



DEPARTMENT OF
AGRICULTURAL, ENVIRONMENTAL,
AND DEVELOPMENT ECONOMICS

“High Food Prices and Riots: Trade Policy vs. Safety Nets”

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Spikes in World Food Prices

- **Post-2007 – world prices of key staple foods volatile around relatively high levels**
- **Different to pattern over past century where real food prices have trended downwards**
- **Historically, while price spikes are often intense, they have typically been infrequent**
- **Since 2008, three price spikes: early 2008, early 2011, and third quarter of 2012**

Real Food Price Trend

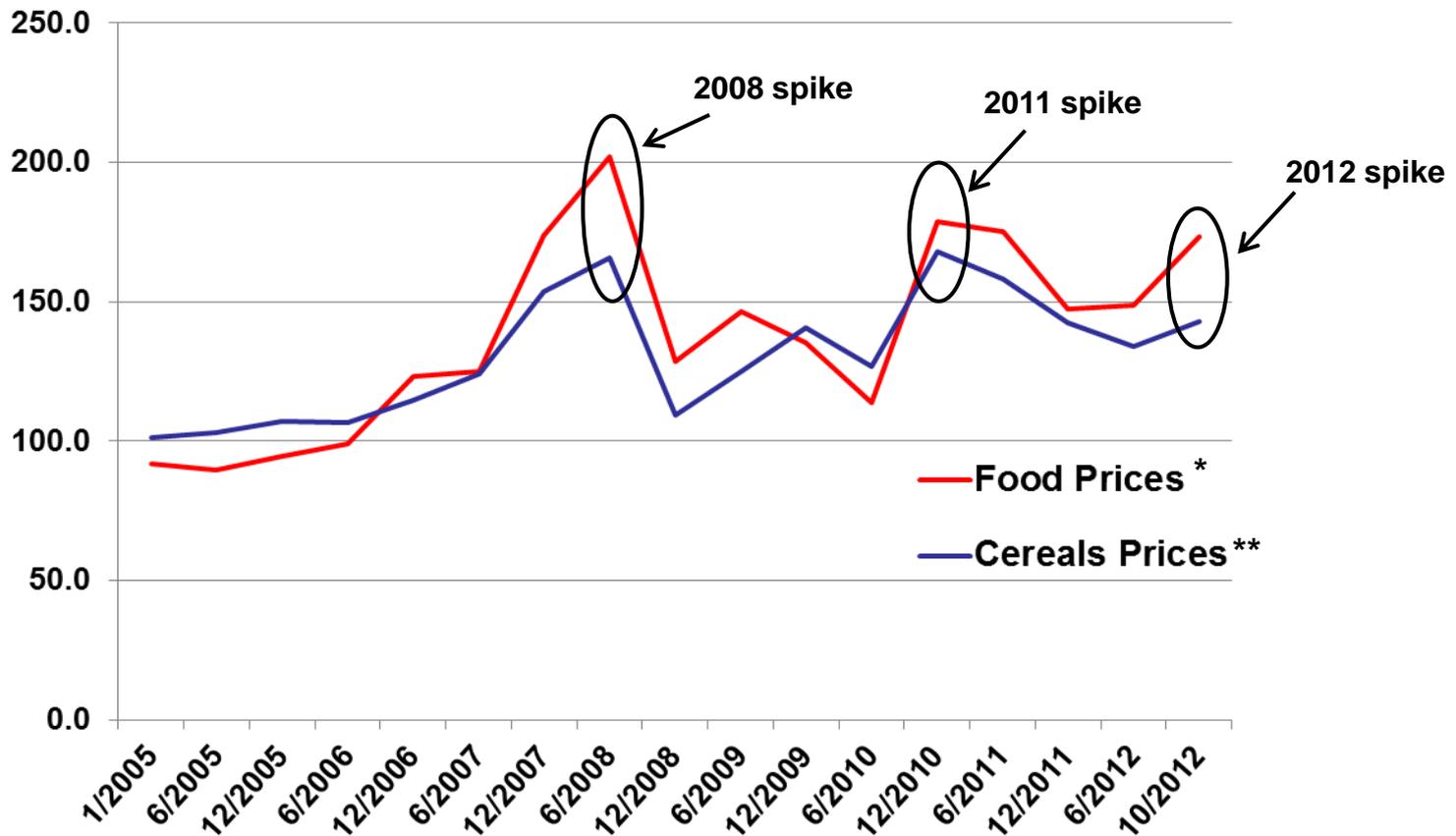
Real agricultural prices have fallen since 1900, even as world population growth accelerated



