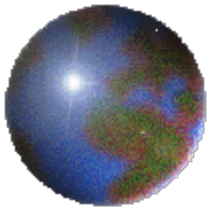

Fifty Years of Distortions in World Agricultural Markets

Kym Anderson
University of Adelaide

Joint MFAT/MAF/Treasury Guest Lecture, Wellington, 27 March 2008

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Background

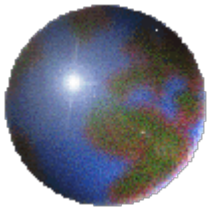
- Farm incomes in New Zealand, Australia and many developing countries have been depressed by (a) an anti-agricultural bias in own-country policies and (b) by governments of other countries favouring their farmers with import barriers and subsidies
- Over the past two decades ANZ and DC governments have reduced their sectoral and trade policy distortions, while some high-income countries also have begun reforming their protectionist policies

Questions to be addressed

- How much progress has been made in different regions in reducing their distortions to agric incentives?
- Are farmers in agricultural-exporting countries still discriminated against by:
  - own-country policies, and
  - rest-of-world's agric and trade policies?
- Might rapidly emerging economies such as China and India follow Japan, Korea and Taiwan in transforming from taxing to protecting some of their farmers
  - thereby thwarting export growth prospects of agricultural-exporting countries?

Outline

- Appetizer: Brief history of policies to the early 1980s
- 1st main course: New global evidence on the ***extent*** of policy-induced price distortions ***since the 1950s*** (multi-country World Bank research project)
  - Extending the Anderson/Lattimore/Lloyd/MacLaren evidence presented for Aust and NZ at the AARES Conference, Queenstown, Feb 2007
- 2nd main course: New global, economy wide modeling results on ***effects*** of national price distortions, drawing on that new evidence of ***as of 2004***
- Dessert: Speculation as to ***future policy trends*** and their possible effects with and without WTO members reaching a Doha agreement



Appetizer

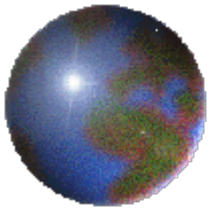
History of agric and trade policies to the early 1980s, and past analyses

History, pre-World War II

- Trade policies have affected agricultural incentives for centuries. A few examples:
  - 1100-1660AD agric export taxes in Britain, but followed by its food import duties' Acts, 1660-90
  - European foreign policy gyrations of 1300-1850, led to big swings in bilateral trade flows
    - including Britain's wine import barriers in 18th and 19th century, in part to protect grain farmers and brewers but also to boost excise taxes and thereby military superiority over France (Nye)
  - Corn Laws repeal in 1846
  - Latter 19th century grain tariff policy responses in Europe to declining rail and ocean transport costs
  - Growth of agric protection in Europe from late 19th century …
  - … and in Japan from early 20th century
    - including imperial rice self-sufficiency policy (NRA>50% by 1930s)

Some analyses and elements of explanation up to the mid-1980s

- Anderson and Hayami (1986) on rapid agric protection growth in NE Asia relative to that in Europe and US
- Anderson and Garnaut (1987) on Australia's (anti-agric) manufacturing trade policy
- Krueger, Schiff and Valdes (1988, 1991) on anti-agric policies of 18 developing countries
- Tyers and Anderson (1986, 1992) on the econ effects of distortions to world food markets
  - Suggested the OECD countries' agric policies depressed real international food prices in 1990 by 20%, but that developing countries' food policies almost fully offset that (reducing the price-depressing effect to just 1%)
  - Together the domestic-market-insulating nature of those anti-trade agric policies made international food prices >3 times more volatile than they otherwise would have been in early '80s



First main course

New estimates of changes in distortions over the past 50 years

Why a new World Bank research project?

- Both the effective taxing of farm relative to non-farm output in many low-income countries, and govt. assistance to farmers in higher-income countries, allegedly have had large adverse economic effects. They are claimed to have:
  - reduced economic growth,
  - added to global inequality and poverty and, in particular,
  - depressed farm incomes in developing countries
- During the past two decades, these policies have been reformed, but to varying degrees across countries
  - pressures from GATT/WTO, IFIs, donors, and unilaterally
- To what extent, if any, are they contributing today to:
  - inequality between and within countries?
  - global, regional and national poverty?

Structure of the research project

- 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 since mid-1950s
    - leading to 4 regional volumes (on Africa, Asia, Europe's transition economies and Latin America) plus a global overview book (including the high-income countries)
- Stage 2 (2008):
  - More-intensive empirical analysis across countries and over time of causes, and of effects on net farm incomes, inequality and poverty, of chosen vs. alternative policies, retrospectively and prospectively

Why did we undertake this project now?

- >20 years since the Anderson and Hayami (1986) and Krueger, Schiff and Valdes (1988) time series finished, and much has changed since then:
  - in policies of both DCs and HICs
  - in our capacity to analyze the effects of, and thereby also the reasons behind, those interventions and their reform
- Client governments and hence operational parts of the World Bank want a more-detailed understanding in order to fine-tune views on optimal strategies for
  - unilateral policy reform by developing countries
  - preferential and multilateral reforms for sustainable development and poverty alleviation
- The Bank's ***World Development Report 2008*** focuses on agriculture (first time since 1982 and '86)

Farm and non-farm households, world averages, %, 2000 *(Source: GIDD)*

	Pop'n share	Income share	Poverty share	Poverty incidence
Farm h'holds	44	13	74	28
Nonfarm h'holds	56	87	26	8
ALL H'HOLDS	100	100	100	17

Some specific questions for today

- To what extent have policy reforms resulted in ANZ and developing countries:
  - reducing their anti-agricultural biases?
  - reducing their anti-trade bias?
  - becoming agricultural protectionists?
  - changing the structure of their distortions across commodities?
- To what extent are changes in distortions to agric incentives due to agric vs non-ag policy reforms?
- How would net farm incomes in agric-exporting countries change if distortions remaining in global agricultural markets were removed?

How does the World Bank project define a distortion?

- Bhagwati (1971), Corden (1974):
  - Any trade tax, subsidy, quantitative restriction or multiple/overvalued exchange rate system
    - Assumes countries do not have sustainable monopoly power in int'l markets
  - Any domestic producer or consumer price tax/subsidy or restraint on outputs, productive factors or intermediate inputs
    - except where it directly overcomes an externality, or is set optimally across all products or factors to raise government revenue (e.g. VAT)

Estimates of nominal (NRA) and relative (RRA) rates of assistance to producers

- NRA as revealed through domestic-to-border price comparisons (adjusted for transport costs, processing and marketing margins, quality differences, etc.) to get an estimate of average NRA for all agriculture, and for tradable parts of the sector (NRA_{ag^t})
- NRA for non-agric tradables also is provided (NRA_{nonag^t})
- Then the *relative rate of assistance* (RRA) is calculated to proxy the impact on the *relative* price of tradable farm products:

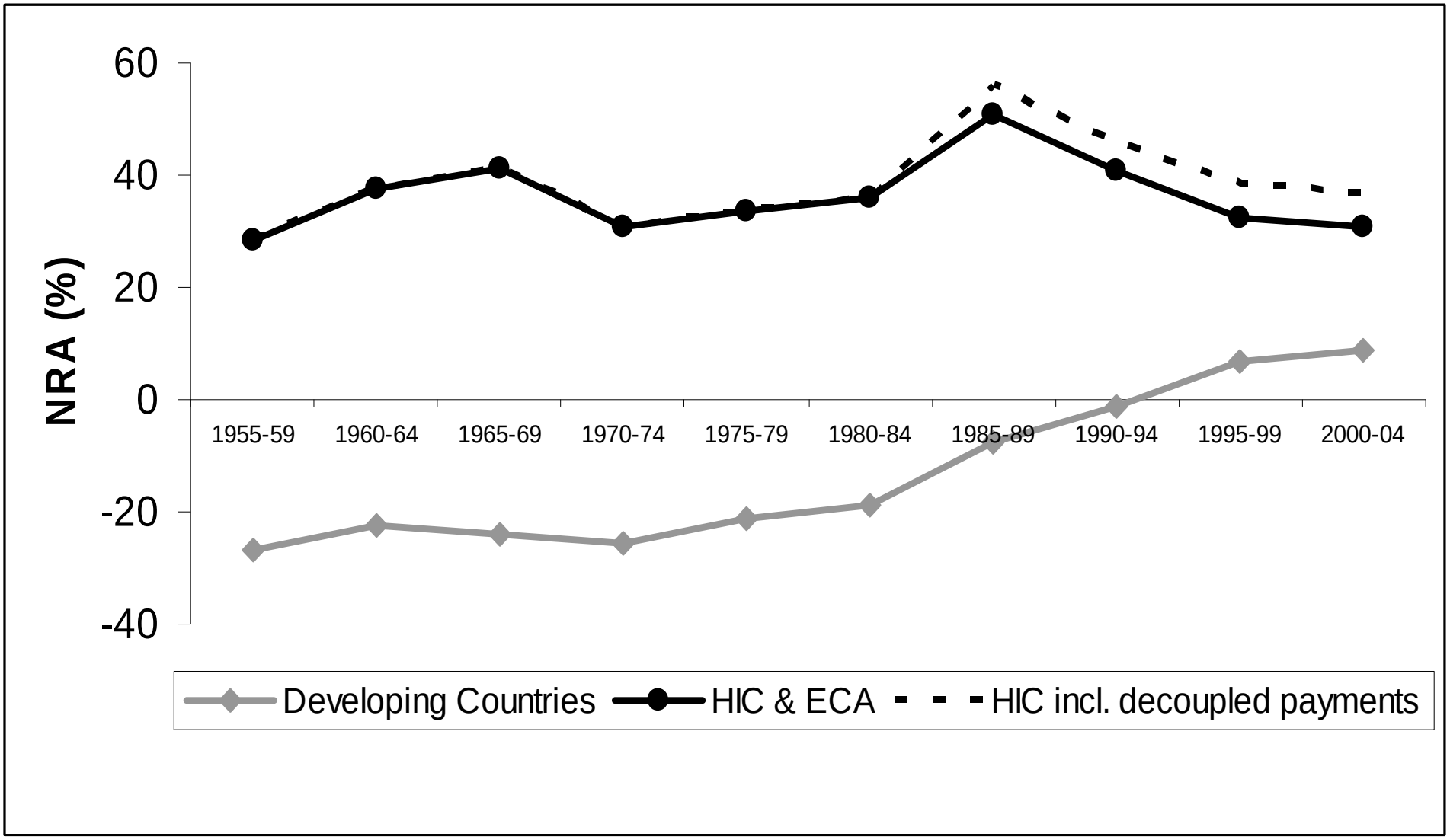
$$RRA = 100[(100+NRA_{ag^t})/(100+NRA_{nonag^t}) - 1]$$

How do we define 'anti-agricultural bias'?

