

Economic Policy and Business Activity

1st cycle, 3rd year, 2nd semester

“Licenciaturas” in Economics and in Management, optional for
Finance and Applied Mathematics (ISEG)
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Chapter 3

MONETARY POLICY

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Index

1. ISSUES AND CONCEPTS

2. THEORIES

3. POLICIES

Readings

Theoretical classes

Weeks	Chapter of the program	Chapter of the textbook	Pages of the texbook¹	Boxes
5 and 6	Chapter 3	Chapter 4	238-291 306-333	4.1 to 4.4 4.7 to 4.8 4.19 to 4.20 4.22 to 4.24

¹ Boxes within the pages but not included in the last column to the right are not mandatory readings.

All about money

Aristotle
(384-322 BC)



**Medium of
exchange**

*3 functions
of money*

**Unit of
account**

**Reserve of
value**

“For it is not two doctors that associate for exchange, but a doctor and a farmer, or in general people who are different and unequal; but these must be equated. This is why all things that are exchanged must be somehow comparable. It is for this end that money has been introduced (...)

And for the future exchange—that if we do not need a thing now we shall have it if ever we do need it—money is as it were our surety; for it must be possible for us to get what we want by bringing the money. Now the same thing happens to money itself as to goods—it is not always worth the same; yet it tends to be steadier. This is why all goods must have a price set on them; for then there will always be exchange, and if so, association of man with man. Money, then, acting as a measure, makes goods commensurate and equates them; for neither would there have been association if there were not exchange, nor exchange if there were not equality, nor equality if there were not commensurability.”

Nicomachean Ethics, 350 BC

WHAT DO CENTRAL BANKS DO?

- They issue banknotes
- They extend liquidity to banks via open-market operations
 - outright purchases of securities (Fed) or repurchase agreements ('repos') (ECB)
 - in so doing, they (normally) set the price of liquidity
 - and they control the quantity of base money
- They impose compulsory reserves on commercial banks
- On a temporary basis, they act as lenders of last resort to banks
- They *should not* finance governments

Standardized central bank balance sheet

Assets	Liabilities
Refinancing to credit institutions	Credit institutions' holdings on current accounts (reserves)
Marginal lending facility	Deposit facility
Net foreign assets	Banknotes in circulation
	Government deposits
	Other factors (net)

Can be rearranged as follows:

Central bank supply of liquidity:
refinancing to credit institutions
+ marginal lending facility
- deposit facility

Autonomous factors:
banknotes in circulation
+ government deposits
- net foreign assets
+ other factors (net)

=

+

Reserves:
credit institutions' holdings on current accounts

What about liquidity?

- **Market liquidity:** the ease with which a position in an asset can be liquidated without appreciably altering its price. It is *asset-specific*.
- **Funding liquidity:** the ease with which a solvent institution can service its liabilities as they fall due. It is *institution-specific*.
- **Market illiquidity can trigger funding illiquidity**
- **Liquidity creation is endogenous; is prone to cycles; and depends very much on confidence**



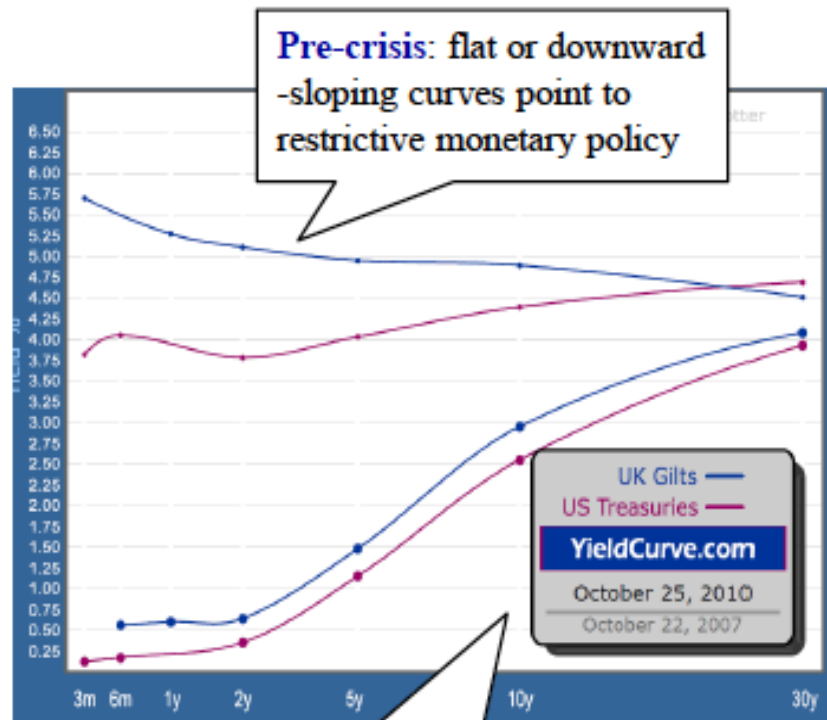
Seigniorage of currency issuance

- **Concept of seigniorage: benefit derived from the issuance of money (usually by the government).**
- **Value of ancient seigniorage came from the issuance of metallic coins.**
- **Value of modern seigniorage lies in the currency issuance by the central bank: $i M0$**
- **If $r = g$ (golden rule of the accumulation of capital): $i M0 = \Delta M0$**
- **Seigniorage in proportion of the GDP: $i M0 / \text{PIB}$**
- **If $M0$ grows more than GDP, the share of seigniorage in GDP will also grow.**

