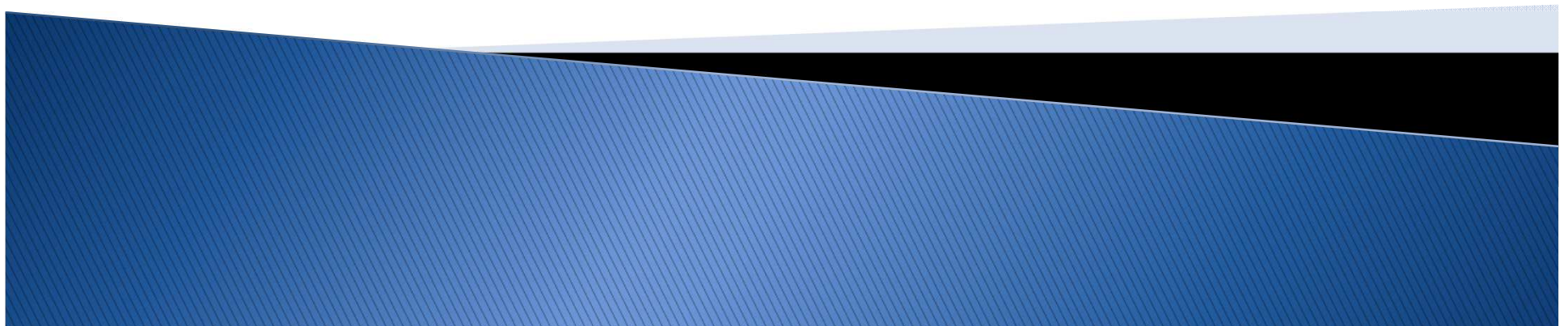


Developing Country Policies for Food Price Volatility

Will Martin

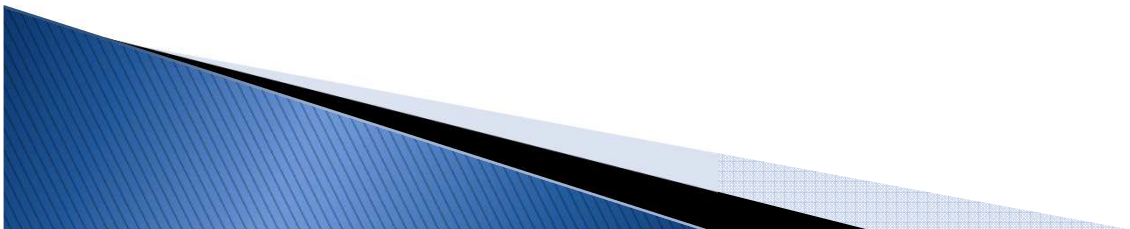
International Food Policy Research Institute

26 June 2015

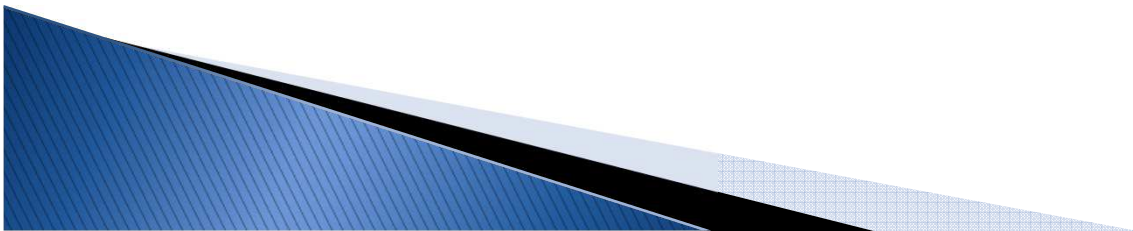


Context

- ▶ Food price volatility & policy responses
- ▶ Why might policy makers do this?
- ▶ Does it work?
- ▶ What might work better?



Food price volatility & policy responses



Food price volatility

- ▶ Food price volatility raises serious concerns in developing countries
 - Consumers are particularly vulnerable to high prices
 - Poor consumers spend large shares of income on food
 - Many poor farmers are net buyers of food staples
 - Producers find it difficult to allocate resources when prices are volatile
 - Resources wasted when prices fall

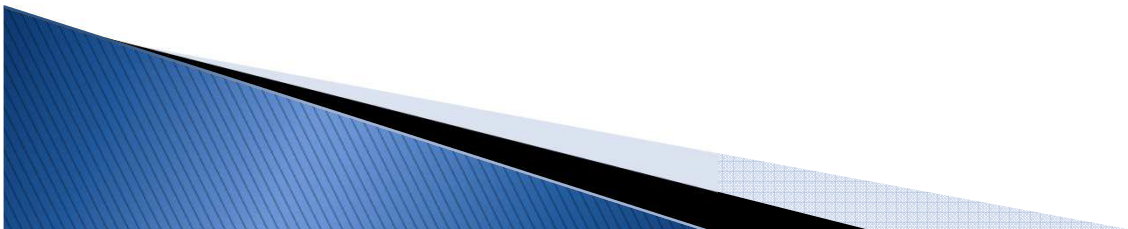
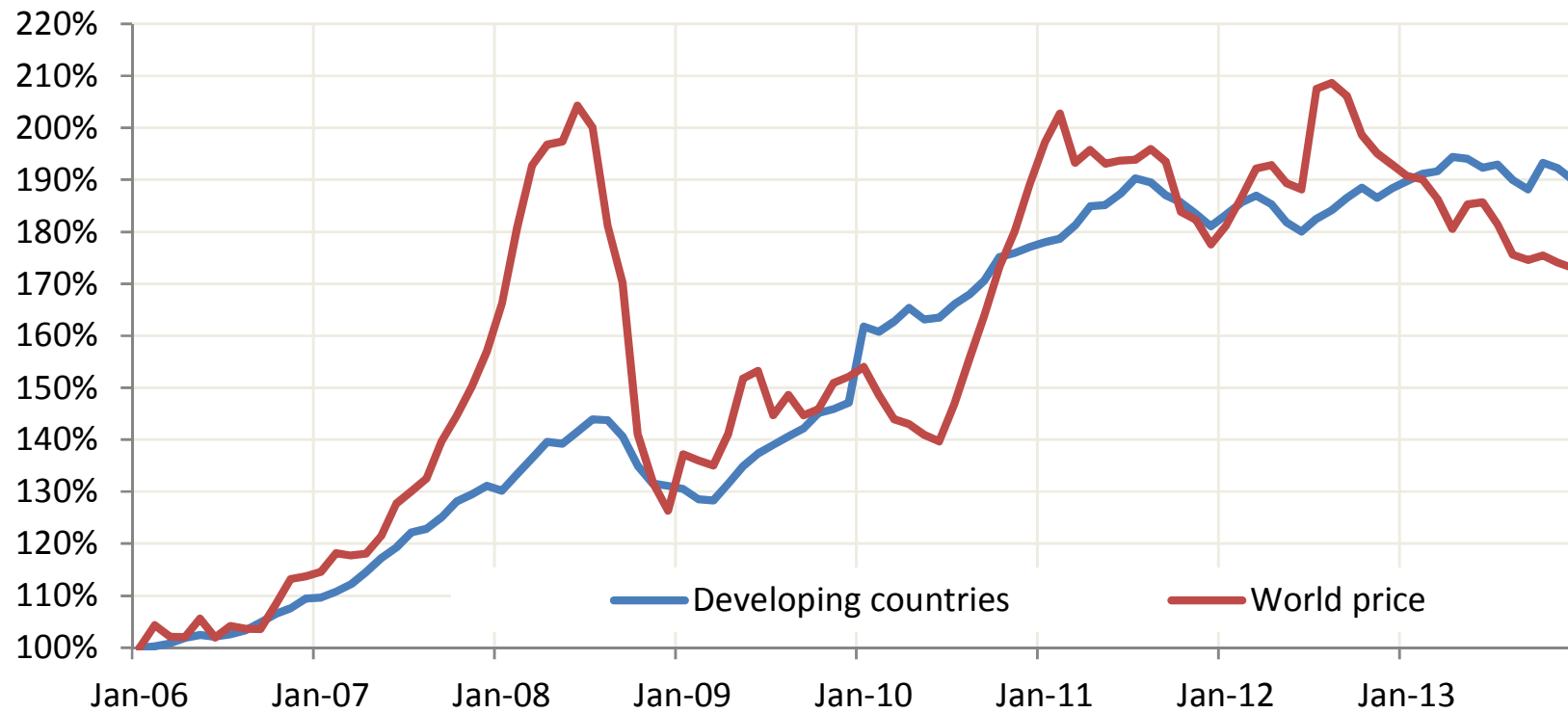


