

Income inequality in Thailand

Bhanupong

Lecture 28

Outline

- Globalization, growth, and Income inequality,
- Productivity, inequality, and education
- Problems with the Gini coefficient
- Wealth gaps
- Financial inclusion

Poverty-growth-inequality triangle

Complex relationship

Growth



Inequality

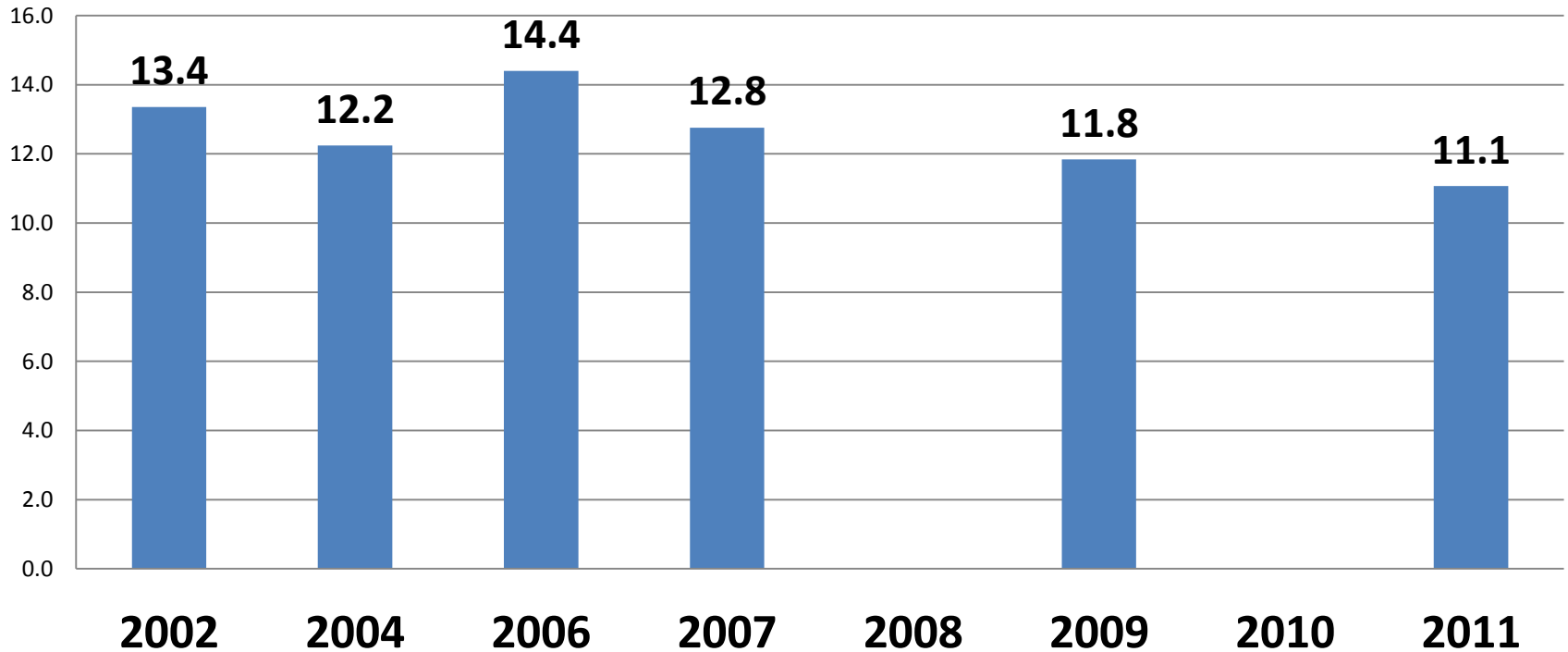
Poverty

Implication of globalization

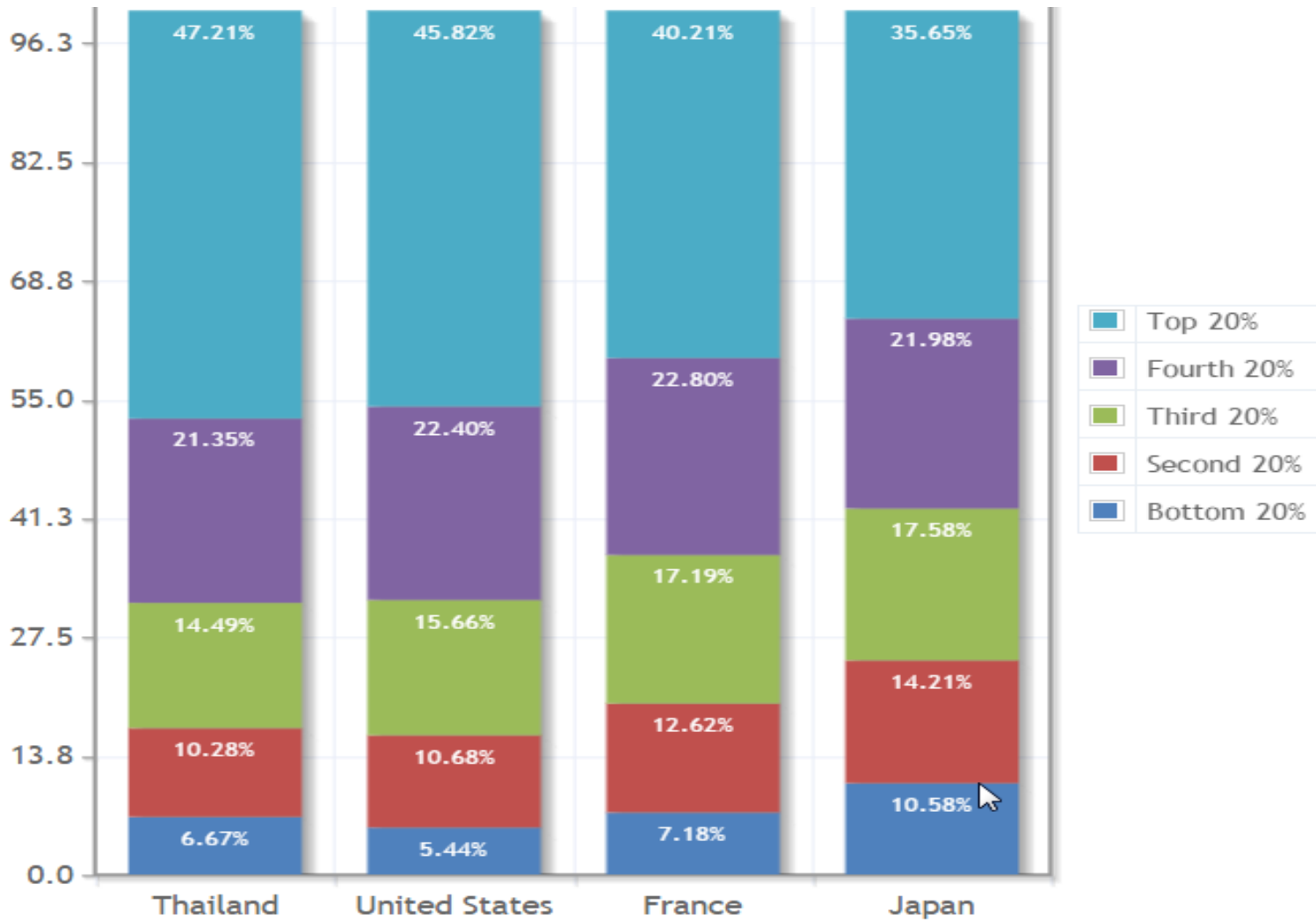
- Prices of domestic goods cannot significantly deviate from the international prices.
- In the long run, the law of one price states that prices of traded goods are dictated by international prices.
- Fluctuations in prices of traded goods affect **values of marginal products** of factors of production and the overall income distribution.

