

Macroeconomic Theory and Policy

Lecture 25

BOP Crisis and Economic Policy

Nature of Economic Crisis

External Instability

Massive trade deficit

Depletion of foreign asset reserves

Huge debt outstanding (as in debt crisis in 1980s)

Internal instability

Large Budget deficit

Recession

Higher rate of unemployment

Increasing Prices

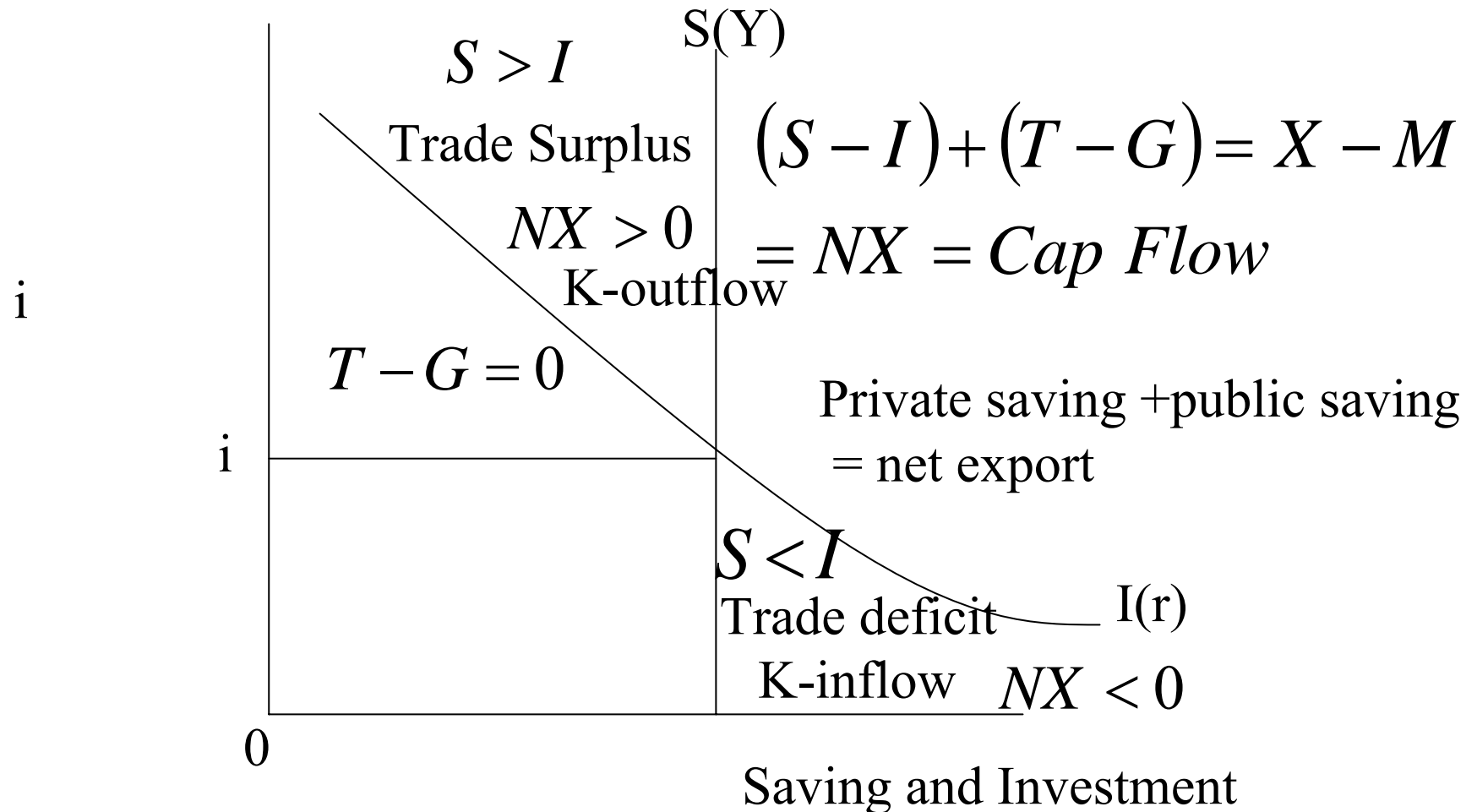
Causes of Economic Crisis

Imprudent fiscal and monetary policies

