Macroeconomic perspective on the Thai Economy: 1961-1990

Bhanupong

Lecture 3

The first three decades of Thailand's economic development

Outline

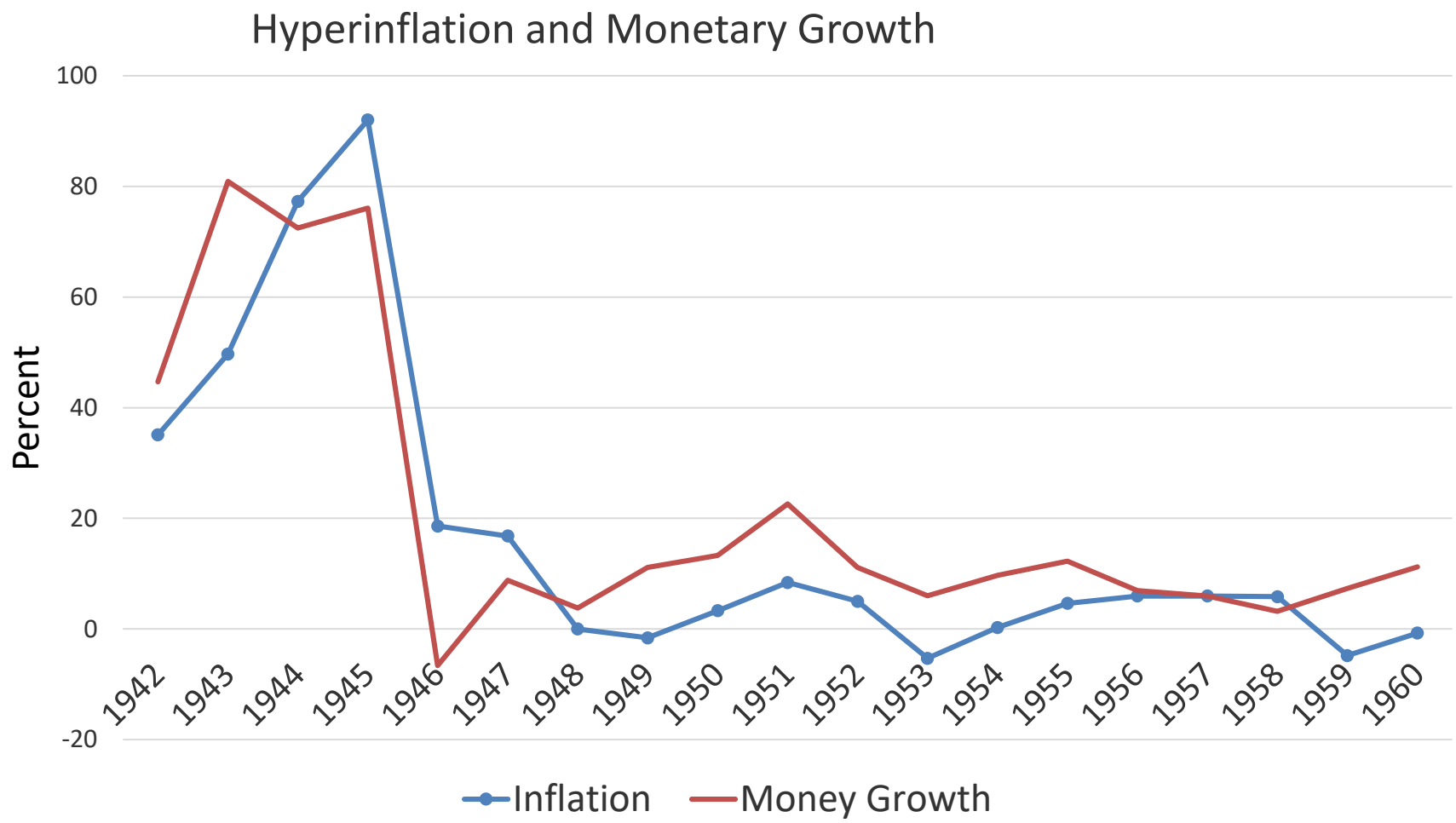
- Hyperinflation
- Pre-condition for taking off: The big push
- Exchange rate regimes
- Stable and sustainable growth path
- Finance and development
- Fiscal discipline

Before the 1960s

- During World War II, huge spending of Japanese military force in Thailand was financed by printing money.
- The rapidly growing money supply led to hyperinflation.
- Inflation peaked at 92 % in 1945, when money supply expanded at 76 %.

Monetarist view:

Inflation is always and every where a monetary phenomenon (Milton Friedman)



How did Thailand deal with hyperinflation?

- After the WWII, excessive growth of money supply was contained by the issuance of long-term bonds to absorb the money supply.
- Negative growth rate of money supply was observed in 1946 together with a plunge in inflation rate.
- Controlling the money supply is necessary to curb hyperinflation.
- But curbing inflationary expectations were also important.

Velocity rises during hyperinflation

$$\dot{x} = d\log(x)/dt = \frac{dx}{dt}(1/x) = \frac{\Delta x}{x}$$

$$MV = PQ$$

$$\dot{M} + \dot{V} = \dot{P} + \dot{Q}$$

$$\dot{P} = \dot{M} + \dot{V} - \dot{Q}$$

During hyperinflation, $\dot{\mathrm{P}} \longleftrightarrow \dot{\mathrm{V}}$

Phillip Cagan (1956)

The monetary dynamics of hyperinflation

- During hyperinflation, expected rate of inflation increases.
- The increased opportunity cost of holding real money balances reduces the demand for them.
- The elasticity of the demand for real balances with respect to the expected rate of inflation: η

Cagan's Demand for real money balances during hyperinflation

$$\left(\frac{M}{P}\right)^d = AY^{\beta}\pi^{\eta}$$

$\pi = \text{expected rate of inflation}$

$$\ln\left(\frac{M}{P}\right)^d = \alpha + \beta \ln Y + \eta \ln \pi$$

The monetary dynamics of hyperinflation

- If $|\eta| > 1$, the demand for money would be a destabilizing factor; causing people to spend money on goods in their attempt to reduce their real money balances when they expect inflation to rise further.
- ***Velocity of money rises during hyperinflation***
- Inflationary process would be self-perpetuating.
- History of hyperinflation and currency reform
- Yugoslavia 1992-1994: 3.13 billion %
- Zimbabwe 2006-2008: 7.96×10^{10}%

Hyperinflation in Bolivia

- Prices were astronomical in 1986. Inflation rate was 20,000 % a year.
- One US dollar bought 193,000 pesos.
- A hamburger cost 3 million pesos. Bus fares were 200,000 pesos. The jackpot of the annual lottery paid off 400 billion pesos.
- During the peak of the inflation frenzy, paper money became Bolivia's third biggest imports.
- Bankers had trouble balancing dozen-digit accounts on their calculators. Prices in stores did not fit on price tags. Cashiers were not able to ring up totals on registers.

Currency reform in Bolivia January 1, 1987

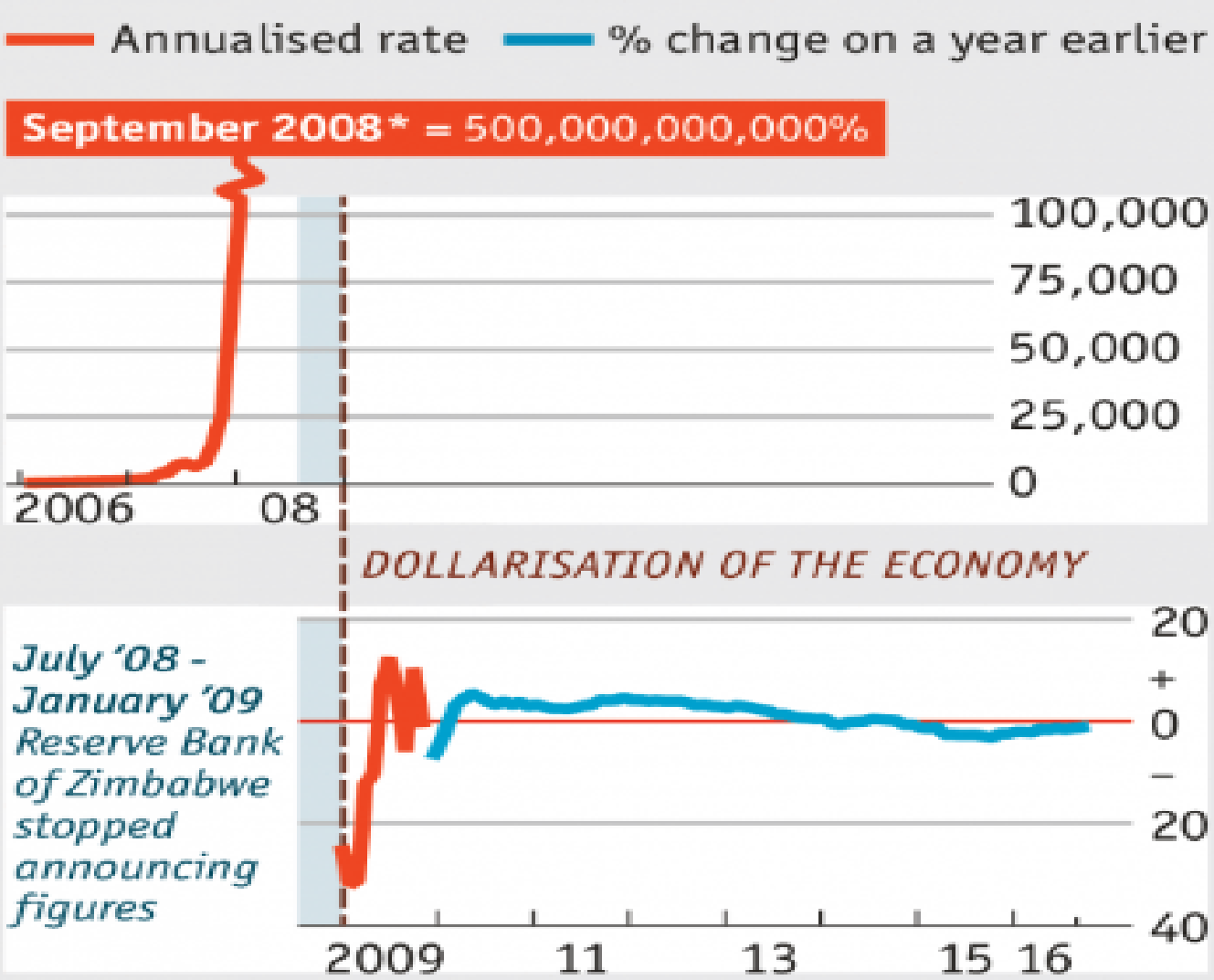
- La Paz—Bolivia: By removing six zeros from its peso and renaming the new currency the “boliviano” effective on New Year’s Day.
- The central bank begun stamping “one boliviano” on a blank space on 1 million pesos bills. The bills were worth 52 US cents.
- The currency reform followed Argentina and Brazil: removing zeros and rename their currencies as part of economic programs to combat hyper-inflation.
- The program was successful, reigning in inflation to about 10% a year.

Zimbabwe's hyperinflation

- The economy is in shambles, and a drought has left 4m people hungry. Anti-government protests are continuing despite brutal police crackdowns.
- Citizens are already wary about "bond notes", introduced by the central bank to ease cash shortages.
- While not officially a currency, they look an awful lot like the old Zimbabwe dollar, abandoned in 2009 after inflation hit 500,000,000,000%.
- Since then the country has relied mainly on American dollars: Dollarization is used to curb hyperinflation.

A great letdown

Zimbabwe, consumer prices



Sources: Reserve Bank of Zimbabwe; ZIMSTAT; IMF *IMF

Where did this hyperinflation take place?