Income Inequality Measurement

Ratio of income shares in top and bottom quintiles



Comparative inequality



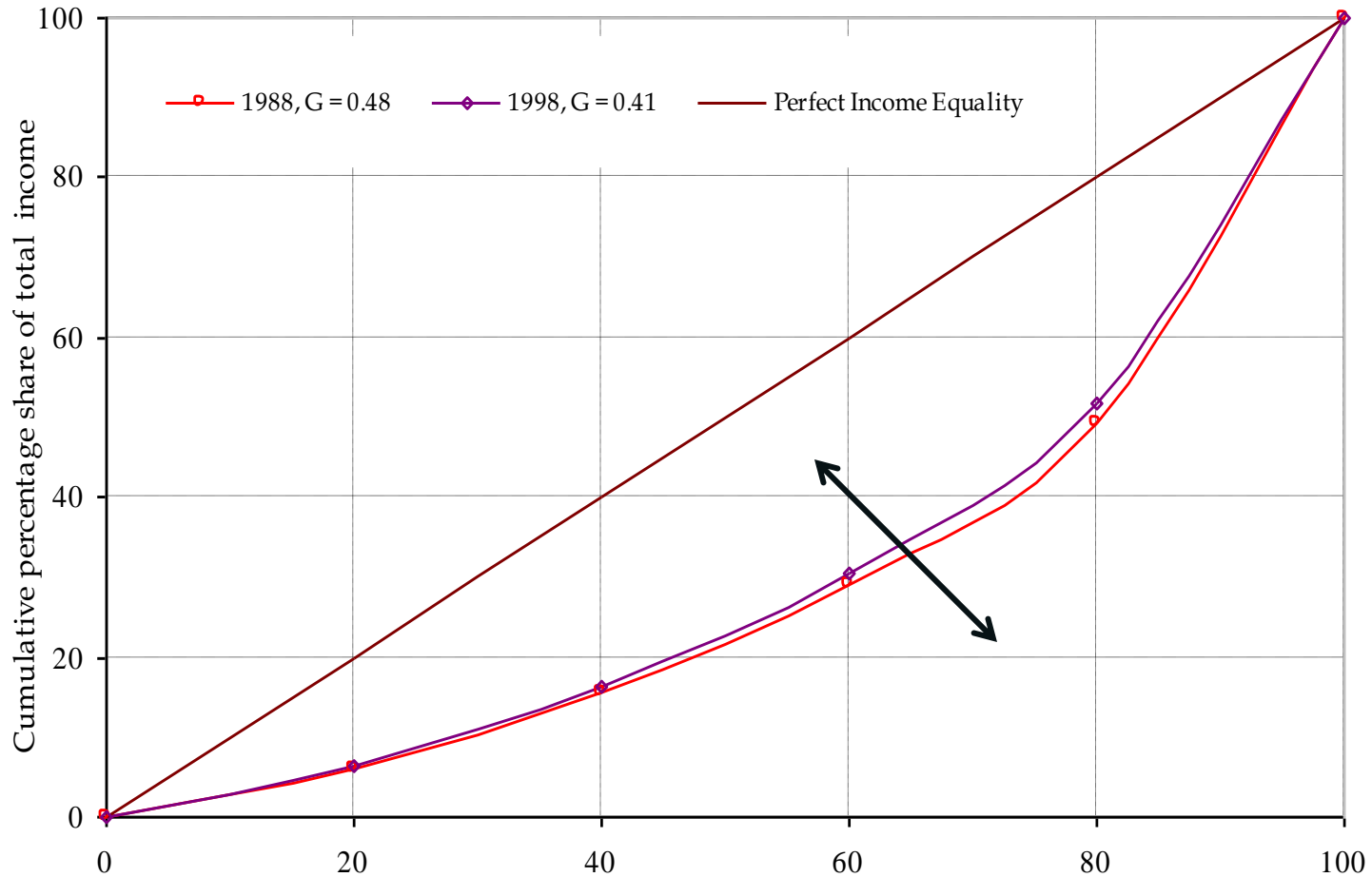
Gini Index

- Gini index measures the extent to which the distribution of income or consumption expenditure among individuals or households within an economy deviates from a perfectly equal distribution.

Gini Index

- Lorenz curve plots the cumulative percentages of total income received against the cumulative number of recipients, starting with the poorest individual or household.
- The Gini index measures the area between the Lorenz curve and a hypothetical line of absolute equality, expressed as a percentage of the maximum area under the line. Thus a Gini index of 0 represents perfect equality, while an index of 100 implies perfect inequality.