Inadequate supply side policies or adjustment

Lack of transparent system

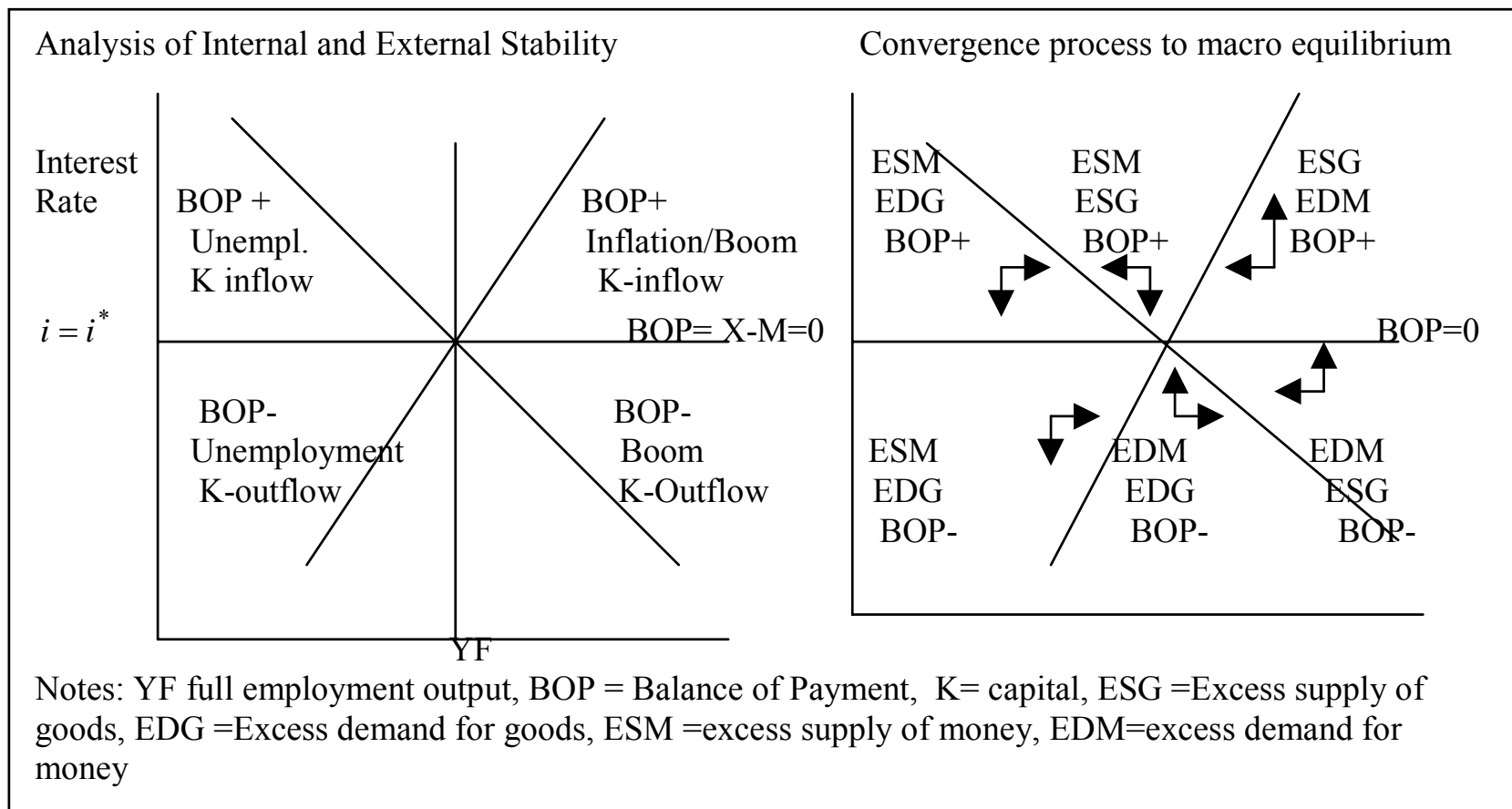
Three Gaps: Investment-Saving, Budget and Trade Gaps



Recall: $Y = C + S + T + M = C + I + G + X = rK + wL + Tr$

Internal and External Balance Under the Fixed Exchange Rate Regime

analysis of internal and external stability using IS-LM and international financial integration line can be



conducted using this diagram.