Source: USDA, Economic Research Service using Fuglie, Wang, and Ball (2012). Depicted in the chart is the Grilli-Yang agricultural price index adjusted for inflation by the U.S. Gross Domestic Product implicit price index. The Grilli-Yang price index is a composite of 18 crop and livestock prices, each weighted by its share of global agricultural trade (Pfaffenzeller et al., 2007). World population estimates are from the United Nations.

Recent Food Price Spikes

FAO Real Food Price Indices (2002-04=100)



*Food price index based on average of 5 commodity groups (meat, dairy, cereals, oils and fats, and sugar)

**Cereals prices index based on wheat, maize, and rice prices

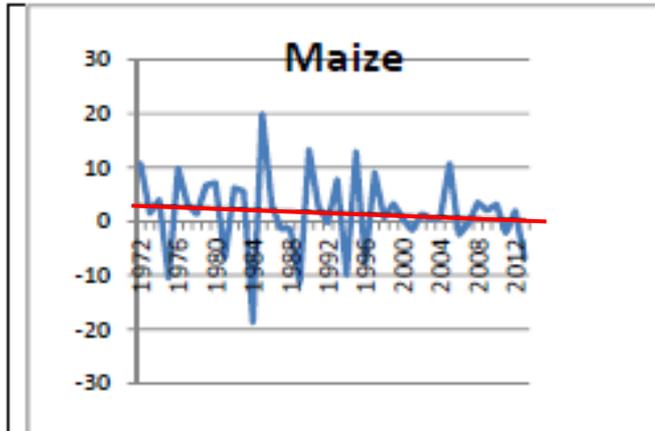
Background to Food Price Spikes

- **Yield growth rates have declined for wheat, maize and rice - limited arable land**
- **Global demand for wheat and rice quite stable, coarse grains consumption growing faster**
- **Adverse supply shocks can have large impact on prices when initial stocks are low**
- **2008-10, biofuels demand accounted for 11% of grains and oilseed production, forecast to reach 15% by 2021 (FAO, 2011)**