Potential policy options

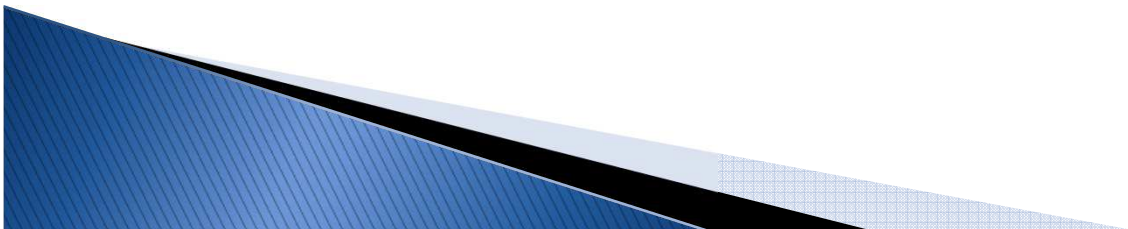
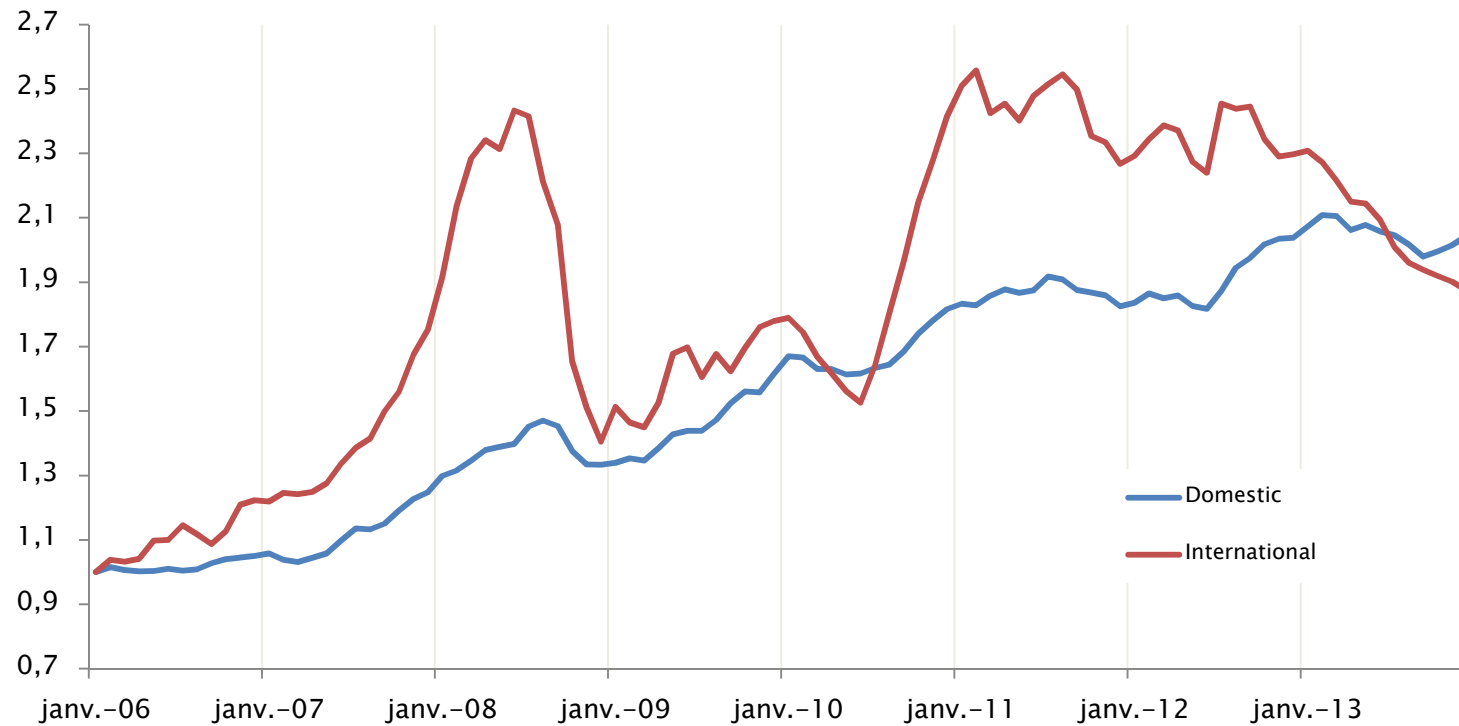
- ▶ Changing trade policies to insulate
- ▶ Improving information & markets
- ▶ Social safety nets
- ▶ Rational storage policies