Macroeconomic Fundamentals

$$Y = C(Y - T) + I(Y, i - \pi^e) + G + NX(Y, Y^f, \frac{eP^*}{P})$$

Income = demand

$$C + S + T + M = C + I + G + X$$

National saving = Trade balance

Private saving + public saving = net exports
= net capital flow

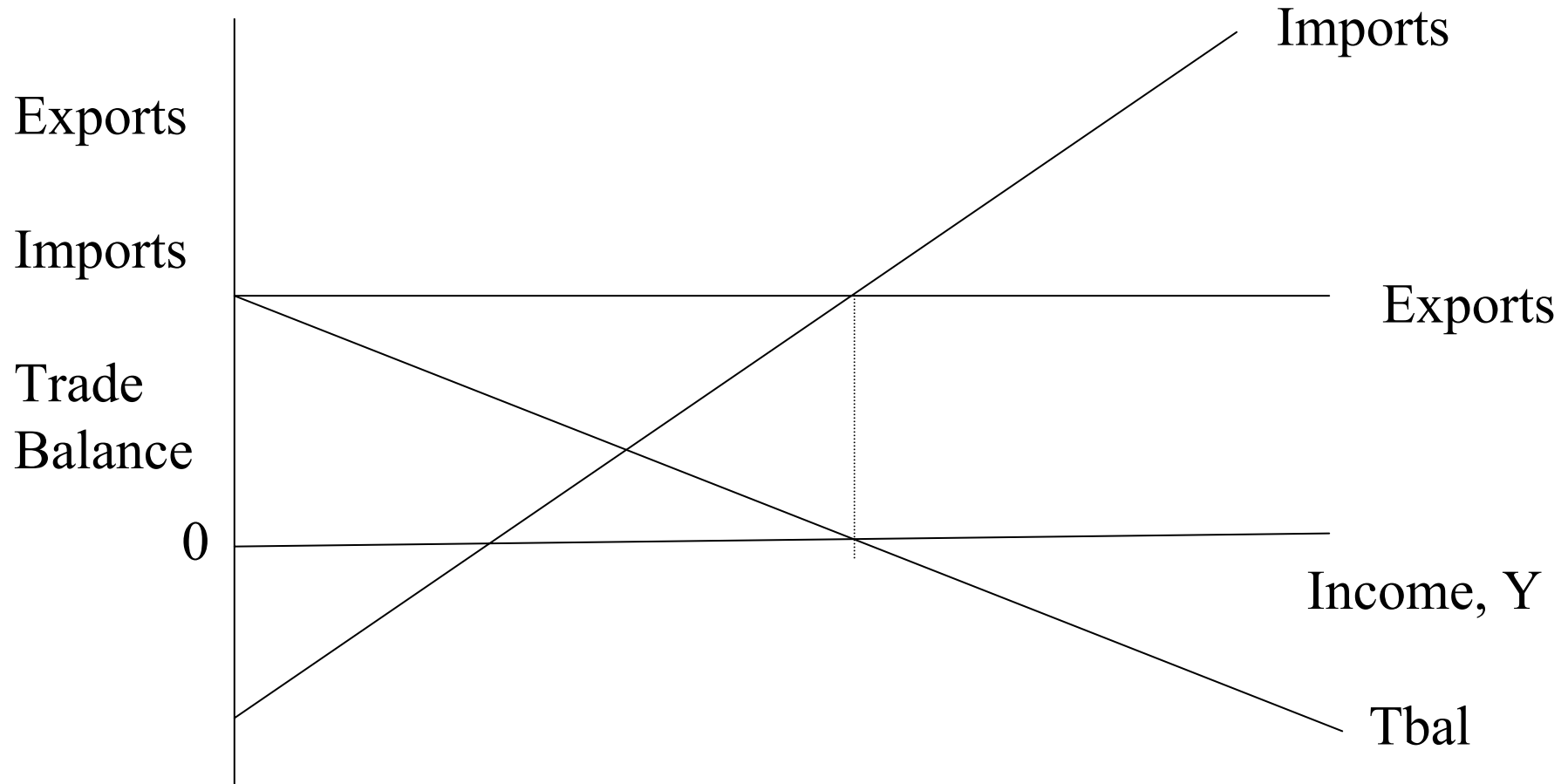
$$S(y) - I(r) + T(y) - G = x(y^f, e) - M(y, e) = NX$$