Main monetary aggregates

- $M0$ = coins and notes in circulation plus deposits of commercial banks at the central bank
- $M1$ = $M0$ + demand deposits
- $M2$ = $M1$ + deposits with a maturity of up to years
- $M3$ = $M2$ + marketable securities with less than one year to maturity

The term-structure of interest rates



- Central banks only control the short end of the yield curve
- Higher policy rate may lead to *increase* or *decrease* of long-term rate depending on expectations
- The yield curve is normally upward-sloping (because of the risk premium) but it may slope downwards during monetary-tightening episodes

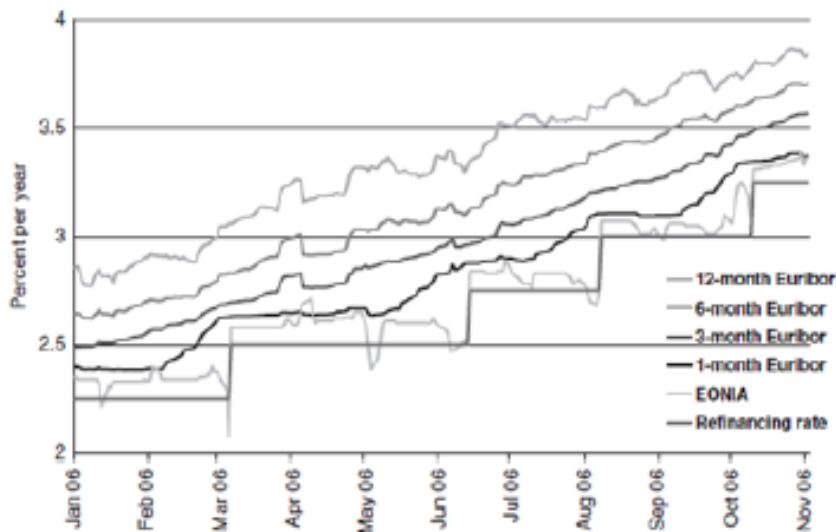
Post-crisis: flat curves at the short end indicate expectations of near-zero short rates for extended period

Source:
www.yieldcurve.com

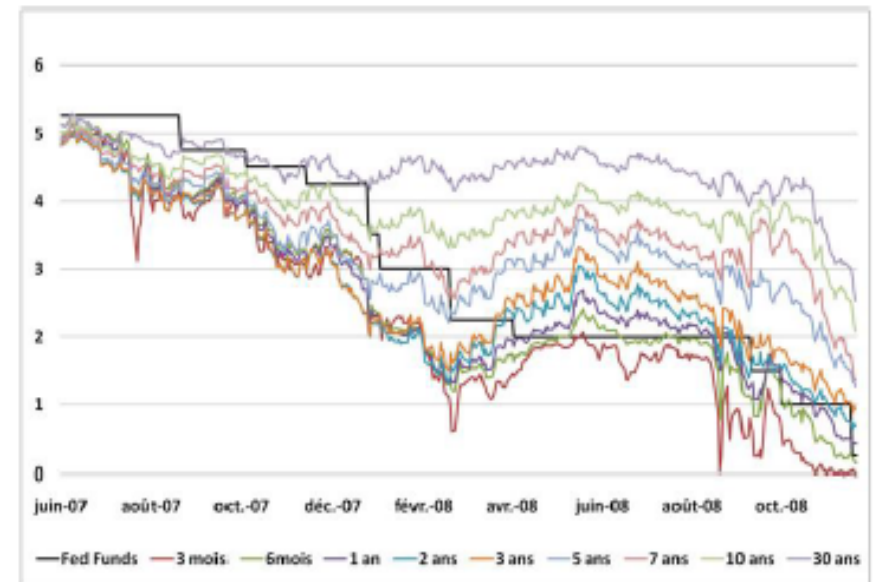
THE STRUCTURE OF EXCHANGE RATES

(The role of expectations)

Euro area, 2006



US, 2007-2008



An example:

Market interest rates (April, 4, 2014)

EONIA (Euro overnight index average)

