

Macroeconomic Theory and Policy

Lecture 27

Policy Co-ordination

- 1. Between Fiscal and Monetary Policy Authorities**
- 2. International level (G7, IMF/World Bank, WTO, Basel agreements: <http://www.bis.org/cbanks.htm>)**

Objective and Preferred Policy Instruments of Fiscal Authority

- The major policy objective of the fiscal authority:
 - economic stability and higher rate of economic growth
- Fiscal authority's instruments :
 - counter cyclical tax and spending
- and it prefers
 - lower unemployment rate than lower rate of inflation.
- Fiscal deficit raises aggregate demand
 - and is expansionary and leads to higher interest rate
 - and higher level of prices.
- Budget surplus is contractionary and it lowers the aggregate demand, the interest rate and prices.

Objective and Preferred Policy Instruments of Monetary Authority

- The major policy objective of the monetary authority:
 - economic stability and higher rate of economic growth
- Monetary authority's instruments :
 - the interest rate, money supply or the exchange rates.
 - It lowers the interest rate in recession and raises in when there is inflationary pressure.
 - It may use a monetary policy rule
- and it prefers
 - lower rate of inflation. rather than lower rate of unemployment
- Lower interest rate raises aggregate demand
 - and is expansionary and leads to higher depreciation of currency
 - and higher level of prices over time
- Higher interest rate is contractionary and it lowers the aggregate demand, causes an appreciation and higher level of prices.

Fiscal and Monetary Policy Co-ordination???

- Would it be better to the economy if the fiscal or monetary authority decides its own policies independently without any regards policy choice of another authority?
- would it be better if they cooperate and consult each other while making policy decisions?
- What would be the value of inflation and unemployment rates, output and interest rate when they do not cooperate to each other or when they cooperate and consult each other?

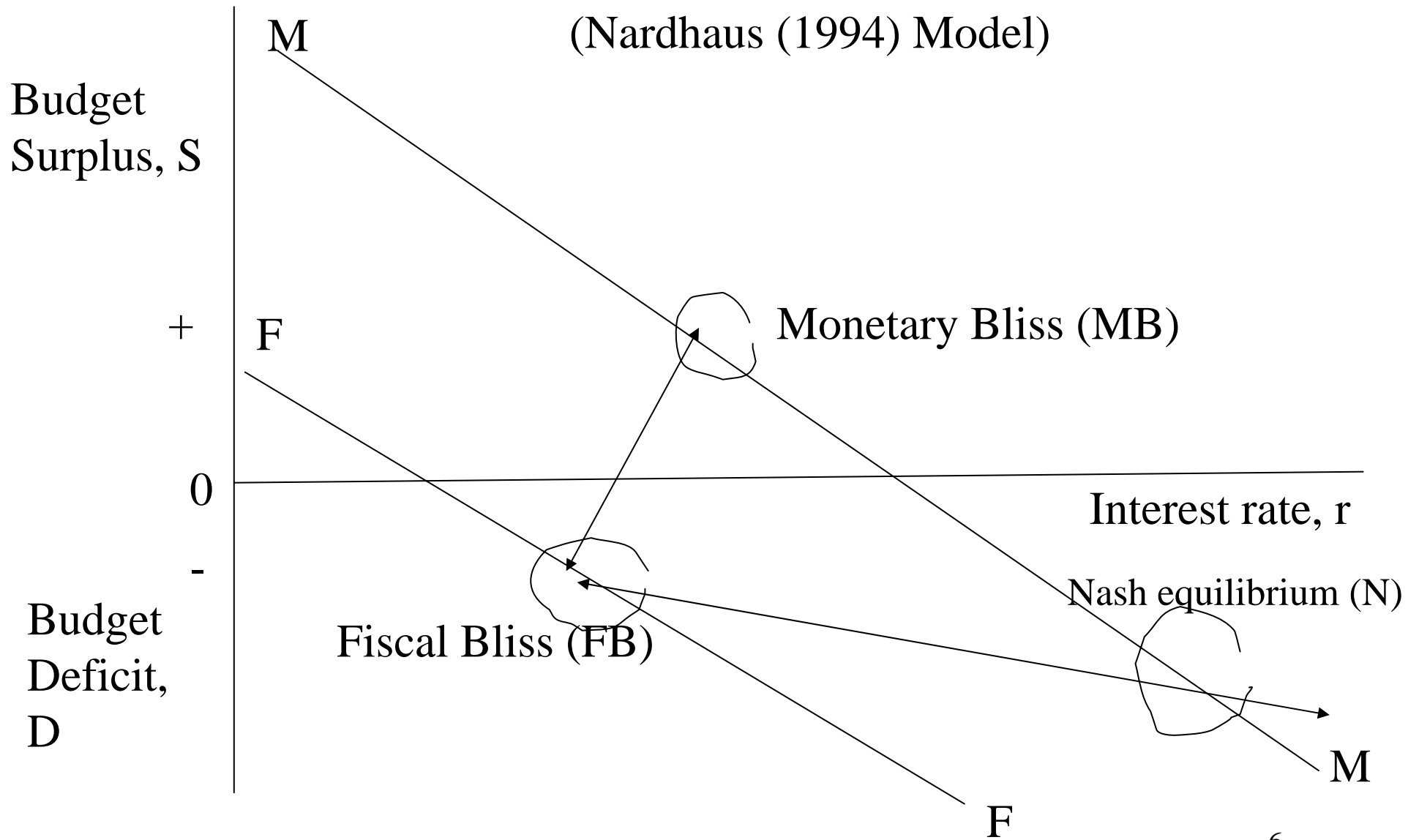
Research on Monetary and Fiscal Policy Co-ordination

Research works of Mundell (1962), Niehans(1968) Krugman (1979), Barro and Gordon (1983), Miller and Mark (1990), W.D. Nordhaus (1994) Lockwood-Miller and Zhang (1998), IMF (2003) have proposed models that can be used to investigate these issues.

