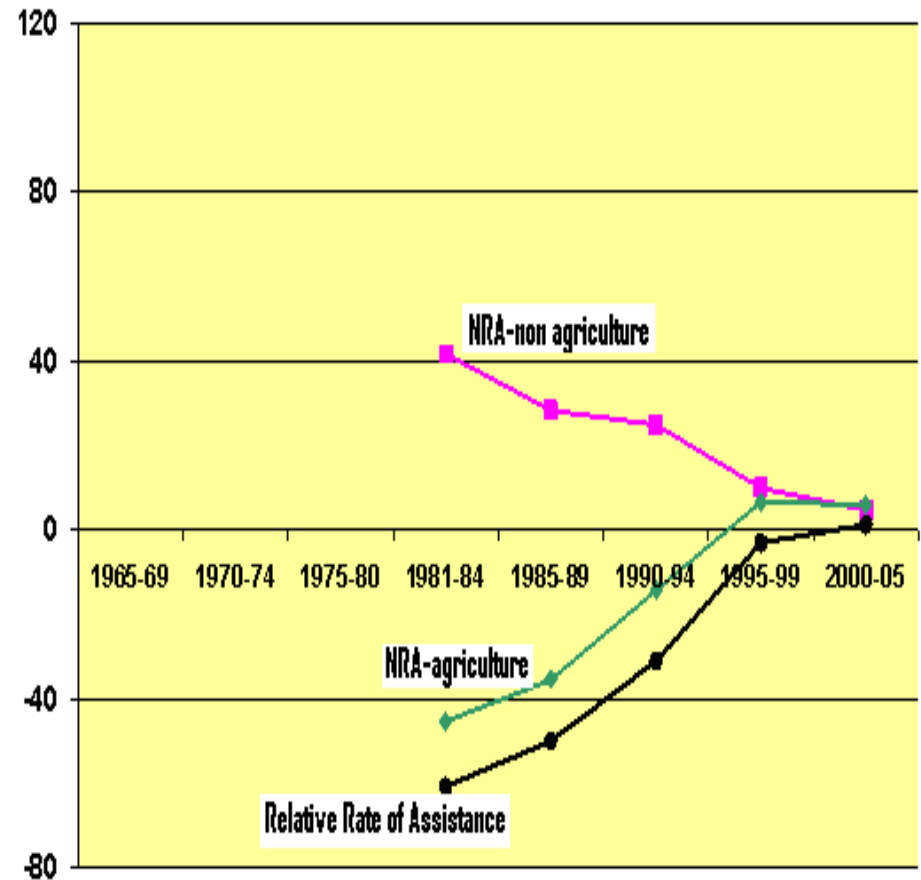


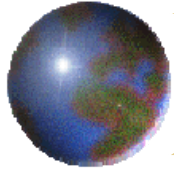
China & India: half of RRA disappearance is due to cuts in non-ag protection (now very low, like Aust and NZ)

