

Issues in Thailand's agriculture

Lecture 12
Bhanupong

Main themes

- Farm households' debt
- Declining agricultural prices
- Agricultural output growth and volatility
- Competition from new comers
- The rice-mortgage scheme
- Populism policy via agriculture subsidies
- Input subsidies: The case of cassava

Debt in farm households

Agricultural households are most at risk of defaulting on loans due to their high debt service coverage ratio, which has been exacerbated by the slow economic recovery, reports the Bank of Thailand.



"Farmers' debt remains at a high level partly due to how they have to borrow money for staple goods, as farmers have been affected by the drought since late 2013," said the central bank's latest Monetary Policy Report.

"Household debt among farmers might rise because they have to seek loans for cultivation and consumption while waiting for income generated from a new growing season."

Even though farmers' income and consumption can improve on the back of the rainy season, agricultural prices are not expected to turn around because Chinese demand for rubber remains tepid while prices of Thai rice have been dented by high inventory.

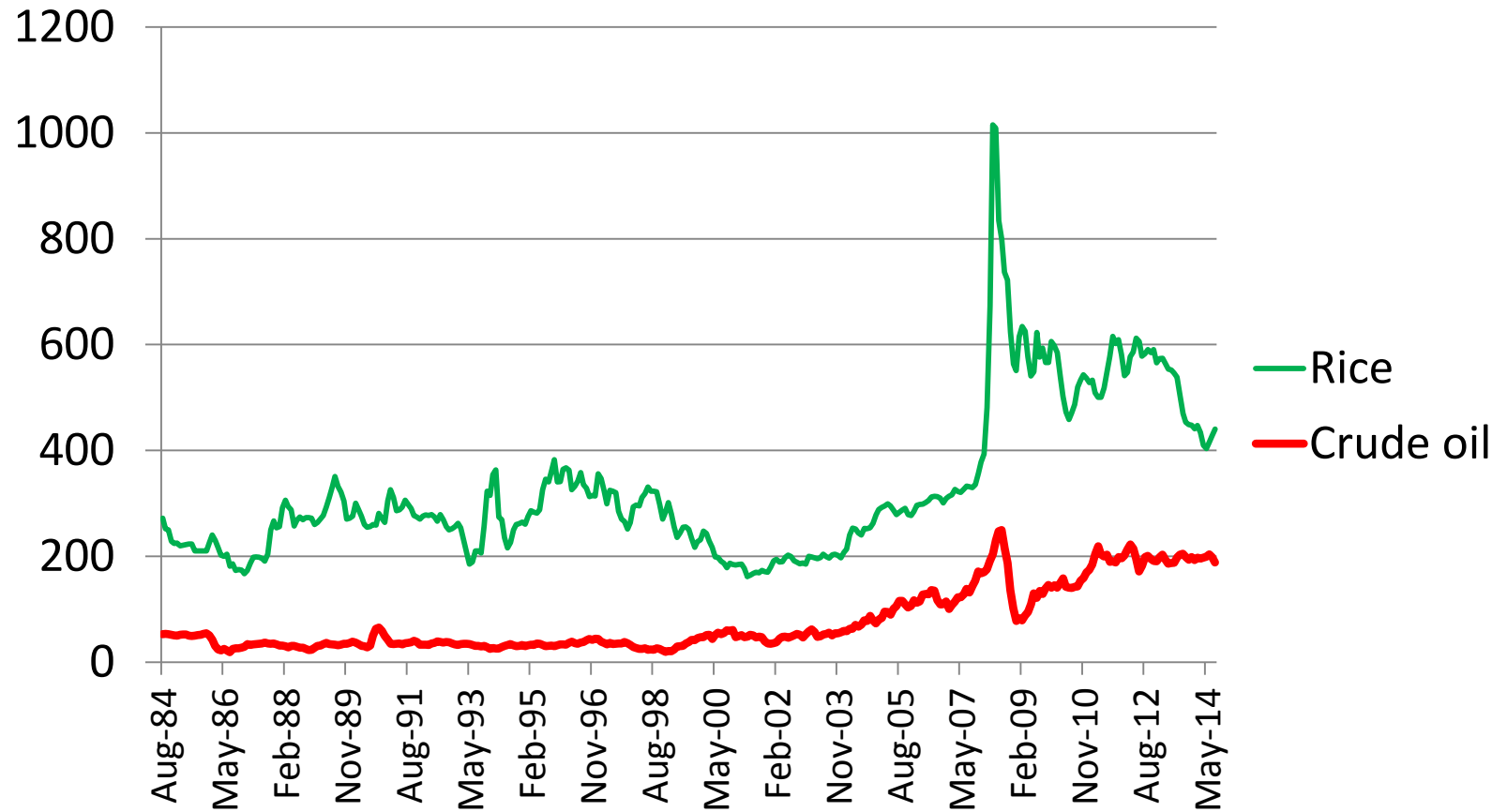
Although farmers can begin growing their main rice paddy crop at the end of the second quarter and harvest seasonally in the final quarter, low agricultural prices coupled with high debt could keep their private consumption from returning to normal, the report said.

"The slow economic recovery and high household debt compared to income have caused the debt-servicing ability among households to deteriorate continuously, particularly farm households and low-income households which have lower [financial] liquidity than other household groups," said the report.

Low-income households warrant closer monitoring because they have high indebtedness as reflected through their debt-to-assets ratio, according to the central bank's calculation of data from the National Statistical Office.

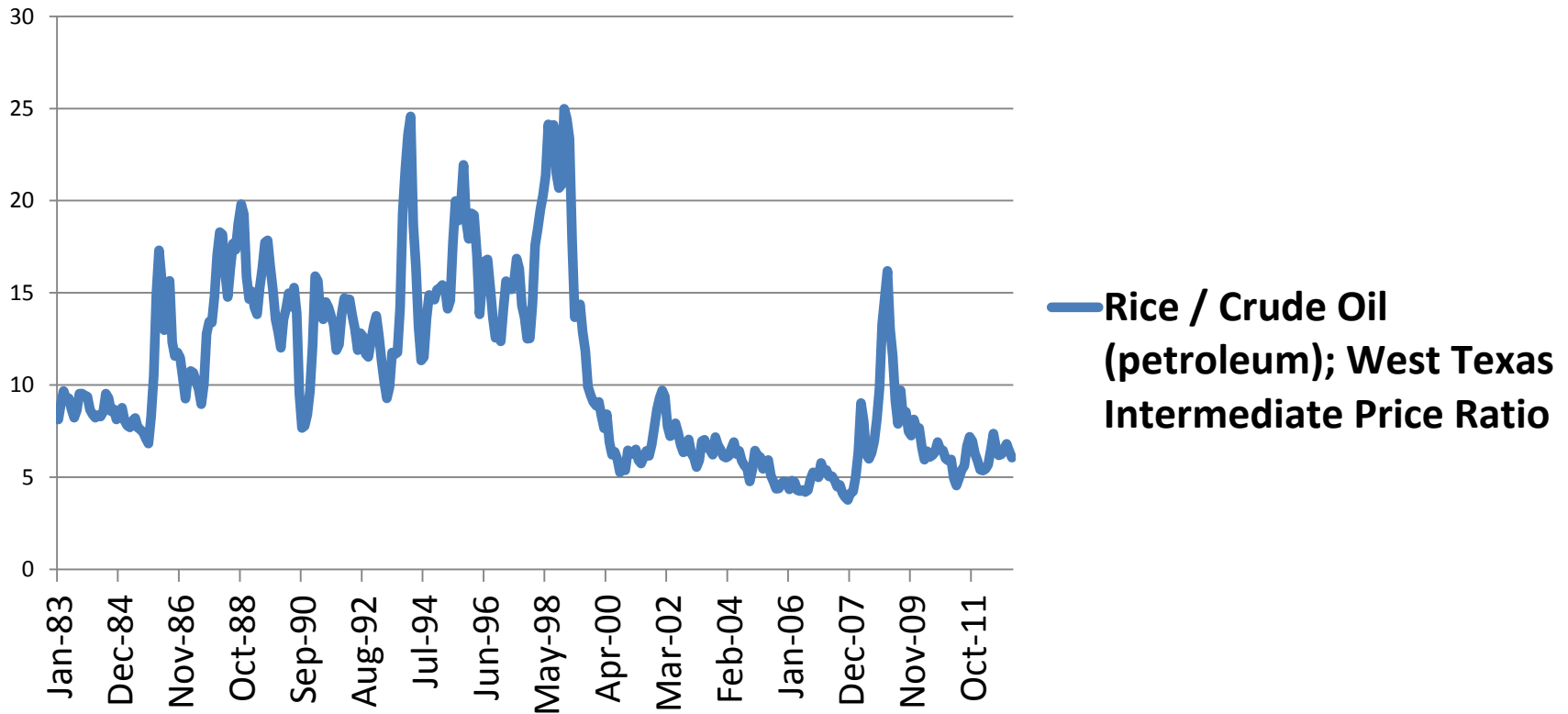
Household debt was registered at 11.1 trillion baht or 81.1% of Thailand's GDP in the first quarter, up in terms of value from the 11 trillion baht recorded in last year's final quarter but down from 81.6% of GDP, central bank data showed.