Here we base discussion using the Nordhaus (1994) model for fiscal and monetary policy games.

This model can be illustrated by means of a diagram.

Fiscal and Monetary Policy Game in a Diagram



Three Possible Strategies and Outcome of the Policy Co-ordination Game

- When fiscal and monetary authorities operate independently disregarding each other.

they tend to choose their own bliss points in M-M and F-F line.

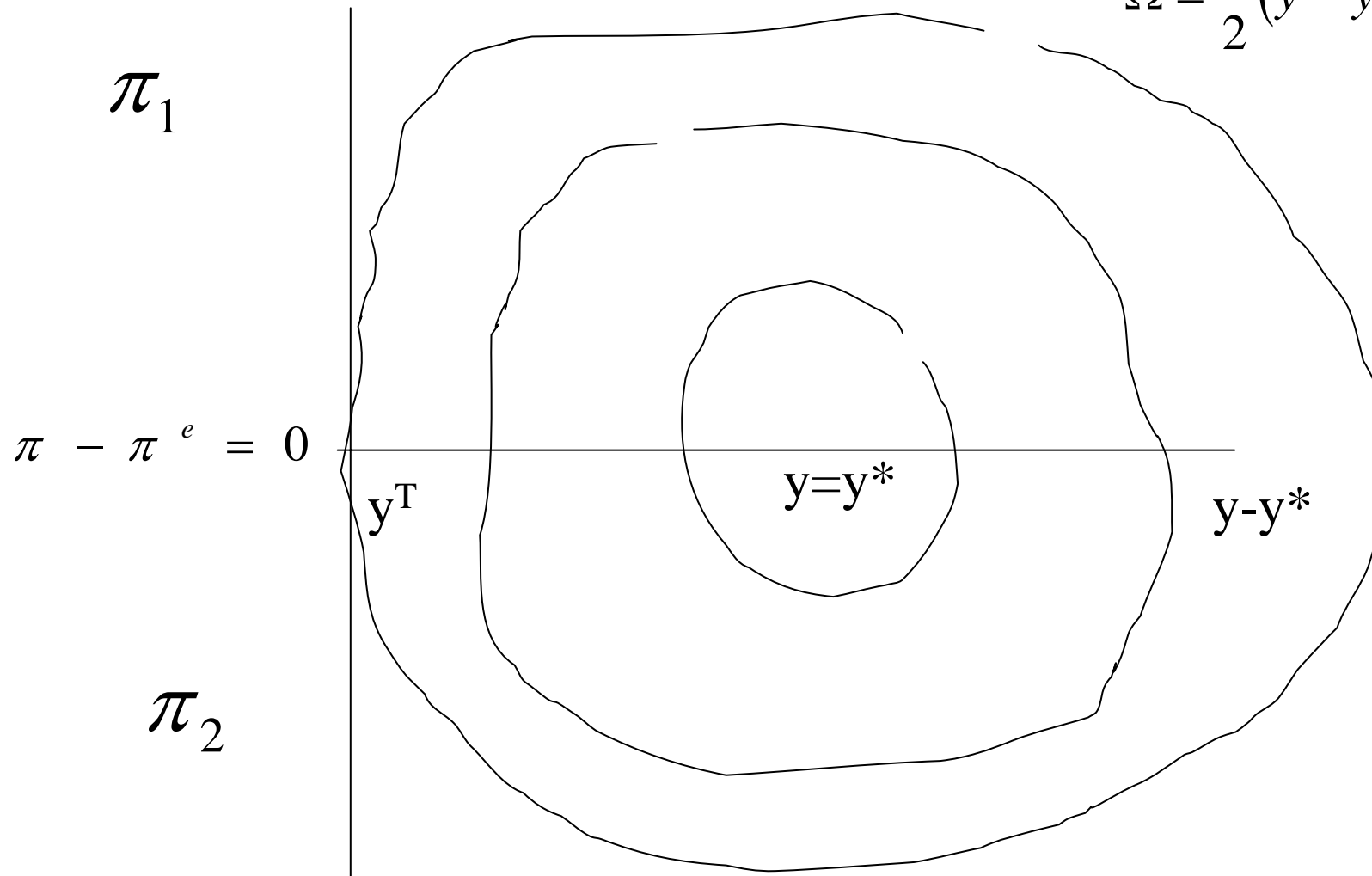
- When they play non-co-operatively, the result of the game is Nash equilibrium (N) with high interest rate and deficit.
- Co-operation strategy is **Pareto dominating with choice along** the contract curve between FB and MB.
- Authorities achieve economic stability (low inflation and low inflation rate) and higher growth rate if they co-operate.

Is the Nordhaus model applicable?

- HM Treasury (2002) presents Nordhaus model in explaining cooperation between the Treasury and the Bank of England in the UK.
- High inflation and higher unemployment in 1970s and 1980s were direct result of non-cooperation between monetary and fiscal authorities.
- Tight monetary policies were used with rising fiscal deficits and prices. This resulted in a non-cooperative solution as shown by the diagram.
- After the independence in the bank of England, there is more co-operation between fiscal and monetary authorities with a pleasant result of low inflation, higher employment and lower interest rates.
- Nordhaus model also was applicable in analysing the impacts of deficit reduction programme under the Clinton administration in the US and post-unification fiscal monetary policy mix in Germany.

