EE 460: External Disequilibrium Adjustment

Bhanupong

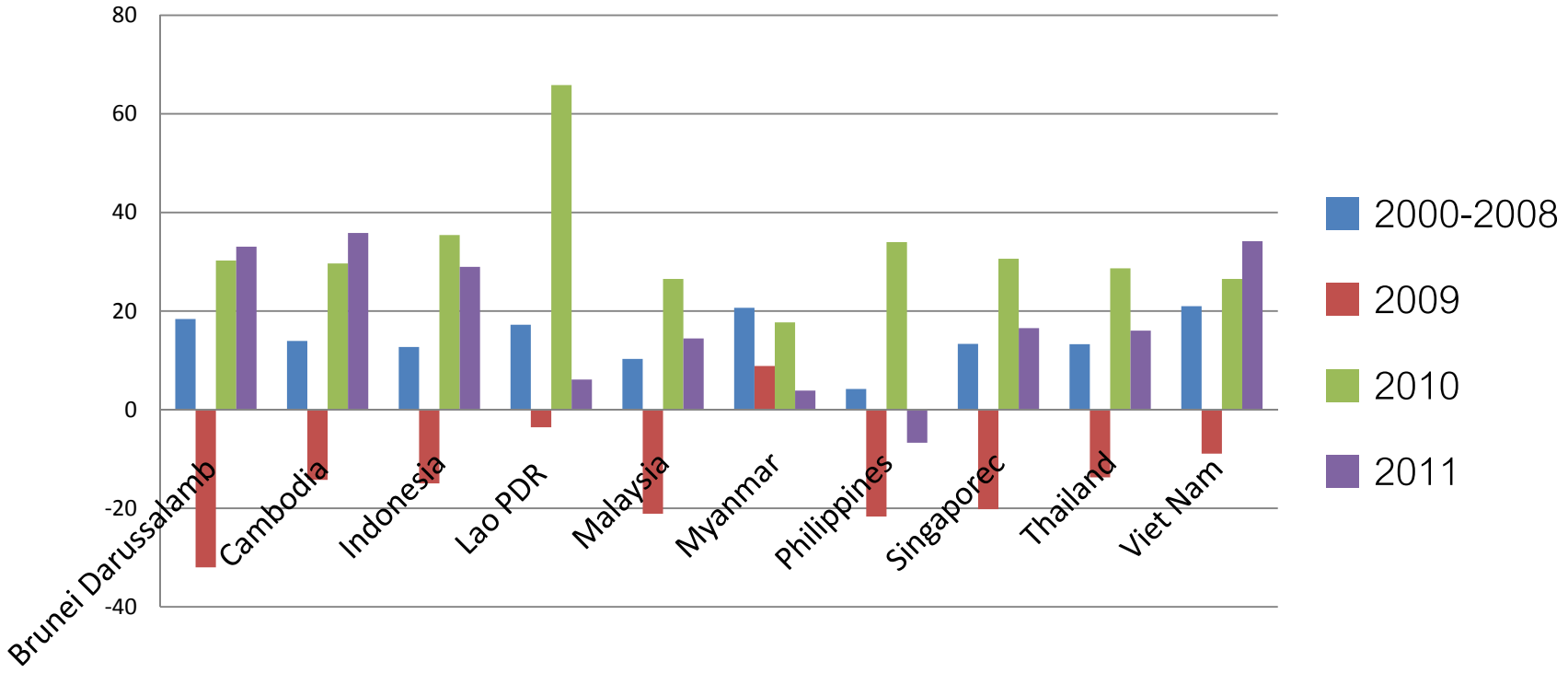
Lecture 22

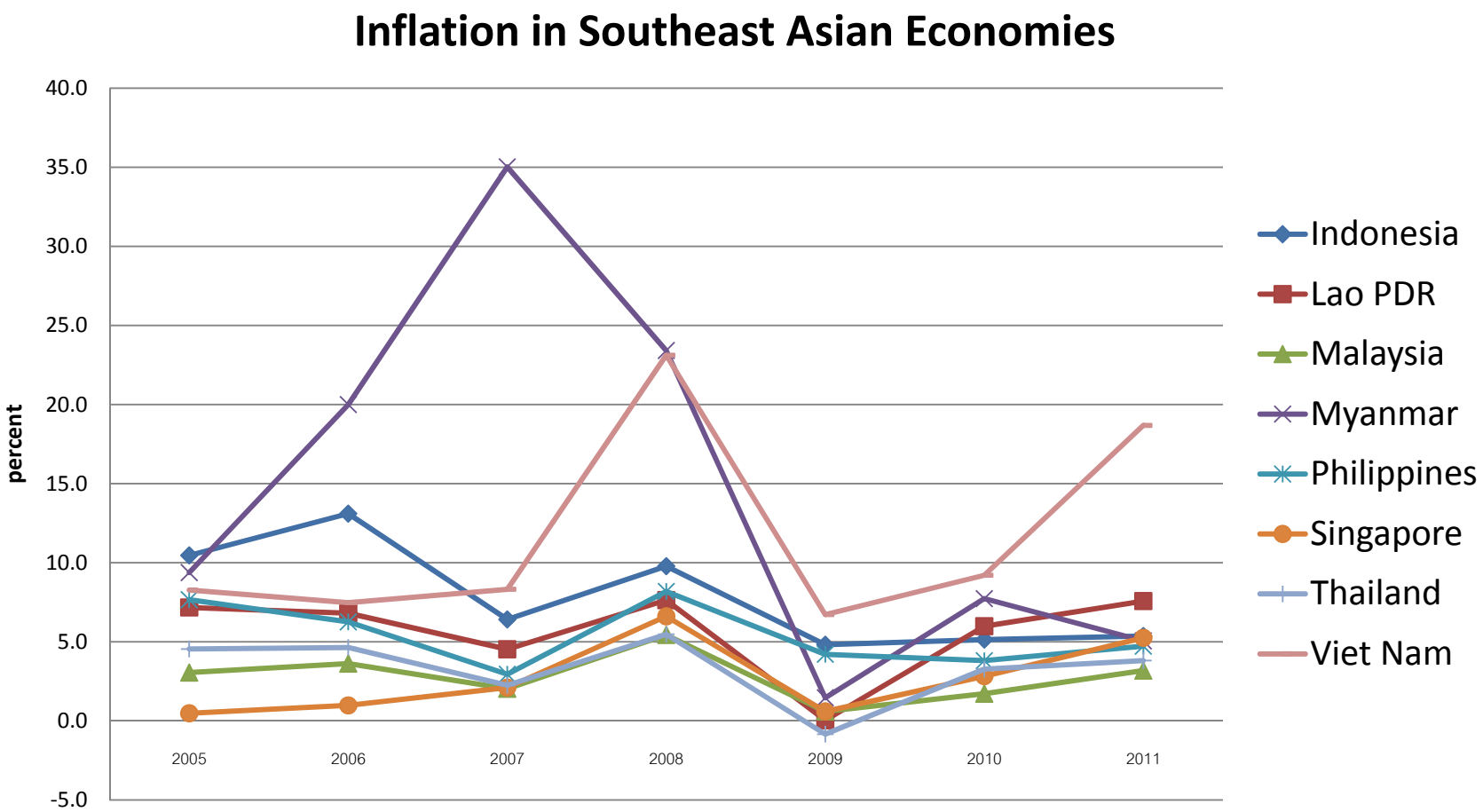
Main themes

- Increasing financial and trade Integration
- Current account disequilibrium
- Determinants of investment-saving gap
- Role of exchange rate adjustments
- Policy responses to current account disequilibrium

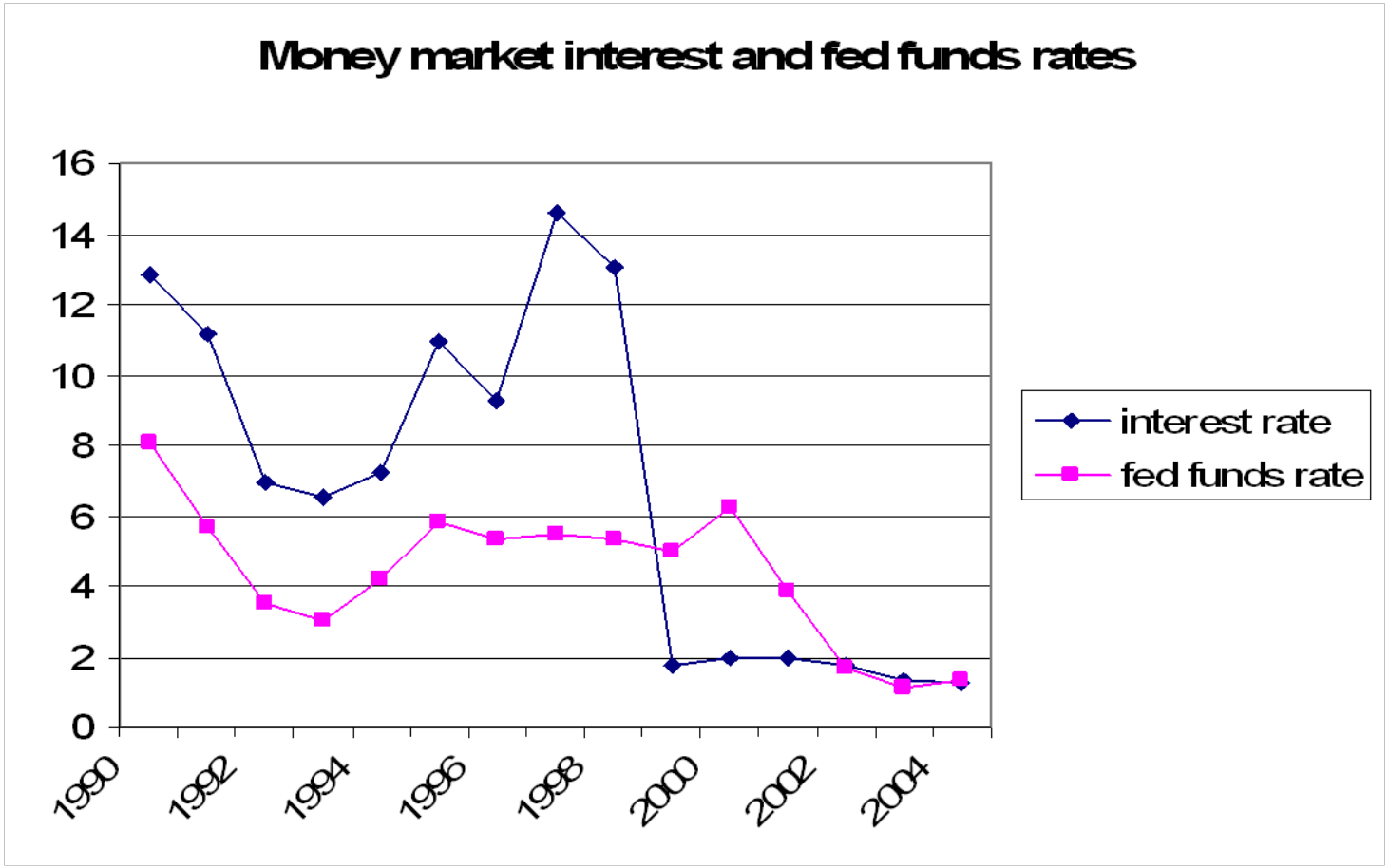
GDP Growth: ASEAN 5

Impact of GFC on Exports (% growth)