Balance of payment condition

Current account + capital account = 0

$$X(y^f, e) - M(y, e) + F(r - r^f) = 0$$

Keynesian Approach to BOP



Trade surplus when income is low
Trade deficit when Y is high

UK experience

Monetary Approach to BOP: Why Countries with higher growth rate do not have Bop Crises?

Money demand $M^d = pf(Y, r)$

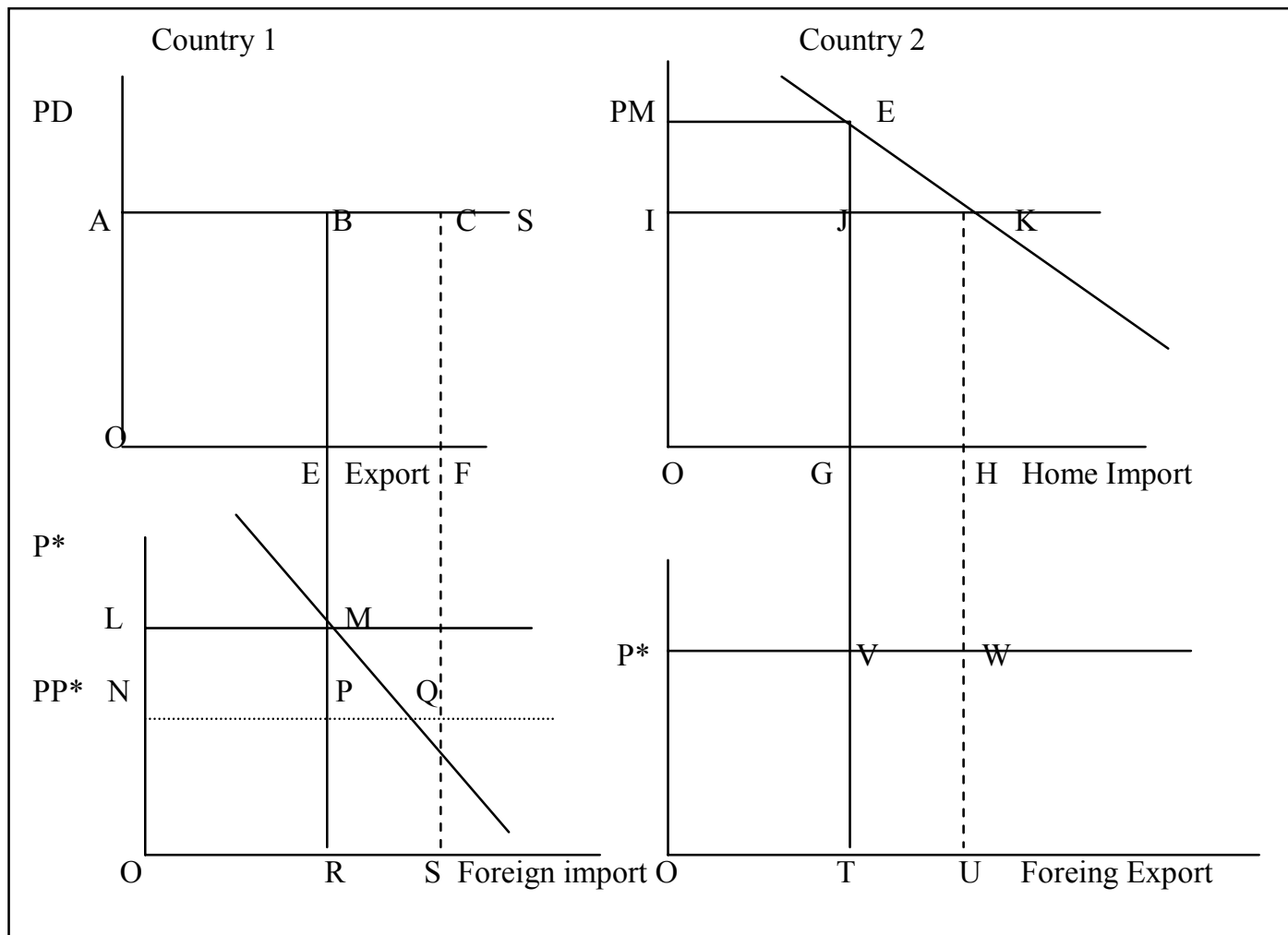
Money supply $M^S = R + D$

Growth rate of reserves: $g_r = \alpha_0 \eta_y g_y - \alpha_1 g_d$

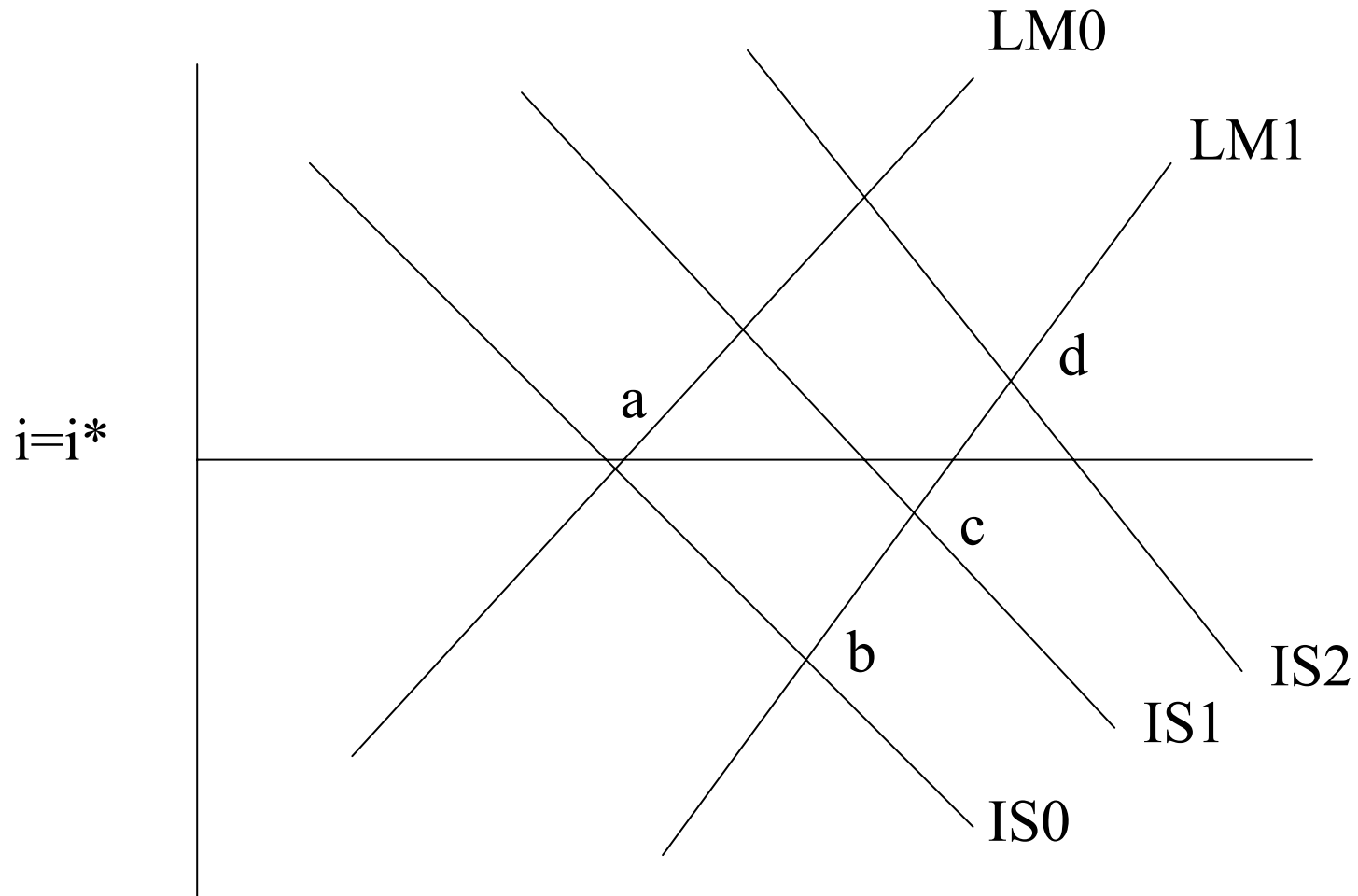
Growth of income raises reserves and favourable to BOP
Has just opposite result than the Keynesian Model.