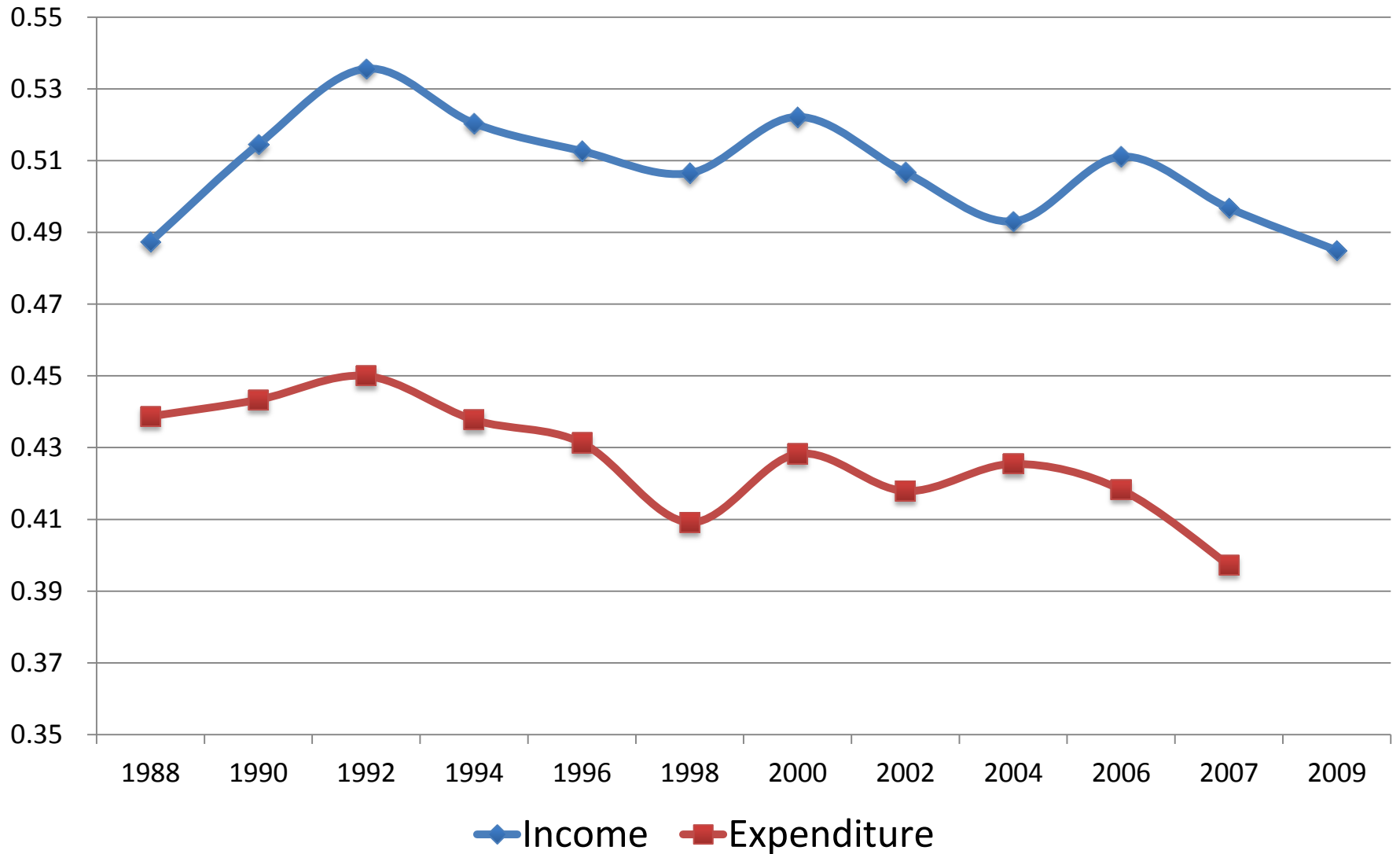
The Lorenz curve: 1988 vs. 1998



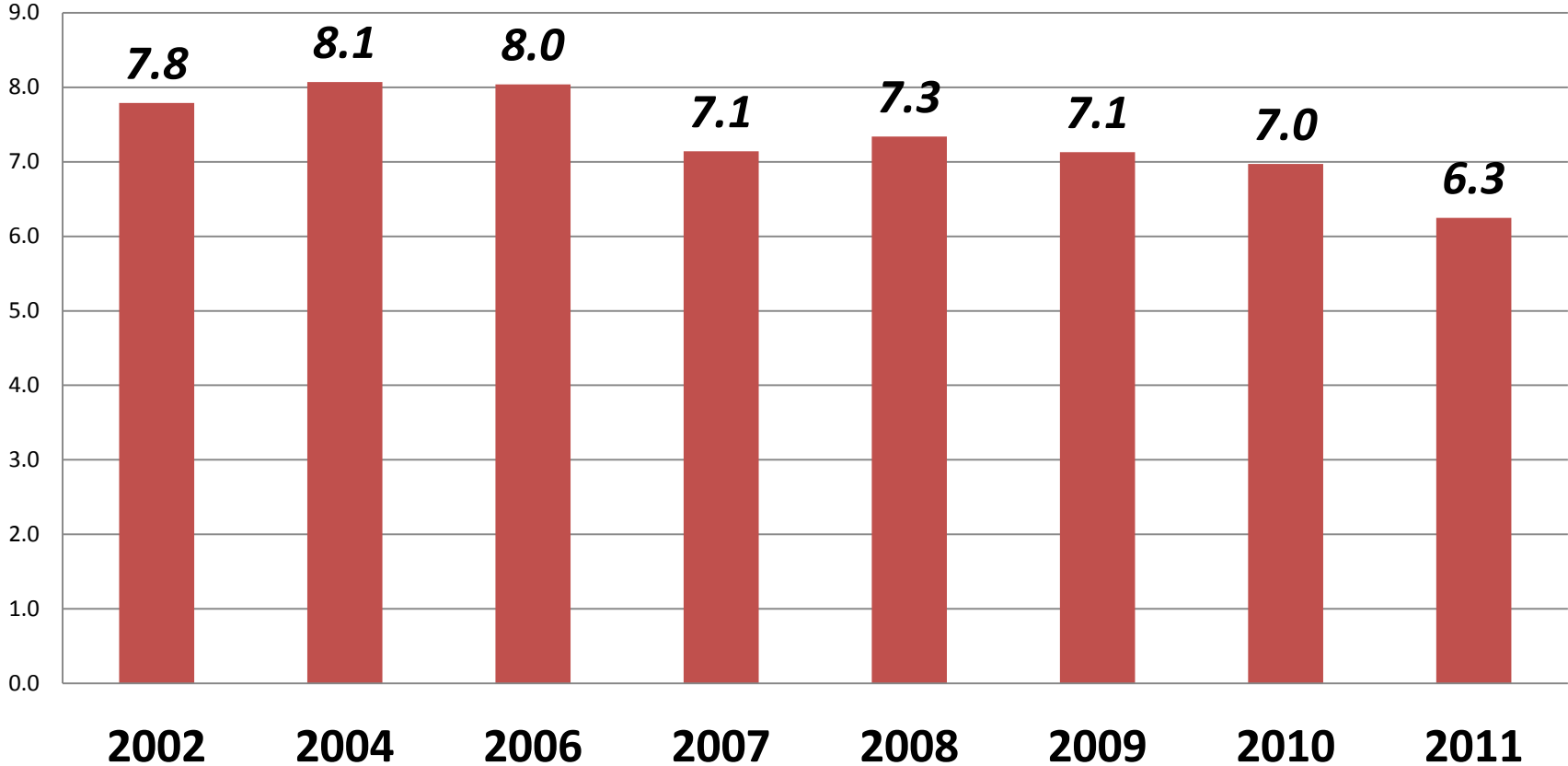
Income inequality

- The Gini coefficient is a measurement of inequality; its value ranges between zero and one.
- The higher the value of the Gini, the higher the degree of income inequality.
- Perfect equality, when the Gini is zero, may not be desirable, because efficiency will be threatened.
- At zero value of Gini, x % of the poorest will obtain x % of total income.

Thailand's Gini Coefficients: An episode or a trend?

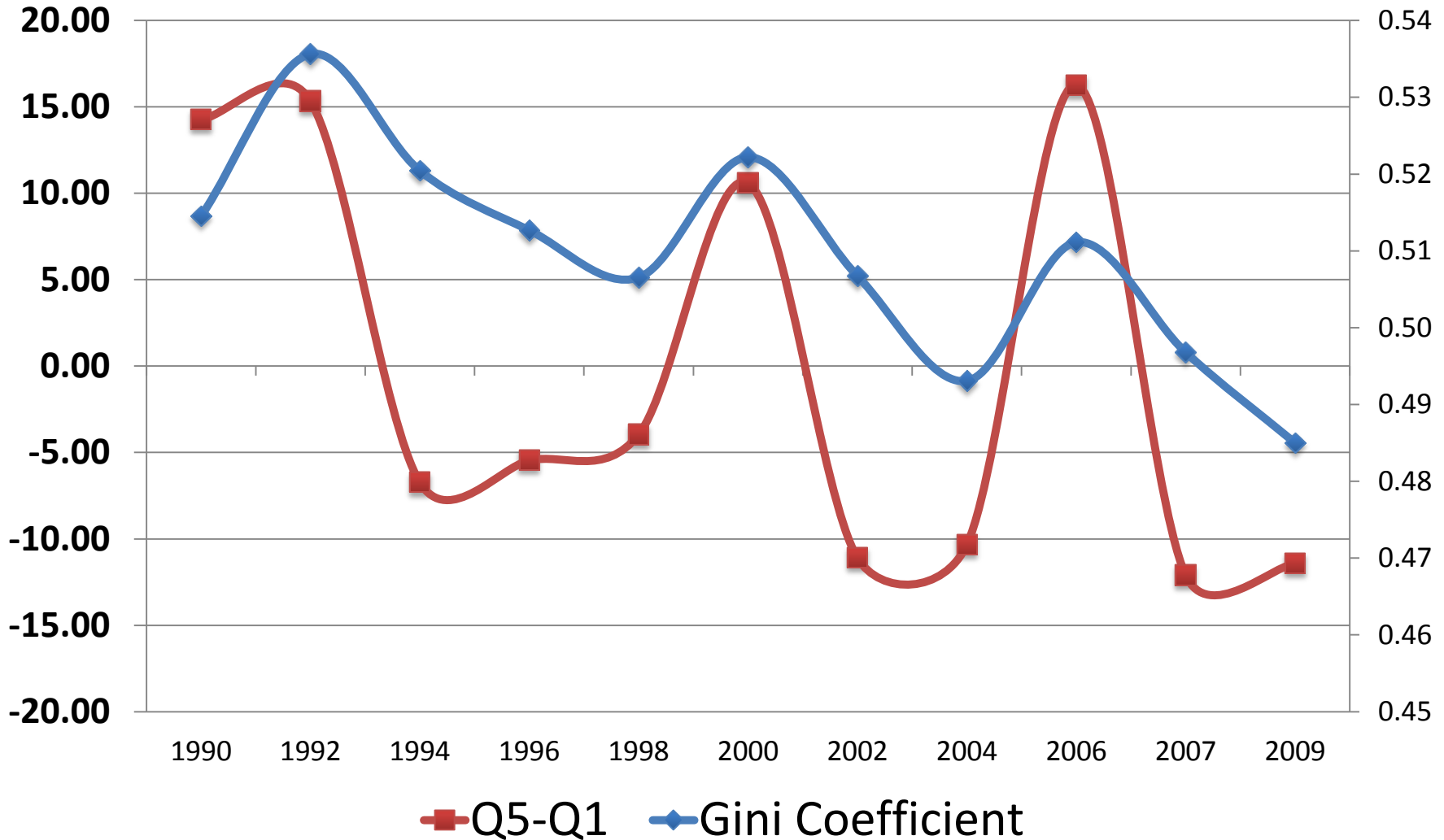


Ratio of expenditure shares in top and bottom quintiles



Income Growth Differentials (Q5-Q1) and Gini Index

If income of the poorest group grows faster than the richest group, Gini index declines



The importance of farm prices (P_a)

- Income disparity measured by the Gini coefficient did not change substantially in the last two decades.
- Except for 1986 and 1988, the Gini coefficient ranged between 0.42 and 0.45
- *Whenever agricultural prices rose relative to manufactured product prices (P_a/P_m), income share of the poorest 20% was enlarged.*

Agricultural labor's income share

- Agricultural share of employment is declining relative to other sectors.
- The wage share of labor in the agricultural sector will be lower if the marginal product of other sectors rises faster than that of agricultural labors.
- If the terms of trade of agricultural goods to manufactured goods declines, income inequality will increase.

