

*Impact on World Prices of Many Countries Using
Trade Policy to Stabilize Domestic Food Prices*

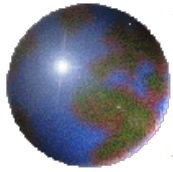
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(drawing on collaborations also with Will Martin)

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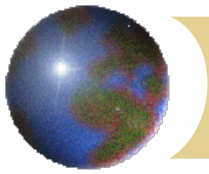
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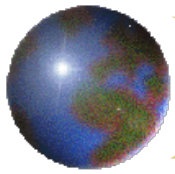
Policy message

- ⊕ Exogenous supply shocks can cause int'l food price spikes when global stock are low (Wright 2011)
- ⊕ If govts. alter trade restrictions in response to such price spikes, that will:
 - ⊞ exacerbate international price spike
 - ⊞ **but** may not reduce the rise in **domestic** food prices
- ⊕ Reason: if **exporters** impose restrictions, makes **importers** more likely to reduce import restrictions
- ⊕ Conversely for downward price spikes
 - ⊞ Seems to be neglected by SSM proponents in Doha Round
- ⊕ Solution: tighter WTO disciplines required on both exporters and importers



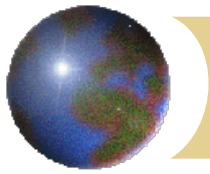
Outline

- ✚ Causes: understandable political economy
- ✚ Effects: the simplest theoretical model
- ✚ Evidence of intervention: from recent and previous food price spikes
- ✚ Estimates of contributions of intervention to int'l price spikes
- ✚ Policy implications



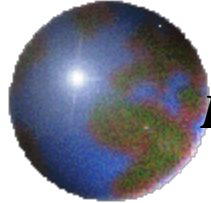
Causes of market insulation

- ✚ A govt wishing to avert losses for significant groups will adjust rates of distortion to domestic food prices to partially offset deviations of int'l prices (up or down) from their trend value
 - ▣ Follows from Freund & Özden's (*AER*, 2008) application of Grossman/Helpman model
 - ▣ Will involve trade measures if domestic measures are considered too costly politically