- 0.218%

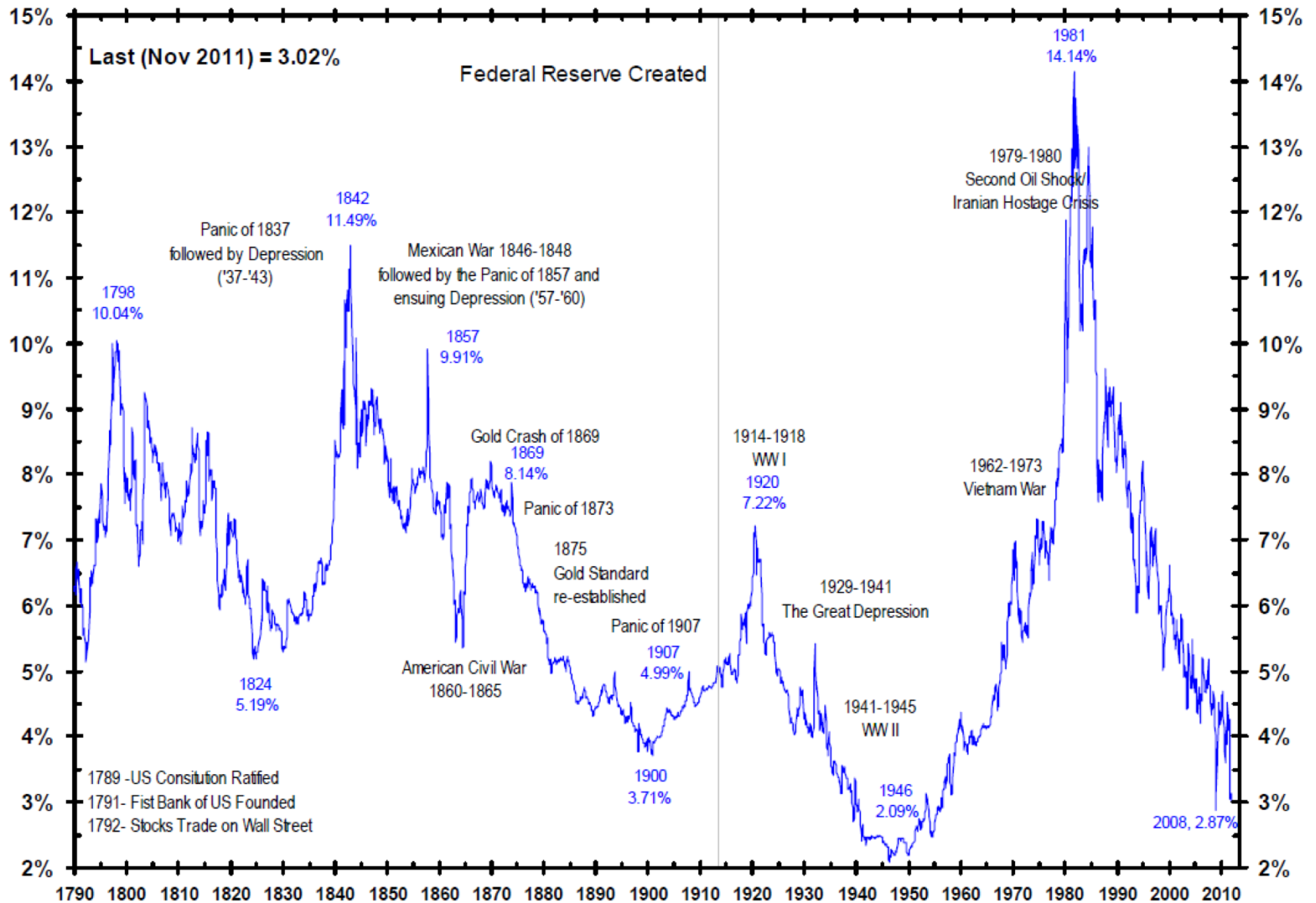
EURIBOR (Euro interbank offered rate)

- 0.24% - 1 month
- 0.32% - 3 months
- 0.42% - 6 months
- 0.51% - 9 months
- 0.60% - 1 yr

Portuguese sovereign bonds

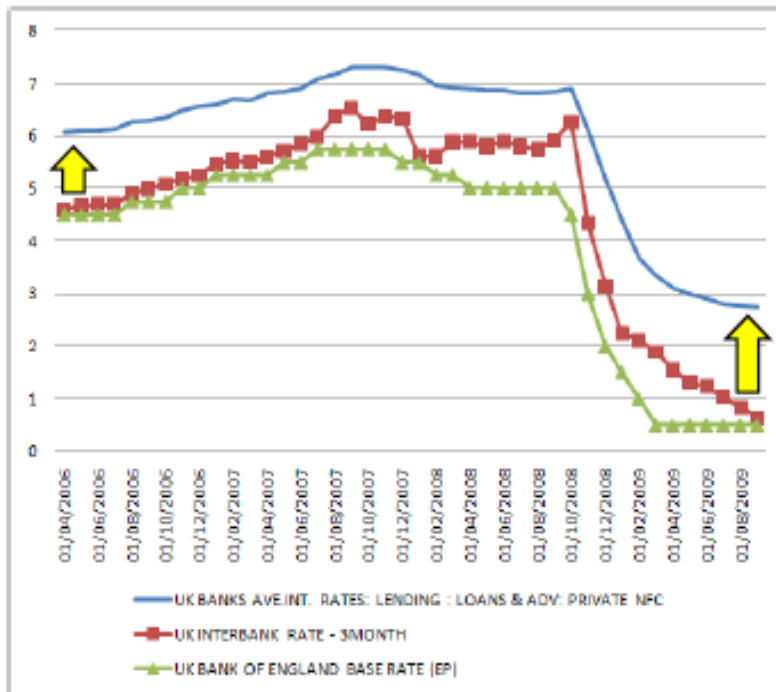
- 1.36% - 2 yrs
- 1.56% - 3 yrs
- 2.21% - 4 yrs
- 2.82% - 5 yrs
- 3.10% - 6 yrs
- 3.28% - 7 yrs
- 3.86% - 9 yrs
- 3.98% - 10 yrs