BOP: Elasticity Approach

$$\text{Trade balance: } (P_x X - P_M M) + KA = 0$$



Undershooting and Overshooting of the Exchange Rate



c: overshooting depreciation: exchange rate expected to rise.

d: undershooting depreciation, ER expected to fall

Basics of the Foreign Exchange and the Financial Market

Purchasing Power Parity (PPP): $\frac{\dot{\varepsilon}_t}{\varepsilon_t} = \pi - \pi^*$

Uncovered Interest Parity (UIP): $i_t \approx i_t^* + \frac{E_{t+1}^e - E_t}{E_t}$

Combining these two relations $i_t \approx i_t^* + \frac{\dot{\varepsilon}_t}{\varepsilon_t} = \pi^* - \pi$

Long run equilibrium: $r_t + \pi \approx r_t^* + \pi^* + \frac{\dot{\varepsilon}_t}{\varepsilon_t} \rightarrow r_t \approx r_t^*$

$\frac{\dot{\varepsilon}_t}{\varepsilon_t}$ is % change in nominal exchange rate π the domestic inflation rate π^* the foreign inflation rate r_t, r_t^* are domestic and foreign real interest rates i_t, i_t^* domestic and foreign nominal interest rates

Speculation and Crisis

$$r_t \approx r_t^* + \frac{\varepsilon_0 - \varepsilon_t}{\varepsilon_t}$$

or

$$\varepsilon_t = \varepsilon_0 - \beta(r_t - r_t^*)$$

ε_0 is the fundamental value of exchange rate,
domestic currency in terms of foreign currency

When speculators believe that ε_0 changed either the
interest rate has to go up or the currency need to be
devalued.

First generation models of Economic Crisis

Wrong fundamentals.

(As happened in the **Latin American countries**)