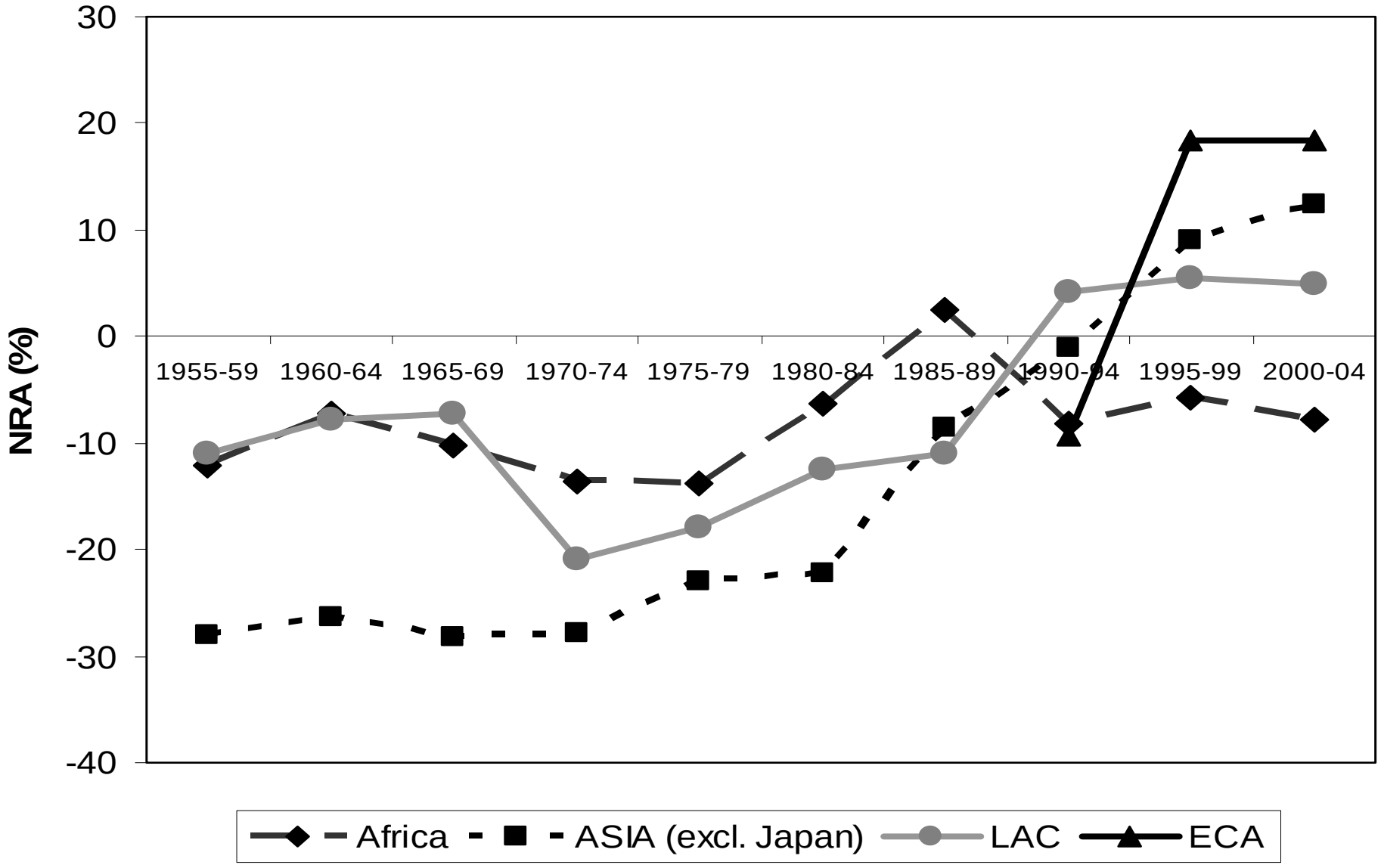
- Simplest criterion: Is $NRA_{ag} < 0$?
- Better (relative price) criterion: Is $RRA < 0$?
  - That is, even if $NRA_{ag} > 0$, is $NRA_{ag}^{t} < NRA_{non\text{-}ag}^{t}$?
- Even better (general equilibrium) criterion: would agric value added rise if all national goods market distortions were removed?
  - Not just absolutely, but also relative to non-ag goods?
    - A GE analogue to the PE effective rate of assistance concept
- And what if the rest of world's goods market distortions also were removed?

NRAag, high-income and developing countries, 1955-2004 (weighted averages)

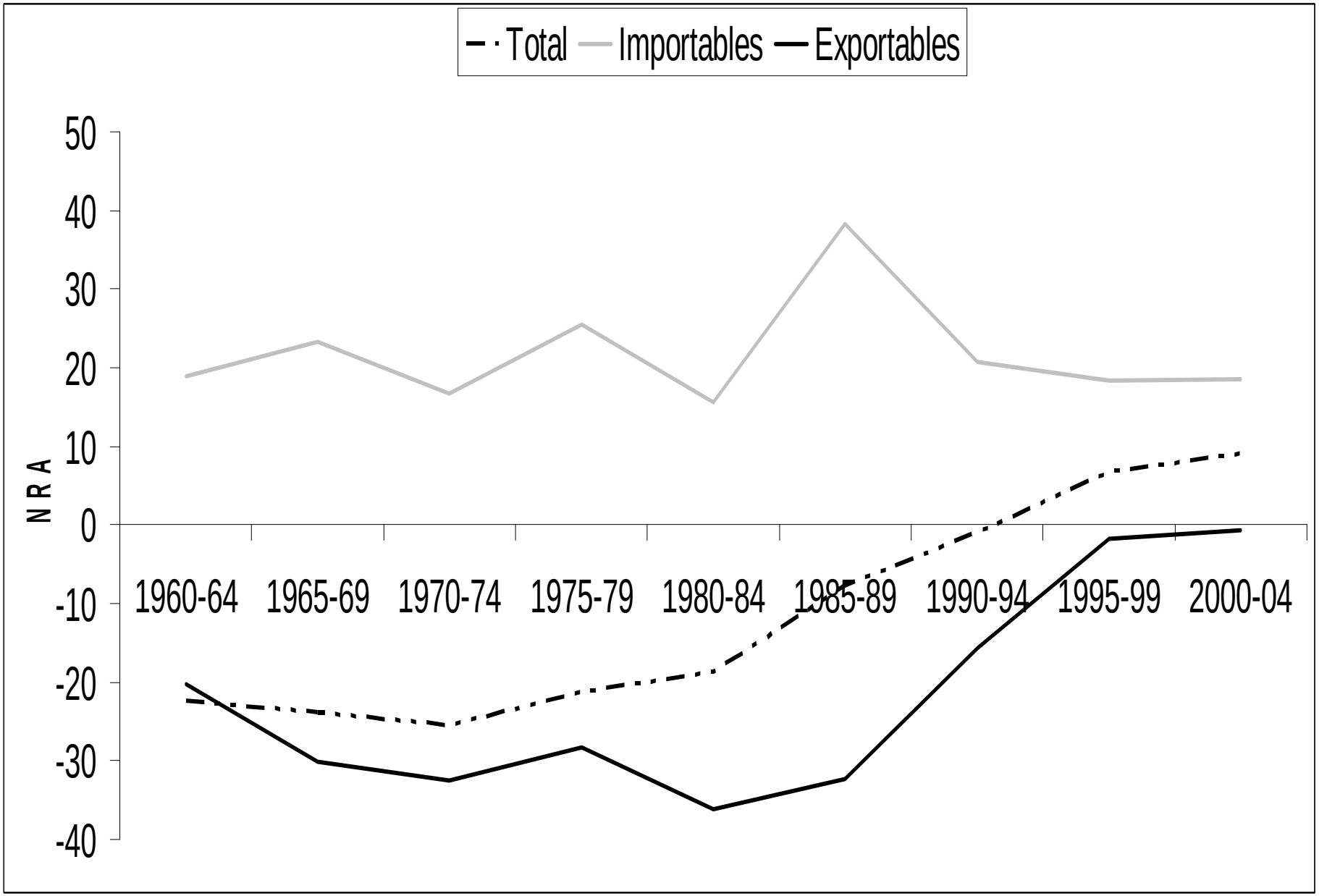
(dashed line includes HIC decoupled support)



NRAag, DCs: regional cuts in aggregate anti-agricultural bias (weighted ave. NRAs)