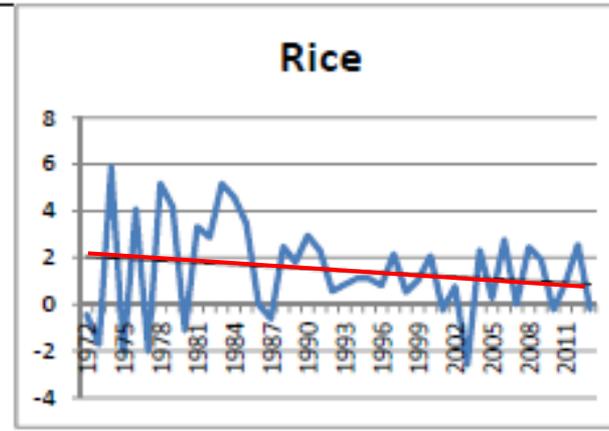
Yield Growth

Annual Yield Growth in Key Staple Foods

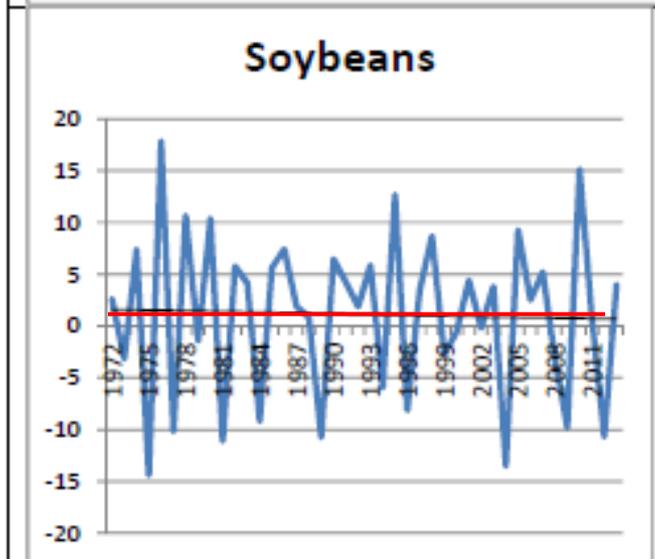
Average:
1.7%



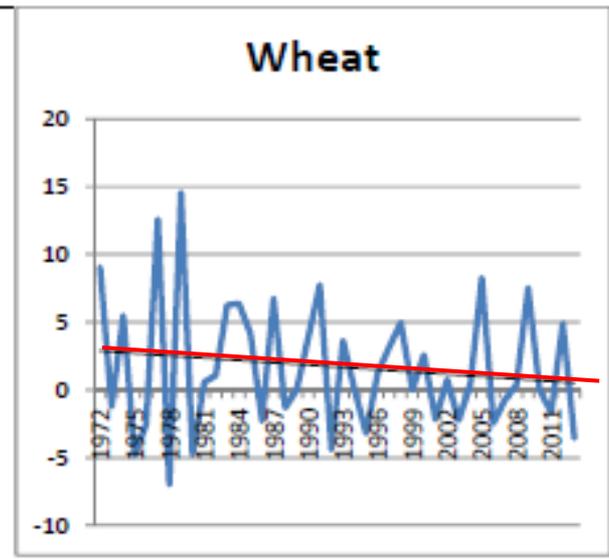