Long Term Interest Rates Back to 1790

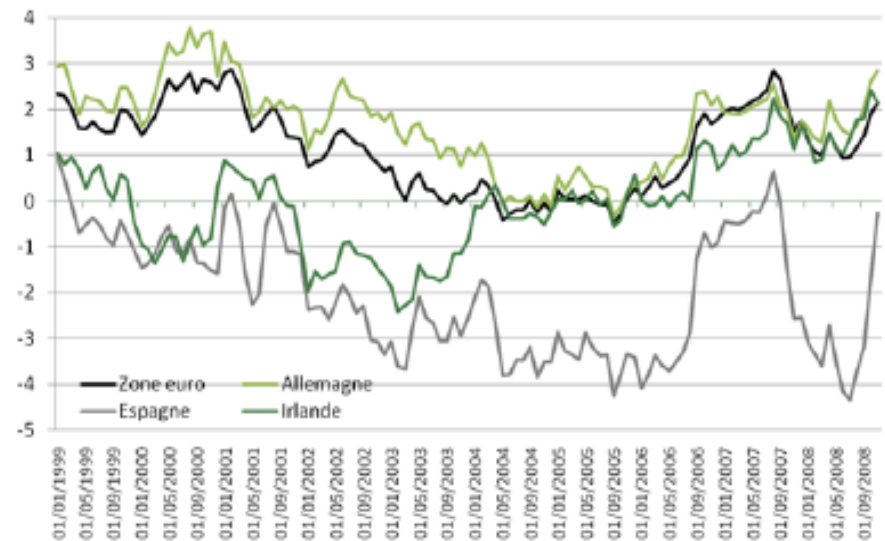


Transmission of policy rates to the economy

Transmission to bank lending rates



Real interest rates



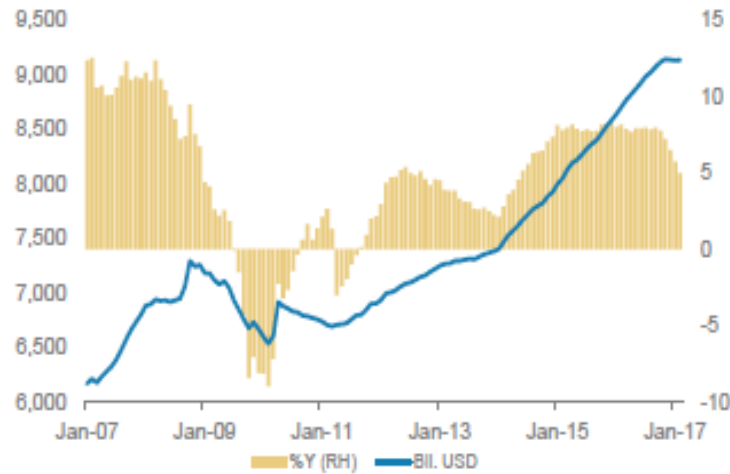
Note: Real interest rate is calculated as three-month interbank rate minus CPI growth rate.

Source: Bank of England.

