Monetary Policy for long term growth and price stability

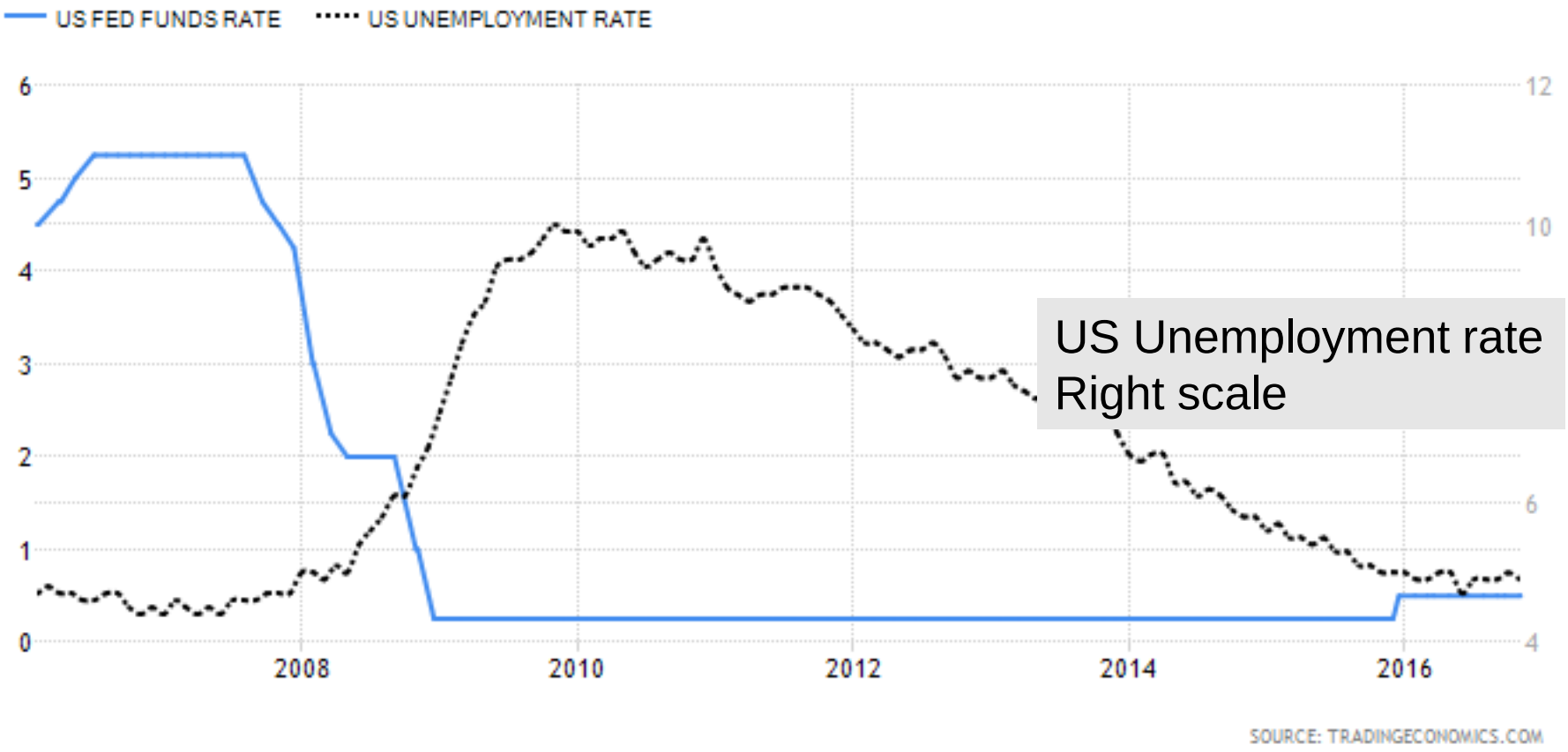
Bhanupong

Lecture 24

Outline

- Quantitative Easing and impacts on Thailand
- The BoT Key policy rate
- Long run relationship: output and monetary aggregate
- Credit to GDP and a risk of financial crisis
- Inflation target strategy
- Asset price bubbles and monetary policy

The Federal Reserve left the target range for its federal funds rate unchanged at 0.25 percent to 0.5 percent for the seventh time during its November 2016 meeting, saying the labor market has continued to strengthen and growth of economic activity has picked up. Policymakers also added that the case for an increase in the federal funds rate has continued to strengthen.



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IMPACTS OF QUANTITATIVE MONETARY EASING POLICY IN THE UNITED STATES AND JAPAN ON THE THAI ECONOMY

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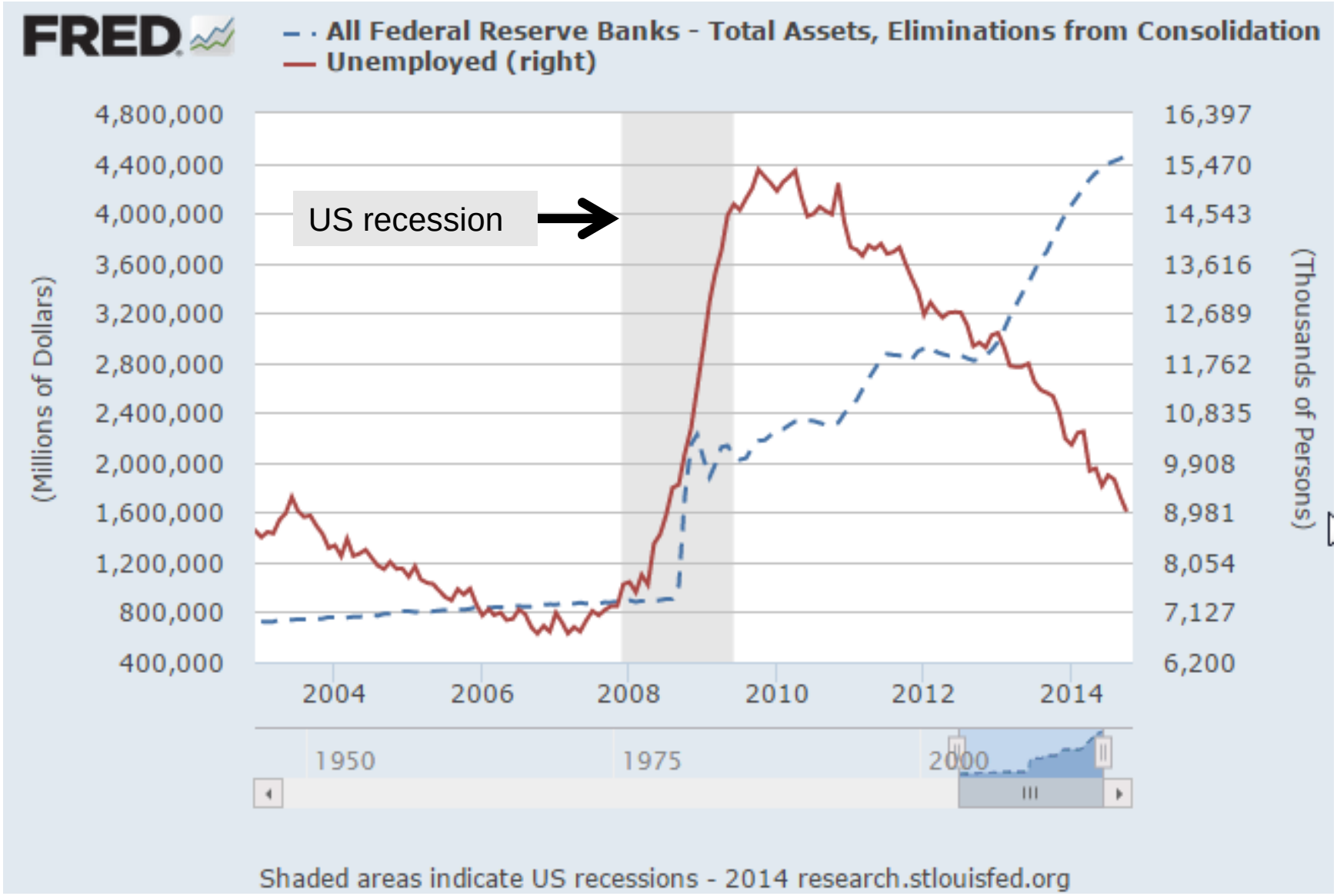
This paper compares and contrasts the impact of quantitative easing (QE) monetary policy conducted by the Federal Reserve Bank and the Bank of Japan on the Thai economy. The impact of the first round of QE policy is related to Thailand's export market exposures, trade, and financial linkages with the United States and Japan. In the short run, QE has either an expansionary or contractionary effect on Thailand's output depending on whether the baht depreciates or appreciates against the US dollar and the Japanese yen. In the long run, when QE stimulates world output expansion, Thailand's manufactured output and exports respond positively to world economic recovery. In the medium run, the impact of QE is related to the appreciation of the Chinese yuan and the slowing of the Chinese economy, which further depresses Thailand's exports and prolongs Thailand's output recovery.

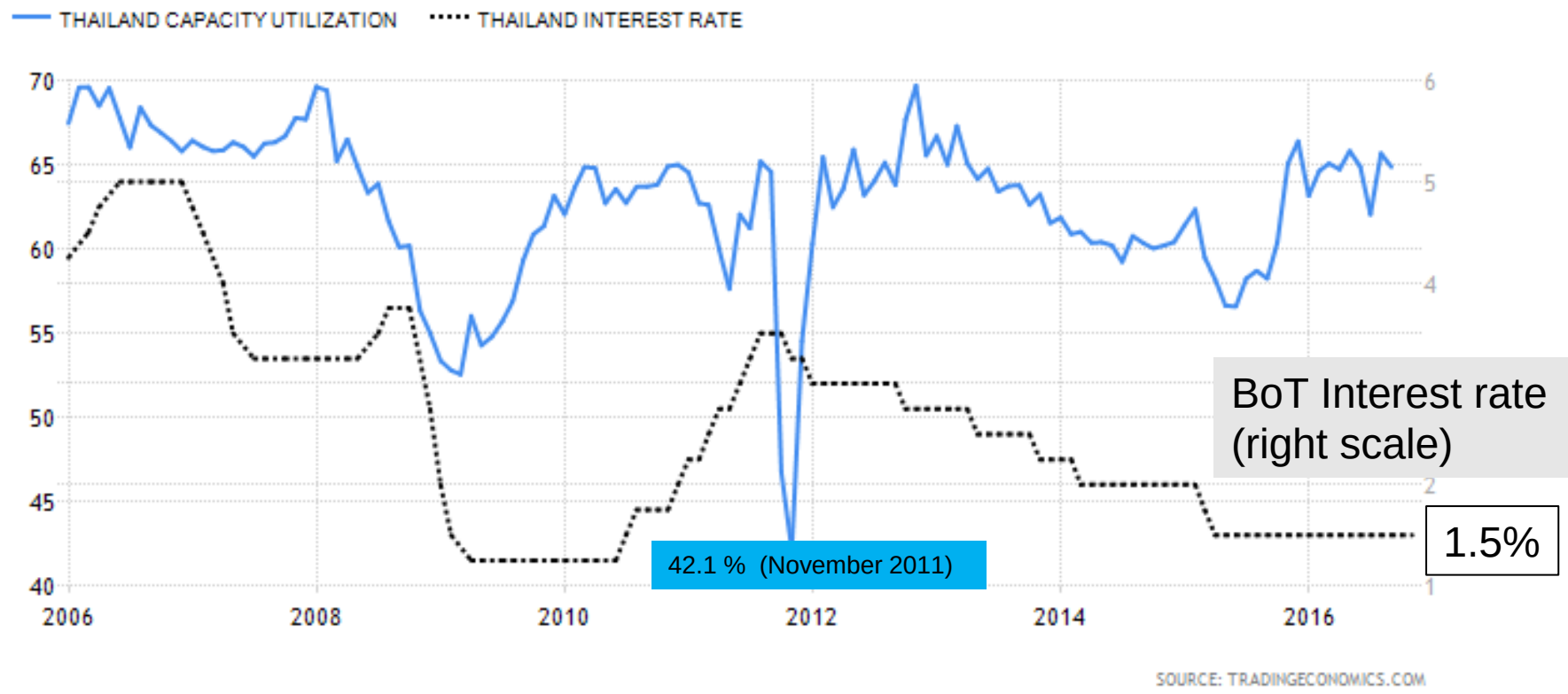
Keywords: Quantitative easing; Monetary policy; Emerging economies; Thai economy
JEL classification: E40, E58