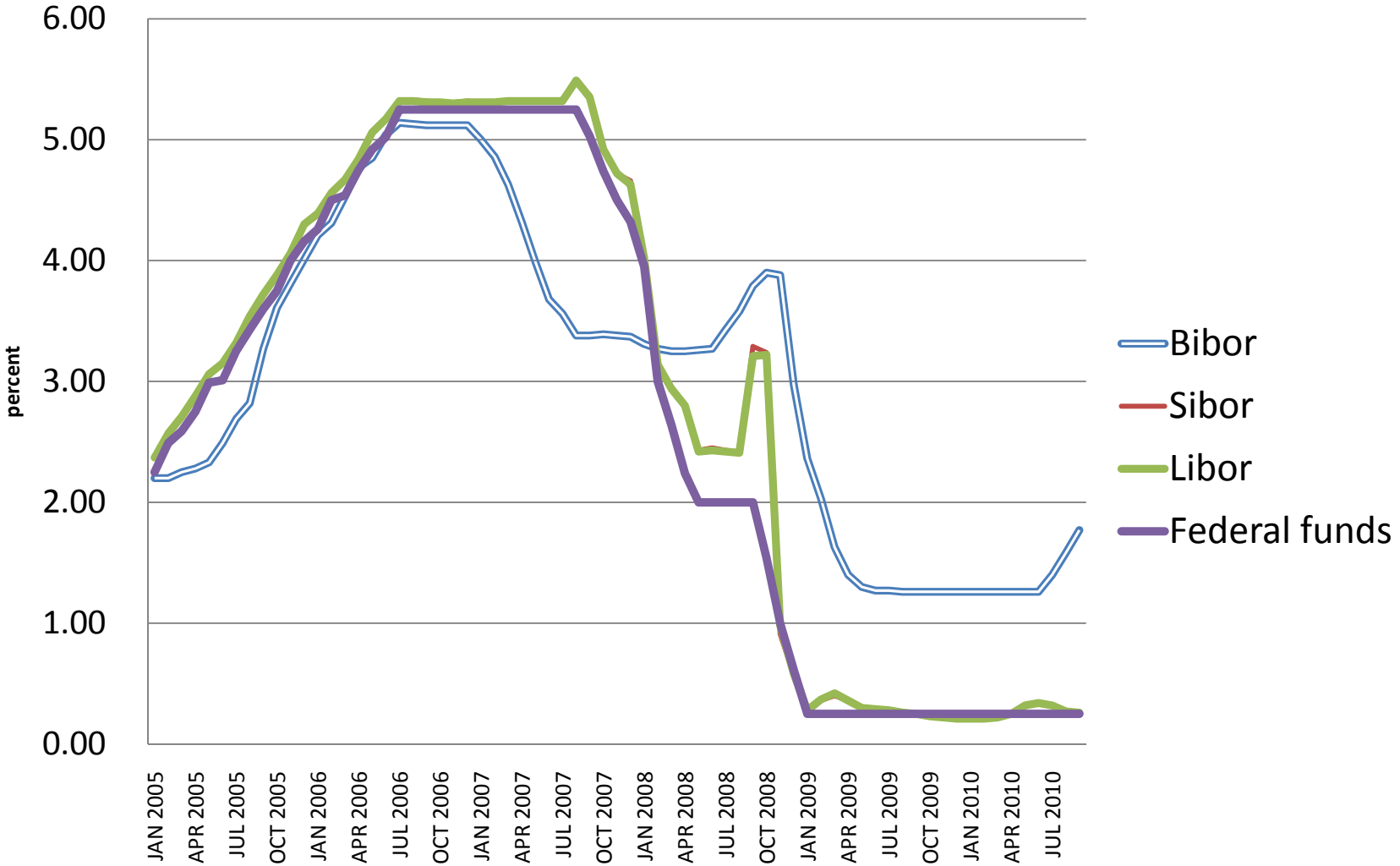



Inflation in Southeast Asian Economies
percent
40.0
35.0
30.0
25.0
20.0
15.0
10.0
5.0
0.0
-5.0
2005
2006
2007
2008
2009
2010
2011
Indonesia
Lao PDR
Malaysia
Myanmar
Philippines
Singapore
Thailand
Viet Nam

Narrowing the interest gap

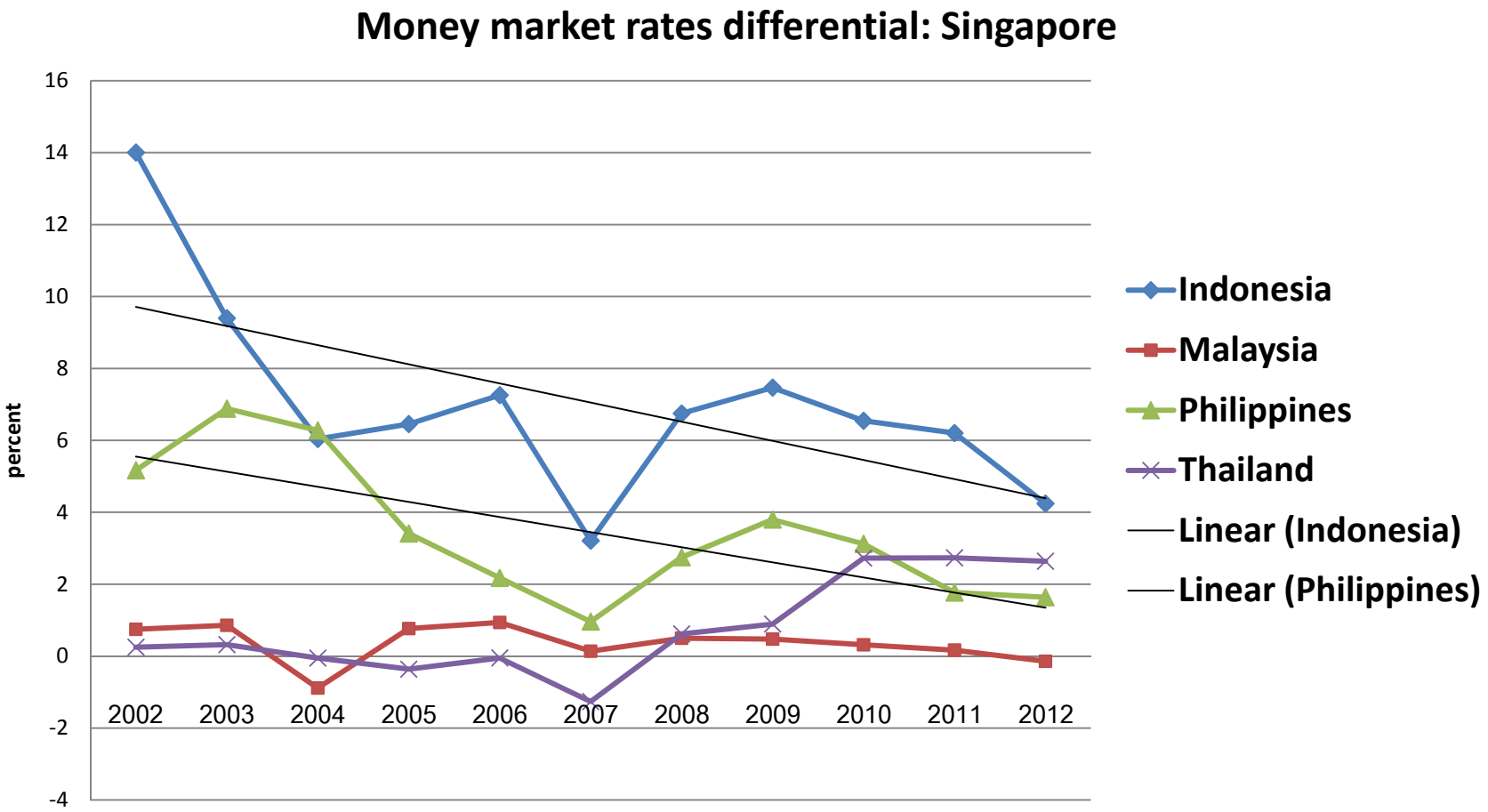


Interbank offered rates: Jan 2005-Sep 2010 (one week)



Correlation coefficients

	bibor	sibor	libor
bibor	1	0.753	0.752
sibor		1	0.99
libor			1


Money market rates differential: Singapore
percent
16
14
12
10
8
6
4
2
0
-2
-4
2002
2003
2004
2005
2006
2007
2008
2009
2010
2011
2012
Indonesia
Malaysia
Philippines
Thailand
Linear (Indonesia)
Linear (Philippines)