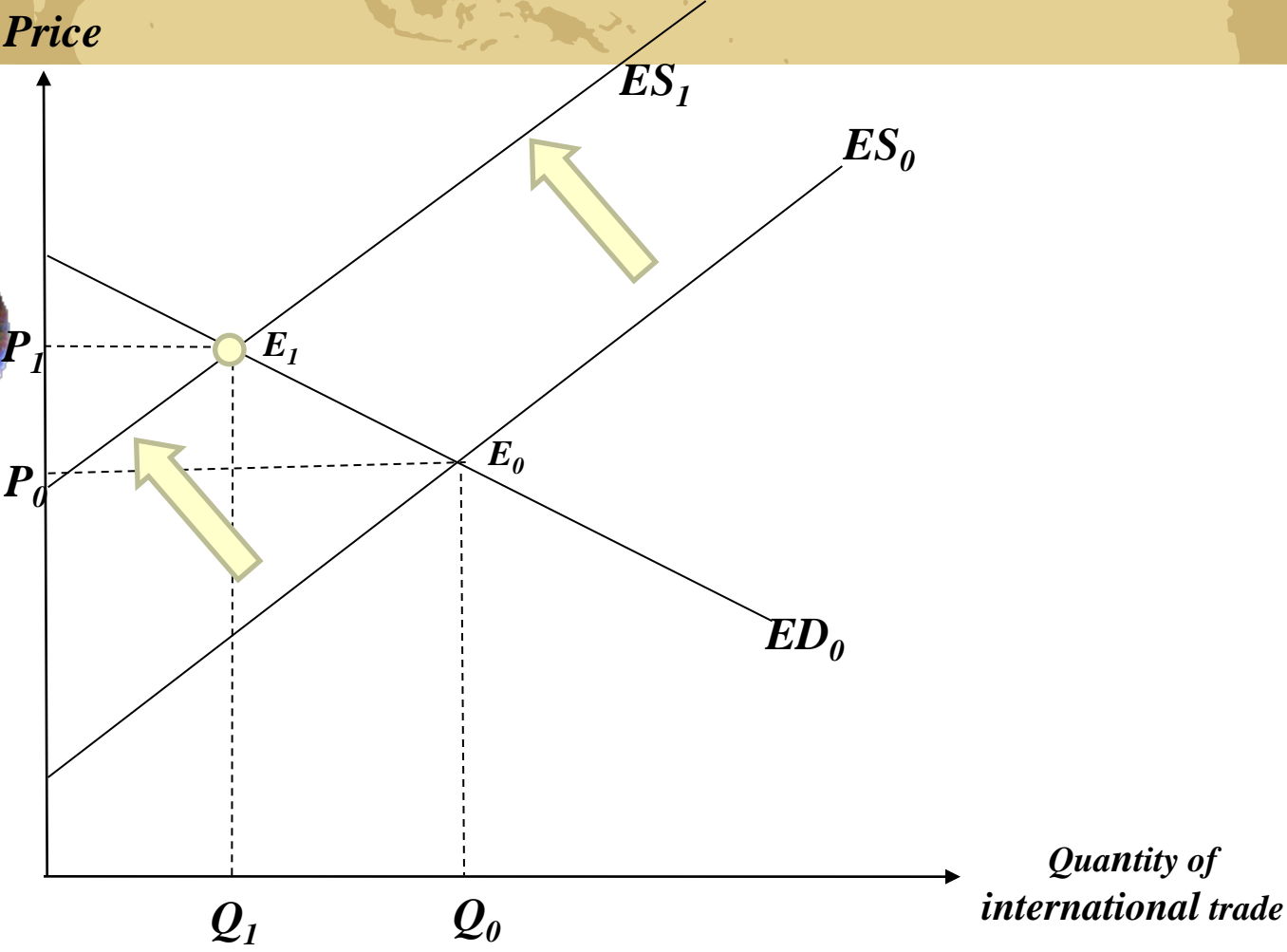


Effects of market insulation policies on international prices

- ✚ Think of int'l market for a single product that is subjected to an exogenous (e.g. weather-related) supply shock when global stocks are low
 - ▣ Shifts the excess supply curve to left
- ✚ Then consider food-exporting, or food-importing, country group responses
- ✚ Then consider their combined effect