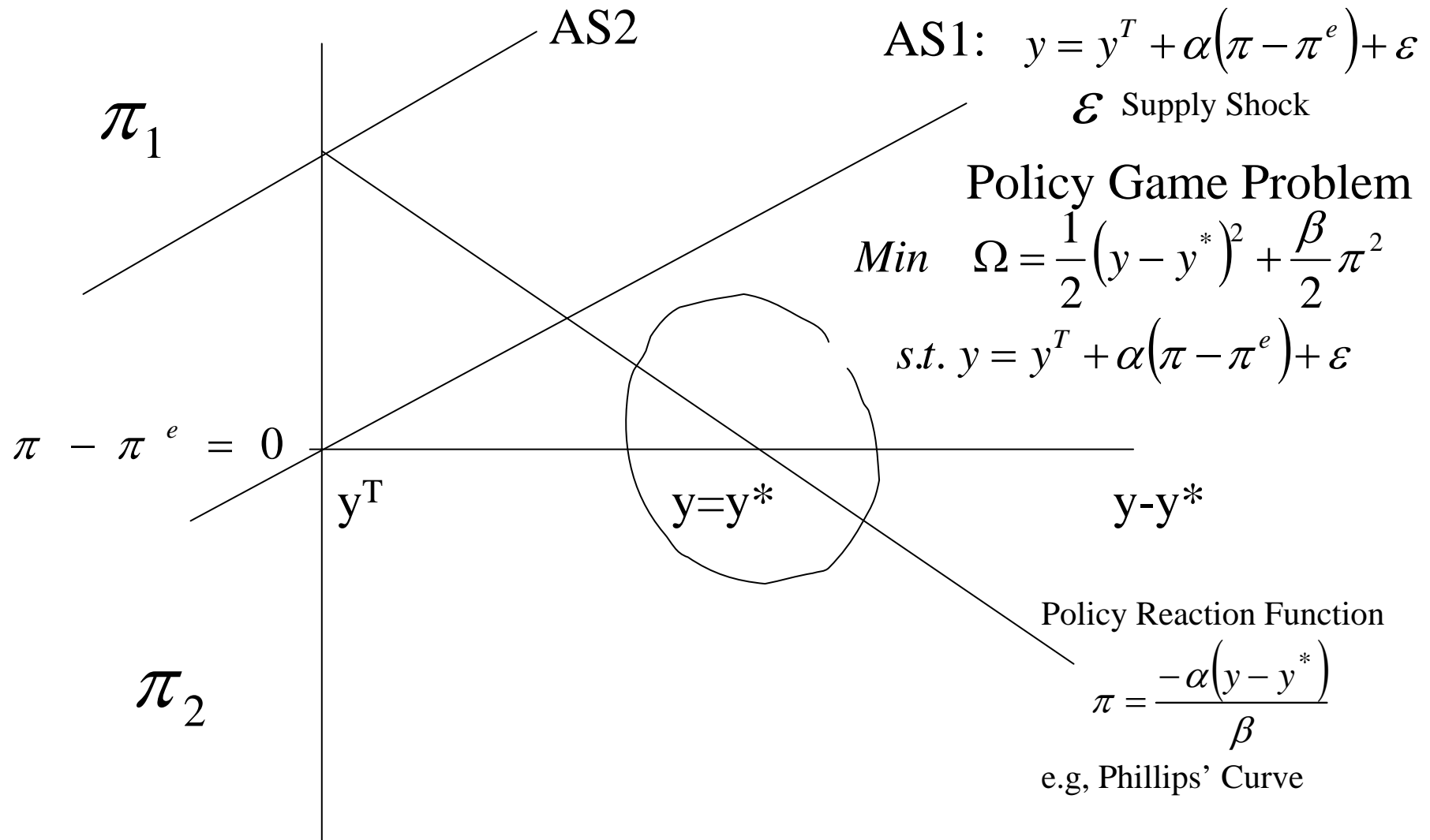
Policy Loss Function or Iso Social Cost Function