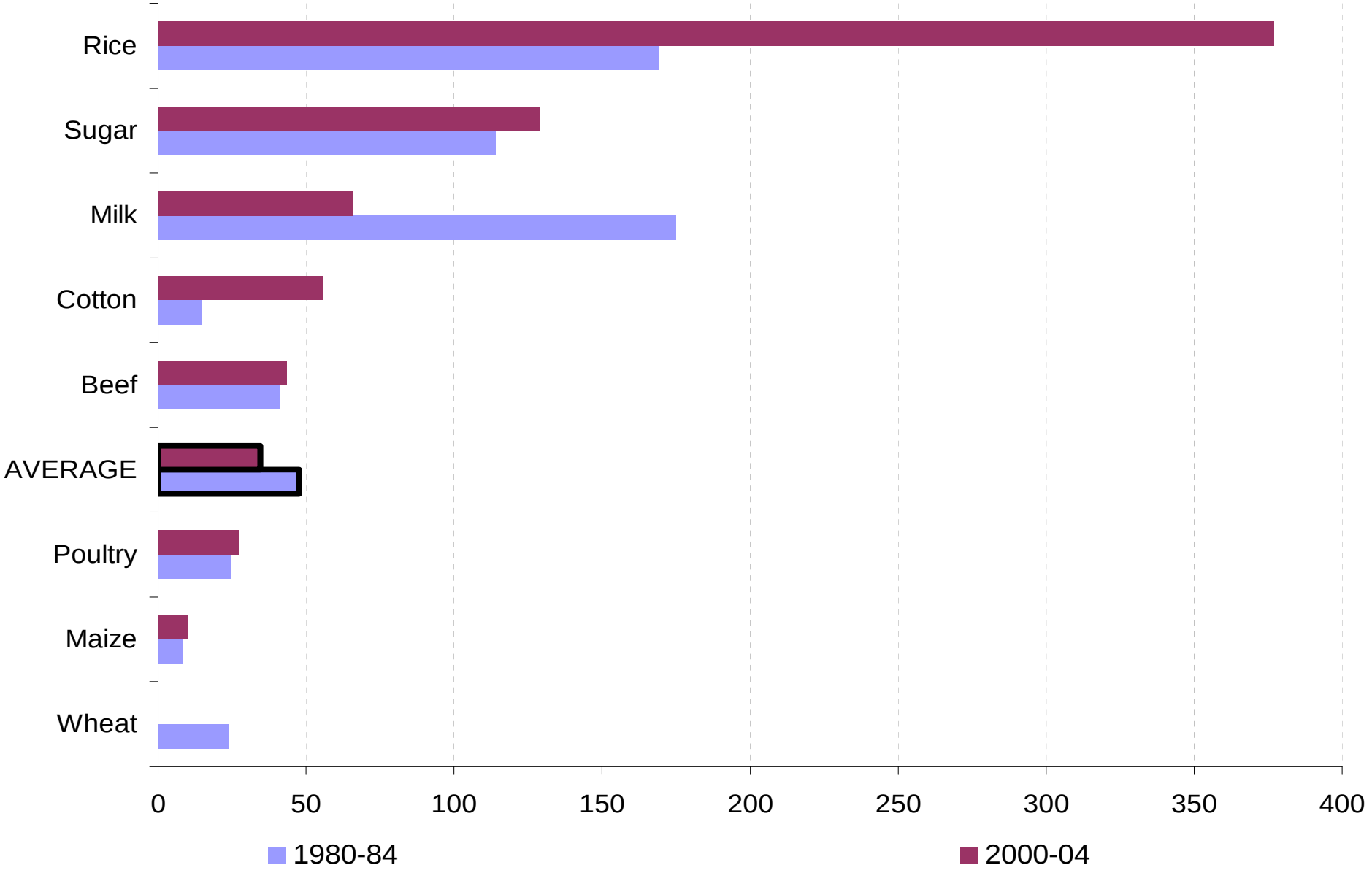
Anti-trade bias in DC agric policies has lessened since mid-1980s, but still persists



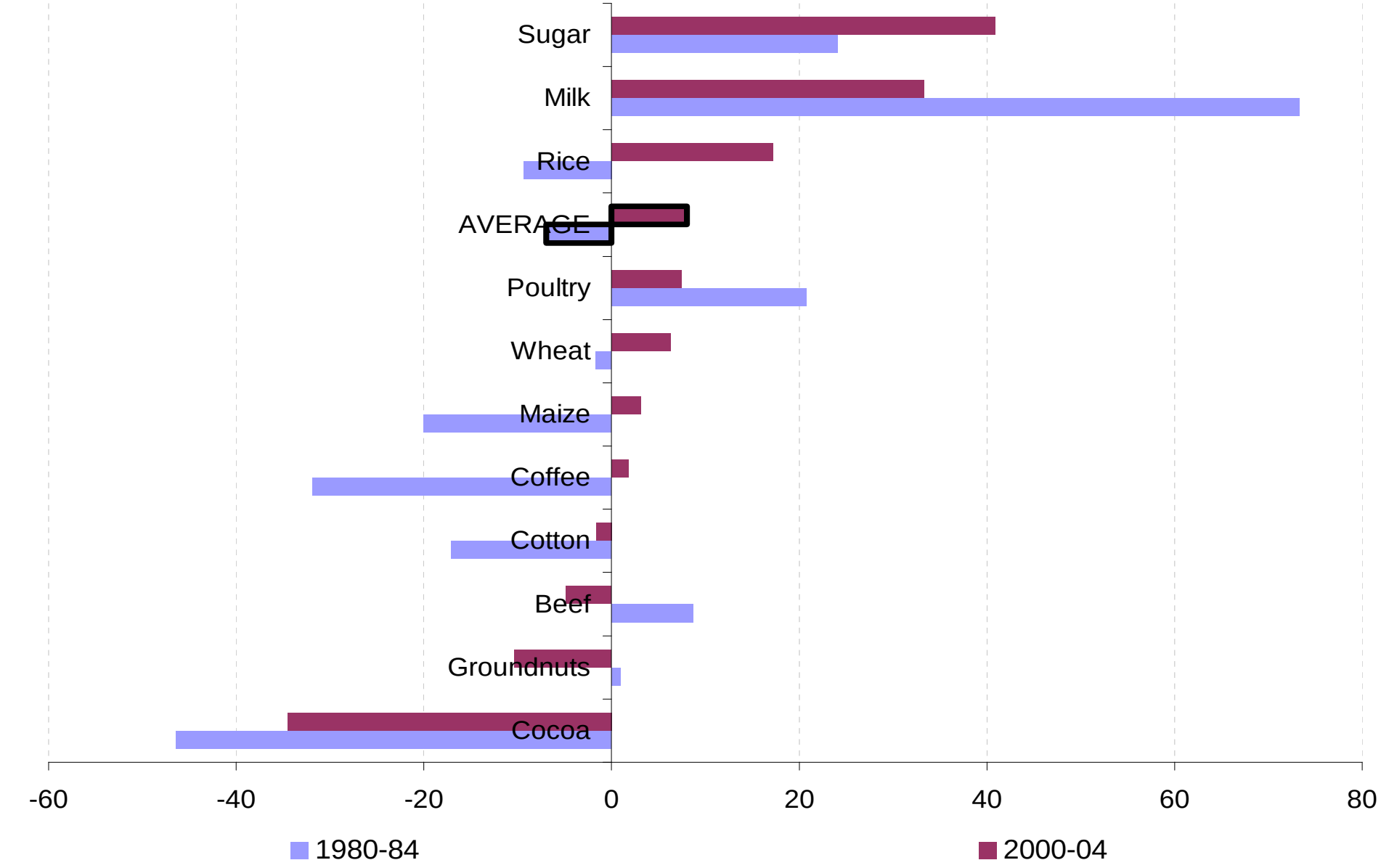
Dispersion in NRAs is still high

- Across countries
- And across commodities within countries (in addition to the aggregate anti-trade bias)
  - which means resources in agric are still far from efficiently allocated between or within **developing** countries, even though *average* NRAag is now close to zero
  - And the standard deviation of NRAs is still high in **high-income** countries too