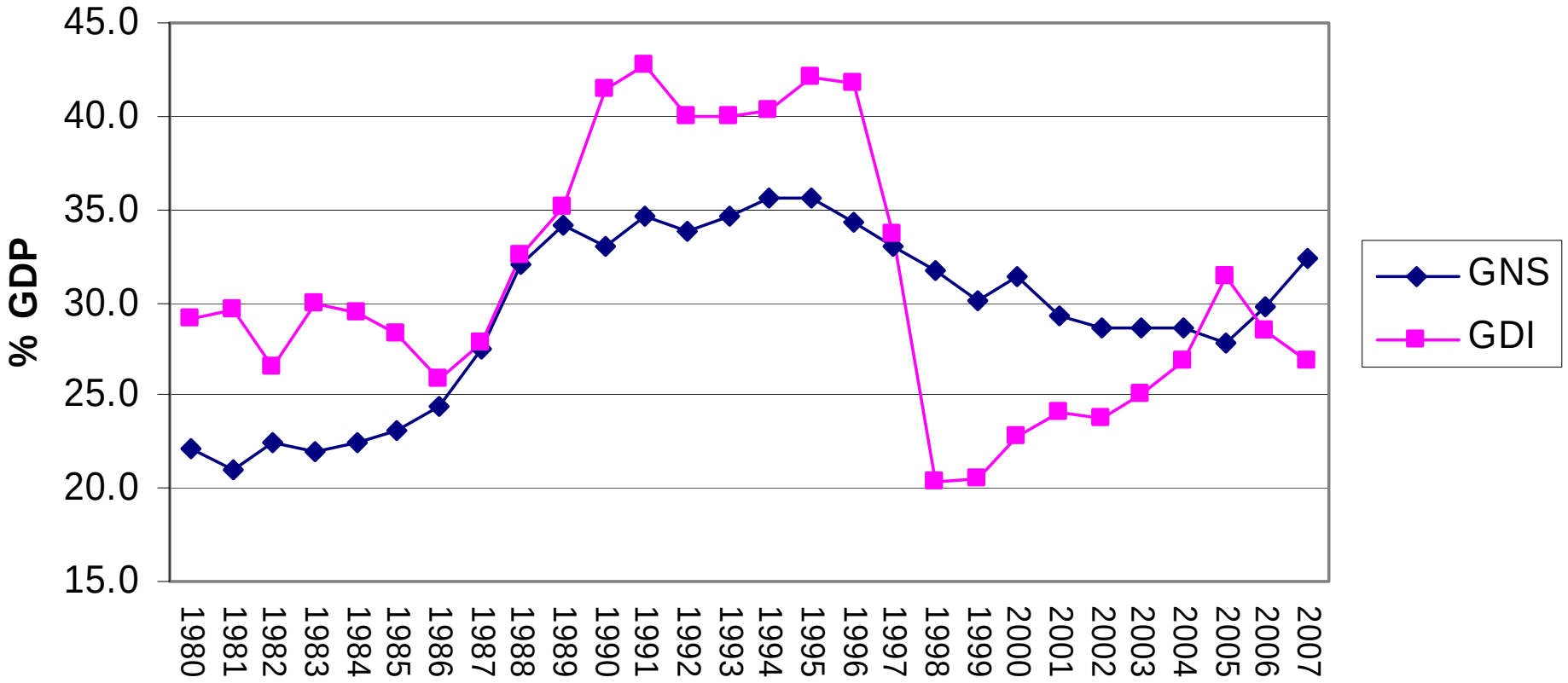
Financial globalization

- Short term interest rates are closely related, reflecting free capital movements.
- Singapore's money market is more closely related to London, when compared to Bangkok's.
- Short-term money markets are less volatile in Bangkok, indicating higher degree of intervention by the BOT through adjusting the key policy rate.

Mean and SD (Jan 2005-Sep 2008)

	Mean	SD
bibor	3.77	0.92
sibor	4.187	1.114
libor	4.183	1.116

Investment and Saving Rates



Source: NESDB

Saving and Output growth rates

- $S_t = \alpha + \beta Y_t$
  (implied by absolute income theory of consumption)
- $(S/Y)_t = \alpha/Y_t + \beta$
- $s = \alpha/[(1+g)Y_{t-1}] + \beta$
- s =saving rate, g = growth rate
- Since $\alpha < 0$, $\partial s/\partial g > 0$
- There is a positive impact of growth on saving rate.

$I/Y = \alpha + \beta(S/Y) + \varepsilon$

- Martin Feldstein and Charles Horioka (EJ 1980)

  "with perfect world capital mobility, there should be no relation between domestic saving and domestic investment: saving in each country responds to the worldwide opportunities for investment while investment in that country is financed by the worldwide pool of capital."
- In a cross-section study:

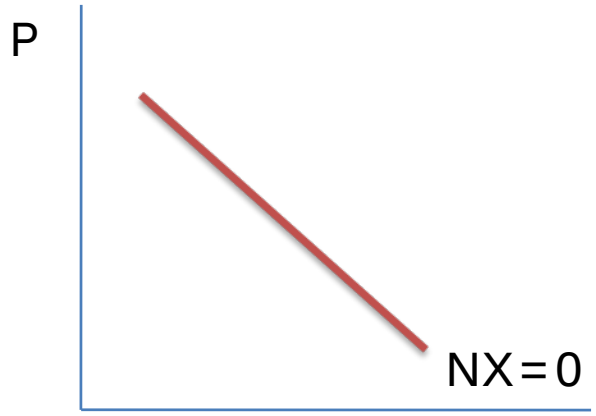
  $\beta=0$ if capital mobility is perfect.

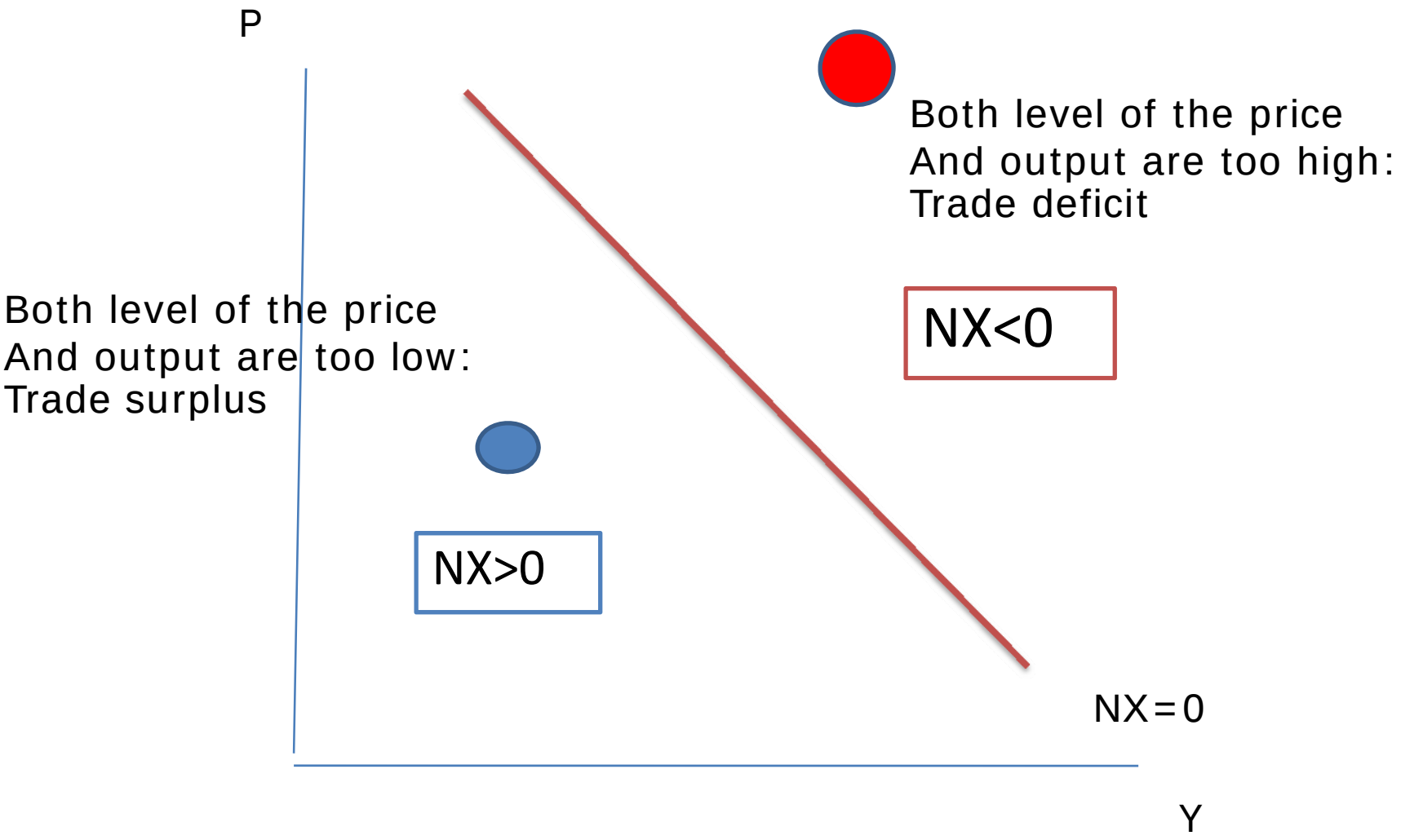
Current account deficit: Absorption (A) approach

- M-X = (I – S) + (G –T)
  The twin deficit
- M-X can be thought of as foreign savings used to finance investment gap and budget deficit
- Y = C + I + G + (X-M) = A + (X –M)
- (X – M) = Y – A
- To reduce trade deficit, domestic absorption must be curtailed, if Y cannot be raised.
- The approach ignores the price effect (exchange rate)
- NX=X-M
- NX=0 at trade balance equilibrium