Wholesale Price Index	
July 1914	1.0
Jan 1919	2.6
July 1919	3.4
Jan 1920	12.6
Jan 1921	14.4
July 1921	14.3
Jan 1922	36.7
July 1922	100.6
Jan 1923	2785.0
July 1923	194,000.0
Nov 1923	726,000,000,000.0

A multiple exchange rate system

- The external value of the baht was unstable prior to 1955.
- The shortage of foreign exchanges led the government to adopt a multiple exchange rate system, in which exporters and importers of commodities were subjected to different exchange rates.
- **Source:** Yang, Shu-Chin (1957) A multiple exchange rate system: An appraisal of Thailand experience 1946-1955, Madison: The University of Wisconsin Press

	Baht/Pound	Imports	Exports
Official Rate	40.00	For the government and for favored private imports and remittances	Rice, Cement
Free market rate	**60.00**	**All other imports and invisible payments**	**All exports except rice, cement, rubber and tin**
Bank of Thailand's free rate	59.40	Most imported goods (as specified by the Bank)	
Mixed rates:			
50% of official rate and 50% of free market rate	**50.00**		**Tin**
20% of official rate and 80% of free market rate	56.00		Rubber

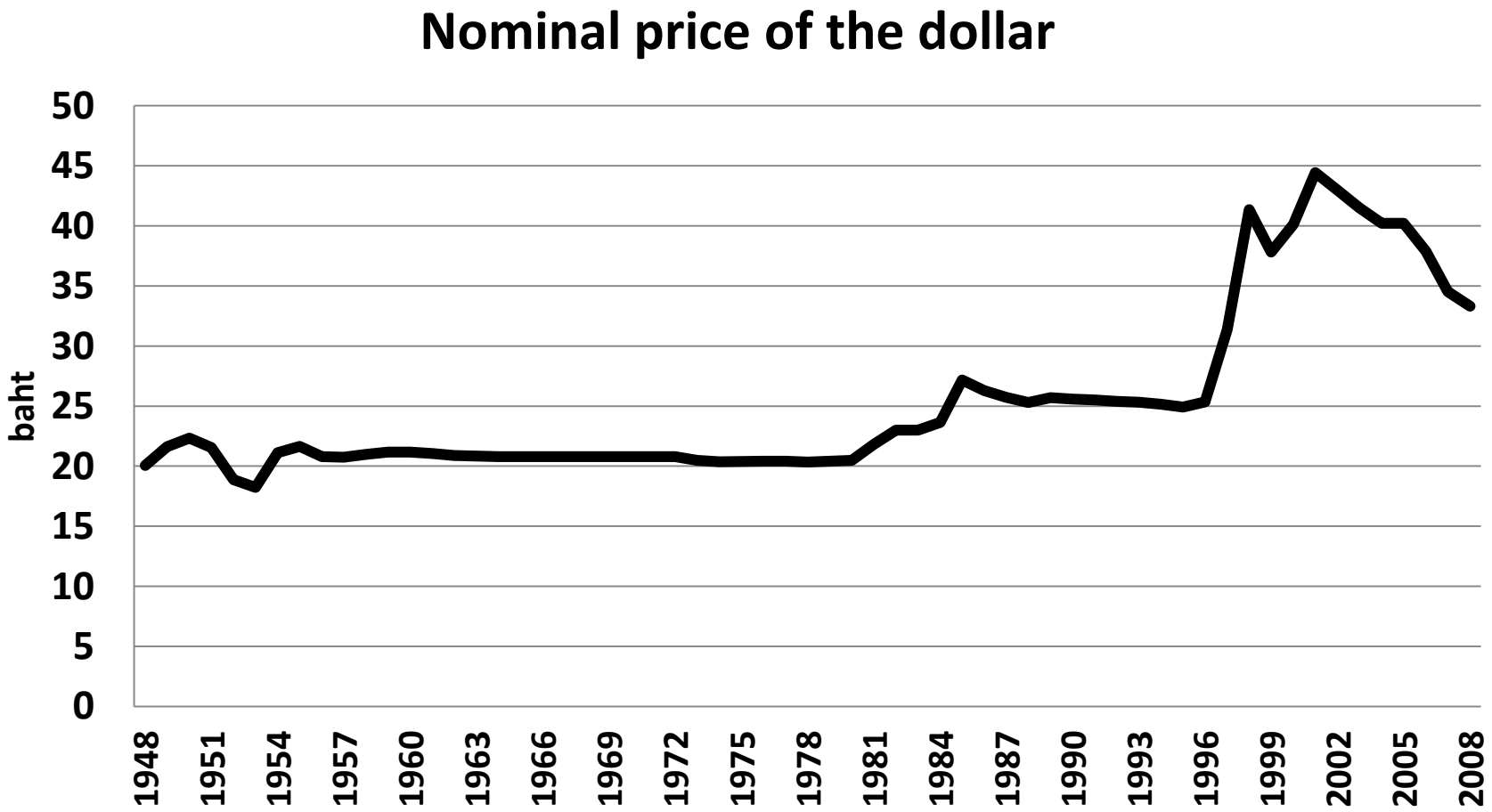
Price stability is the key

- The multiple exchange rate system helped to restore price stability, as inflationary expectations were subdued.
- Price stability is the key to build in confidence in the value of baht.
- Inflationary expectations can be controlled with fiscal disciplinary: no printing money to finance budget deficit (selling government bonds to the central bank) .

Currency speculation no more

- As a result of a unification of multiple exchange rates into a single and stable exchange rate in 1955, the exchange rate remained stable throughout the period 1955-1960.
- The speculation of the foreign exchanges and the black market was eliminated after the exchange rate unification.
- What do people speculate in the foreign exchange market?
- The stable financial environment provided a necessary condition for a stable demand for money in response to expanding economic activities.

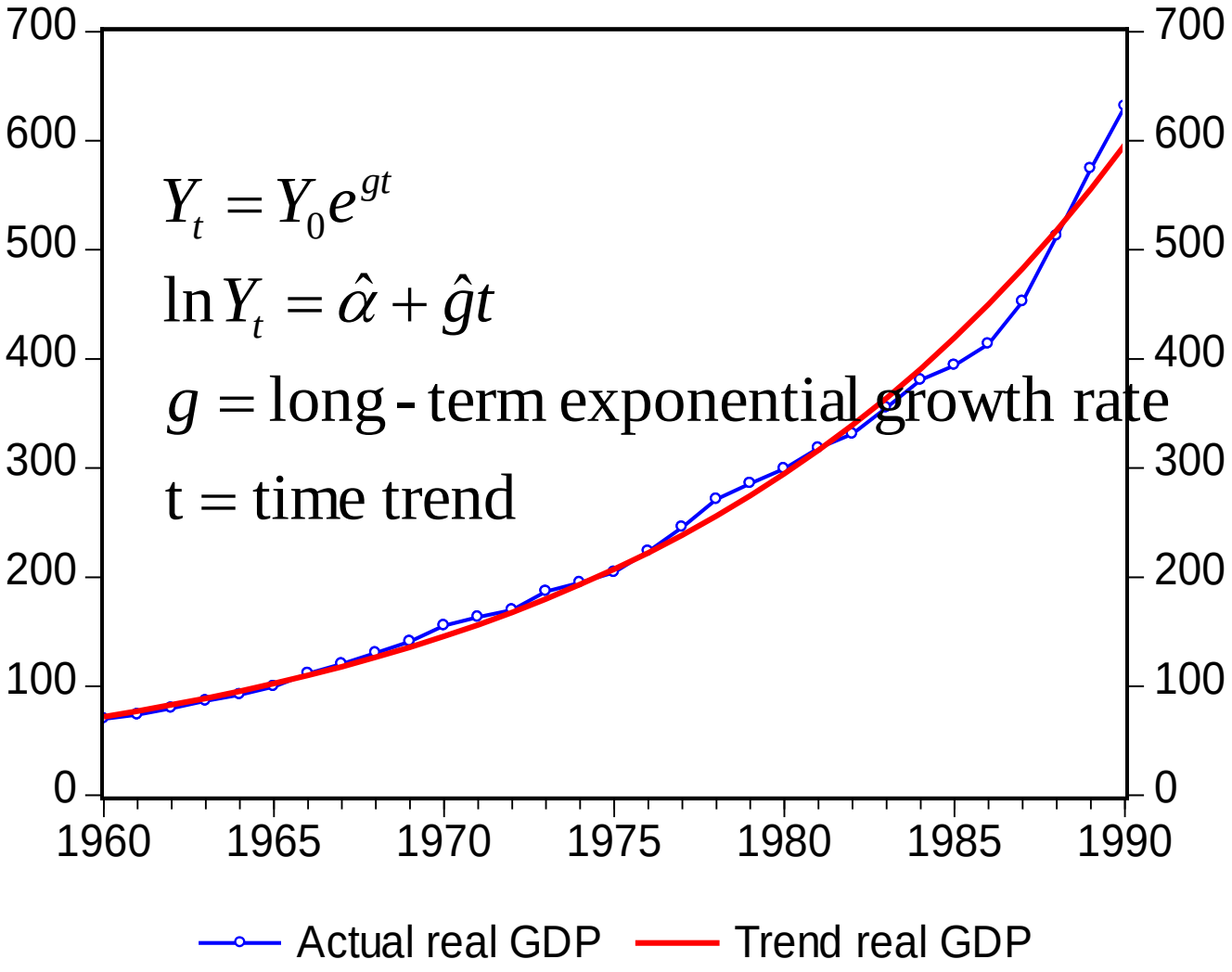
The baht-dollar exchange rate

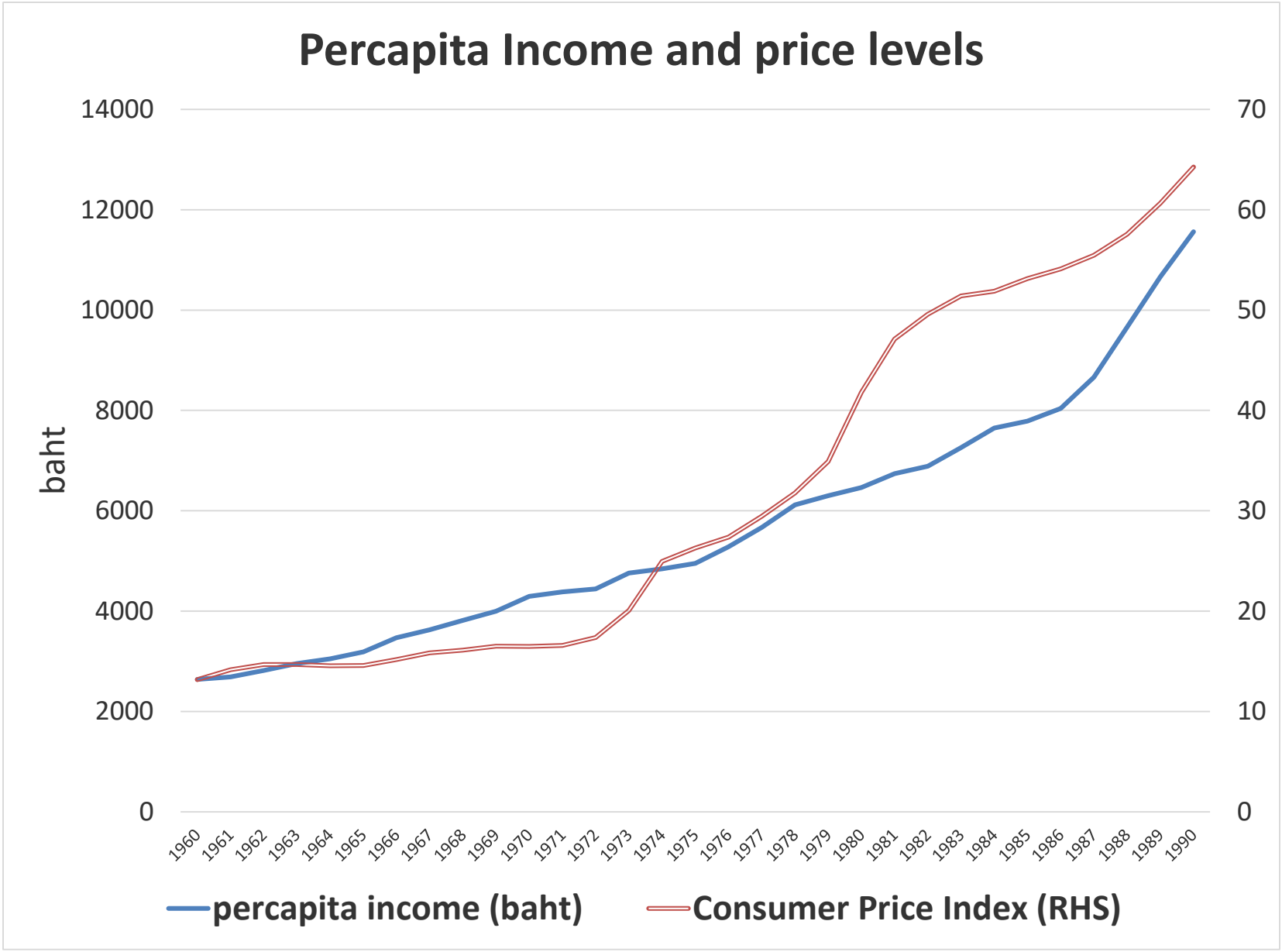


Preconditions for taking off

- Price stability
- Exchange rate stability
- Stable macroeconomic environment
- Infrastructure development: dams, airport, railways and highways

