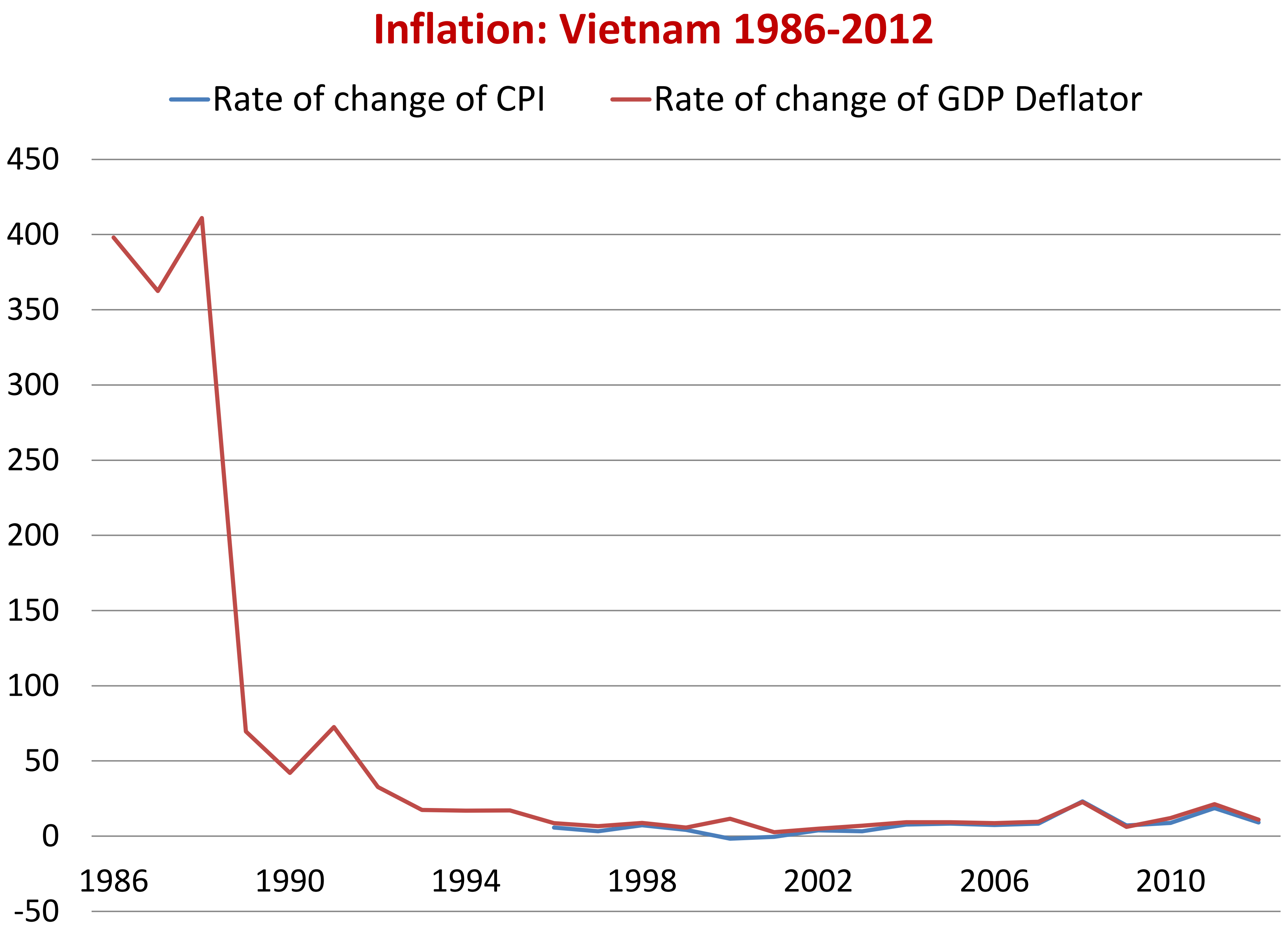
Development Policy

Macro Management and Development
Macro Stability and Growth:
Case Study of Vietnam

James Riedel

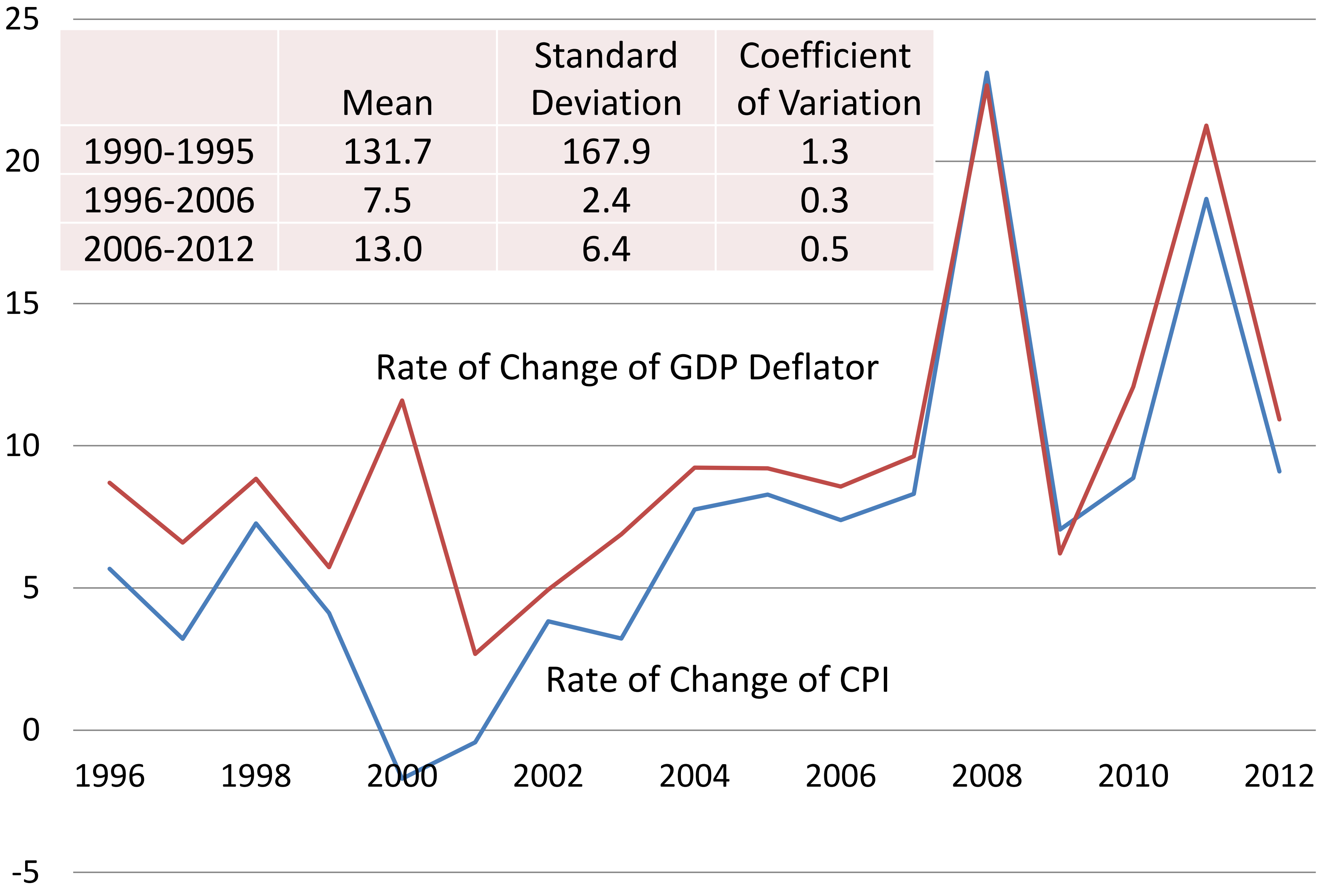
Outline:

1. How macro stability/instability is measured?
2. Inflation rate in Vietnam
3. Sources of macro instability
4. Trade-off between growth and stability
5. Causes of macro crisis
6. Macro crises as an inducement for reform
7. Macro history of Vietnam: three phases
    - 1986-1994
    - 1995-2006
    - 2007-today
8. Lessons from the experience of Vietnam


Inflation: Vietnam 1986-2012
Rate of change of CPI
Rate of change of GDP Deflator
450
400
350
300
250
200
150
100
50
0
-50
1986
1990
1994
1998
2002
2006
2010

Inflation: Vietnam 1996-2012

	Mean	Standard Deviation	Coefficient of Variation
1990-1995	131.7	167.9	1.3
1996-2006	7.5	2.4	0.3
2006-2012	13.0	6.4	0.5



Inflation and Growth in Brazil

	Inflation			Per capita GDP growth		
	Mean	Std dev	COV	Mean	Std dev	COV
1961-79	41.6	21.8	0.5	4.4	3.8	0.9
1980-97	643.5	865.8	1.3	0.7	4.0	5.9
1998-12	7.7	2.3	0.3	1.8	2.5	1.4

Sources of Macroeconomic Instability

External
1. Commodity price booms => inflation?
2. Global recession => currency depreciation => inflation?
3. Foreign capital inflow => currency appreciation => inflation?

Internal
1. Domestic supply shock (e.g. bad harvest) => inflation?
2. Increase in public and private spending => inflation?
3. Public sector deficits => inflation?

"Inflation is always and everywhere a monetary phenomenon in the sense that it is and can be produced only by a more rapid increase in the quantity of money than in output".