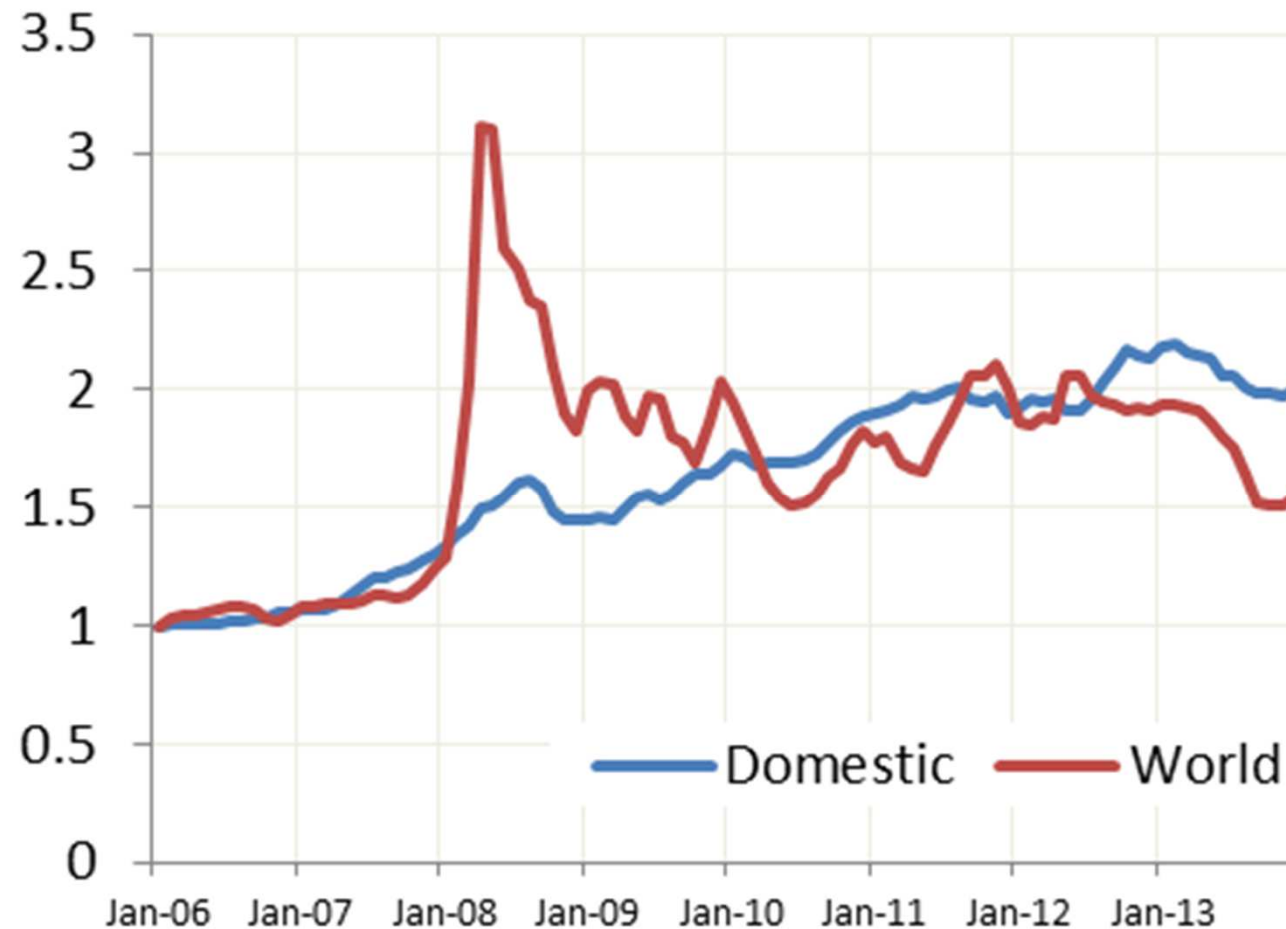
Food CPIs in developing countries



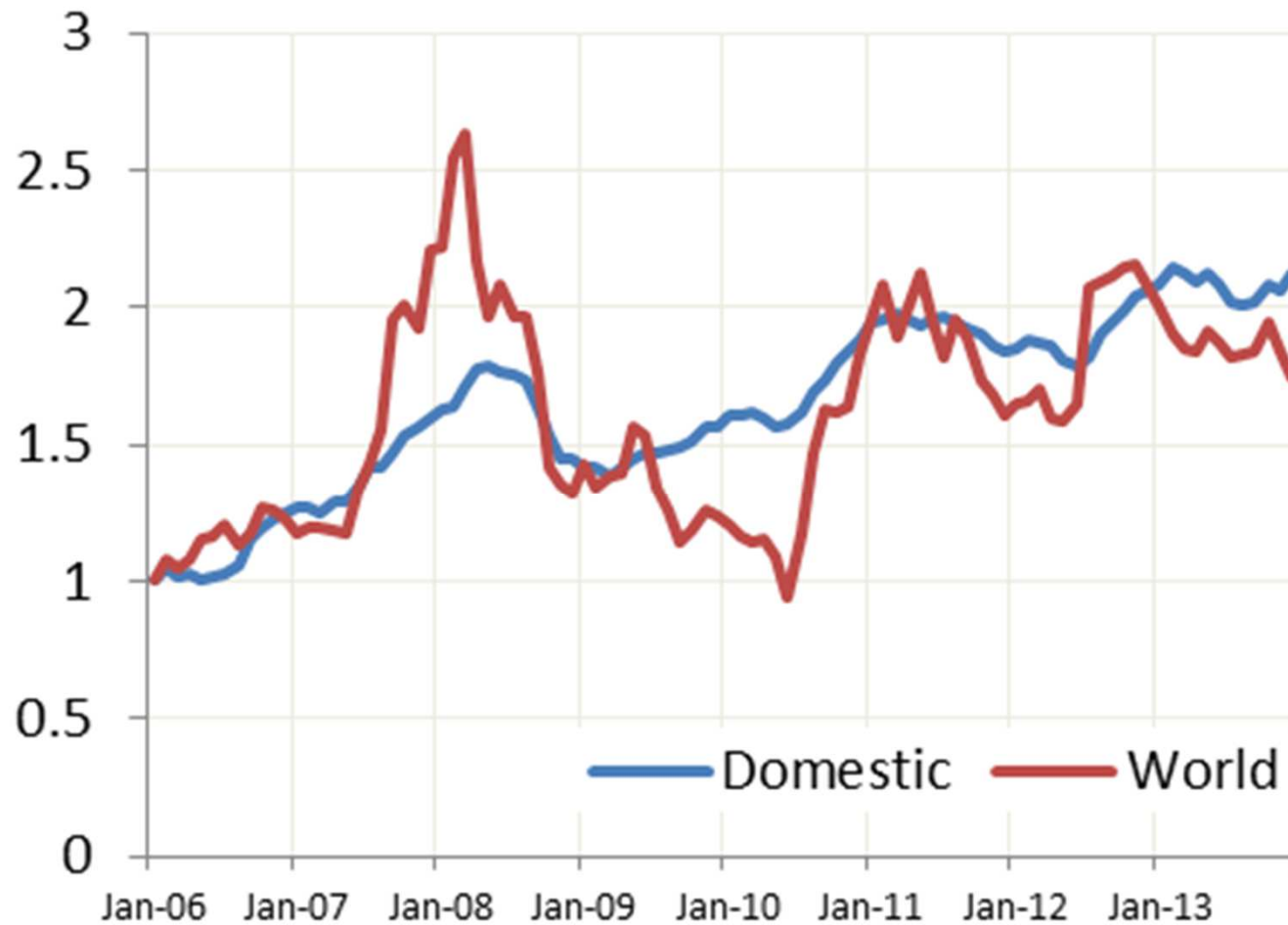
Indexes of staple food prices



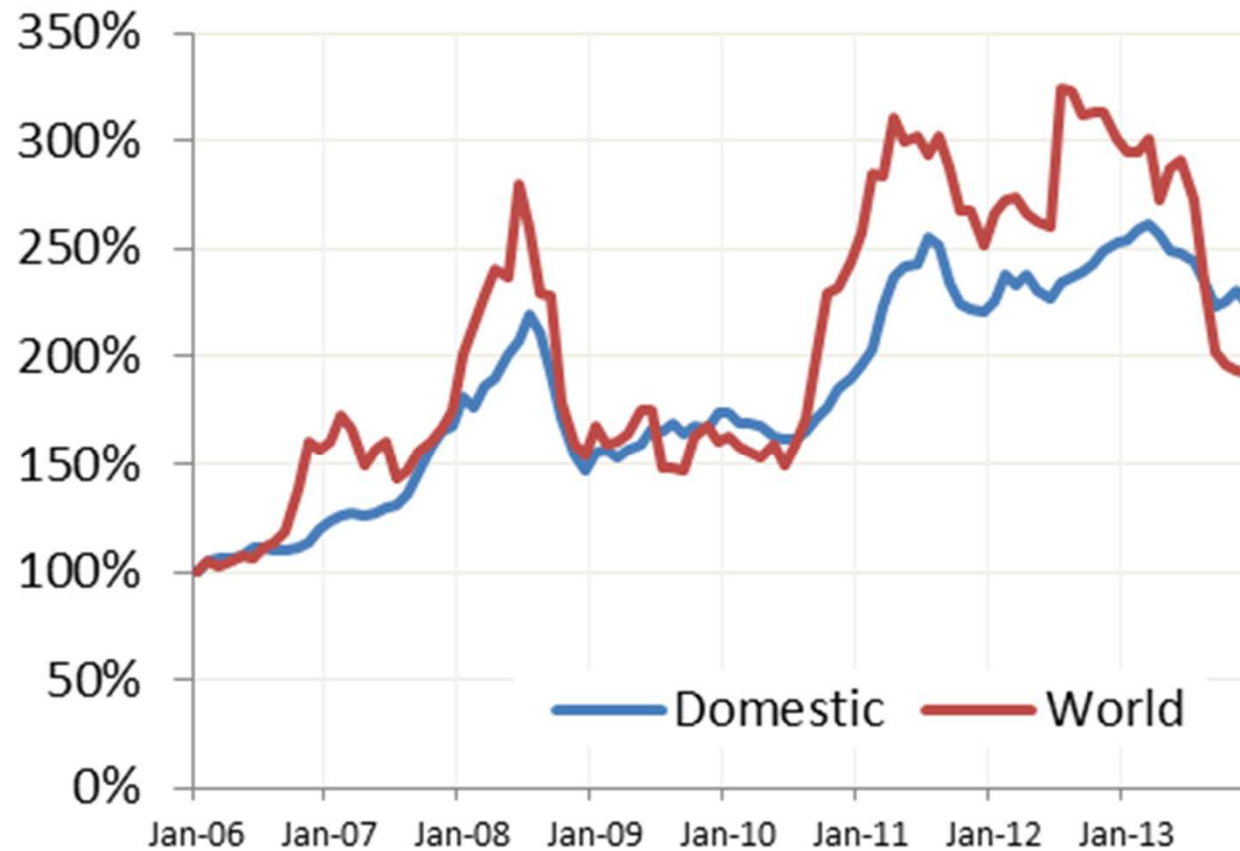
Very strong insulation for rice



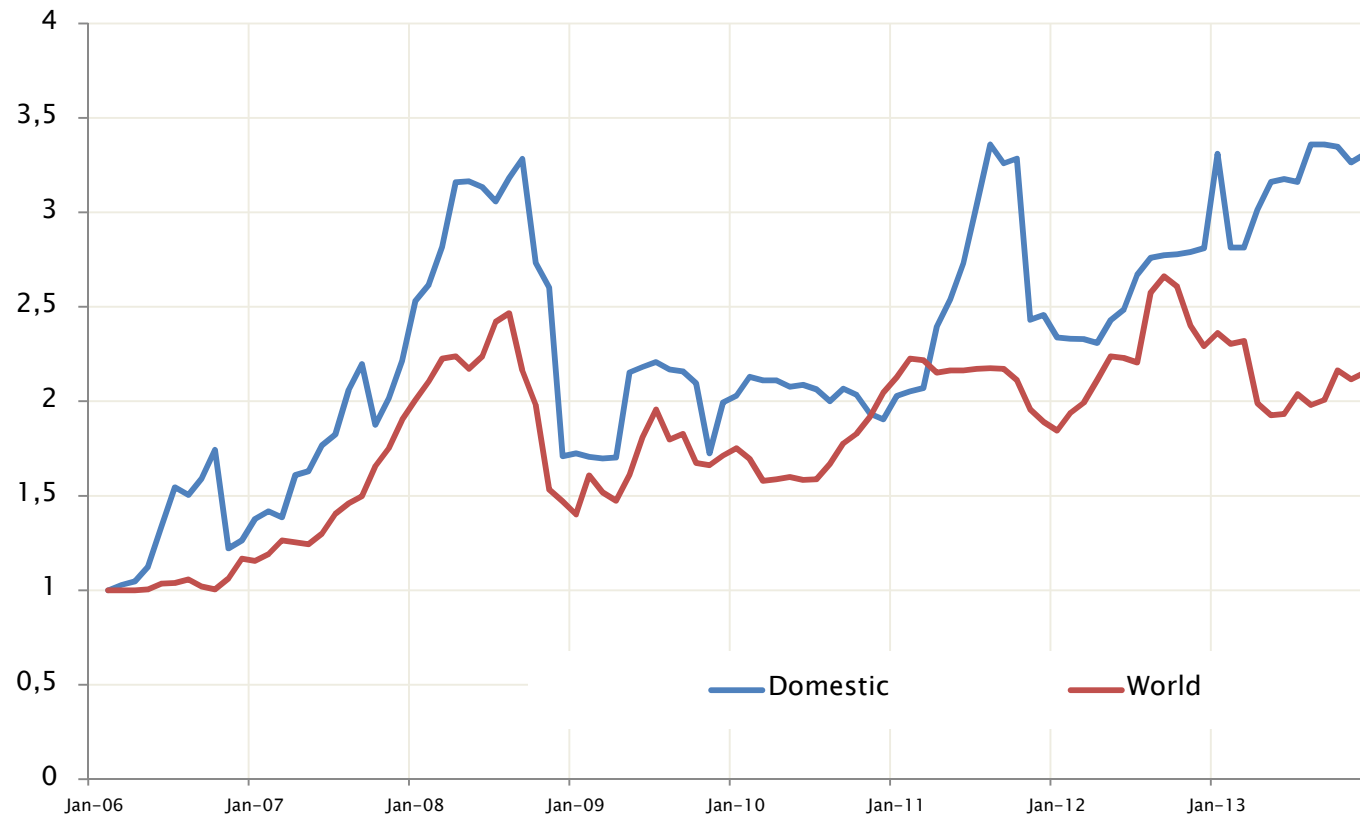
Also strong insulation for wheat



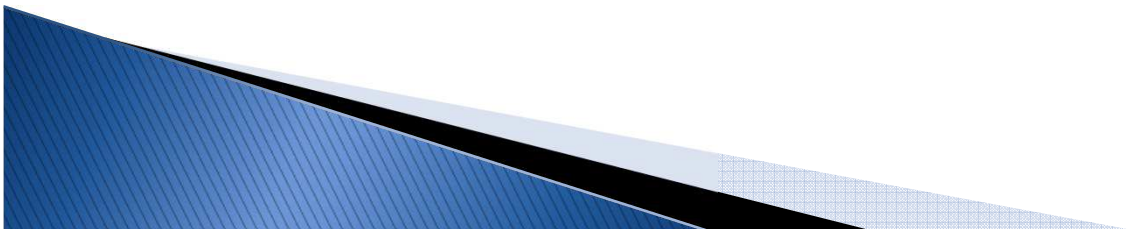
Weaker insulation for maize



Much weaker insulation for soybeans

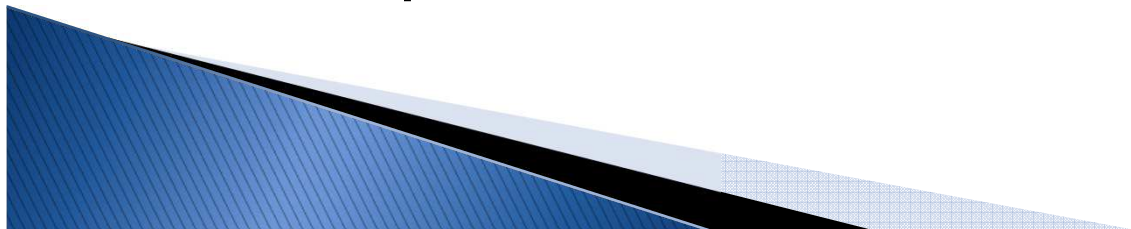


Why might policymakers do this?



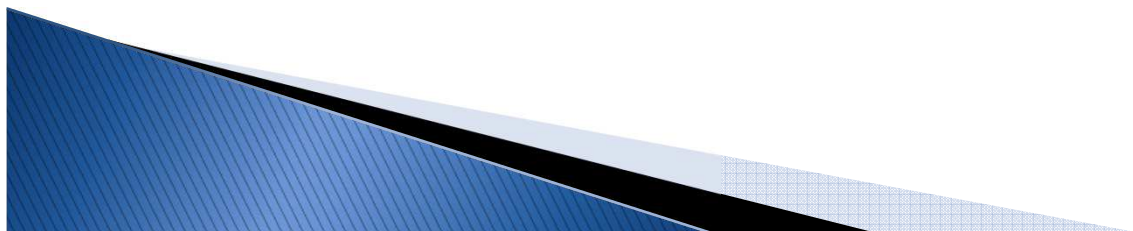
What drives agric trade policy?

- ▶ Partly an inverse relationship between world prices and protection rates
 - With the goal of stabilizing domestic prices
- ▶ Also a tendency to return to a stable relationship with world prices?
 - high average protection in rich importers, low protection in poor exporters