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 have turned against Thai farmers

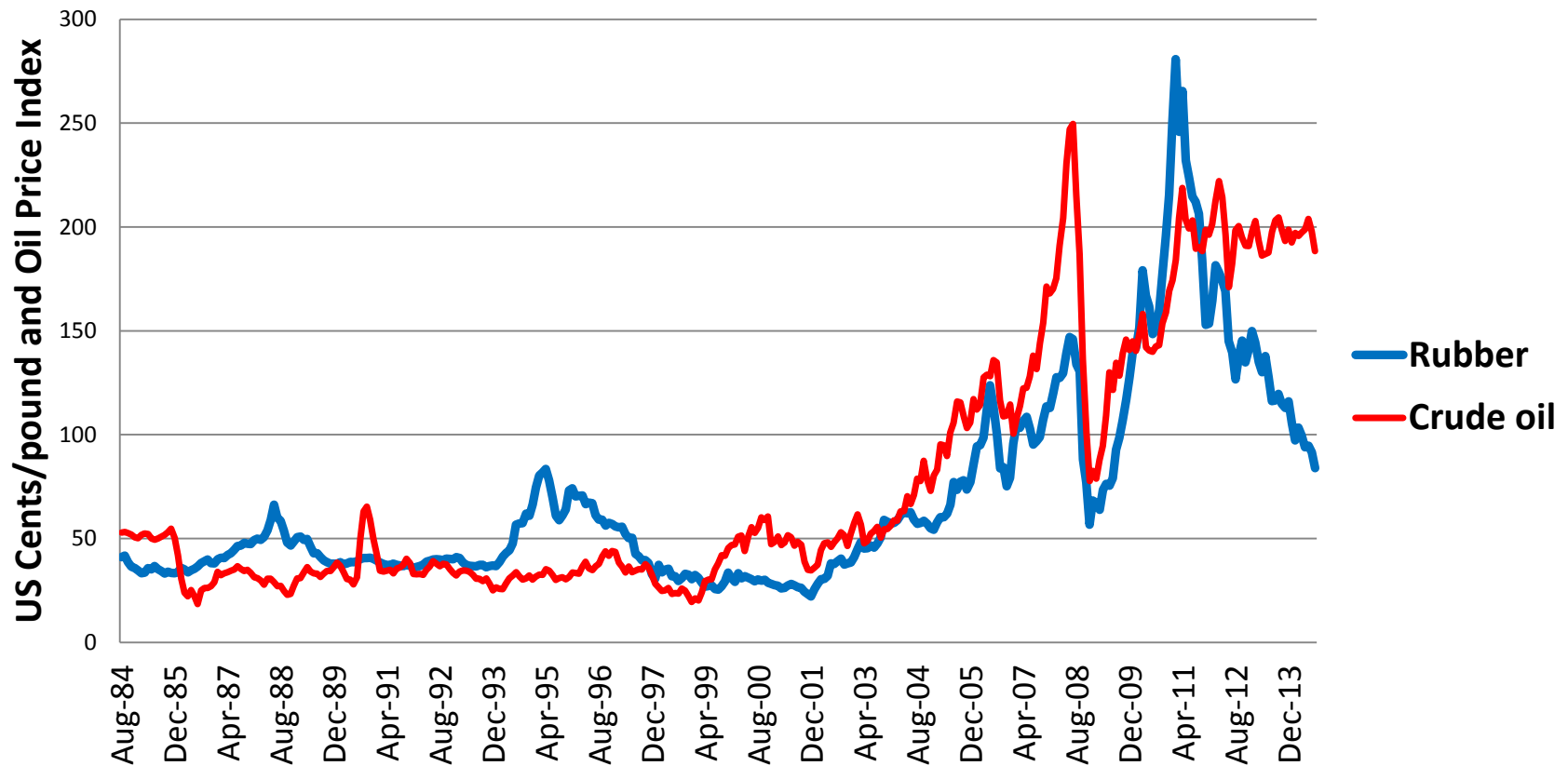
Rice / Crude Oil (petroleum)
West Texas Intermediate Price Ratio