Milton Friedman, *The Counter-Revolution in Monetary Theory* (1970)

The trade-off between Growth and Stability

The Phillips Curve

In the absence of stickiness in prices and expectations—i.e. in the long-run—inflation is entirely a monetary phenomenon. Lowering the long-run inflation rate is a matter of lowering the permanent rate of growth of money. But, in the short-run, when prices are sticky reducing inflation may require a reduction in the rate growth, if not the level, of output and employment.

The trade-off between growth and stability is described by the empirical relation between the inflation and growth known as the Phillips curve:

$$\pi = \pi^e + \alpha \cdot g$$

where π is the rate of inflation, π^e is the expected rate of inflation, g is the GDP growth rate and α is the sacrifice ratio, usually in the range of 2 to 4 in developed countries.

The trade-off between Growth and Stability

The Phillips Curve is illustrated in Fig. 1. The slope of the curve depends on the stickiness of prices—the stickier the flatter.

The PC is not stable empirically due to exogenous price shocks and changes in expected inflation.

<u>Expectations:</u>

- When inflation is low and stable, expectations are static…stable PC
- When inflation is high and stable, expectations are adaptive.
- When inflation is high and unstable, expectations a rational (i.e. forward looking) and the relationship between inflation and growth is likely to be negative, not positive…unstable PC

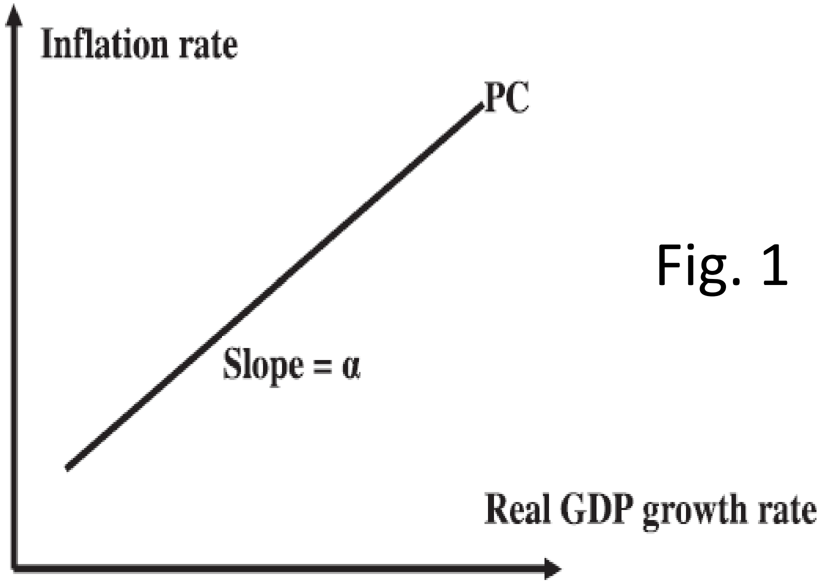


Fig. 1

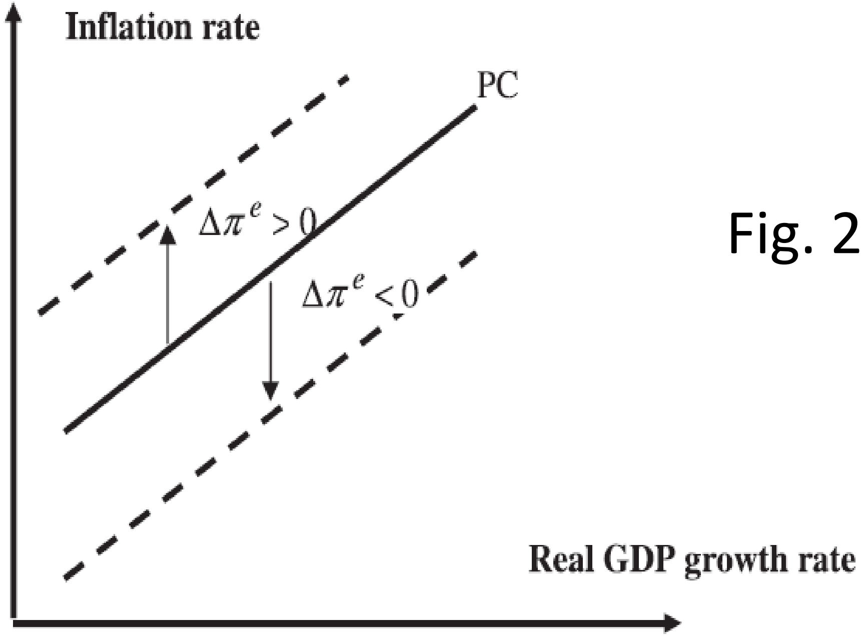
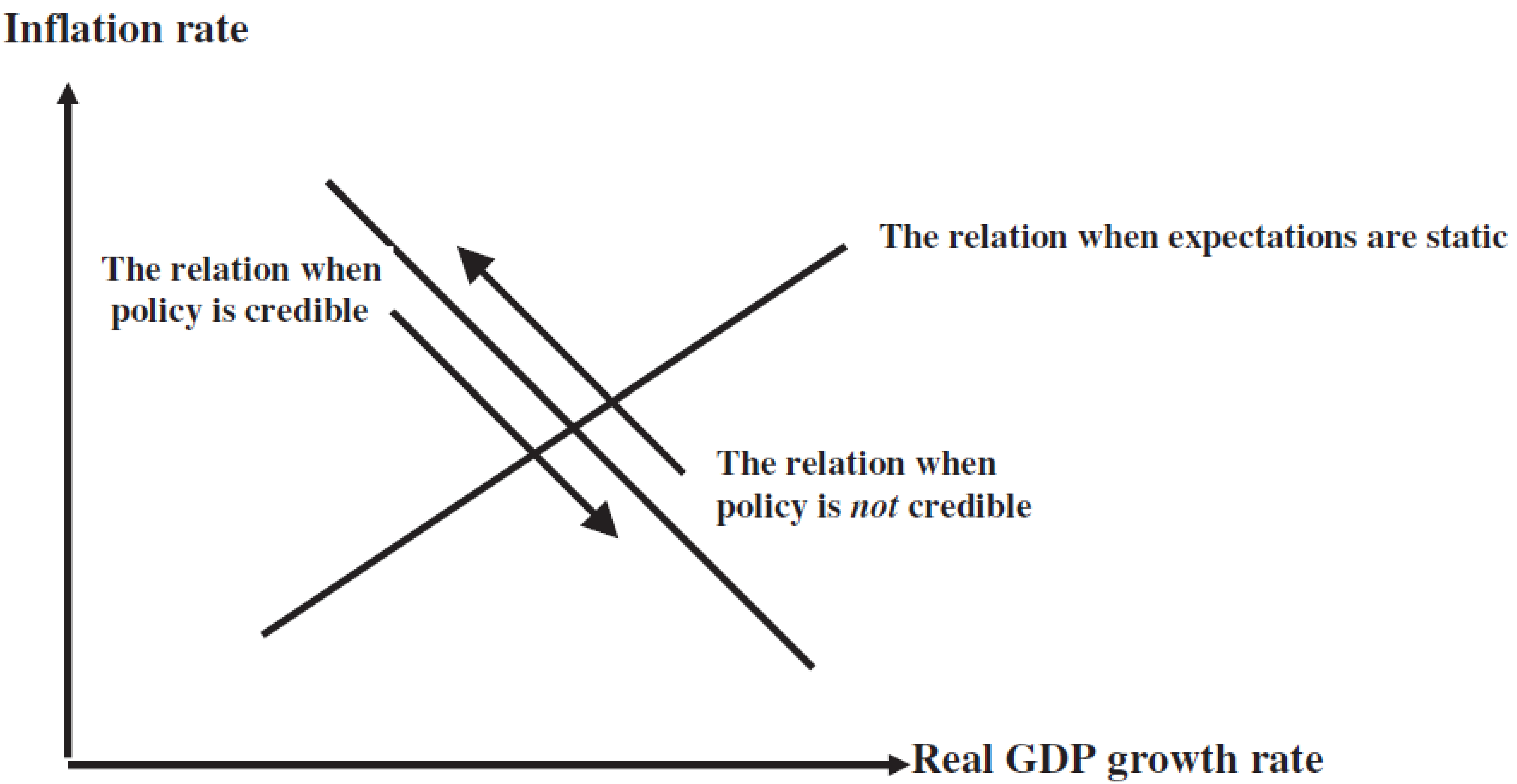