Impact of the FED's quantitative easing



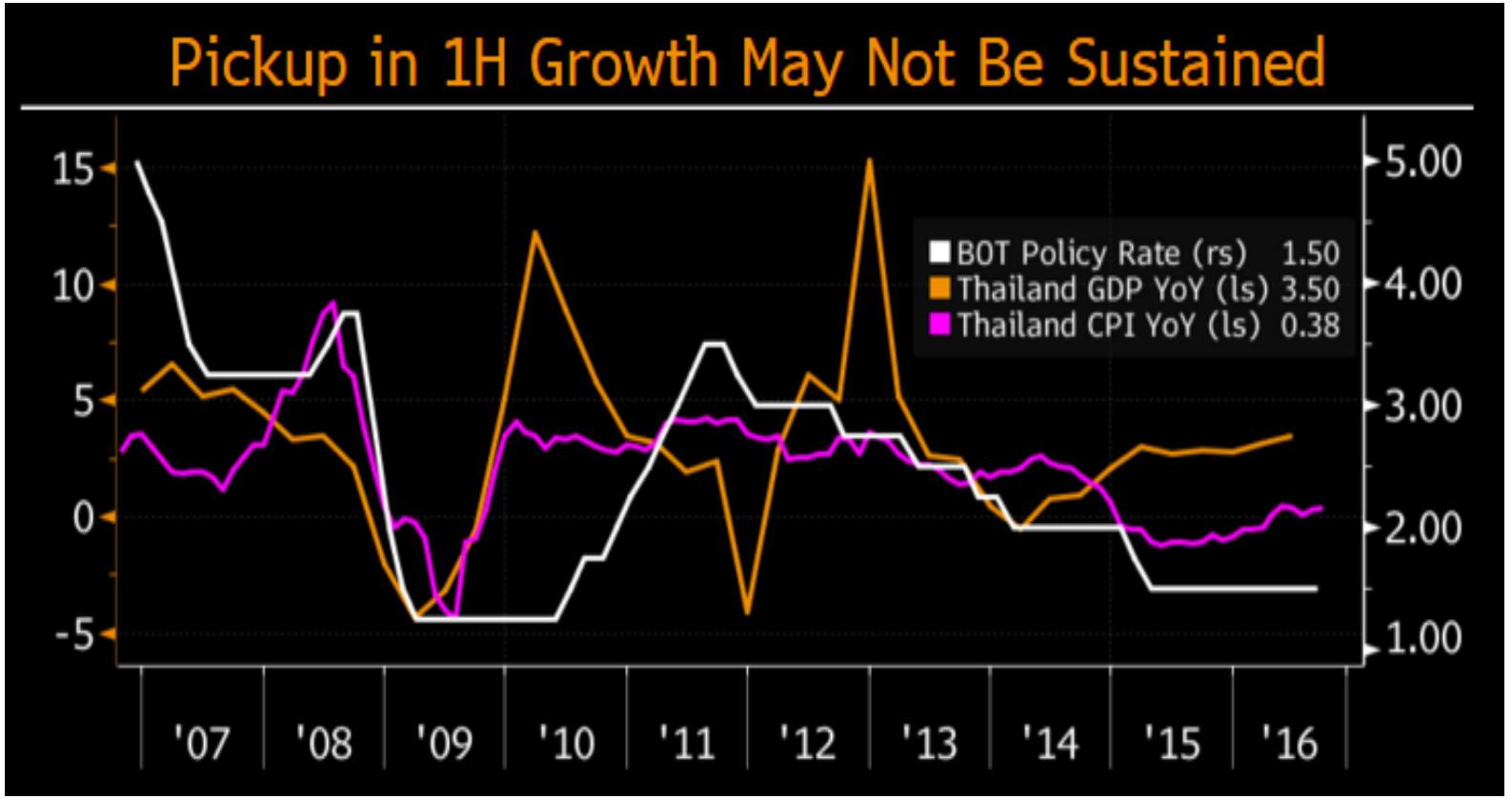
Thailand Capacity Utilization (left scale) decreased to 64.89 Index Points in September from 65.70 Index Points in August of 2016.

Capacity Utilization in Thailand averaged 62.91 Index Points from 2000 until 2016, reaching an all time high of 70.09 Index Points in December of 2004 and a record low of 42.11 Index Points in November of 2011.



Source: Tradingeconomics.com

The Bank of Thailand has left its policy rate unchanged at 1.5% since April 2015. A pickup in growth in 1H 2016 allowed the central bank to sidestep mounting external risks over the course of the year.



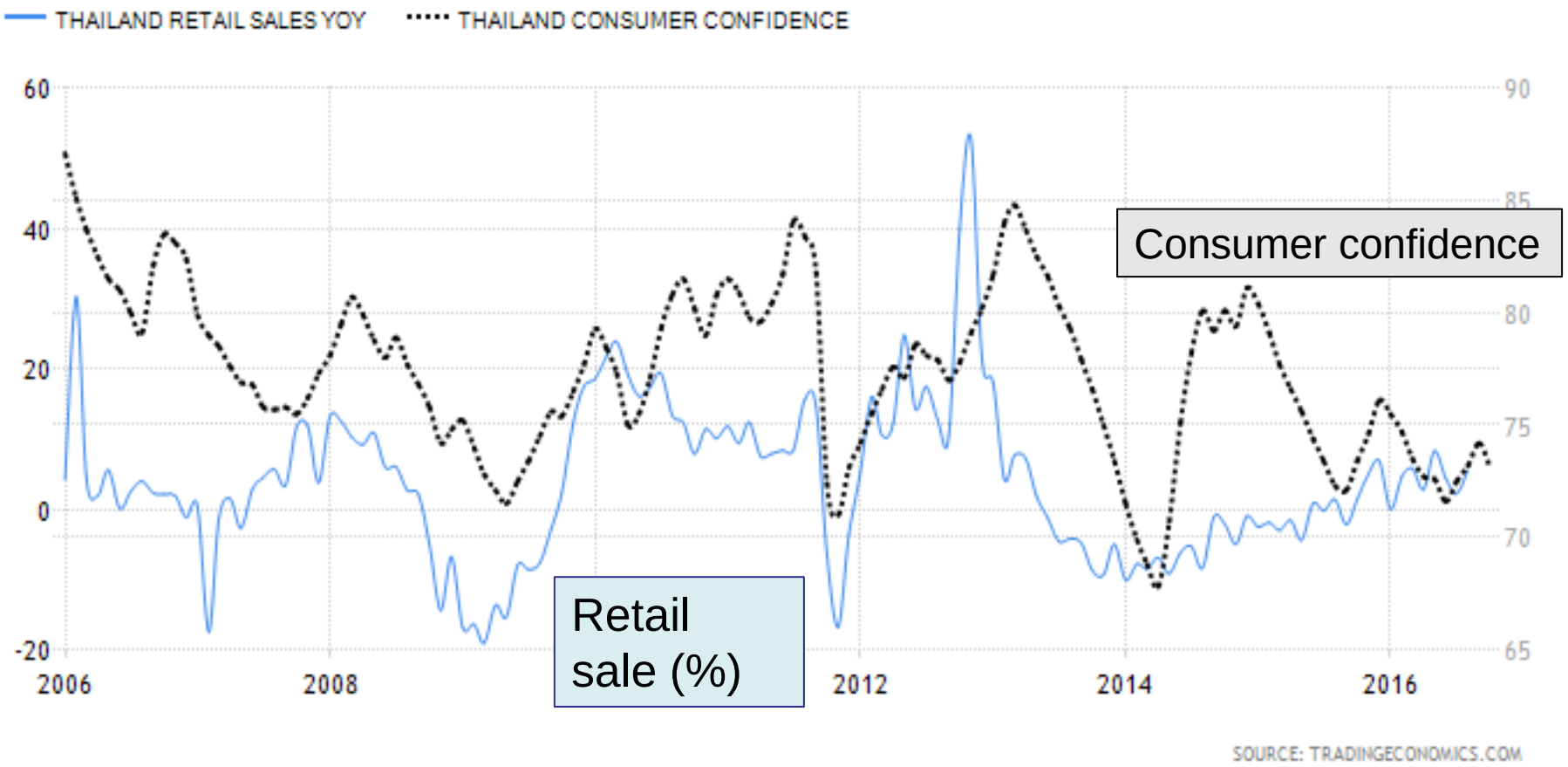
BoT hold off the rate cut

- Now, domestic risks are rising as well. Household spending, investment and exports may be even weaker in 2017 than the BOT previously envisioned.
- While recent events increase the odds of a rate cut, the central bank may be inclined to hold off until some risks show signs of materializing.
- Since June, the BOT has signaled a preference for preserving policy space. Baht weakness could also delay a move.