Bank Lending Dynamics

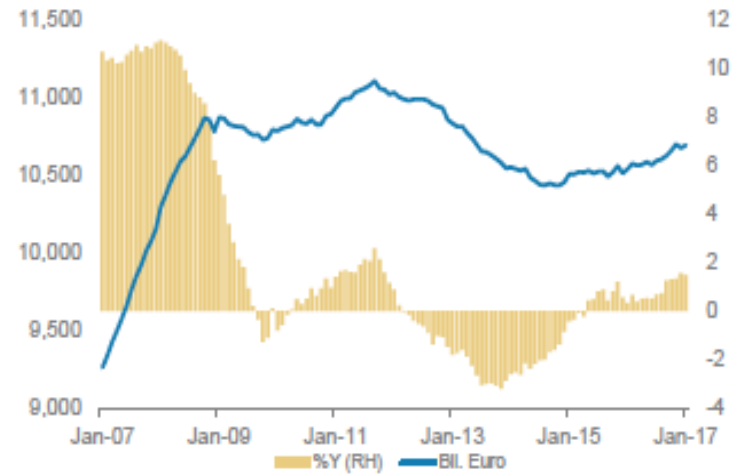
US Lending to the Private Sector

US - MFI Lending to the Private Sector, Bn USD



Euro Area Lending to the Private Sector

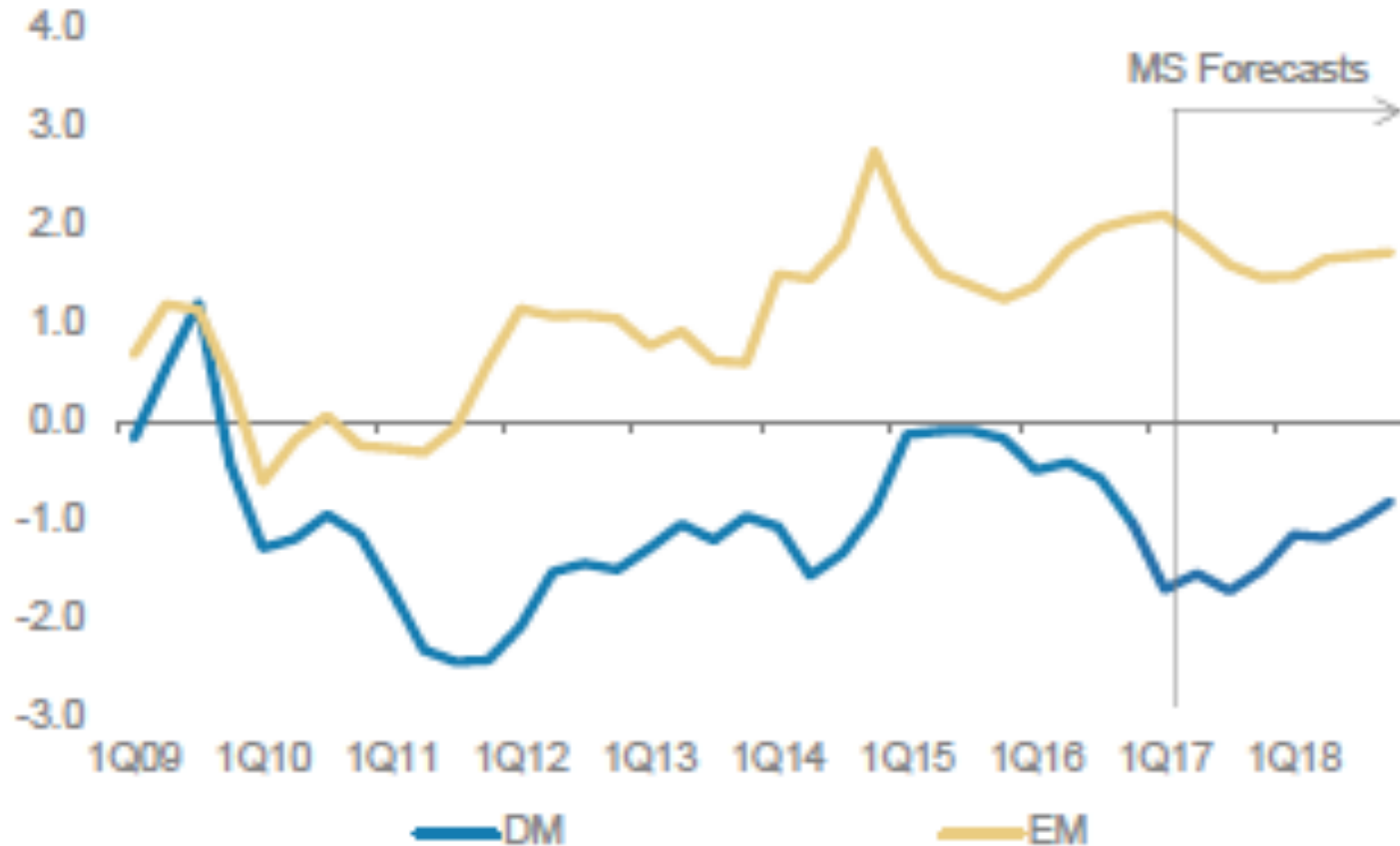
Euro Area - MFI Lending to the Private Sector, Bn EUR



Real Interest Rates (DM and EM) Since 2009

DM and EM Short Real Rates

Real Interest Rates (official rates minus inflation)



Objectives of the monetary policy CENTRAL BANKS

Depending on their specific mandates (more or less broad and flexible from this point of view, see the case of ECB) Central Banks may pursue several major objectives:

- Price stability
- Full employment
- Financial stability
- (Exchange stability)

(1) Price Stability

*Neither too high,
nor too low ...*

- *Inflation = annual rate of growth of consumer price index*
- Inflation should be *neither too high...*
 - Uncertainty weighting on individual decisions (Barro, 1995: negative inflation-growth correlation above 10% inflation)
 - Risk of generalized indexation and ultimately of hyperinflation
 - Ex: Germany in the 1920s, Argentina in the 1980s, Zimbabwe in the 2000s
- ... *nor too low*
 - Upward bias in measured CPI ('Boskin effect')
 - Risk of deflation and *liquidity trap*
 - Downward rigidity of nominal wage (Akerlof, Dickens and Perry, 1996)