$$\Omega = \frac{1}{2}(y - y^*)^2 + \frac{\beta}{2}\pi^2$$



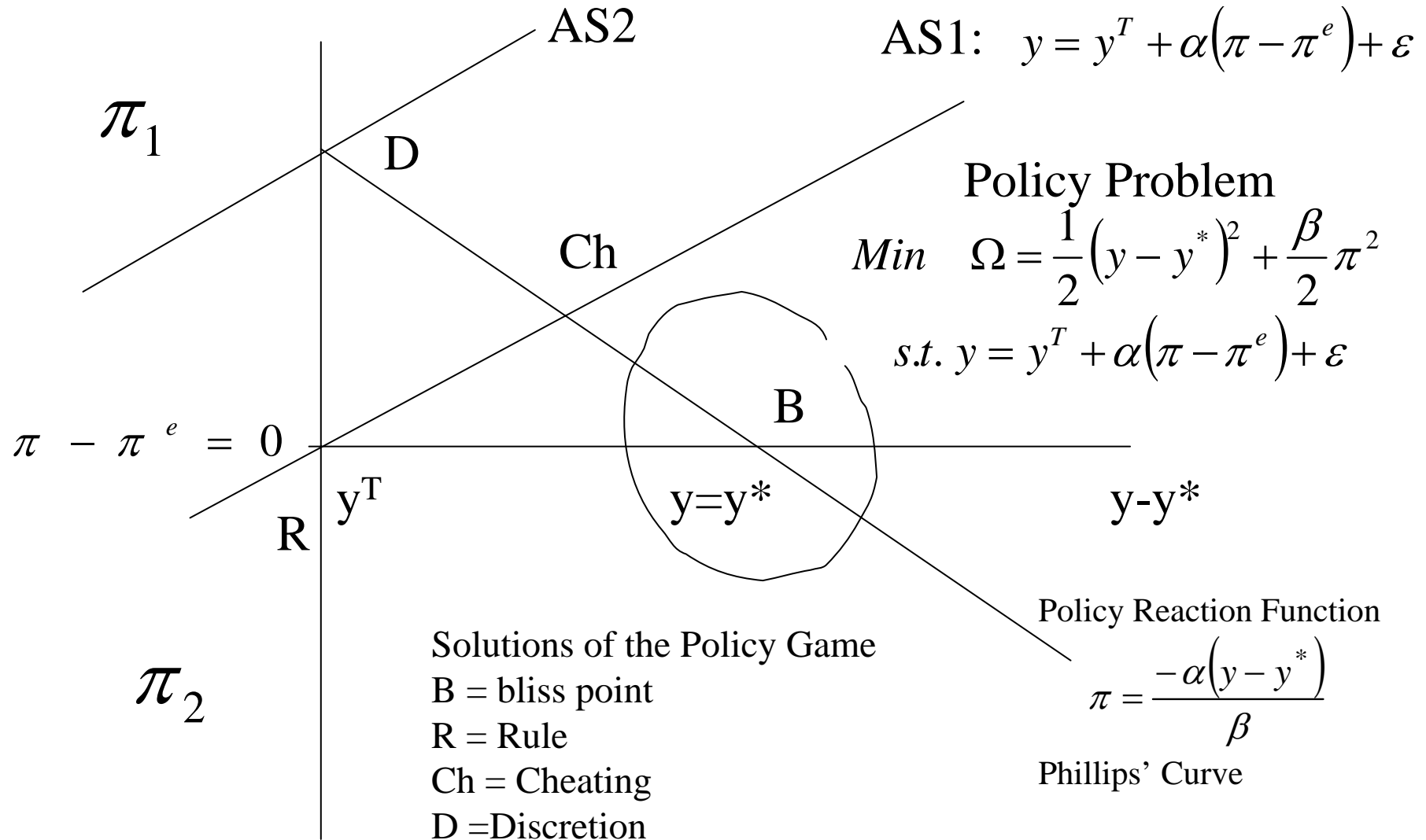
Higher rate of inflation or deflation or deviation of output from the trend are undesirable