Fig. 2

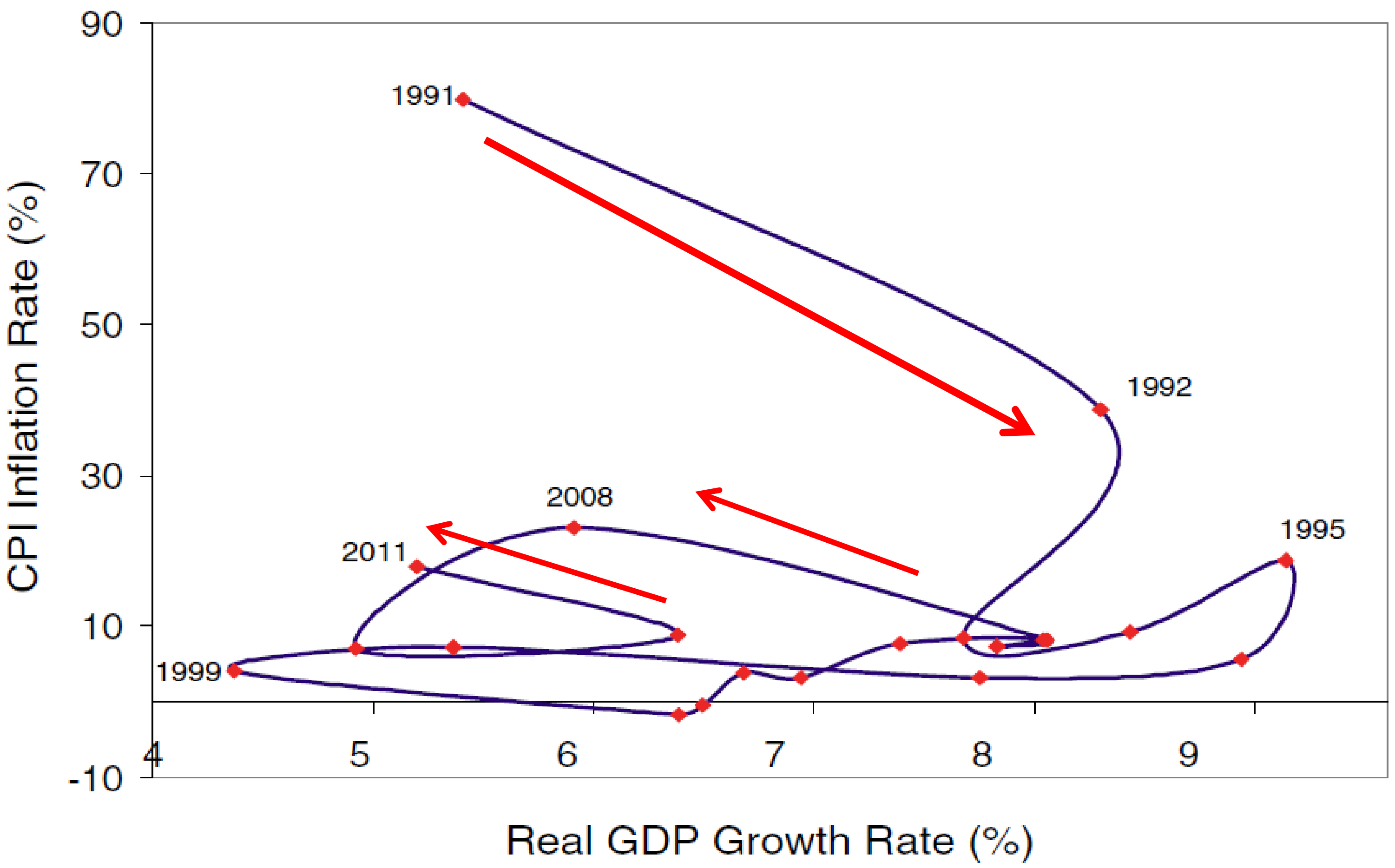
The trade-off between Growth and Stability

When expectations are forward-looking, they can change rapidly. If a disinflation policy is credible, changes in expectations reinforce the policy, with the outcome of lower inflation and higher growth. But if the policy is not credible, the opposite is more likely



The trade-off between Growth and Stability

Phillips Curve for Vietnam: 1990-2011



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Why no well-behaved Phillips Curve for Vietnam?

Macro Crises: Three generations of models

First generation models of a currency crisis (Krugman, 1979)

When a central bank tries to fix the exchange rate below the market-clearing price by selling foreign reserves, the level of reserves will eventually fall to a level that will induce a speculative attack leading to a massive monetary contraction, soaring interest rates and a decline in output and employment.

$$M = CC + DEP = h(CC + BR) = h(R + D)$$

The central bank can "sterilize" ΔR by buying domestic assets (D):

$$\Delta D = -\Delta R$$

but only until R falls to the critical level that induces a speculative attack.

Macro Crises: Three generations of models

<u>Second generation models of a currency crisis (Obstfeld, 1994)</u>

Sometimes a crisis erupts, not from dwindling reserves, but when governments find that their commitment to a fixed exchange rate interferes with other domestic objectives (e.g. full employment). When speculators realize the inconsistency between the fixed exchange rate of other policy objectives they may attack the currency, pushing up interest rates (R) and forcing the government to abandon the currency peg.

$$\begin{array}{ccccc} R & & M = & h(R & + D) \\ \uparrow & \leftarrow & \downarrow & \leftarrow \downarrow & \end{array}$$

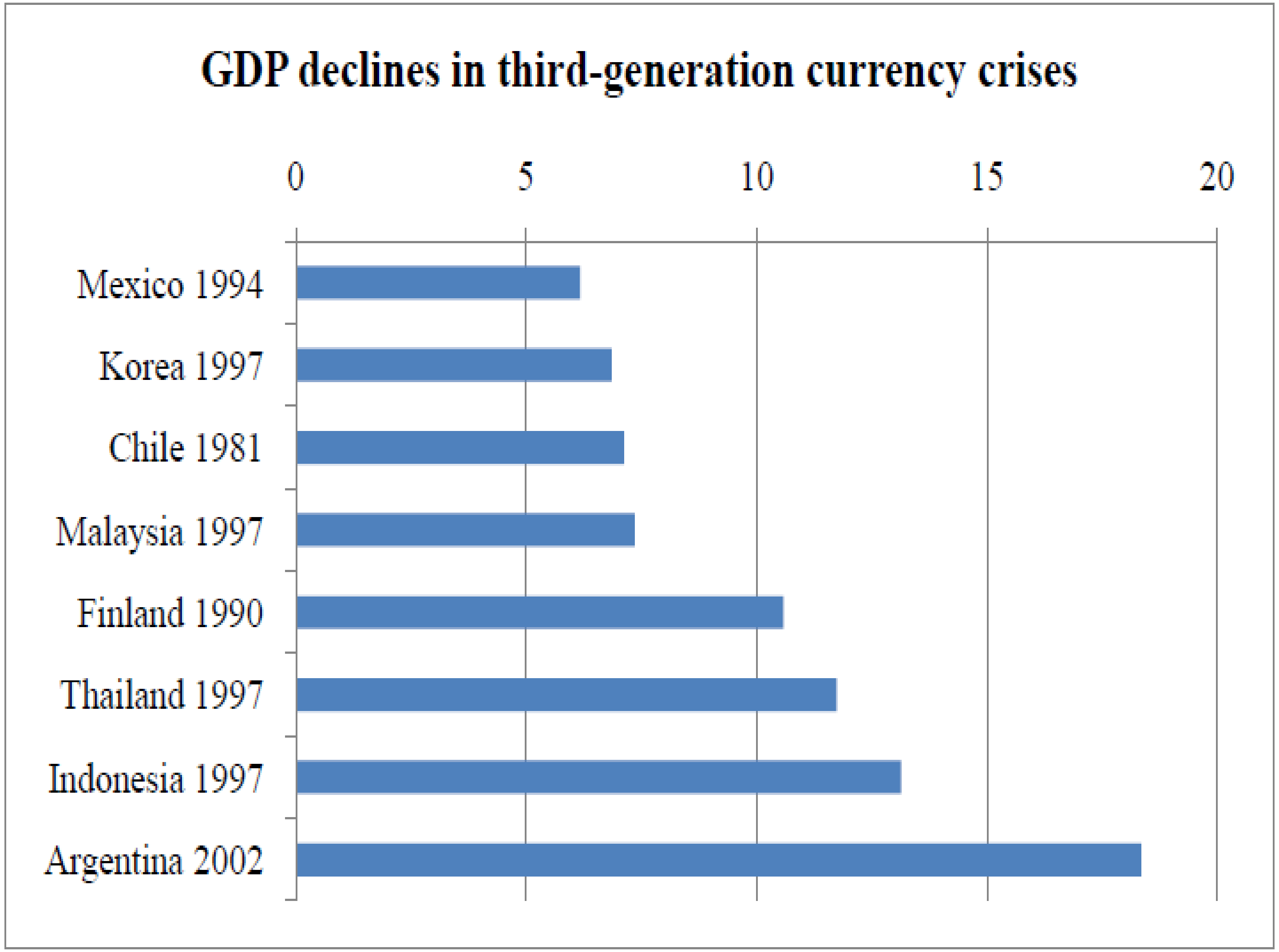
In the 2nd generation models, the currency crisis may lead to an increase in growth and employment (e.g. UK in 1992)

Macro Crises: Three generations of models

Third generation models of a currency crisis (Krugman, 1999)

These models were inspired by the Mexican crisis (1994), Asian crisis (1997) and Argentinian crisis (2002). The problem usually begins with a financial bubble financed by foreign capital inflows. Eventually there is an attack on the currency and a resulting large-scale devaluation. These models emphasize the impact of the devaluation on the balance sheets of banks and firms that hold a large stock of foreign debt. The decline in the net assets of firms and especially banks, leads to a massive contraction of credit and a fall in investment, output and employment, which fuel further devaluation. The impact of 3rd generation crises is typically very large.

Macro Crises: Three generations of models



Krugman (1980) Nobel Lecture

Macro Crises: Crisis and Reform

Do economic crises induce economic reform?

My study of *Macroeconomic Crises and Long-term Growth in Turkey* (World Bank, 1993) found that they do. Severe macroeconomic crises erupted at the end of each decade (1959, 1969, 1979), leading repeatedly to a coup d'etat, a new package of reforms and after a year or two the return of democratic civilian government, then …

Drazen and Easterly (2001) find evidence, based on data for 156 countries over a 45 years period, that crises induces reform when inflation and black market premium on the exchange rate are extremely high. They do not find evidence that moderate inflation, black market premium, high current account deficits, high budget deficits or negative growth induce reform.