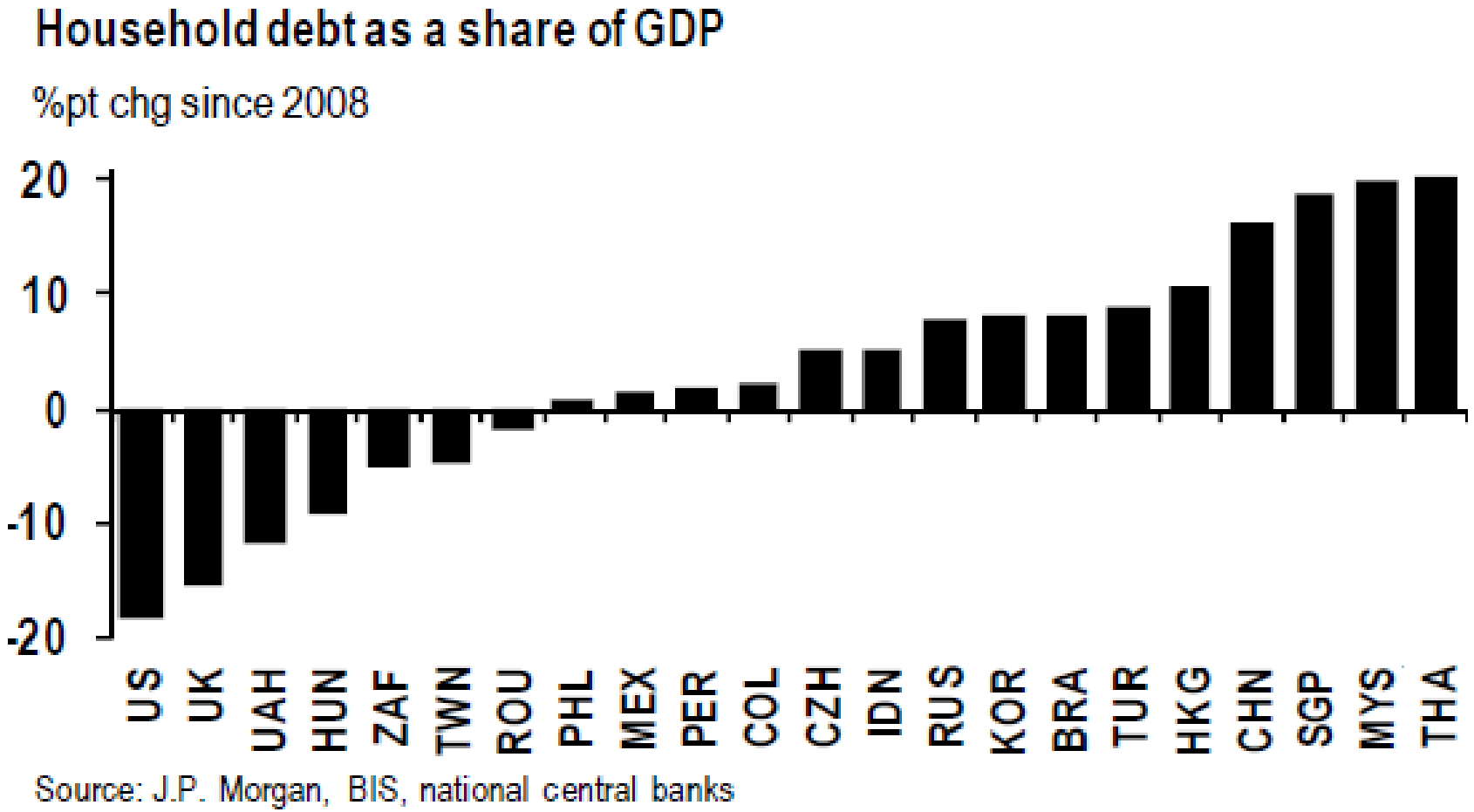
Business Confidence in Thailand decreased to 49.20 in October from 50.30 in September of 2016.

Business Confidence in Thailand averaged 47.82 from 1999 until 2016, reaching an all time high of 55.70 in March of 2010 and a record low of 34.40 in November of 2008.

Retail sales (YoY, right scale) and Consumer Confidence (left scale)



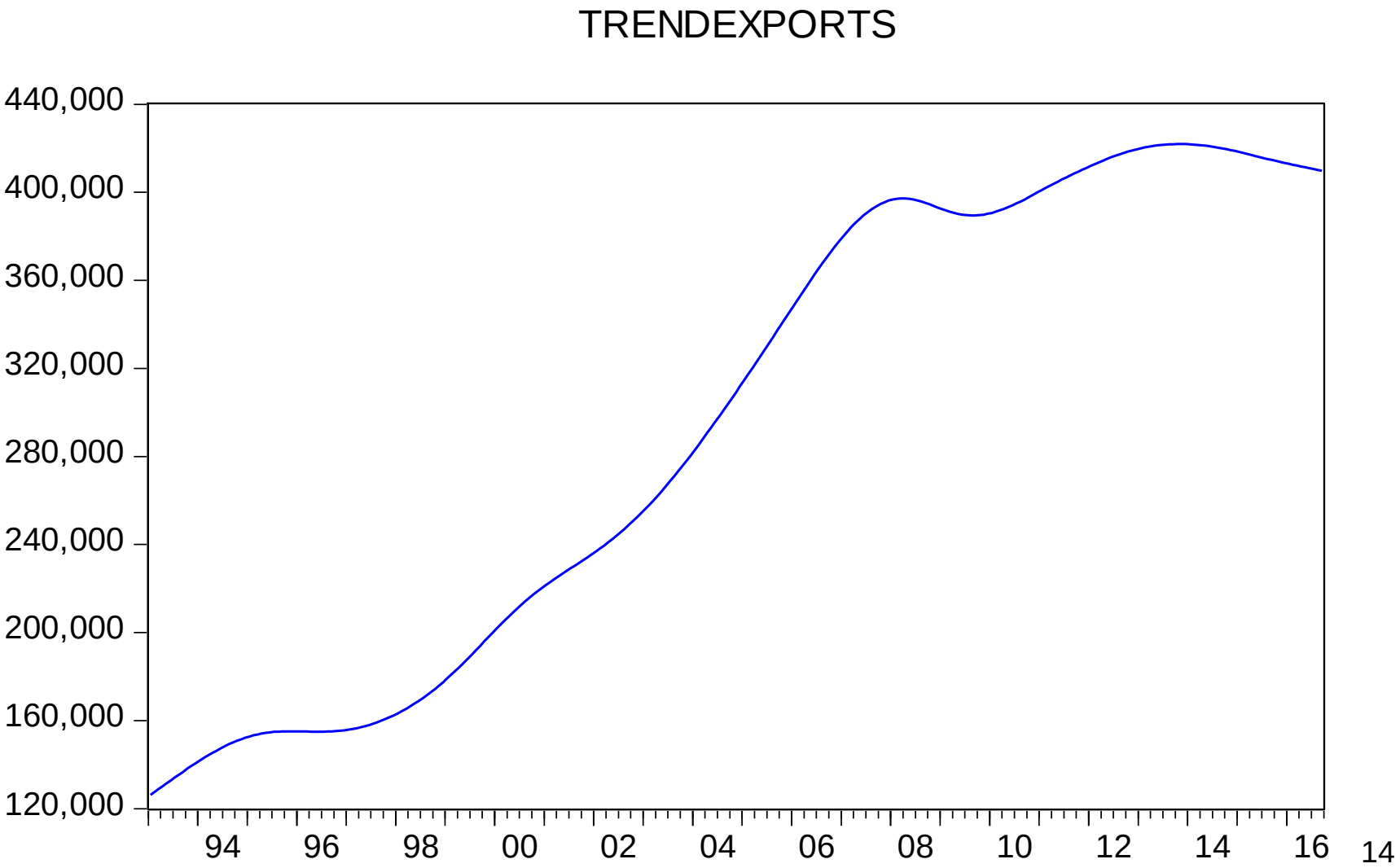
Given the size of the debts accumulated by consumers since the GFC crisis in 2008, the path of recovery is likely to be arduous, long and uneven.



Tepid global demand

- Thailand's merchandise exports will likely remain hampered by tepid global demand in 2017.
- A government clampdown on zero-dollar tours and bombing incidents in tourist areas in August may damp exports of services.
- The BOT expects export growth to slow to 1% in 2017 from 1.7% in 2016.
- Less favorable base effects for oil prices may increase import values.
- Petroleum accounts for about 20% of Thai imports. The BOT forecasts imports will grow 2.2% in 2017, compared with a 2.7% drop in 2016.

Thai net exports face stronger headwinds in 2017



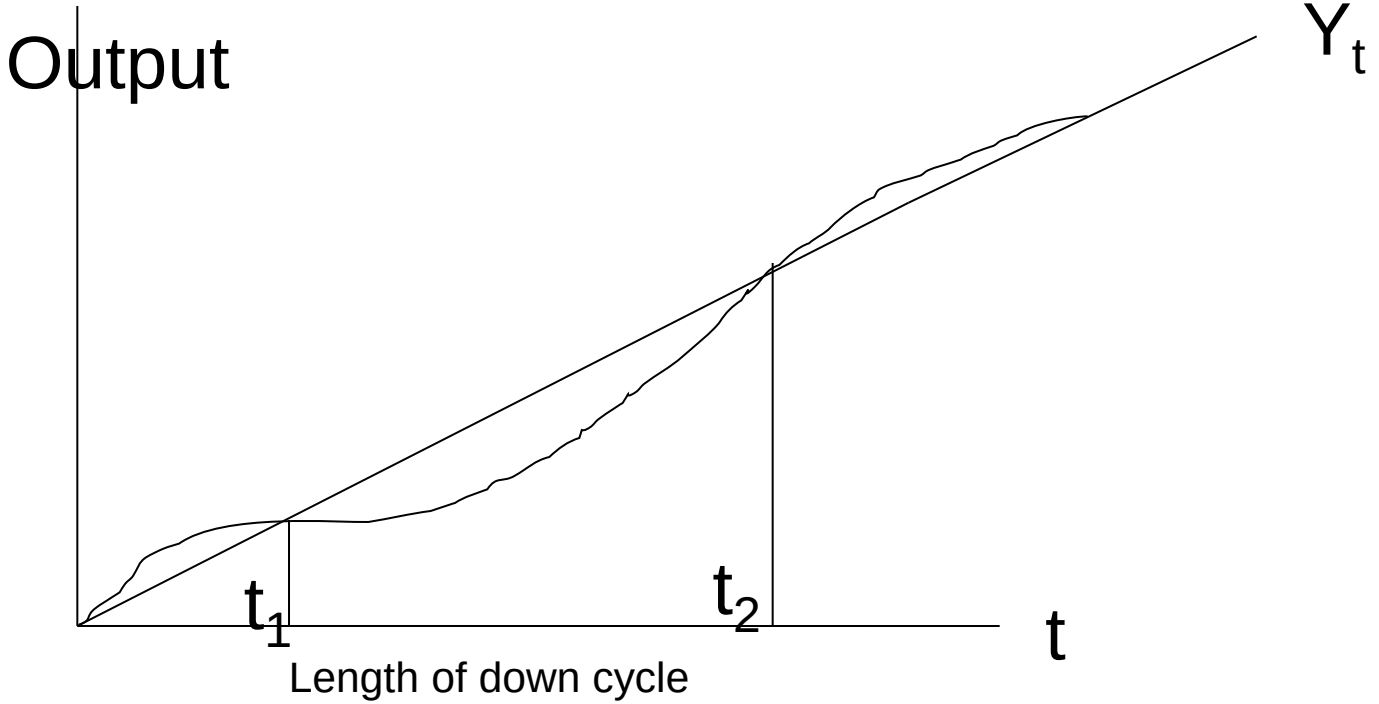
The importance of monetary aggregates

- What are monetary aggregates?
- There is a long-run relationship between output and monetary aggregates.
- Expansion of monetary base is caused by capital inflows, intervention in the foreign exchange market (NFA), and domestic credit expansion by the central bank to the government (CoG) and financial institutions (CoF).
- To maintain a stable growth path**, monetary base** must be kept in line with output growth

Shocks cause deviations from the long-term growth path

- Long-run output path is dictated by productive capacity (technological innovation) of the economy.
- Monetary aggregates must increase at the rate corresponding to the trend growth rate of real output.
- Credit booms and busts lead to deviations of output from its long-term growth path.