High correlation: Rubber and oil prices

Synthetic rubber: a byproduct from oil refining process

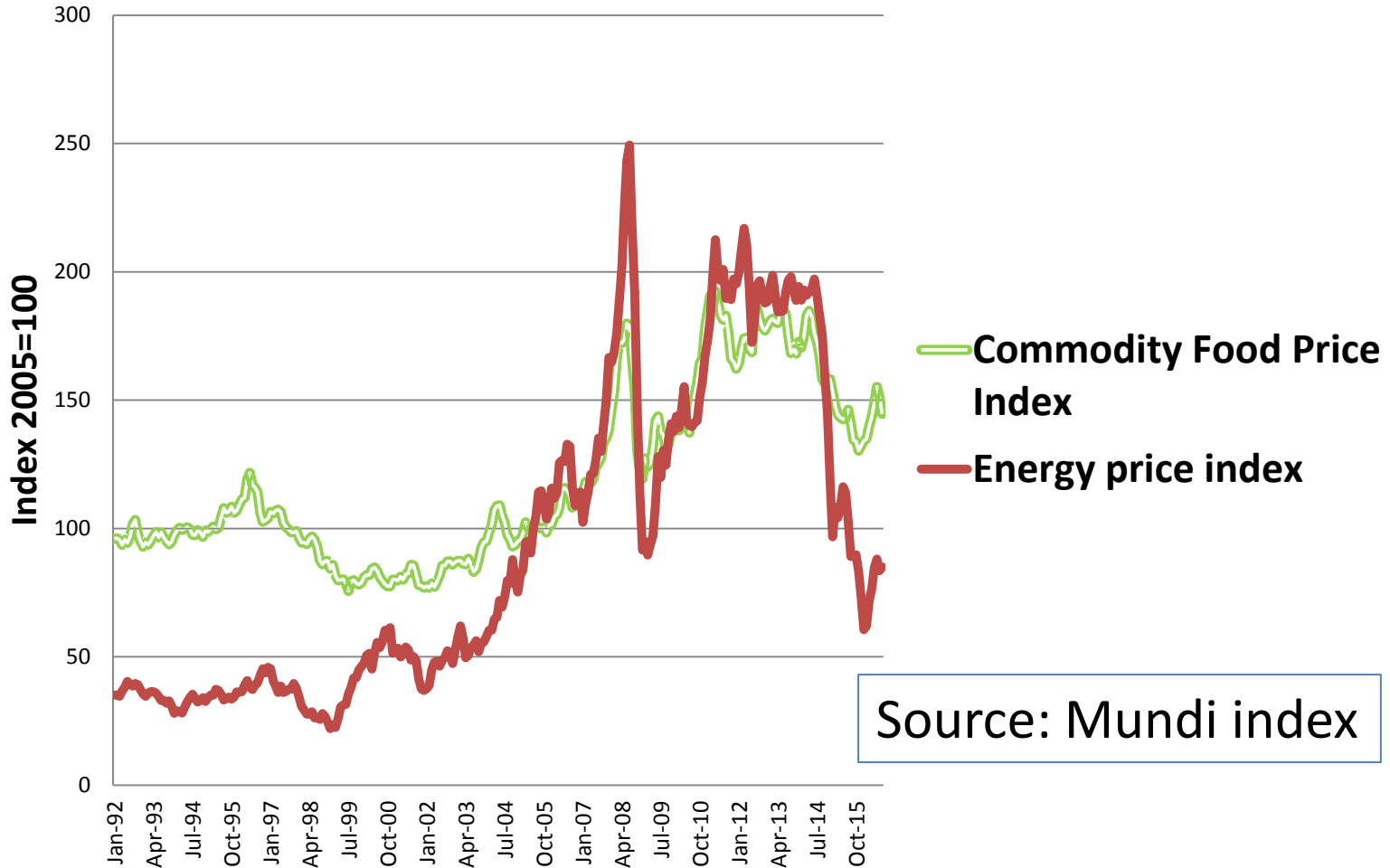
Prices of rubber and crude oil



Commodity Food Price Index, 2005 = 100, includes Cereal, Vegetable Oils, Meat, Seafood, Sugar, Bananas, and Oranges Price Indices

Commodity Fuel (energy) Index, 2005 = 100, includes Crude oil (petroleum), Natural Gas, and Coal Price Indices

World Prices of Energy and Food



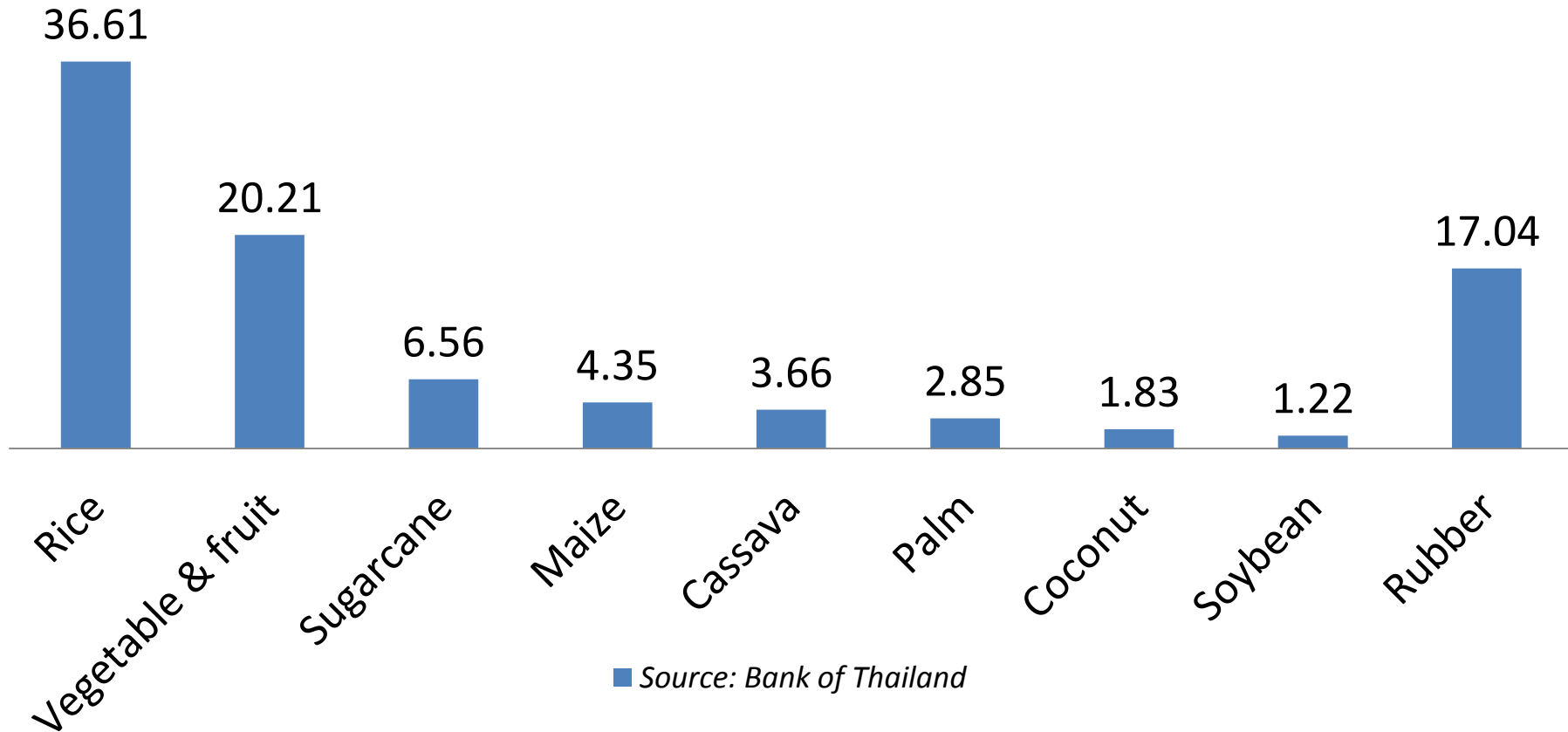
Source: Mundi index

Sectoral Growth Rates: 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

Agriculture: low growth and high volatility

Relative importance of each crop (weight in Crops Production index)