Average:
1.5%



Average:
1.1%

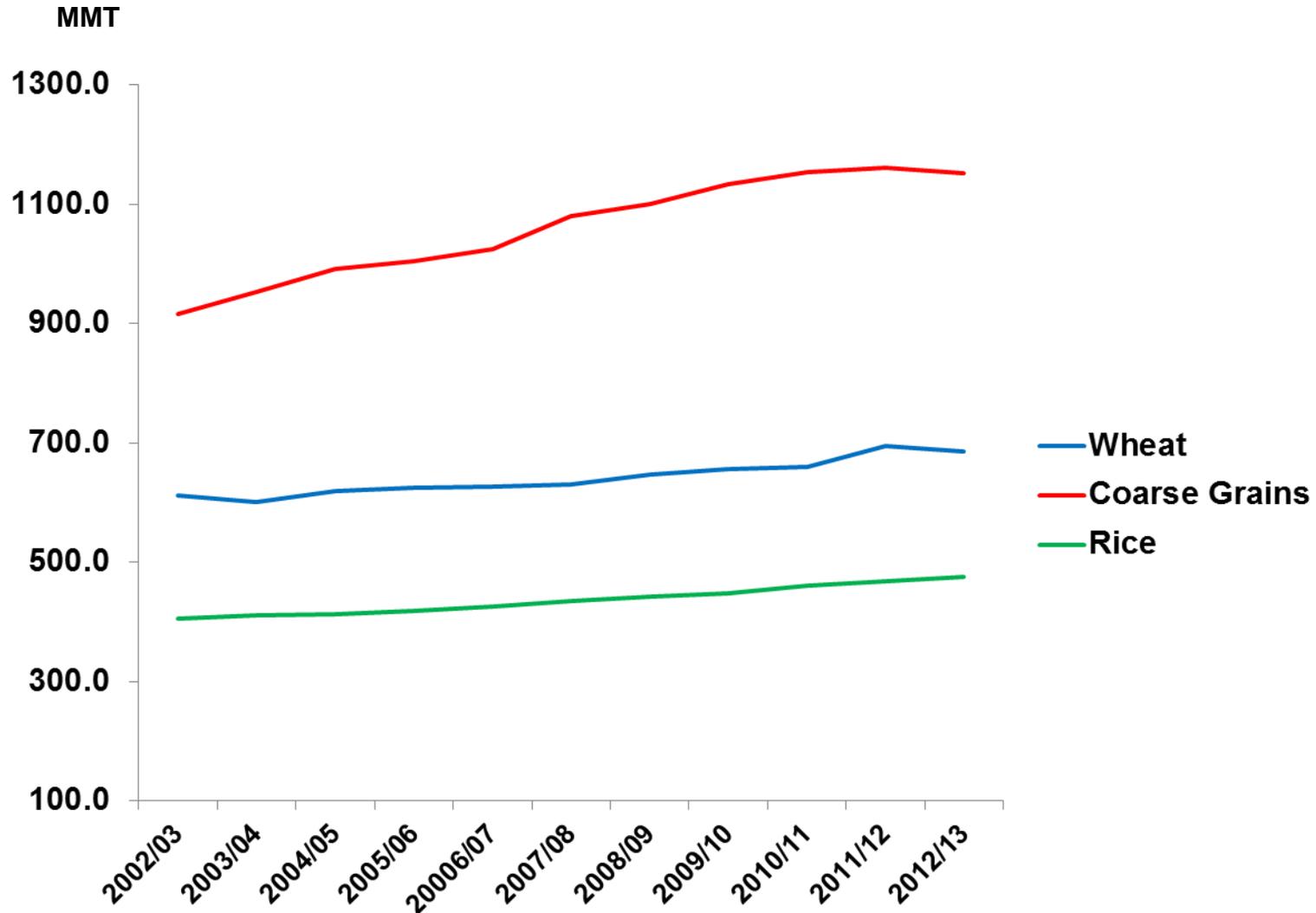


Average:
1.7%



Note: Calculated using differences in natural logs of world yields from the USDA PSD database