Rice Monthly Price - US Dollars per Metric Ton

Range 6m 1y 5y 10y 15y 20y 25y 30y

Oct 1984 - Oct 2014: 182.700 (73.08 %)

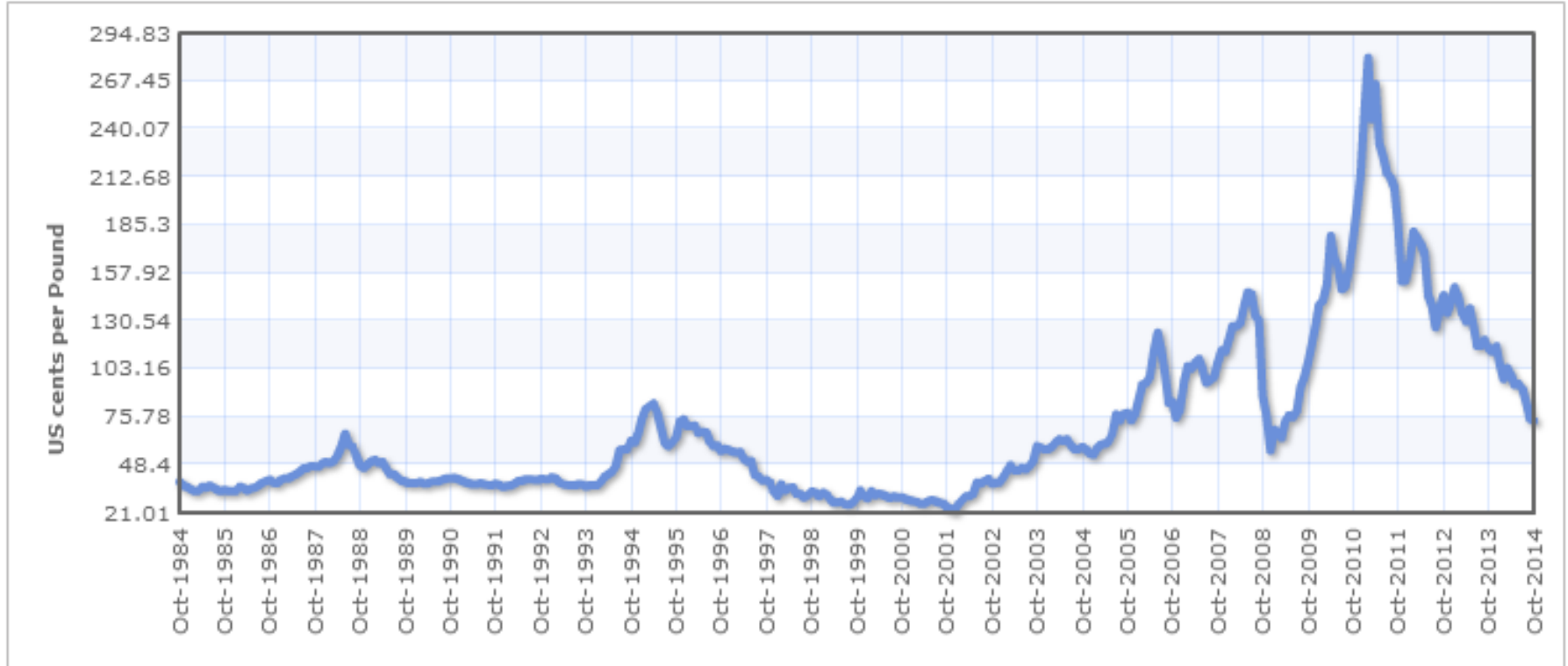


Description: Rice, 5 percent broken milled white rice, Thailand nominal price quote, US Dollars per Metric Ton

Rubber Monthly Price - US cents per Pound

Range 6m 1y 5y 10y 15y 20y 25y 30y

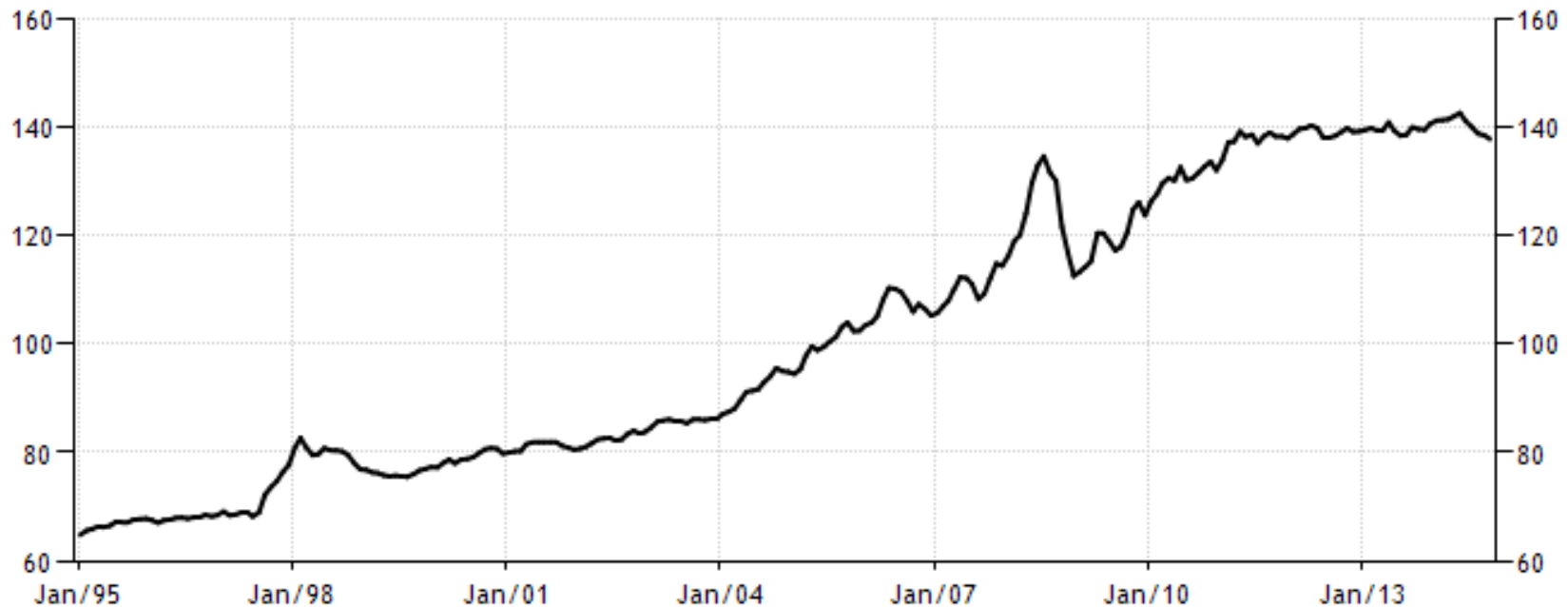
Oct 1984 - Oct 2014: 34.800 (89.95 %)



Description: Singapore Commodity Exchange, No. 3 Rubber Smoked Sheets, 1st contract, US cents per Pound

Producer Price Index measures the average change in price of goods and services sold by manufacturers and producers in the wholesale market

