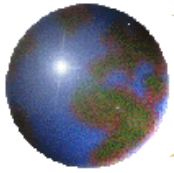


Trade Policy for Loss Aversion: Evidence from Agriculture

Kym Anderson and Signe Nelgen
University of Adelaide

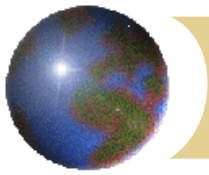
55th Annual Conference of the Australian Agricultural and Resource
Economics Society (AARES), Melbourne, 9-11 February 2011

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Views expressed are the authors' alone and not necessarily those of the World Bank or its Executive Directors.



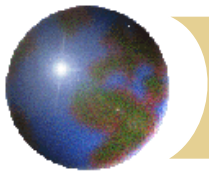
The issue

- ❖ Governments frequently respond to changing market circumstances by altering their trade barriers in order to stabilize the domestic market for politically sensitive products
 - ❖ e.g., when grain prices spiked in 2008, some key food-surplus countries restricted or temporarily banned rice or wheat exports
 - which exacerbated the int'l price spike
- ❖ Such beggar-thy-neighbor behavior makes it more likely other countries will follow suit, thus generating an int'l public 'bad': greater instability in int'l agric markets



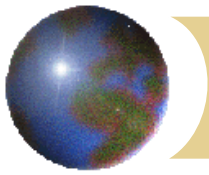
The irony

- ✚ In this afternoon's mini-symposium, Martin and Anderson:
 - ✚ Showed such exporter responses are futile if importers also try to avoid transmitting an upward int'l price spike to their domestic market (by lowering tariffs), and
 - ✚ Estimated that between 1/4th and 1/3rd of the recent int'l grain price spikes were due to such trade policy responses by both food-surplus & food-deficit country groups



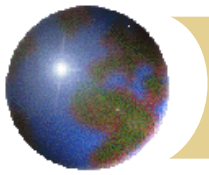
Questions for this paper

- ❖ **Why** do govts. so intervene, if it does little to stabilize their domestic prices **and** it exacerbates int'l price instability?
- ❖ In so intervening:
 - ❖ Do developing countries (DCs) differ from high-income countries (HICs) in such trade interventions?
 - ❖ Do trade interventions of food-surplus DCs differ from those of food-deficit DCs?



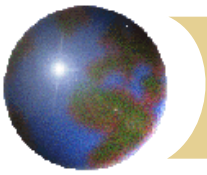
Political economy theory

- ✦ **Hypothesis 1:** Governments alter trade barriers to partly stabilize their domestic markets so as to reduce real income losses for politically influential groups
- ✦ Such loss-averting trade policy reactions have been shown by Freund & Özden (*AER* 2008) and by Tovar (*JIE* 2009), building on the pioneering work of Grossman & Helpman (*AER* 1994), to be consistent with utility maximization by governments
 - ✦ ... if govts. give highest weights to significant influential domestic groups who would lose from a major market shock (and implicitly give low or zero weights to foreign groups)



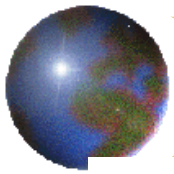
Political economy theory (continued)

- ✪ Martin and Anderson show that such a govt. welfare function can reduce to an equation suggesting the govt's partial adjustment to an exogenous int'l price shock is given by 1 minus the coeff. of price transmission
 - ✪ Provides an economic rationale for incomplete transmission of int'l price changes to domestic market (see next slides for evidence)



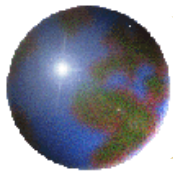
Evidence of partial price insulation when int'l food prices fluctuate around trend

- ⊕ Farm product nominal rates of assistance (NRAs) tend to be highly correlated with corresponding consumer tax equivalents (CTE)
 - ⊕ i.e., trade policy instruments dominate, so we can focus just on NRAs
- ⊕ NRAs (hence also CTEs) are strongly negatively correlated with movements in pertinent int'l price
- ⊕ On average, for the most-traded farm products, **barely half** the change in pertinent int'l price is transmitted to domestic markets within one year
- ⊕ Tendency hasn't diminished over the decades