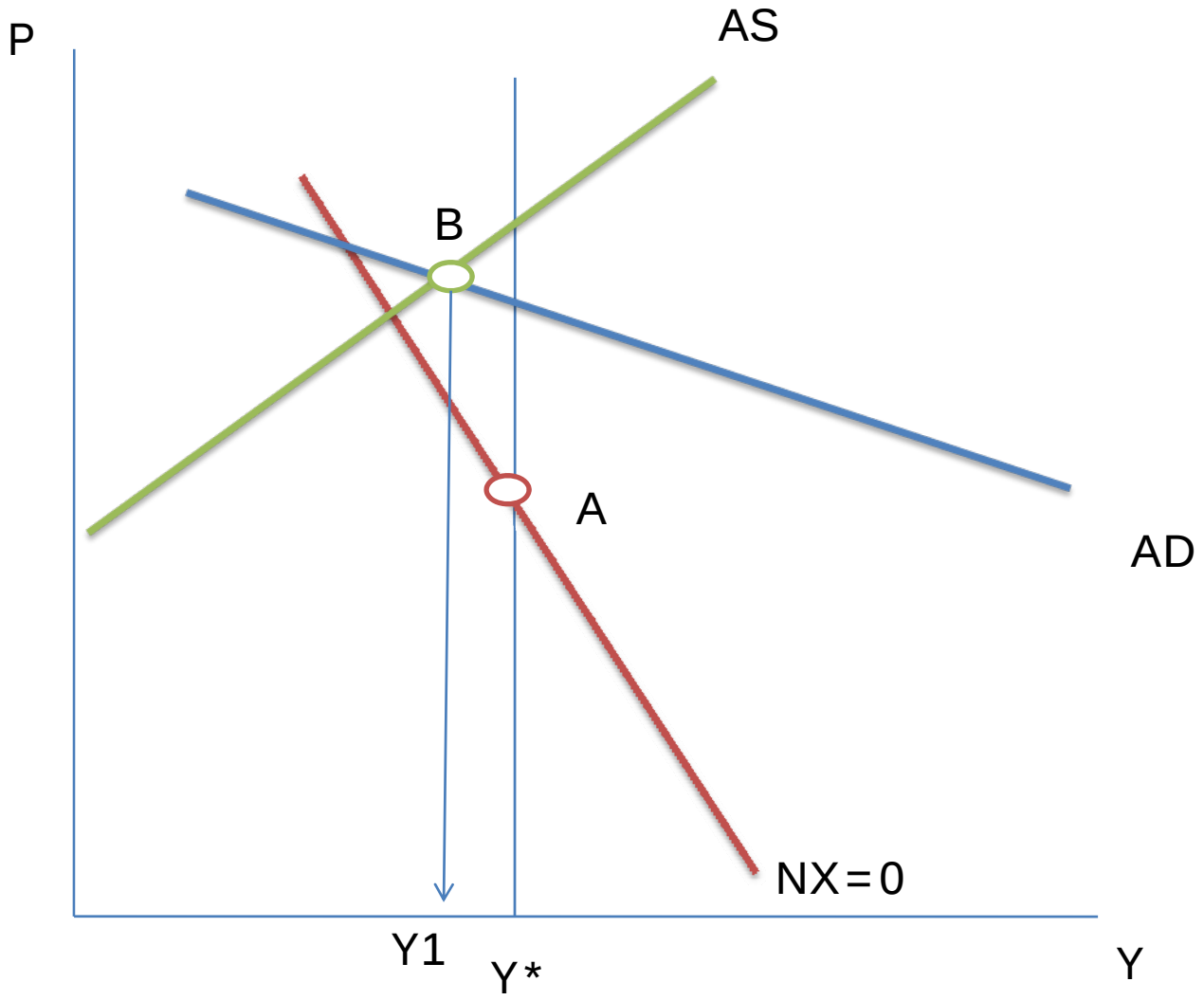
NX=0

- An increase in income raises imports and worsens the trade balance.
- To restore trade balance equilibrium, domestic prices would have to be lower to make home country more competitive, raise exports, and reduce imports.




P
Both level of the price
And output are too high:
Trade deficit
NX<0
Both level of the price
And output are too low:
Trade surplus
NX>0
NX=0
Y

Open economy equilibrium with price adjustment

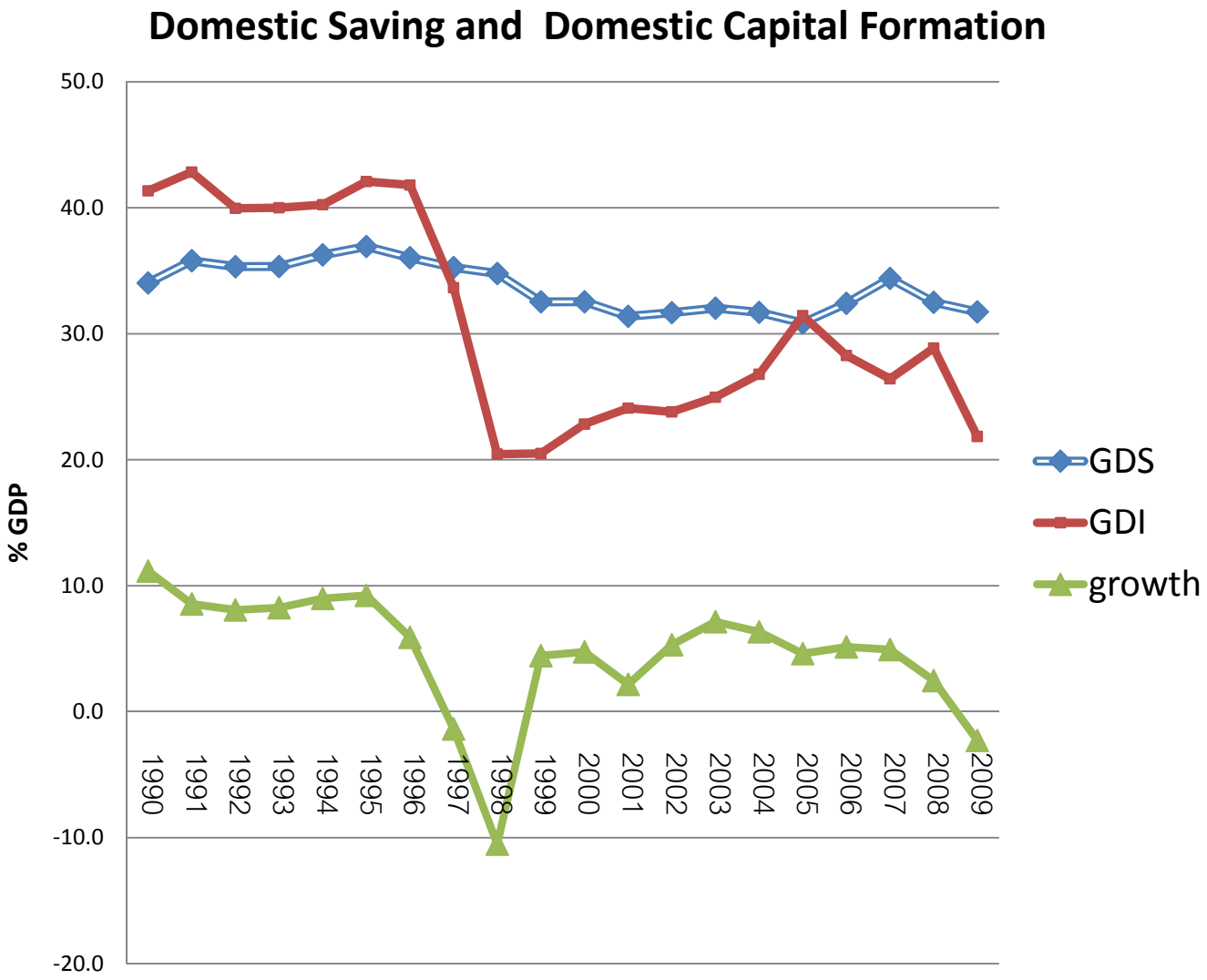


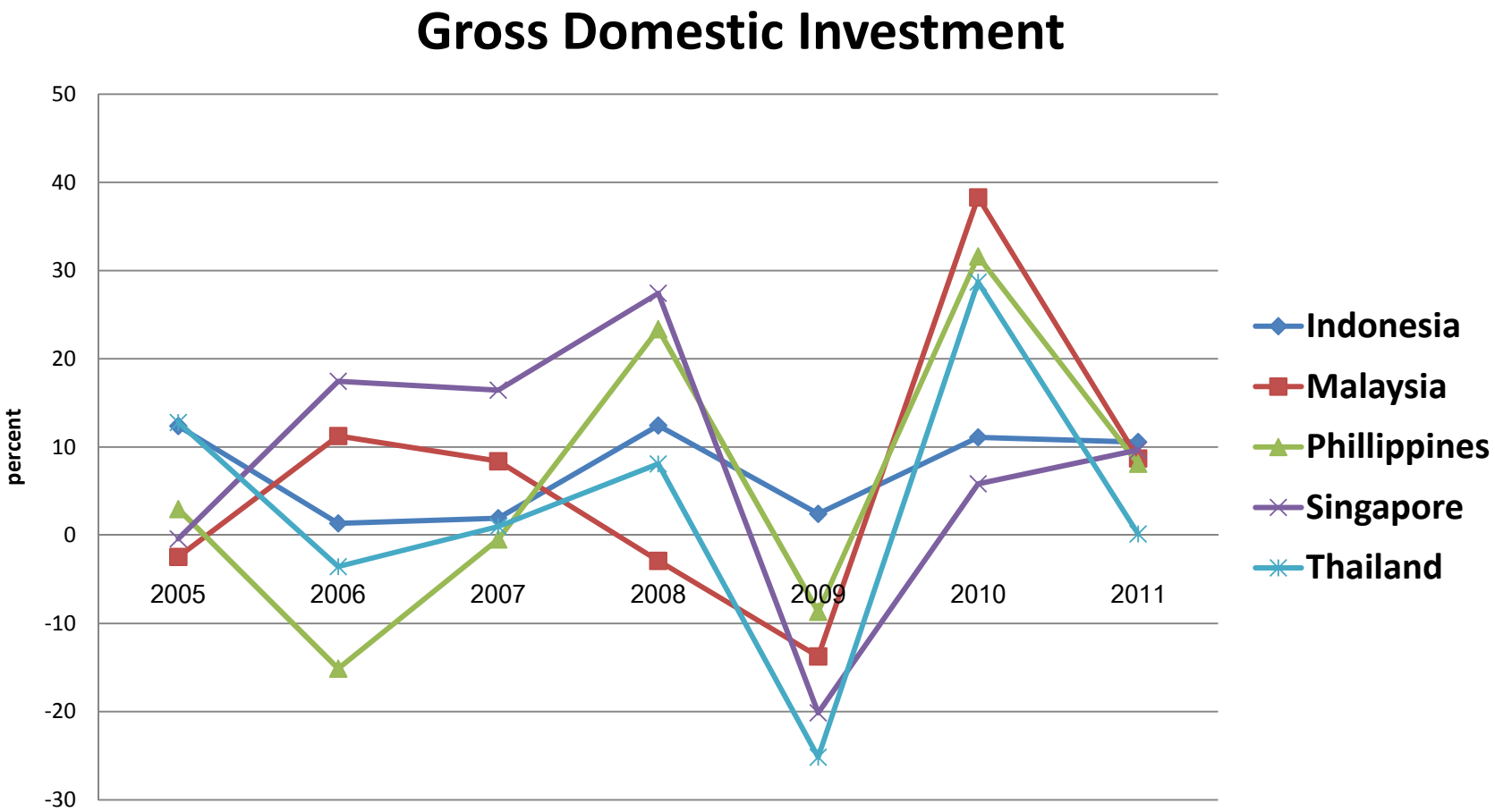
Macroeconomic equilibrium at point B (AD=AS) at less than full employment and NX<0.