In a mild cycle, output fluctuates around its long-term growth path ($Y_t = Y_0 e^{gt}$)



Monetary policy can shorten the duration and The amplitudes of the deviations

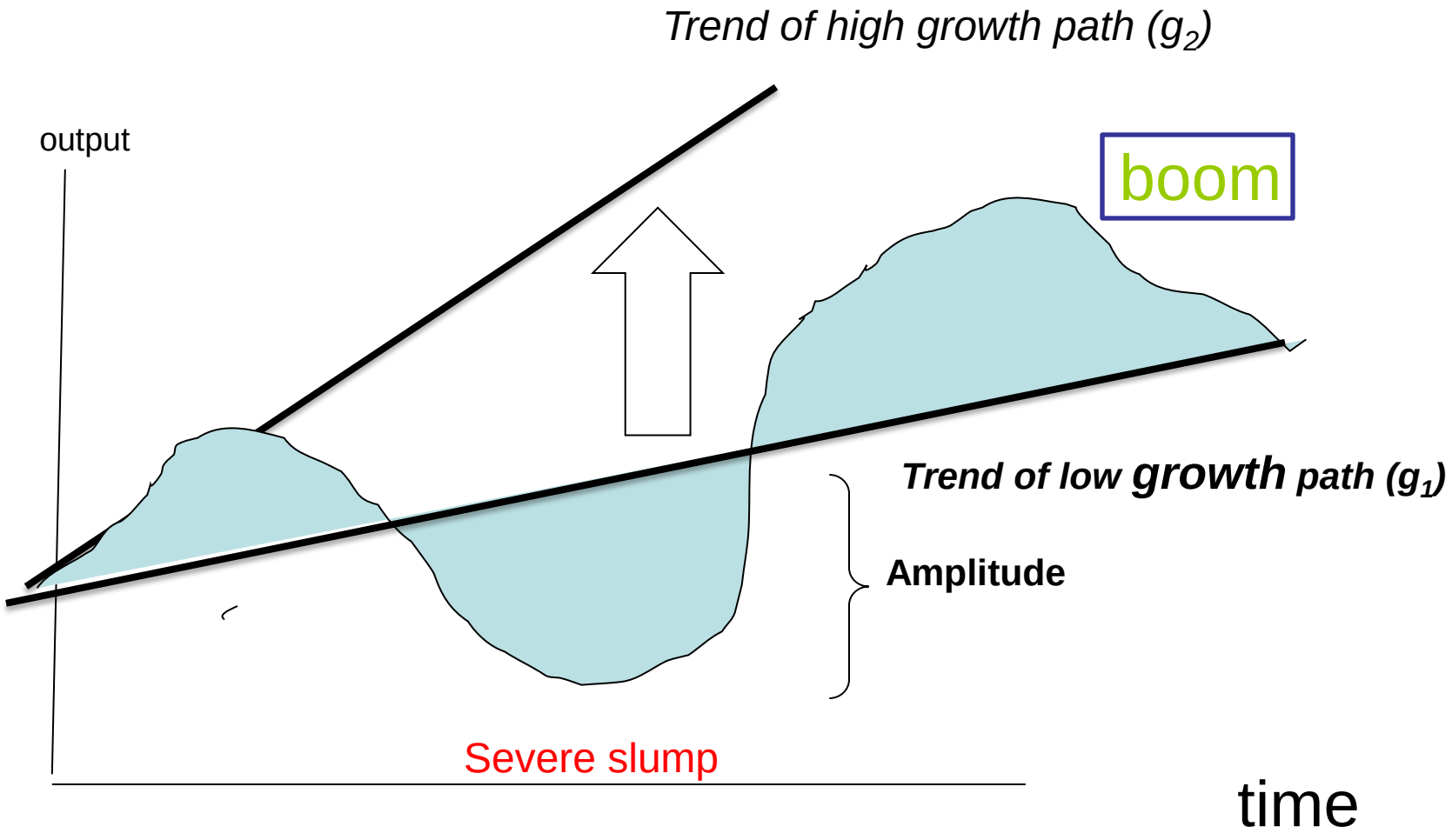
Cyclical Excess: Booms and Busts

- In a mild cycle, output growth oscillates around its rising trend: there is no system-wide financial crisis.
- Economic booms and busts can be attributed to excessive expansion and contraction of monetary aggregates (money supply, credit, monetary base).

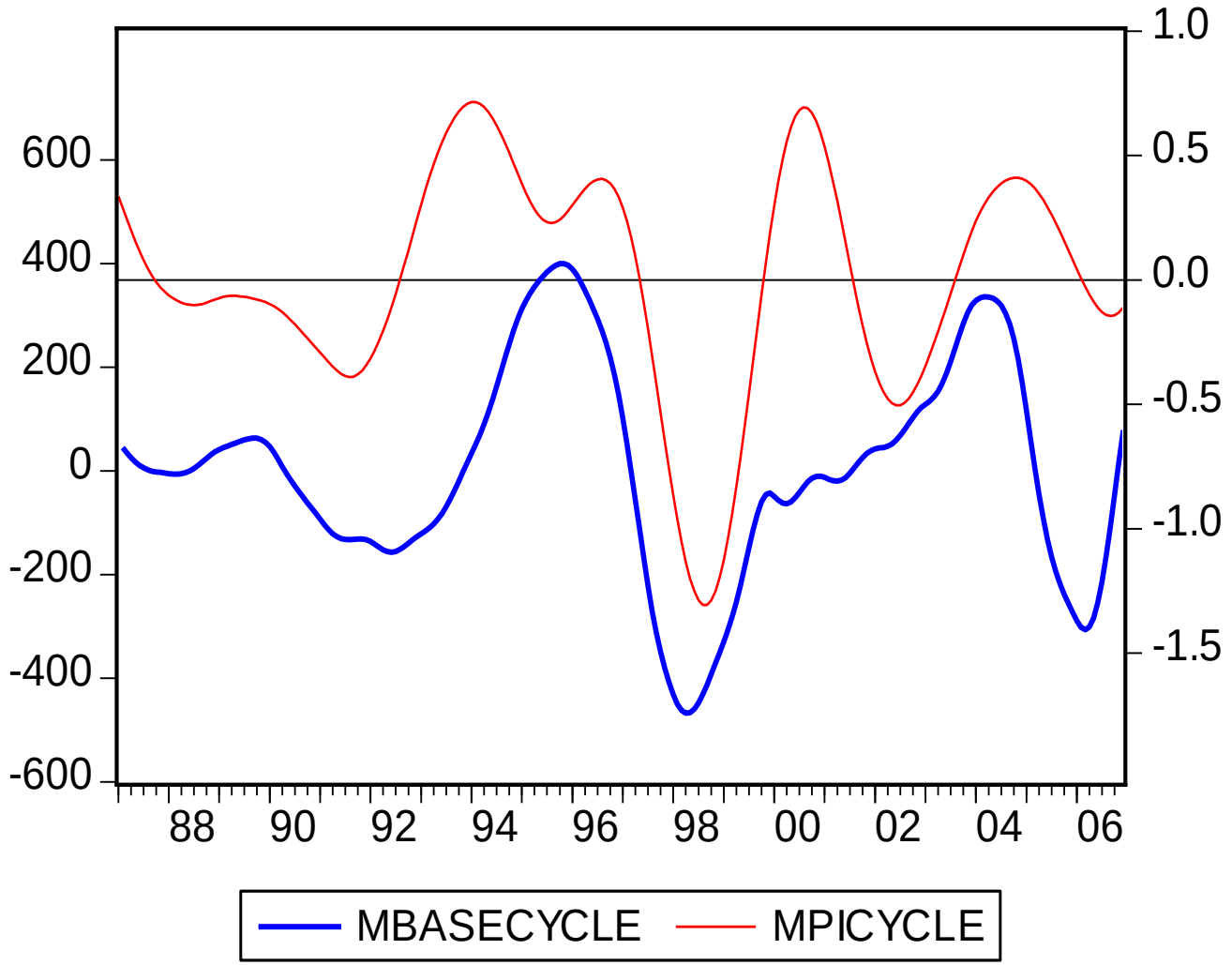
Severe cycles

- In **deep and severe** cycles, the soundness of the whole financial system is threatened.
- In this situation, we are dealing simultaneously with financial crisis and depression.
- Excessive growth of money supply and its sharp reduction lead to wild fluctuations in business cycle.

Severe Business Cycles



Monetary and output cycles
Deviations from trend growth paths



Output responses to credit cycles

- When the monetary base grew excessively over its long-term trend, output growth would expand at the rate faster than its normal growth rate.
- When the monetary base contracted below its normal growth path, the economy experienced a downturn.

From peaks to troughs of economic cycles

- The peaks of monetary growth were associated with the peaks in manufacturing output.
- Similarly, the deepest contraction in output synchronized with the trough in the monetary cycle.
- Monetary base changes have a strong impact of output fluctuations.
- Cyclical movements in the monetary base and credit growth rate can be used ***to predict the cyclical movement in industrial output.***

Policy Implications

- Both monetary and output cycles are related.
- The causations run both ways.
- Shocks in the monetary sector can be transmitted into the real sector and vice versa.
- The implication for stabilization policy is that monetary authority should avoid large swings in monetary aggregate.

Cost of credit

- Monetary policy instrument is effective in changing the cost of capital.
- Whether the interest rate can exert an immediate impact on the real economy depends on the ***responsiveness of consumption and investment*** to the user cost of capital.
- That responsiveness depends mainly on the business confidence.
- The business confidence index falls below 50 benchmark indicates deterioration of the confidence

Credit availability channel

- It is not just the cost, but also the availability of credit.
- It is possible that the quantity of credit or credit availability is also vital to investment and durable consumption.
- But credit booms often end badly – and China is in the grip of a major one.

IMF Study: Credit to GDP and risk of a financial crisis

- It is impossible to know the “appropriate” level of credit to GDP.
- This ratio depends on the diversity of the financial system (how bank-centric) and the maturity of its banks, which itself is dependent on such factors as the domestic regulatory environment, culture, and so forth.
- It is easier to make judgments about the growth of credit.
- Rapid increases in credit tend to be a telltale sign of deteriorating loan quality.

High credit-to-GDP Ratio, greater risk of a financial crisis

- IMF researchers have found that increases in the credit to GDP ratio in excess of 5%-pts in one year were associated with a heightened risk of a financial crisis.
- In Emerging Market aggregate, the credit ratio has increased about 25%-pts since 2008, or 4%-pts per annum for six years straight.
- Importantly, the metric ***only*** reflects bank loans, but n**on-bank lending** also has been strong in some countries.

Emerging Markets (EM) Asia Credit Exposure

- EM Asia credit exposure stands out, in terms both of the level and the expansion in the ratio of credit to GDP.
- China is central to the regional position but the country has company in Singapore, Hong Kong, Thailand, and Malaysia.
- (Note that social finance in China, which also includes non-bank credit, stands close to 200% of GDP.)

The trigger of the crisis: Fed's normalizing interest policy

- It is not clear how the buildup in EM private leverage will end, or what its repercussions might be.
- One likely trigger is Fed tightening.
- History suggests a rise in US interest rates will pressure the emerging economies, draining portfolio flows and weakening currencies.