Why not? Because when conditions are moderately bad, countries get an ODA bailout, but when they are extremely bad they get cut off from ODA and have to reform.

Macroeconomic History of Vietnam: 1988-94

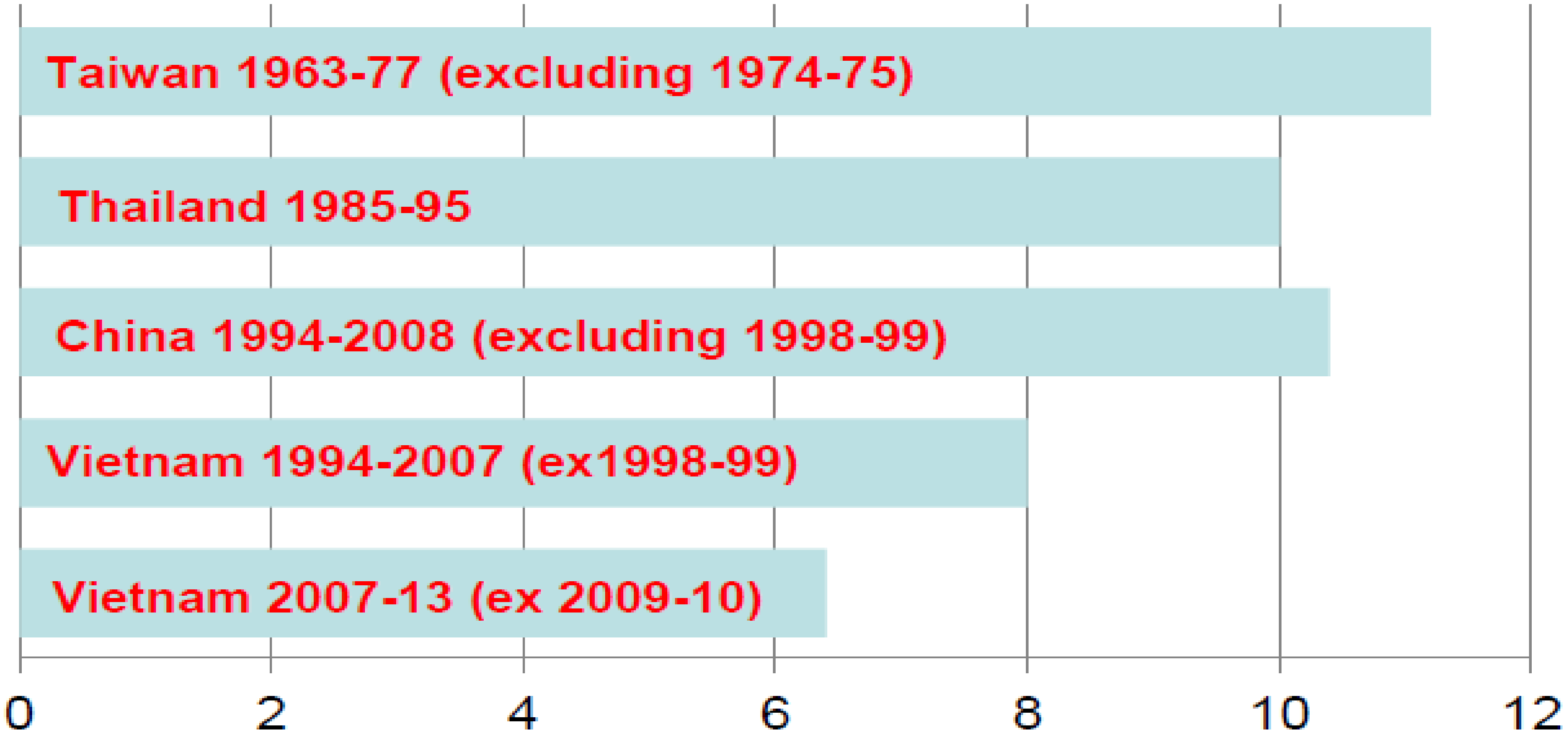
	1988	1989	1990	1991	1992	1993
Fiscal deficit (% of GDP)	-7.2	-7.5	-5.8	-1.5	-1.7	-4.8
Money growth (%)	443.3	237.8	32.4	78.8	3.7	9.9
Exchange rate (VND/USD)	900	4,500	6,500	10,000	10,200	10,600
Inflation Rate (%)	394.9	74.3	36.4	82.7	37.7	8.3
Real GDP Growth (%)	5.2	5.0	5.1	5.8	8.7	8.0
Share in total liquidity of Foreign currency deposits	9.3	24.7	32.4	41.1	30.3	23.0

Source: Riedel and Comer (1997).

- SOE loses => fiscal deficits => money growth => inflation
- Government cut subsidies to SOEs; cut public sector investment; cut public sector wages; demobilized the military
- Inflationary expectations fell (note: share of foreign deposits fell)
- **Inflation fell from >400% to <10%**
- **Growth increased from 5% to 8 or 9%**
- **Did crisis induce reform?**
- **Was this crisis a "classic" macro crisis?**

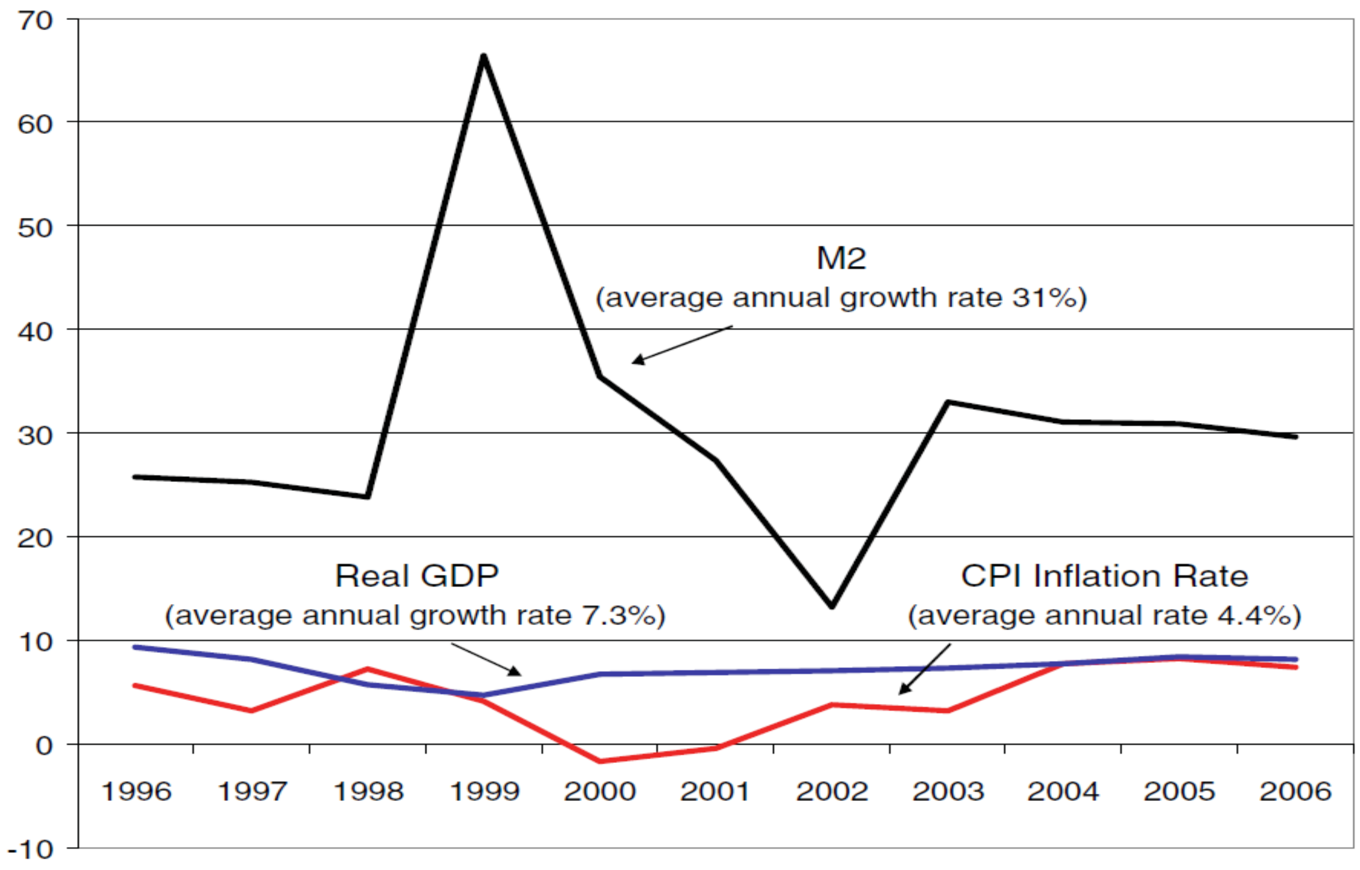
Macroeconomic History of Vietnam: 1996-2006

In the decade 1994-2006 Vietnam opened its economy and followed a strategy close to the Export-Oriented Industrialization (EOI) Strategy and grew rapidly, but not as rapidly as other countries during take-off of EOI.



Macroeconomic History of Vietnam: 1996-2006

During this decade, Vietnam enjoyed not only relatively rapid growth (7-8 %), but also are relatively low level of inflation 5-6 %)



But note, money growth rates were high. Why was inflation so low?