$$NX = X(Y_f, \frac{eP_f}{P}) - IM(\frac{eP_f}{P}, Y)$$

$$\text{Real exchange rate} = \frac{eP_f}{P}$$

$$e = Baht / \$$$

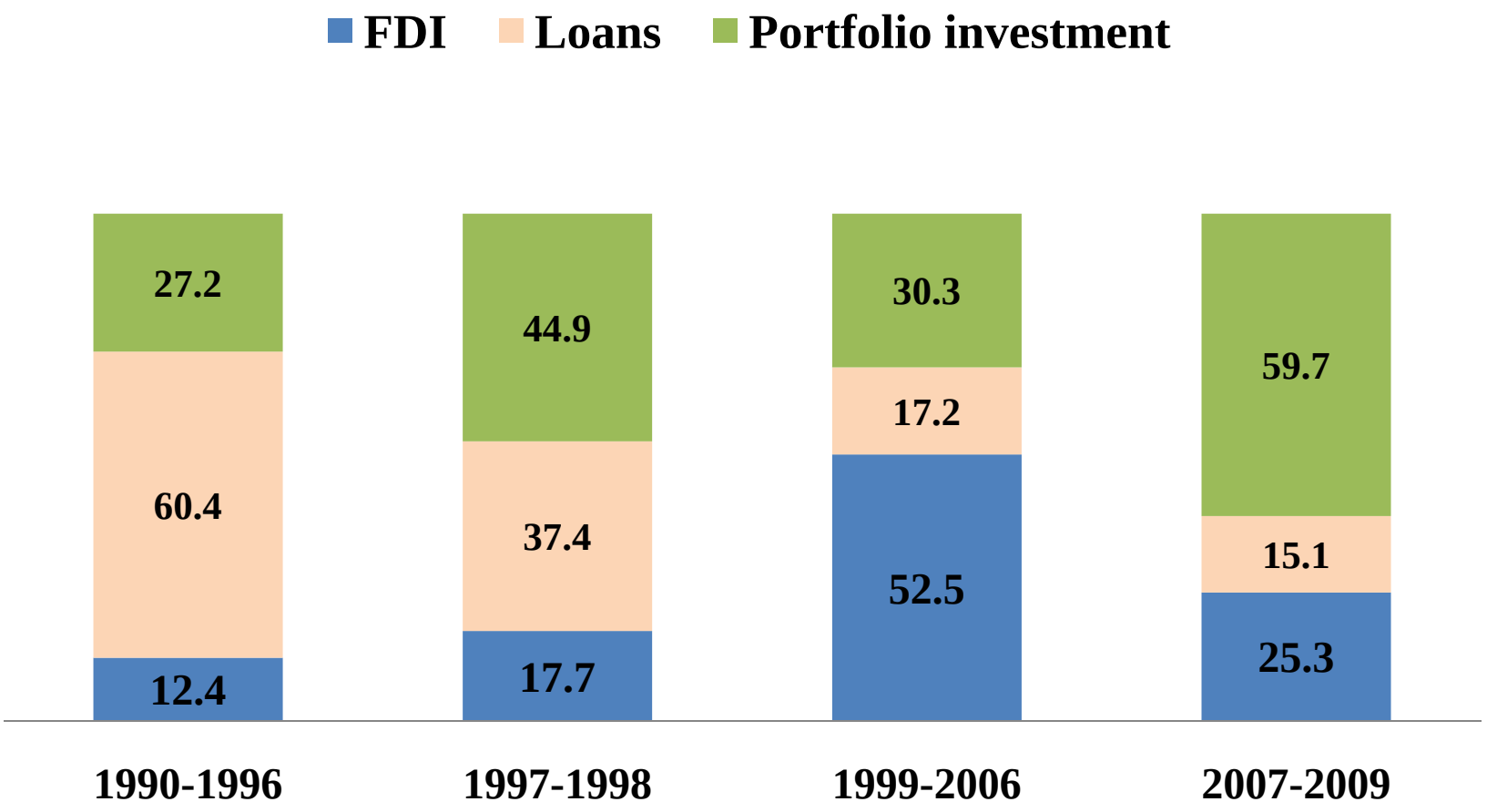

Domestic Saving and Domestic Capital Formation
% GDP
50.0
40.0
30.0
20.0
10.0
0.0
-10.0
-20.0
1990
1991
1992
1993
1994
1995
1996
1997
1998
1999
2000
2001
2002
2003
2004
2005
2006
2007
2008
2009
GDS
GDI
growth


Gross Domestic Investment
percent
50
40
30
20
10
0
-10
-20
-30
2005
2006
2007
2008
2009
2010
2011
Indonesia
Malaysia
Phillippines
Singapore
Thailand

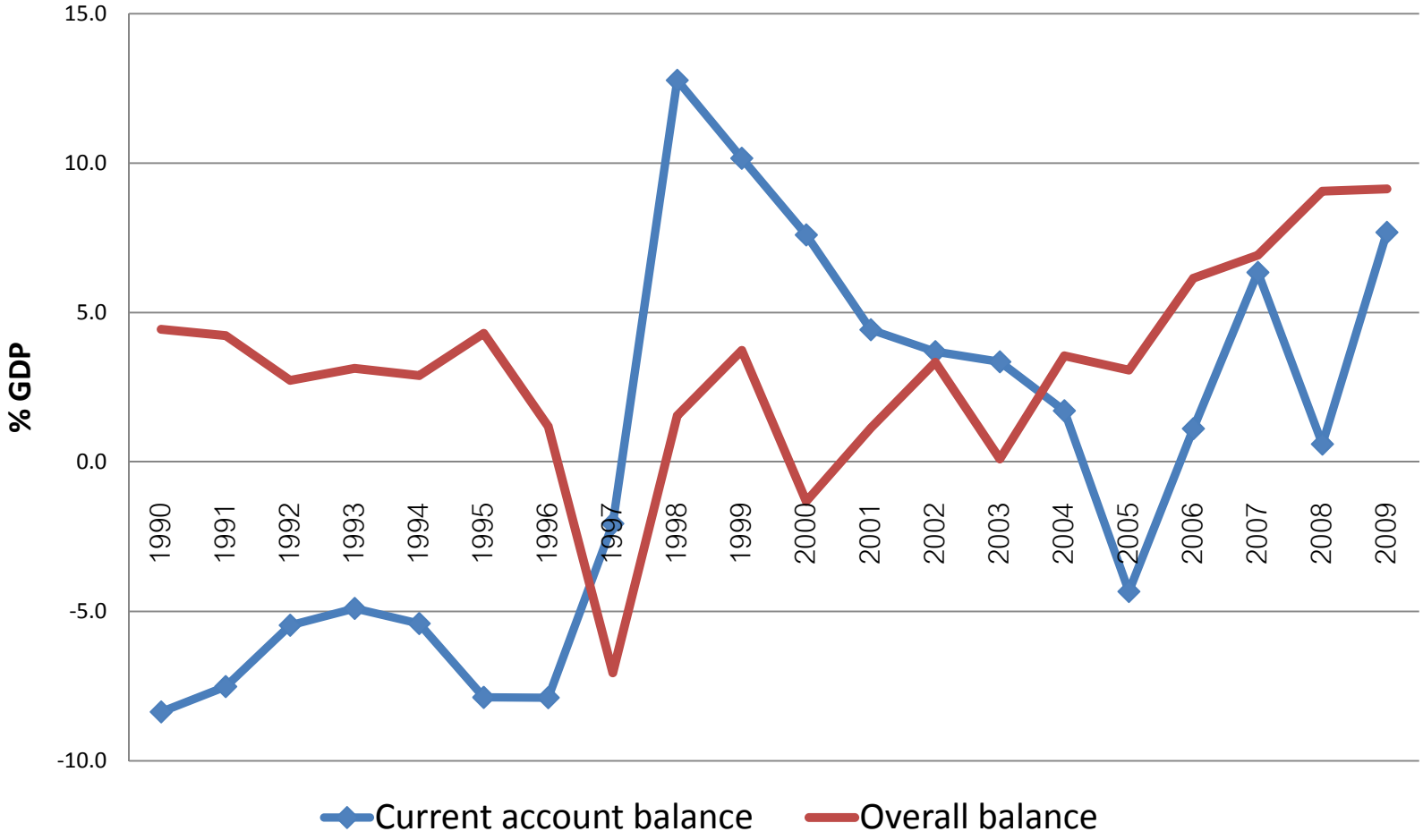
Investment and growth

- $\Phi = K/Y =$ capital-output ratio
- $\Delta K = \Phi \Delta Y$
- $I/Y = \Phi \Delta Y/Y$
- $I/Y = f(g); f' > 0$
- Accelerator effect of growth on investment
- There are other factors determining investment rate: credit availability and the interest rate.

Changing structure of capital flows (% total flows)



Balance of payments

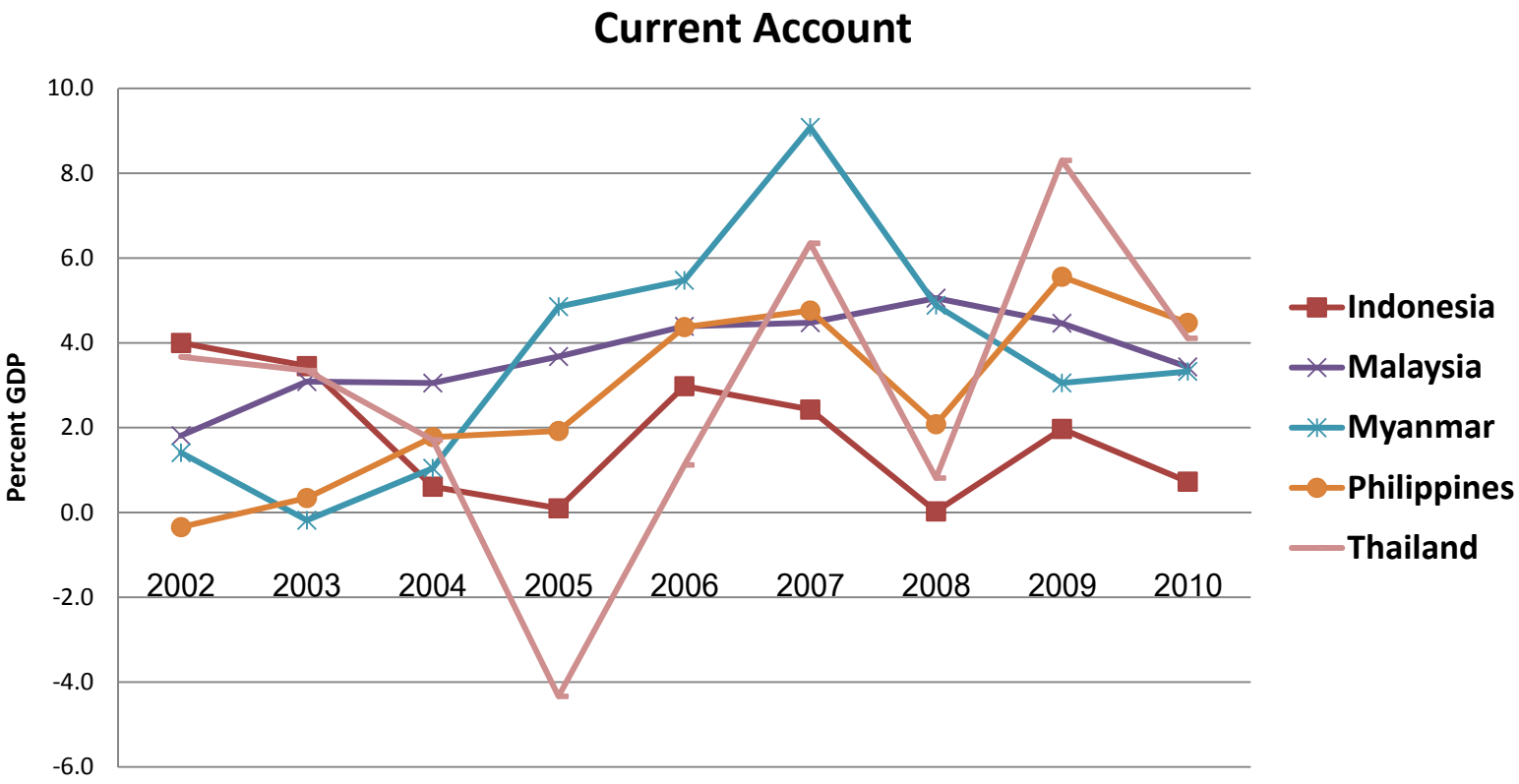


$$BP = NX\left(Y, \frac{eP_f}{P}\right) + CF\left(i - i_f - \frac{\Delta e}{e}\right)$$

$$\frac{\Delta e}{e} = \text{expected depreciation}$$

Determinants of current account balances

- Growth
- Real interest rates
- Capital inflows
- Inflation
- Exchange rates
- Fiscal imbalance
- *These determinants are intricately related.*