- ▶ And, when prices rise, concerns about impacts on the poor



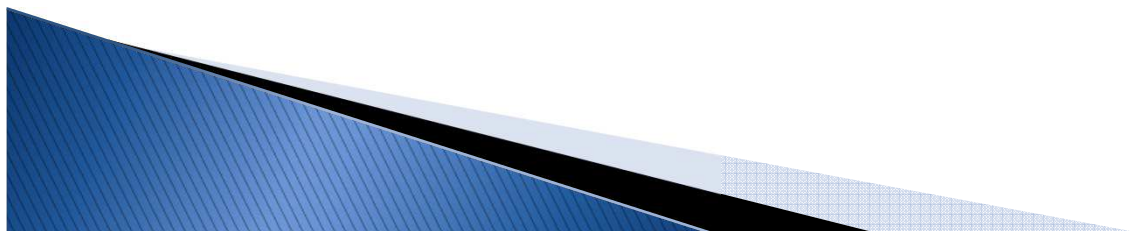
Short vs long run poverty impacts

- ▶ Short run impacts of food prices on real incomes depend on whether households are net buyers or net sellers
 - Urban households typically net buyers so hurt
 - Farm households in poor countries often net buyers
 - Most of the world's poor live in rural areas
- ▶ In the longer term, wages may affect result
- ▶ Producer responses also important



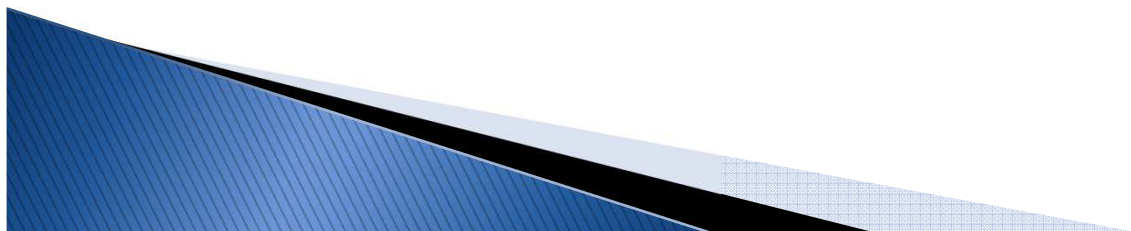
Channels of effect

- ▶ Food price changes affect household welfare directly
 - Through own-price effects on the cost of living
 - And on the value of output from household business
- ▶ Also affect factor prices, esp unskilled wages
 - Which may strongly affect the real incomes of the poor



Key Question: what drives food prices?