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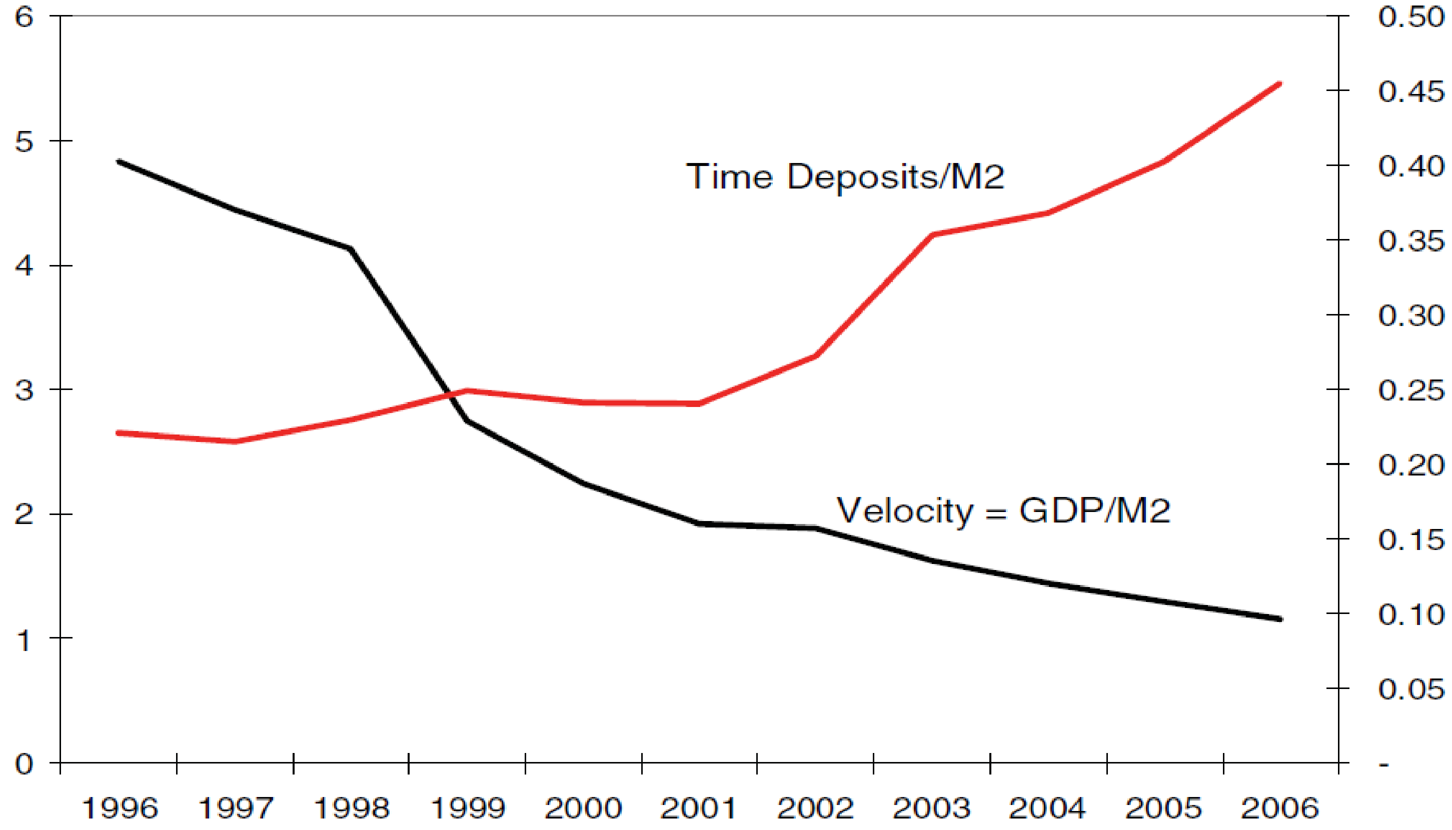
Macroeconomic History of Vietnam: 1988-94

Answer: Because the demand for money was growing rapidly as a result of (1) rapid real GDP growth and (2) increased saving, much of which was deposited in bank time deposits and as a result lowered the velocity of circulation of money.



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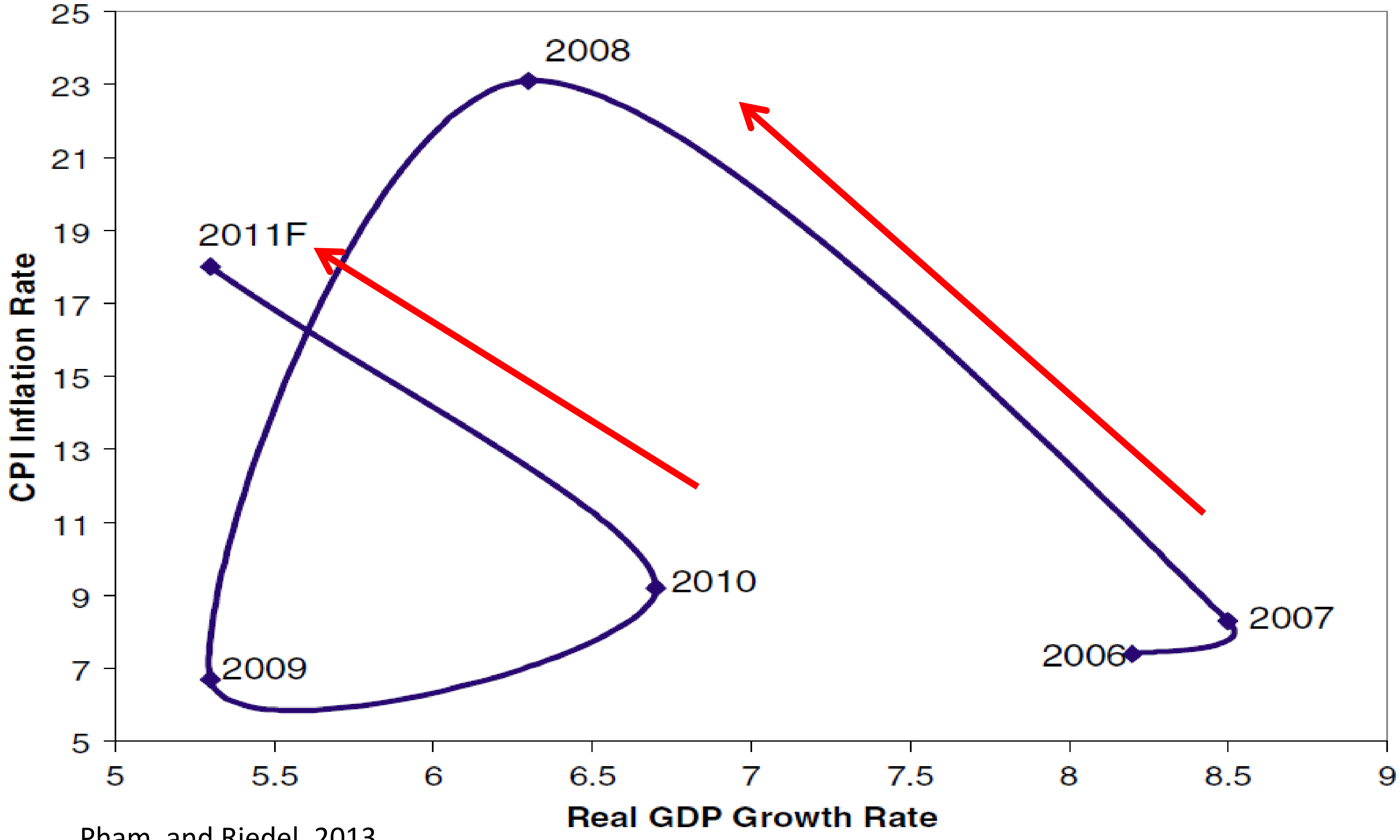
Macroeconomic History of Vietnam: 2007-2014

Over the past 8 years Vietnam has endured declining growth and accelerating inflation. Why has the PC not worked as expected?



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Macroeconomic History of Vietnam: 2007-2014

WTO euphoria led to a surge in public investment spending and massive inflows of foreign capital in 2007 and the first half of 2008.

Percentages of GDP	2004	2005	2006	2007	2008	2009	2010	2011
Current Account Balance	**-4**	**-1**	**0**	**-9**	**-12**	**-7**	**-4**	**-1**
Net Capital Inflow	6	4	7	21	14	12	4	3
Δ Reserves (minus = ↑)	-2	-3	-7	-12	-2	-6	0	-2
National S-I Balance	**-4**	**-1**	**0**	**-9**	**-12**	**-7**	**-4**	**-1**
Private S-I Balance	0	6	5	4	-9	2	2	3
Public S-I Balance	-4	-6	-5	-13	-3	-9	-6	-4
Gross National Saving	**32**	**35**	**35**	**33**	**28**	**32**	**35**	**29**
Private	24	28	27	26	21	27	30	24
Public	8	7	8	7	7	5	5	5
Gross Investment	**36**	**36**	**35**	**42**	**40**	**38**	**39**	**30**
Private	23	22	23	22	31	25	28	21
Public	13	13	12	20	9	14	11	9