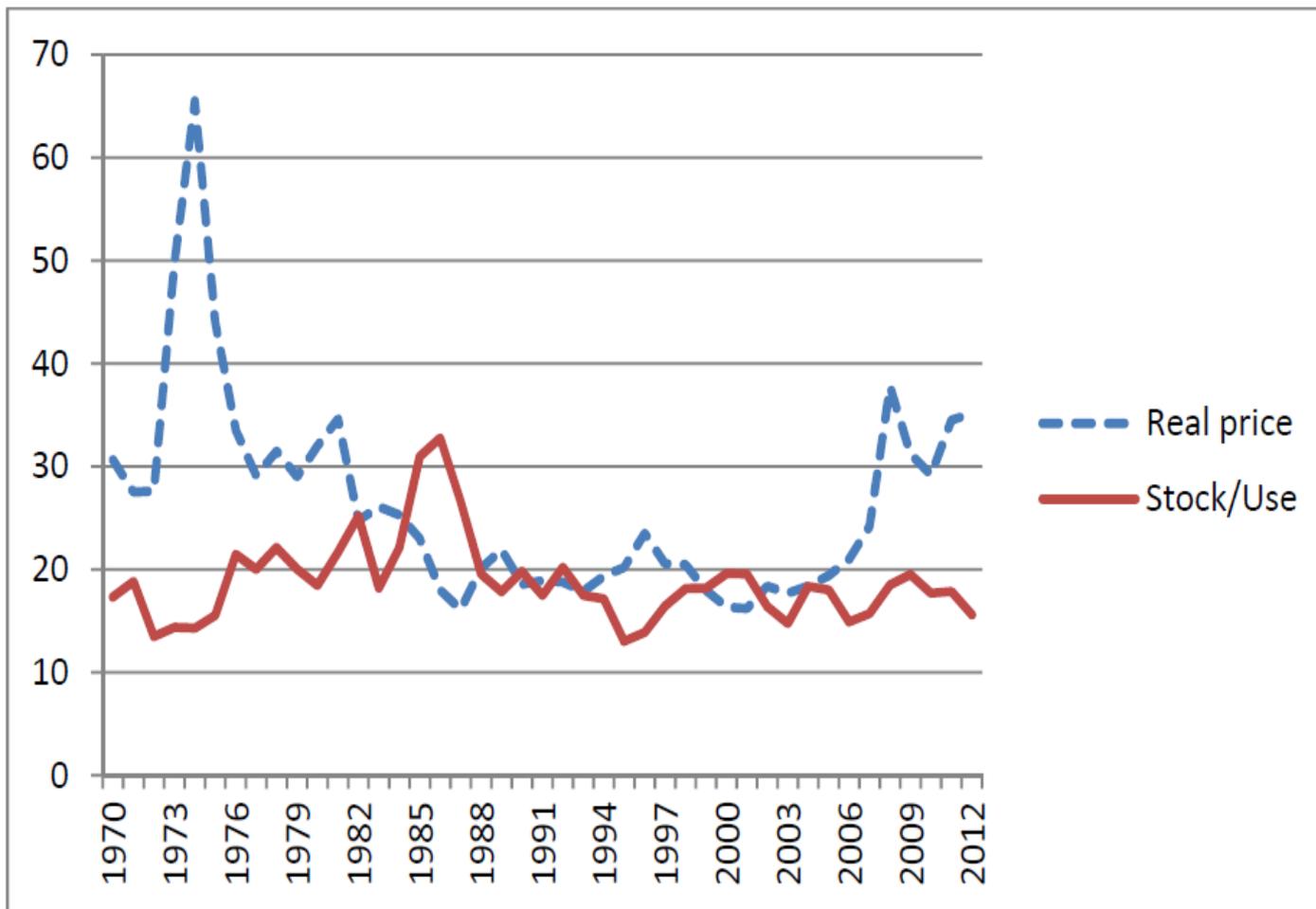
Grain Consumption



Source: FAO (2012)

Ending Stocks and Real Prices

Ending Stocks and Real Grain Prices



Source: Martin (2012)

Response to Food Price Spikes

- **Many developing countries have responded to food price spikes by directly intervening to stabilize domestic markets**
- **2008: 68 countries used trade policies and 35 released public stocks at subsidized prices (FAO, 2008)**
- **Trade policies have consisted of export controls, import subsidies and tariff reductions**
- **In contrast, developed countries have typically not implemented such policies**

