

Issues in Thailand's agriculture

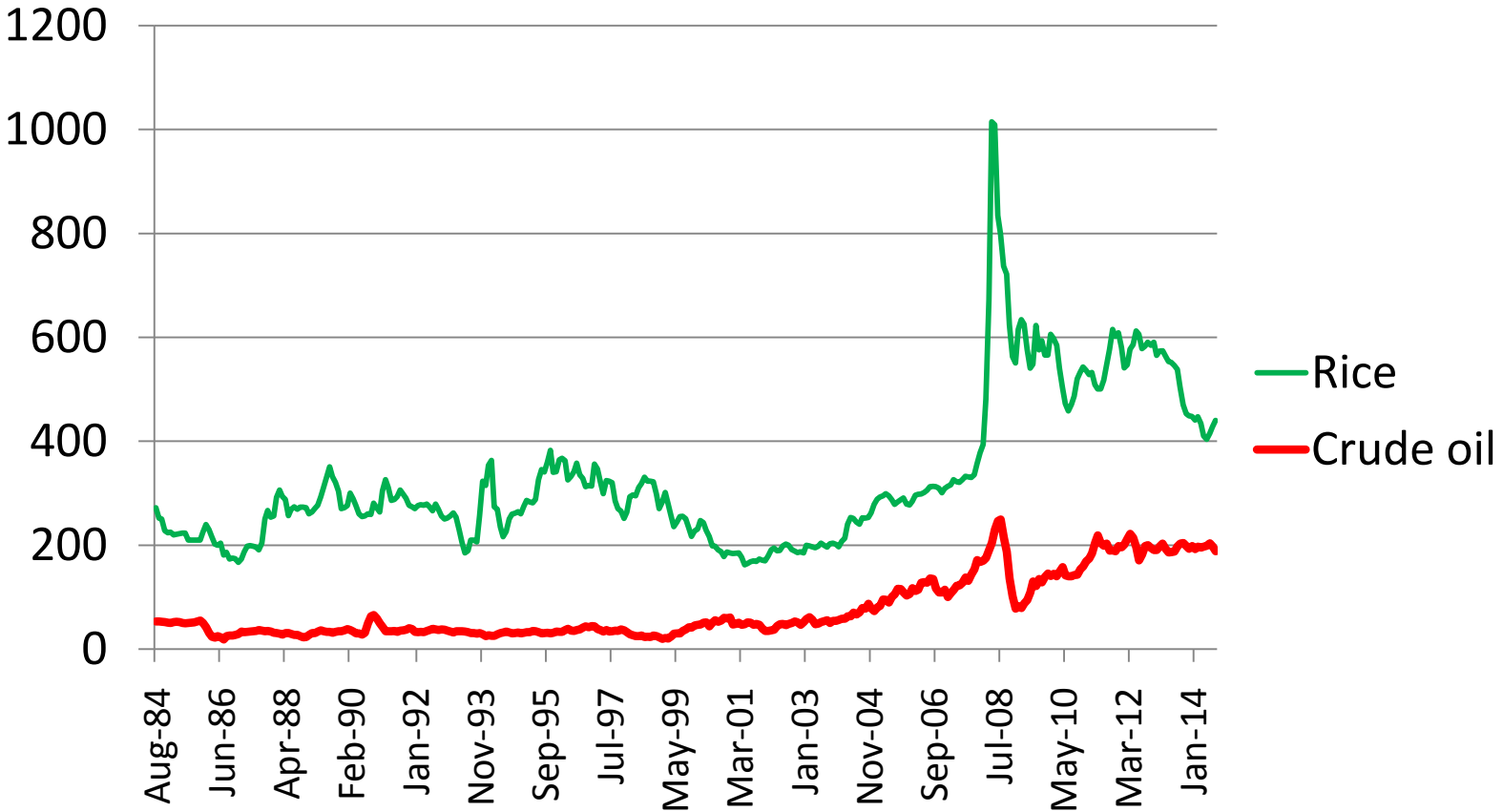
Lecture 12

Bhanupong

Main themes

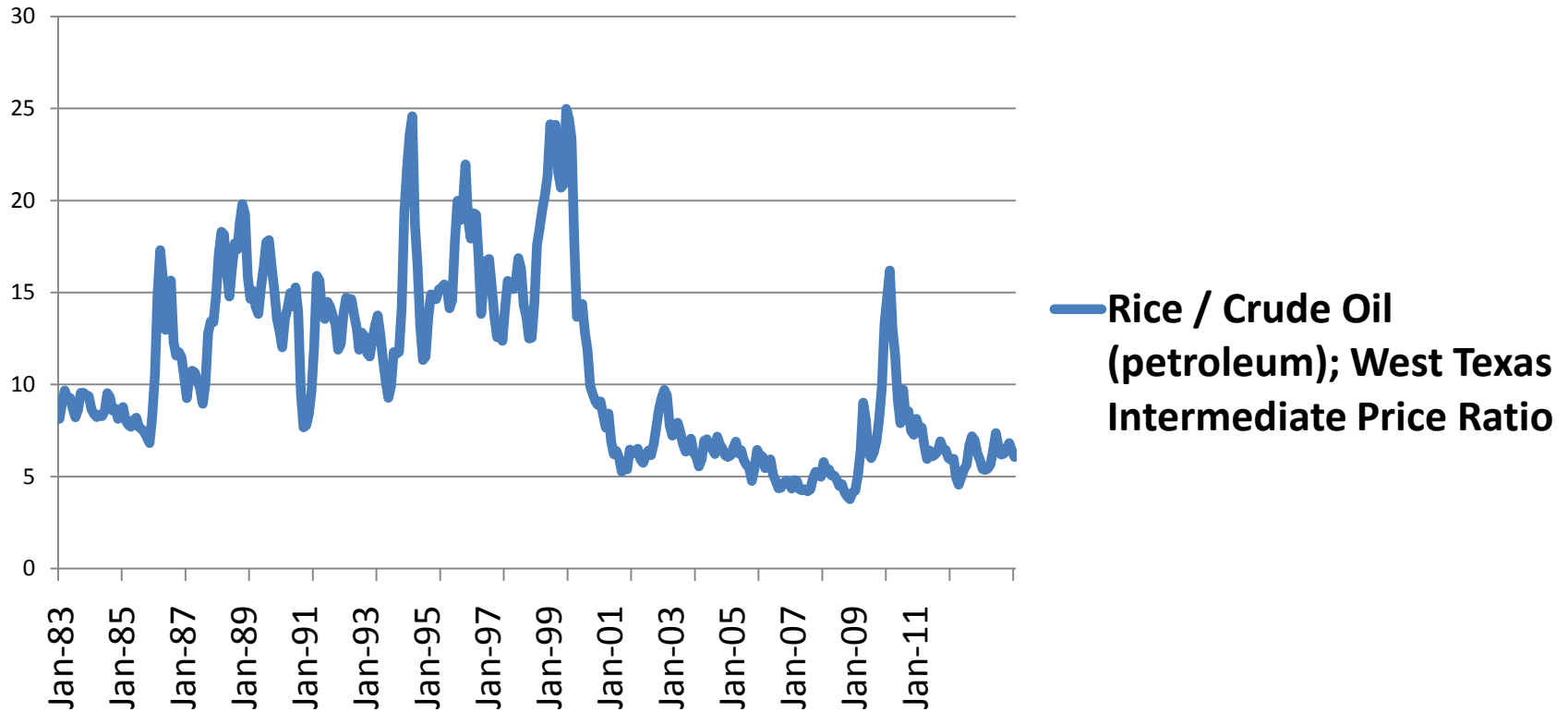
- Declining terms of trade
- Agricultural growth and volatility
- Food security and grain dependency
- Criticism of the rice-mortgage scheme