Policy Reaction Function and Lucas Supply Curve

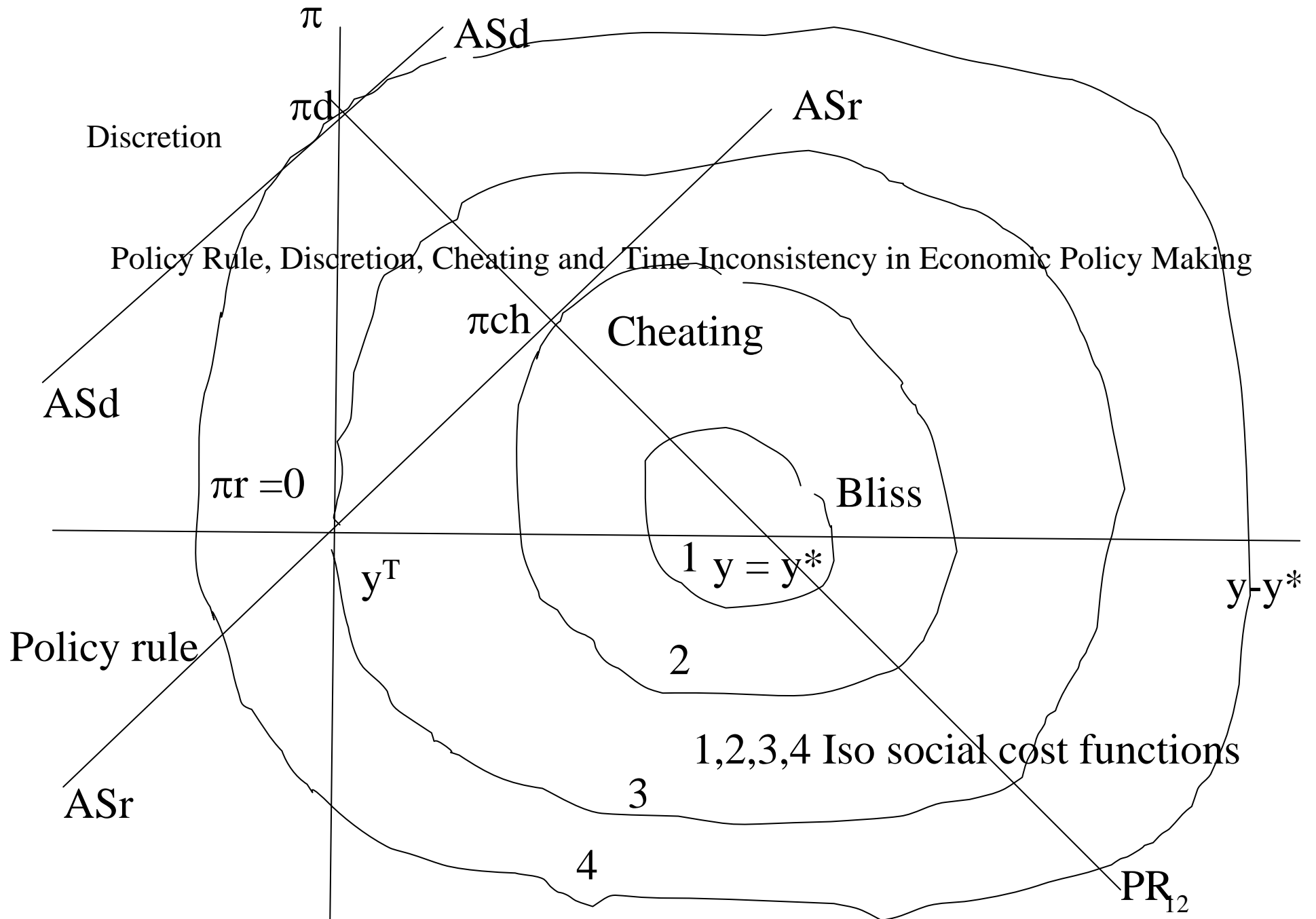


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Policy Reaction Function and Lucas Supply Curve