Thailand's Long-term growth path: g = exponential growth rate (7.2%)




Percapita Income and price levels
14000
12000
10000
8000
6000
4000
2000
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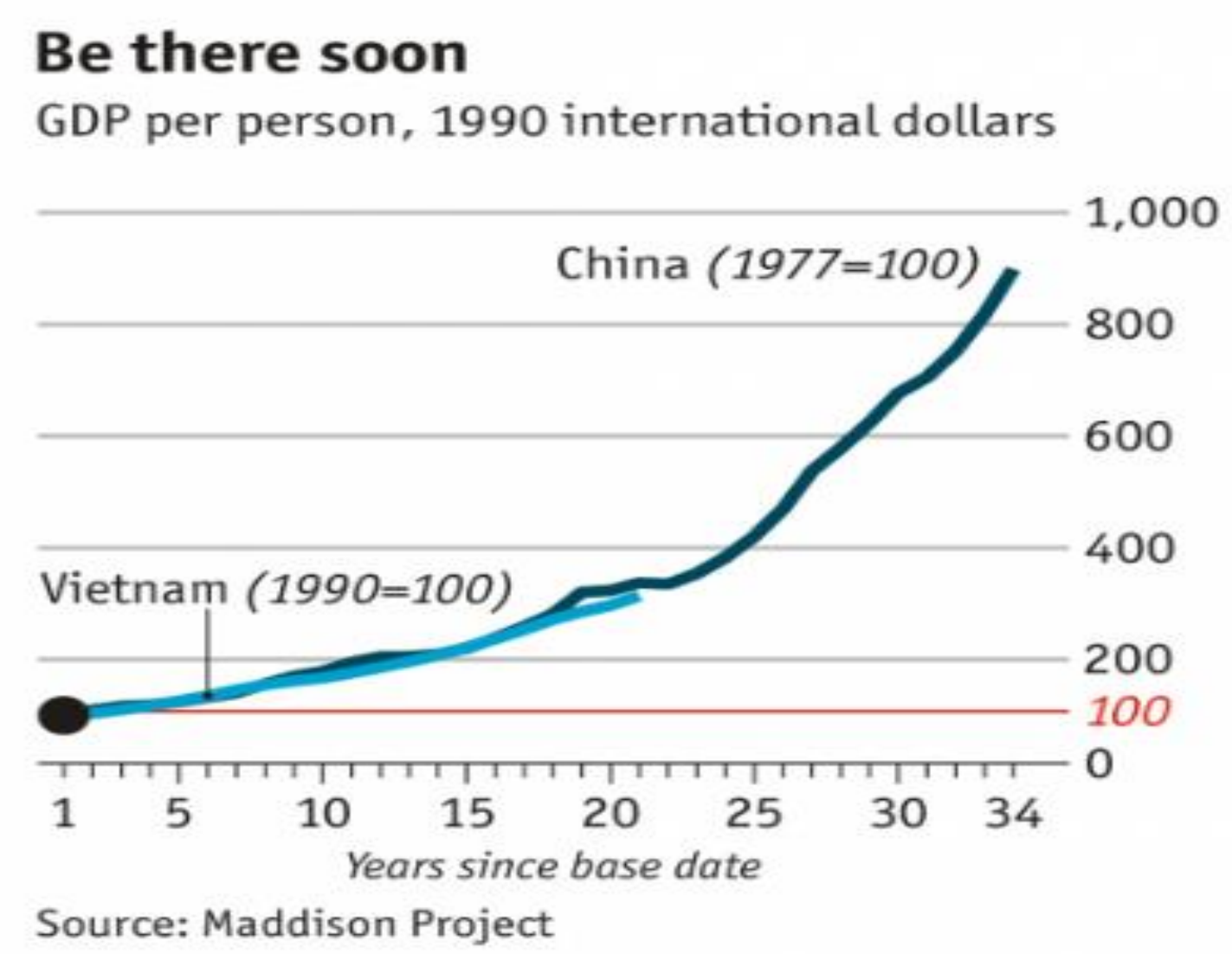
1987
1988
1989
1990
percapita income (baht)
Consumer Price Index (RHS)

Vietnam's economy

- Its trajectory has closely followed that of its giant northern neighbor.
- Since 1990 it has been, per person, the world's second-fastest-growing economy—its output per person is roughly the same as China's a decade ago.
- Vietnam has big things going for it.
- Its population is still young and only beginning to move to cities; it is the destination of choice for manufacturers leaving China; and
- Its students perform as well at maths and science as those in wealthier countries.



Notice the similarity with Thailand's growth path: 1960-1990

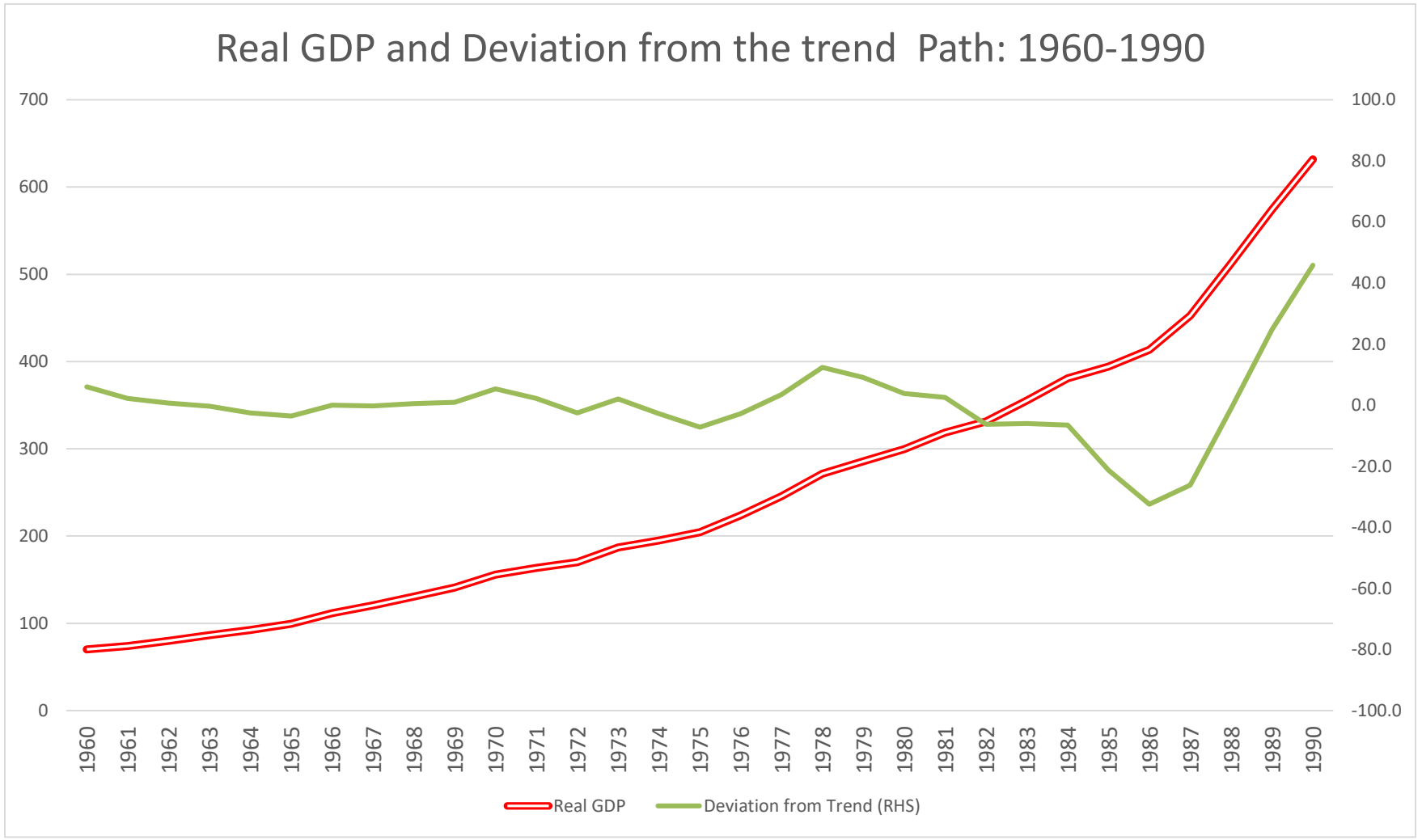
Vietnam: The world's second fastest economy

- But keeping up with China will get harder.
- Vietnam's private-sector productivity has slowed sharply.
- China, though not a shining example of private-sector success, gives entrepreneurs more space.
- Painful as it is for Vietnam to admit, it needs to learn from China.

Thai Economy: Deviations from the trend growth path

- From 1961 to 1990, output increased at the trend growth path of 7 %. (Remember Rule 72)
- There were some episodes that actual GDP was above the trend, as new engine of growth had emerged.
- But there were some interruptions:
- Growth rate dropped below the trend growth path: the two oil price shocks during the period 1973-1974 and the period 1979-1980.