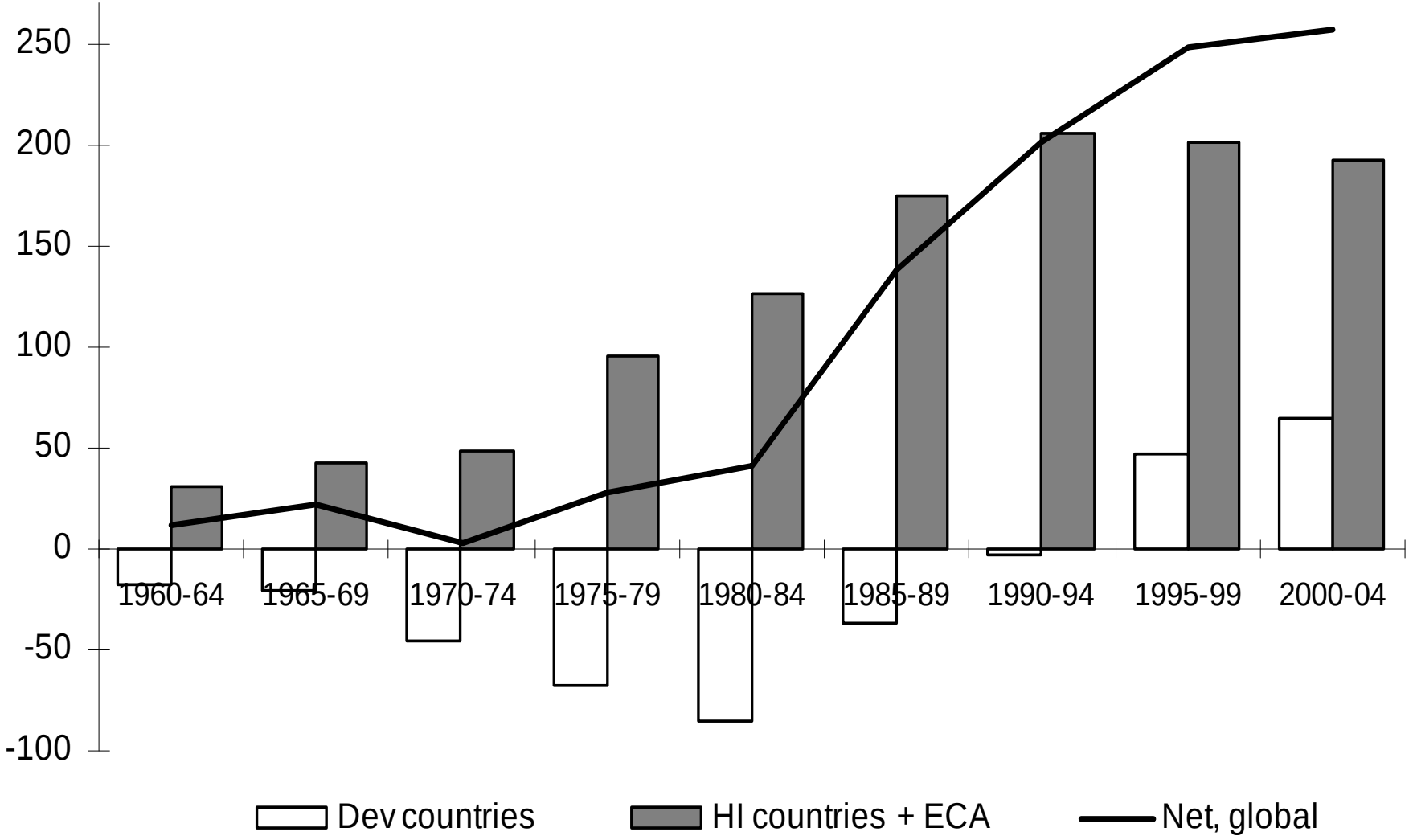
NRA by product in high-income countries



NRA by product in developing countries



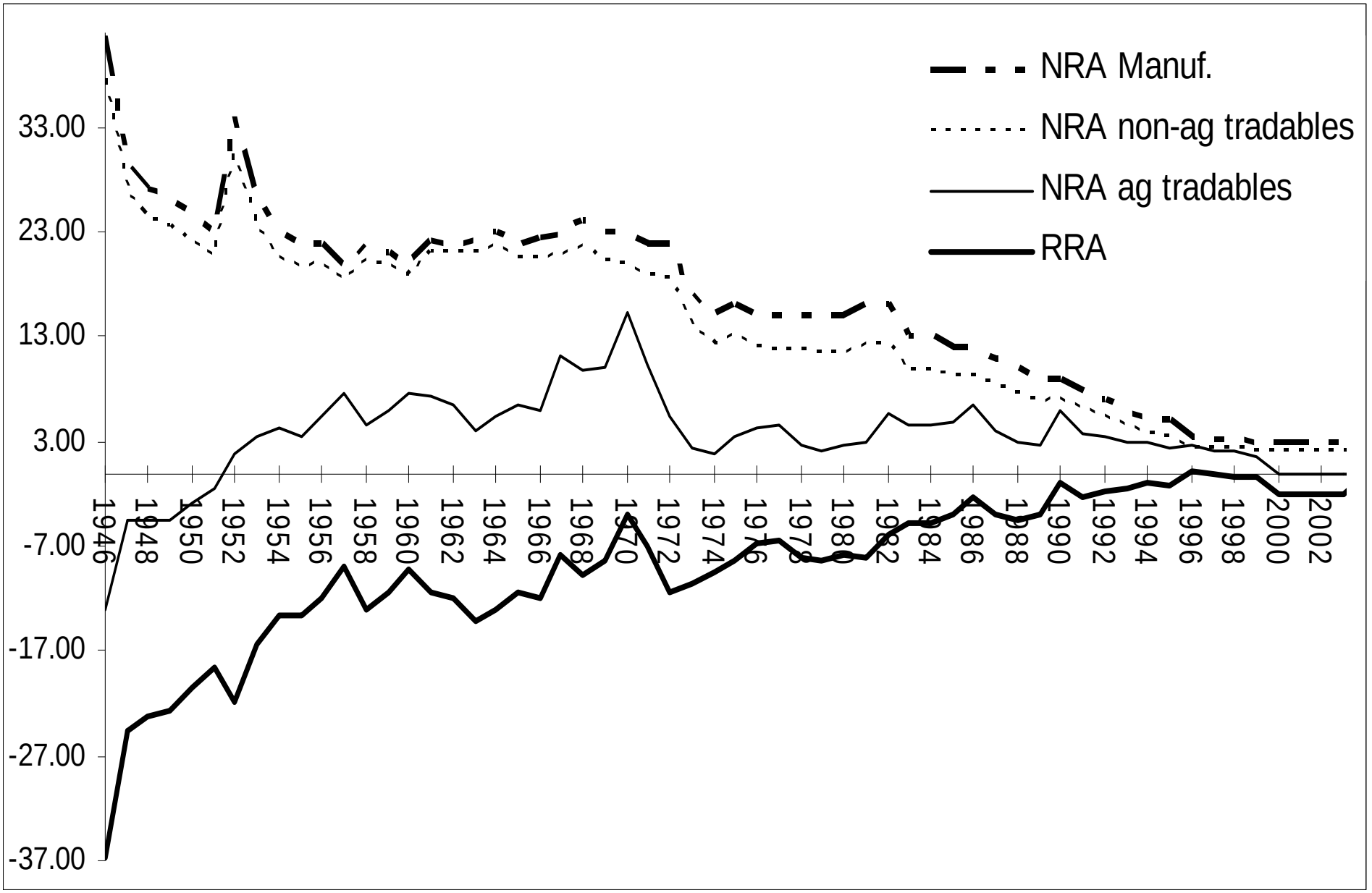
Gross subsidy equivalent of NRAs (current US$ billion): keeps growing



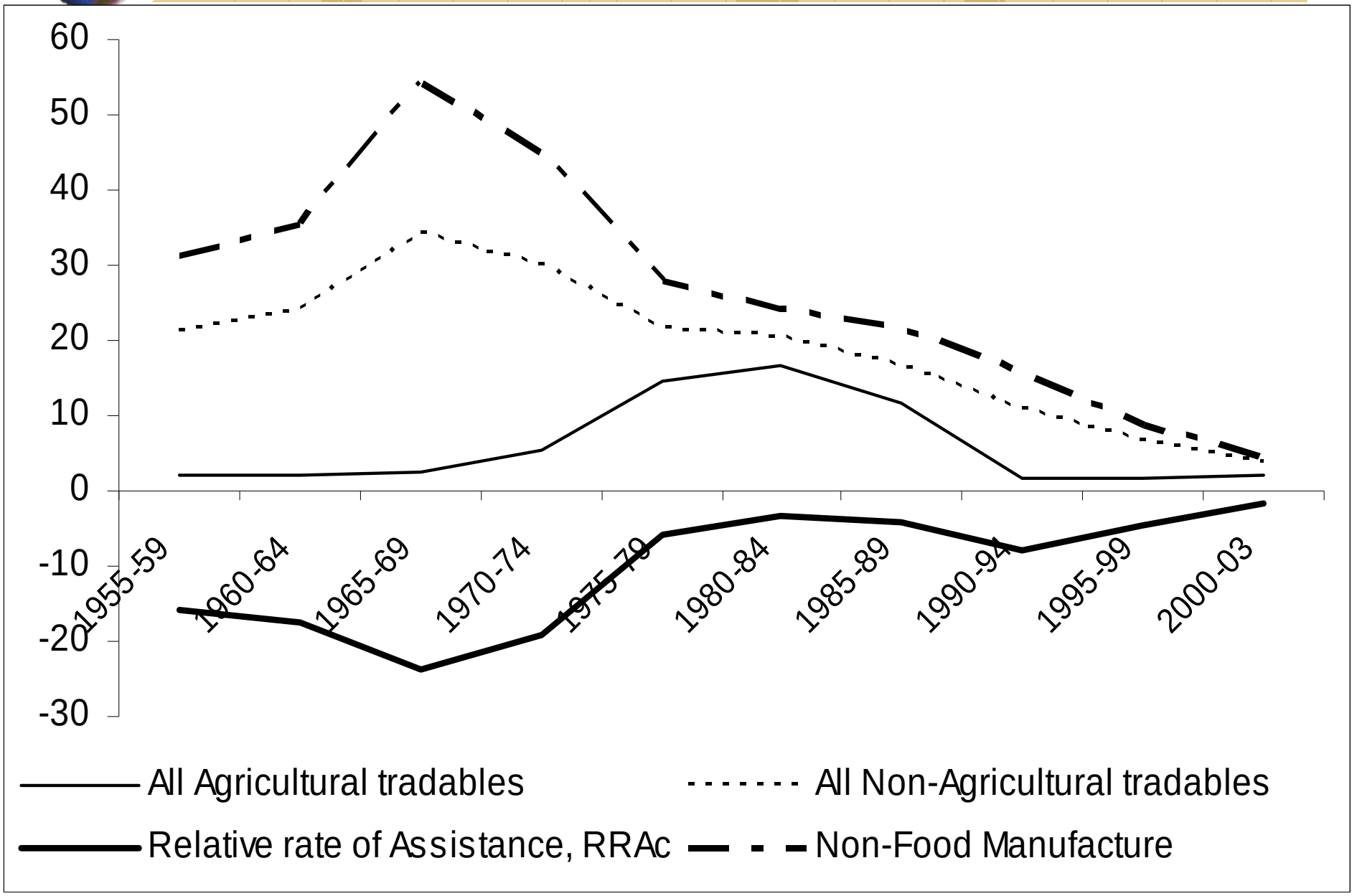
What about relative rates of assistance?

- Assistance to non-agric sectors can be as important as direct agric policies, in terms of encouraging/discouraging resource use in agriculture
- Consider Aust, NZ, and then developing countries, esp. China and India

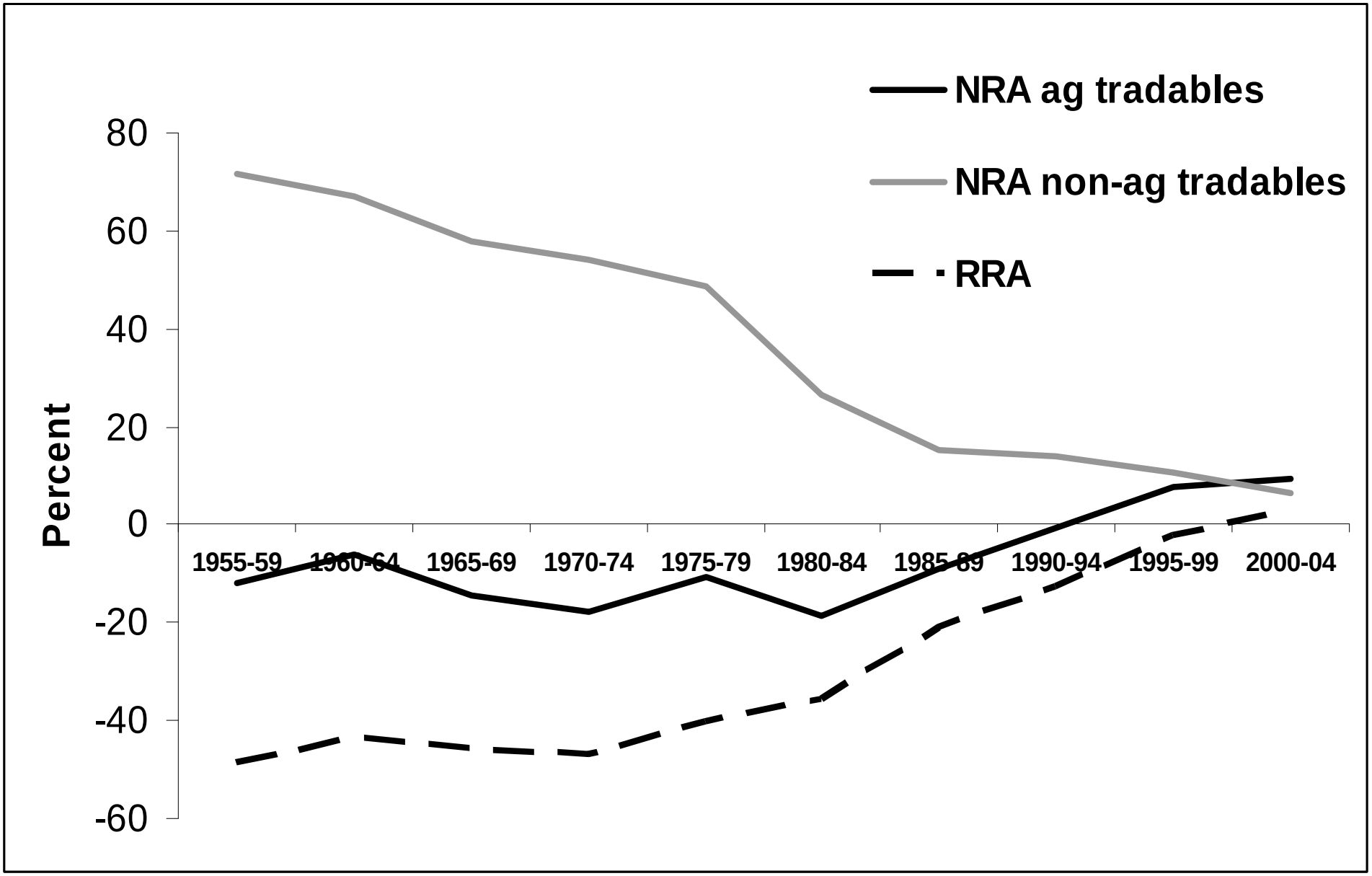
NRAs, ag vs. non-ag, Australia, 1946-2003