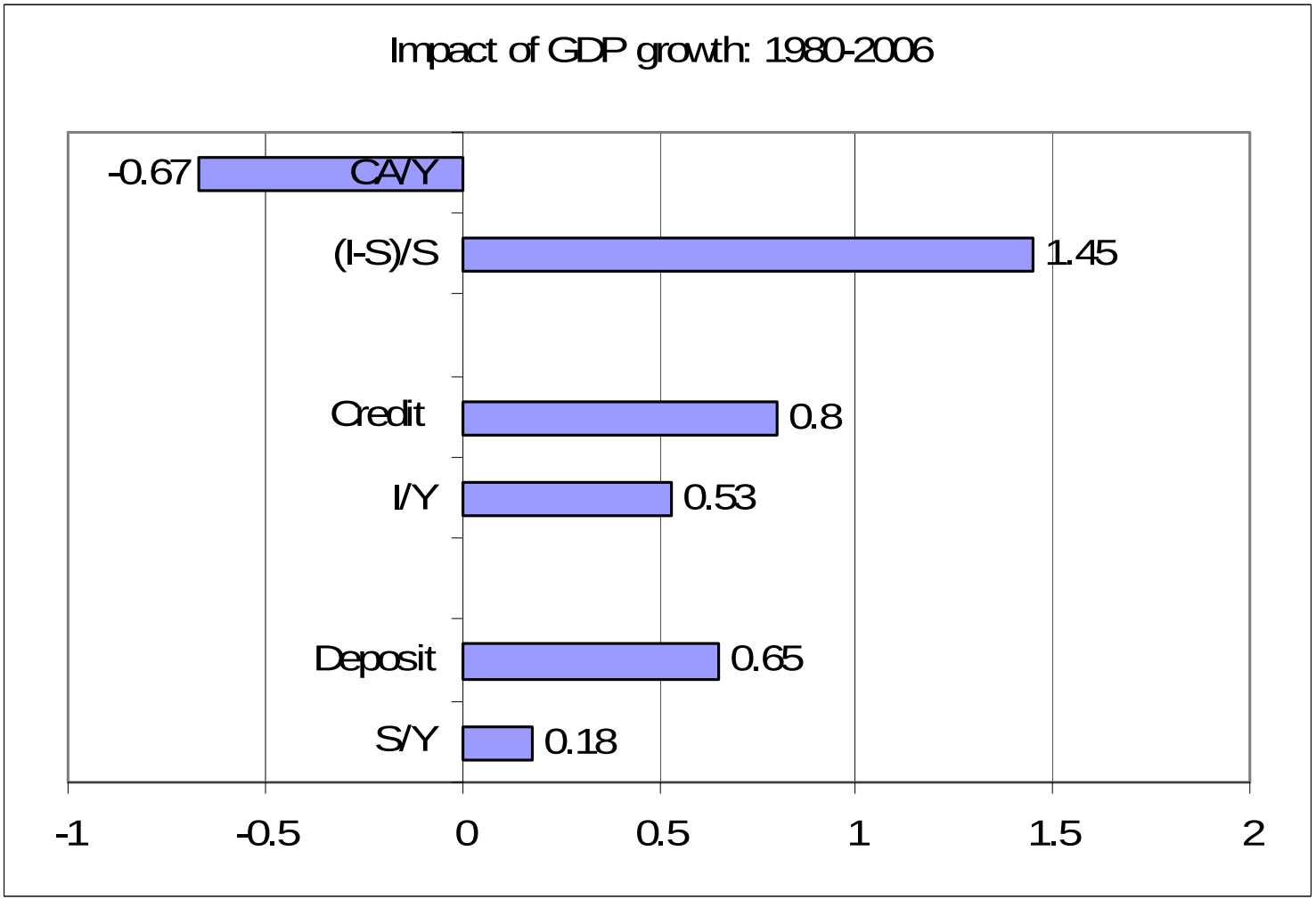

Current Account
Percent GDP
10.0
8.0
6.0
4.0
2.0
0.0
-2.0
-4.0
-6.0
2002
2003
2004
2005
2006
2007
2008
2009
2010
Indonesia
Malaysia
Myanmar
Philippines
Thailand

Growth, financial resource, and current account deficit

- Higher expected growth generates demand for credit requires by investors to expand their plants.
- Higher growth increases permanent income and raises saving deposits.
- If loan growth outpaces deposit growth, interest rates tend to rise.

- Output growth leads to strong demand for imports of raw materials and capital goods.
- If growth is not export-driven, growth can lead to current account deficit.

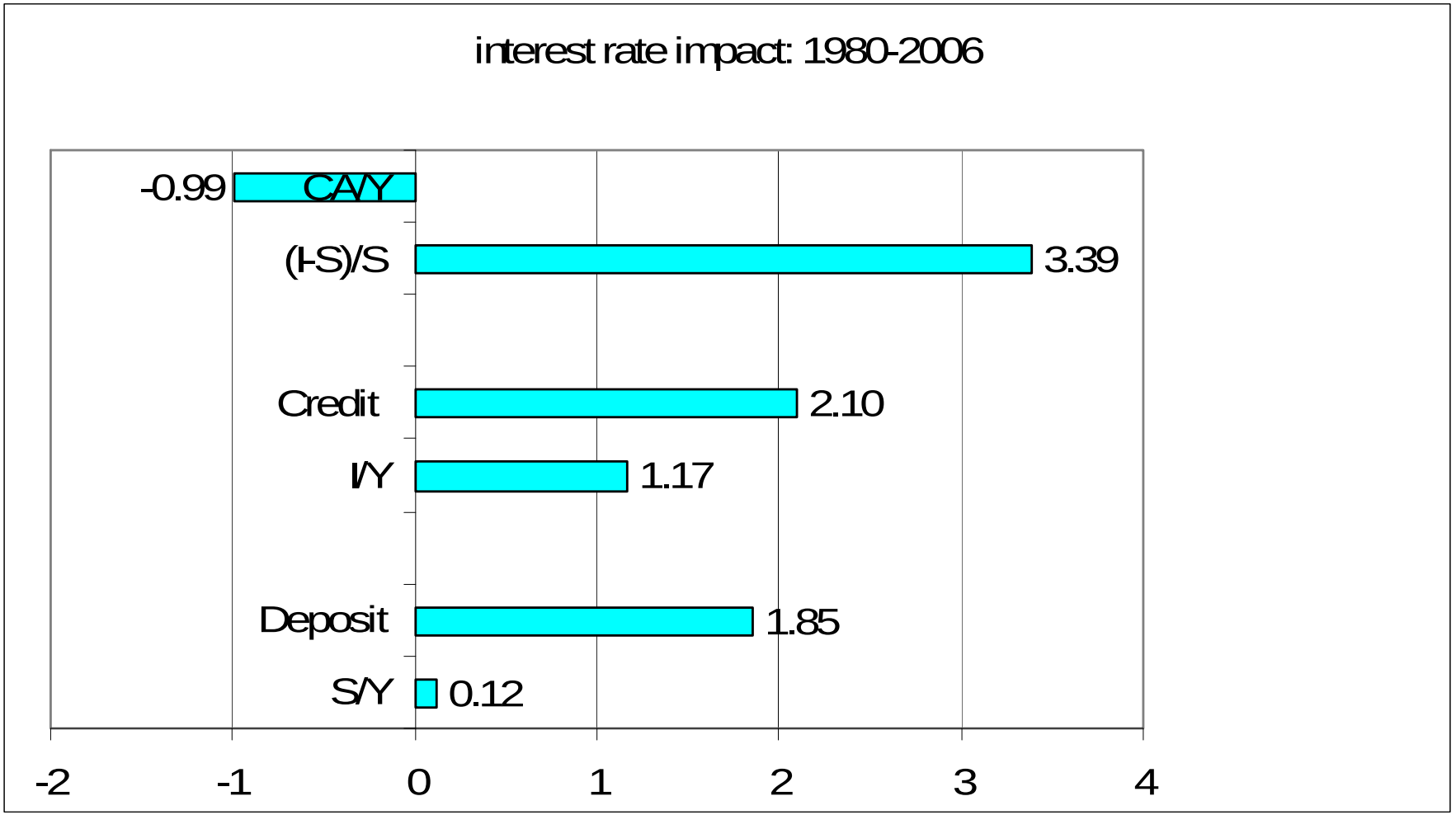
When the economy was expanding



Why strong growth may lead to problems

- Investment rises faster than savings.
- Bank credit grows faster than deposits.
- Investment-savings gap is widening.
- Current account deficit deteriorates.
- During economic downturn, we observe surplus in current account.

When interest rates rise:



As domestic interest rate rises

- Bank credit expands (supply of loan)
- Bank deposit grows
- Bank can borrow from abroad if domestic savings are not sufficient.
- Demand for credit should fall, other things being equal.
- With higher expected growth, interest rate rises could lead to widening investment-saving gap.

Equilibrating interest rates?