Price



ES_1

ES_0

P_1

E_1

P_0

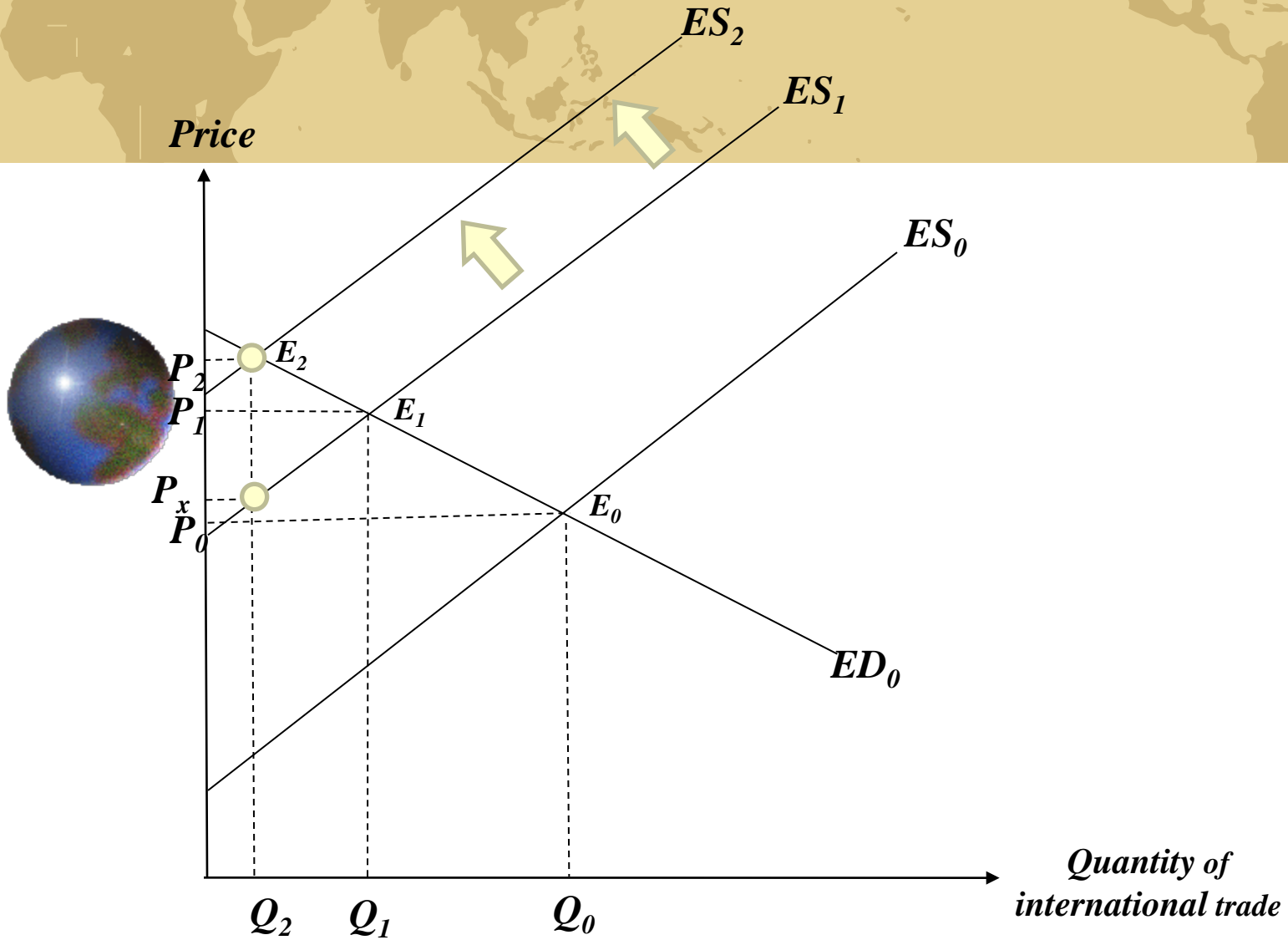
E_0

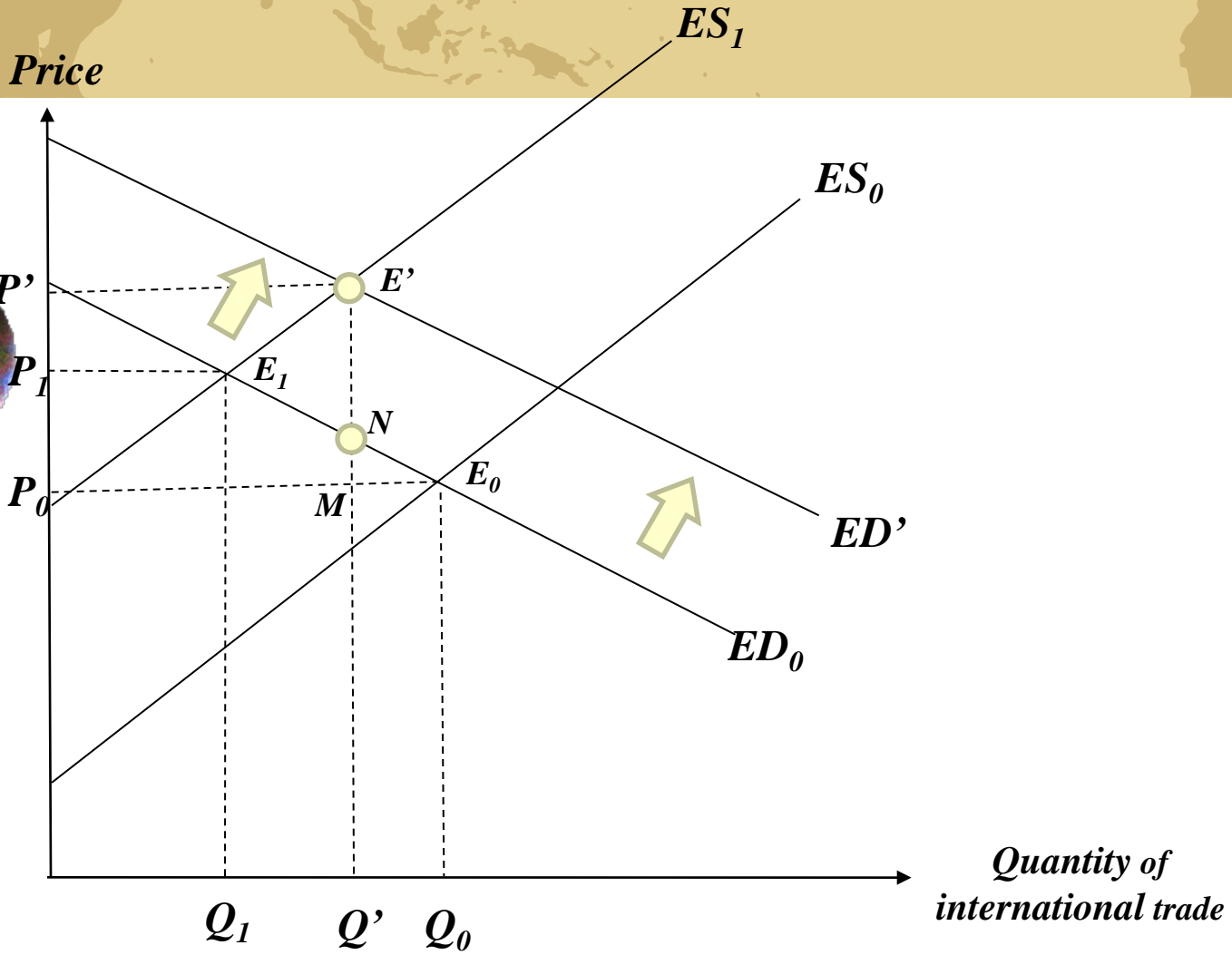