- ▶ Is it something in developing countries?
 - Such as a drought?
- ▶ Recent food price rises appear to have arisen outside low income countries
 - Biofuel growth
 - Black Sea basin droughts
 - Low stocks
 - Speculation?
- ▶ Specify wage responses to food price changes
 - Assume no structural change in developing countries
 - Maintain constant employment levels



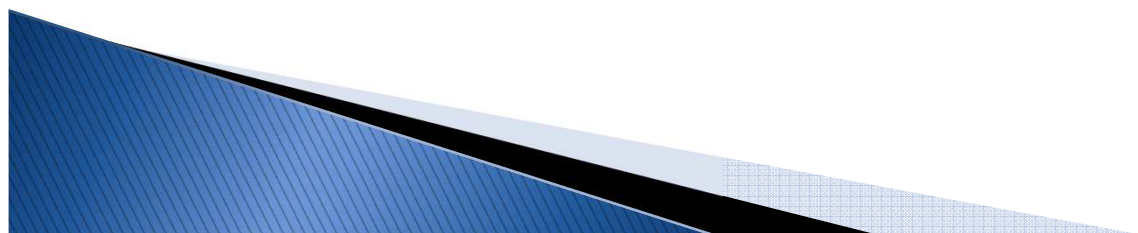
Price–wage responses

- ▶ Calculating wage–price elasticities
 - Effect arises because of different factor intensities
 - Poor–country agriculture very intensive in unskilled labor
 - Higher food prices raise wages for unskilled workers
- ▶ Use national versions of the GTAP model
 - Only need the supply side
 - To assess impacts of higher food prices on wages for unskilled labor
- ▶ How much do food prices affect wages of poor?