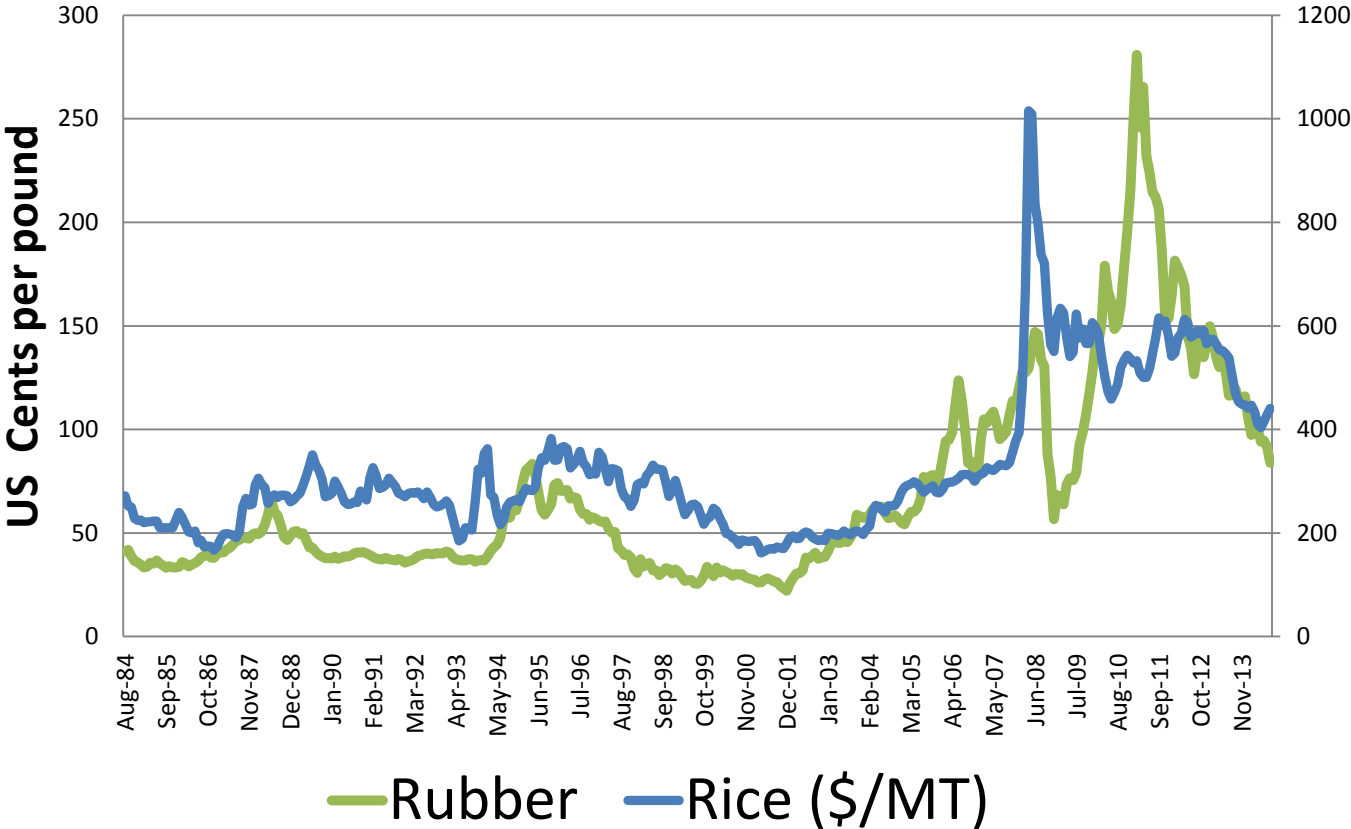


Total shares of rice and rubber: 53%

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

(correlation coefficient = 0.72)

Prices of rice and rubber smoked sheets: 30 years



Product diversification?

The lucky year for Thai farmers: 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: 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 prices, because....

Agflation

- A wide range of factors has been blamed for the food price increases in 2008.
- 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.
- Alas, the high price of rice did not last long.

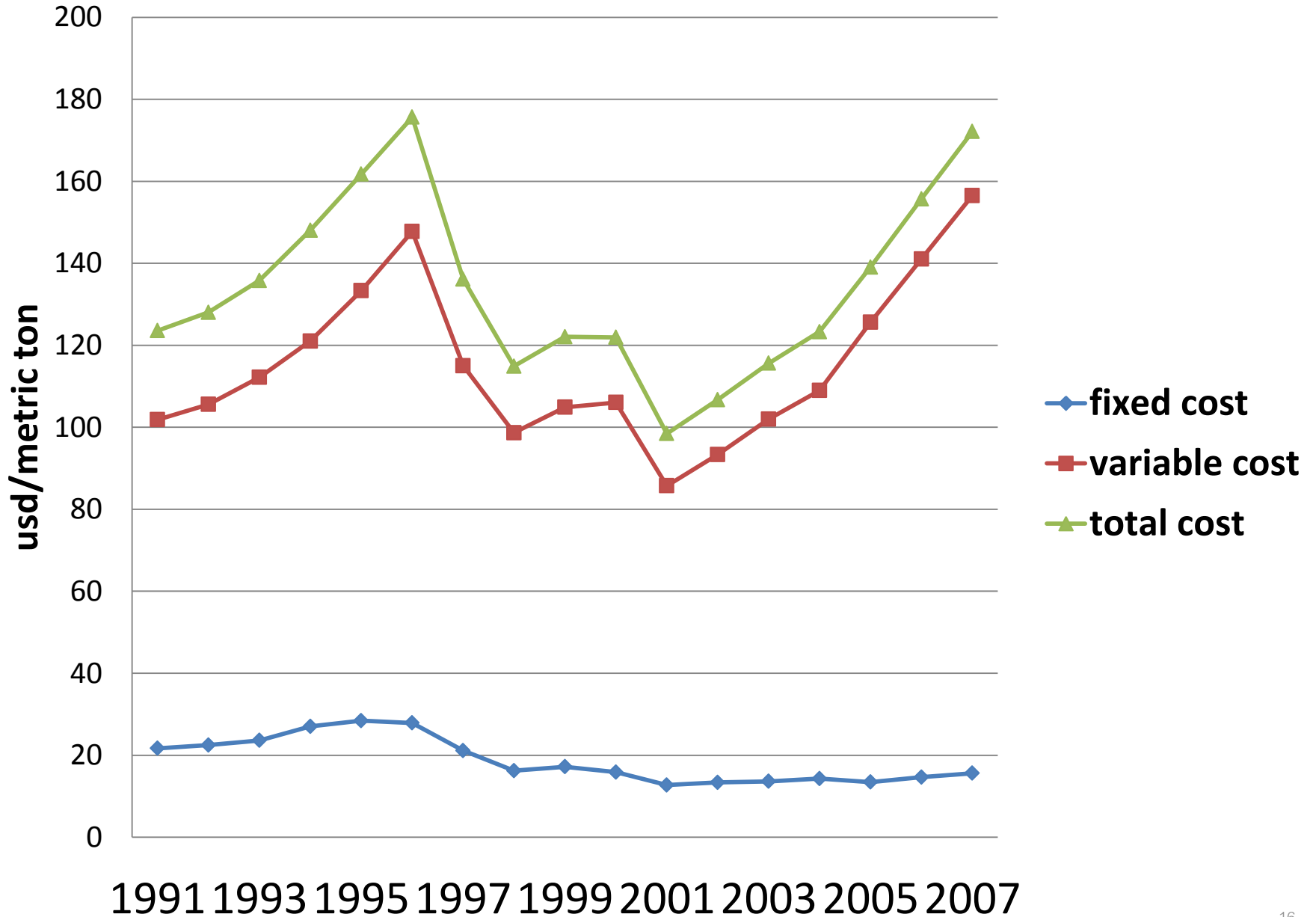
From boom to bust

- 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.
- The downturn of business cycle reduced the demand for commodities and raw materials for industrial production.

Cost control

- One consequence of the global recession has been a fall in world commodity prices that has also affected food commodity prices.
- The 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



Applying fertilizer



Pesticide spraying



In this 2012 file photo farmers spray pesticide over a paddy field in Ayutthaya province, Thailand. REUTERS/Sukree Sukplang 18

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

Pesticides, insecticides amount to 15-21 % of total cost⁹

Disappearing buffaloes



Elasticity of substitution between water buffaloes and tractors

Thai farmers are using a Kubota tractor to prepare the soil for growing rice.