NRAs, ag vs. non-ag, NZ, 1955-2005

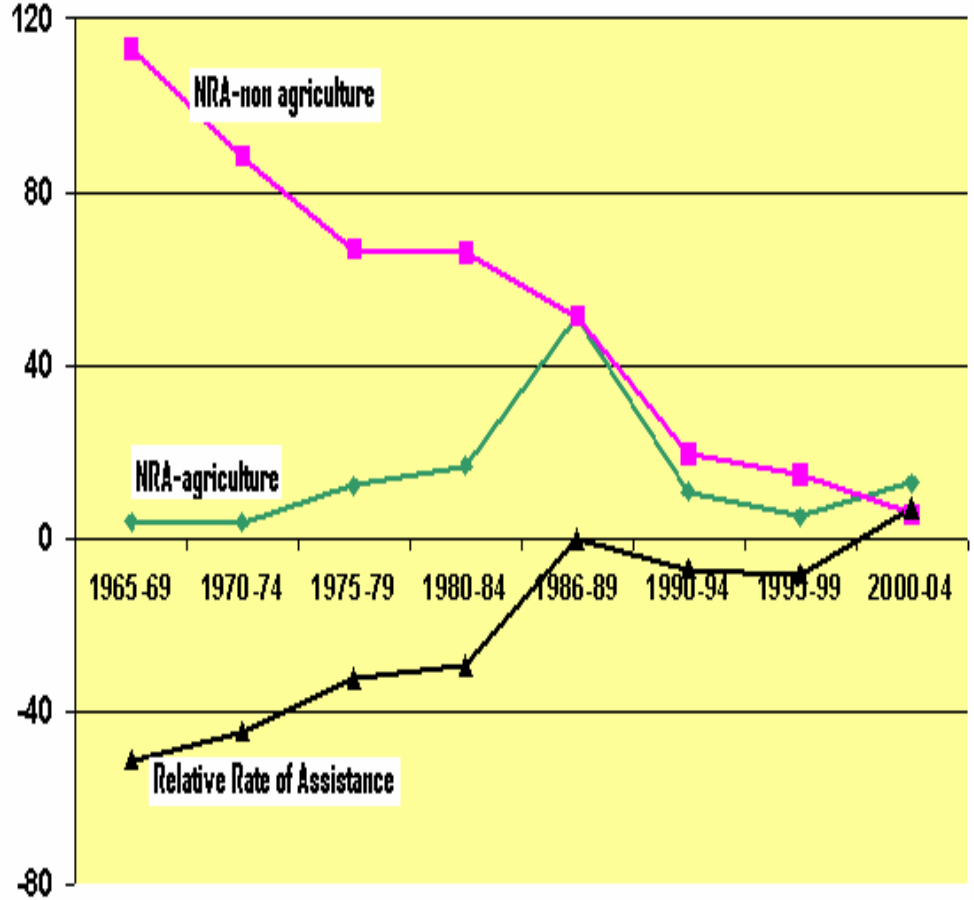


NRAs, ag vs. non-ag, DCs, 1955-2004 – disappearance of av. anti-agric bias

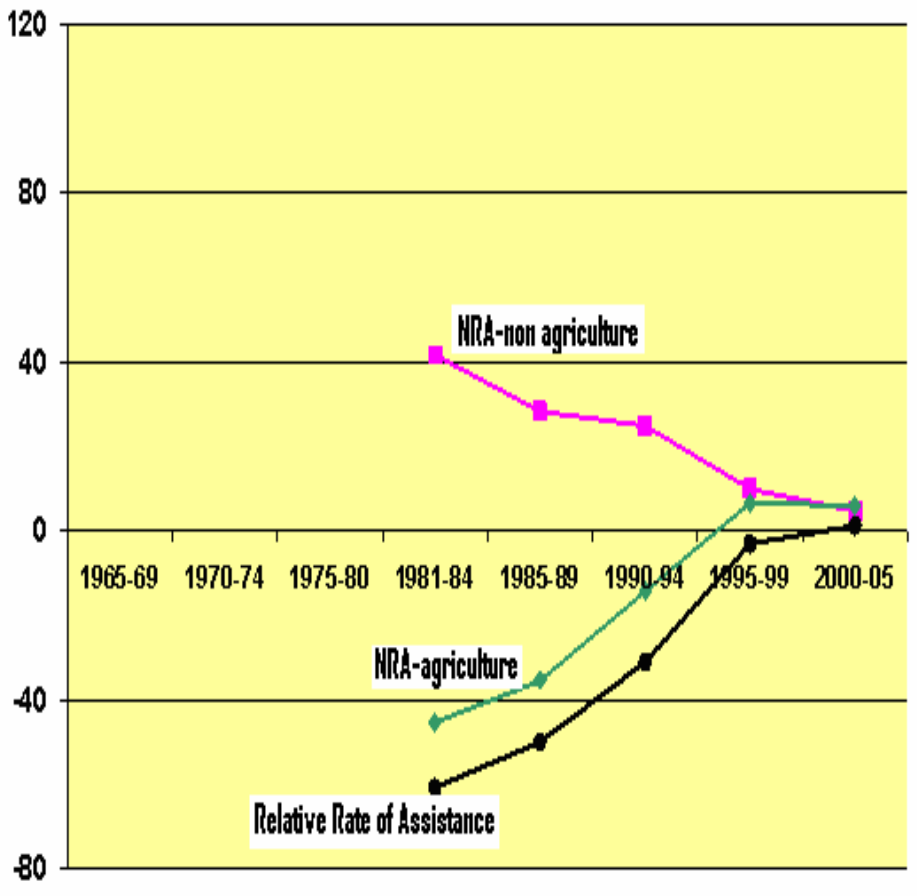


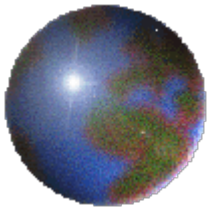
China & India: half of RRA disappearance is due to cuts in non-ag protection (now very low)

INDIA



CHINA





Second main course

New estimates of effects
of 2004 policies globally
(soon to be complemented
by national case studies)

Approach

- Using our new distortions database for 2004 and the Linkage Model of the global economy, we report effects of price-distorting policies on
  - international prices of ag and non-ag goods
  - farm output, exports and imports
  - domestic value added in ag and non-ag sectors

Methodology

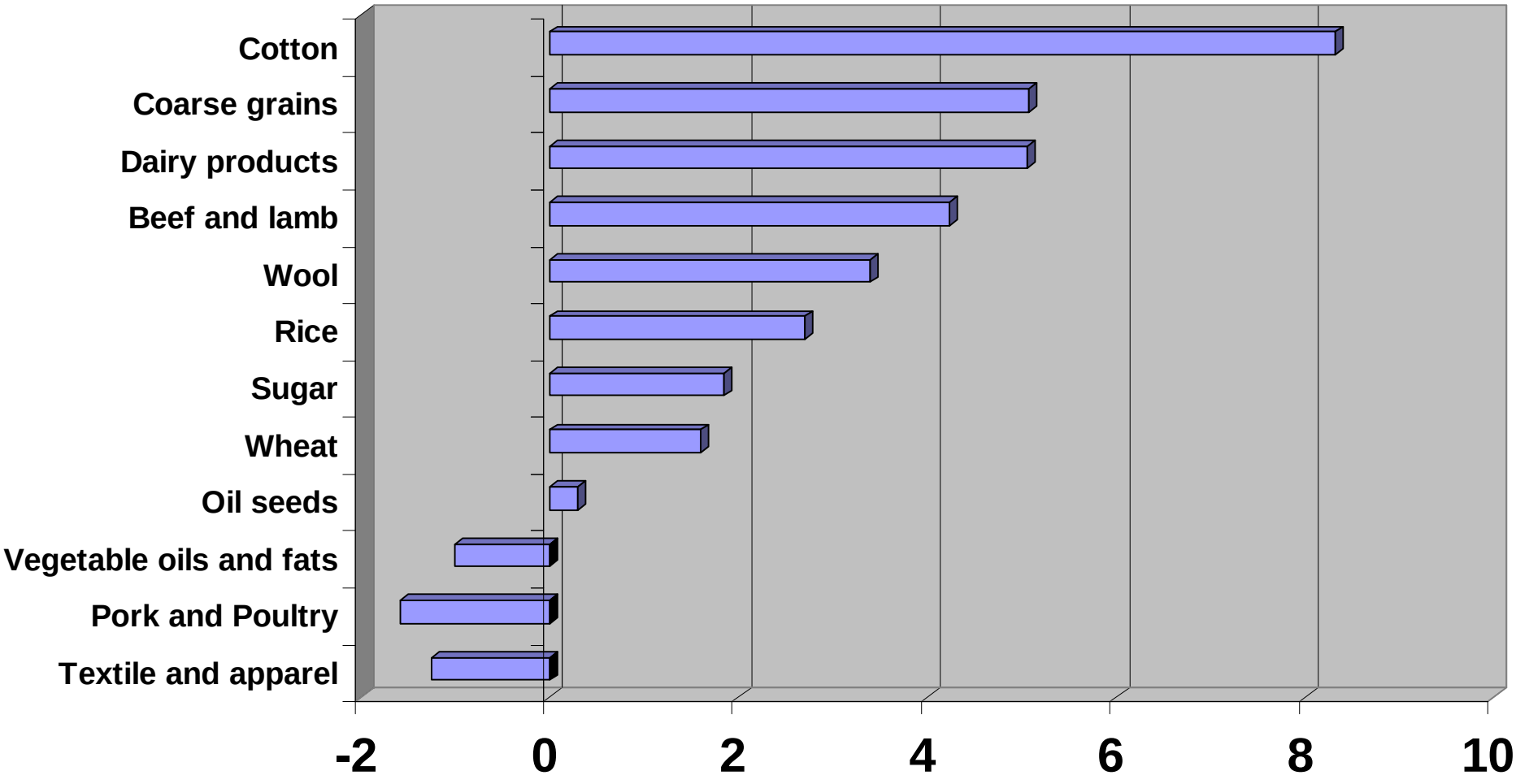
- First, we modify the pre-released Version 7 GTAP protection database for developing country agriculture
  - drawing on the World Bank project's country case studies for >50 large developing and transition economies
- Then we use the Linkage global CGE Linkage Model to generate effects from full liberalization in 2004 of all goods trade (incl. domestic agric taxes/subsidies) for all countries
  - and we repeat for full liberalization of just agric and lightly processed food trade, to show the relative contribution of farm sector policies