Crude Oil (petroleum), Price index, 2005 = 100, simple average of three spot prices; Dated Brent, West Texas Intermediate, and the Dubai Fateh



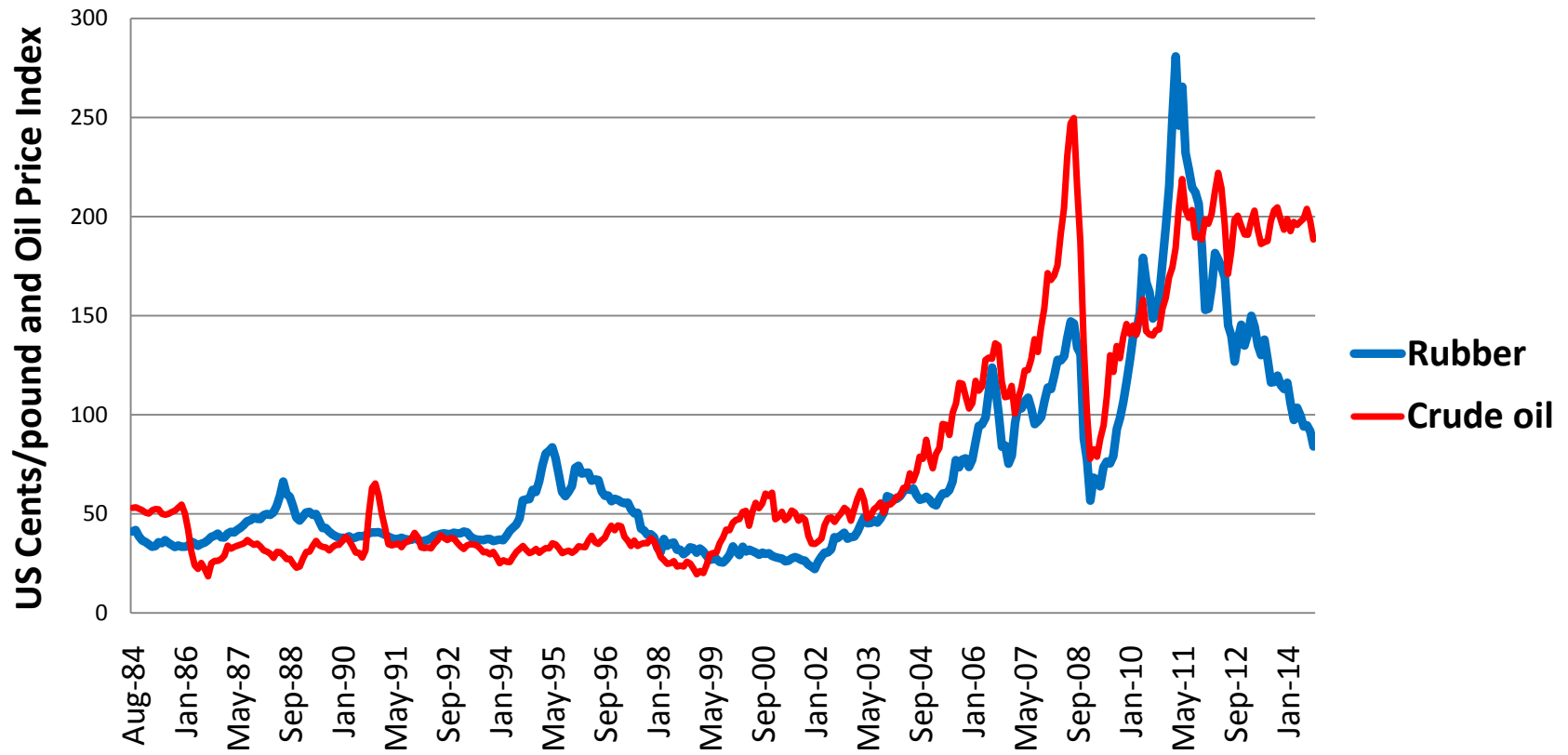
Terms of trade

**Rice / Crude Oil (petroleum)
West Texas Intermediate Price Ratio**

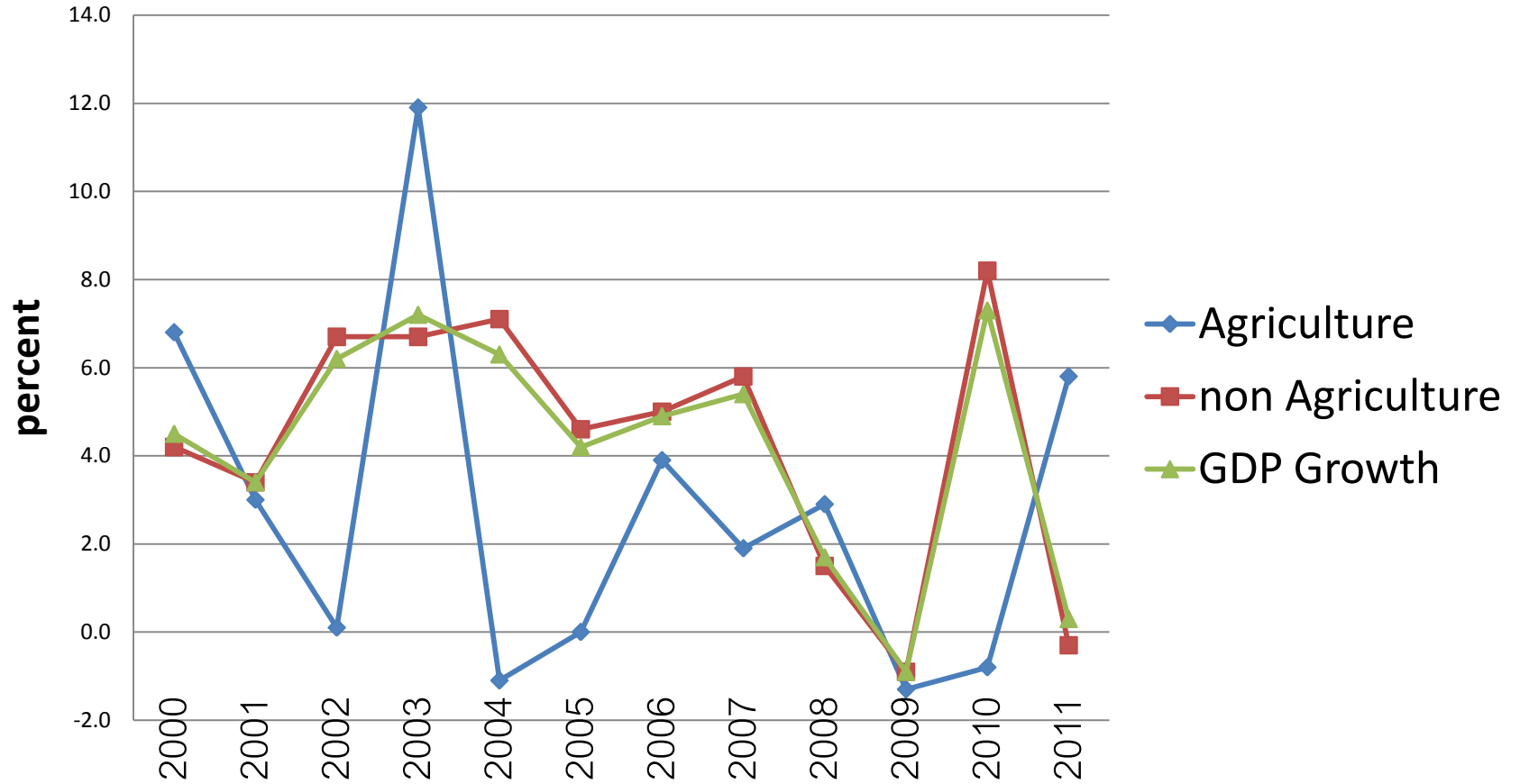


High correlation

Prices of rubber and crude oil



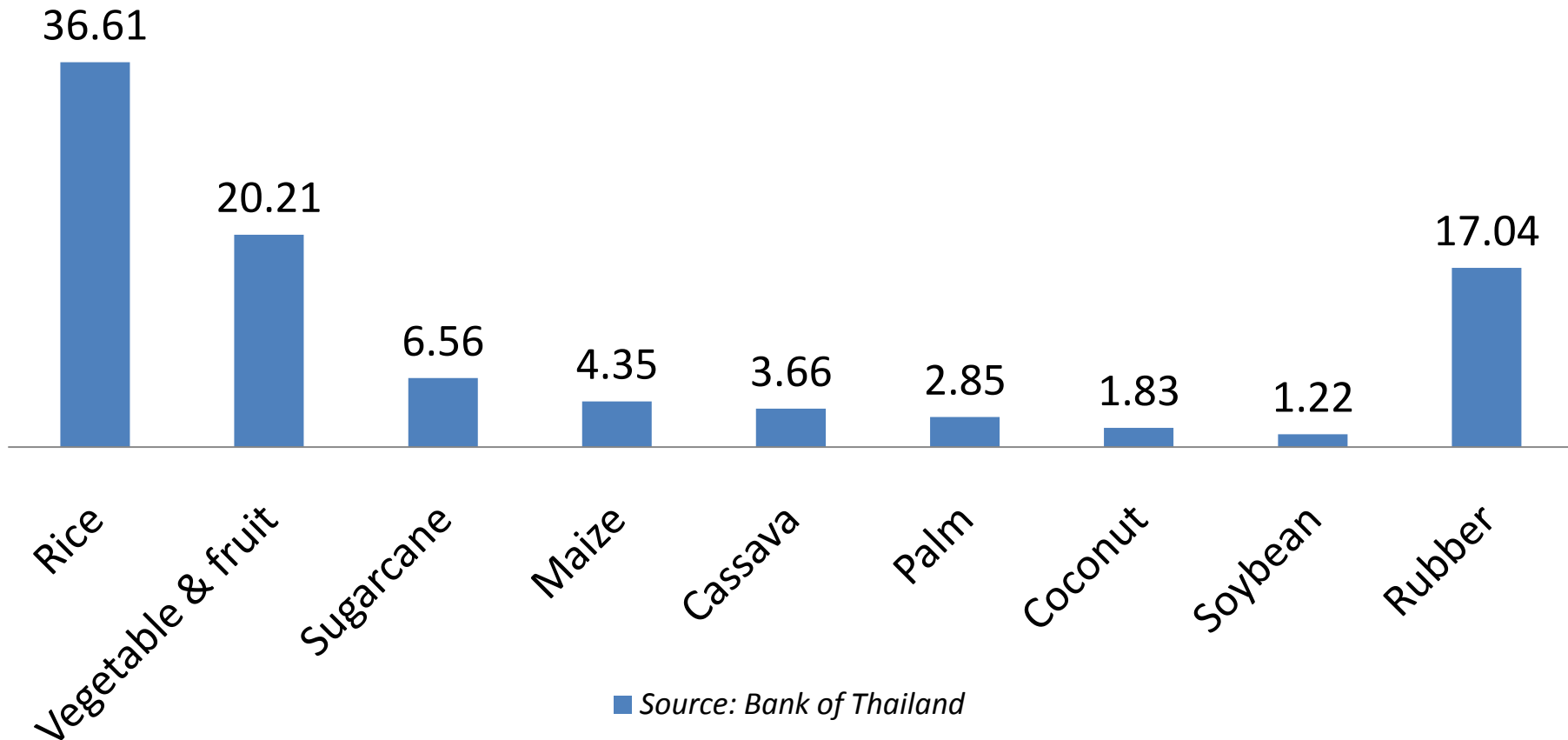
Sectoral Growth



Sectoral Growth 2000-2011

	STDV	Average	Coefficient of variation
Agriculture	3.9	2.8	1.42
non Agriculture	2.9	4.3	0.67
GDP Growth	2.6	4.2	0.63

Weight in Crops Production index



The lucky year: 2008

- Thai rice farmers only managed to get good prices in 2008 because the other main rice-producing countries, such as Vietnam and India, had to cope with natural disasters such as droughts and flooding.
- But when there are no natural disasters in other countries, Thai farmers are not able to compete with others in terms of price, because..