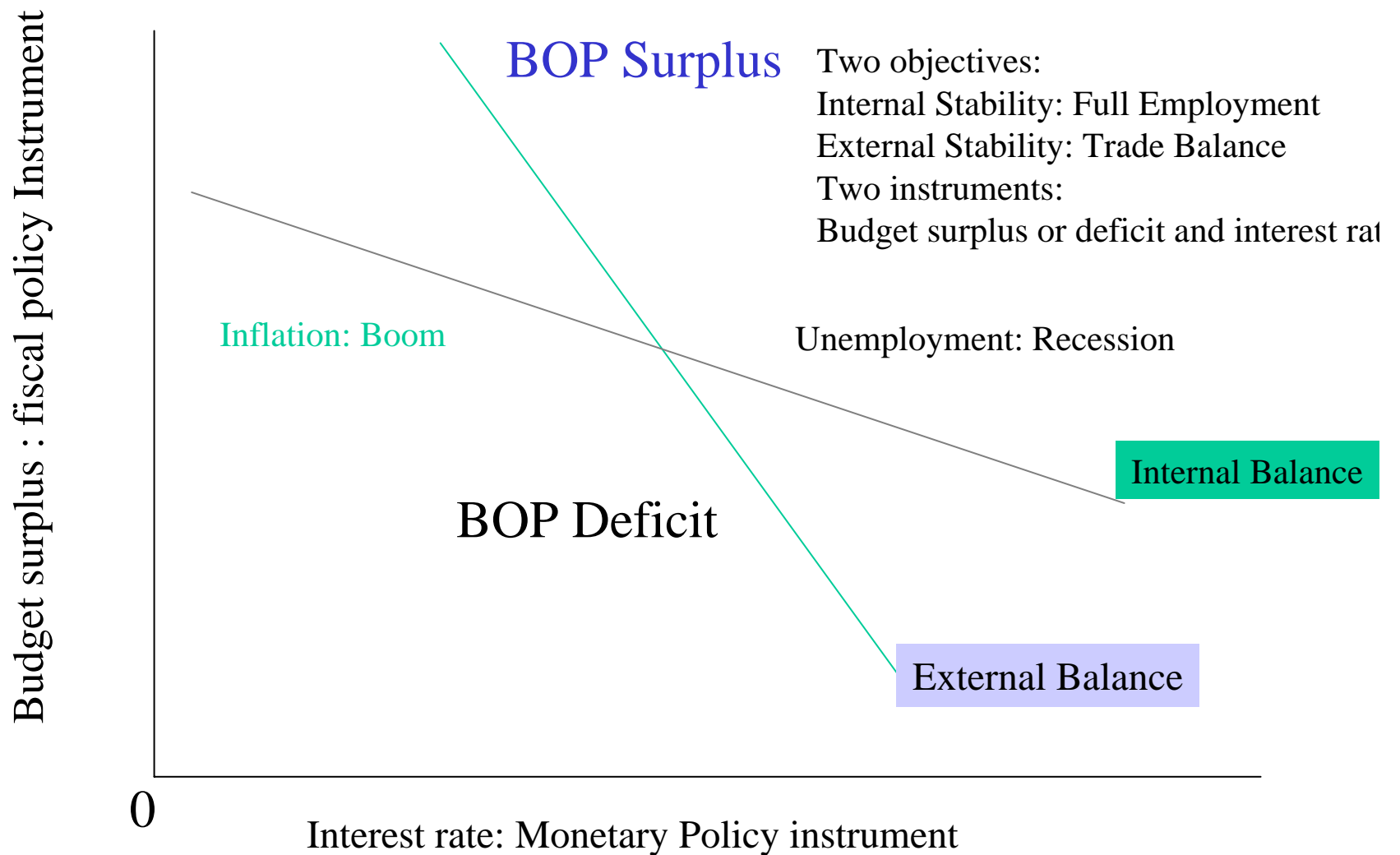
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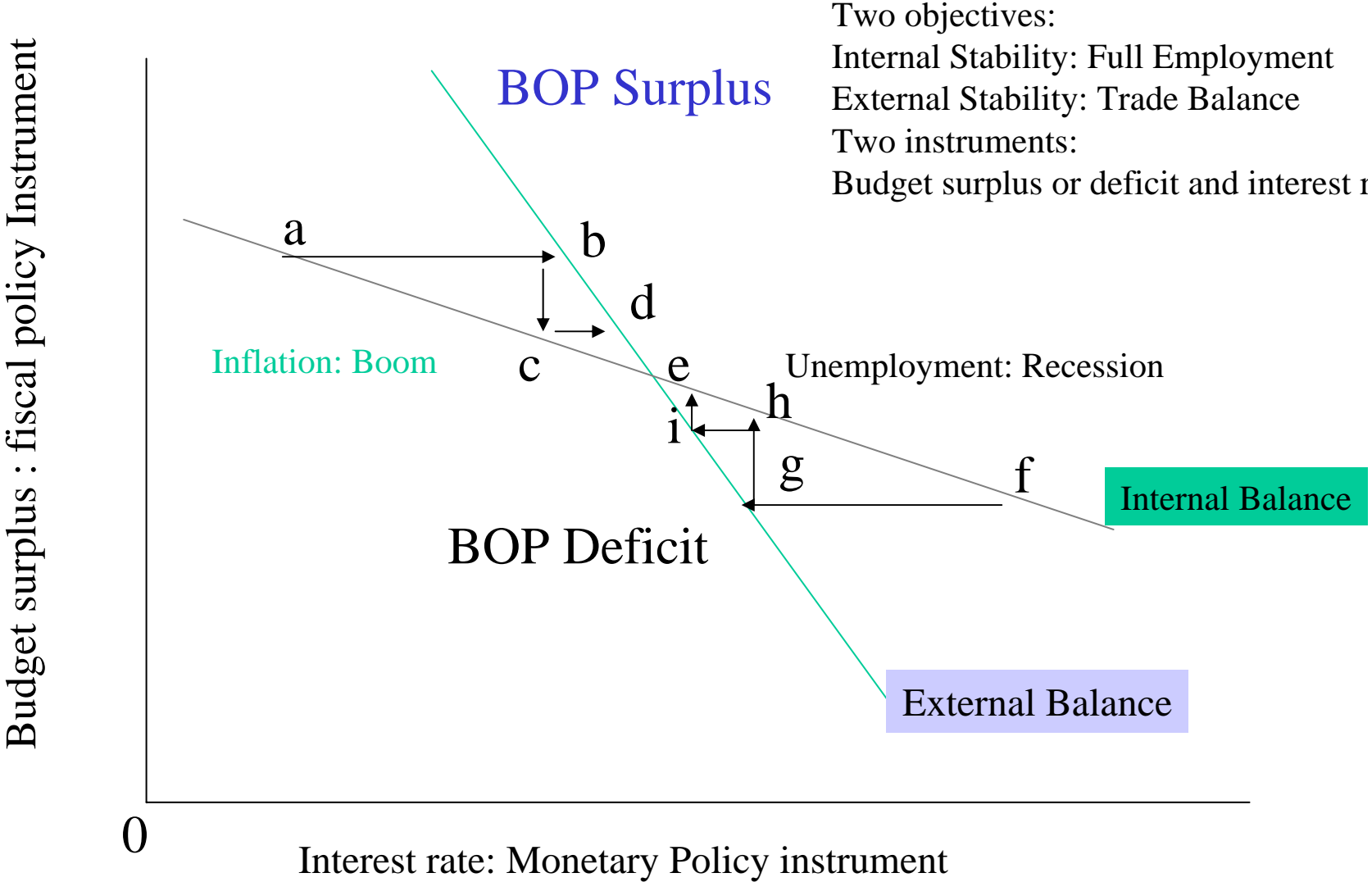
Policy Rule, Discretion, Cheating and Time Inconsistency in Economic Policy Making