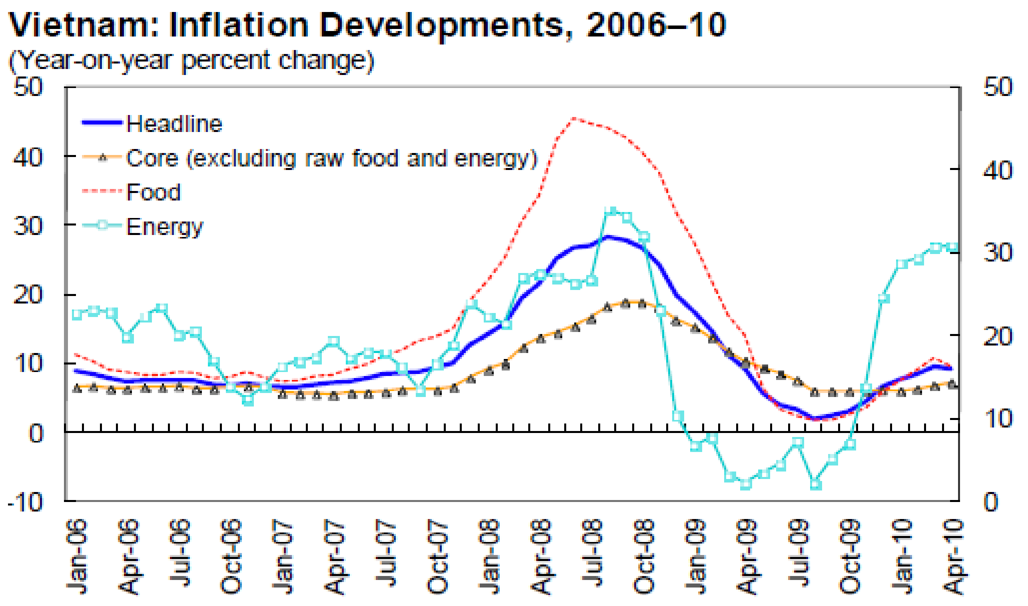
IMF Art. IV Consultation Report 2013

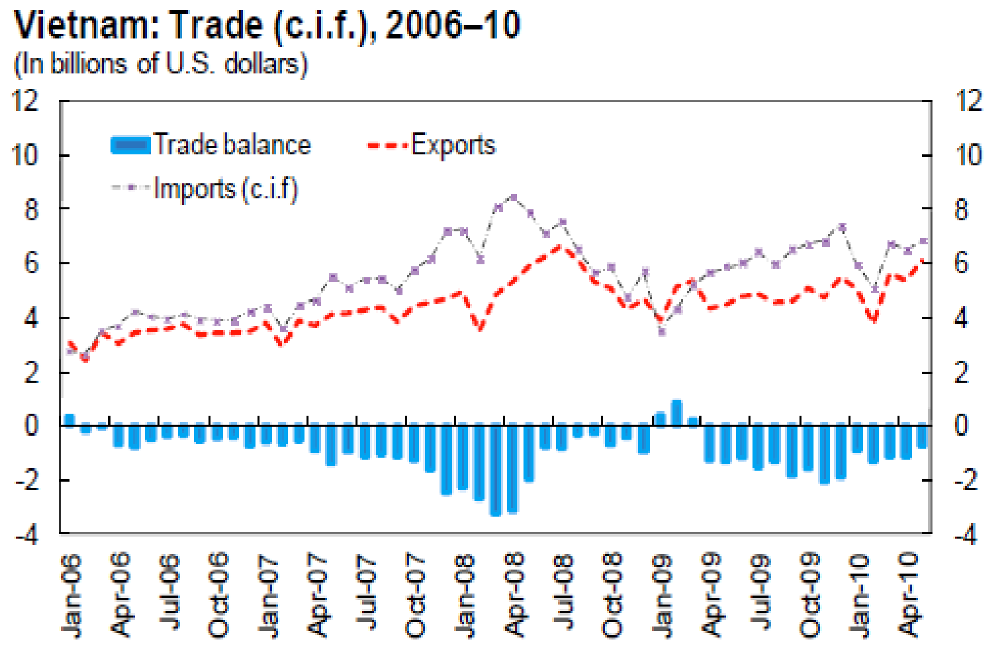
The Mini Crisis of 2008

Foreign capital inflows, financing a surge in public investment spending, were seen to be a great boon to the economy, until spring 2008, when…..

- there was an outbreak of double digit (30%) inflation
- a dramatic increase in the trade deficit (30% of GDP)

Then foreign carry-trade investors in the government debt market reversed exchange rate expectations and tried to liquidate holdings



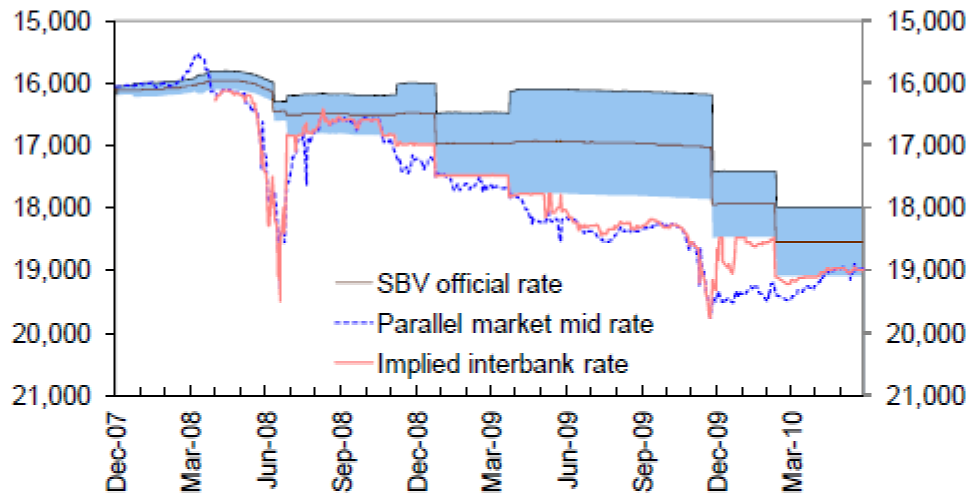


The Mini Crisis of 2008

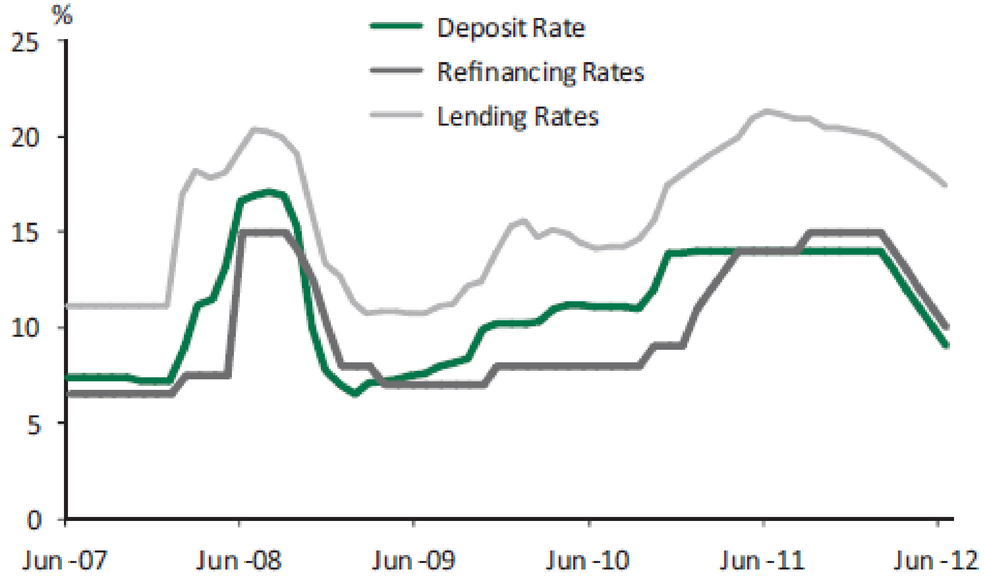
The reversal of investor expectations led to a run on the currency, the exchange rate (dong/$) increased 25 % over a few weeks

To control devaluation, the SBV began selling foreign reserves, which reinforced expectations of devaluation.

The fall in foreign reserves led to monetary contraction and higher interest rates, which slowed growth.
(FR↓ => M↓ => R↑ => g↓)



Sources: State Bank of Vietnam; and Reuters.
1/ An upward movement indicates an appreciation.