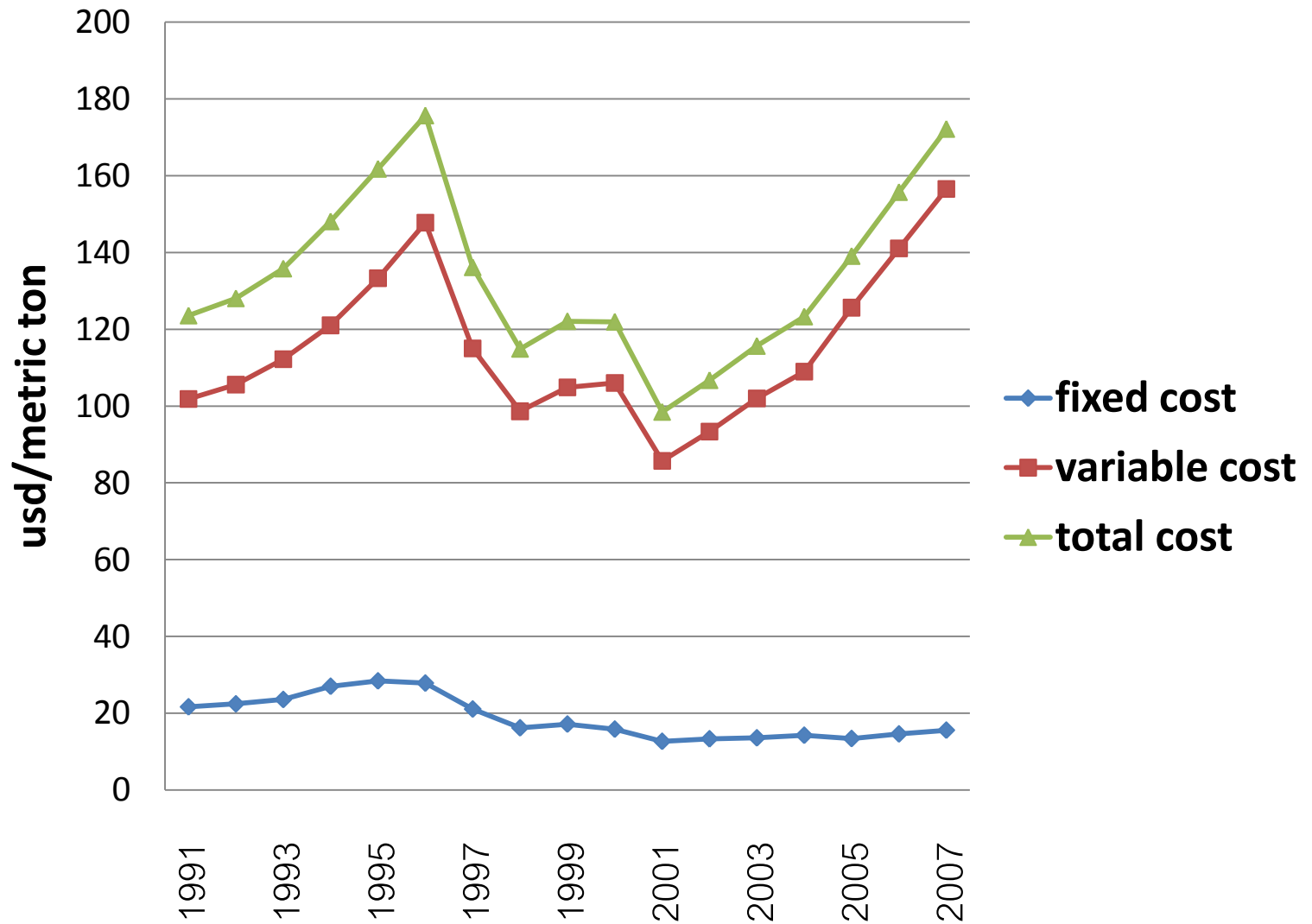
Agflation

- A wide range of factors has been blamed for the food price increases.
- Culprits include slowing agricultural productivity, climatic and weather-related factors, rising demand from China and India, higher oil prices and demand for bio-fuels, speculative behavior in financial markets, hoarding, falling stocks, dollar depreciation, low interest rates, among others.

From boom to bust

- But from the second half of 2008, global attention shifted again.
- The eruption of the global financial crisis and slide of the global economy into recession raised fears that the world economy would plunge into another Great Depression.
- One consequence of the global recession has been a fall in world commodity prices that has also affected food commodity prices.
- This fall in food prices (and the fall in oil prices) has mitigated immediate concerns about large-scale food insecurity.
- Our focus is now on cost control

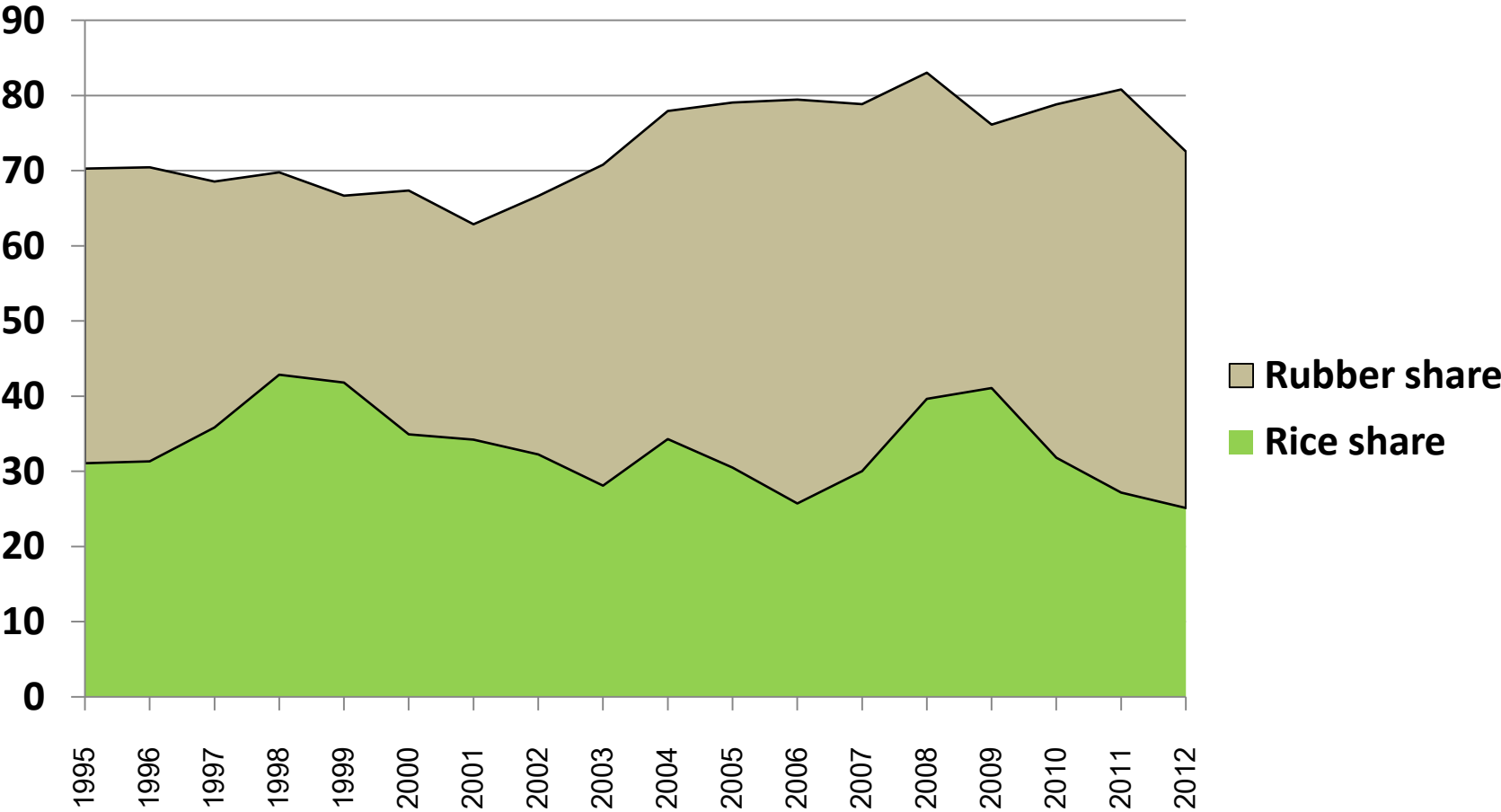
Cost of paddy production in Thailand



Cost of chemical farming (baht /rai)

Fertilizer	900-1000
Pesticides, insecticides	550-1000
Rice seeds	600-750
Fuel	300
Labor	200
Harvester rental	500
Land rental	1500
Farm management fee	2400
Total cost	7450-8150