Kydland and Prescott (1977)

Tinbergenian Matching Number of Targets and Instruments Approach in Economic Policy

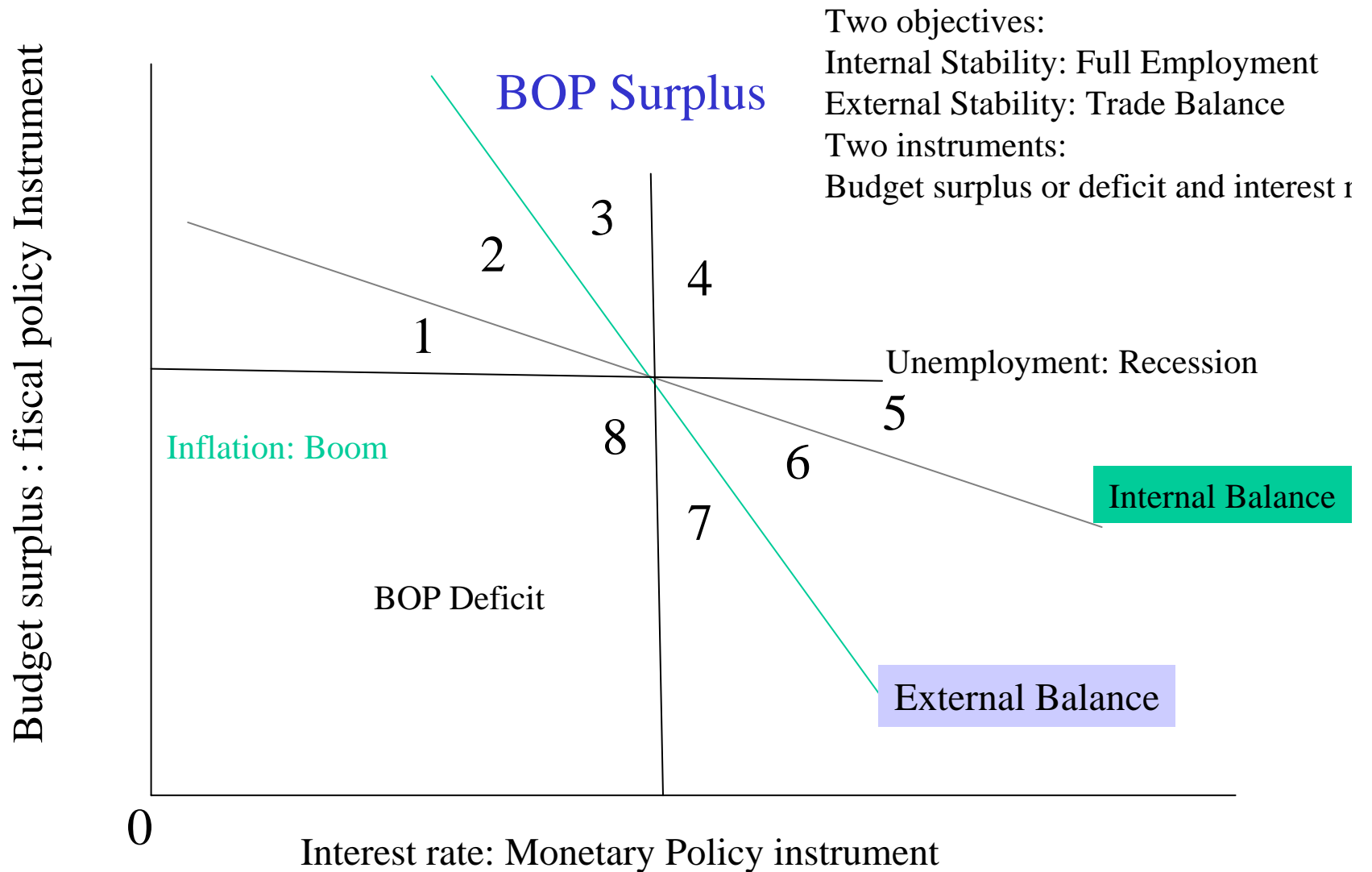


Adjustment of Budget Surplus or Interest Rate for Internal and External Stability



Tinbergenian Matching Number of Targets and Instruments

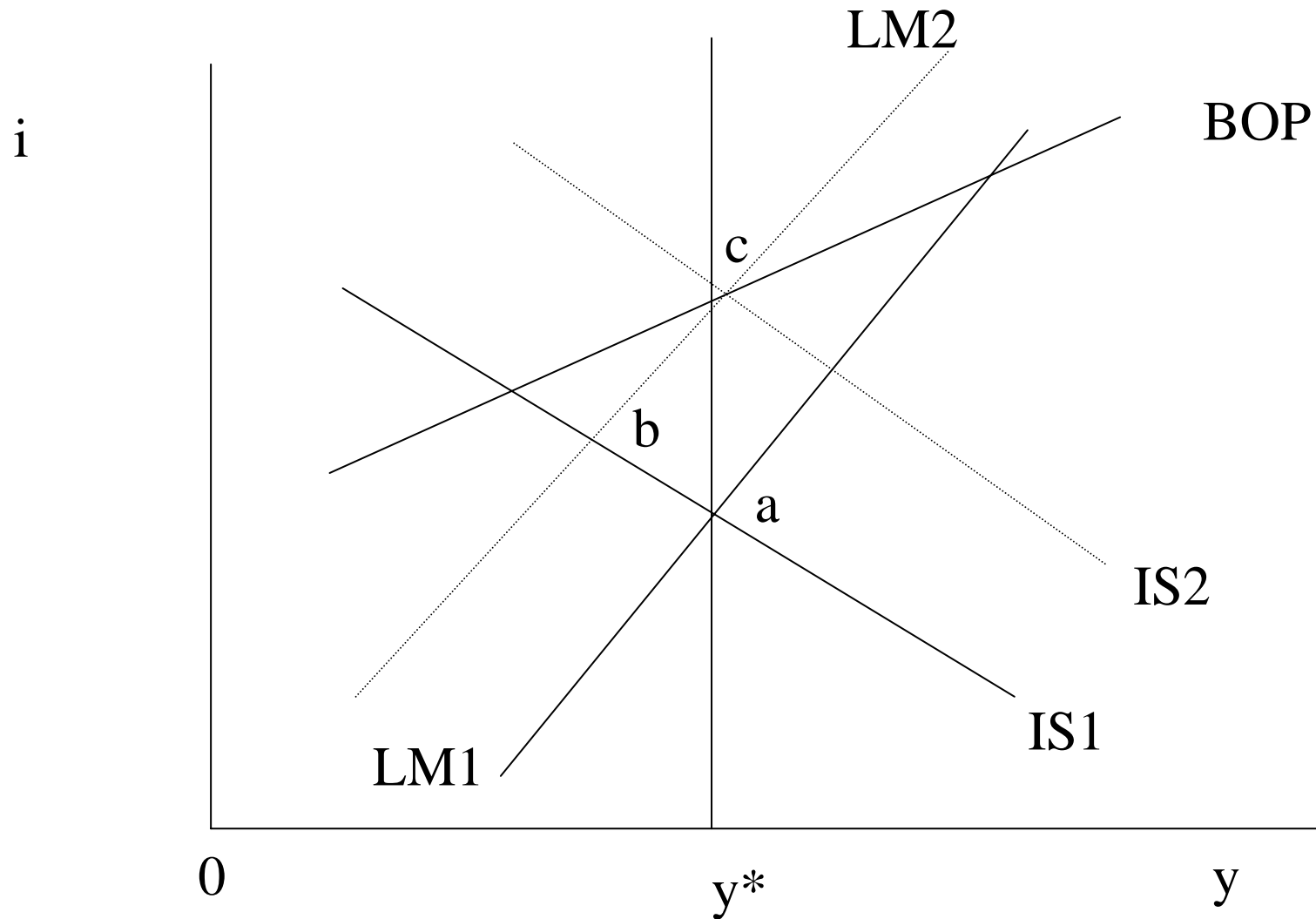
Approach in Economic Policy



Internal and External Disequilibrium in the Tinbergenian Diagram and the Adjustment Process