THAILAND PRODUCER PRICES

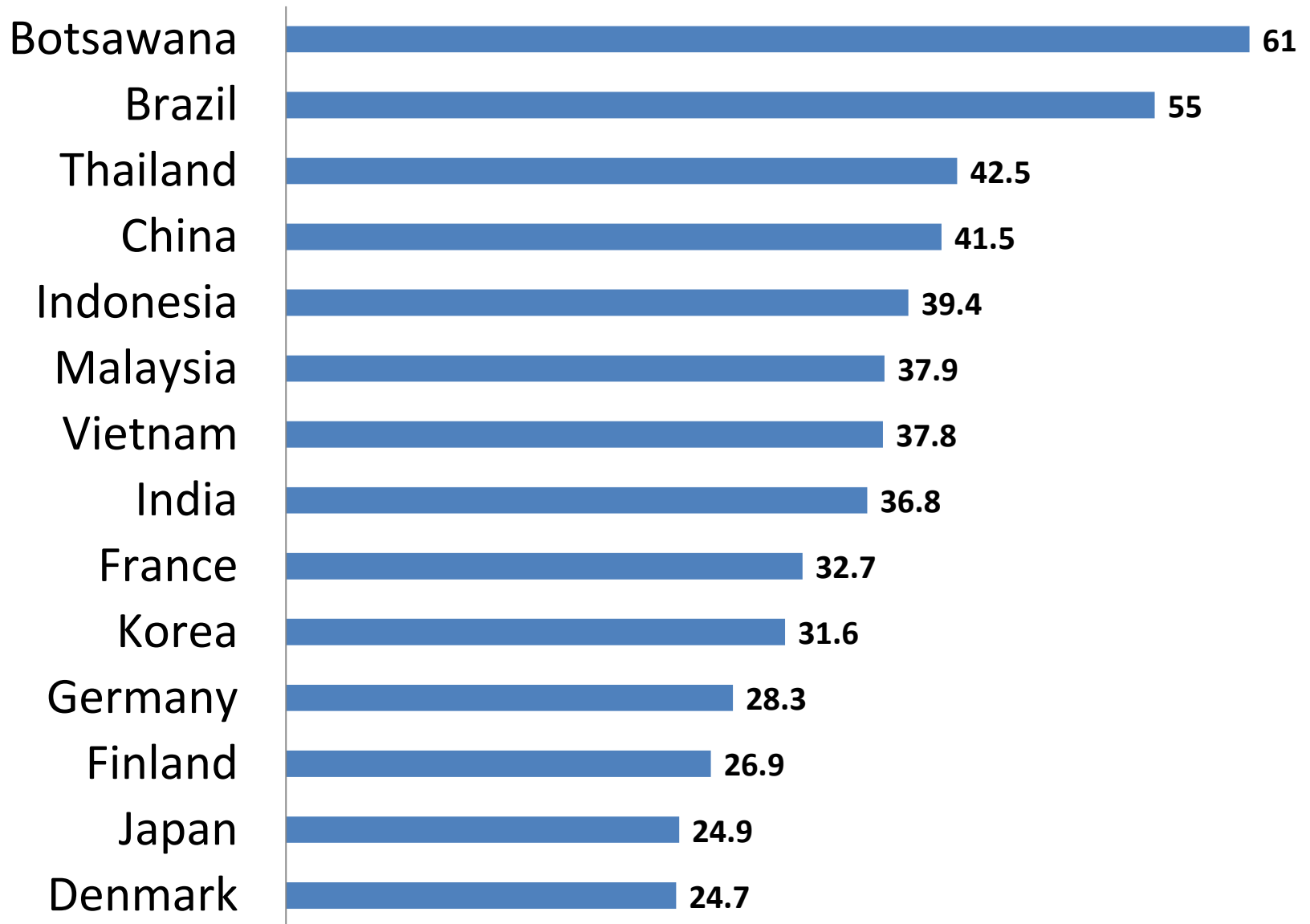


SOURCE: WWW.TRADINGECONOMICS.COM | BUREAU OF TRADE AND ECONOMIC INDICES, THAILAND

Terms of trade

- Declining term of trade between agriculture and manufacture prices leads to higher income inequality
- Manufactured product prices rise faster than agricultural product prices—terms of trade turn against farmers

Gini coefficient: 1992-2007



Can we compare Gini among countries?

- Underlying household surveys differ in method and in the type of data collected, the distribution data are not strictly comparable across countries.
- The Gini index is *sensitive* to the changes in the **middle of the earnings** distribution (third quintile) rather than the tails.—The middle class.

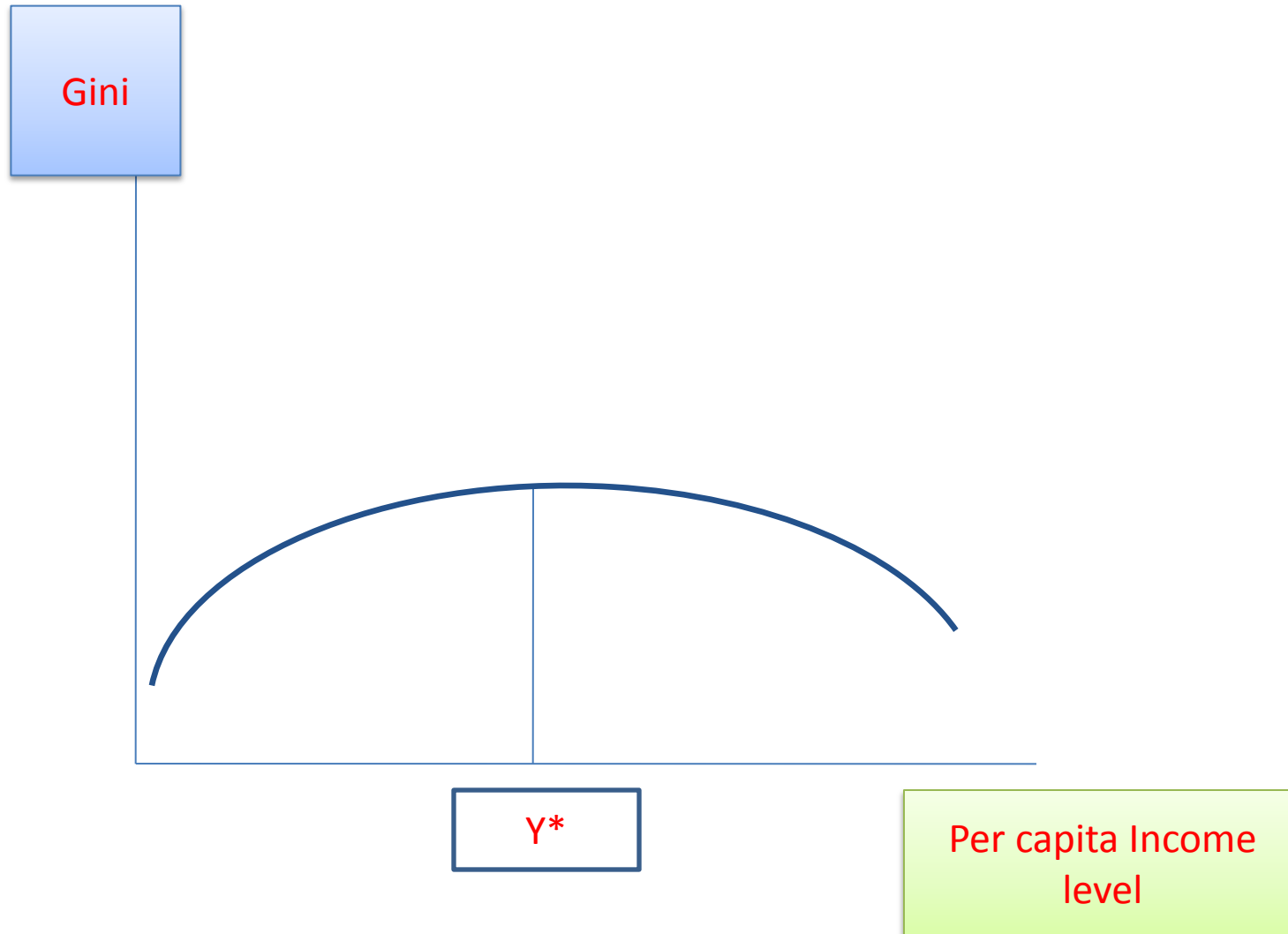
How far can we trust the Gini?

- Two different Lorenz curves with different shapes can yield the same Gini coefficient.
- *Gross income*, rather than net income, is used; thereby excluding taxation and transfer money payments.
- We must take into account of any major event affecting *transitory income* that might create distortions to the computation of income.

Inequality in China and India

- There are 36 billionaires in India, according to the annual Forbes list of the world's richest people in Asia (Japan fell to No. 2 for the first time in two decades).
- While 850 million Indians are living on \$2 or less a day.
- Large income inequality exists in the fast growing economies like China and India.

Kuznets hypothesis



A complex relationship

- Kutznets (1955) hypothesis states that income inequality widens in the early stage of development and narrows in later stage when income rises above certain threshold levels.
- *“Income distribution **must** get worse before it gets better.”*
- Developing countries had greater equality in their **early** stages of development because everyone was thought to be more or less equally poor (China 50 years ago.)

Still a debatable issue

- The empirical evidence on the Kuznets hypothesis is far from conclusive.
- The inverted U-shaped curve cannot properly capture the intricate relationship between income and inequality.

Measurement errors

- Note that the measurements of inequality and poverty are based on estimated ***monetary*** income.
- Income inequality ***does not*** deal with the issue of ***quality of life, but*** income is the best available measure of poverty.
- **Non-monetary indicators** of poverty are: infant mortality, child and adult death, literacy, and school enrollment, life expectancy, availability of safe water and medical services, caloric and protein intake.

What the Gini does not tell:

- Income measures may not adequately capture informal sector income, value of food *grown and consumed* by the family, and other economic activity that goes unreported or unestimated (the underground economy)
- **The positive relationship between equality and growth (when per capita income is above the threshold level) does not imply that “soak the rich” policies will improve long-term growth.**
- **What if we measure inequality by expenditures rather than income?**

Should we tax the rich?

- Policies designed to decrease inequality may increase government consumption, and the cost of the greater government consumption *may outweigh* the benefits of greater equality.
- If per capita income is below the threshold level, a higher level of inequality is not a necessary precondition for growth.
- How did Korea and Taiwan manage their income equality so well?

Has Thailand's economic development led to rising income inequality?

- The bottom/top 20% of income quintiles remained remarkably stable between 1975 and 2000.
- It is premature to say that Thailand's market friendly development policy has increased income inequality.
- Income inequality is related to **asset inequality**.