Standard Policy Advice

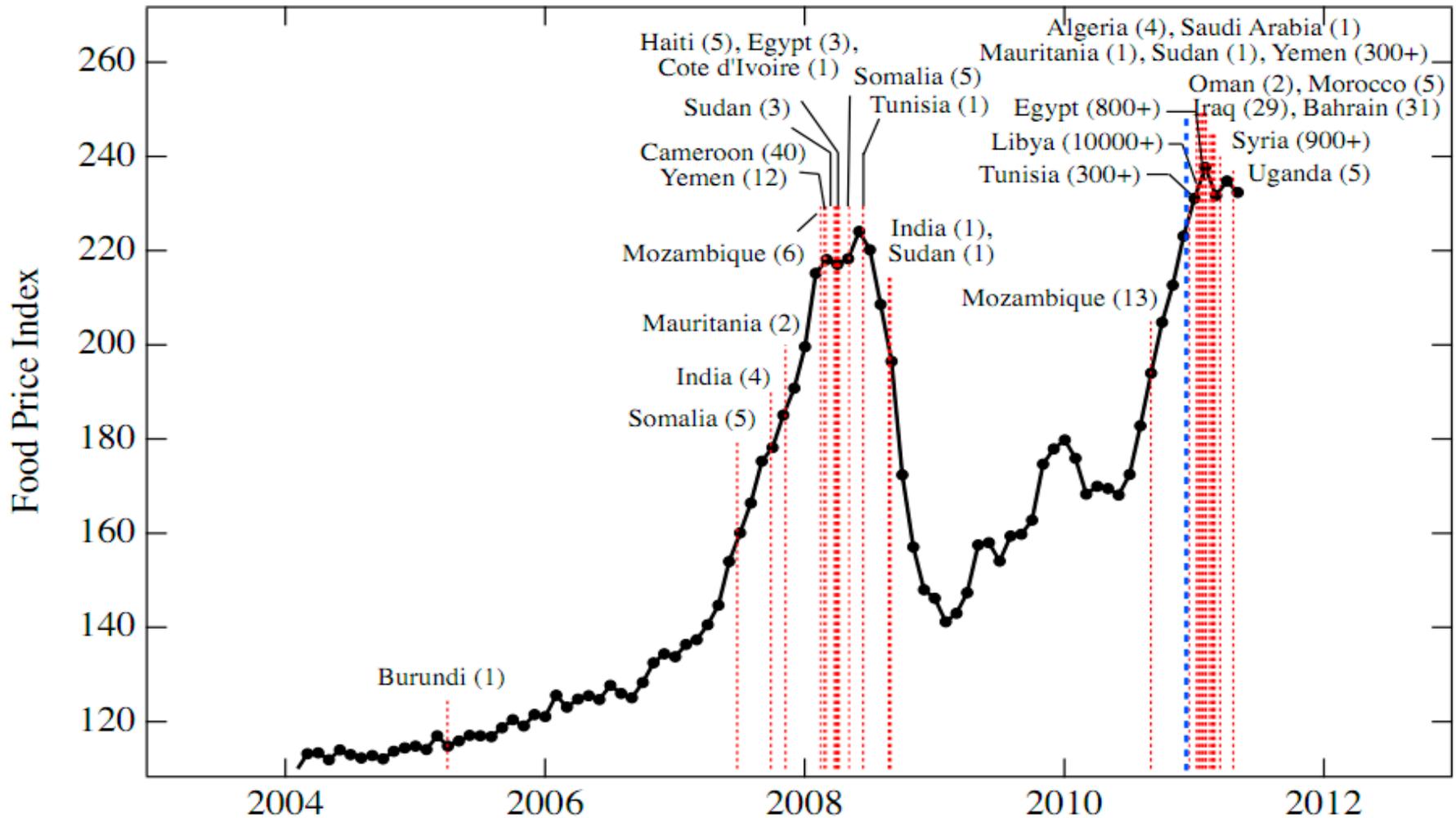
- **1945-80, focus on price stability through production, border and stock controls**
- **Post-1980, price stability considered less desirable - production, trade and storage decisions should be guided by market prices**
- **Policy advice: market-based risk-management tools in combination with safety nets**
- **Has drawn criticism after price spikes:**
 - **risk-management tools often unavailable**
 - **safety nets too complex to use**
 - **poor food importing countries hurt most**