Rice NRA for South Asia, 1970-2008

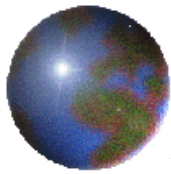




Short-run price transmission elasticity

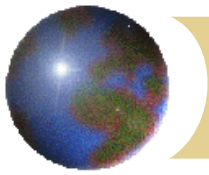
Globally, 1985-2007

Rice	0.52
Wheat	0.47
Maize	0.57
Sugar	0.31
Cotton	0.57
Coffee	0.71
Beef	0.68
Pork	0.49



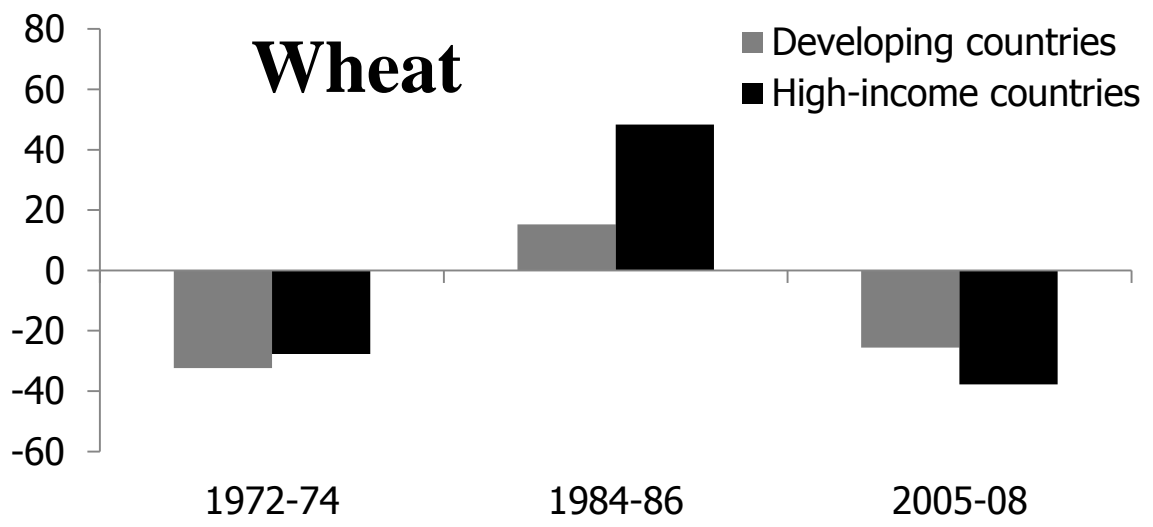
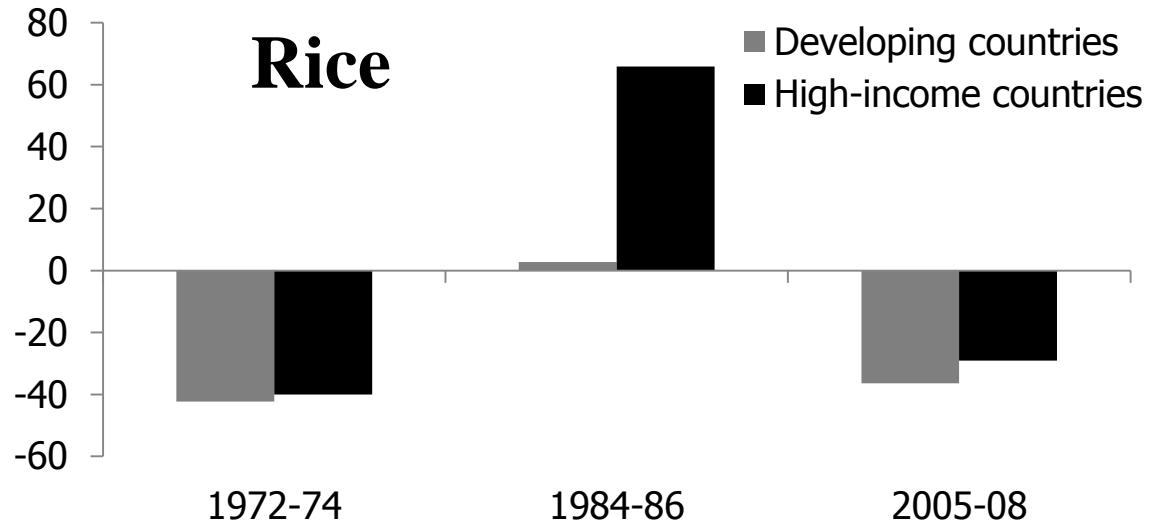
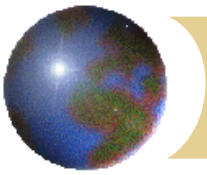
Annual deviation of national NRA around trend *(percentage points)*