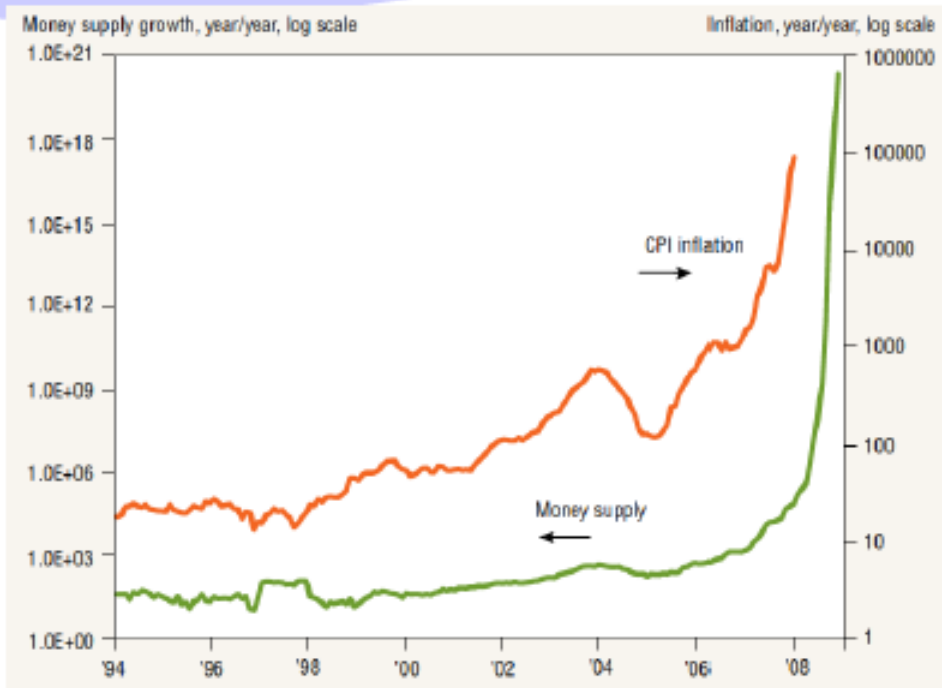


➤ *Most central banks have objectives between 1 and 3%*

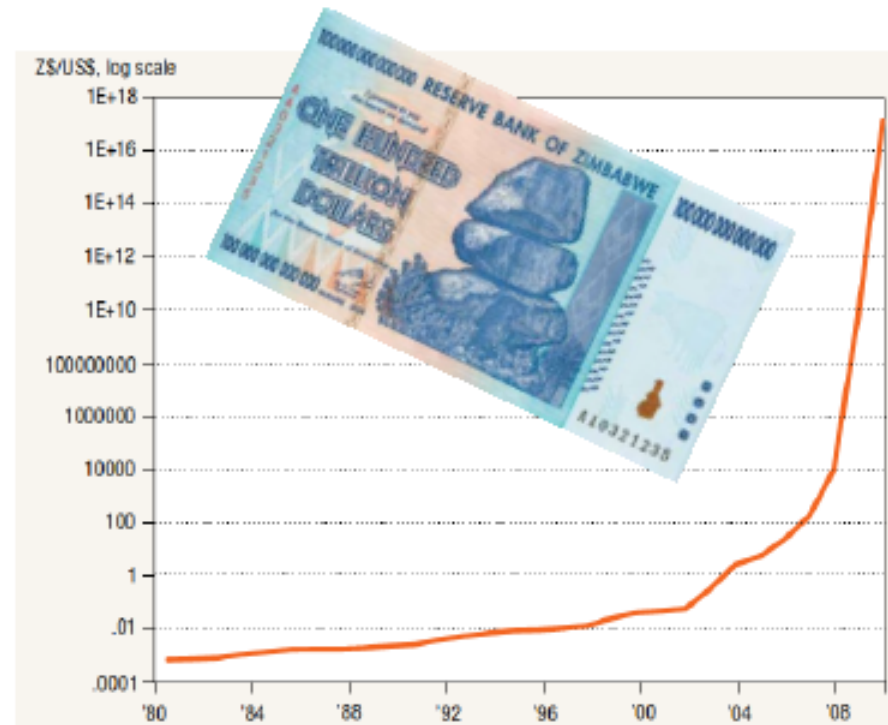
➤ *ECB, BoE and Fed have 2% objectives*

A lesson to remember: Hyperinflation in Zimbabwe

CPI inflation and money supply in Zimbabwe, 1994-2008



Zimbabwe dollar / US\$



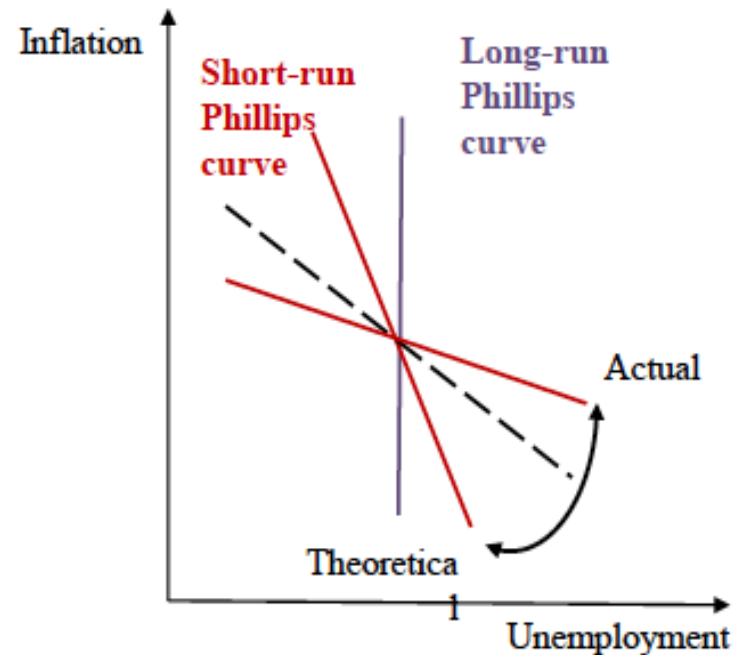
Source: Federal Reserve
Bank of Dallas.

WHY THE OBJECTIVE OF PRICE STABILITY BECAME SO IMPORTANT AND DESINFLATION PROCESS BEGAN IN THE 1990s

- **It is very important to maintain the internal purchasing power of money**
The role of inflation/deflation and crises: Just remember the German hyperinflation of the 1920s and the Great Depression (1929-1933), which had catastrophic political and economic consequences.
- **Distortion of decisions**
 - Reduction / Increase of real wages**
 - Delay / Acceleration of purchases**
- **Distortions of relative prices**
- **The amortization of capital - penalization of capital-intensive investments**
- **Penalizes the cash assets**
- **Implicit tax**
- **Penalization of creditors – benefits for debtors**
- **Inflation and competitiveness**
- **It turns profitable bad investments**
- **Redistribution of income and wealth: *The Cantillon Effect***

Globalization and inflation

- *'The Great Doubling'*: R. Freeman (2005) has related the low global inflation with a *labor supply shock* in emerging market economies, particularly China
- Indeed, globalization has lowered the price of manufactured imports in developed economies (see Montout, de Rivas and Sode, 2011)