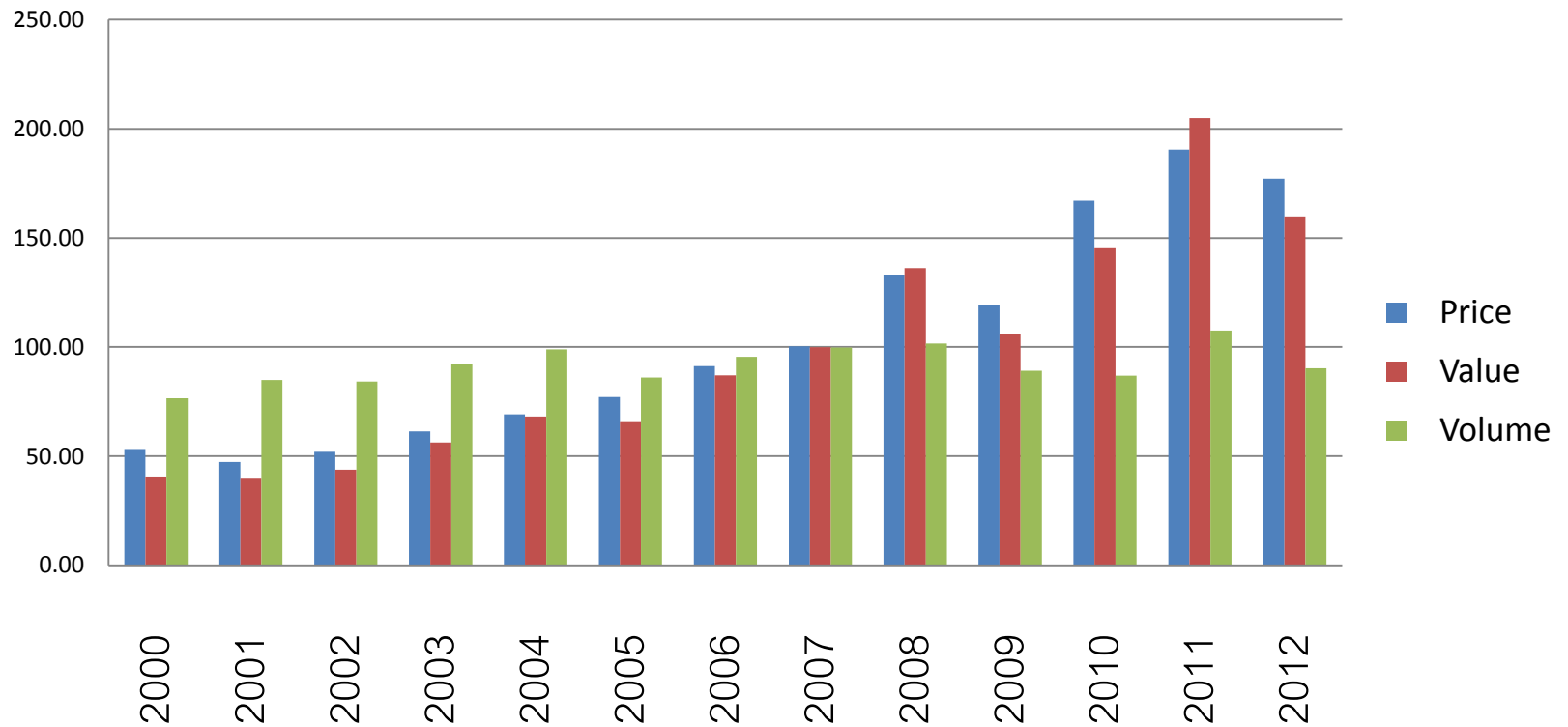
Shares in total agricultural exports



Total Export Revenue = P x Q

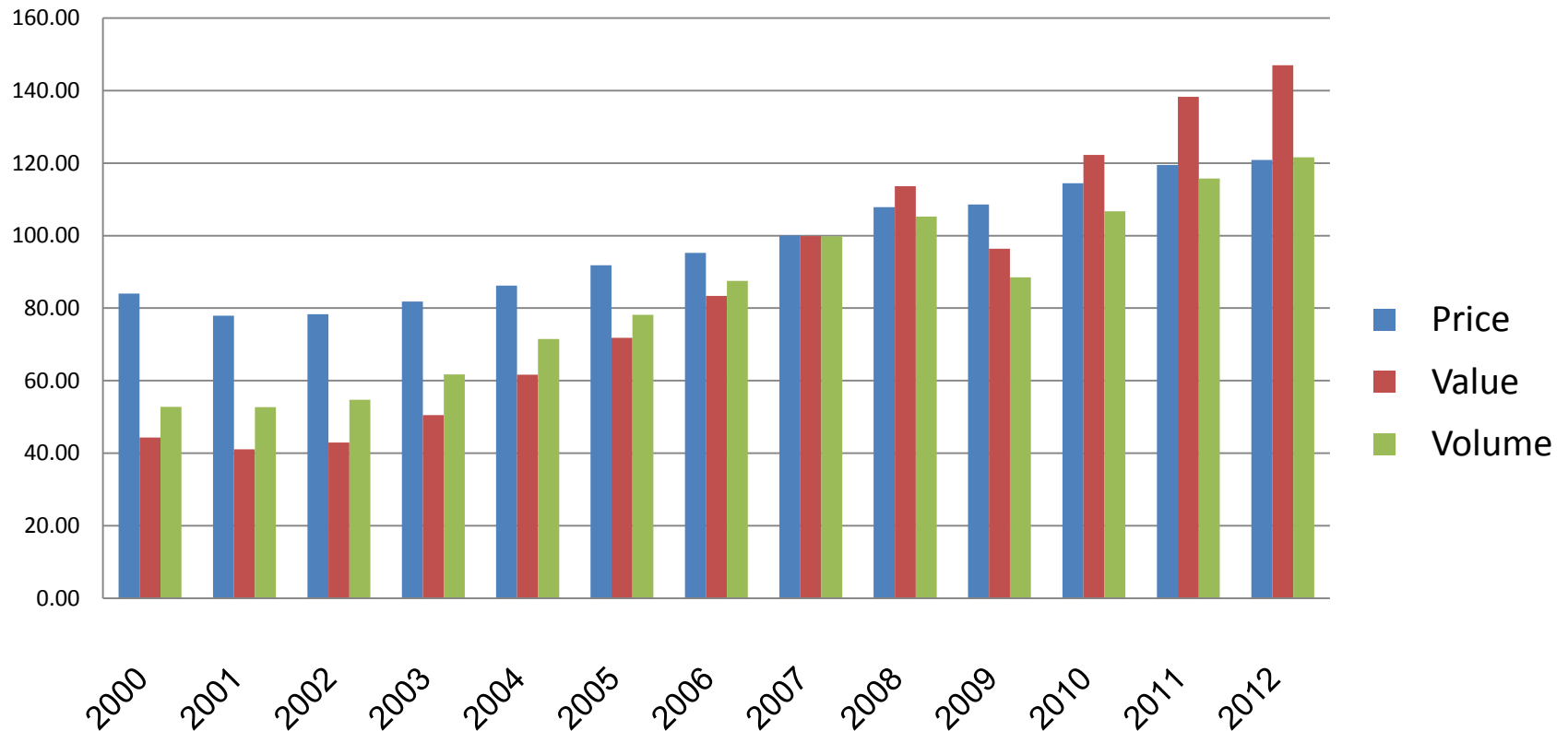
Price factor dominates quantity

Agricultural Exports



A small country assumption

Manufactured exports



Correlation coefficients between export values (2000-2012)