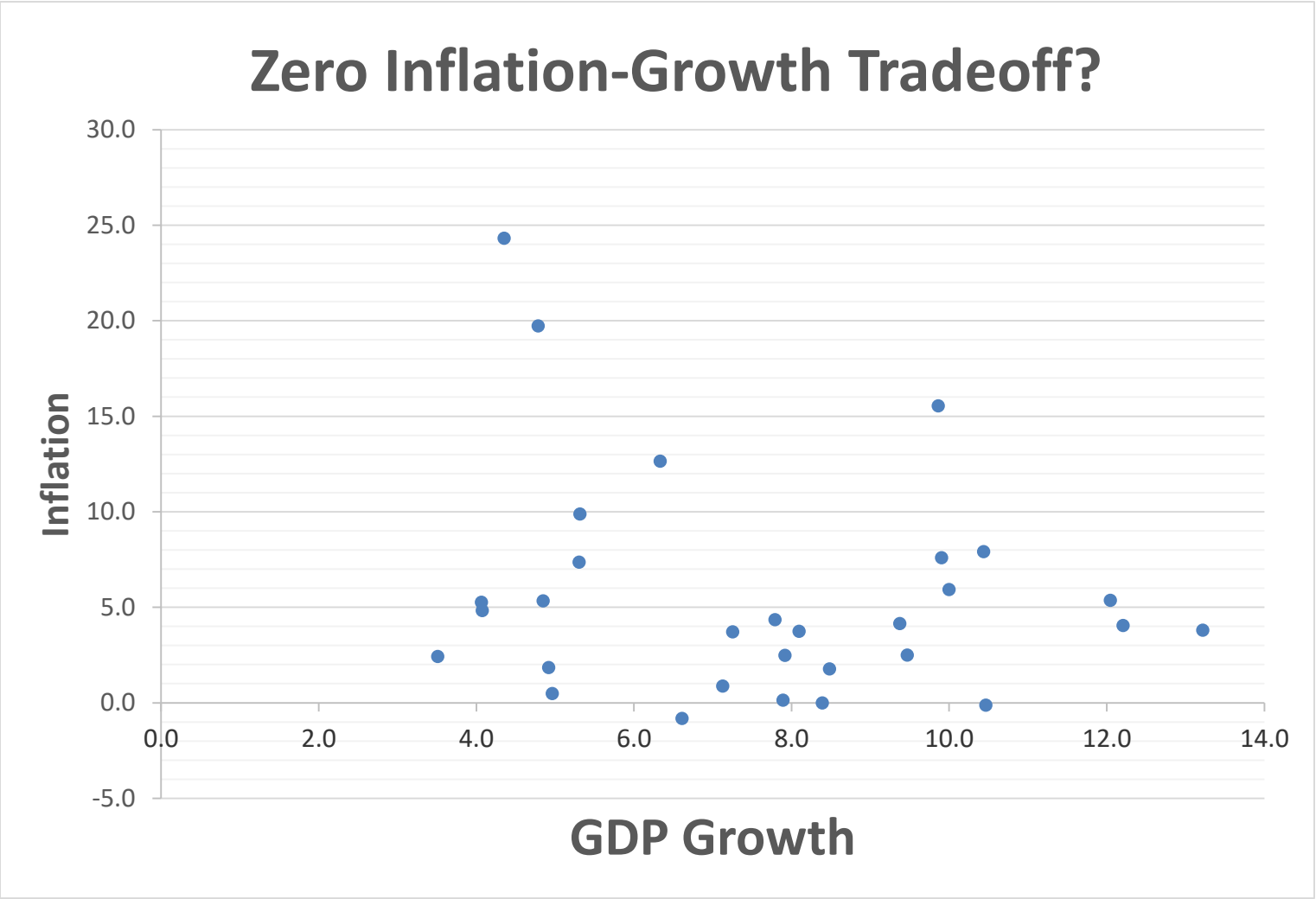
A stable growth path: 1960-1984



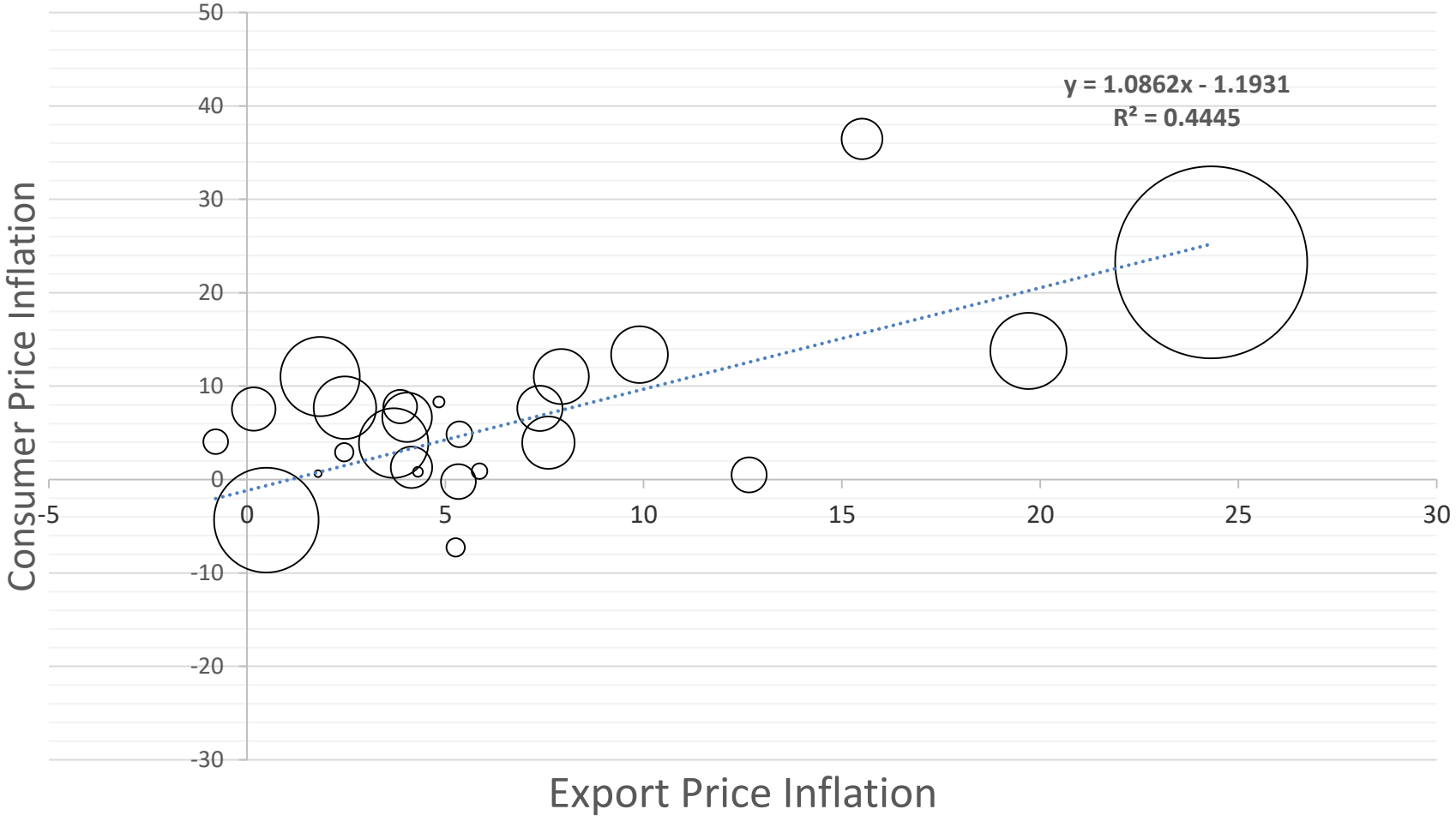
Back to stability

- After the oil shocks (the cost-pushed inflation), inflation rate was subsided within a year.
- External shocks did not cause a run-away inflation as monetary growth rate was moderate.
- Aside from the four years of double-digit inflation, faster growth was achieved without inflation acceleration.

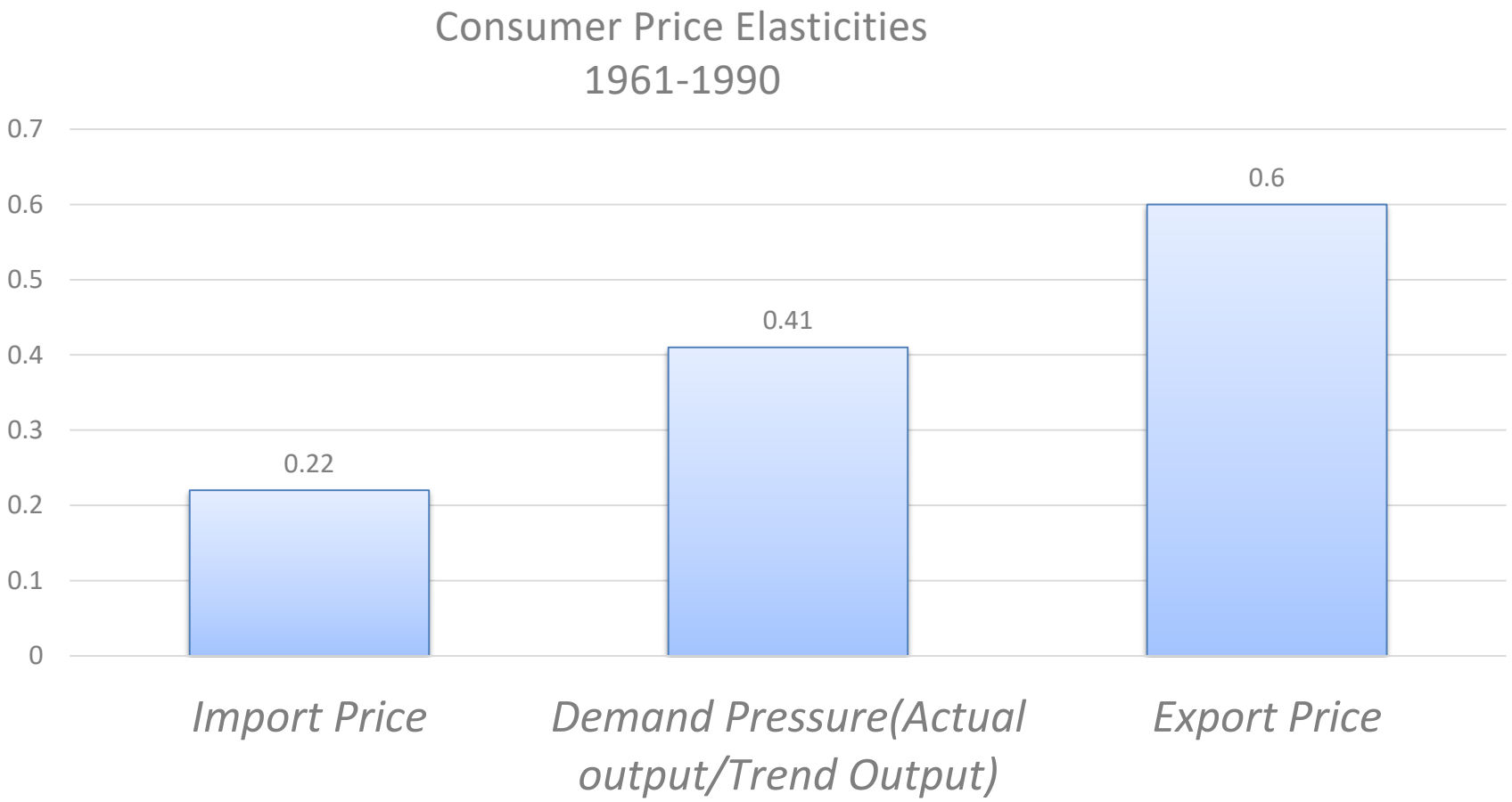
Growth and Inflation



Domestic inflation and external price pressures
Bubble size represents imported inflation
1961-2000



Inflationary Pressure



A simple growth accounting identity: what are growth drivers?

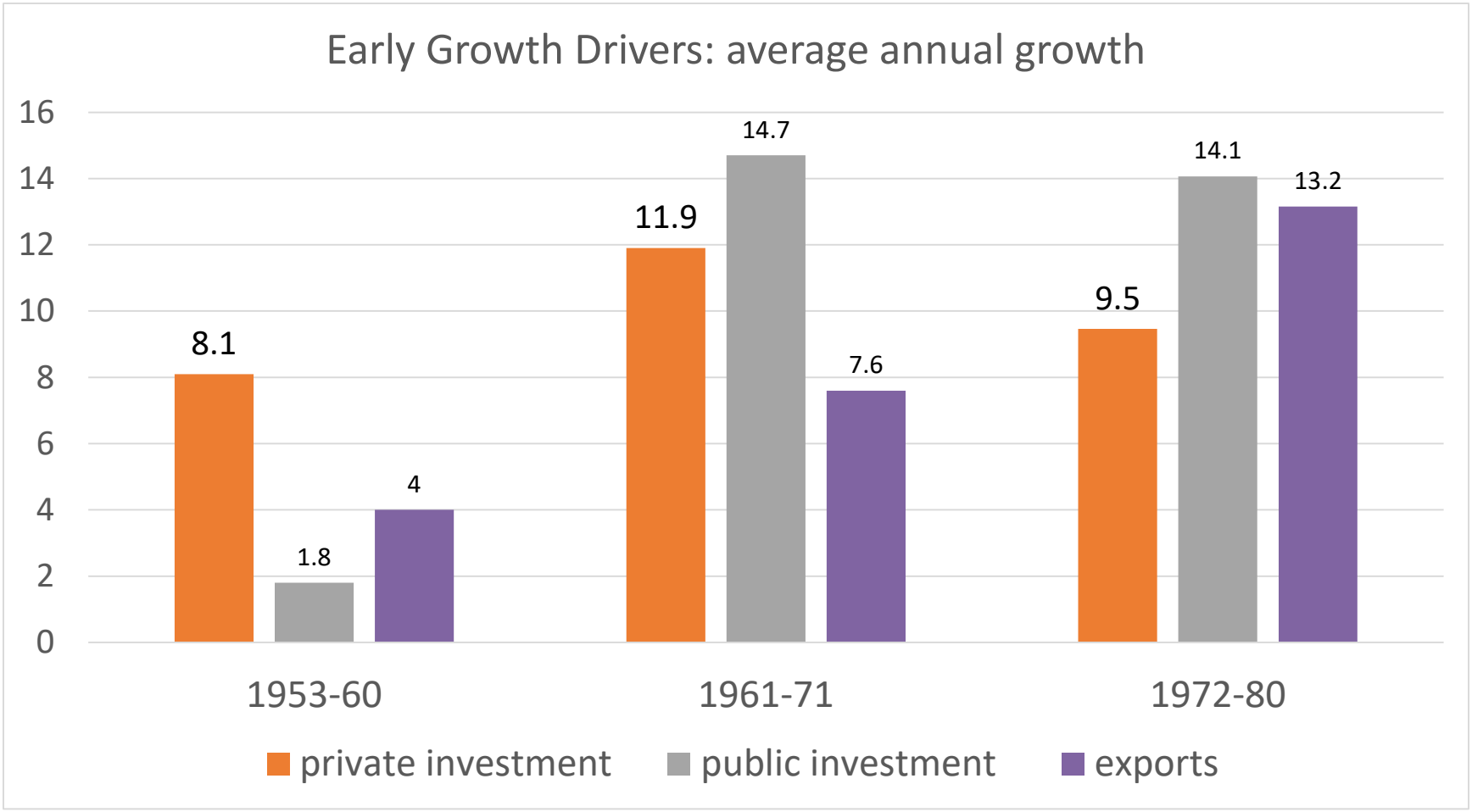
$$\Delta Y = \Delta C + \Delta I + \Delta G + \Delta X - \Delta M$$

$$\frac{\Delta Y}{Y} = \frac{\Delta C}{Y} + \frac{\Delta I}{Y} + \frac{\Delta G}{Y} + \frac{\Delta X}{Y} - \frac{\Delta M}{Y}$$