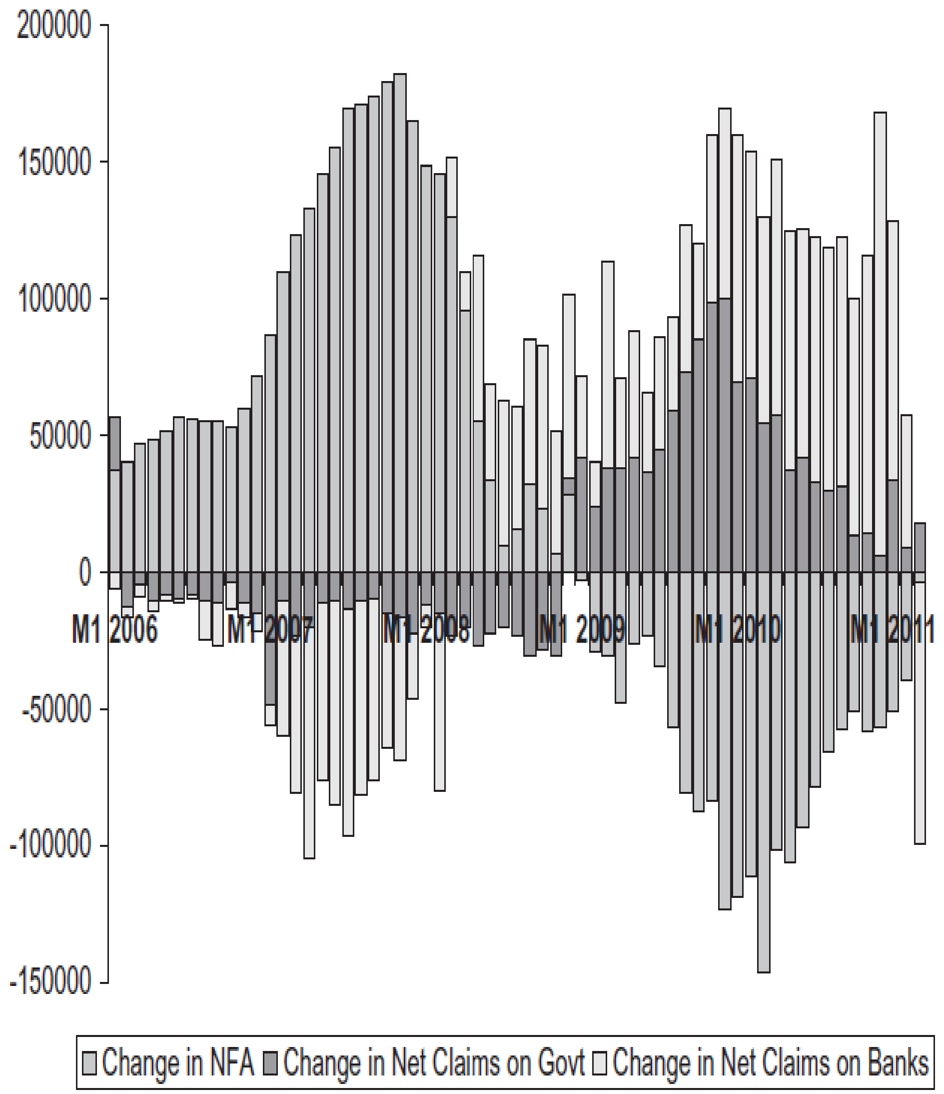
Source: SBV, Dragon Capital

The relation between foreign capital inflows/outflows and inflation.

In 2007 and early 2008, to avoid appreciation, the SBV bought large amounts of the foreign exchange flooding into the banking sector, which it held as foreign reserves (increasing base money). Sterilization was ineffective.

After May 2008, the SBV sold reserves to control devaluation. The monetary effects of the sell off of reserves were sterilized by SBV loans to commercial bank and increases is in the reserve requirement ratio.

Change (YOY) in base money and its components (VND billions)



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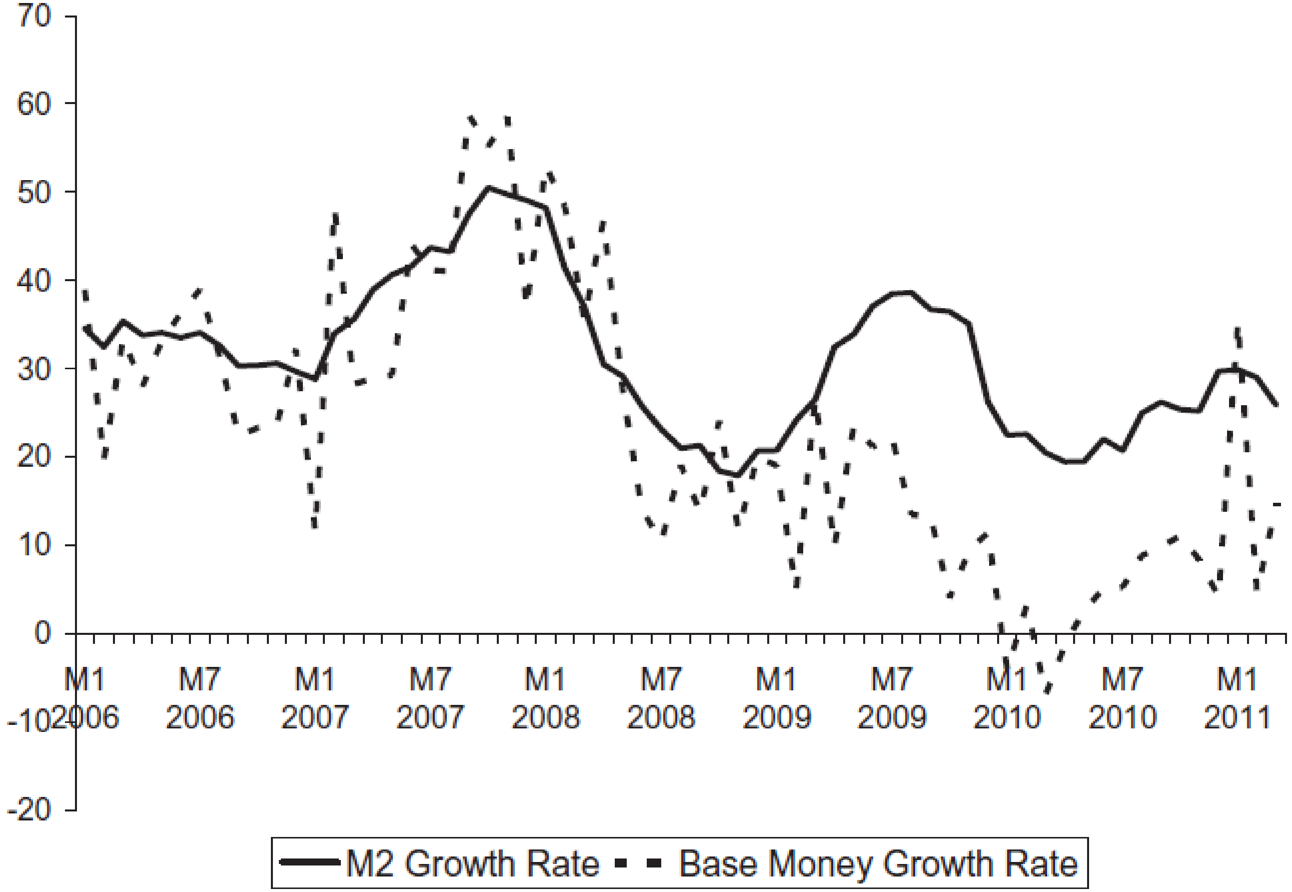
The relation between base money and M2.

The relationship was close until early 2009 when the SBV lowered the reserve requirement on commercial bank deposits in order to stimulate the economy.

Rate of growth of base money and M2: January 2006 through October 2010 (%)



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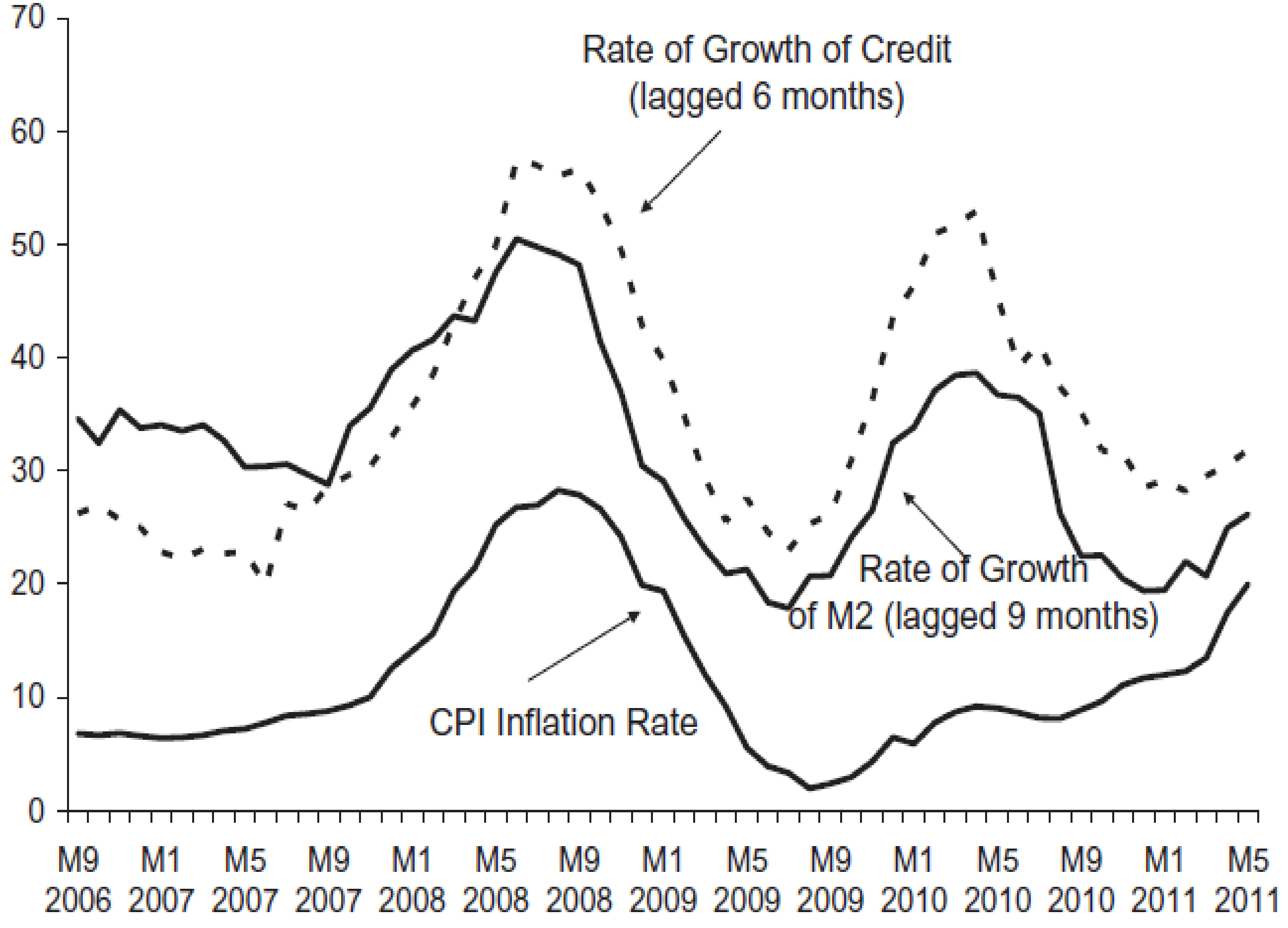
The relation between money growth and inflation

As everywhere else, inflation in Vietnam is a monetary phenomenon.