	Price	volume
agriculture	.98	.62
manufacturing	.98	.99

Supply and demand analysis

- Price elasticity of supply
- A small country assumption for some products
- Price elasticity of demand and substitutes
- The more narrowly defined commodities, the higher the price elasticity

Jasmine vs. jazzman

- **Jasmine rice exports will soon run into fierce competition in the United States, which has successfully grown and registered a new type of fragrant rice called "Jazzman".**
- Louisiana State University's Agricultural Centre have come up with a new variety of aromatic rice, known as LA2125 , with a very similar fragrance, soft grain and quality as Thai jasmine rice.
- Consumers and Asian restaurants in the US may shift to serving Jazzman rice as it tastes the same but is cheaper.
- Another challenge is the yield: up to **1260 kilograms** per rai of Jazzman rice can be grown, compared to **400 kilograms** of Thai jasmine rice production.

Innovation and competition

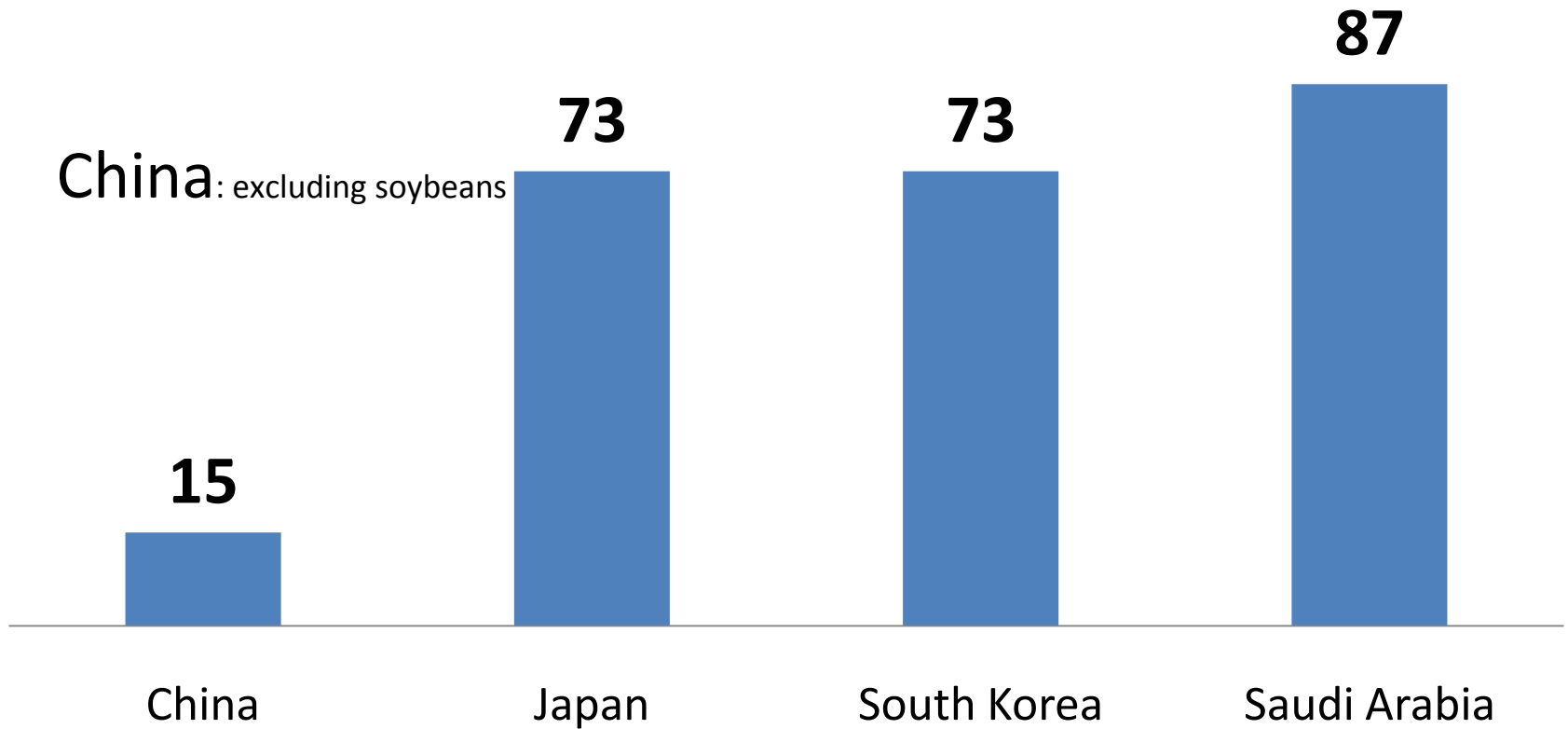
- The LSU rice breeder who developed the variety said the project required 12 years of work to obtain a long-grain rice with good milling quality, high yield and the correct aroma and flavor.
- Consumers and Asian restaurants in the US may shift to serving Jazzman rice as it tastes the same but is cheaper.

Jasmine rice from Vietnam and Cambodia

- Vietnam has already come up with rice that tastes similar to Jasmine.
- It is now on sales in supermarkets in London at 1,000 baht for 20 kg bag, compared with 1,500 baht Jasmine rice from Thailand.
- The recent dong devaluation has enabled Vietnam to offer 50% lower price than Thailand.
- In 2014, because of cheap jasmine rice from Cambodia, the share of Thai jasmine rice in Hong Kong dropped from 90% to 45 %.

Grain Dependency

■ % of imports in domestic consumption



China's self-sufficient policy

- In the early 1960s, even as tens of millions of Chinese starved in a brutal famine, Mao Zedong was reluctant to import grain.
- Now China is deeply integrated into global commodity markets.
- China calls for 95% of grain demand to be met by domestic production.