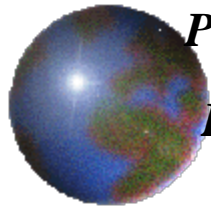
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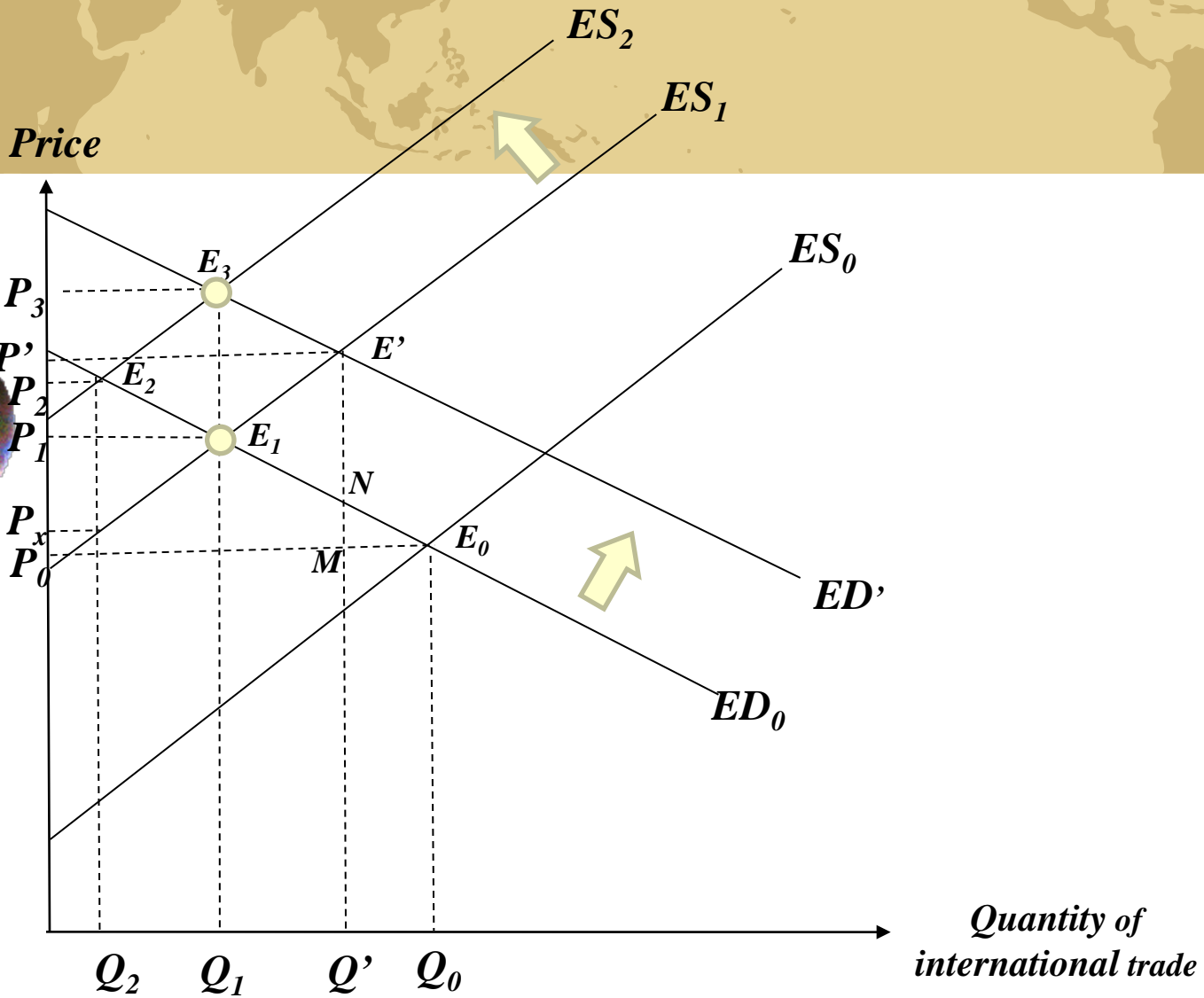
Q_1