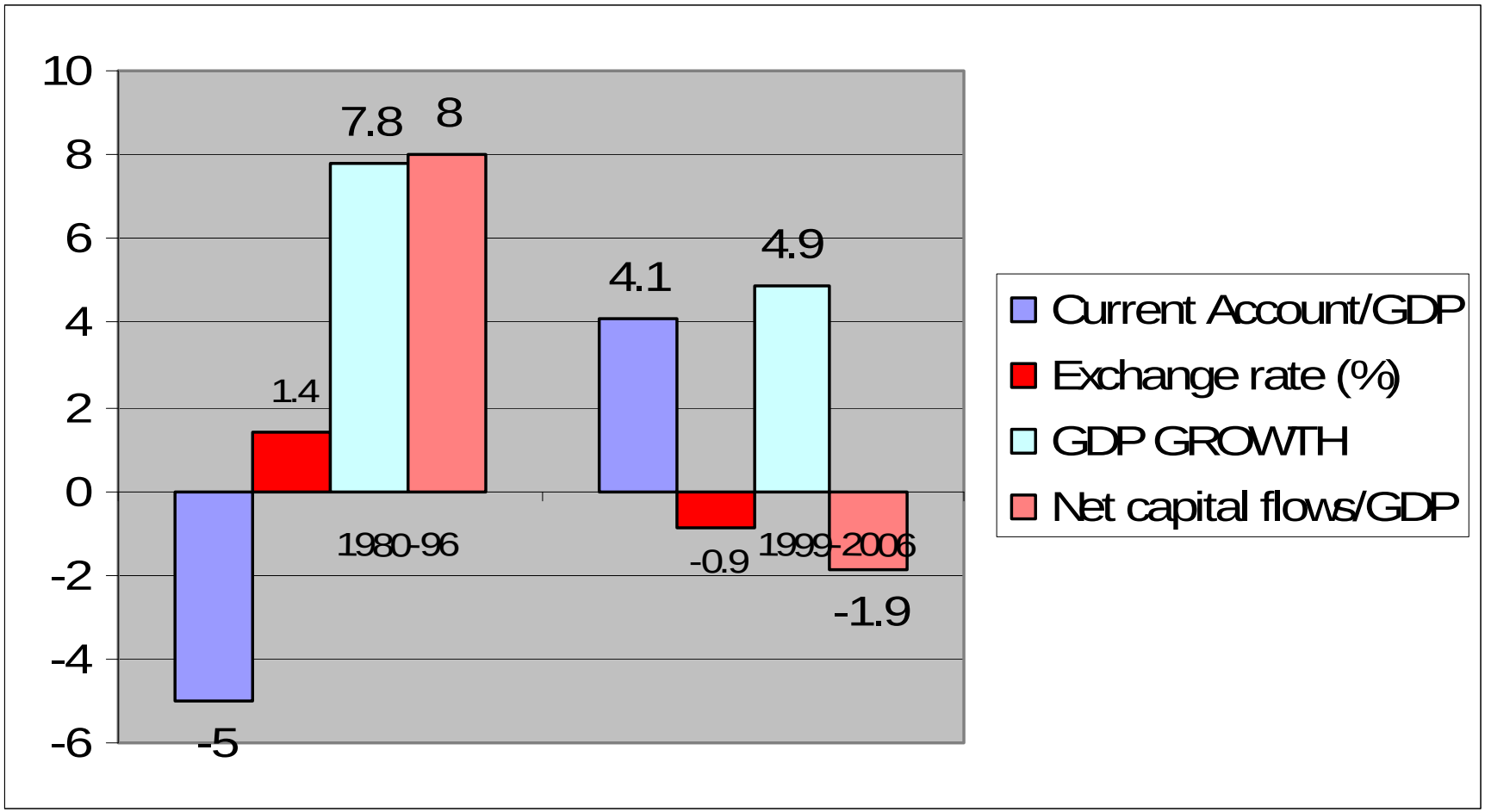
- Similar to growth impacts on current account, interest rates are pro-cyclical.
- Investment-saving gap is widening when interest rate increases, leading instability.
- With increasing integration, capital flows would mitigate the rise in the domestic interest rates.

Conventional strategy

- Growth is the first priority.
- Capital inflows propel private investment.
- Exchange rate appreciation can be delayed.
- Engineer competitive (though unrealistic) exchange rates to drive exports.

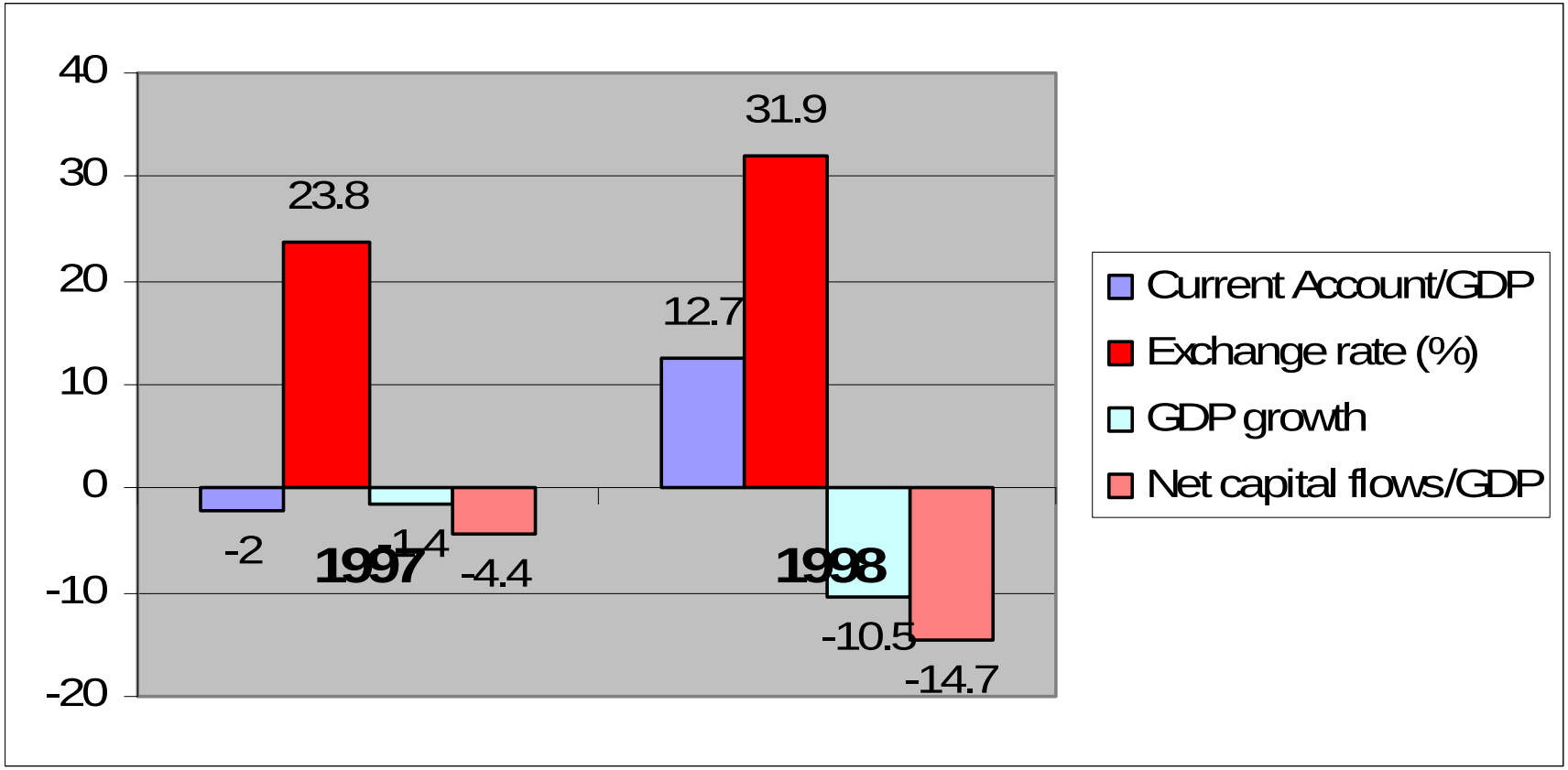
Exchange rate and output adjustments

excluding 1997-98

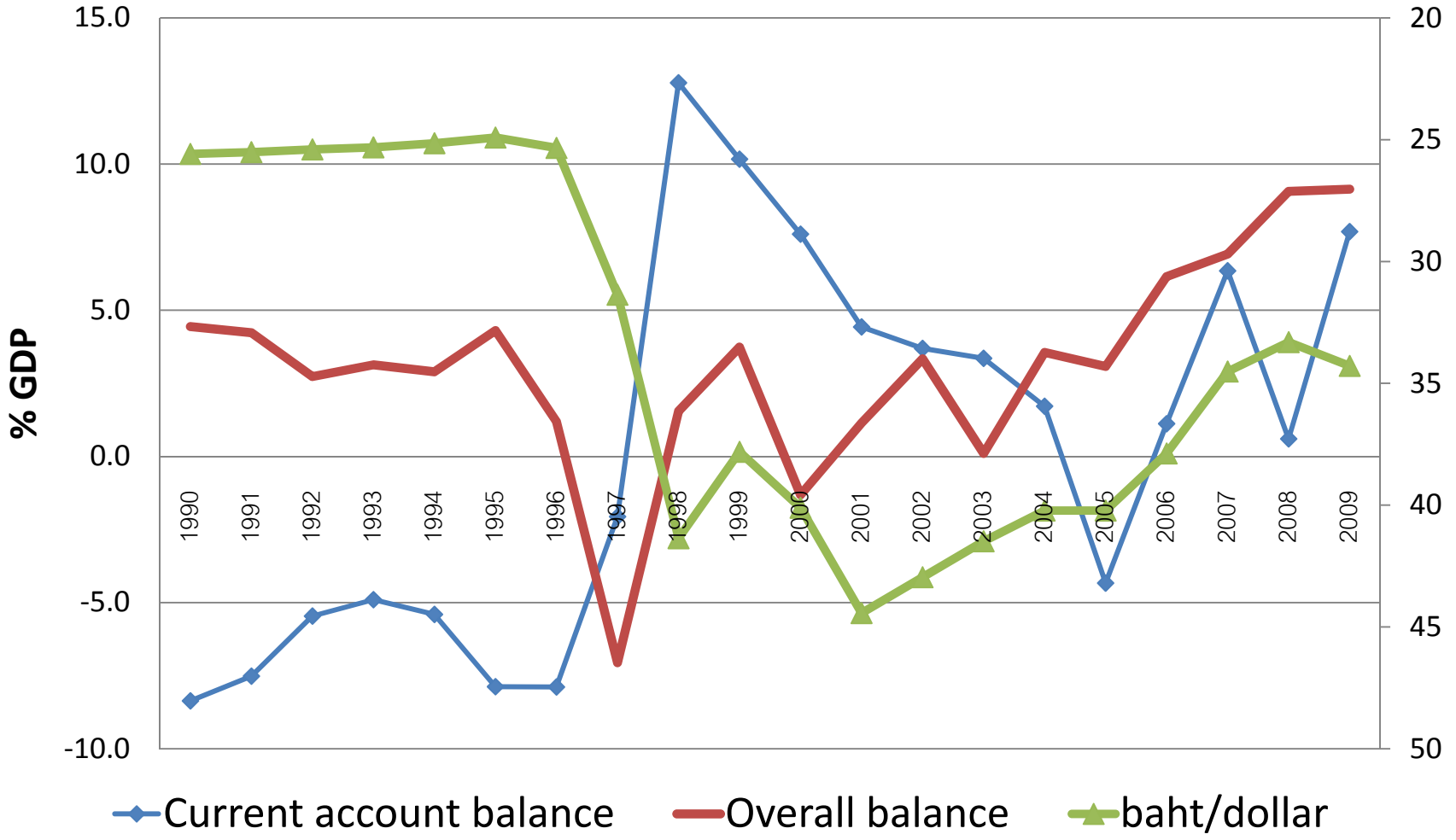


How can we tame capital inflows?
Should we apply capital conrols?