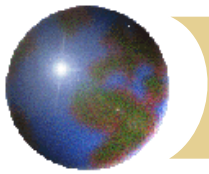
	NRA deviation (unwtd av. of national)		<i>NRA (%)</i> <i>global av.</i>
	1965-84	1985-04	<i>1985-04</i>
Rice	37	103	28
Wheat	56	65	18
Maize	43	41	7
Sugar	132	116	42
Cotton	35	32	-5
Coffee	41	27	-12
Milk	200	137	88
Pork	90	62	3



Political economy theory (continued)

- ❖ **Hypothesis 2:** Governments of DCs alter their trade barriers more when int'l prices spike **up**, and govts of HICs intervene more when int'l prices spike **down**
 - ❖ ... because high political weight given to food consumers and low weight to farmers in DCs, esp. in food-surplus countries, and conversely in HICs
- ❖ Initial glance at evidence, from estimates in World Bank's agric distortions database for 75 countries and numerous products
 - ❖ See www.worldbank.org/agdistortions



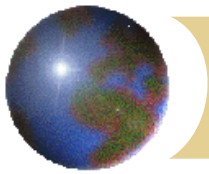


% change in NAC from previous non-spike period:
HICs alter their trade barriers more than DCs if P_w falls

***Downward
spike period:***

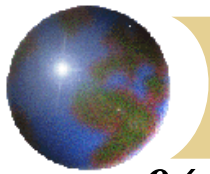
1984-88
(vs 1976-84)

	DCs	HICs
Rice	25	84
Wheat	7	42
Maize	10	18
Soybean	7	31
Sugar	35	50



% change in NAC from previous non-spike period:
**HICs altered their trade barriers less than DCs when P_w rose
in 2004-08, but only for soybean in 1972-74**

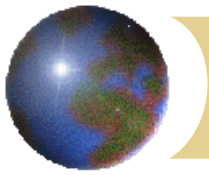
<i>Upward spike period:</i>	1972-76		2004-08	
	(vs 1965-72)		(vs 1988-04)	
	DCs	HICs	DCs	HICs
Rice	-6	-13	-89	-19
Wheat	-18	-33	-16	-11
Maize	-9	-12	na	na
Soybean	-18	3	na	na
Sugar	-44	-60	na	na



% change in NAC from previous non-spike period:

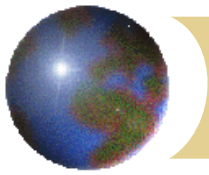
**When P_w rises, food-surplus DCs tend to
lower NAC more than do food-deficit DCs**

<i>Upward spike period:</i>	1972-76 (vs 1965-72)	2004-08 (vs 1988-04)
	DCs	DCs
Rice importers	-7	-9
Rice exporters	-14	-22
Wheat importers	-7	-22
Wheat exporters	-21	-14



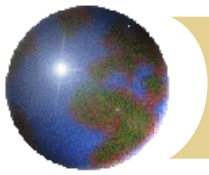
Summary of initial findings

- ⊕ Partial insulation is practiced by **both** food-exporting and food-importing countries, and by both HICs and DCs, when int'l prices deviate significantly from trend
 - ⊞ ... Consistent with Grossman/Helpman-based political economy theory
- ⊕ Govts of DCs tend to alter their trade barriers more when int'l prices spike **up**, and govts of HICs intervene more when int'l prices spike **down**
 - ⊞ ... Consistent with higher political weight given to food consumers than to farmers in DCs, esp. in food-surplus countries when P_w rises, & conversely in HICs



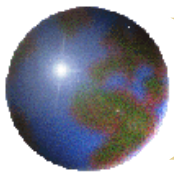
Further policy questions

- ❖ Why aren't more-efficient income-stabilizing policies used (generic social safety nets, tax incentives to encourage taking out insurance, contingent targeted cash payments, ...)?
- ❖ Collective action problem could then be addressed through WTO?
 - ❖ Needs multilateral agreement to desist from using trade measures to insulate domestic markets
 - involving not only reductions in current 'binding overhang' on agric import tariffs, but also discipline on ag export restrictions