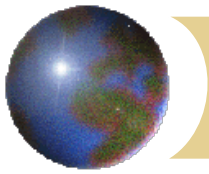
Q_0

Quantity of international trade



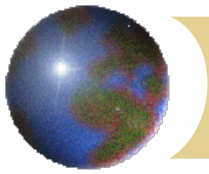






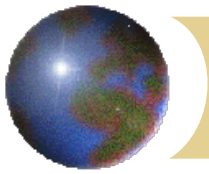
Net effect of both groups' responses

- ⊕ Int'l price rise is exacerbated, and more so if trade measures rather than a cons'm subsidy is used
- ⊕ Yet when many (both X & M) countries so insulate, net effect to each may be zero insulation from initial exogenous shock
- ⊕ And conversely for downward price spike
- ⊕ Similar to a crowd standing in a stadium to see better: on average no-one is better off, but tall gain at the expense of the short



Evidence of partial insulation

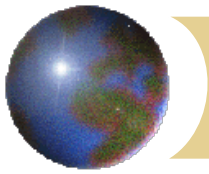
- ✚ Most farm product NRAs (and CTEs) tend to be negatively correlated with movements in international product price
 - ✚ Annual estimates for 82 countries (half HICs+TEs, half developing) & 75 farm products, 1955-2010
- ✚ On average, for top dozen traded farm products, **barely half** the change in an int'l price is transmitted to domestic markets within first year
- ✚ Particularly clear when int'l prices spike



Short-run price transmission elasticity ests.