New agric distortions we insert in global model for 2004 (%)

	Import tariff	*Export subsidy*	*Prod'n subsidy*
High-income countries	11	1.7	1.0
European transition econs	11	3.9	-0.1
DCs: Africa	18	-0.4	-0.7
Asia	20	-0.2	1.5
Latin America	7	-4.4	0.1
WORLD	**12.5**	**0.4**	**0.5**

Int'l price changes (%): global lib'n

(combined index of Paasche and Laspeyres price indexes)



Sources of cost of policies to the global economy (%, 2004)

Due to policies in:	Agric & food policies	Other merch. tariffs	ALL GOODS SECTORS
High-income countries	47	5	52
Developing countries	20	28	48
WORLD	**67**	**33**	**100**

Sources of costs of policies to developing economies (%, 2004)

Due to policies in:	Agric & food policies	Other merch. tariffs	ALL GOODS SECTORS
High-income countries	63	37	100
Developing countries	75	25	100
WORLD	**70**	**30**	**100**

National relative to global welfare effects of full global lib'n of goods

New Zealand	5.5
Australia	0.8
Argentina	5.2
Brazil	2.3
Chile	1.3
Thailand	2.5
Vietnam	7.3
Africa	1.8

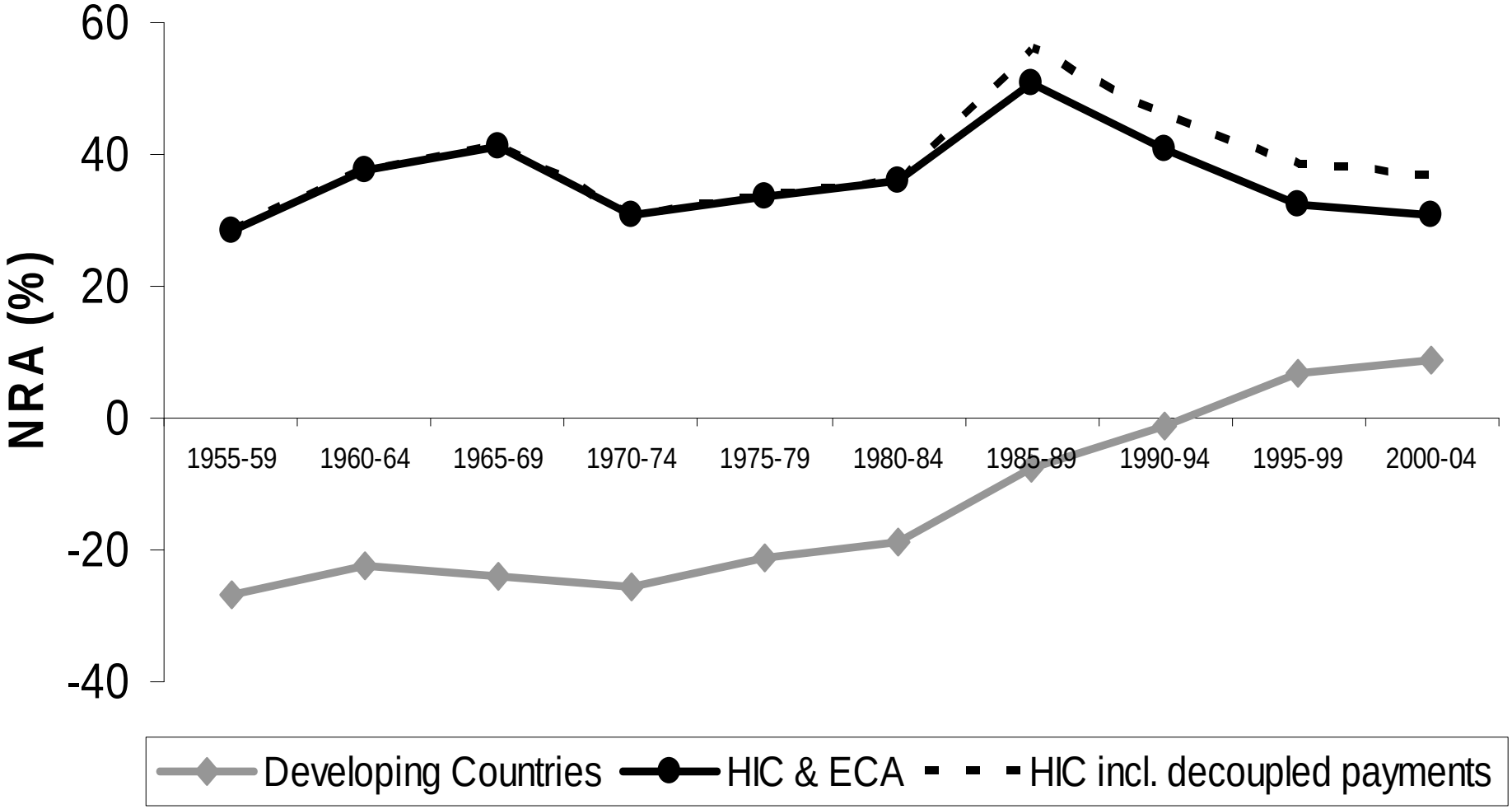
Changes in value of ag & food output & trade from all goods' global lib'n (%)

% changes in:	Output	Exports	Imports
All developing countries	***7***	***97***	***39***
All high-income countries	***-13***	***-5***	***37***
WORLD	***-2***	***38***	***38***

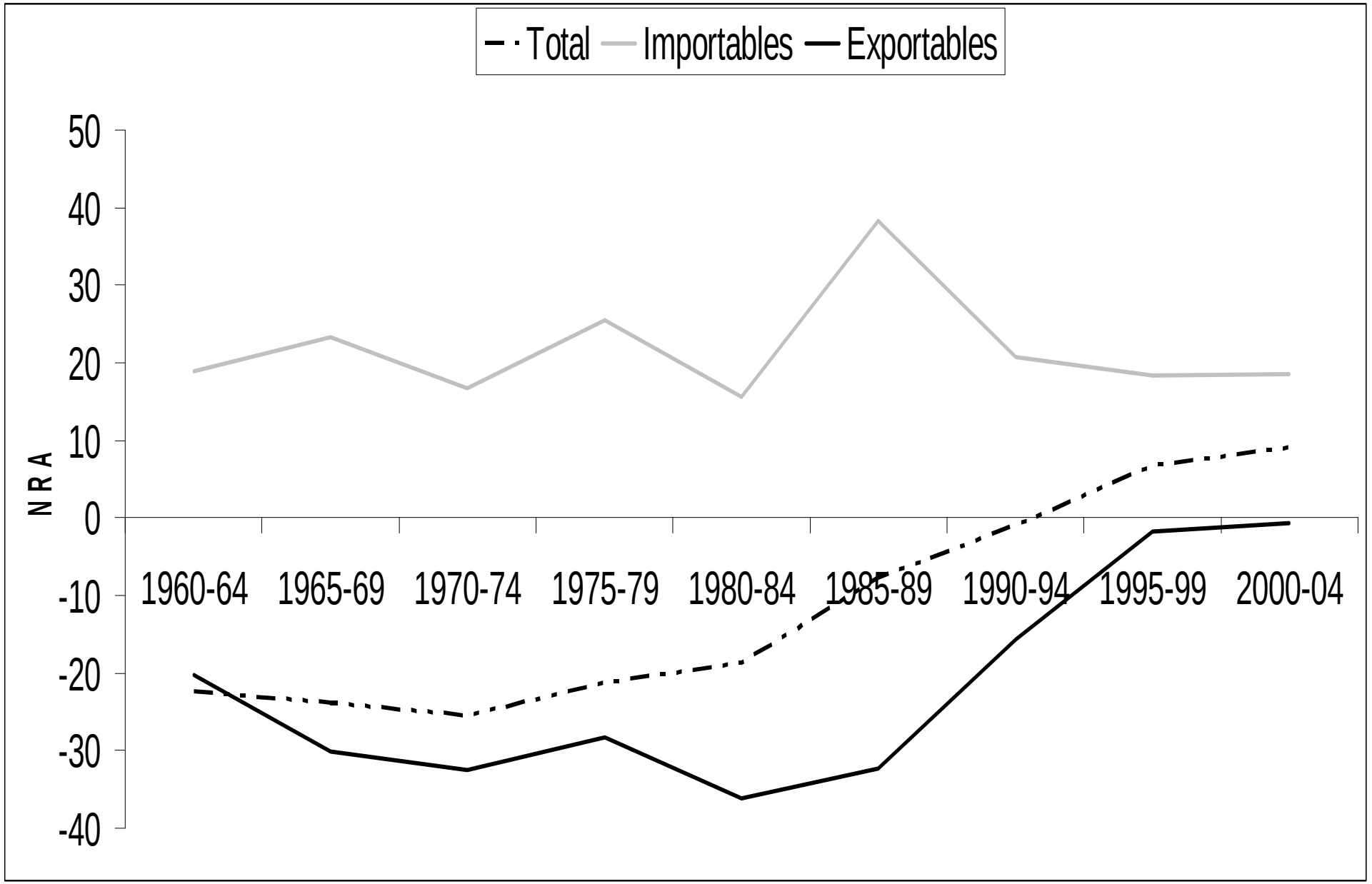
Changes in value of ag & food output & trade from all goods' global lib'n (%)