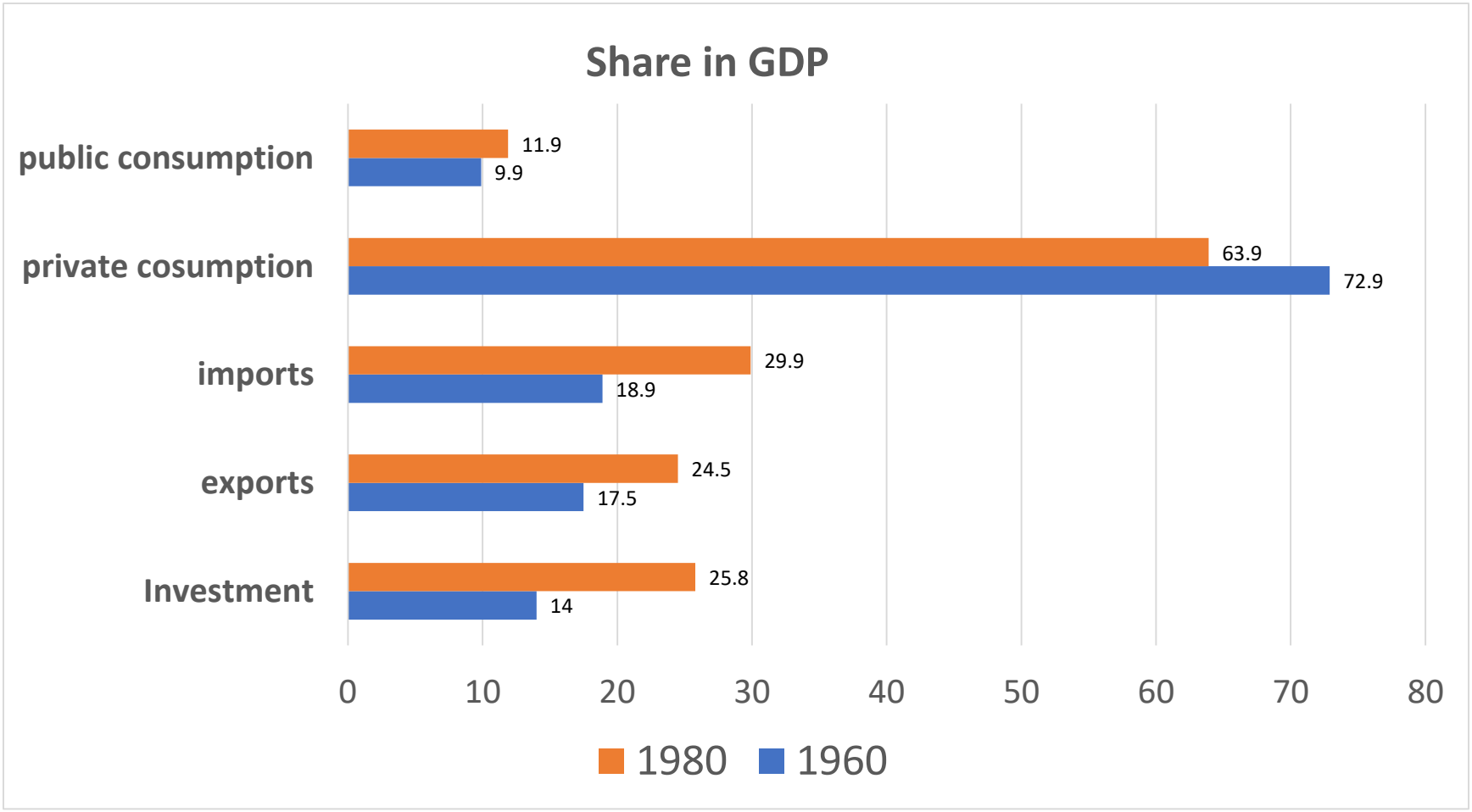
$$g = \frac{\Delta C}{C}(C/Y) + \frac{\Delta I}{I}(I/Y) + \frac{\Delta G}{G}(G/Y) + \frac{\Delta X}{X}(X/Y) - \frac{\Delta M}{M}(M/Y)$$

$$g = \dot{C}(C/Y) + \dot{I}(I/Y) + \dot{G}(G/Y) + \dot{X}(X/Y) - \dot{M}(M/Y)$$

Growth of Demand Components



The weights in growth equation



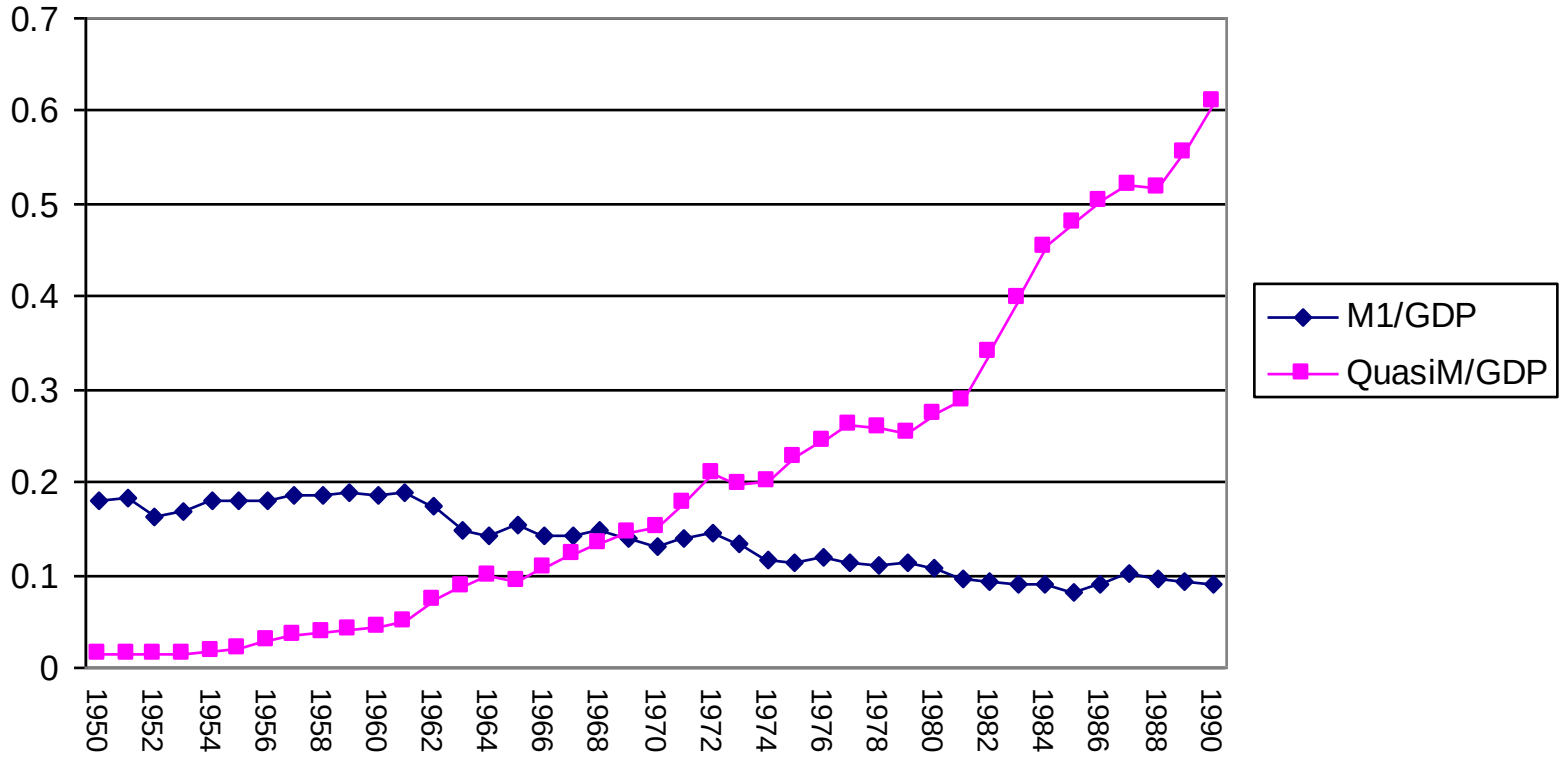
Growth was driven by investment

- The share of investment in GDP increased rapidly to 25 % in 1980.
- Investment and imports were highly correlated.
- A large part of imports was capital goods, which contributed to productivity improvement in the manufacturing sector, giving rise to competitiveness and enhanced export capacity.
- But imports also rose sharply during the oil shocks.

Financial wealth accumulation

narrow money supply (M1)

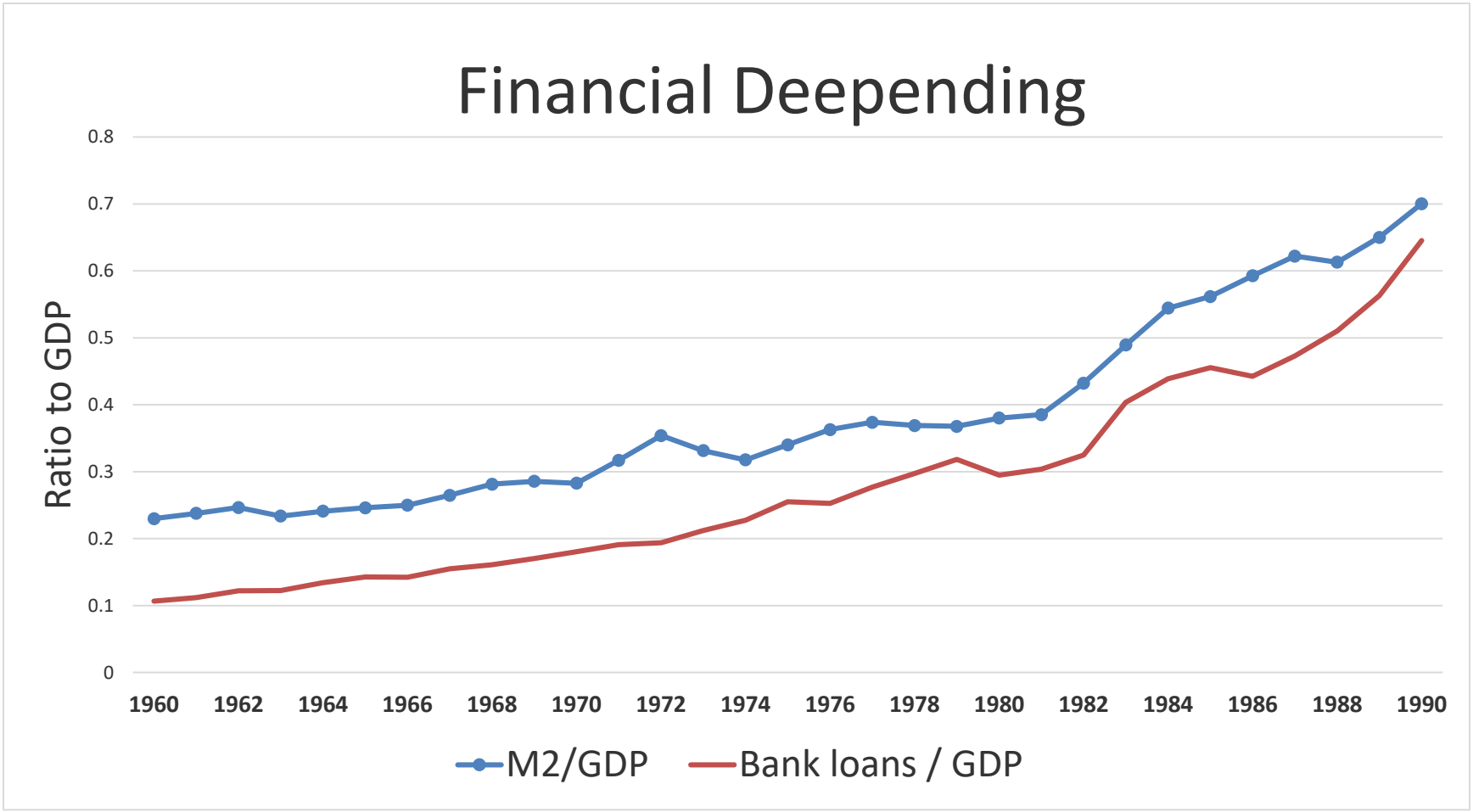
Quasi money (near money) includes saving and fixed deposits