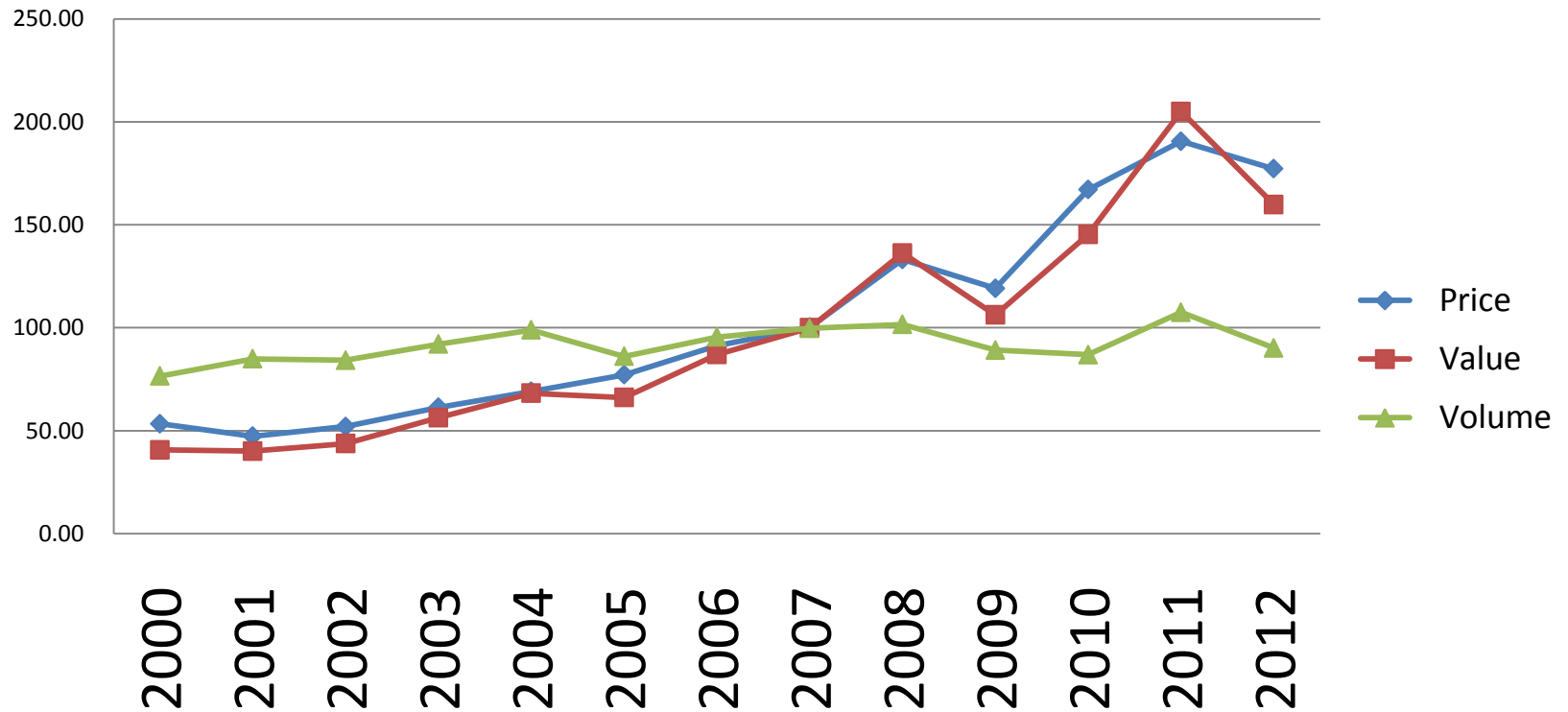
Dwindling number of Thai buffaloes

- From the last decade, the number of buffaloes declined from 1.5 million to 840,000 heads, representing 56 % decline from 2004.
- Due to disappearing animal farm land, smuggling, and slaughtering of mother buffaloes for meat consumption.
- Department of livestock proposed 5.6 billion baht budget for raising buffaloes to 1 million heads within 10 years.
- *Is this the right policy?*

Total Export Revenue = P x Q

Price factor dominates quantity

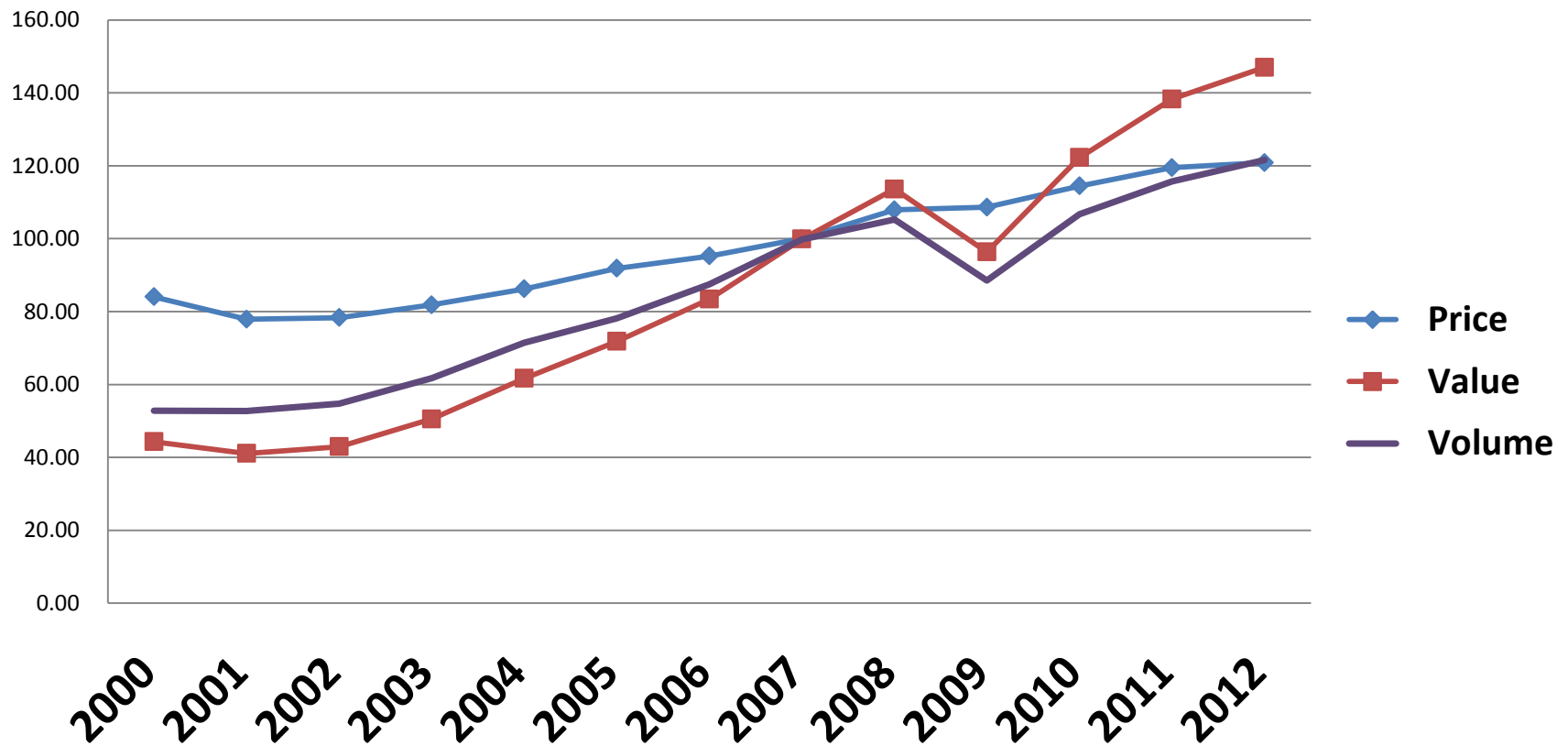
Agricultural Exports



A small country assumption: Export prices are determined by the world market

A small share in the world market means no price-setting power

Manufactured exports



Correlation coefficients of export values (2000-2012)