Asset inequality

- Ten percent of the population own more than 100 rai (16 hectare) of land each, while 90 % own less than one rai (0.16 hectare)
- We are still waiting for the property and inheritance tax laws to be in effect.

Points to ponder

- Beware of the danger from promoting a policy regime based on just one set of statistics and econometric evidence such as the Gini coefficient.
- Goodhart's law: "An indicator's measurement will be distorted if it is used as a target."

Past records: Before and after the financial crisis in 1998

- **During the past three decades prior to the 1997 crisis, real per capita income had increased continuously.**
- **There was a significant decline in inequality between 1988 and 1998, the Gini coefficient dropped from 0.48 in 1988 to 0.41 in 1998.**
- **The increase in inequality in 1999 was the result of increasing level of poverty due to increased unemployment after the crisis.**

Factors contributing to higher income inequality

- Higher poverty (high food inflation, flood and draught)
- Slower economic growth
- Higher unemployment (economic crisis)
- Higher social cost (including crime rates)

Severe inequality can cause a vicious circle of slower economic growth

Neoclassical theory of wage

- The wage rate is determined by the value of marginal product of labor (MP_L) in the competitive market.
- The demand for labor (Value of marginal product of labor: VMP_L) is the derived demand from the goods produced by the labor.
- The higher the marginal productivity of labor, the higher the real wage rate ($W/P=MP_L$).

Wages = value of marginal product

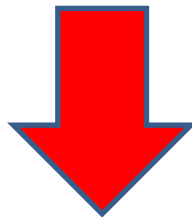
- Income distribution between farmers in rural and labors in urban areas depends partly on relative marginal productivity as well as relative prices of the products they produce.
- Marginal productivity of each industry depends on the capital-labor ratio employed in each sector.
- The changing terms of trade among sectors also determine income distribution.

Wage shares of labor in agriculture and manufacturing sectors


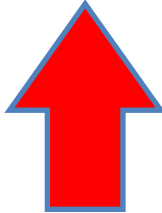
$$W = VMP = P * MP_L$$



$$\frac{L_a W_a}{L_m W_m} = \left(\frac{P_a}{P_m} \right) (MPL_a) / (MPL_m)$$



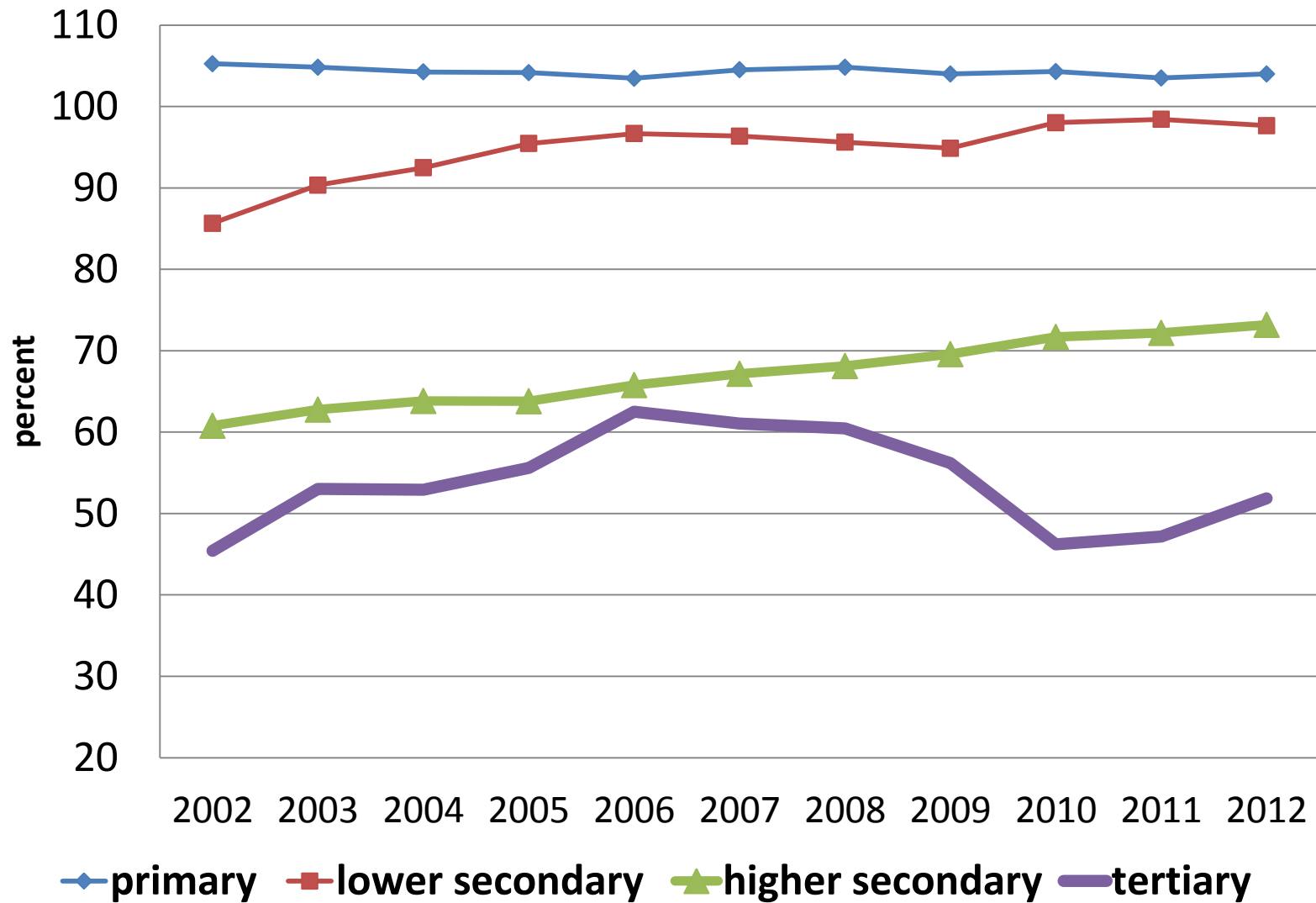
Share of income in agriculture increases relative to wage share in manufacturing sector if productivity growth in agriculture is higher than manufacturing, and the terms of trade is in favor of farmers


$$\frac{L_a W_a}{L_m W_m} = \left(\frac{P_a}{P_m} \right) (MPL_a) / (MPL_m)$$

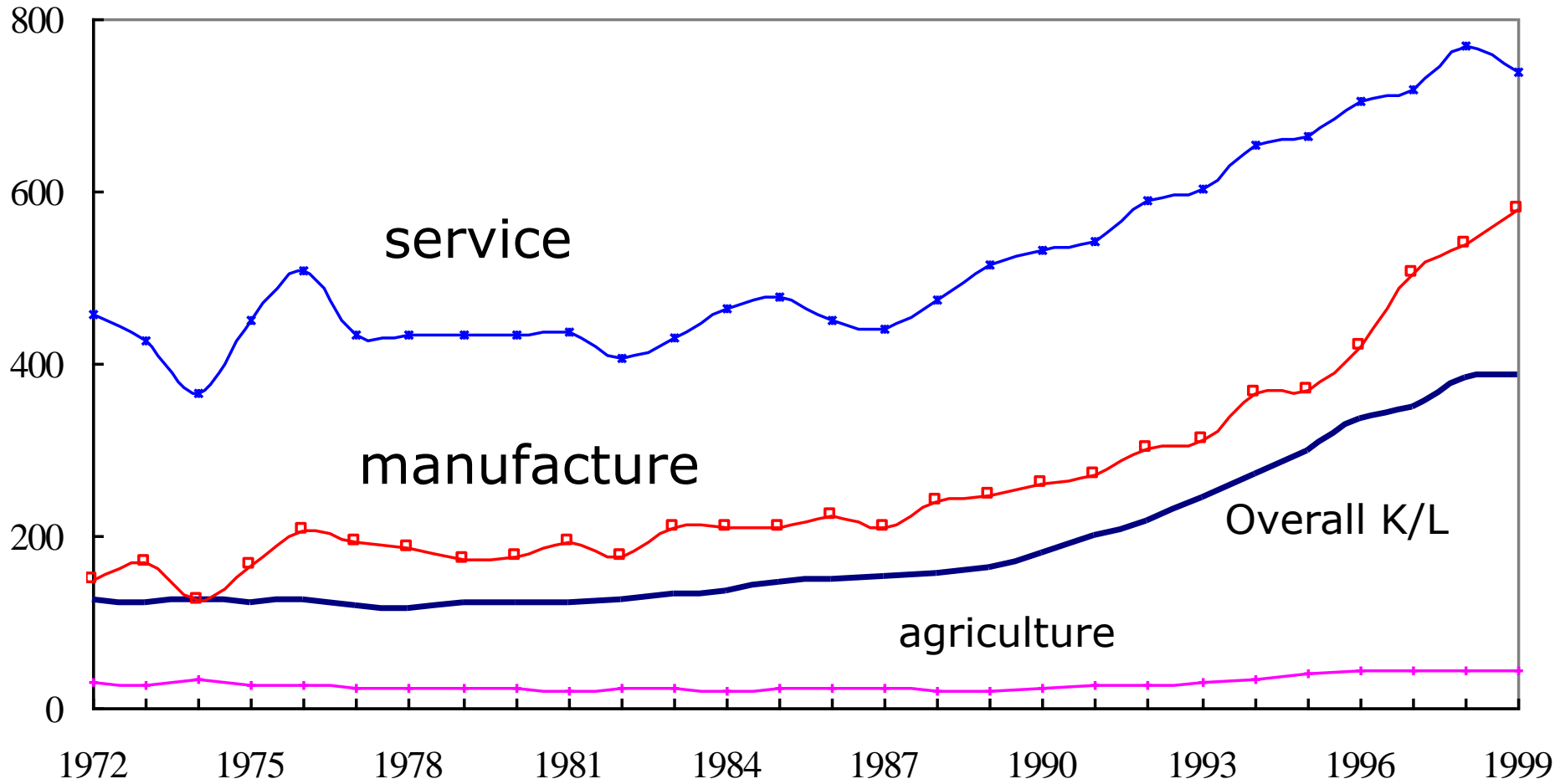
Capital labor ratio and labor productivity