Monthly (YOY) money and credit growth rates (lagged) and the CPI inflation rate



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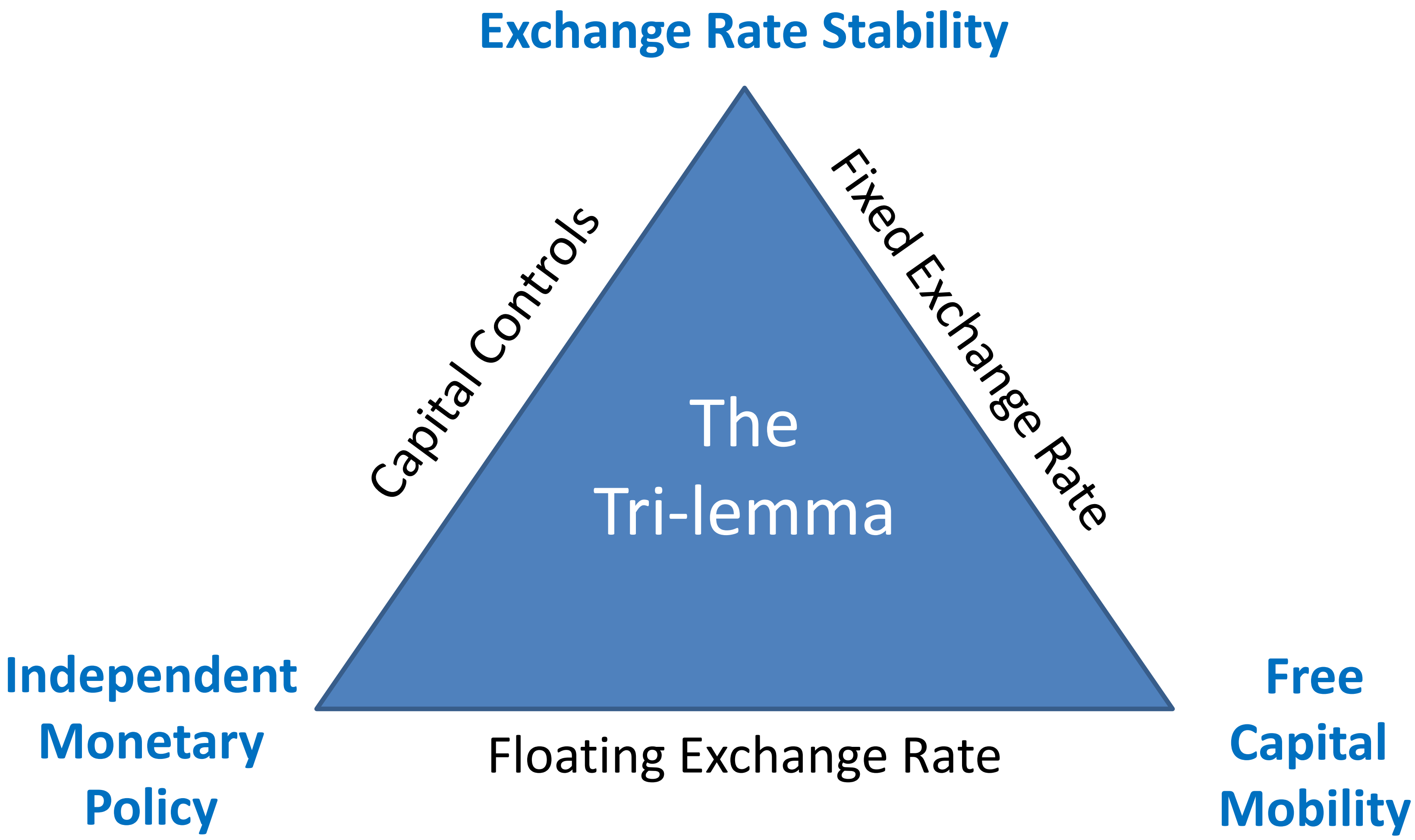
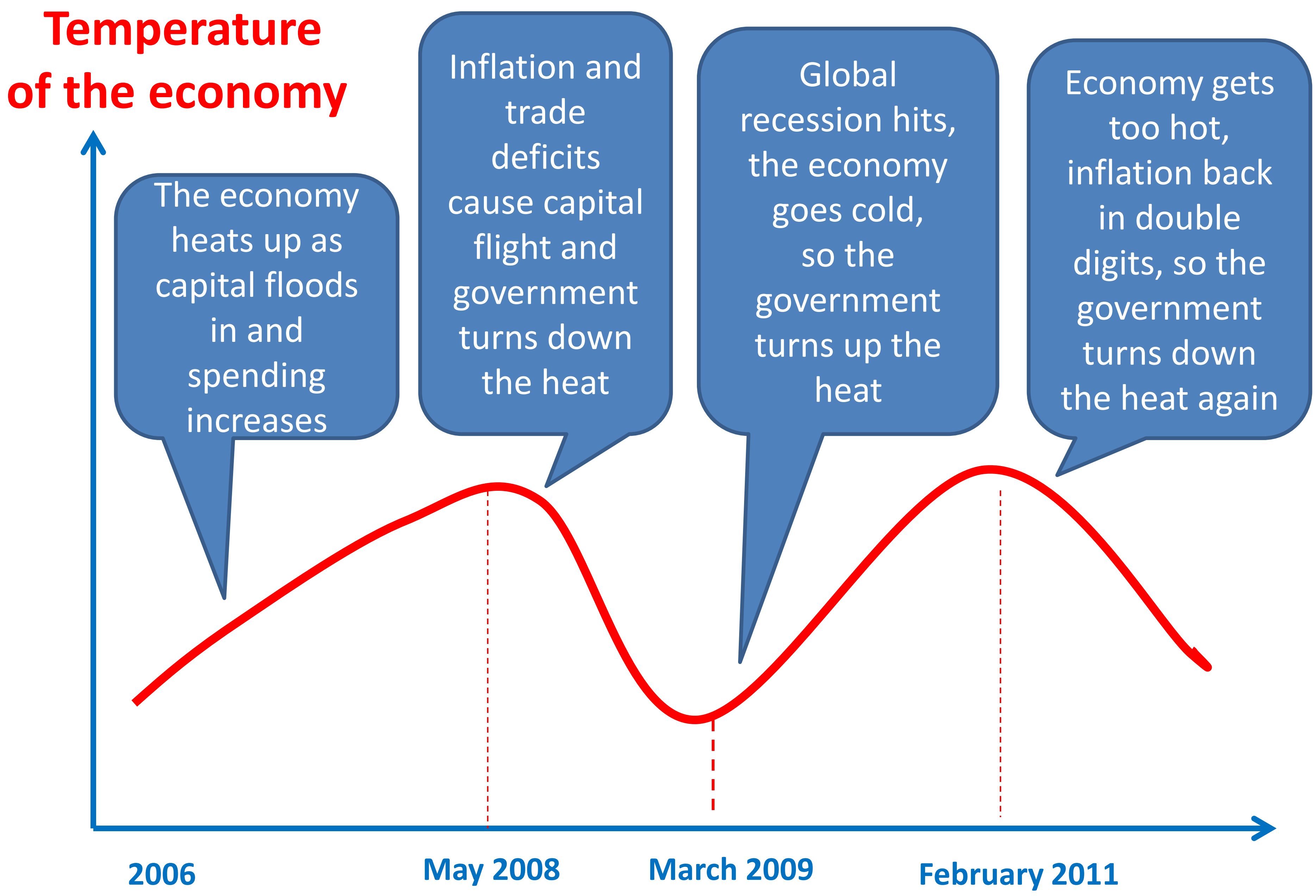
The mini crisis of 2008 exposed a contradiction between a monetary policy that targets the exchange rate and a monetary policy that targets low inflation. The SBV cannot target both, but it tries!



Should Vietnam float the exchange rate?
Impose more restrictions on capital flows?



Temperature of the economy
The economy heats up as capital floods in and spending increases
Inflation and trade deficits cause capital flight and government turns down the heat
Global recession hits, the economy goes cold, so the government turns up the heat
Economy gets too hot, inflation back in double digits, so the government turns down the heat again
2006
May 2008
March 2009
February 2011

What are the lessons learned from Vietnam's experience about macro stability and growth?

<u>Quiz</u>

1. Does the stability growth trade-off operate in Vietnam? If not why not?
2. What do the different outcomes of crisis management in the period 1989-1994 and 2008-2013 teach us about macro stabilization policy?
3. Was Vietnam's mini-crisis (2008) a 1^{st}, 2^{nd}, or 3^{rd} generation crisis?
4. What does VN's experience suggest regarding the "crisis as an inducement for reform" hypothesis?
5. What does historical experience suggest is best way for Vietnam to get back to high growth and low inflation?
6. What would be your policy recommendations?

Macroeconomic