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

Supply and demand analysis

- Price elasticity of supply (higher for manufactured products than agriculture)
- In agriculture, long gestation period means farmers would have no income until after harvesting season. They need credit for input purchase and personal consumption.
- If both supply and demand for agricultural products are price inelastic, fluctuations in prices are observed.
- A small country assumption can be applied for some products which Thailand has lower market power.
- Price elasticity of demand depends on availability of substitutes.
- The more narrowly defined commodities, the higher the price elasticity (because of availability of substitutes)

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 (grown once a year in Ubon Rachathanee province in the Northeast).

Innovation and competition

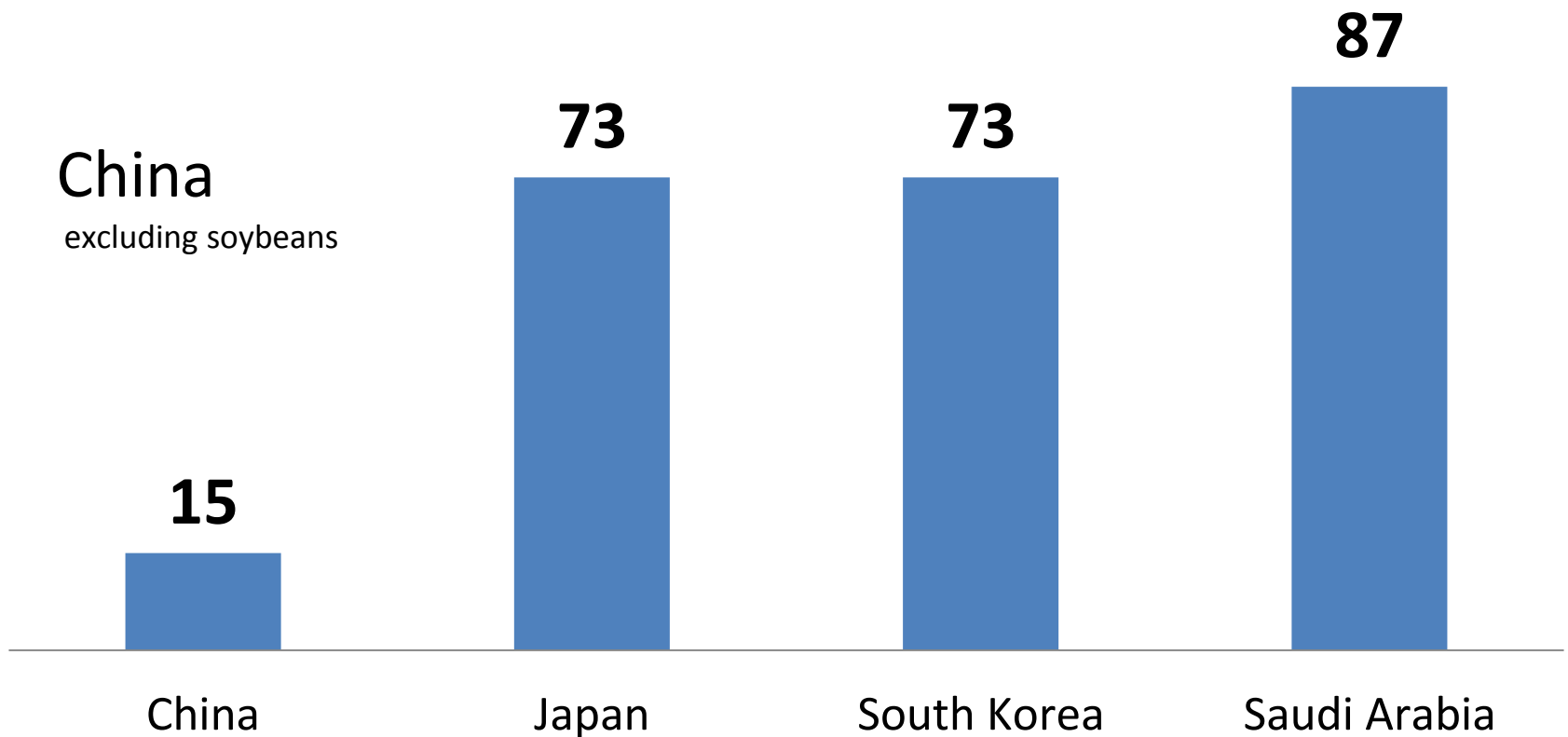
- It took 12 years of work for the LSU rice breeder who developed the variety of the long-grain rice with good milling quality, high yield and the correct aroma and flavor.
- Consumers and Asian restaurants in the US may shift to serving Jazzman rice as it tastes the same but is cheaper.

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 Asian countries

■ % of imports in domestic consumption



Thailand rice exports hit 12-year low in 2012

- 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.
- But China, Japan, Korea, and Saudi Arabia are still grain dependent on imports.