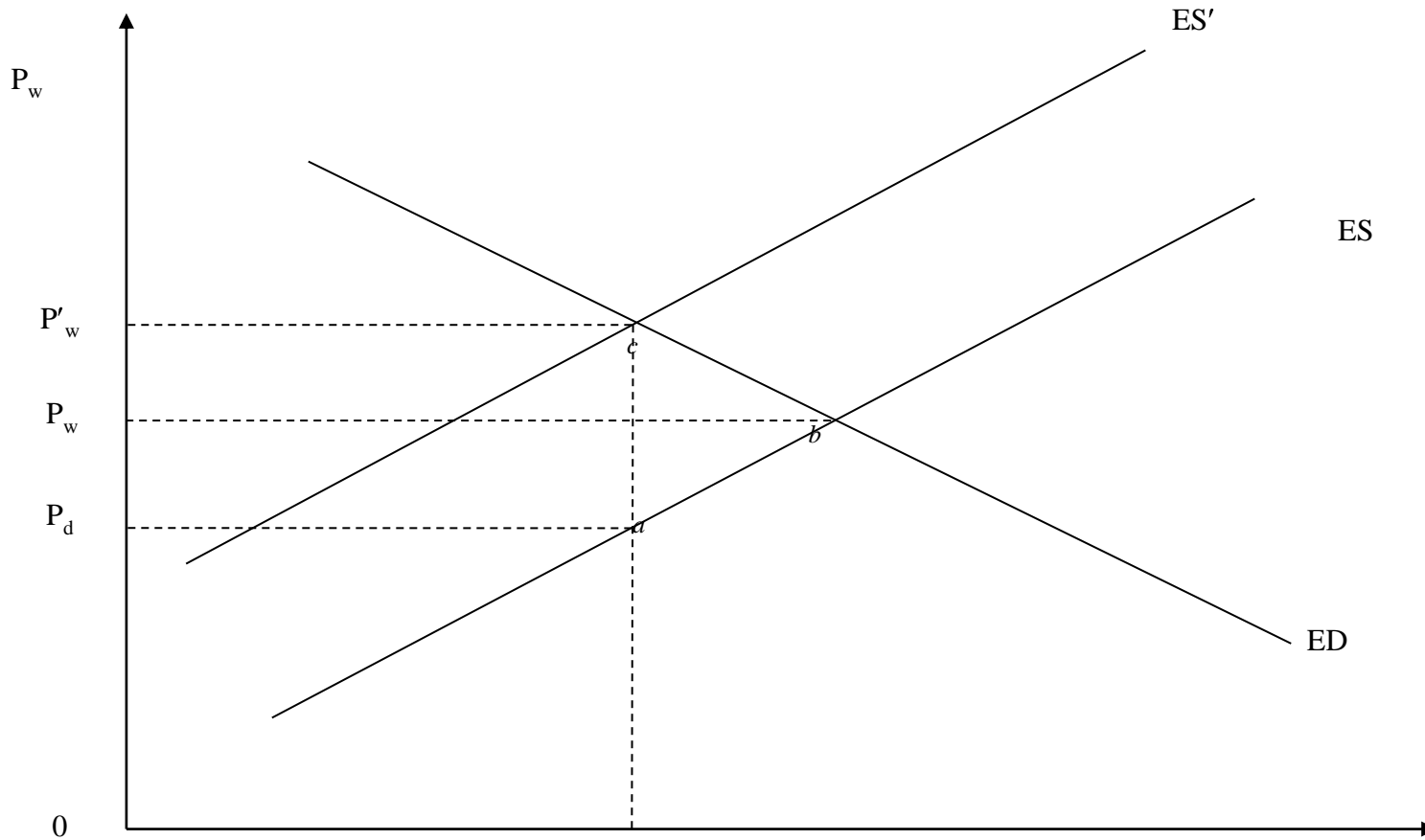


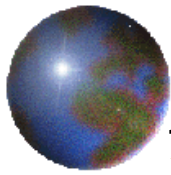
Background paper summarizing pertinent price distortions estimates

- ✿ Anderson, K. and S. Nelgen, “Trade Barrier Volatility and Agricultural Price Stabilization” , CEPR Discussion Paper 8102, London, and World Bank Policy Research Working Paper 5511, Washington DC, December 2010
- ✿ NRA estimates are available at www.worldbank.org/agdistortions