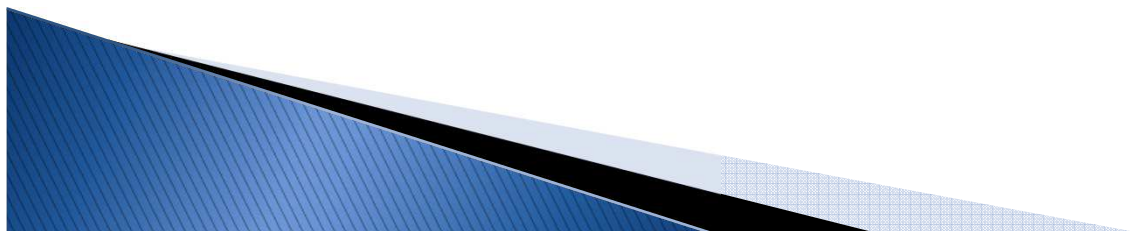
Wage-price elasticities

	Main commodity	Elasticity	All Food
Bangladesh	Rice	0.6	1.2
China	Other proc. foods	0.3	0.6
India	Other proc. foods	0.3	1.0
Nigeria	Cassava	0.5	1.2
Pakistan	Milk	0.2	1.1

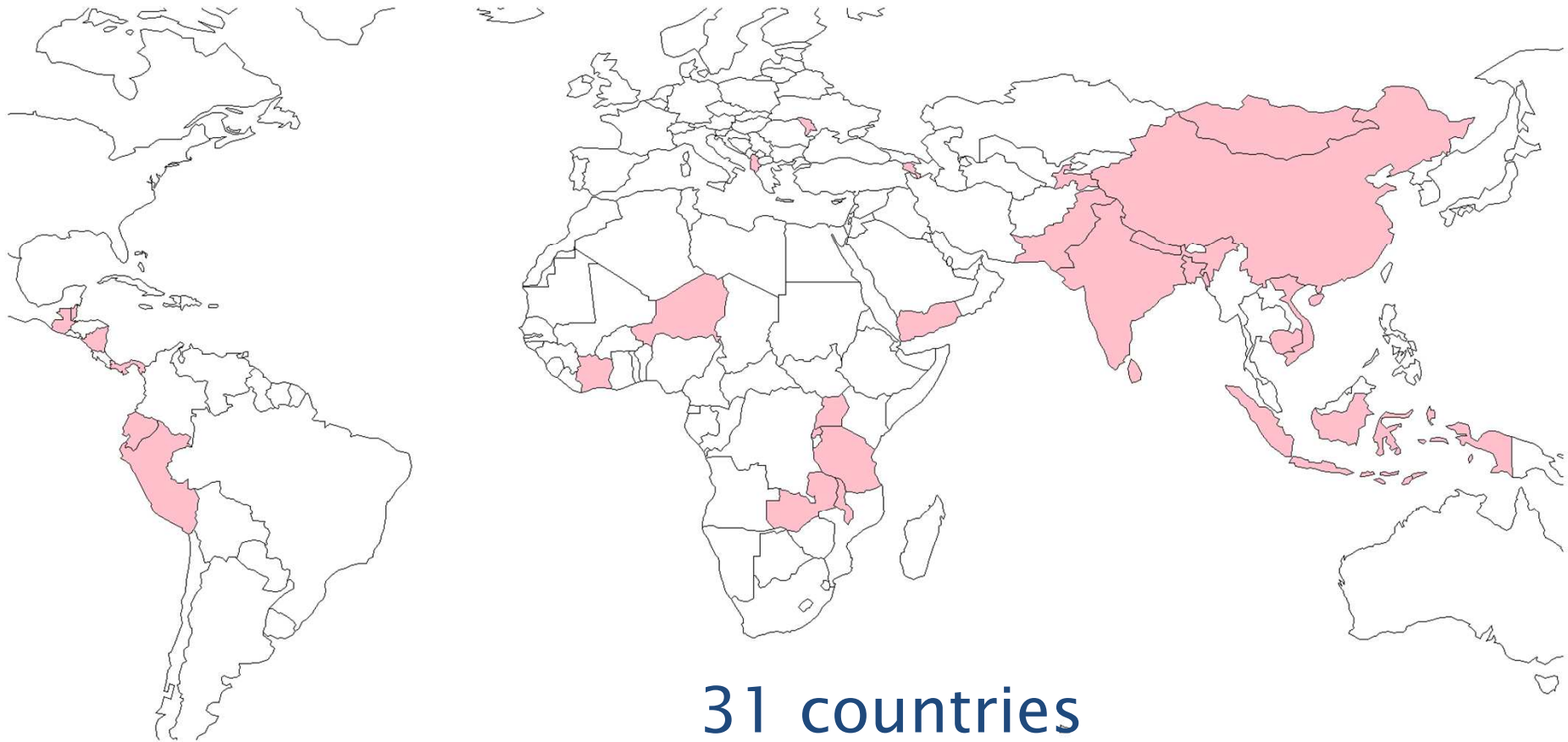


Global Poverty Impacts

- ▶ Assess impacts on the income of each household
- ▶ Calculate resulting poverty measures
 - Headcount, poverty gap, poverty gap squared etc
- ▶ Extrapolate from national to global impacts
 - Use sample to represent countries regional WB income group



Sample countries



31 countries

315,000 households; 76% of world's poor

Poverty headcount: 10% food price rise

Country	Short run	Short run + wages	Medium run	Long run
Bangladesh	1.4	0	-0.4	-0.6
China	-1.3	-1.9	-2.1	-2.2
India	2.6	-1.1	-1.2	-1.4
Indonesia	1.7	0.8	0.8	1
Vietnam	-0.4	-2.1	-2.2	-1.9
Zambia	1.1	-0.4	-0.4	-0.9
Global	0.8	-1.1	-1.2	-1.4



Food price impacts on poverty

► Rural households

Food price change	Short run	Short run + wages	Medium run	Long run
10%	0.5	-1.4	-1.6	-1.8
50%	4.3	-5.7	-6.7	-8
100%	8.9	-9.5	-11.4	-13

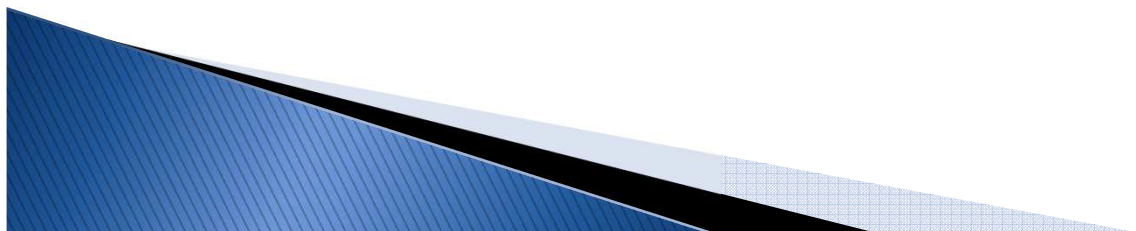
► Urban households

Food price change	Short run	Short run + wages	Medium run	Long run
10%	1.5	-0.3	-0.4	-0.4
50%	9.2	0.2	-0.4	-0.6
100%	22.5	3.2	1.1	0.9