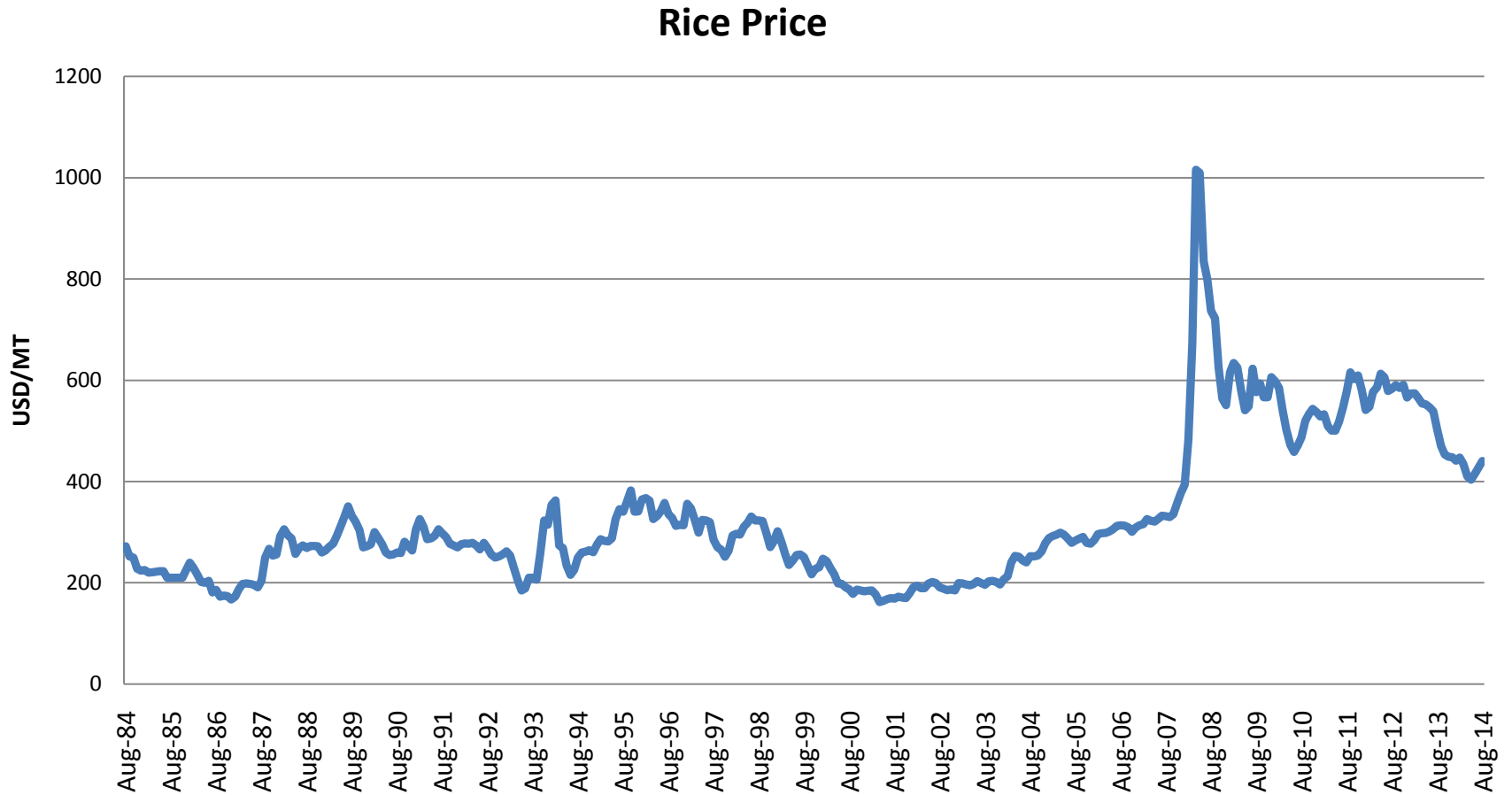
Redefine self-sufficiency

- In 1961, China would have needed 25 % of total export revenues to meet domestic grain shortfalls through imports.
- Today, that proportion is at most 2 %.
- China should import more of its food rather than dedicate limited land and water resources to growing it all.
- Earning enough foreign exchange through exports to import whatever grain you need could be described as self-sufficiency.

Thailand rice exports hit 12-year low

- Rice exports from Thailand plunged 37 per cent last year to the lowest in more than a decade, plunging the nation from first in the world to third place.
- In 2012 Thailand sold 6.73 million (metric) tonnes with a value of \$4.63 billion, compared with 10.7 million tonnes, worth \$6.43 billion in 2011.

5 percent broken milled white rice



Thailand rice exports hit 12-year low

Published Bangkok Post Jan 24, 2012

- India became the largest supplier in 2011, selling 10.3 million tonnes, according to the USDA.
- Vietnam, world number two exporter, exported 8 million tonnes in 2011.

Paddy **Mortgage** Policy

- Rice exports declined after the government of Prime Minister Yingluck Shinawatra introduced a price support program in October, 2011.
- The government bought the grain from farmers above market rates to boost domestic prices and lift rural incomes.
- Analytical diagram

Stocking up problems

- The government spent 689 billion baht in 2011 and 2012 buying rice from farmers at prices that were as much as 76 % higher than market rates.
- The government rice inventories reached 14.7 million tonnes in 2014, compared with 6.1 million in 2010.
- Storage cost and steep depreciation rate
- Smuggled rice from neighboring countries
- Loss of international competitiveness

- Supply = beginning stocks + domestic production + imports.
- Use = domestic consumption + exports + ending stocks.
- Domestic consumption = all possible uses of the commodity: food, feed, seed, waste, and industrial processing.

Disruption of the world market

- But whether the actual amount will match with the purchase figures will only be known when the rice is actually sold to exporters or sold by the government in government-to-government deals.
- The huge stockpile will pose a real problem with the arrival of new harvests when warehouse space is needed to store new rice to be bought under the scheme.

Disruption of the world market

- Depreciation: the rice quality will drop if the grains are kept for too long and they will fetch much lower prices.
- Pressed with these dual problems, the government may be forced to sell cheap.
- There is no doubt the government will suffer a loss if it wants to dispose of the massive rice stockpile to make room for the arrival of new rice purchases.

An alternative

- The government has good intentions in helping farmers earn more from their crops even though it also expects to win their votes during the election.
- The loss burden from the rice mortgage scheme may be acceptable if the farmers are the only real beneficiaries of the scheme.
- However, others have benefited much more than the farmers, such as millers, brokers, corrupt politicians and officials.