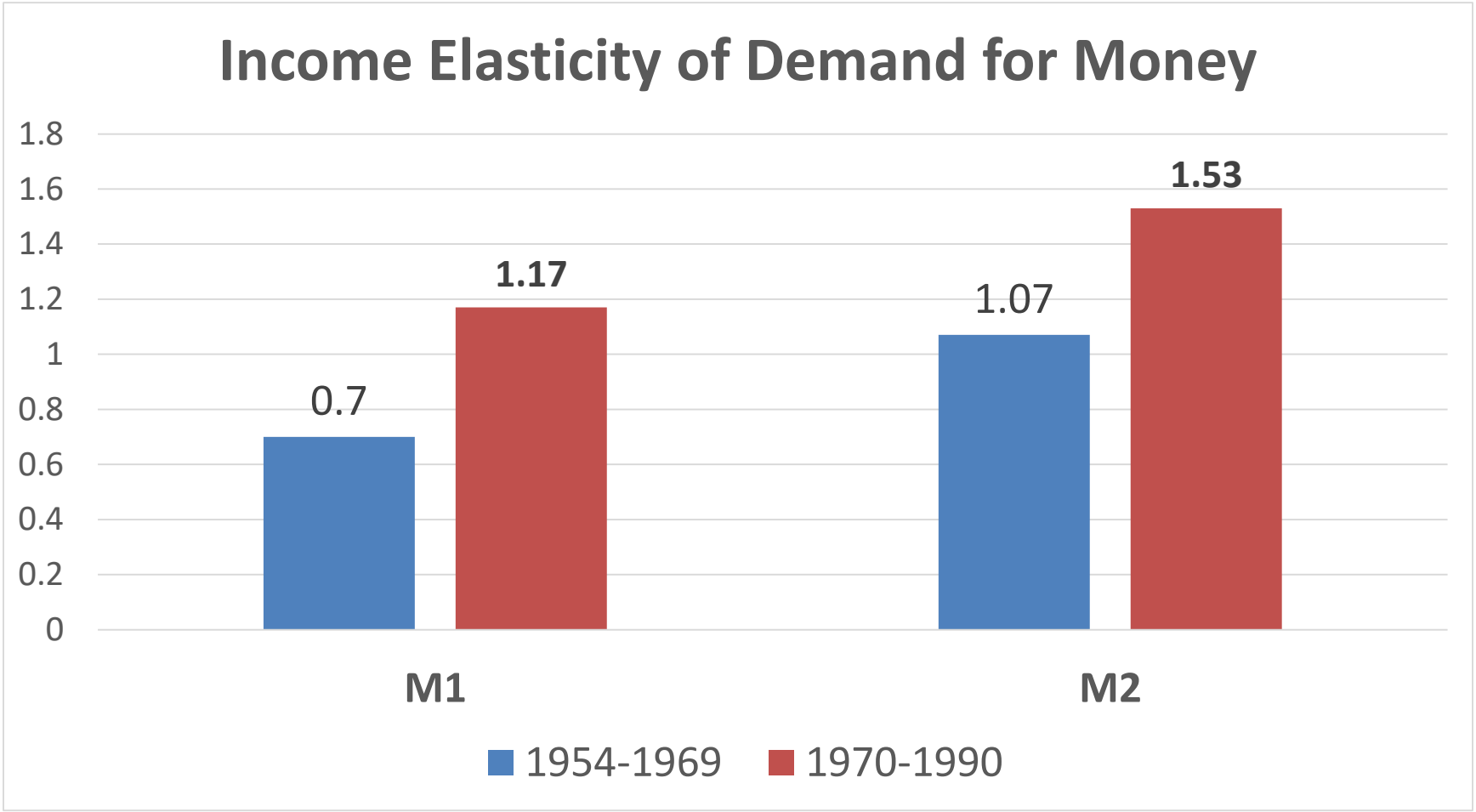
Another milestone

- The year 1969 was important since it was the first time that the amount of time and saving deposits (quasi money) exceeded currency and demand deposits.
- The cross-over point between the ratios to GDP of the narrow money and the quasi money occurred in 1969, indicating a rapid degree of financial deepening—a vital sign of economic development.

An index of economic development



Velocity declined as output expanded



Shallow finance vs. deepening finance

- Bank loans and M2 increased faster than GDP, exhibiting a steady increase in the degree of financial deepening.
- Rapid capital accumulation was permitted by availability of bank credit.
- The broad money supply moved together with bank loan in the long run (cointegrating relationship)
- Banks' main sources of loanable funds were time and saving deposits.
- Key word: Financial deepening

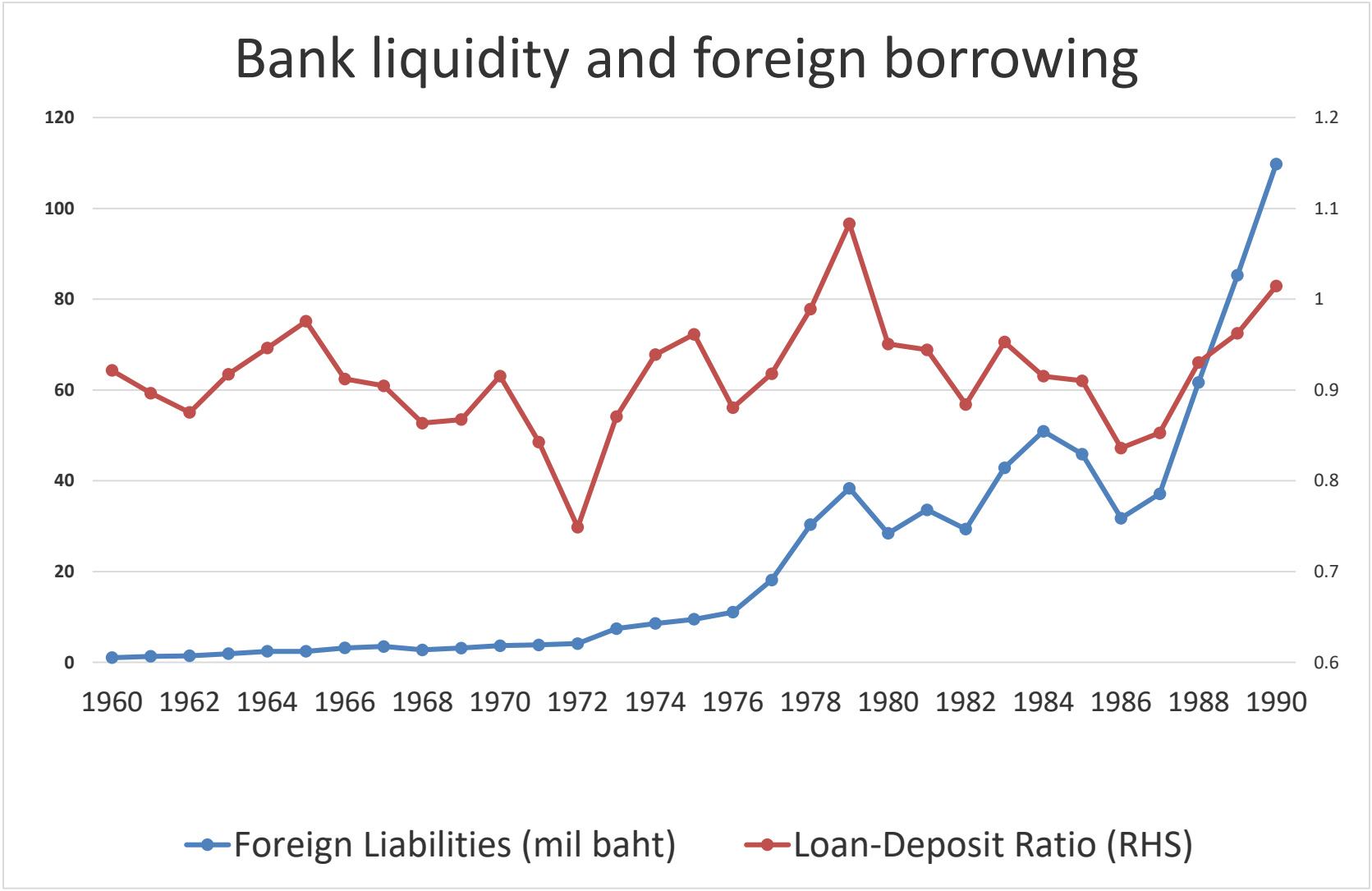
Relaxation of domestic resource constraint

- Since 1973, commercial banks had began borrowing from abroad as a new source of funds.
- The amount of foreign borrowings moved in line with the loan-deposit ratio.
- Financing domestic investment was no longer constrained by domestic savings.
- Economic development requires financial deepening.

Investment was no longer constrained by domestic savings, thanks to foreign capital inflows

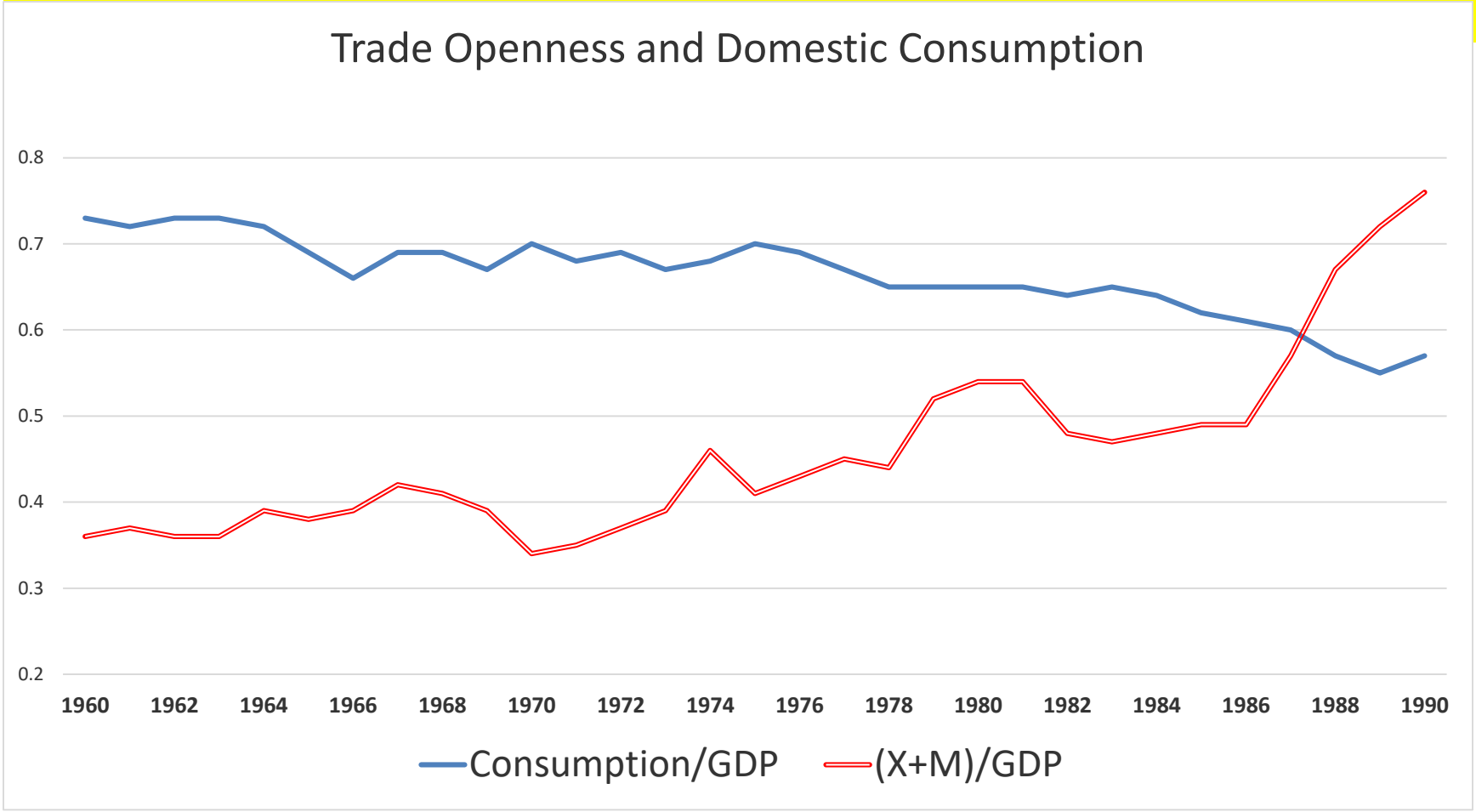
- Commercial banks borrowed from abroad to circumvent insufficient domestic savings.
- The growth of the economy was not limited by shortages of internal funds.
- International capital mobility through banks' foreign borrowing enhanced output growth.
- It was not just foreign trade openness but also financial openness through capital flows that permitted high economic growth during the first thirty years of economic development.