- $MP_L = f(K/L)$
- Education leads to higher labor productivity
- We need to raise tertiary and higher secondary school enrollment

Education Enrolment (% coresponding age group)



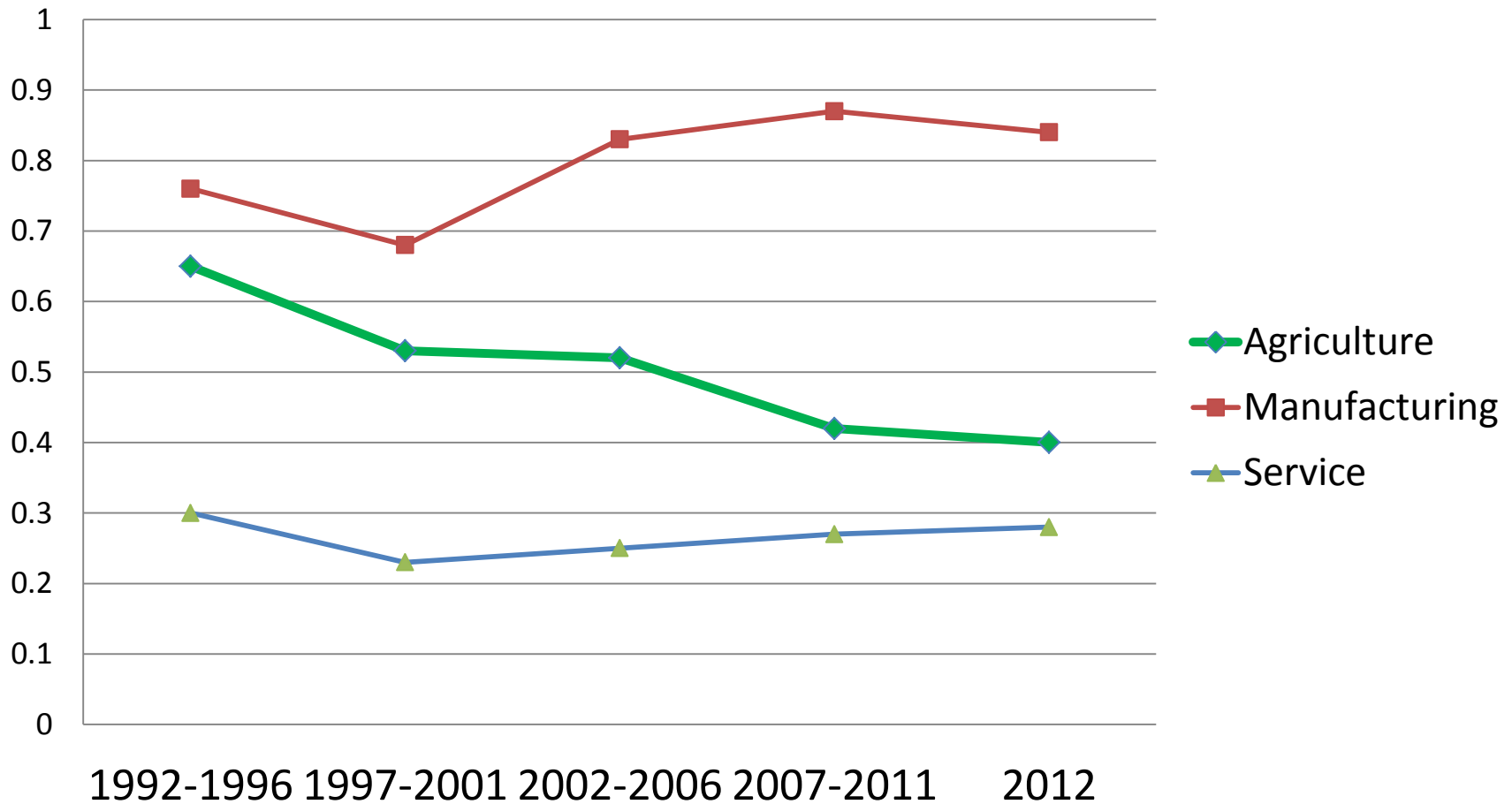
Capital-labor ratio



Impact of capital account liberalization

- **Capital liberalization led to capital concentration in the modern sector; thereby raising the capital-labor ratio in the manufacturing and non-traded sectors, including the FIRE (Finance, Insurance, Real Estates) sector.**
- **The agricultural sector is credit constrained with low level of capital accumulation.**
- **Productivity differentials grow together with wage differentials and income inequality.**

Declining productivity in Agriculture: Average Product of Capital (Y/K)



ICOR: Incremental capital output ratio

$$\text{ICOR} = \frac{\Delta K}{\Delta Y}$$

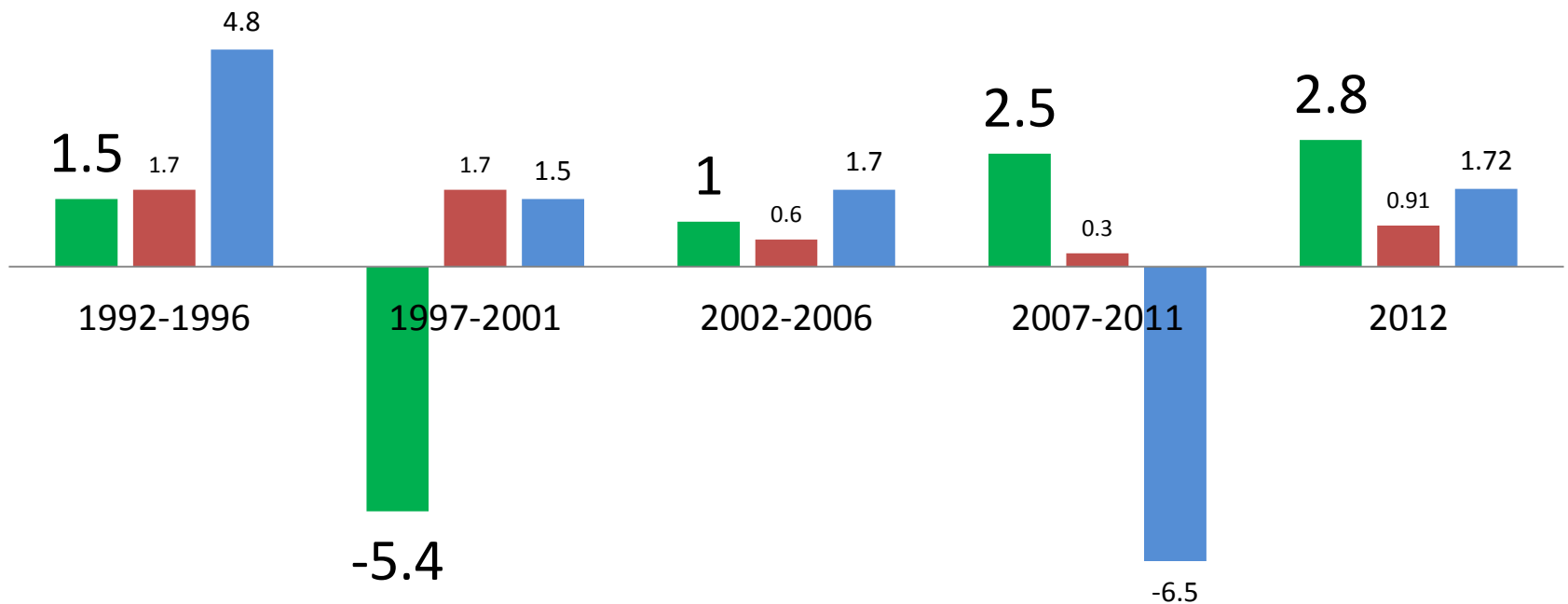
- Higher ICOR Indicates inefficiency of capital: to raise a given level of output, we need higher level of investment
- Thus the inverse of the ICOR indicates efficiency of capital.