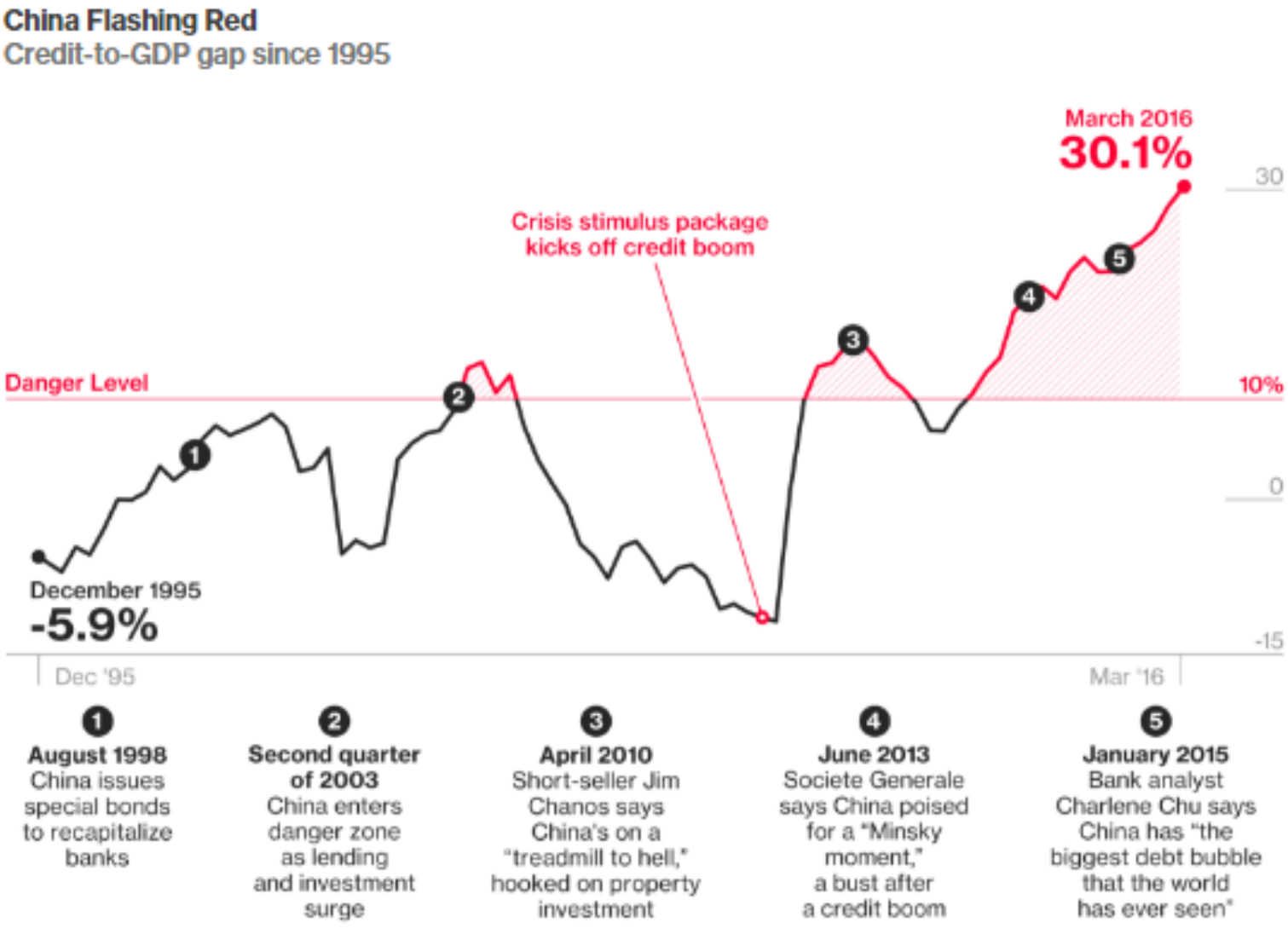
Rising debt service

- Domestic interest rates are likely to rise, especially in the more stressed countries where monetary authorities are compelled to tighten policy.
- To the extent that EM debt is short-term or floating, these rate increases will boost debt service.
- The likely increase in defaults and bankruptcies will signal banks to curtail lending more aggressively

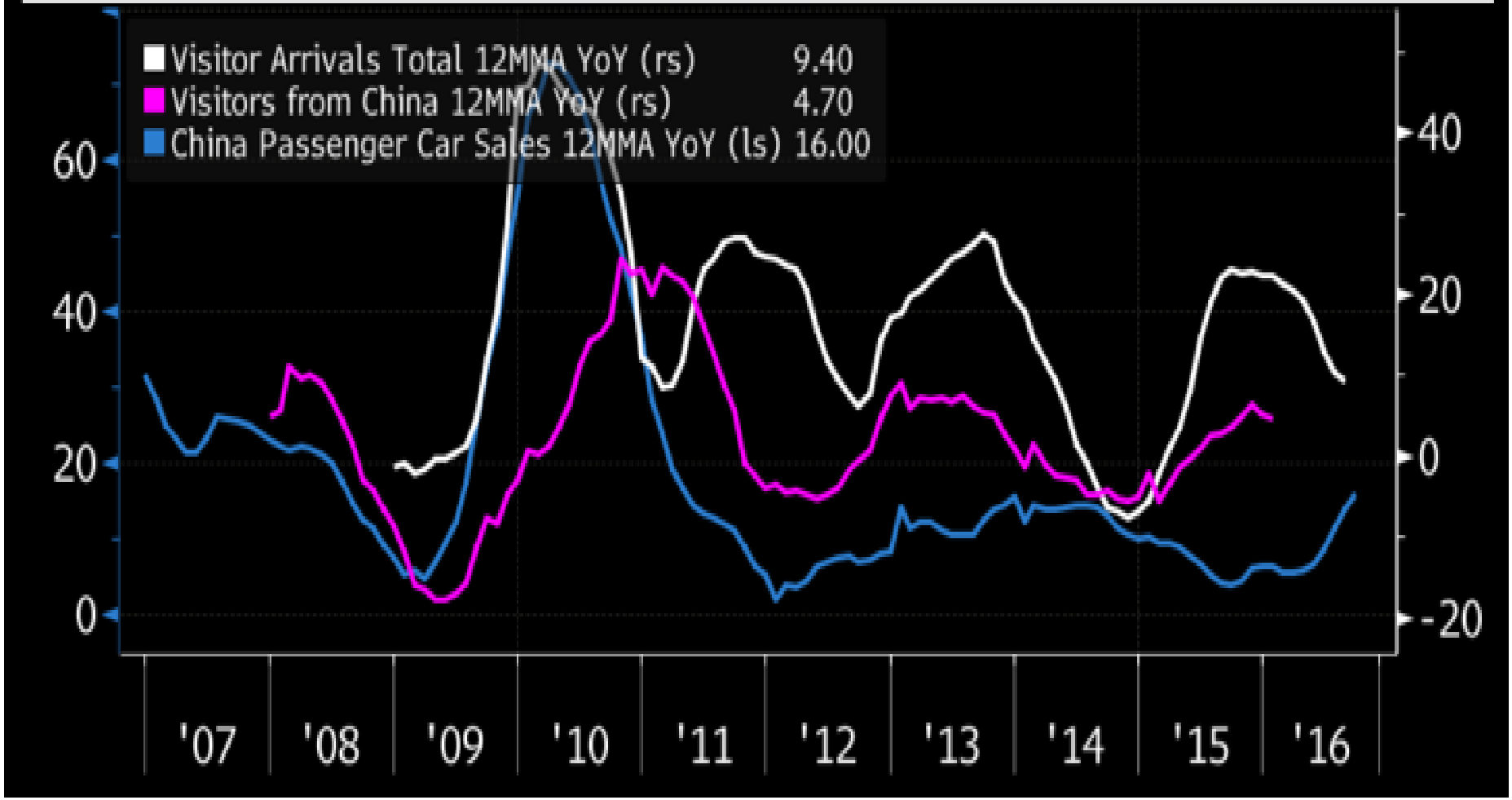
A vicious circle

- This process could become a vicious circle, feeding back on economic activity.
- Recall the two-way causations between monetary aggregates and output
- Some of this debt has been pushed out in duration and some has been issued in local currency, both of which will limit stress.
- The slowing of credit expansion and ultimate deleveraging (reduce borrowing) that has yet to begin poses a threat at a time when EM growth already has downshifted significantly.

Credit booms often end badly – and China is in the grip of a major one



China's Consumers May Prefer Cars to Thai Holidays

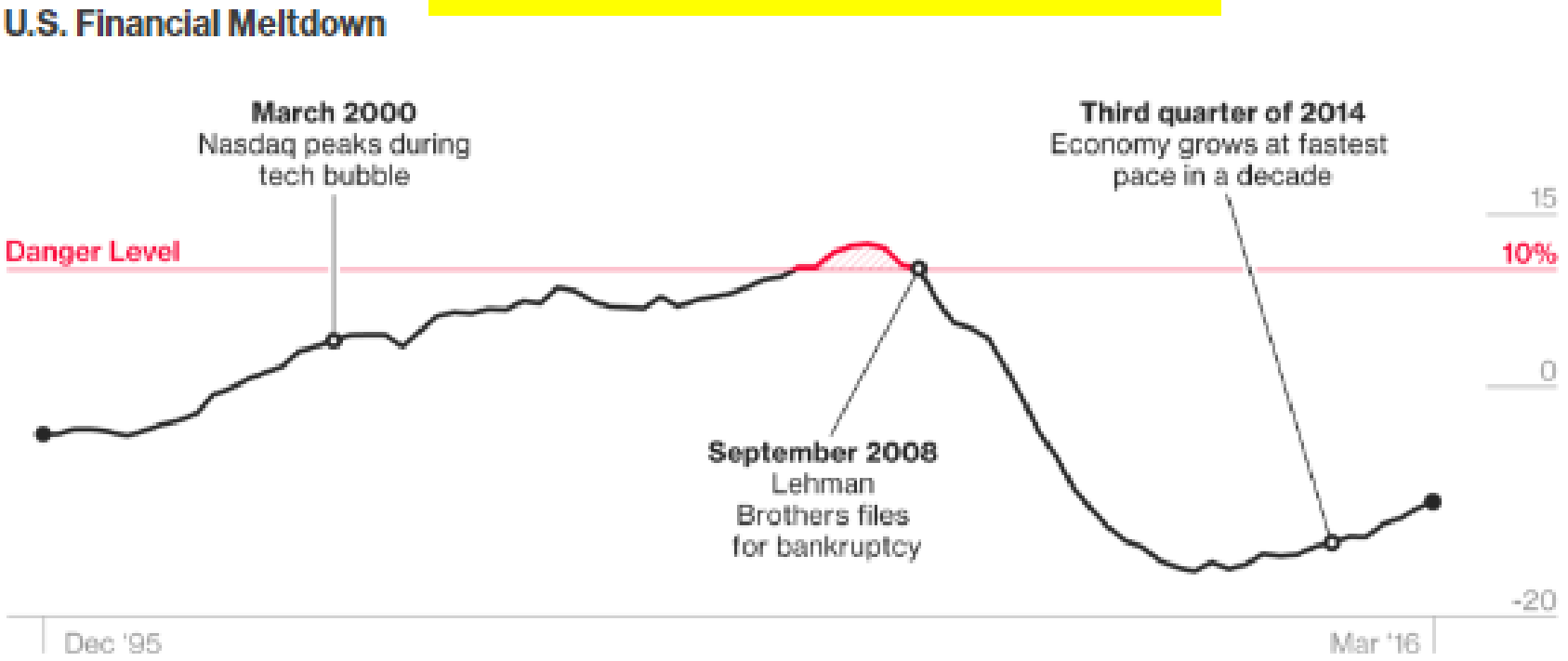


Brutally expensive

- With much slower growth, China is going to find its growing debt mountain much more difficult to handle.
- As renowned Chinese economy expert Michael Pettis says, much slower growth means that "those bad habits have become brutally expensive.“