	Output	Exports	Imports
New Zealand	45	72	28
Australia	19	42	10
Argentina	40	99	84
Brazil	49	115	78
Chile	4	5	25
Thailand	16	123	83
Vietnam	4	43	63
Africa	6	98	40
All dev. countries	***7***	***97***	***39***
WORLD	***-2***	***38***	***38***

Consistent with NRA and RRA estimates for HICs and DCs as of 2004



… and with DCs' anti-trade NRAag bias



Changes in agric and non-ag sectoral value added from global lib'n (%)

	Agric-only lib'n		**All goods lib'n**	
	Agric VA	NonagVA	Agric VA	NonagVA
All developing countries	*5*	*1*	***6***	***2***
All high-income countries	*-14*	*0.2*	***-15***	***0.2***
WORLD	*-0.9*	*0.4*	***-1.2***	***0.3***

Changes in agric and non-ag sectoral value added from all goods' global lib'n (%)

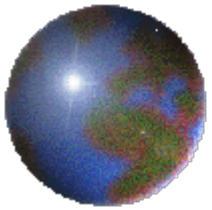
	Agric VA	Nonag VA
New Zealand	56	6
Australia	11	2
All dev. countries	***6***	***2***
Argentina	105	14
Brazil	46	3
Chile	5	2
Thailand	15	4
Vietnam	16	15

Agricultural value added effects of own vs ROW lib'n of all goods (%)

	Global lib'n	***Own-country lib'n***	***Rest-of-world's lib'n***
Australia	**11**	-4	15
Argentina	**105**	86	19
Brazil	**46**	4	42

Summary of global CGE results for 2004

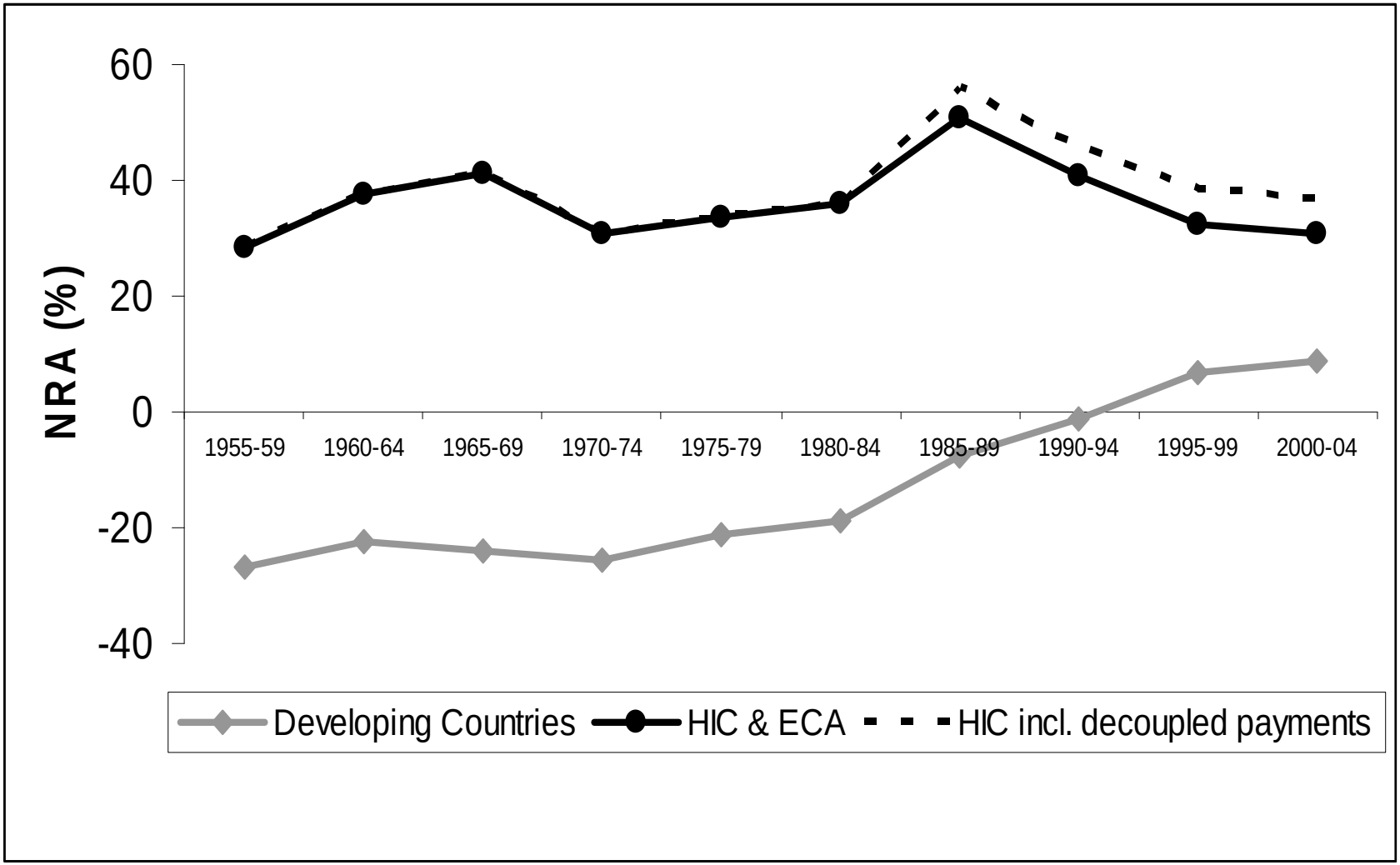
- Even though the previous strong anti-agric bias in developing country policies has all but disappeared *on average,* there's still a large welfare-reducing range of NRAs within and between DCs
  - including a persistent anti-trade bias in agric policies
- And developing country farmers are still strongly discriminated against by HIC agric policies
- With reform by both groups, int'l trade in agric products would rise by >1/3rd
  - 'thickening' food markets so they would be less volatile, thereby making national insulation less necessary
  - And raising some agric prices internationally, thereby making national import protection less necessary