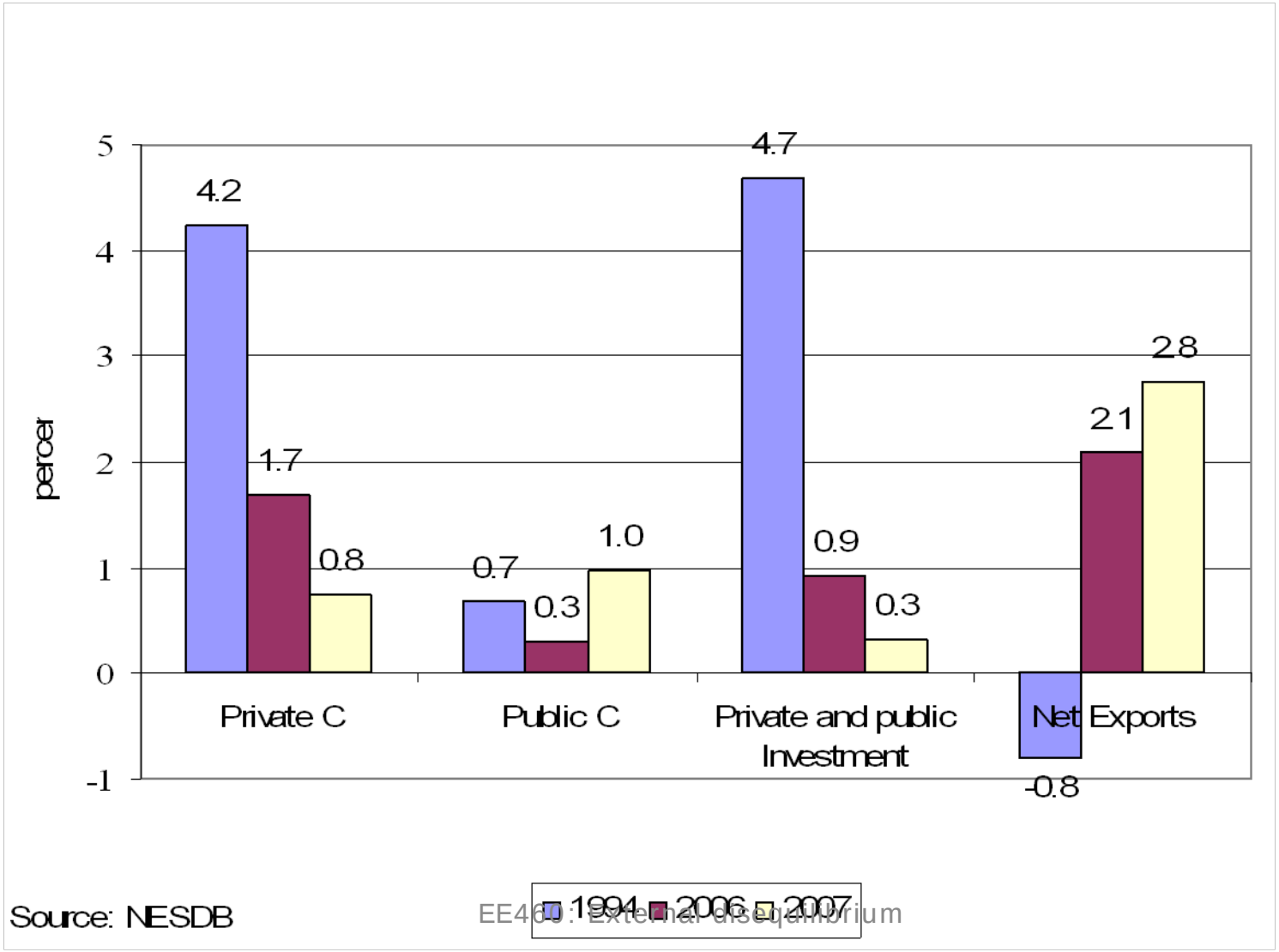
When ***both*** exchange rates and **output** adjustments were allowed to perform



Balance of payments

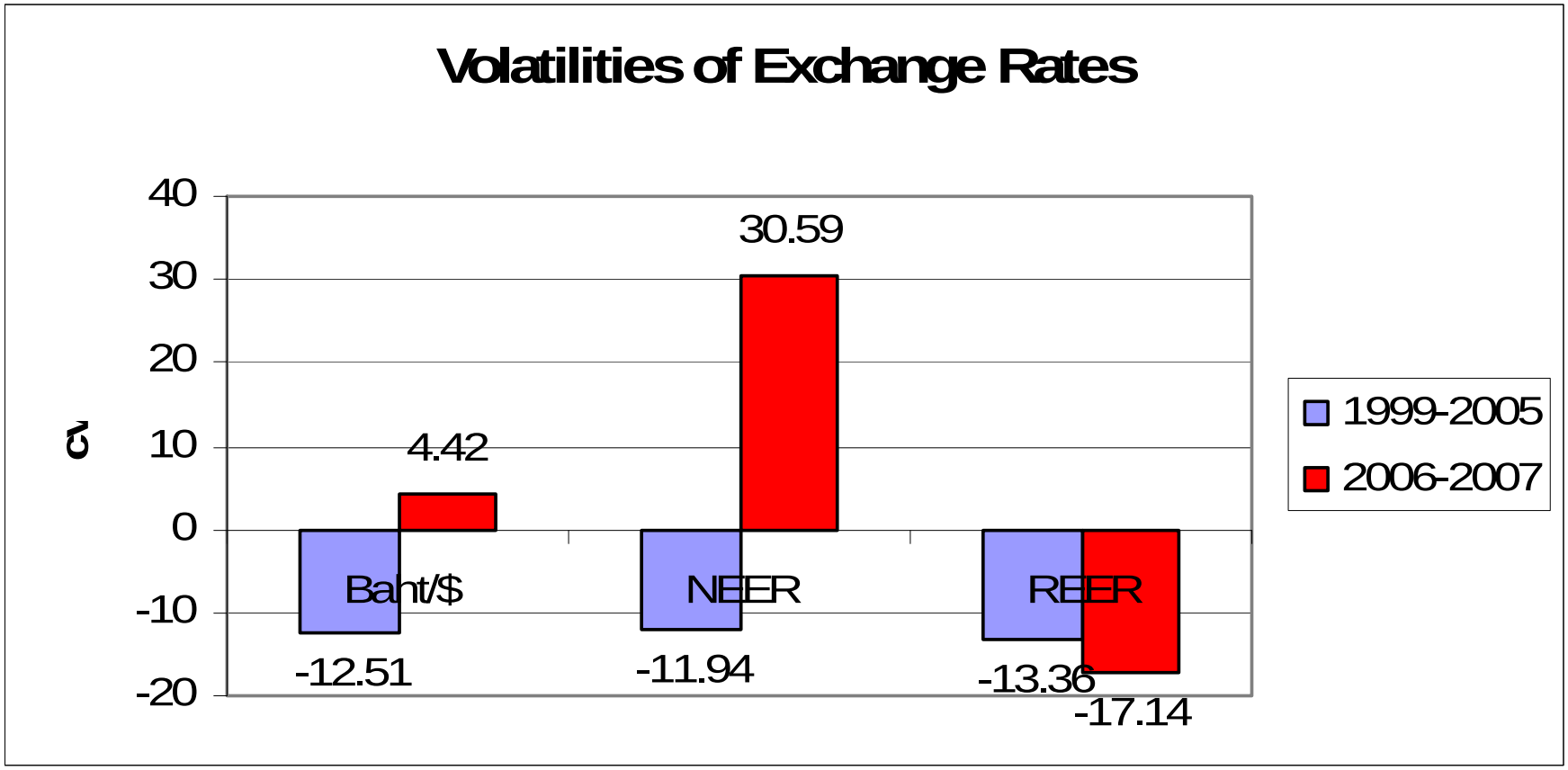


Contributions of net exports when other growth drivers slow down



Source: NESDB

More volatilities in the effective exchange rates (cv=μ/σ)



Growth Drivers

- During high growth period, private consumption and investment played a leading role.
- During low growth period, net exports are the ***only*** growth driver.
- Favorable external markets conditions and competitive exchange rates helped to boost exports in 2007.

Exchange rates trends

- The baht-dollar exchange depreciated 0.3 % per month between 1999 and 2003; NEER and REER moved in a similar direction with a slower rate.
- Between 2006 and 2007, the baht-dollar rate appreciated 0.48%; NEER appreciated by 0.05 %.
- But the REER depreciated by 0.09%, thanks to low domestic inflation.

The long run relationship

- Five key variables: change in current account, output growth rate, rate of change in REER, changes in capital flow, and fiscal balance
- These five variables exhibit long-run relationship between current account balance and other four variables.
- Current account deficit takes place during the period of high growth, huge capital inflows, appreciating real effective exchange rate, and budget deficit.
- Strong growth leads to deterioration in the current account.
- Capital inflows finance current account deficit.
- Appreciation of the REER leads to current account deficit.

- Current account surplus gives rise to output growth, while budget surplus has contractionary impact on growth.
- Capital flows are caused by rapid economic growth and currency appreciation.
- REER appreciates as capital account surplus is rising.
- Capital account surplus weakens fiscal position, while currency appreciation strengthens it.

Concluding remarks

- There are equilibrating mechanisms, through exchange rate channel, to bring the economy back from imbalances to external balances.
- Exchange rates should be allowed to play their equilibrating role in external balance adjustments.
- Delay the exchange rate adjustments would lead to substantial changes in output and exchange rates in the long run.