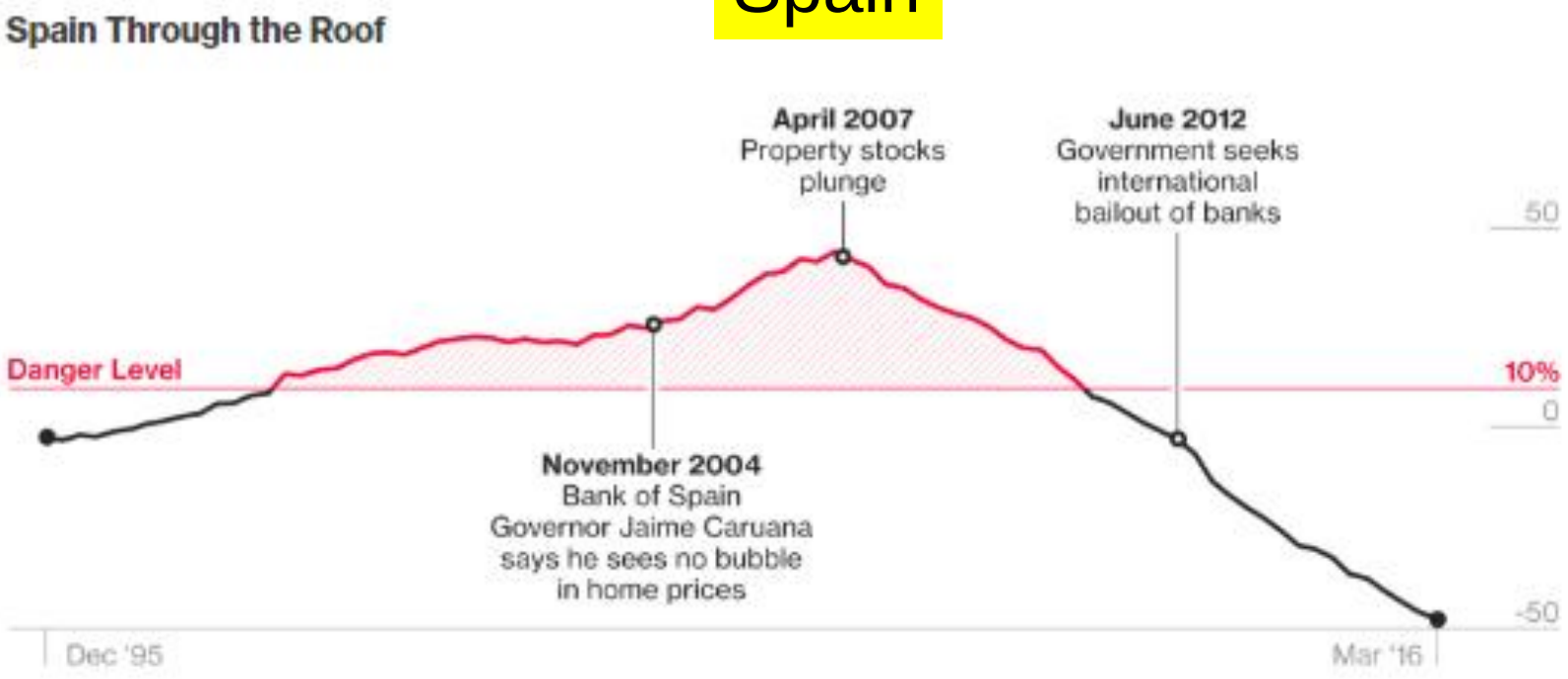
Nordic and Japanese crises in the late 1980s and early 1990s followed blow-outs and, likewise, the data flashed red for the U.S. during that country's boom, which morphed into the global financial crisis

U.S. Financial Meltdown



One problem is ***that the warnings can come so early***.
In the case of Spain, a nation ultimately undone by property bubbles, the gauge started flashing red in 1999 but the crisis didn't begin to unfold until nearly a decade later.

Spain



Australia's Missing Crisis

Sometimes it never comes. Australia entered the danger zone in late 2004 and stayed there until 2008 – but dodged a meltdown. Academics and economists still debate the reasons, which may have included the quality of lending and some policy moves to shore up financial stability.

Australia's Missing Crisis

Money and economic activity

- Broad money which includes physical currency, some sorts of deposits in banks, and some sorts of very liquid securities — has slowed to the point at which it is actually slower than that of the US.
- Growth in money supply is definitely not perfect, but it provides a rough measure of economic activity in the medium term, so acceleration in the US money supply would generally be a good signal, and the slump in China is a very bad thing.

Inflation Targeting in theory

- An independent central bank is a requirement for successful inflation targeting.
- Inflationary expectations can be reduced since credibility of monetary policy is enhanced by both institutional and instrumental independence of the central bank.
- As more countries have abandoned fixed exchange rates, they desperately need a nominal anchor for the price level.

Taylor rule and inflation target π^*

i = Nominal interest rate: key policy rate

$$i_t = \rho + \pi_{t-1} + \phi_1(\pi_{t-1} - \pi^*) + \phi_2(y_t - y^p)$$

ρ = the natural real rate of interest (constant)

y^p = potential output

Φ = a positive reaction parameter

Caveat on inflation targeting

- For countries that are highly dependent on external trade, inflation targeting is akin to targeting the exchange rate.
- Adopting inflation targeting implies a commitment to no other nominal targets.
- When there is no close and stable relationship between the short-run monetary instruments and long-tern interest rates (under developed bond market), a policy rule like the Taylor's rule may not produce a desirable outcome.
- In particular, if monetary policy has a long and variable lag effects.

Flexible inflation targeting

- We are now entering an episode of a slowdown in growth.
- Growth depends less on consumption and investment.
- Fiscal policy has become less effective in stimulating growth.

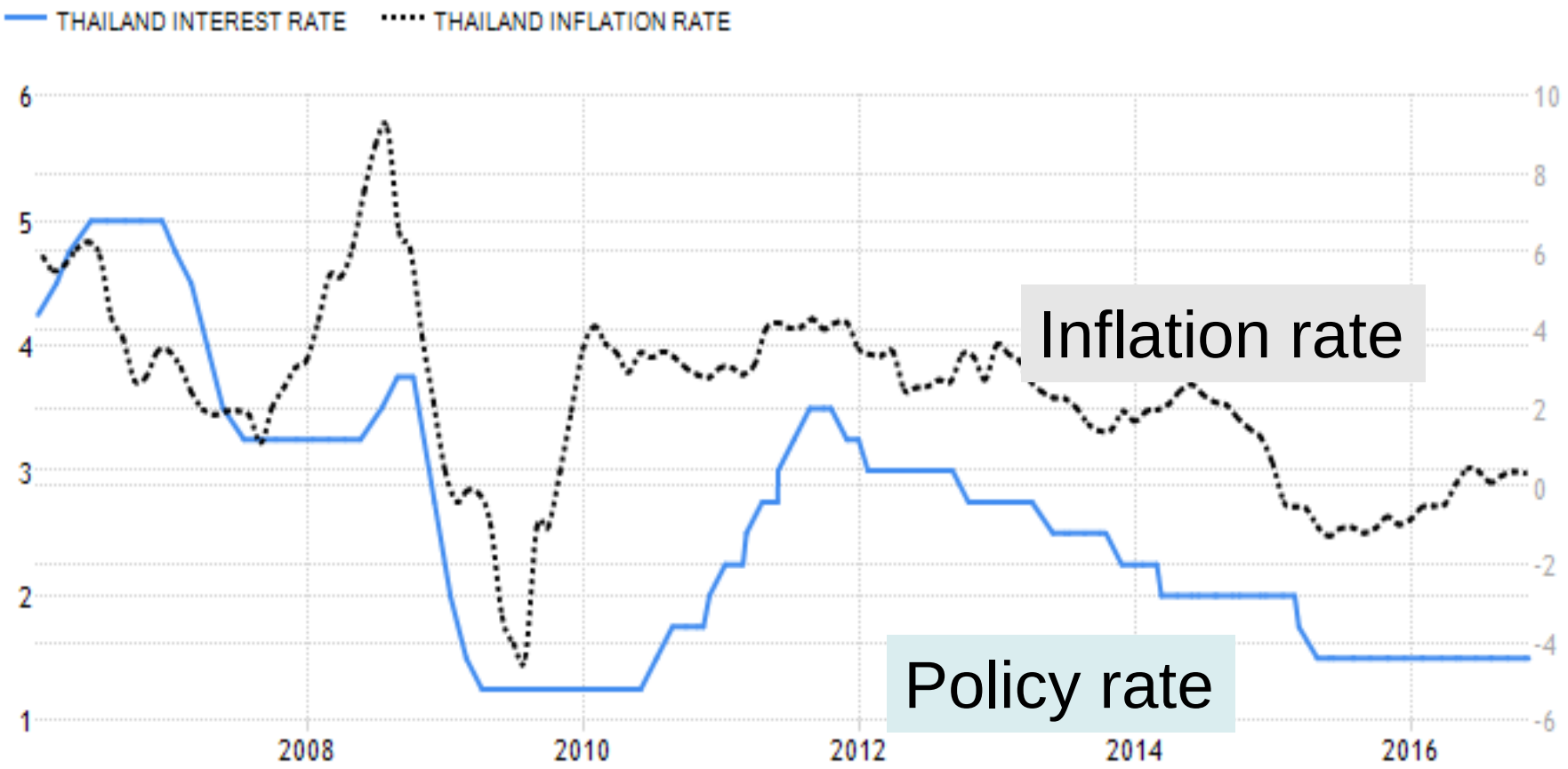
BoT Key Policy Rate

- The Bank of Thailand left its benchmark interest rate unchanged at 1.5 percent on November 9th, as widely expected.
- Policymakers said the economy remained on a recovery path with uncertainties stemming from political developments in the US and Europe.
- At the same time, concerns over the European and Chinese financial sectors continued to warrant close monitoring.

BoT Key Policy Rate

- Monetary conditions in 2016 have remained accommodative and conducive to the economic recovery.
- BoT interest Rate in Thailand averaged 2.32 percent from 2000 until 2016, reaching an all time high of 5 percent in June of 2006 and a record low of 1.25 percent in June of 2003.
- "Inflation was expected to increase but might return to the target later than expected due to supply-side factors.

BoT key policy rate (left scale)
CPI inflation (right scale)



The BOT uses the one-day bilateral repurchase transaction rate to signal its monetary stance. Decisions are made by a seven-member MPC currently led by the BoT Governor, whose five-year term began on Oct. 1, 2015.