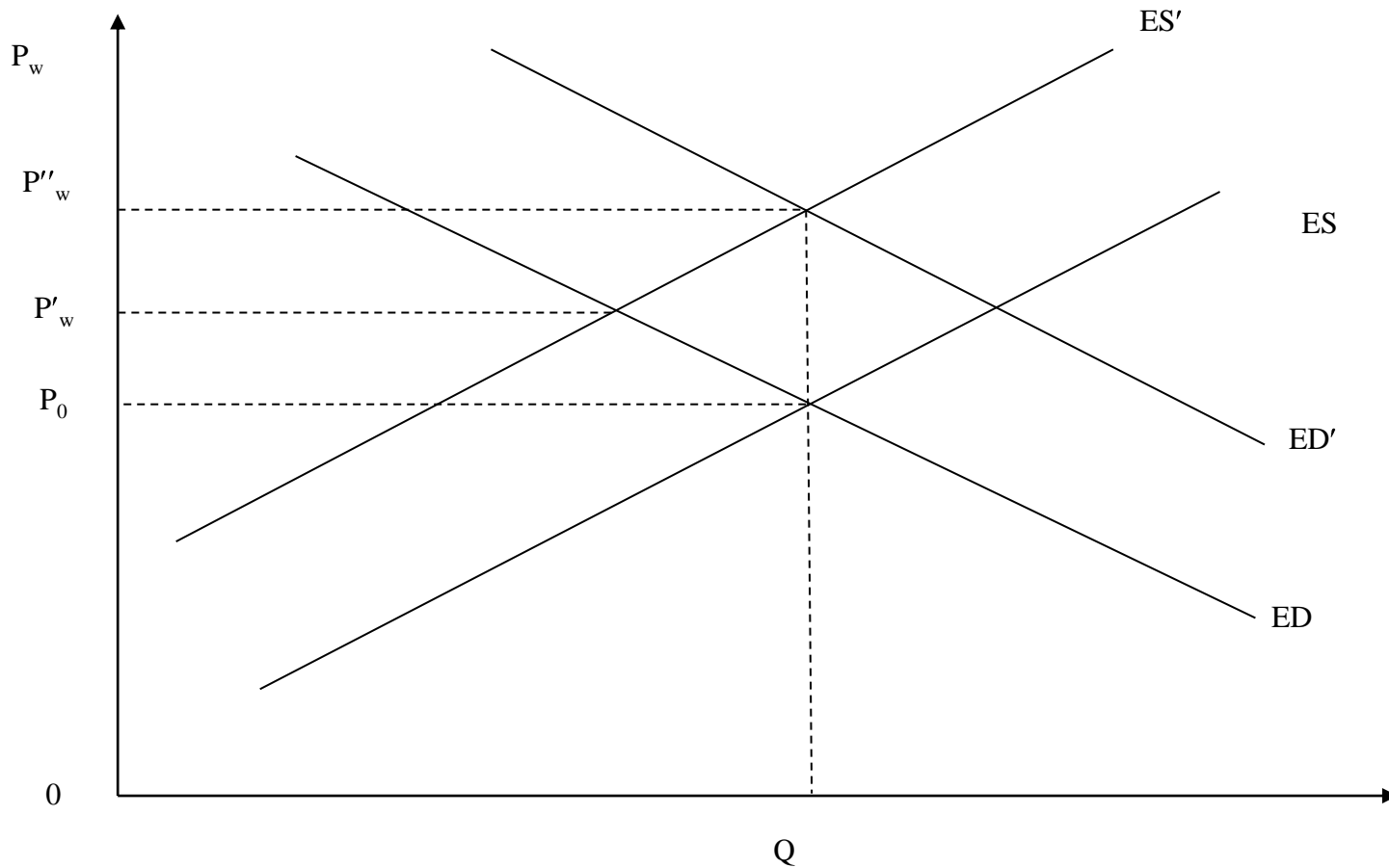


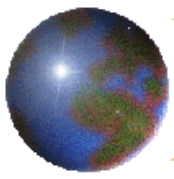
Impact on int'l product market of an export barrier increase