- But this is the *relative level*, not the *absolute level* of prices
- Another explanation (Rogoff, 2003; Ball, 2006) relates a lower equilibrium inflation with a *lower NAIRU* and a *flatter Phillips curve* resulting from more competitive product markets



Taking as a benchmark China's membership of the WTO in 2001, major changes in the global supply of both factors (labor and capital) occurred, particularly as regards LABOR.

The hypothesis of Stephen L. Jen

World before 2001

$$\frac{K}{L}$$

World post-2001

$$\frac{K}{2L}$$

The year 2001, with the admission of China into the WTO (whose impact was mainly felt after 2005, with the end of the MFA and its full implementation, among other developments), was a watershed in the modern economic history. Most of the macro variables: foreign trade, foreign exchange reserves, capital flows, commodity prices, and currencies - evidenced a structural shift accompanying the emergence of China and all developing economies that grow with it ...

This is a very stylized characterization, but the shift from K/L to $K/2L$ has fundamentally altered the gains of labor and capital on a global scale. The "capitalists" could then invest in an almost virgin market (China) and help it to increase the stock of capital. For the Chinese labor it was a big gain, the same is not true for the unskilled workers of the West ...

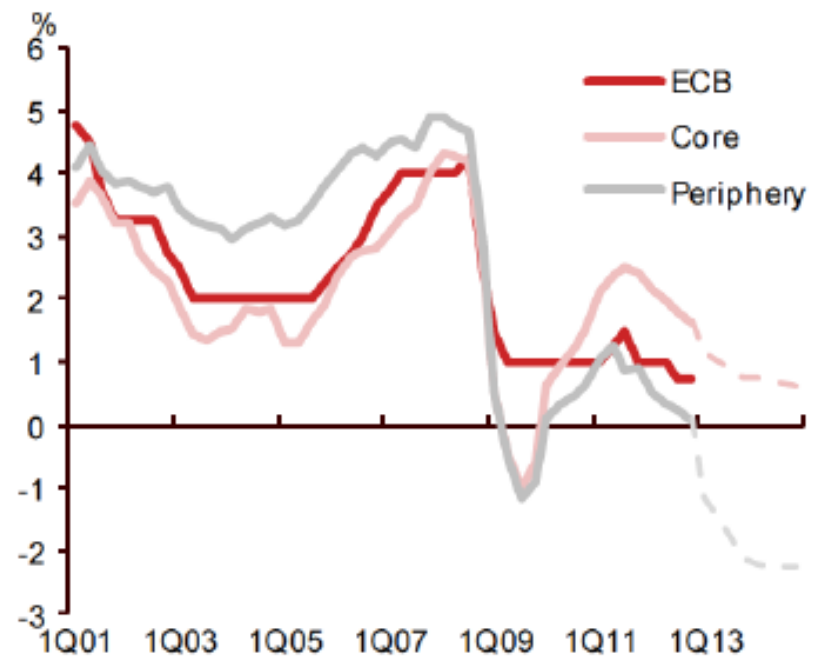
Stephen L. Jen, *Global Connections*, Year II, Issue 70, November 16, 2011