INDIA

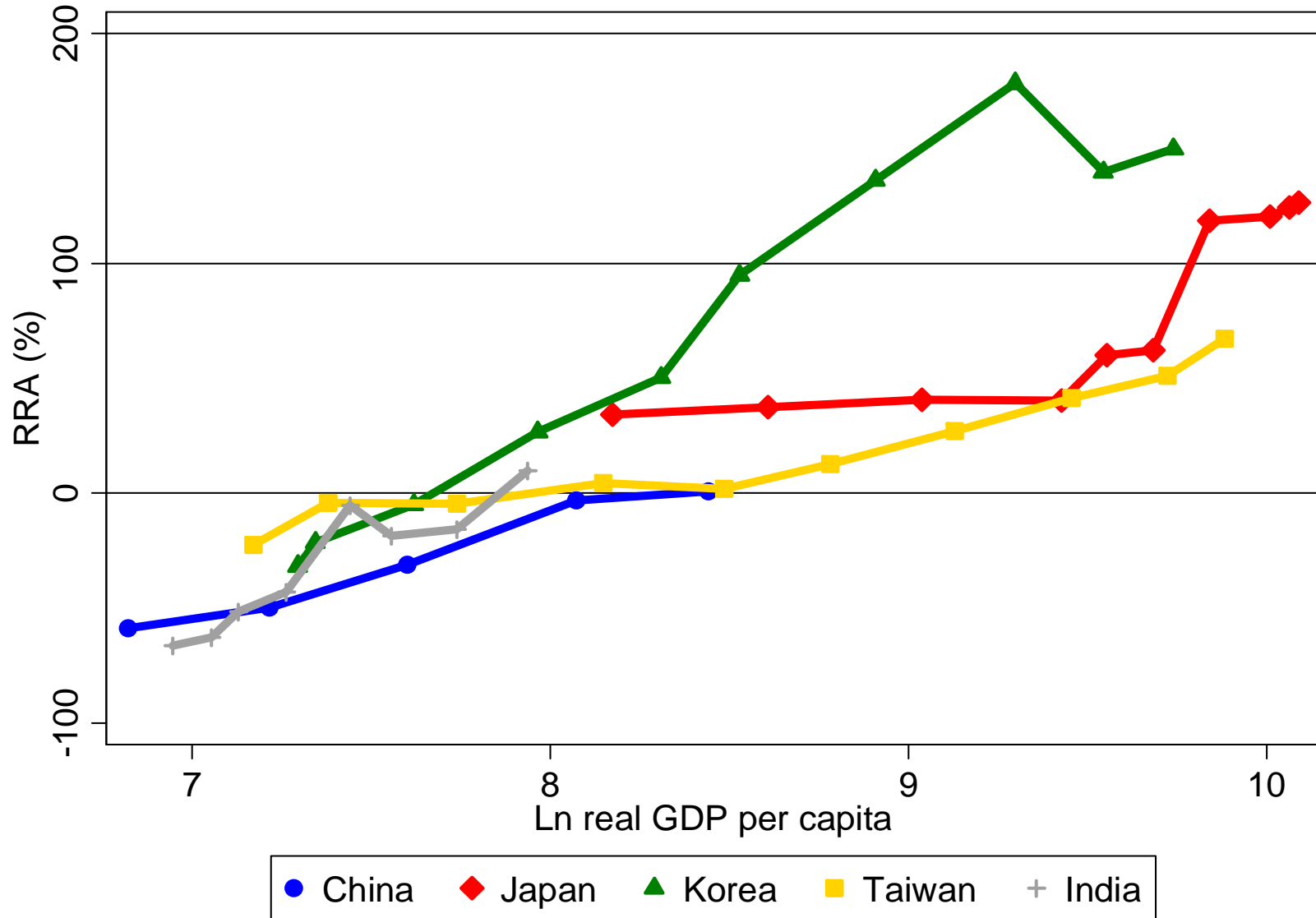


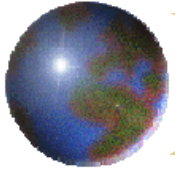
CHINA



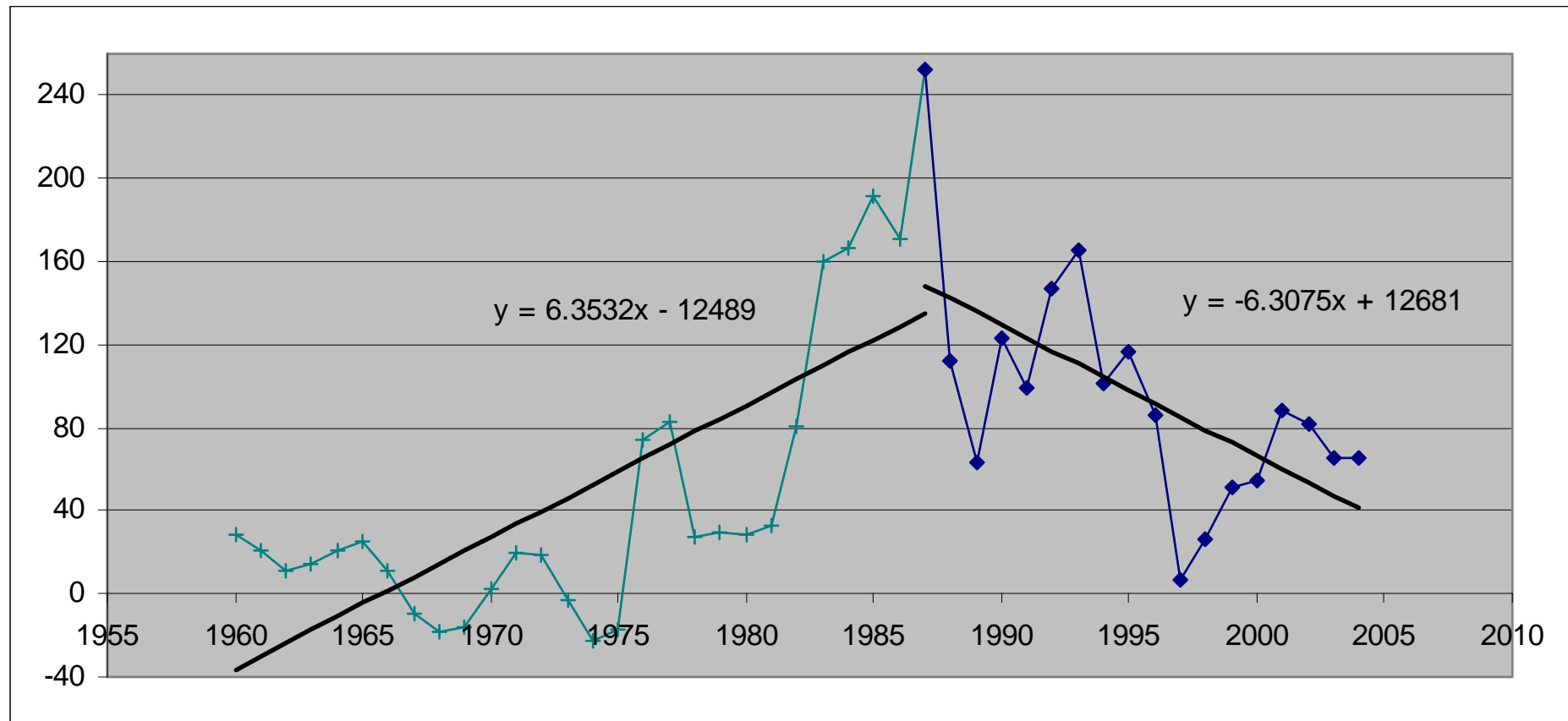


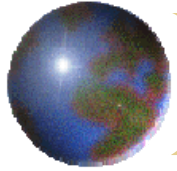
Will China and India follow NE Asia, to avoid social unrest from widening urban-rural income gap?





NRA rice, Malaysia 1960-2004





Thanks!

• www.worldbank.org/agdistortions

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