Points	Internal balance	External balance	Budget Surplus	Change in i
1	Inflation	Deficit	+	+
2	Unemployment	Deficit	-	+
3	Unemployment	Surplus	-	-
4	Unemployment	Surplus	-	-
5	Unemployment	Surplus	-	-
6	Inflation	Surplus	+	-
7	Inflation	Deficit	+	+
8	Inflation	Deficit	+	+

Assignment Problem in the Mundell-Fleming Model



a: initial point of internal balance but external imbalance ($IS1=LM1$)

b: use of monetary policy ($LM2$) for external balance creates internal imbalance

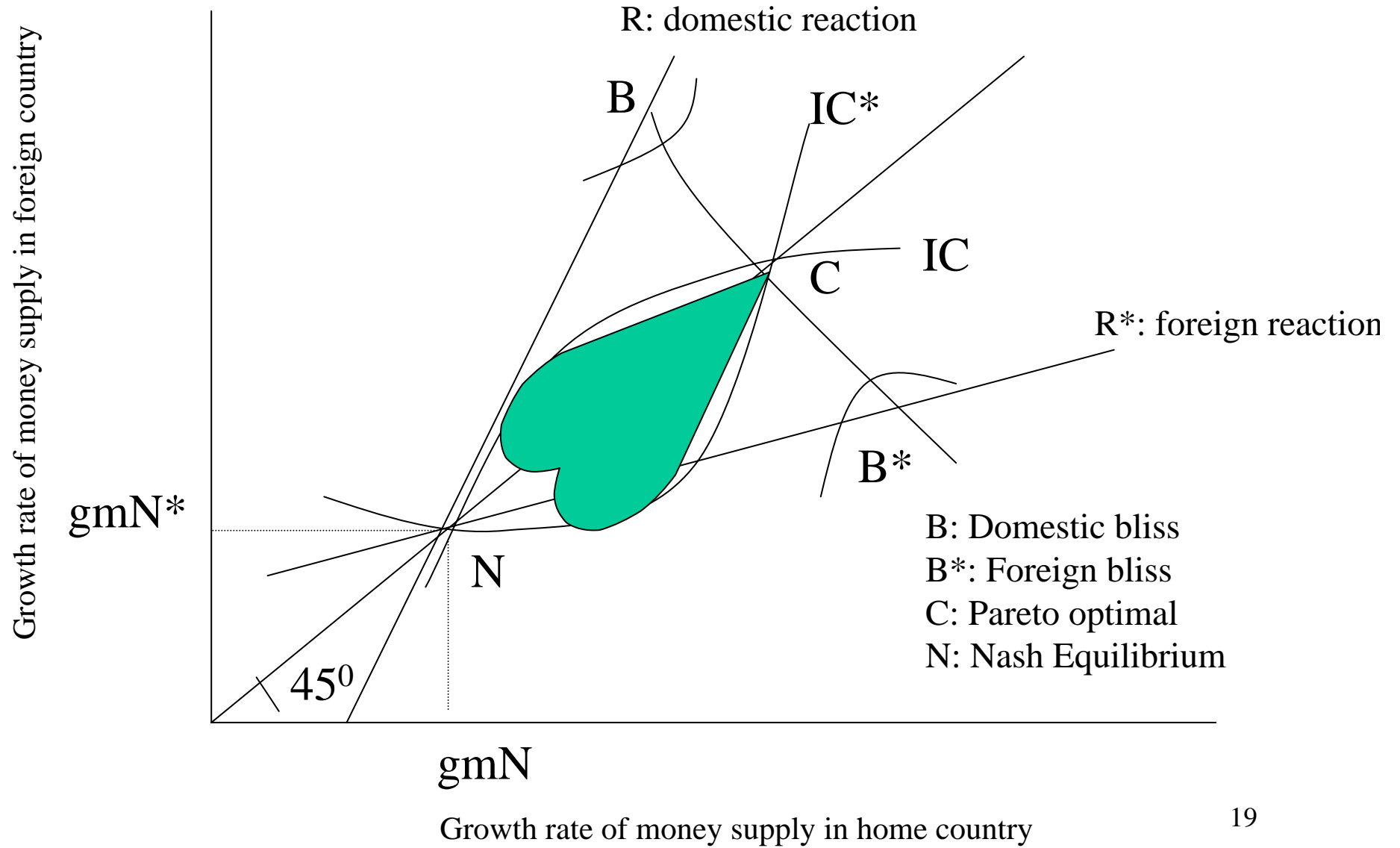
c: accommodative fiscal policy ($IS2$) restores the balance

International Economic Policy Co-ordination

- Gold-Standard: Automatic Adjustment Mechanism
- Bretton Woods-Dollar standards
- Break down of the Bretton Woods: Exchange rate crises
- Plaza and Louvre Accords and G7 Meetings
- EU Growth and Stability Pact
- EMU, AMU, ECOWAS,
- IMF/ WB: Seal of approval - Paris Club
- GATT-WTO-NAFTA-APEC-ASEAN-GCC

- What are right models for Co-operation or negotiations?

International Monetary Policy Co-ordination GAME :Hammada Diagram
 (Romp p.175)



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