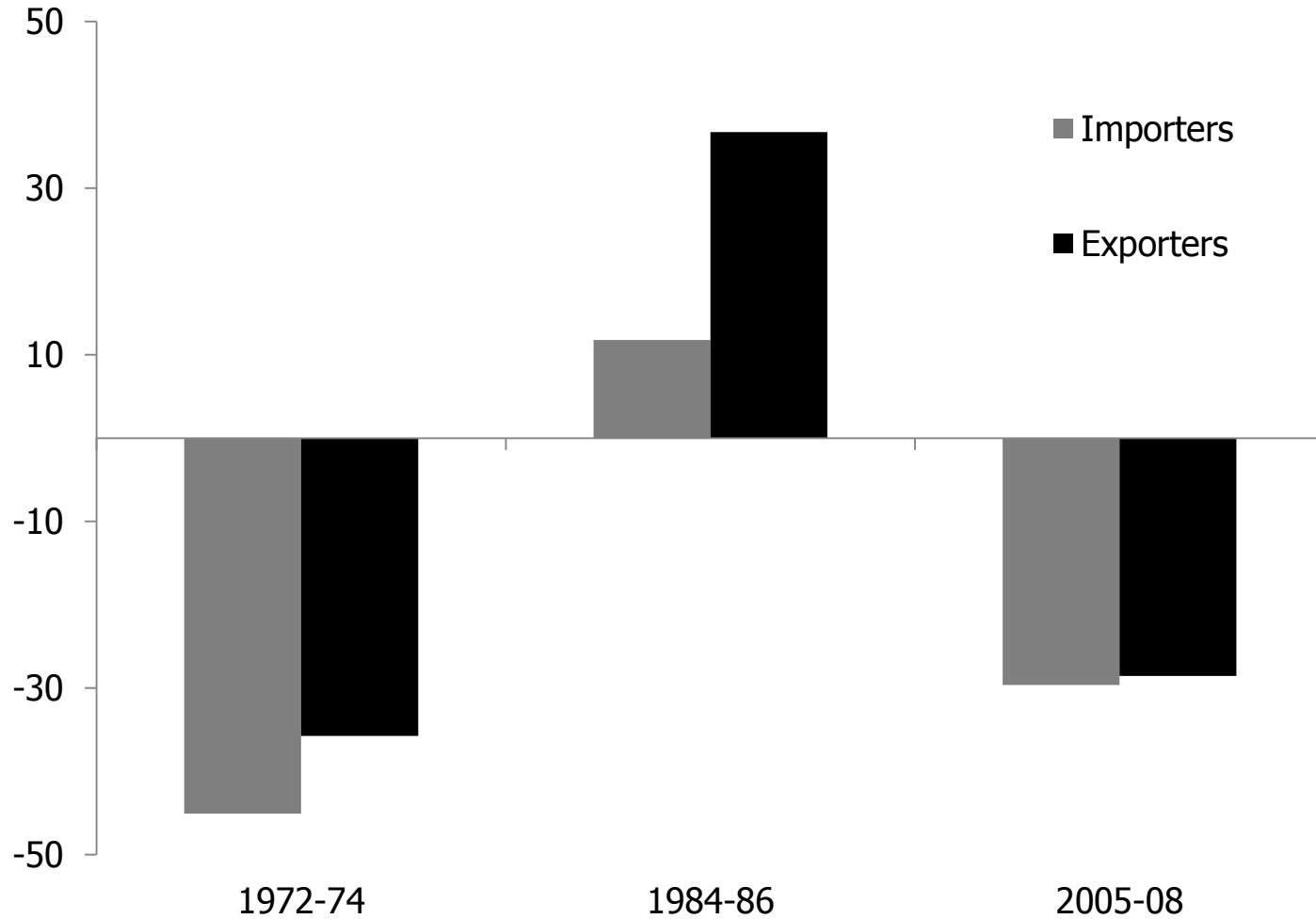


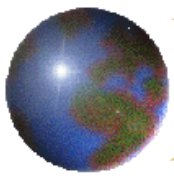
Export barrier increase with exactly- offsetting lowering of import barriers





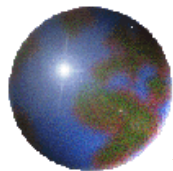
% change in NAC for rice in price-spike periods (importers vs exporters)





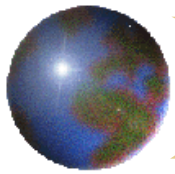
% change in NAC for wheat in price-spike periods (importers vs exporters)





Trade Reduction Index, all agric (%)

<i>DCs</i>	1965-71	1972	1973	1974	1975	1976
Import taxes	9	13	3	2	10	11
Export taxes	19	15	29	32	26	17
<i>HICs</i>						
Import taxes	34	29	20	17	24	35
Export subsidies	-4	-4	-2	-1	-2	-2



Trade Reduction Index, all agric (%)

<i>DCs</i>	1977-83	1984	1985	1986	1987	1988
Import taxes	9	10	13	14	15	11
<i>HICs</i>						
Import taxes	37	40	41	60	60	51
Export subsidies	-3	-3	-5	-8	-8	-6