A fixed exchange rate policy

Independent monetary policy

Free mobility of capital

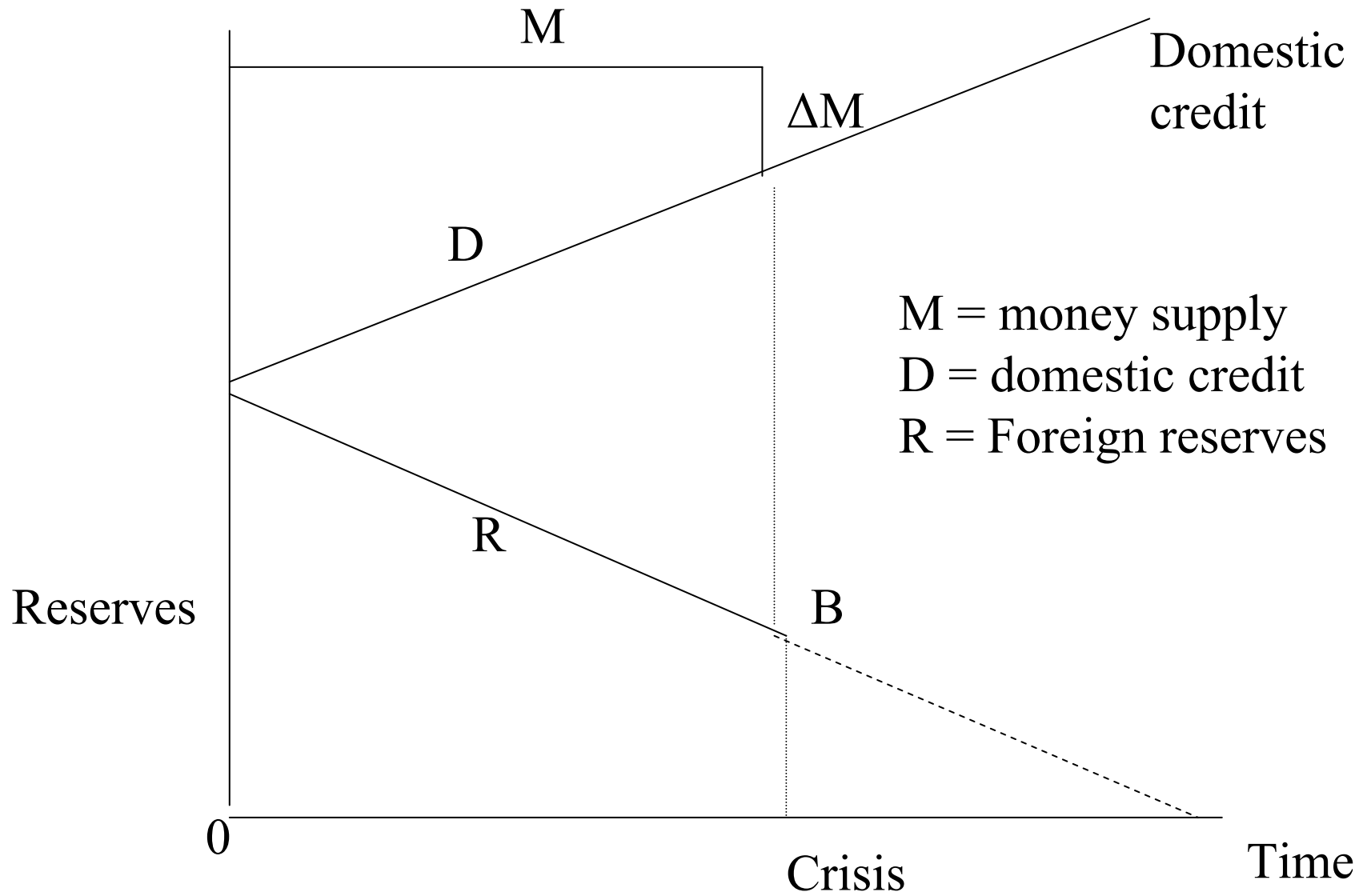
Speculative attack on currency

Expansionary monetary policy causes a rise in prices,
domestic currency appreciates,
it results in capital outflows,
the foreign currency reserves gradually decline at the central bank,
investors expect that the exchange rate will devalue in near future.

Speculator swiftly buy large amount of foreign currency
before domestic currency is devalued.

The currency attack comes before the depletion of reserves.

Depletion of Reserves and Economic Crises



Second generation models of Economic Crisis

The main hypothesis of the second generation model of currency crisis is that a fixed exchange rate can survive indefinitely until it is not attacked. It builds on three main assumptions.

First, governments want to maintain the fixed exchange rate because of benefits of it, such as lower and stable inflation.

Secondly, governments may perceive advantages in abandoning the ER.

Thirdly perceived advantages of dropping the exchange rate increases more if more people think that the ER will depreciate. UK and Italy left the ERM because benefits of leaving the ERM were higher than the benefits of remaining in it.

Two Views About Asian Crisis

1. Combination of inconsistent fiscal and monetary policies:
 - policy makers wanted high growth rate, fully liberalised capital account, independent monetary and fiscal policies
 - expansionary policy caused higher inflation and appreciation of domestic currency but governments did not allow exchange rate to change.
 - When this policy became unsustainable government devalued. The debt stock of local firms and banks in terms of foreign currency became astronomical and governments failed.

2. Moral Hazards and Adverse Selection

Market believed that government will rescue in time of crisis as the relationship between policy makers, corporations and banks in South East Asian countries very close.