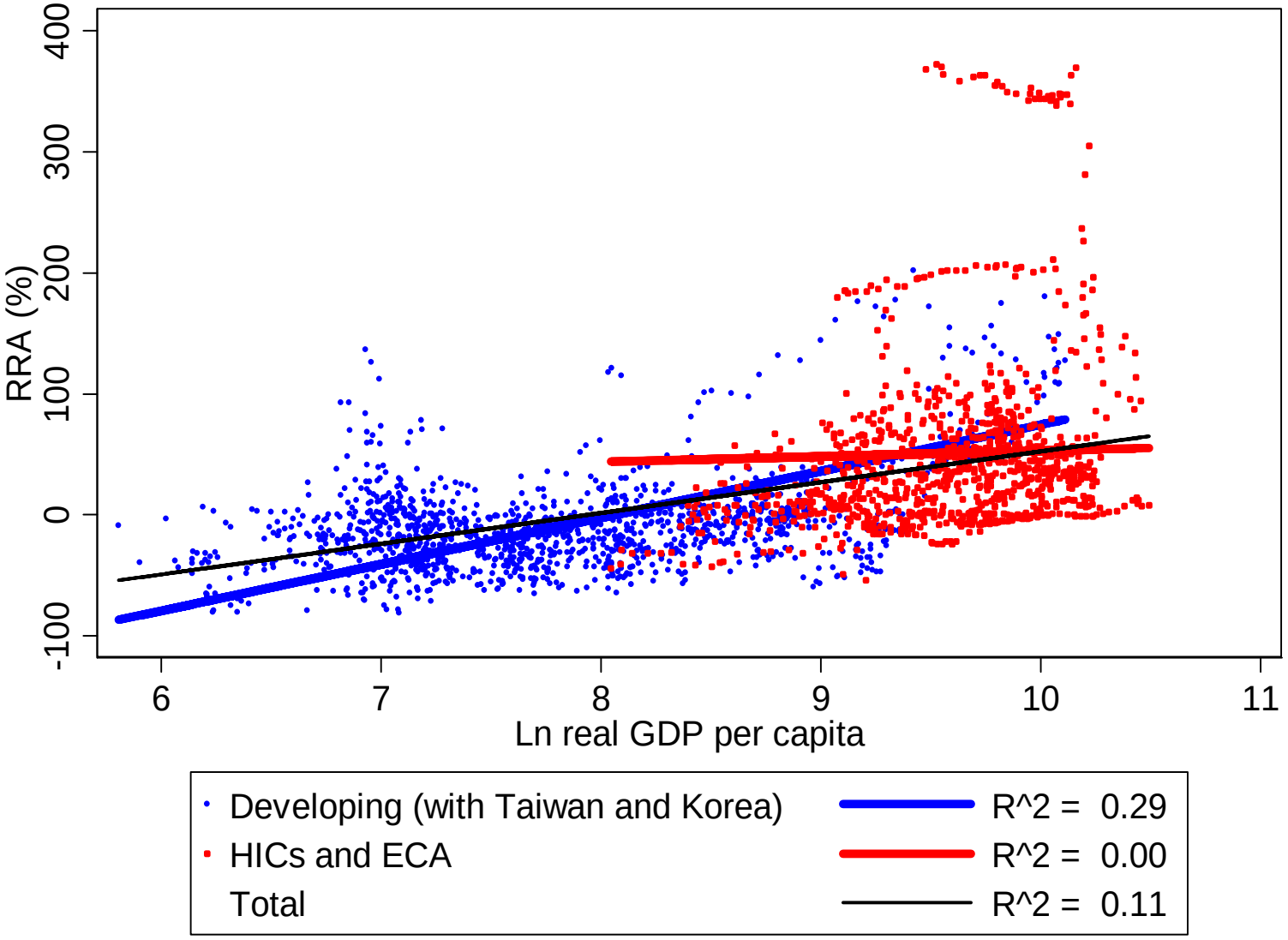
Dessert

Future policy trends
and prospects for
more reform

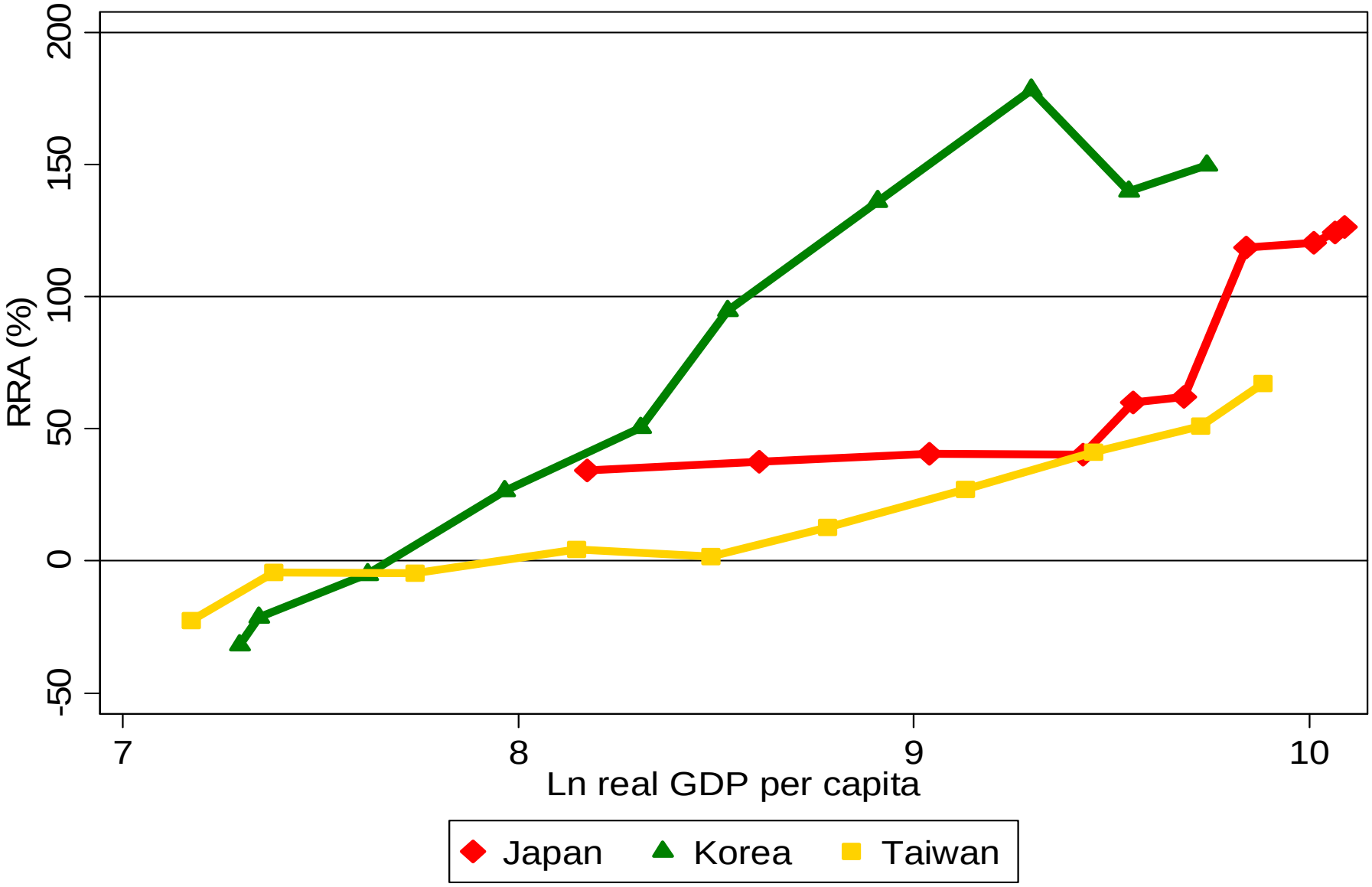
Will more DCs move to positive NRAs and RRAs, like higher-income countries did, as their incomes rise?



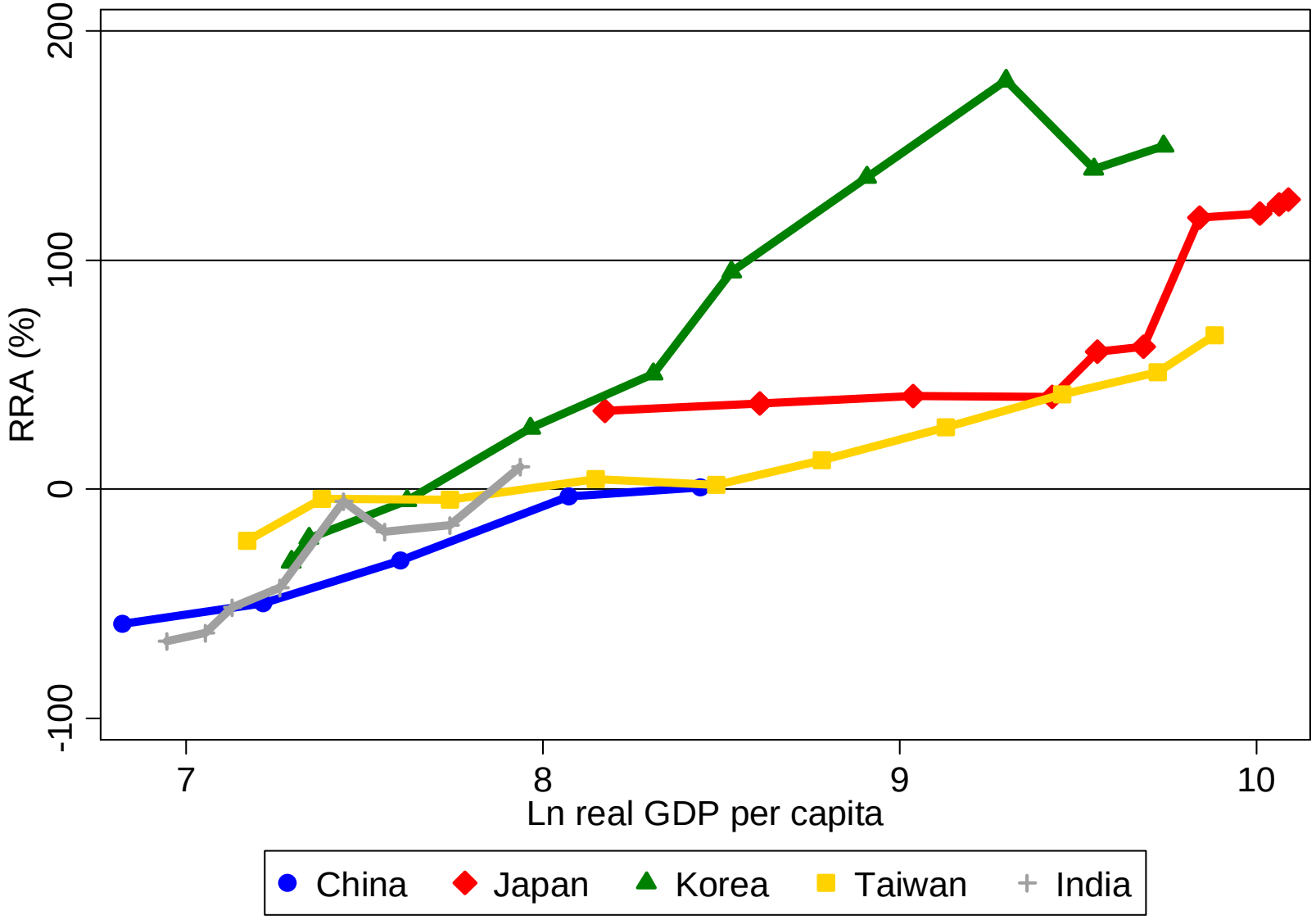
Tendency in the past for DCs (blue) to move to positive RRAs as their incomes rise



Korea and Taiwan followed Japan …



… so will China and India too, to avoid social unrest from widening urban-rural income gap?



China's RRA trend helps explain two apparent paradoxes

- China was expected to experience declining self sufficiency in food and fibre, given its relatively low endowment of agric land per worker and rapid industrialization
  - … yet China has remained close to self sufficient in farm products over the past three decades
- China's commitments under WTO to cut agric tariffs was expected to add to rural poverty
  - … yet farm household incomes have been *rising* in all deciles and in all regions of that country

China's trade in 11 agric products
(valued at undistorted border prices)

	1980s	**1990s**	**2000-05**
% share of prod'n exported	1.3	1.7	2.1
% share of cons'm imported	2.2	1.5	3.3
% self-sufficiency	99	100	99

Are WTO bindings helping to prevent agric protection growth in developing countries?

- Most DCs have very high binding overhang in agric (gap between WTO-bound and applied tariff or domestic subsidy), following the Uruguay Round Agreement on Agriculture
- China has little overhang on tariffs *on average*, but plenty where it matters, and also lots of overhand in binding of domestic farm subsidies

Simple average ag. tariffs and weighted average rates of assistance to agric (%)

	Bound ag tariff, 2005	MFN applied ag tariff, 2005	NRA, agric importables, 2000-04
China	**16**	**16**	7
India	**114**	**38**	16
Pakistan	**96**	**16**	-2

Even China's WTO commitments allow scope for agric protection growth

- Out-of-quota bound tariffs are high (currently prohibitive):
  - 65% for grains
  - 50% for sugar
  - 40% for cotton
- Allowed up to 8.5% product-specific domestic support, plus another 8.5% non-product-specific assistance (or more if 'decoupled' somewhat from production)
  - Currently applying very little of that 17% binding

What is the food price hike of 2007 going to do to Asian NRAag?

- The encouragement of biofuel demand in high-income countries, in the wake of the petroleum price hike, is contributing to the food price spike
  - Which may be more prolonged than usual
- Fearing a consumer backlash, India and some other Asian governments are not transmitting the food price hike domestically
  - i.e. *reducing* NRAag, denying farmers a chance to benefit from the current high prices

Yet at the same time Asian DC govts. are insisting on 'Special Product' exceptions in Doha agric talks

- They just want policy space, or do they want to become more protectionist of their farmers in the longer term?
- Will it help or hurt the poor?
- Will it lead to OECD countries demanding more exceptions for 'Sensitive' farm products?
  - If so, that could eliminate most of the potential gains from agric reform under Doha

Policy implications

- If more and more DCs are inclined to assist their farmers as per capita income rises, better to do it directly rather than via trade-distorting measures (as HICs are at last beginning to do)
  - And likewise in assisting poor consumers when food prices spike
- A Doha agreement at WTO that reduced agric import tariffs in DCs would also reduce NRAag dispersion within and between countries, and their anti-trade bias
  - But ‘Special’ and ‘Sensitive’ product exceptions would neuter that

Policy implications

- With today's high int'l agric prices, a Doha agric agreement to cut legally bound rates would require no immediate cuts to applied protection and subsidy rates
- But with no Doha agreement, the counterfactual may not be a continuation of present NRAs but rather rising agric NRAs and RRAs in rapidly developing countries

Thanks!

- www.worldbank.org/agdistortions
- www.worldbank.org/WDR2008
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