Foreign borrowing



Pro-trade Biased Growth

The sum of exports (X) and Imports (M) indicates international trade activities



Exports and economic growth

- The share of foreign trade (the sum of values of imports and exports) to GDP increased from 35% in 1960 to 75 % in 1990.
- Trade openness was related to output growth (Remember Rodrik's deep determinants).
- ***How did exports contribute to economic growth?***

Bela Balassa : Export-led Growth Hypothesis

- The rationale for the above hypothesis is that these export-oriented policies provide five important merits:

(1) better resource allocation according to comparative advantage,

(2) greater capacity utilization due to larger market,

Exports-led growth strategy

(3) permission of the exploitation of economies of scale,

(4) technological improvements in response to competition aboard, and

(5) Increase in employment in labor-surplus countries.

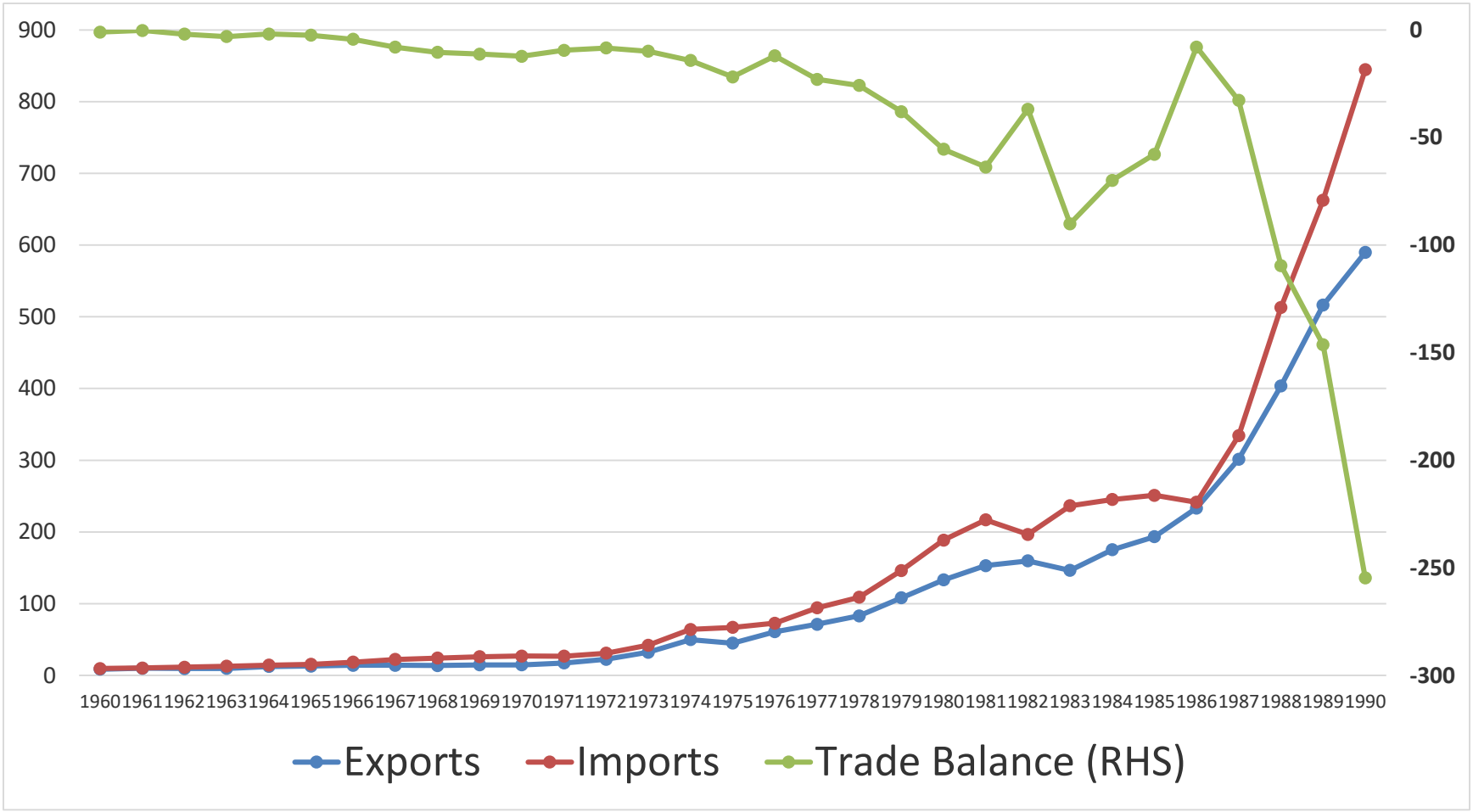
The virtue of a fixed exchange rate regime

- In the first ten years of the implementation of economic development plan, trade deficit was still insignificant.
- International trade expanded as the fixed exchange rate provided favorable environment with no foreign exchange risk.
- When the trade deficit grew larger after 1978, the need for exchange rate adjustment became apparent.

Living beyond our means

- Exchange rate adjustments became more frequent as the trade balance was widening.
- By 1990, the amount of trade deficit deteriorated further as the baht appreciated, despite the fact that the fiscal budget was in surplus.
- Thus the widening trade deficit was mainly due to the investment-saving gap—not public deficit.
- M-X= (I-S)+ (G-T) ***Twin deficits***

Deteriorating Trade Balance



Blame the dollar strength
The baht was dragged by the dollar against the yen

- The number of months of covered imports international reserves declined steadily before the mid-1981 and the late 1984 devaluations.
- The appreciation of the US dollar against other currencies implied that the baht was strengthened against other currencies, resulting in the loss of competitiveness in non-US markets.

$$e = \frac{B}{s} = e* = 23 \text{ baht}$$

$$e = \frac{B/Y}{S/Y} = e*$$

As the dollar appreciates against the yen (S/Y) falls
The baht must also appreciate against the yen (B/Y) falls by the Same percentage to maintain the fixed e* level.
Hence Thailand's exports lost its price competitiveness in Japanese markets

Devaluations of the baht

- In May 1981, the baht was devalued against the US dollar by 1.1 %, which was followed by another devaluation of 8.7 % in July 1981.
- Another major devaluation was undertaken in November 1984 by 14.9 %, which followed by another 1.9 % in December 1985.
- These devaluations were the policy response to current account deficit and the loss of competitiveness caused by the baht appreciation against other currencies.

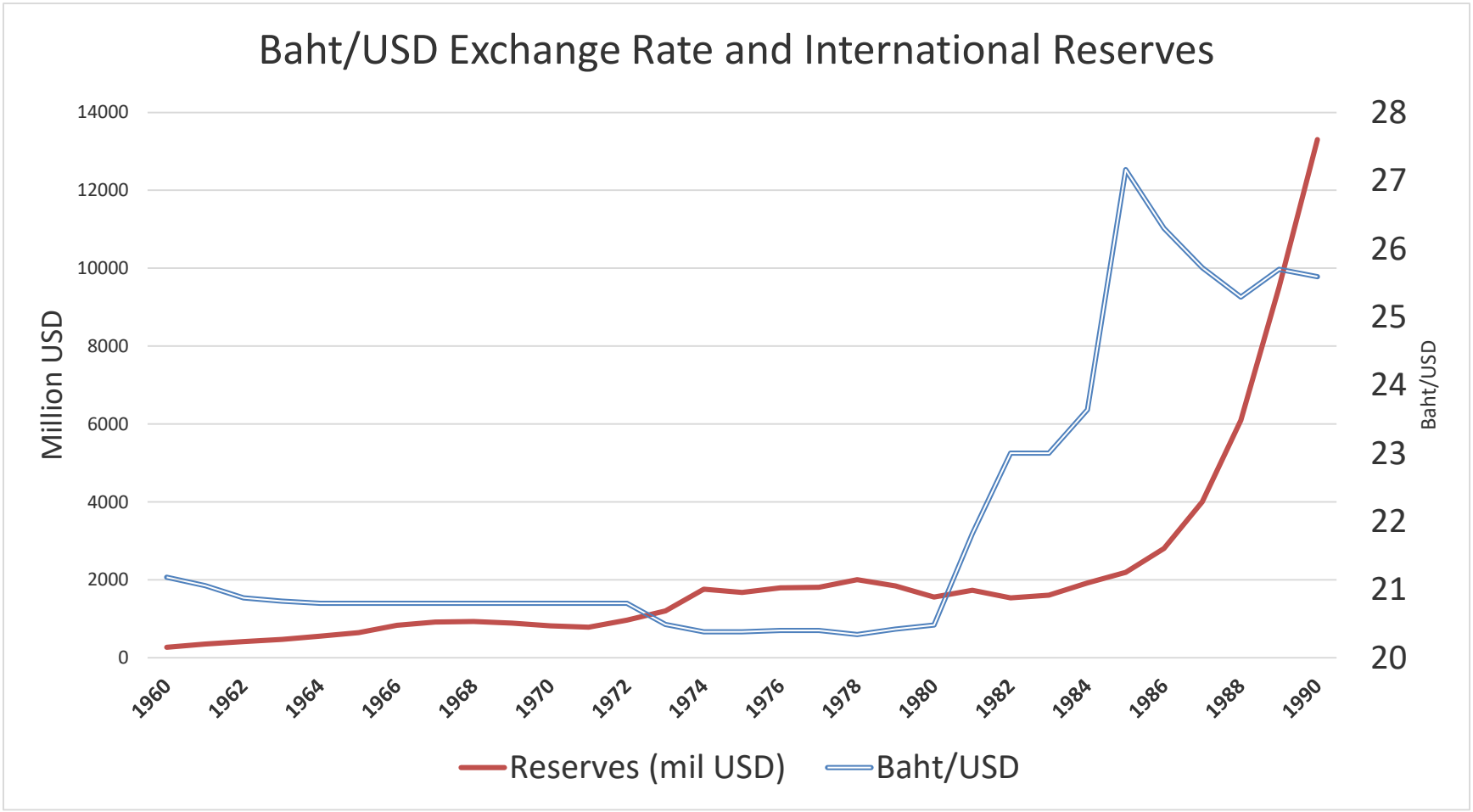
Devaluation as a last resort

- These devaluations were undertaken as all other measures failed to correct the current account deficit.
- A ceiling was imposed on the issuance of letter of credit in 1983 and the 18% ceiling on bank lending growth was stipulated to avoid adverse political consequences of large devaluations.
- By using indirect measures, the Bank of Thailand did not deal with the root of the problem, which was the unrealistic exchange rate.

Devaluation: A success

- Devaluations were quite successful as the level of international reserves increased sharply from the level of 2 billion in 1985 to more than 12 billion USD in 1990.
- The baskets of currency exchange rate system of Thailand continued providing the stability of the bath-dollar exchange rate, as the weight of the US dollar (θ_0)in the basket was more than two-thirds and had been rising over time.
- This practice led to the problem of unsustainable current account in the 1990s.