Government supported the banking system which borrowed short term loans to finance long term projects from the international financial market.

After sometime size of non-performing loan increased
When panic button was on all foreign investors withdrew their funds, Asian currencies were under attack and collapsed.

Mexican crisis

It was the result of over lending by the private banks mainly under the guarantee of the US government.

Private sectors invested indiscriminately even in riskier projects which eventually could not pay a reasonable return.

Foreign debt accumulated and debt servicing became unmanageable.

Mexican Government was close to default on debt servicing in 1993.

The US treasury brought a rescue plan and bailed out on condition of policy reform in fear that the crisis may have contiguous effect on the US economy.

Crisis in transition economies 1990s

Prices did not reflect relative scarcity of goods in the centrally planned economies.

It caused massive inefficiency in the resource allocation process.

Major problem of transition economies was to privatise the economy, liberalise the price system and the international trade.

Liberalisation process in these economies have been painful process accompanied by very high inflation, massive devaluation and capital flight.

It affected the flow of investment and recession.

When they started liberalisation there was massive capital flight. It was very difficult to achieve credibility.

Main components of economic liberalisation

1. Introduction of a free market economy where production and exchange activities are organised more on the basis of price signals rather than the decision of the central planners.
2. Control on deficit and debt of the public sector.
3. Privatisation of state owned enterprises. The subsidies to them from the central government are reduced. They are handed to the private sector on the faith that private sector is more efficient than the public sector. This also means setting the market prices for products according to the cost of production
4. More flexibility in labour and financial markets. Employers now have more freedom in selecting employees in a more competitive basis.
5. Free trade. It included dismantling of licences or permits or any other restriction on trade and commerce.

References

- Blanchard (20) Mankiw (2) M&S (20)
- Agenor, Pierre-Richard et al. eds. (1999) *The Asian Financial Crisis: Causes, contagion and Consequences*, Cambridge University Press.
- Bhattacharya, Amar; Miller, Marcus (1999) “Coping with Crises: Is There a 'Silver Bullet'?” in Pierre-Richard et al. eds. *The Asian financial crisis: Causes, contagion and consequences*, pp. 357-85 in Cambridge; New York and Melbourne: Cambridge University Press.
- Caves R E, F A Frankel and R.W Jones (1993) *World Trade and Payments*, Sixth Edition, Harper Collins.
- Dornbusch Rudiger (1976) *Expectations and Exchange Rate*, *Journal of Political Economy*, vol. 84, no.6,pp. 1161-1176.
- Fleming J. Marcus (1962) *Domestic financial policies under fixed and under floating exchange rates*, IMF staff paper 9, November , 369-379.
- Krugman Paul (1979) *A Model of Balance of Payment Crisis*, *Journal of Money Credit and Banking*, 11, Aug.
- Krugman P R and M Obstfeld (2000) *International Economics: Theory and Policy*, Fifth Edition, Addison Wesley Longman.
- Krugman P. and L. Taylor (1978) “Contractionary Effects of Devaluation” *Journal of International Economics*, 445-56.
- Miller, Marcus; Salmon, Mark *When Does Coordination Pay?* *Journal of Economic Dynamics and Control*, July-Oct. 1990, v. 14, iss. 3-4, pp. 553-69
- Mundell R. A (1962) *Capital mobility and stabilisation policy under fixed and flexible exchange rates*, *Canadian Journal of Economic and Political Science*, 29, 475-85.
- Sebastian E (1986) *Are Devaluations Contractionary?* *Review of Economics and Statistics*, vol. 68, 3, 501-508.
- Taylor Mark (1995) *The Economics of Exchange Rates*, *Journal of Economic Literature*, March, vol 33, No. 1, pp. 13-47.
- Mundell R. A (1962) *Capital mobility and stabilisation policy under fixed and flexible exchange rates*, *Canadian Journal of Economic and Political Science*, 29, 475-85.
- Maurice Obstfeld (1984) *Balance of Payment Crises and Devaluation*, *Journal of Money Credit and Banking*, 16:2:208-217.
- Krugman Paul (1979) *A Model of Balance of Payment Crisis*, *Journal of Money Credit and Banking*, 11:3:311-325.