- Rural households benefit more than urban in long run
- Wage impacts important for urban & rural households
- Urban households worse off even in LR for large changes

Policy makers respond rationally

- ▶ Very concerned about the adverse impacts of food price shocks on the poor
 - And especially the urban poor
 - Hence short-run insulation
- ▶ But willing to allow longer-term changes in prices to be transmitted

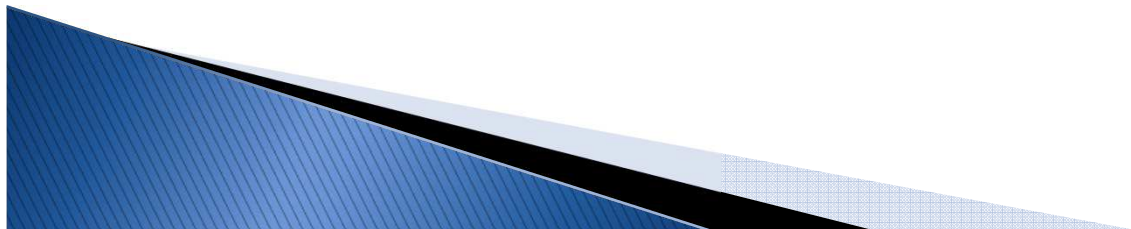


Did it work?

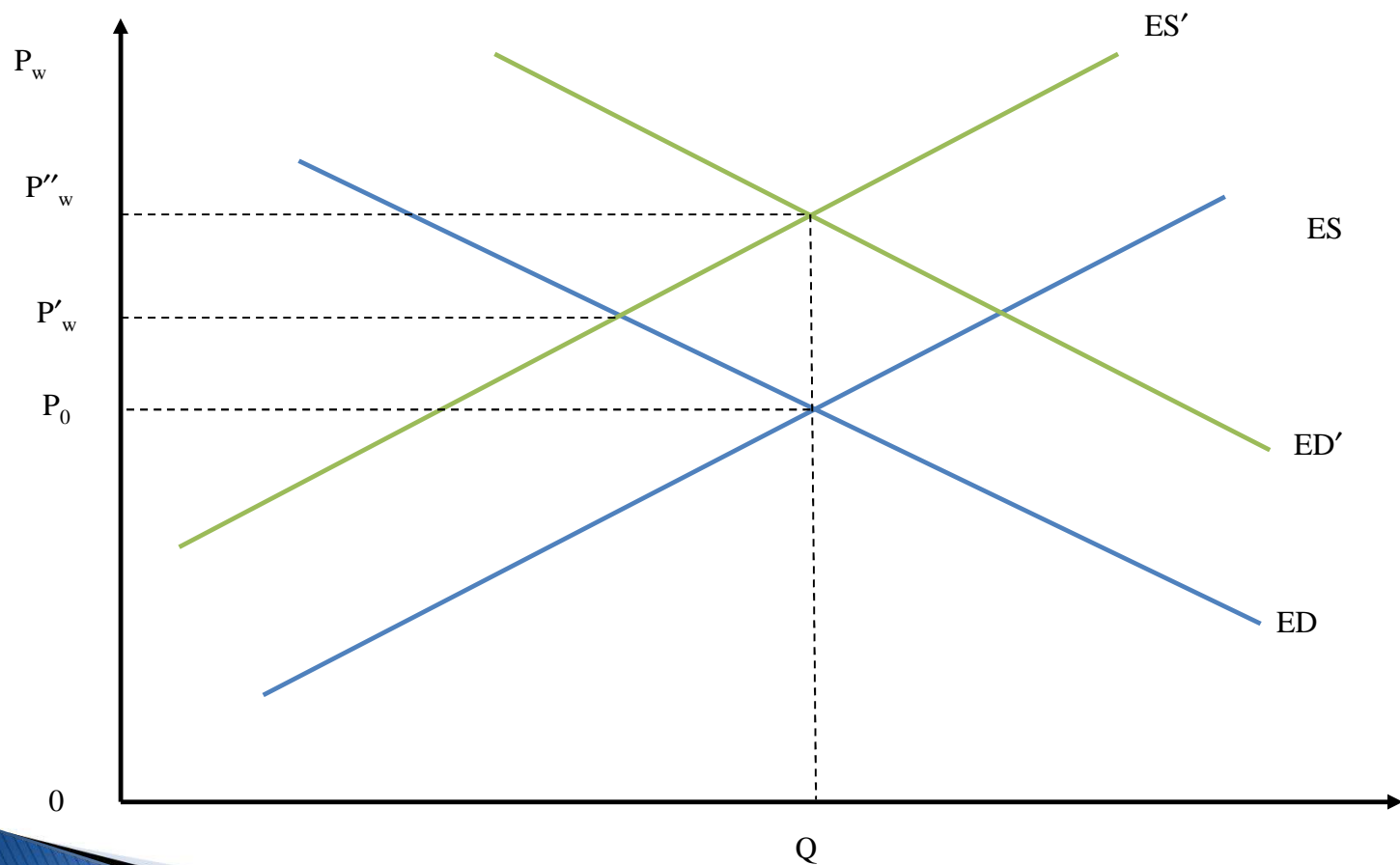


Was the 2006–8 insulation a success?

- ▶ Policy makers insulated their domestic prices against the surge in world prices
- ▶ But their actions contributed substantially to these increases in world prices
 - A beggar thy neighbor problem
 - Even countries that don't want to insulate are forced to
- ▶ Each individual country sees its actions as a success
 - But is this the case for countries as a whole?

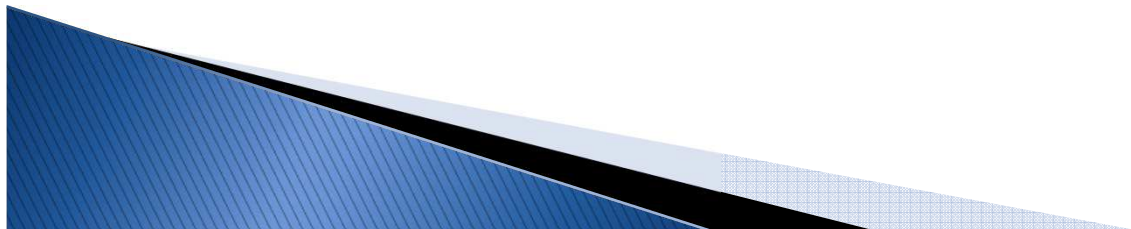


Ineffectiveness: equal export tax & import duty reduction



Methodology

- ▶ Calculate the changes in trade distortions between 2006 & 2008 for each country
- ▶ Calculate impacts of these changes on world & domestic prices
- ▶ Calculate counterfactual poverty implications
 - Poverty impacts of each country's own policies alone
 - Poverty impacts of all actions