Thailand rice exports hit 12-year low

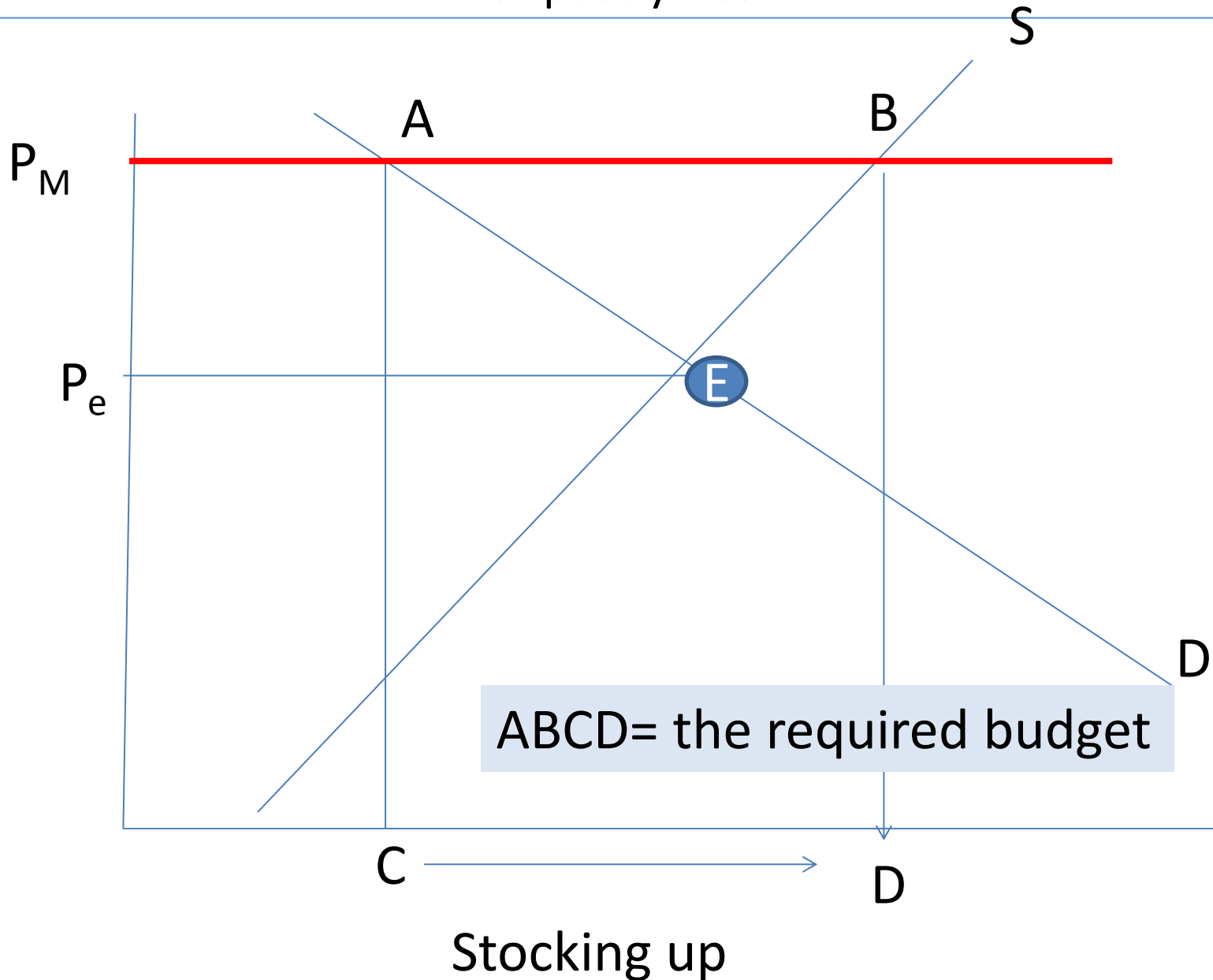
Published Bangkok Post Jan 24, 2012

- 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.
- What was the reason behind that dismal export performance?
- Thai export prices were not competitive.

Paddy **Mortgage** Policy

- Rice exports declined after the government of Prime Minister Yingluck Shinawatra introduced a price support program in October, 2011 (This was the time when Bangkok experienced the great deluge).
- The government bought the grain from farmers above market rates to boost domestic prices and lift rural incomes.
- Analytical diagram (Area ABCD)

Mortgage Price Support Program for paddy rice



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.
- High storage cost and steep depreciation rate of the old rice in stock.
- Smuggled rice from neighboring countries to sell at high prices in Thailand.
- Loss of international competitiveness

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.

เงินทั้งหมดอยู่กับพวกเค้าละ



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...

From The Nation: February 20, 2015

PUBLIC PROSECUTORS indicted ex-PM [Yingluck](#) Shinawatra on February 19, 2015 for negligence and filed criminal charges at the Supreme Court, in a case that could result in a jail term of up to 10 years.

The charges stem from the [Yingluck](#) government's controversial rice-pledging scheme, which caused Bt600 billion losses to the state.

"We have indicted former prime minister [Yingluck](#) Shinawatra for dereliction of duty," said Chutichai Sakhakorn, director-general of the Office of the Attorney-General's Special Litigation Department.

In filing the case, public prosecutors submitted 20 boxes of documents relating to the case.

The Supreme Court's Criminal Division for Holders of Political Positions will decide on March 19 whether to accept this case for trial, court secretary .

Charges against the ousted PM

Dereliction of duty:

Yingluck must pay 35.7 billion bath for losses from Rice-pledging program from 2012-2014.

A government committee has concluded that Yingluck Shinawatra must pay 35.7 billion baht in compensation for losses from her rice-pledging programme from 2012-14.



The bills could mount further as the military regime pursues several other cases against the former premier, including compensation for losses from the "poorly planned" responses to the severe flooding in 2011.

Comptroller-General Manas Jamveha, the head of the civil liability panel, said Ms Yingluck was held responsible for 20% of the 178 billion baht in losses resulting from rice pledging in the 2012-13 and 2013-14 crop seasons.

An administrative liability panel ruled earlier that a violation was committed and the civil liability panel was set up to determine the financial damages. Under the chairmanship of Jirachai Moonthongroi, it originally settled on a total of 286.6 billion baht. But when Mr Manas assumed the chairmanship, a different calculation method was applied to arrive at 178 billion.

15 cases of
Alleged wrong
doing,
including
Poor
management
of flooding.
Influencing
military
reshuffle
Issuing
passport to
her brother,

The government's borrowing of 400 billion baht to carry out the rice programme showed clearly the damage it was causing, and Ms Yingluck should have had the discipline to stop it, Mr Manas said.

Ms Yingluck had the right to contest the compensation demand in the Administrative Court, he added.

The former premier's Pheu Thai Party maintains that since she is still being tried in the Supreme Court in connection with the rice scheme, it is inappropriate to use administrative orders to demand compensation unless culpability is legally established first.

Defence testimony in the Supreme Court case is not scheduled to end until February next year.

Mr Boonsong also faces a compensation order for 20 billion baht and he has indicated that he will go to court to fight it.

Meanwhile, government spokesman Sansern Kaewkamnerd said Ms Yingluck would be prosecuted for failing to deal effectively with the 2011 floods, the worst to hit the country in six decades.

In addition to poor management of the flooding, her government's response was marked by questionable spending, he said.

Ms Yingluck, whose government was overthrown in the military coup of May 2014, is facing prosecution in as many as 15 cases of alleged wrongdoing. They include her government's issuance of a passport to her brother, the fugitive former prime minister Thaksin Shinawatra; undue influence on a military reshuffle; the transfer of a former secretary-general of the National Security Council; 7.5 million baht in individual compensation for people affected by political unrest in 2009-10, and illegal assistance for people prosecuted for political crimes.

She also stands accused of giving the Finance Ministry permission to borrow 350 billion baht for a water management scheme that had no details, and for proposing to finance a 2-trillion-baht infrastructure programme by unconstitutional means.

Droughts and public subsidy in the current regime

- Thailand was battling droughts in eight of its 76 provinces in 2015.
- Farmers were encouraged not to grow second crop and were paid to avoid planting rice.

Thai (military) government sets \$240 million budget to combat drought

Source: Reuters - Wed, 18 Feb 2015

- Thailand's cabinet has approved a 7.8 billion baht (\$240 million) budget to alleviate drought in the country and tackle "water emergencies"
- The cabinet approved a 7.8 billion baht budget to be disbursed for 1,712 projects and to be used for water emergencies
- The funds would be used to provide mobile water tanks and to install water pumps in affected areas.

Forecast for 2015: Paddy output will fall by 30%

- According to the Office of Agricultural Economics, drought will cut the off-season crop in top exporter Thailand by more than 30 percent.
- **Off-season** rice is grown between ***November and April*** after the main crop is harvested. It needs irrigation as there is little rain during that period in many parts of the country.
- Aid for drought-hit areas would focus on the agricultural north and northeast. Thailand will enter its hot season in March.

Water mismanagement

- The disastrous flooding in 2011 was blamed on alleged mismanagement of the country's water supplies at different dams.
- Critics said the dams were holding too much water at a time when the country was hit by a series of rainstorms.
- The flooding lasted more than five months and affected 65 of the country's 77 provinces, including Bangkok.
- It left more than 800 people dead and damaged property worth more than Bt1.4 trillion.