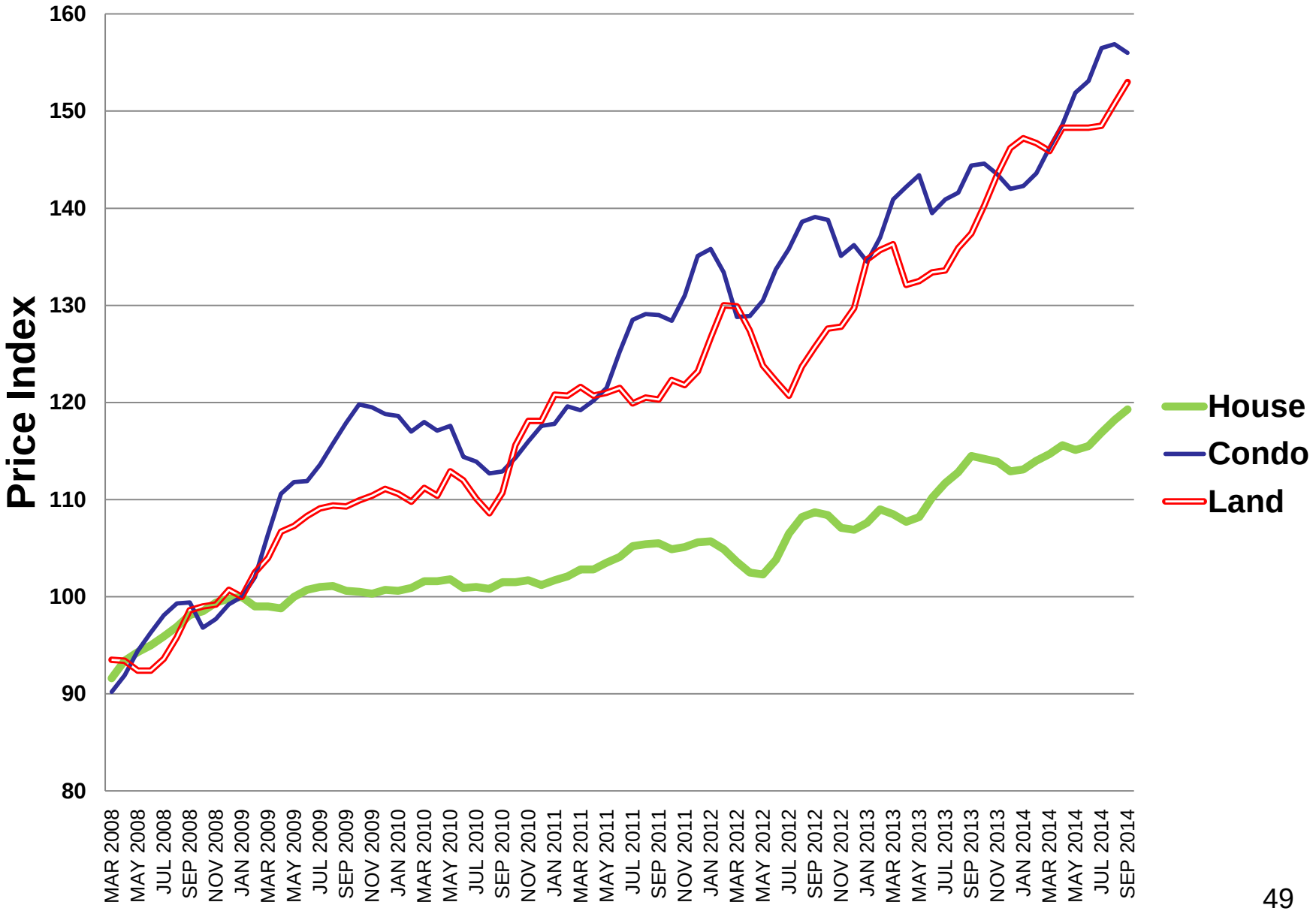
Flexible Inflation Target (FIT)

- Many central banks have adopted FIT
- FRB in 2012 (2% target)
- BOJ announced 2% target in Jan 2013
- But FIT has problems
- Financial stability and prevention of asset bubbles may override FIT
- Under zero interest rate policy, QE may not be effective to achieve FIT

Flexible inflation targeting strategy

- The central bank key interest rates responds to inflation ***and*** real exchange rate changes.
- There had been an attempt to prevent the appreciation of the real effective exchange rates
- Wrong target? CPI vs. House Prices?

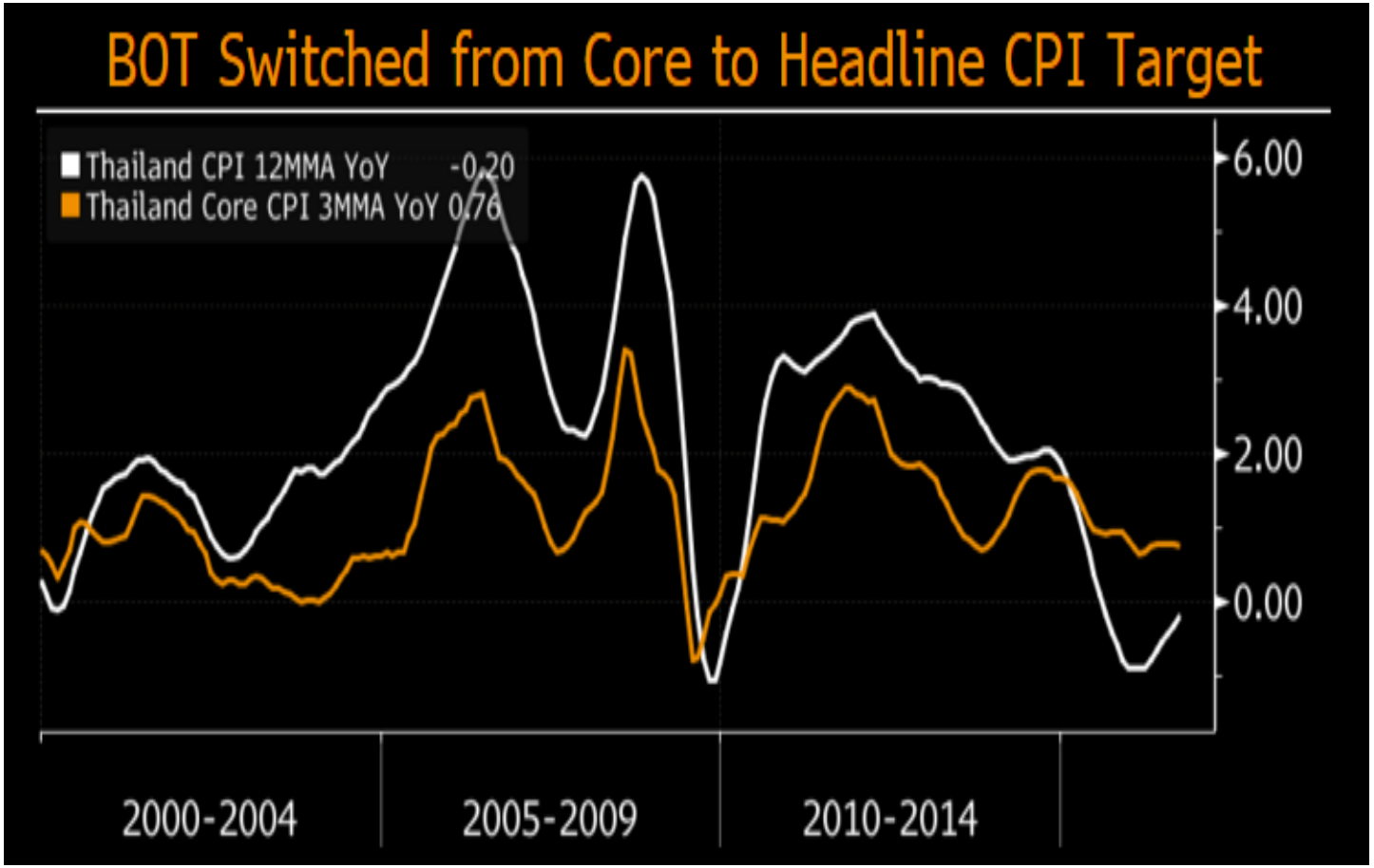
House and land prices



BoT's Flexible Inflation Target

- The Bank of Thailand has a flexible inflation target framework, paying attention to economic growth and financial stability.
- Since 2015, the objective has been annual average ***headline inflation*** of 2.5% +/- 1.5 ppt.
- The goal was previously defined as quarterly average core inflation in the range of 0.5-3% (2009-2014) and 0.0-3.5% (2000-2008).
- Each year the target for the following period is set by the Monetary Policy Committee with agreement from the Minister of Finance and approval by the Cabinet.