Political Impact of Higher Prices

- **Higher food prices found to increase poverty sharply in short-run (World Bank, 2012)**
- **Research suggests food riots are correlated with high food prices *not* volatility (Bellemare, 2011)**
- **Intervention a matter of political survival in countries with large poor populations**
- **Indian Prime Minister and Indonesian President both re-elected in 2009 after campaigns emphasizing ability to limit impact of food crisis in respective countries**

Impact of Higher Food Prices

High Food Prices and Political Unrest

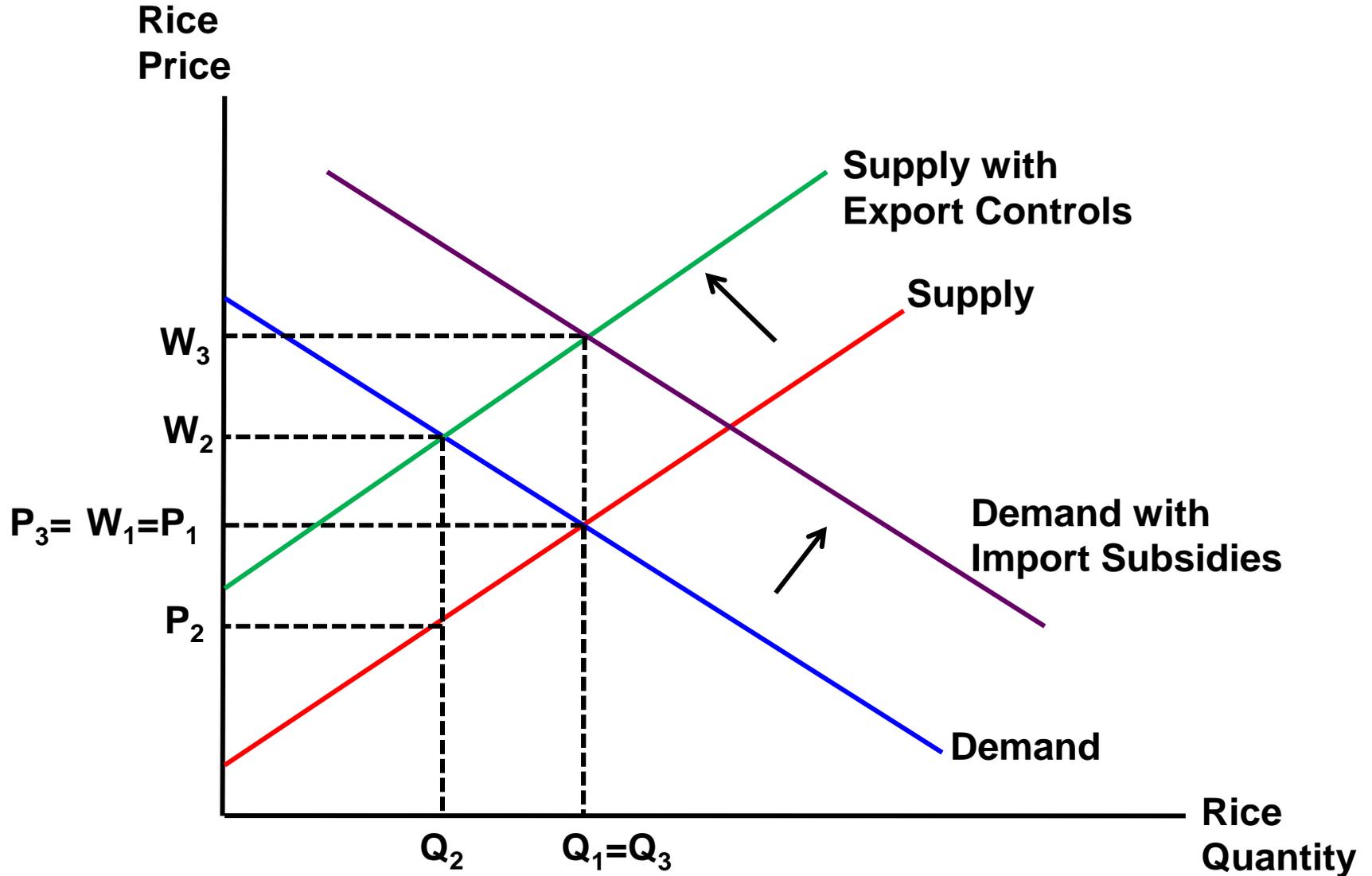


Source: Lagi, Bertrand and Bar-Yam (2011)

Beggaring Thy Neighbor....

- **If enough countries adopt trade policies, end result is increased world food price instability**
- **“...export restrictions play a direct role in aggravating food crises...” (Pascal Lamy, Director General of WTO, 2011)**
- **40%, 19% and 10% of 2007-08 spike in rice, wheat and maize prices respectively due to trade policies (Anderson and Nelgen, 2012)**
- **Unless countries cooperate over not using trade policies, each has unilateral incentive to intervene, but collectively no better off**

World Rice Market



Safety Nets

- **Mixed record of stabilization policies has led to focus on risk management and safety nets**
- **Latter are non-contributory targeted transfers designed to provide assistance to the poor following price shocks**
- **Various forms: cash transfers, food stamps, food-for-work, and cash-for-work programs**
- **Provide insurance to poor who have limited access to formal coping mechanisms – i.e., *entitlements* matter (Sen, 1981)**

Safety Nets

- Often complement stabilization policies, which may be insufficient to protect purchasing power of poor
- In response to 2007-08 food price spike, 23 countries used cash transfers, 19 food assistance, and 16 chose policies to increase disposable income (FAO, 2009)
- Safety nets have been crucial in protecting poor from price increases – e.g., Mexico's *Progresa* program
- Options for delivery improving, e.g. India

Safety Nets vs. Trade Policies

- **Why are safety nets not used more often?**
 - **Hard to scale up/down depending on need**
 - **Fiscal constraints**
- **Trade policies often less costly, and also politically popular if safety nets leave share of middle-class unprotected**
- **Despite being targeted, safety nets may still distort world prices, i.e., result in exports being reduced/imports increased**
- **However, trade policies tend to over-react to shocks while safety nets tend to under-react**

Disciplines on Trade Policy

- **Trade policies often appear successful in stabilizing domestic prices, but end up exacerbating world price spikes**
- **Solution to prisoner's dilemma is cooperation via a self-enforcing agreement, i.e., the WTO**
- **Current Doha Round pushing for reductions in tariffs and disciplines on export subsidies**
- **Developed countries also pushing for tighter WTO disciplines on export restrictions – but rejected by exporting developing countries**

Other Policy Options

- **Raise agricultural productivity through investment in R&D, and dissemination of new technologies**
- **Strengthen input markets, i.e., land, seeds, and rural credit**
- **Improve rural infrastructure, i.e., transport and irrigation**
- **Need for safety valve in biofuels sector, i.e., mandates have resulted in commodity end-use being less sensitive to food price shocks**