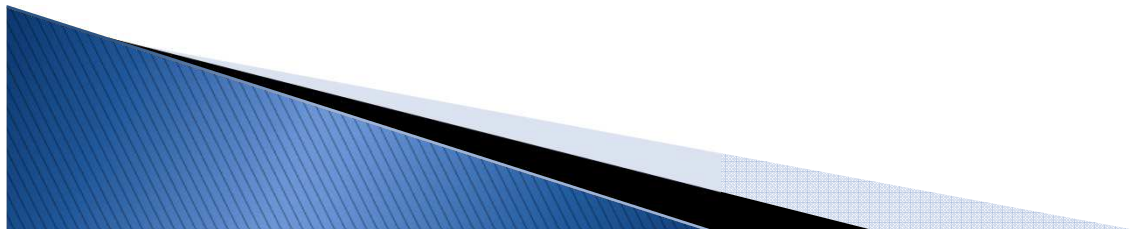


Poverty impacts at \$1.25 /day, % pts

	Everyone's action	Own actions
China	0.4	-0.6
Côte d'Ivoire	0.5	-1.8
Indonesia	0	-1.4
India	0.1	-4.2
Malawi	2.4	0.7
Niger	1.0	-0.5
Nigeria	-0.9	-1.9
Tanzania	0.1	-0.3
Viet Nam	-2.6	0.3
Zambia	-1.9	-1.5
World (million)	8	-84

Problems with trade insulation

- ▶ It looks successful even when it isn't
- ▶ It's contagious
 - If other countries do it, I have to as well
 - Even if I would not have intervened
- ▶ Export restrictions, in particular, raise concerns about food availability
 - And face next to no constraints from WTO rules

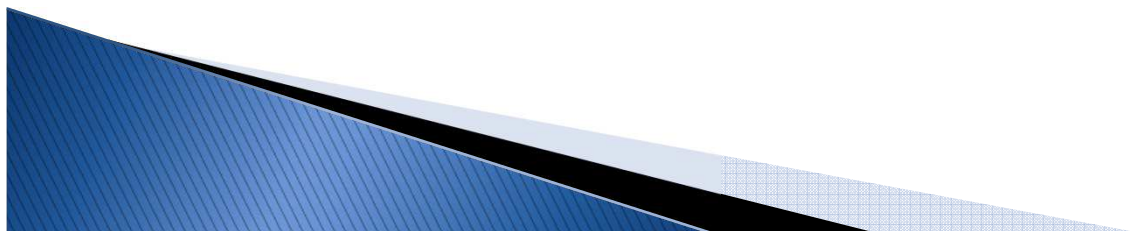


Other policy options



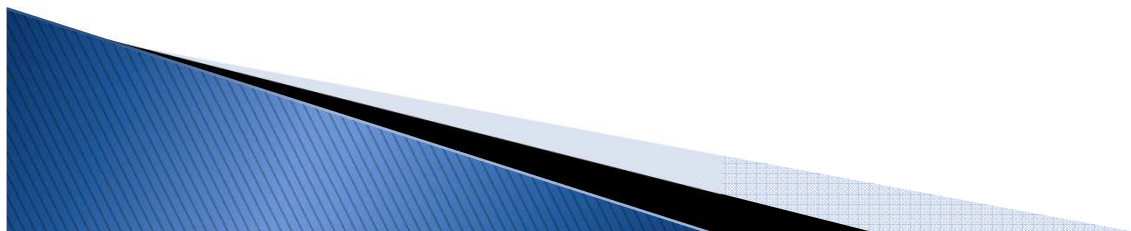
Potential policy options

- ▶ Improving information & markets
- ▶ Social safety nets
- ▶ Rational storage policies
- ▶ Disciplines on the collective action problem



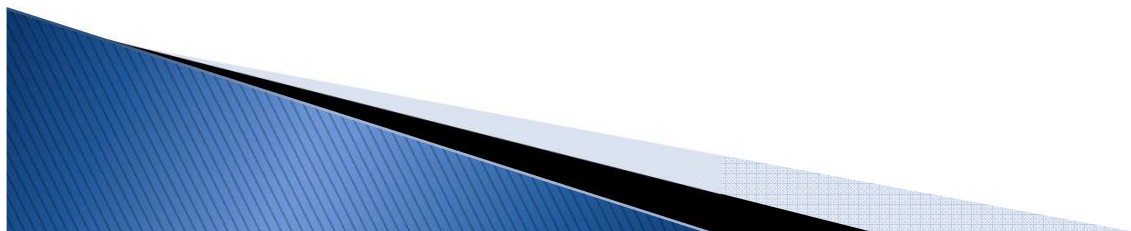
Improving information & markets

- ▶ Poor information about stocks played an important role in the 2008 food crisis
- ▶ Improving market information an important goal of the AMIS initiative
 - Better market information can have an enormous impact
 - Improved information technology can have a huge impact
- ▶ Market-based risk management tools
 - Options and futures



Social safety nets

- ▶ Policies such as social safety nets are individually and collectively effective
- ▶ Domestic food aid exempt from WTO disciplines
 - Consistent with both mercantilist & economic logic
- ▶ Insulating policies cause substitution towards food by all consumers
 - The combination of substitution and income effects creates the ineffectiveness problem



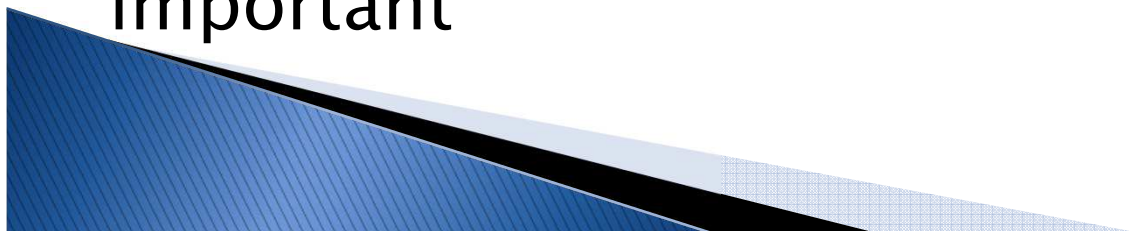
Rational storage policies

- ▶ Storage is potentially “help thy neighbor”
- ▶ Combining trade & storage more cost-effective for small countries than insulation or storage
- ▶ But storage policies for a small country require use of insulating trade policies
 - Combined storage & trade still beggar-thy-neighbor
- ▶ In practice, storage is frequently destabilizing
 - Instrument conflicts & excessive stocks during 2008–10



Disciplines on insulating policies

- ▶ Some precedents in WTO
 - Price-based SSM proposal would involve a discipline on the duties used to offset falls in world prices
- ▶ Needed to reduce the collective action problem
 - Creating more “policy space” for all members doesn’t address the collective action problem
 - Need to remember that the WTO is about addressing collective action problems
- ▶ Partial disciplines on export restrictions likely important



Conclusions

- ▶ Policy makers appear to adjust protection in response to changes in world prices
 - This makes sense for individual countries
 - Both for political–economy considerations and in light of poverty reduction goals
- ▶ In the short run, food price increases appear to increase poverty
 - But to lower it in the longer term
 - When supplies adjust and unskilled wage rates rise
- ▶ Collectively, insulation appears to be ineffective
 - Need to develop policies that work



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