After two major devaluations



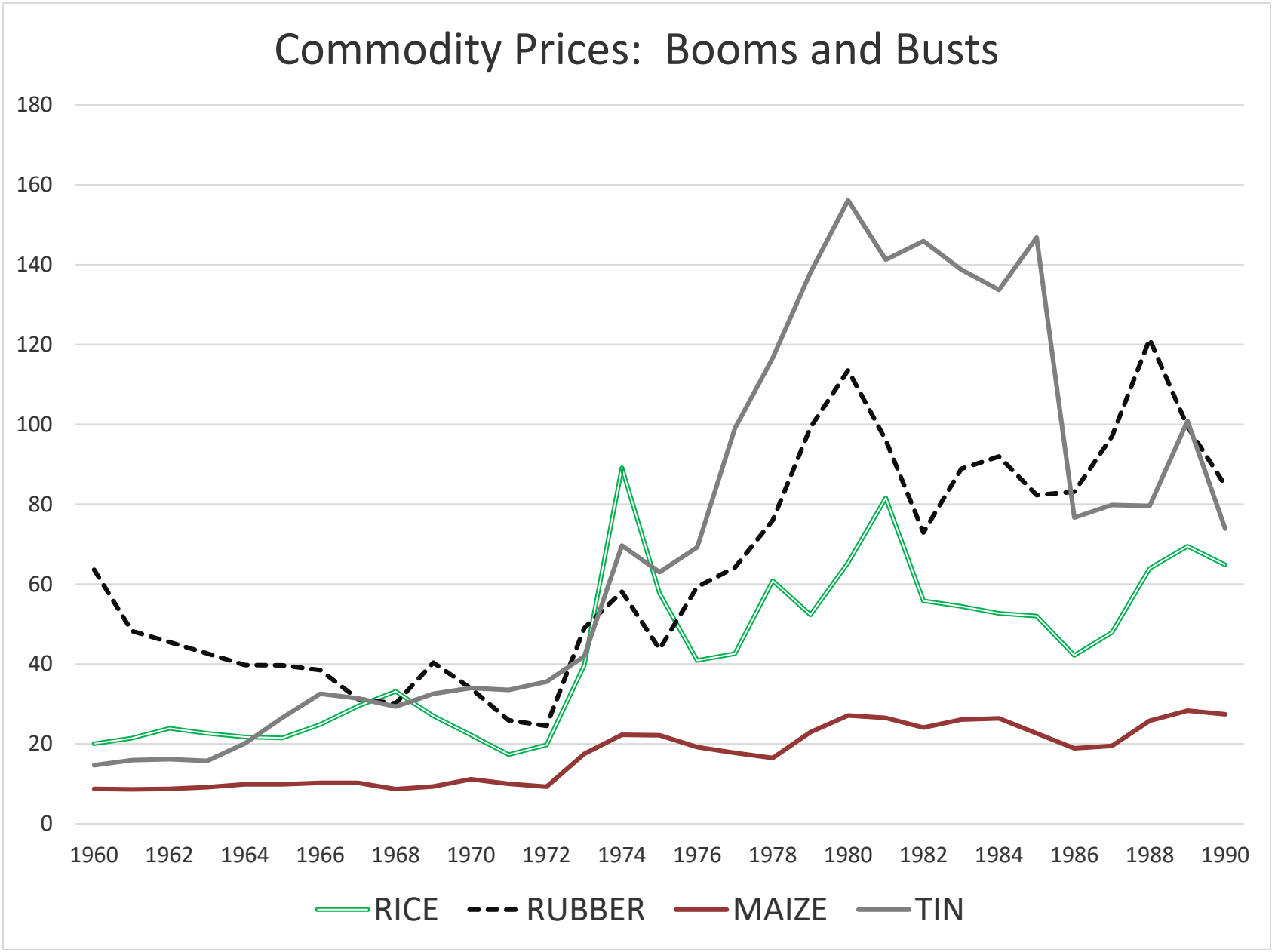
BoT: Basket of foreign currencies determined the baht/dollar exchange rate

$$\frac{baht}{\$} = \theta_0 + \theta_1 \frac{Yen}{\$} + \theta_2 \frac{DM}{\$} + \theta_3 \frac{S\$}{\$} + \cdots + \varepsilon$$

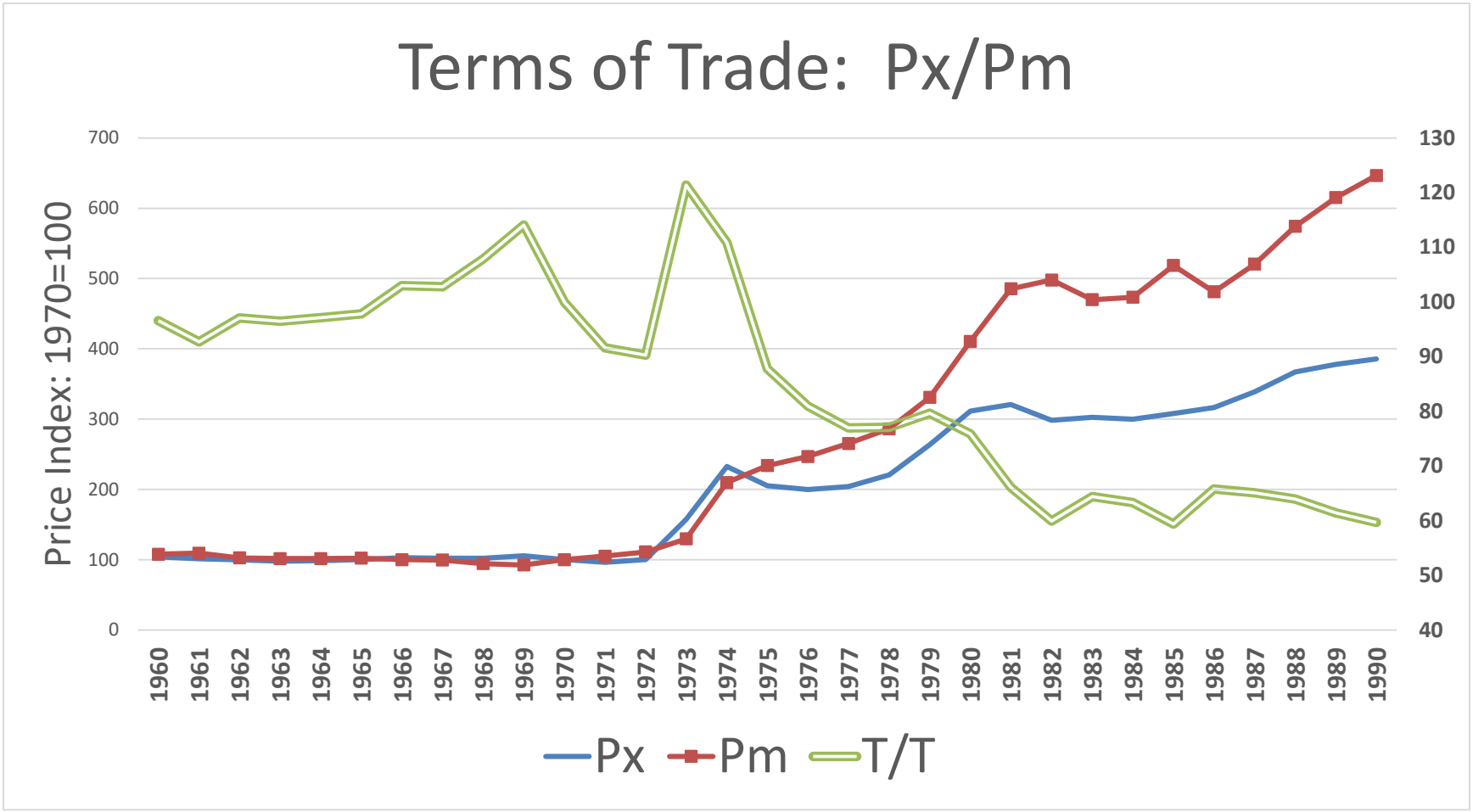
$$\sum_{i=0}^{8} \theta_i = 1$$

$$If\ \theta_1 = \theta_2 = \cdots \theta_8 = 0,$$

$$Baht/\$ = e; \text{we are back to the fixed exchange rate system.}$$


Commodity Prices: Booms and Busts
180
160
140
120
100
80
60
40
20
0
1960
1962
1964
1966
1968
1970
1972
1974
1976
1978
1980
1982
1984
1986
1988
1990
RICE
RUBBER
MAIZE
TIN

Singer-Prebisch Hypothesis: Terms of trade



Relatively less focused on agriculture, more on manufacture

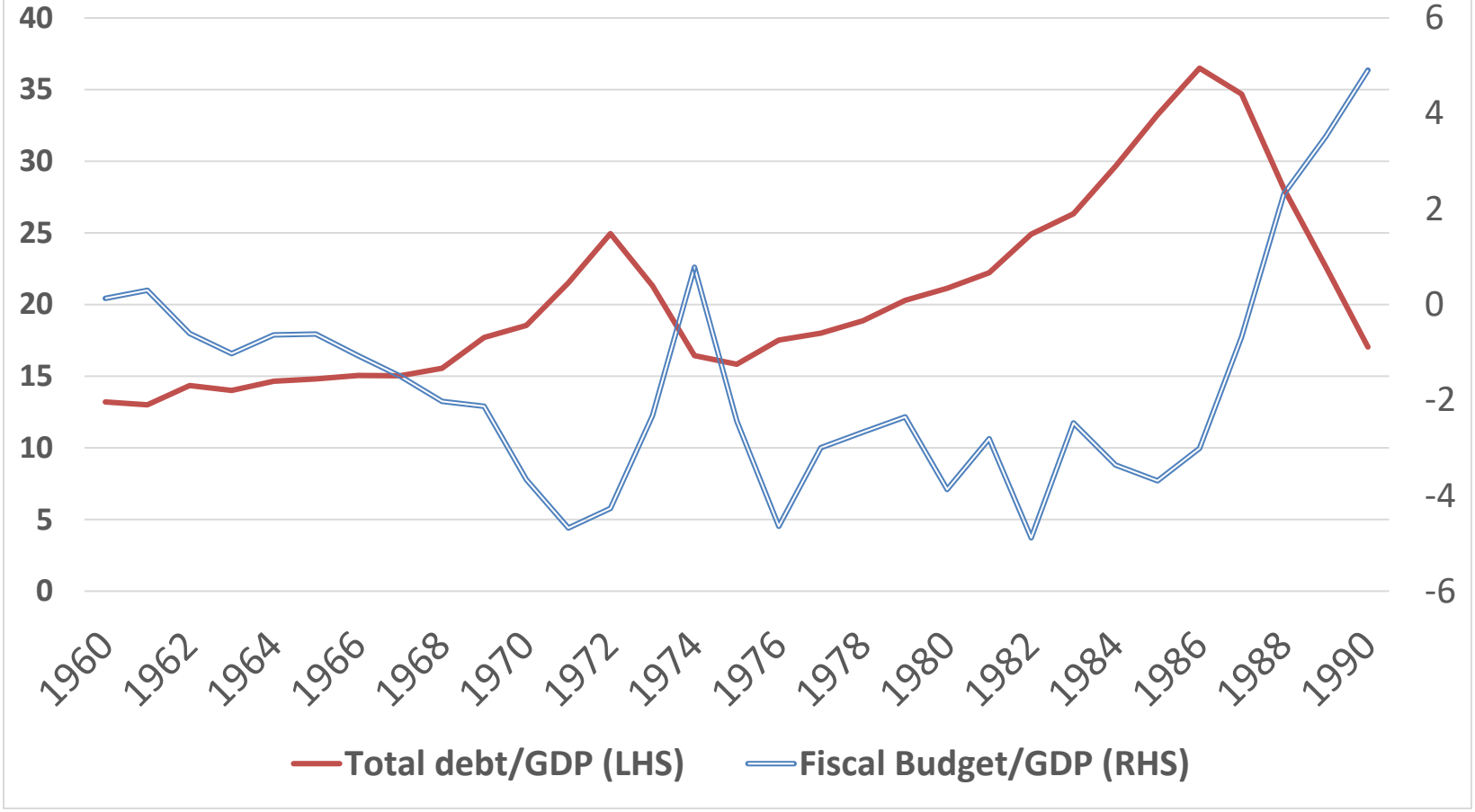
- During this period, the importance of agricultural exports had declined, while manufacturing exports became more dominant.
- The shift in the export structure ameliorated the adverse effects of declining terms of trade of primary commodities.

Conservative Fiscal Policy

- Conservative fiscal policy of the Thai government in the early stage of development.
- The government adhered to balanced budget principle during the regime of General Thamon administration (1964-1974).
- The size of budget deficit was larger in the early 1970s but the budget deficit became surplus in 1974, because of rising trade tax revenues.

- As the public debt increased gradually in the early 1960s, the public spending was curtailed to maintain manageable level of public debt.
- The share of public debt started climbing from 15 % in 1975 to above 35% of GDP in 1986.
- In 1987 the budget deficit was reduced as financial discipline was strictly obeyed.

Fiscal Sustianability: 1960-1990
(% GDP)
Source: Bank of Thailand



How to curb budget deficit: Fiscal Discipline

- The ability to cut down budget deficit led to a sharp decline in the debt to GDP ratio, as a result of the turnaround in the fiscal position.
- By 1989, the strong growth of the Thai economy generated tax revenues and the country experienced substantial surplus budget, enabling the government to undertake trade liberalization program through tariff reduction.

Conclusions

- The long term growth was characterized by a stable average annual growth rate of 7% between 1961 and 1990.
- The process of financial deepening led to price stability and strong economic growth.
- There exists long run relationships among real output, money supply, and bank credit.

Conclusions

- The trade openness (integration) has led to rapid growth and transformed the output structure of the Thai economy.
- Export-biased growth
- During this period, the Thai economy experienced two oil price shocks, when inflation rose to two digits.

Conclusions

- The current account deficit was corrected by two major devaluations in 1981 and 1984.
- After the adoption of the basket of currencies system, the baht-dollar rate gradually returned to a fixed exchange rate system (once again), where the weight of the USD in the basket of currencies had gained more weight over the years.