$$\frac{\Delta Y}{\Delta K} = \frac{\Delta Y}{I}$$

The smaller the ICOR, the higher the efficiency of the last unit of investment provides

ICOR: Incremental Capital Output Ratio

■ Agriculture ■ Manufacturing ■ Service

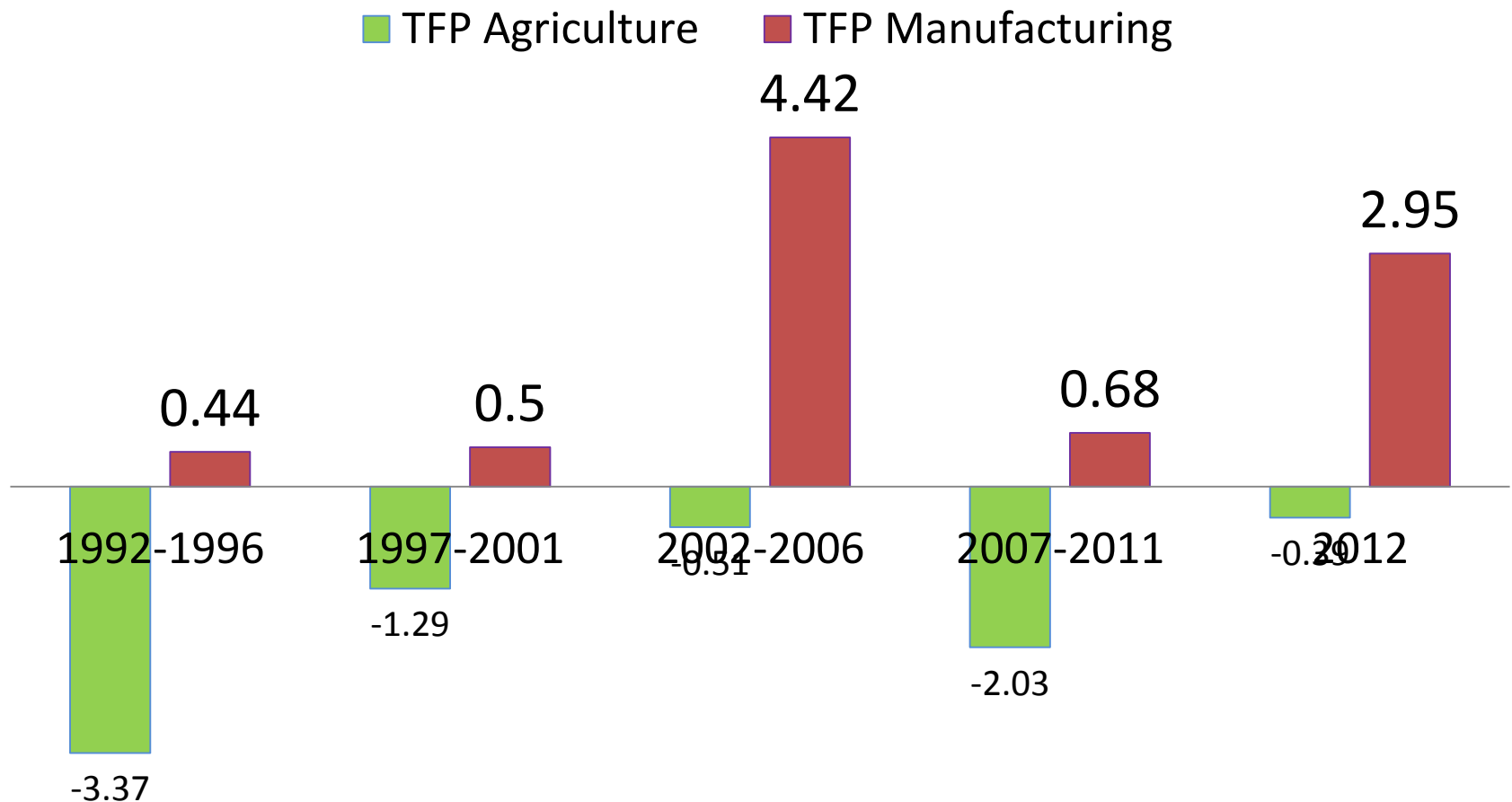


Total Factor Productivity

- **TFP** is a variable which accounts for effects in total output not caused by traditionally measured inputs of labor and capital.
- If all inputs are accounted for, then total factor productivity (TFP) can be taken as a measure of an economy's long-term technological change or technological dynamism.
- TFP cannot be measured directly. Instead it is a residual, often called the Solow residual, which accounts for effects in total output not caused by inputs.

Source of Output Growth due to Technological Progress (Solow residual)

Total Factor Productivity (TFP) Growth



Growth is good for the poor

- Bangkok and surrounding areas have been the places where the **poverty reduction** was the greatest.
- High degree of labor mobility contributes to a reduction in regional income disparity.
- Growth of urban wage rates is mitigated by migration of workers from rural areas, which in turn raises the agricultural wage rate; thereby, reducing wage differentials between the two sectors.

Financial exclusion

- There is now a wealth of evidence from worldwide research that suggests financial inclusion plays a critically important role in poverty reduction, reducing income disparities and increasing economic growth.
- The cumulative effect of a large swathe of the population being effectively excluded from access to formal financial services carries both private and social costs, and ultimately undermines economic growth and development.
- The most important reason for being excluded appears to be either having incomplete documentation or lacking any collateral.

Summary

- Output growth of the service sector has more impact on poverty reduction than manufacturing and agricultural sectors.
- Capital liberalization led to rapid capital inflows, enhancing capital-labor ratio, and enlarging productivity differentials.
- When the terms of trade turns against farm prices and agricultural productivity lags behind other sectors, income inequality deteriorates.
- There are some flaws in using the Gini coefficient to measure inequality.

Questions

- Explain how trade reform and capital control liberalization might affect income distribution.
- “Economic development in Thailand is a failure because income distribution has worsened” Discuss.
- What are major factors determining income distribution in Thailand?
- “A move toward free trade improves income distribution in Thailand” Discuss.
- Analyze the impact of oil price shocks and food price shocks on income distribution and poverty.
- How can Government Savings Bank and the Bank of Agriculture and Agricultural Cooperatives contribute to reduce income inequality?

Previous final exam questions

1. "Quantitative easing policy conducted in the US would exert a negative impact on Thai exports in 2011" State whether you agree or disagree with the statement. Provide brief reasons to support your answer.
2. "The Bank of Thailand raised its key policy rate to 2% last week. Other things equal, the normalization of monetary policy that would continue into next year can subdue inflation in 2011". State whether you agree or disagree with the statement. Provide brief reasons to support your answer.

Open-book exam

Each question carries 10 points

3. With substantial extension of mass-transit routes of trains to provinces surrounding Bangkok, How would the rent gradient of Bangkok look like in 2020?
4. Discuss whether a ban on rice exports by China would have any impact on poverty and income distribution in Thailand.

Answer all 10 questions

5. If Myanmar and Laos are accepted as a member of the WTO in 2025, how would Thailand's pattern of trade be affected?
6. "If the government does not cut public consumption in the next fiscal year, the budget deficit will be enlarged and the debt-to-GDP ratio will rise further." Agree or disagree

Make sure that your answers are as clear and concise as possible

7. Thailand was able to recover within a few years after the bailout by the IMF during the financial crisis in 1998. Do you envisage any similar pattern of recovery of the Irish economy in the near future?
8. Examine how can various industries in Thailand be affected if the baht appreciates to 27 baht to the dollar by the end of the year.