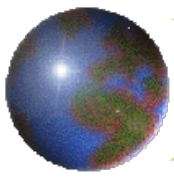
Globally, 1970-2010

Rice	0.41
Wheat	0.57
Maize	0.67

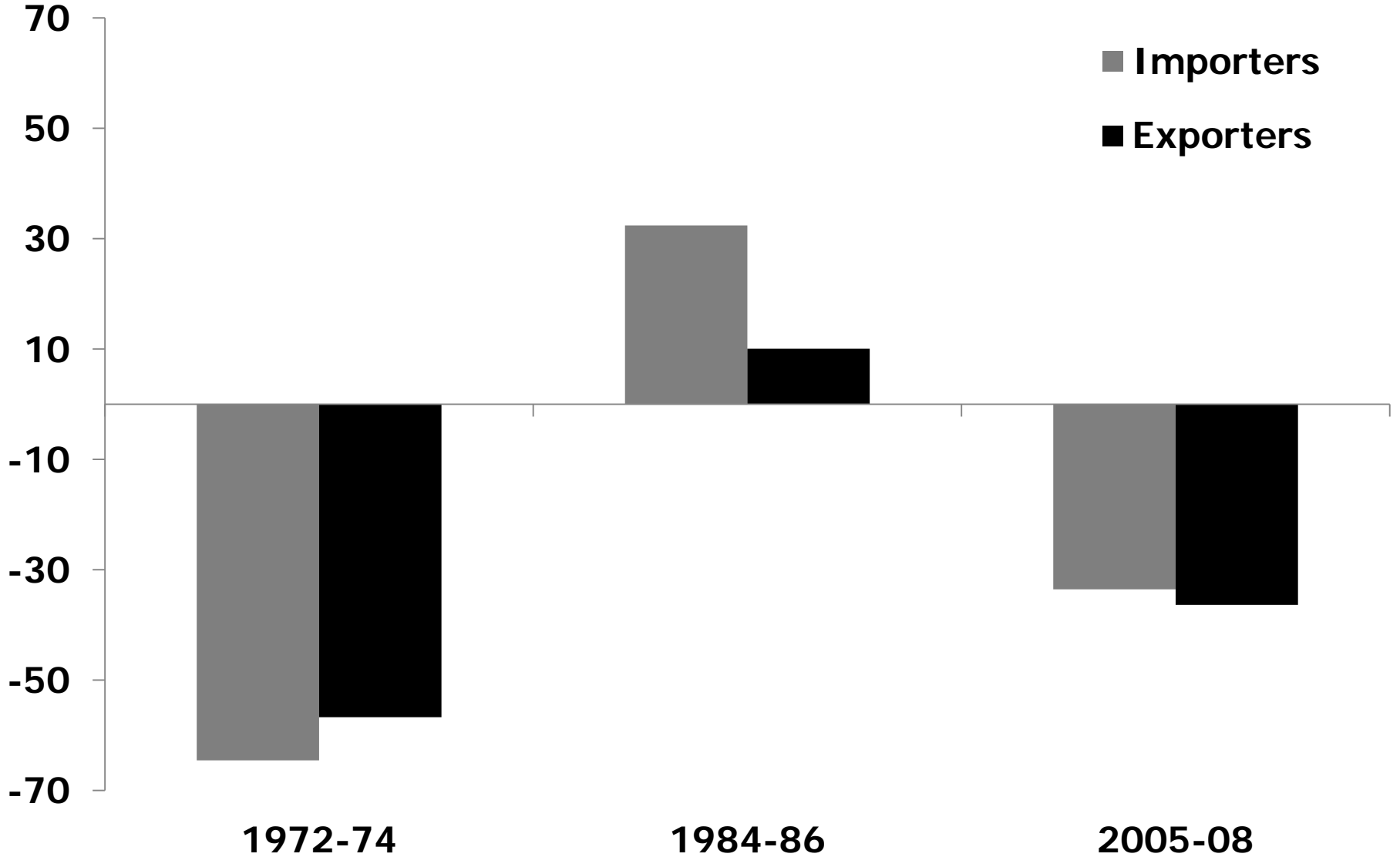


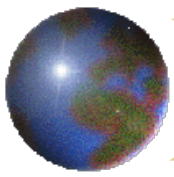
Evidence of partial insulation by exporters AND importers when int'l food prices spike

- ✦ Examination of percentage changes in the average NRAs for main grains show that NRAs are lower in upwards spike periods than in the average of non-spike periods
- ✦ **Both** country groups alter their NRAs and CTEs (shown as proportional changes (NACs) in the following slides)