Since 2015, Headline inflation target was set at between 2.5 % and -0.5%



0.0% - 3.5%

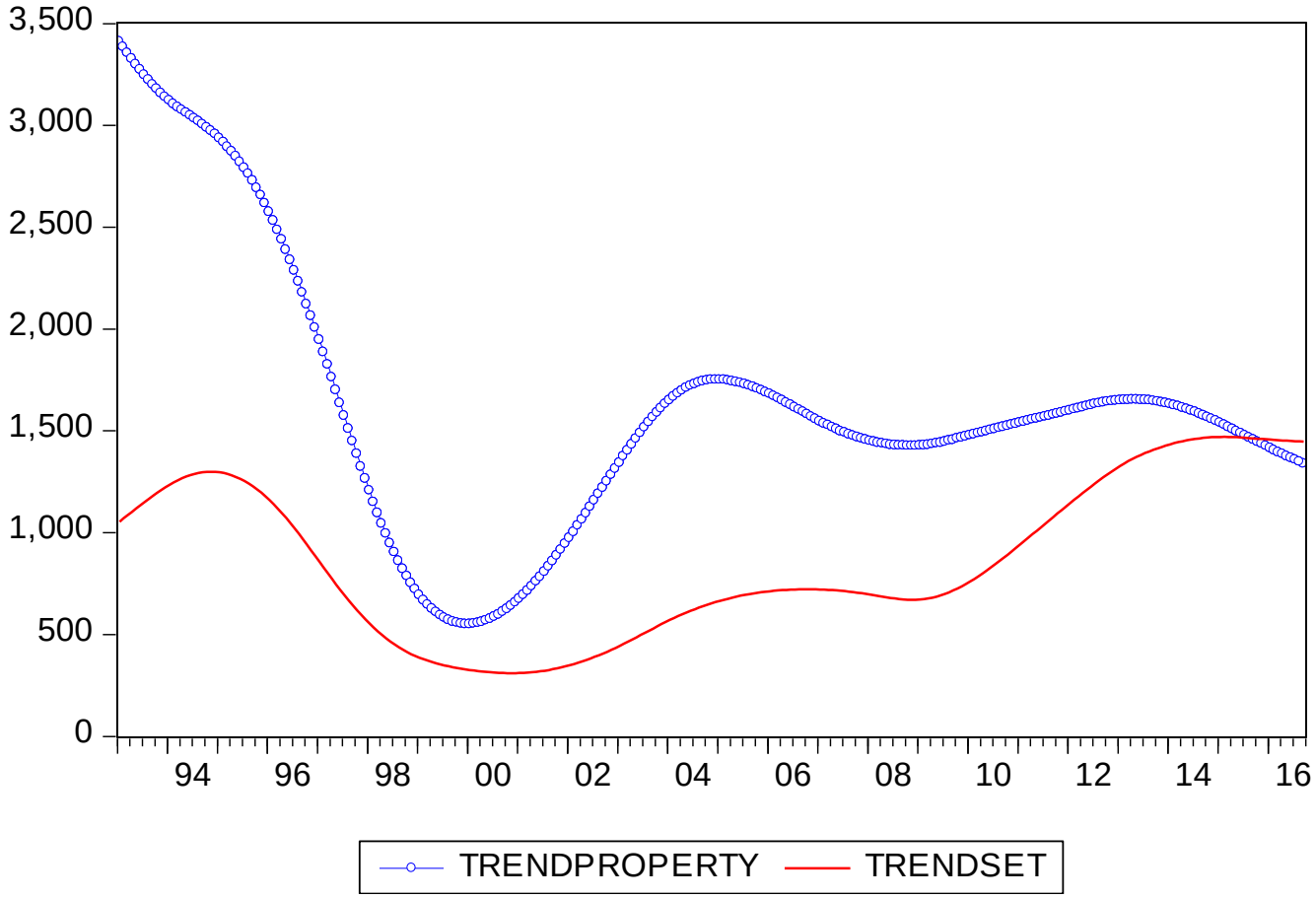
0.5 - 3%

-0.5-2.5%

Approximation of hidden asset bubbles

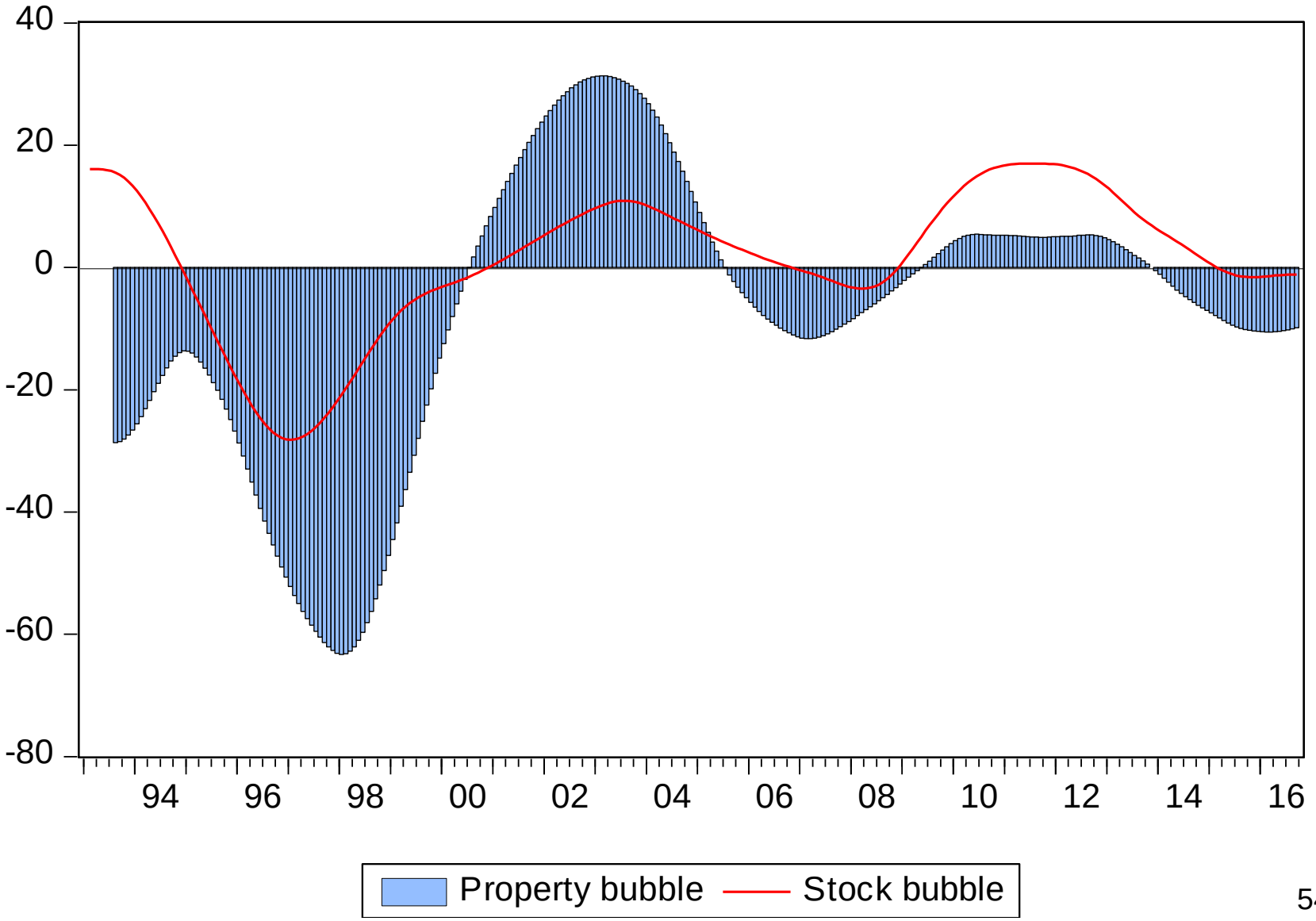
- The size of the property bubble can be approximated by the ***change*** in the HP trend of construction activity, represented by permitted construction in urban areas, lagged by six months.
- The size of the stock price bubble can be similarly captured by the ***change*** in the HP trend of the SET.

Hodrick-Prescott (HP)Trend



The relationship between asset price bubbles in Thailand,
using data from January 1993 to September 2016, is shown in the next slide.

The two bubbles



Two-way causations

- A positive relationship exists between speculations in both asset markets.
- There is a question regarding to how and where the bubble started.
- The lead-lag relationship between the two bubbles can shed light on preventive measures to prevent the busting of asset bubbles.
- The two series are conintegrated and exhibit Granger causation relationship.

When the credit multiplier is rising rapidly

- Prior to the economic crisis in 1998, there was excessive lending, which can be captured by the rapidly rising credit multiplier, defined as the ratio of credit to monetary base.
- The monetary base is the assets of the central bank, consisting of net foreign assets, claims on government, and claims on financial institutions.

$$Credit = \kappa MB$$

$\kappa =$ *credit* multiplier

$$\kappa = \frac{Credit}{MonetayBase}$$

$$MB = NFA + CoG + CoF$$

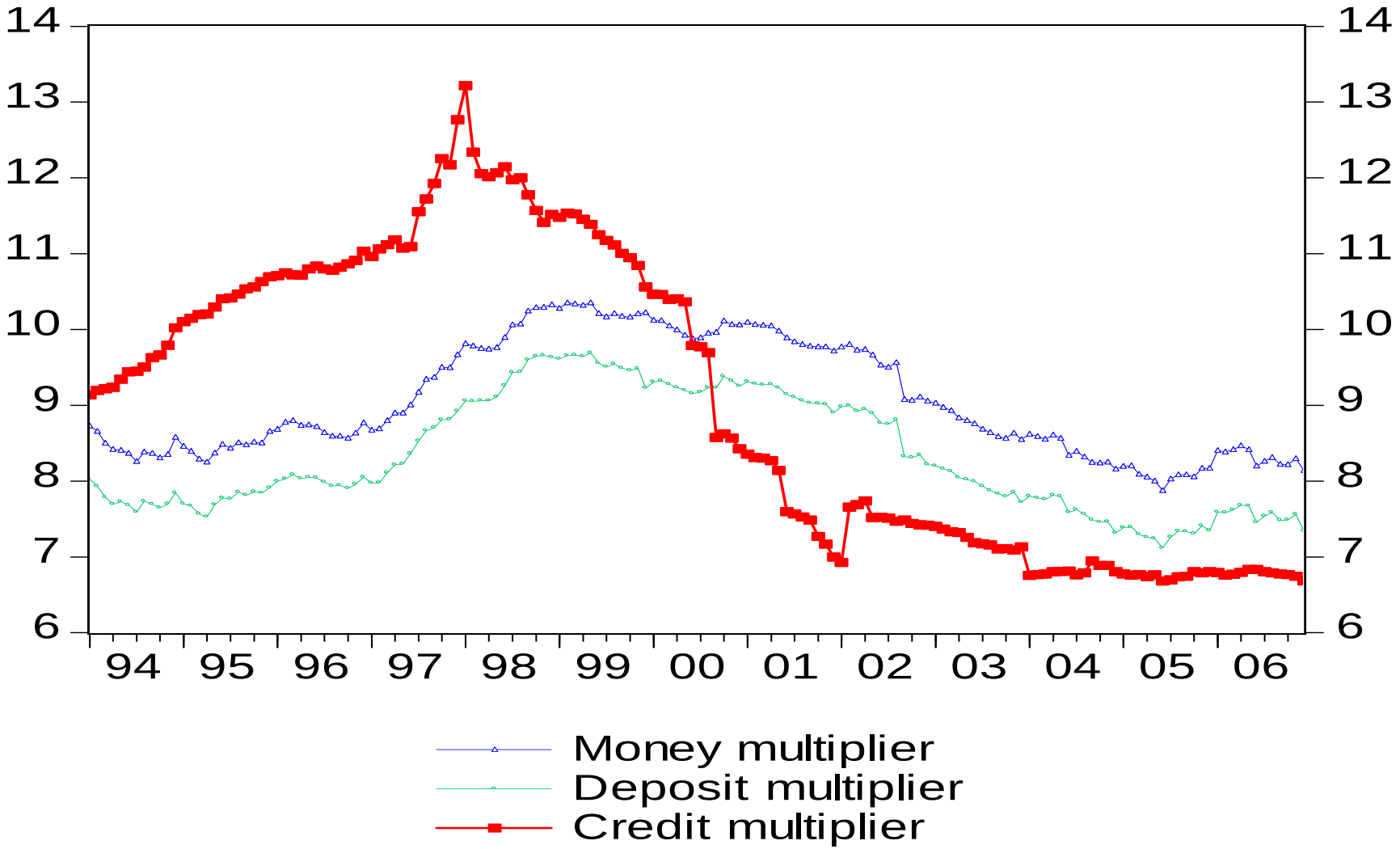
Net Foreign Assets (NFA),

Claim on government (CoG)

and financial institions (CoF)

$$\kappa = \kappa(\bar{R}, r_L, \bar{r}_p, \psi)$$

At the peak of lending boom



An early warning indicator

- Credit multiplier increased abnormally high and deviated entirely from the behavior of deposit and money multipliers.
- We can monitor the financial sector by using the credit multiplier as an early warning indicator for over-lending.

The central bank can prick the bubble

- Rising bank minimum lending rate increases the credit multiplier, while the BOT's lending rate reduces the credit multiplier.
- Deposit multiplier does not lead to a significant change in credit multiplier as the behavior of savers is entirely different from banks.

The central bank and the control of credit multiplier

- There is a significant degree of inertia in bank lending.
- When interest rate is high, commercial banks are willing to take more risk to obtain higher returns from their assets.
- If the Bank of Thailand raises the interest rate on its lending facilities, banks would be discouraged in lending, thereby causing a decline in the credit multiplier.

Slow supply adjustments

- Quantity demand adjusts faster than the quantity supply
- Long gestation period of property development
- Lack of price adjustments: Downward price rigidity prevents market clearance.
- Expectations change rapidly, much more rapidly than supply of property development.

LCR

- The Bank of Thailand has imposed the Liquidity Coverage Ratio (LCR) Framework which replaces the maintenance 6 percent reserve requirement.
- Regarding the LCR framework, all banks shall maintain high-quality liquid assets not less than net expected cash outflow over the next 30 days.

A new macro prudential policy tool

- The LCR has been implemented on January 1, 2016, but the minimum requirement would begin at 60%, rising in equal annual steps of 10 percentage points to reach 100% on January 1, 2020 and thereafter.“

Liquidity Coverage Ratio: LCR (%)

	JAN 2016	FEB 2016
(A) All Banks		
Stock of high-quality liquid assets	**3,387,921.44**	**3,507,584.71**
(B) Net expected cash outflow over the next 30 days	**2,027,115.96**	**2,095,545.26**
LCR = (A/B)	**167.13**	**167.38**

Concluding remarks

- It is desirable and possible to prick the bubble by using tight credit policy to curb excessive credit growth.
- Impose maximum Loan-To-Value ratio (LTV) and Loan-to income-ratio (LTI) are examples of macro prudential policy.
- If monetary policy can produce sustainable growth with price stability, there would be favorable consequences on other development issues such as poverty reduction, employment, income distribution, and urban migration.

Conclusion

- Monetary policy is effective in stabilizing the economy, but it should be employed in line with fiscal policy stance and take into account impact of exchange rate (when there is no FX intervention).
- Some novel goals of inclusive and quality growth require other policy mix to bring about the benefits of growth to the vulnerable.