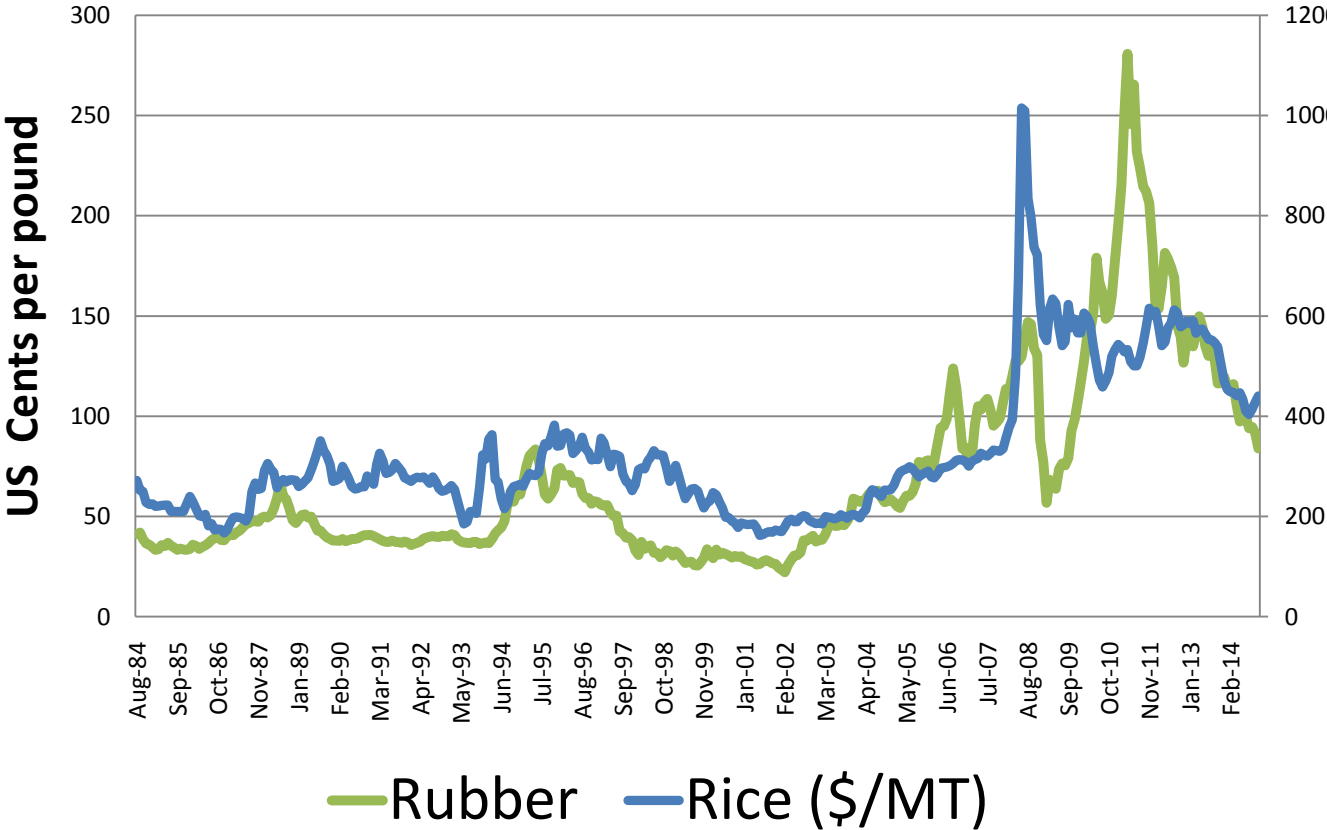
How the rice mortgage system works

- Farmers kept their rice in their own granary and got money from the Bank of Agriculture (BAAC) at low interest.
- If the price rose, the farmers could sell their rice and return the money with interest to BAAC.
- Yingluck Government could not to pay farmers as it would be in breach of the constitution to borrow money while being a caretaker government.
- Then came the 2014 military coup...

A long run relationship (co-integrated) between the two prices

(correlation coefficient = 0.72)

Prices of rice and rubber smoked sheets: 30 years



Milled Rice Production by Country in 1000 MT

Year of Estimate: 2014

Source: [United States Department of Agriculture](#)

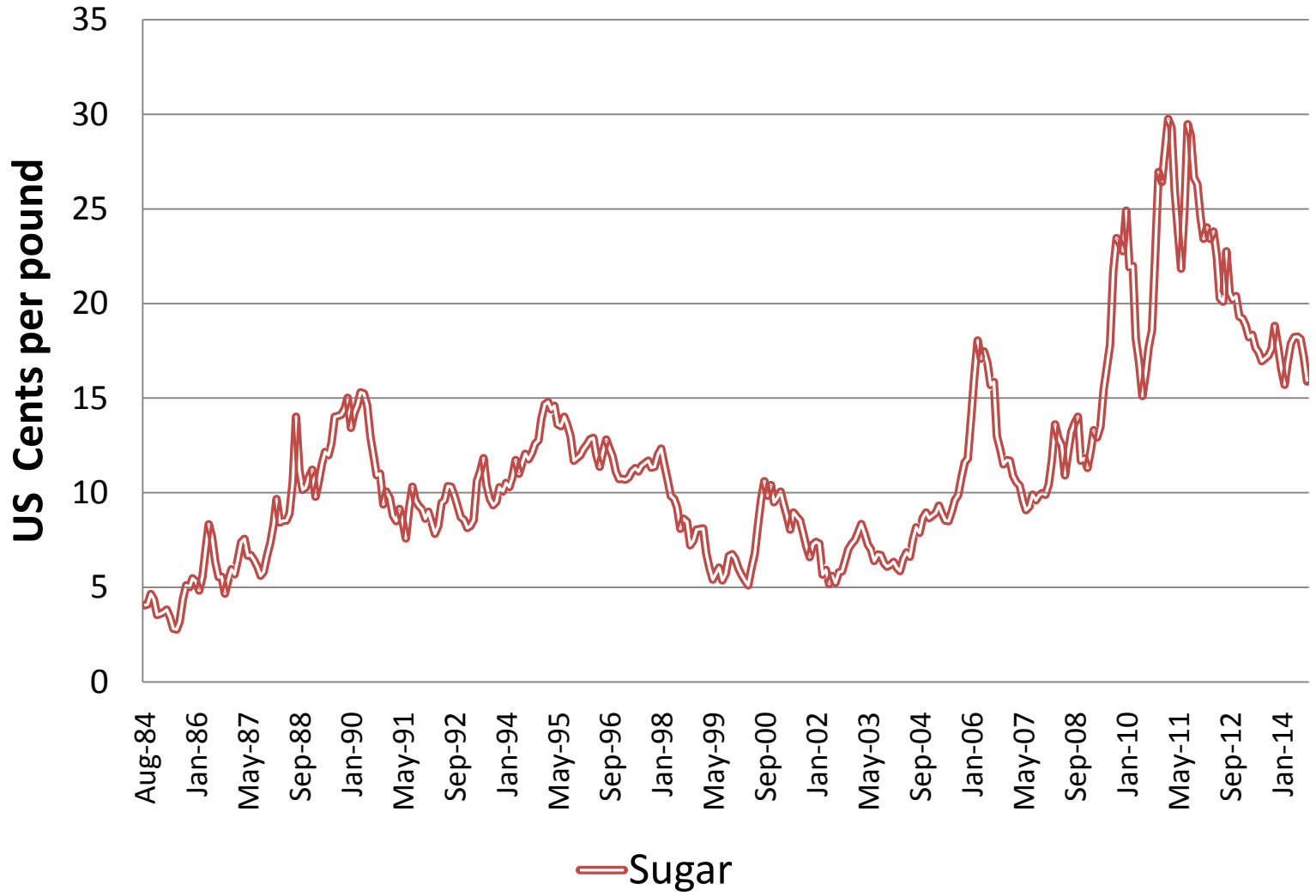
Rank	Country	Production (1000 MT)
1	China	144,000.00
2	India	106,000.00
3	Indonesia	37,700.00
4	Bangladesh	34,800.00
5	Viet Nam	27,800.00
6	Thailand	20,500.00
7	Philippines	12,200.00
8	Myanmar	12,150.00
9	Brazil	8,500.00
10	Japan	7,700.00
11	United States	6,811.00
12	Pakistan	6,700.00
13	Egypt	4,900.00
14	Cambodia	4,900.00
15	Korea, Republic Of	4,150.00

Year of Estimate: 2014

Source: [United States Department of Agriculture](#)

Rank	Country	Exports (1000 MT)
1	Thailand	10,000.00
2	India	9,000.00
3	Viet Nam	6,700.00
4	Pakistan	3,900.00
5	United States	3,262.00
6	Myanmar	1,300.00
7	Cambodia	1,200.00
8	Uruguay	950.00
9	Brazil	900.00
10	Egypt	875.00

Sugar



Questions

- Discuss the costs and benefits of the rice-pledging program in short-run and long-run impact on the Thai economy.
- Should the government intervene to support commodity prices?