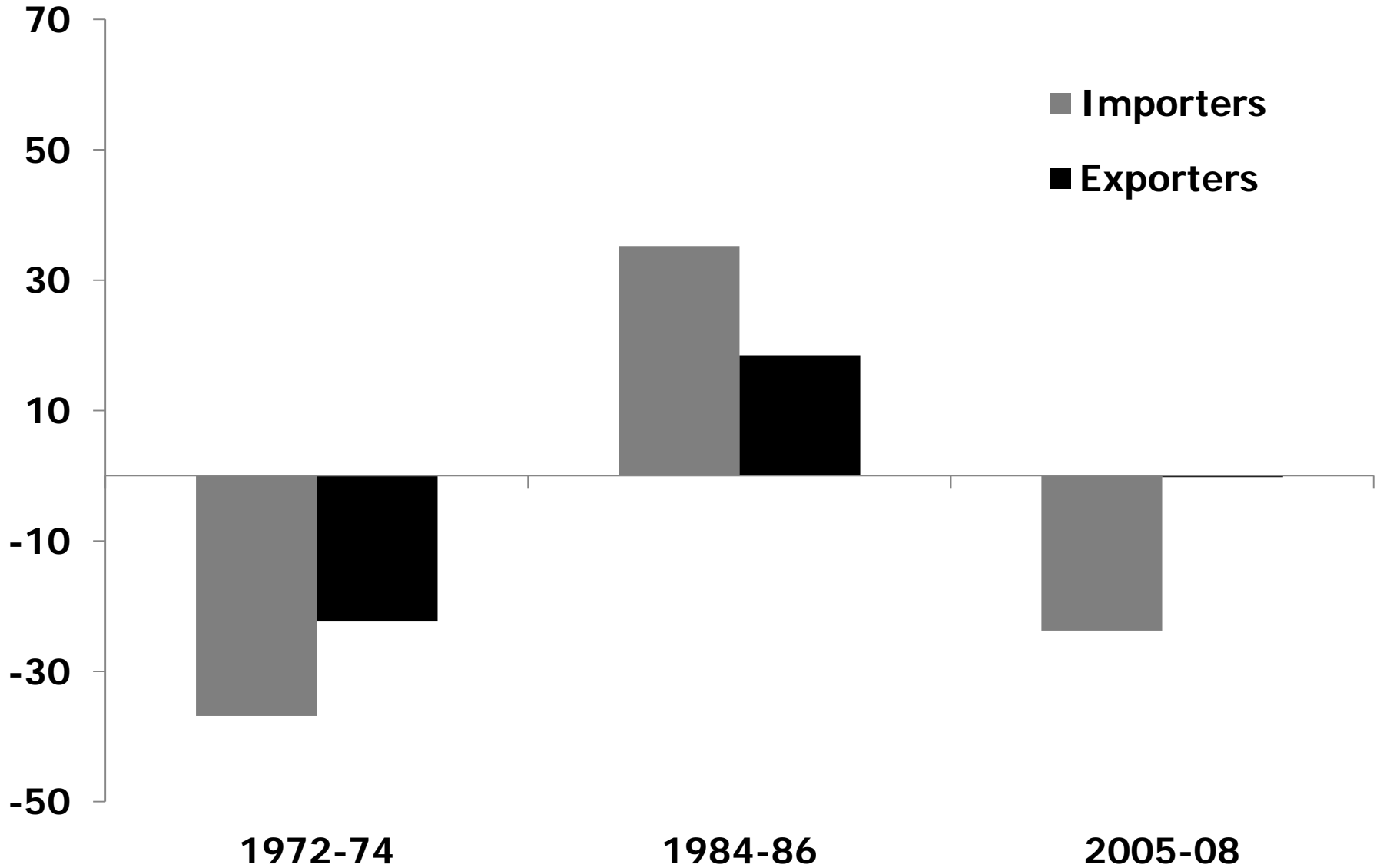


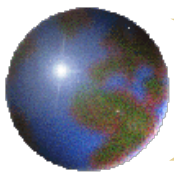
% change in NAC for rice in price-spike periods