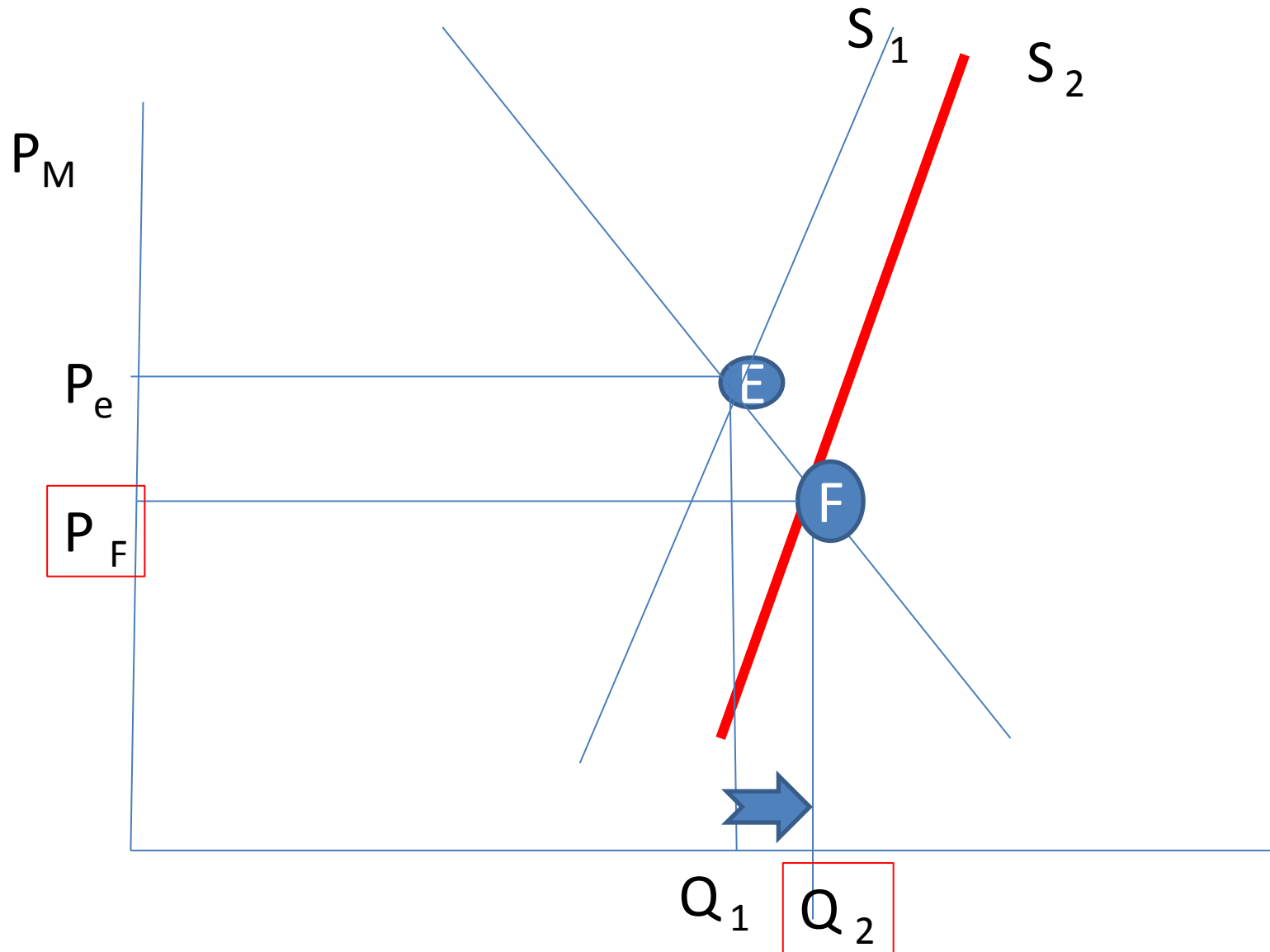
Exporting tapioca hard pellets to the EU markets

- Tapioca is recognized in EU countries as a feed ingredient for more than 45 years. The two main reasons for the use of tapioca by the feed industry are:
- The price difference between tapioca and other high-energy feedstuffs such as corn and wheat
- The availability throughout the year
- Due to the high transportation cost in form of tapioca chips, the pelletizing technology was then brought in to achieve the lower storage factor and as a result, the lower freight cost.
- Tapioca hard pellets delivered to EU are mainly used in the swine feeds as source of high energy by mixing with soy meal at the ratio of 85% tapioca hard pellet and 15% soy meal resulting an equivalent nutritive value of corn.

How to subsidize cassava farmers in 2015

- In January 2015, the cabinet approved 2,760 million baht to **subsidize 3 % interest rate** for BAAC's 50,000 baht loan for each farmers who postpones harvesting in order to push up the price to 2.80 baht/kg at the beginning harvest season.
- The interest subsidy at 3% also goes to processing factories, exporters, and ethanol producers to purchase tapioca at the high supply seasons to shore up the price and to farmers who adopt the water dripping system and sand and soil- separated screening system for clean and high quality tapioca.

To subsidize inputs for cassava growers



Another year, another subsidy

1.2 billion baht subsidy: 2016

- THE COMMERCE Ministry this week (September 2016) seeks Cabinet approval for a Bt1.2-billion budget to help 500,000 cassava farmers, and will also ask the Bank for Agriculture and Agricultural Cooperatives (BAAC) to release loans totalling Bt20 billion to help increase financial liquidity for farmers.

Budget for 500,000 cassava farmers

- The Bt1.2-billion budget will be used to pay the 1.5 per cent interest rate for 500,000 cassava farmers for 24 months. In addition, the BAAC will waive interest of 1.5 per cent due from the farmers during the same period.
- The government will also ask the BAAC to provide soft loans to help some 500,000 farmers.

Budget for 500,000 cassava farmers

- The budget allocation will cover soft loans of Bt20,000 to each farmer. ***Farmers will be charged an interest rate of only 0.5 per cent per month for the 12-month tenure of the loan.***
- To protect Thai farmers, the government will ensure stringent inspections at border checkpoints to prevent cassava smuggling from neighboring countries.
- Thailand would also enforce stringently **sanitary standards** for cassava and tapioca imports.

When the price keeps on falling, due to lower demand from exports

- The Foreign Trade Department will strive to promote cassava exports overseas in an attempt to reduce supply in the domestic market, in particular during the harvest season starting in October.

Besides China, India is one of potential markets for cassava imports from Thailand.

In the first seven months of this year, Thai tapioca export was down 16 per cent in terms of volume at 6.59 million tonnes, while the value was even lower, by 24.4 per cent, at US\$1.74 billion.

- The export price of tapioca per unit decreased 10 per cent from \$289 per tonne last year to \$264 per tonne this year.

Higher production, lower prices

(In previous figure ,from Q_1 to Q_2)

- The government has asked tapioca traders to purchase cassava at Bt1.90 per kilo to protect farmers from the falling prices.

Cassava is currently traded at Bt1.60 to Bt1.70 per kilogram, lower than last year's price of Bt2.50 per kilo.

It is estimated that cassava production this year will reach 31 million tonnes, about 21 million tonnes grown from November to April.

Review 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 such as tapioca?
- How should the government subsidize rice farmers' purchases of farm inputs?

Friedrich Hayek

- ***The Road to Serfdom***
- Austrian theory of the business cycle
- LSE and the University of Chicago