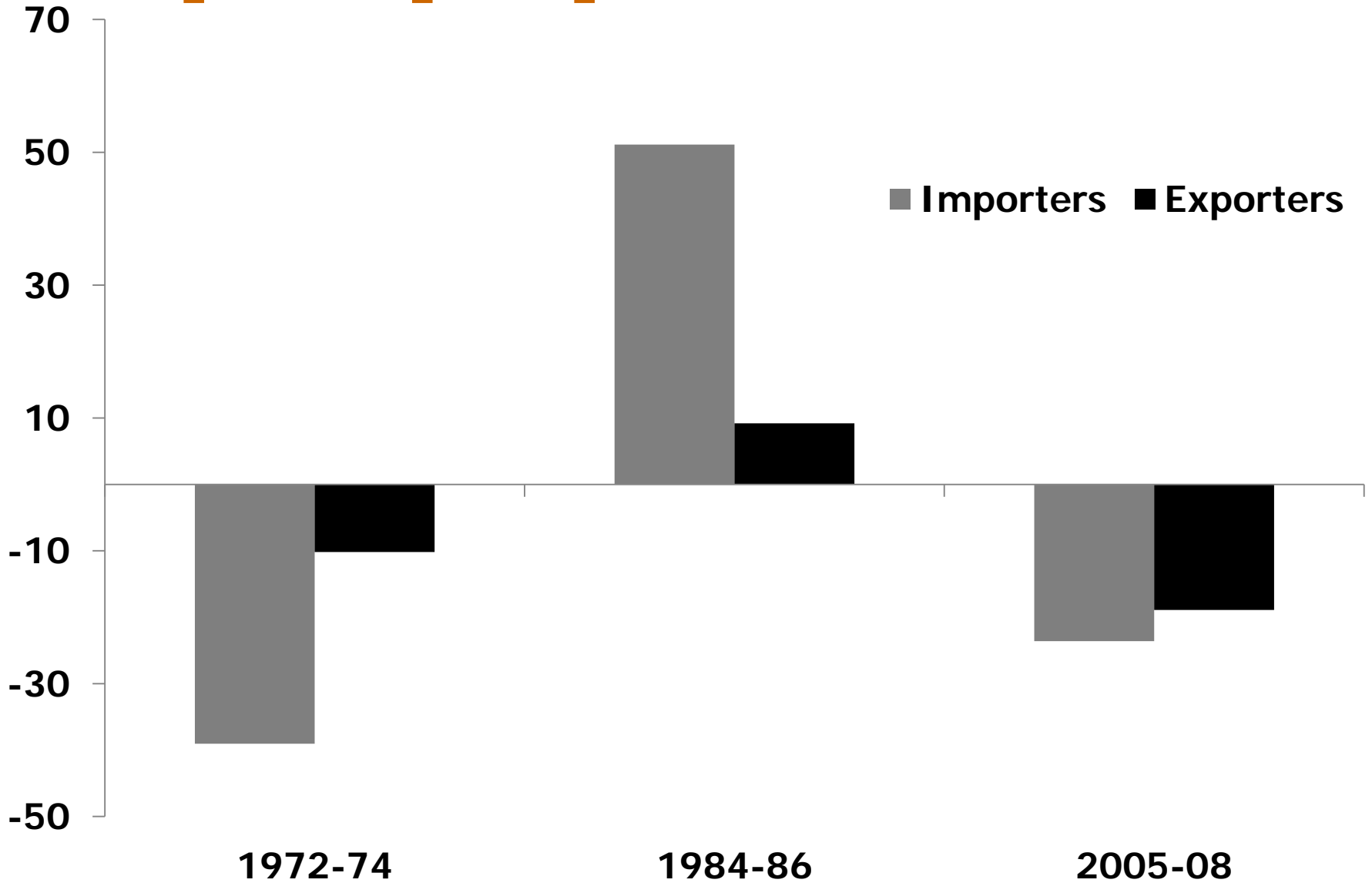


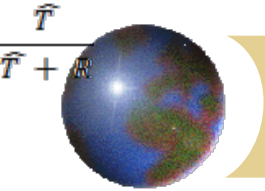
% change in NAC for wheat in price-spike periods





% change in NAC for maize in price-spike periods

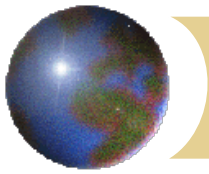




Trade tax contribution to int'l price spike

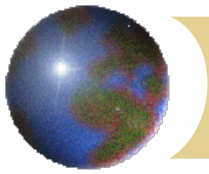
- ✚ Contrib'n of changes in T_i s to changes in p^* is simply the negative of consumption-weighted global average of T_i changes
- ✚ However, if changes in trade restrictiveness are not independent of other influences (R) on p^* , then policy contrib'n is reduced to

$$\frac{\hat{T}}{\hat{T} + R}$$



Consumption-weighted global average of T_i changes (%)

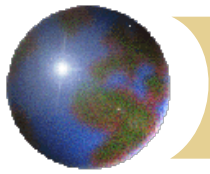
	1972-74	2005-08
Rice	-56	-40
Wheat	-30	-14
Maize	-21	-12



Int'l price rises for grains

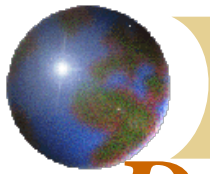
(cumulative, nominal, %)

	1972-74	2005-08
Rice	300	127
Wheat	158	100
Maize	135	126



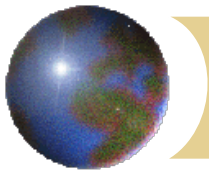
Proportional contribution of trade tax changes to int'l price spikes for grains

	1972-74	2005-08
Rice	0.27	0.39
Wheat	0.23	0.16
Maize	0.18	0.11
<i>Average</i>	<i>0.23</i>	<i>0.22</i>



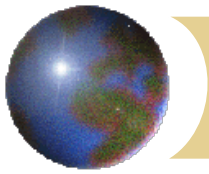
Decomposing policy contributions, 2005-08

	TOTAL PROPORTIONAL CONTRIBUTION	High- income countries	Developing countries	Importing countries	Exporting countries
Rice	0.39	0.04	0.35	0.20	0.19
Wheat	0.16	0.08	0.08	0.08	0.08
Maize	0.11	0.05	0.06	0.04	0.07



Policy implications

- ❖ Large cuts to WTO-bound tariffs would be needed to reduce binding overhang & thus the prospect of NRA increases **when prices spike downwards**
 - ❖ SSM proposes the opposite! AND, its proponents don't acknowledge that triggered actions by importers would trigger an offsetting response by exporters
- ❖ **When prices spike upwards**, WTO commitments don't help because of absence of effective disciplines on agric export restrictions
 - ❖ Such disciplines need not rule out use of less-costly domestic measures to more-directly assist vulnerable losers from international price spikes



Thanks!

The above updates and revises the analysis in:

- ✚ Anderson, K. and S. Nelgen, "Trade Barrier Volatility and Agricultural Price Stabilization", *World Development* 40(1): 36-48, Jan. 2012
- ✚ Martin, W. and K. Anderson "Export Restrictions and Price Insulation During Commodity Price Booms", *American Journal of Agricultural Economics* 94(1), January 2012