(2) Output stability: The Taylor rule as rule of thumb

$$i_t = \bar{r} + \pi_t + 0,5(\pi_t - \tilde{\pi}) + 0,5(y_t - \bar{y}_t)$$

- Output stabilization is not the primary objective of monetary policy, but the output gap (usually) is a leading indicator of inflation
- ‘Taylor rule’ does not have a normative value but can be used as a benchmark to assess interest-rate setting

Taylor rule-suggested rates in ‘core’ and ‘periphery’ euro area countries



Source: Nomura. ‘Core’ = Germany, France, Netherlands.
‘Periphery’ = Italy, Spain, Ireland, Portugal, Greece.

Developing Taylor Rule

$$i = r_o + p + 0,5 (p - p_o) + 0,5 (y - y_o)$$

i = short-term nominal interest rate;

p = inflation rate;

p_o = target inflation rate;

$y - y_o$ = output gap

(y = actual GDP;

y_o = potential GDP)

r_o = target real interest rate



John Taylor (1946-)

(3) Financial stability

- Usually not a formal objective, but “*in the genetic code of central banks*” (T. Padoa-Schioppa)
- The central bank has no choice but to be a lender of last resort to banks, but should do it with great caution by:
 - Mitigating moral hazard
 - Walter Bagehot (1826-1877): “*Lend freely at a high rate, on good collateral.*”
 - Exchanging information with (while being independent from) banking supervisors
 - Coordinating with the fiscal authority with a proper allocation of tasks (central bank should not support insolvent banks; capital losses should be borne by taxpayers)

The particular case of ECB on financial stability: No bail-out clause (125th Article of the TFEU)

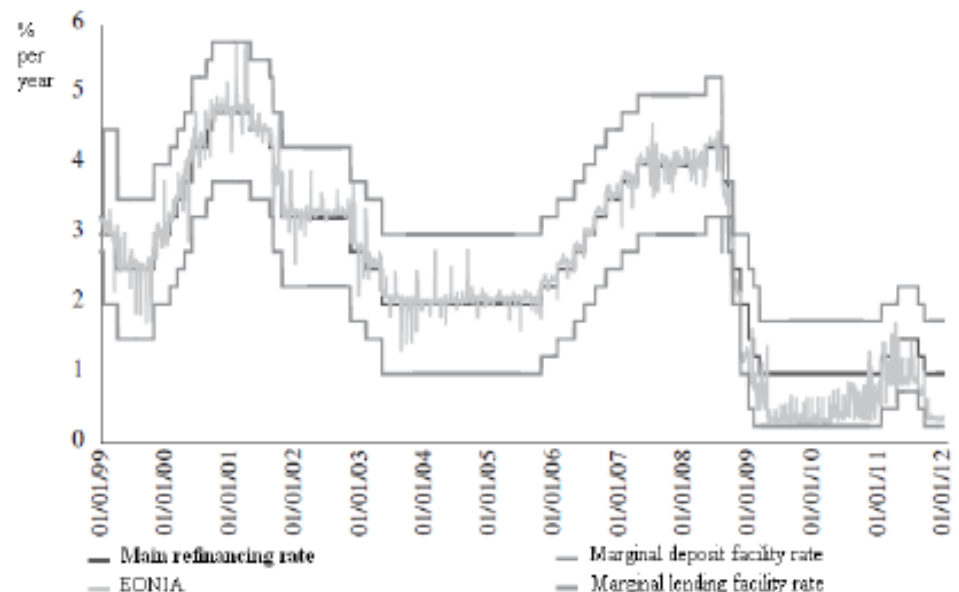
1. The Union shall not be liable for or assume the commitments of central governments, regional, local or other public authorities, other bodies governed by public law, or public undertakings of any Member State, without prejudice to mutual financial guarantees for the joint execution of a specific project. A Member State shall not be liable for or assume the commitments of central governments, regional, local or other public authorities, other bodies governed by public law, or public undertakings of another Member State, without prejudice to mutual financial guarantees for the joint execution of a specific project.

With the development of the crisis started in 2007-2008, affecting the Euro Area a few years later, this clause became in practice ineffective.

The ECB's instruments

- Reserve requirement (1% of bank deposits since end-2011)
- Main refinancing operations (normally, 1 week and 3 months)
 - Competitive tenders (bids by individual banks)
 - Variable rate until 2008; fixed rate and full allotment since 2008
 - Broad collateral basket
- Emergency windows:
 - Marginal lending facility = ceiling rate
 - Marginal deposit facility = floor rate

Refinancing rates and market rates in the euro area



➤ *EONIA fluctuates between the marginal lending and deposit rates and is in normal times close to the refinancing rate.*

Main topics

- Long-run neutrality and short-run impact of money
- Central bank credibility
- Fiscal dominance
- Transmission channels in a closed / open economy

The long-run neutrality of money



David Hume
(1711-1776)

“Where coin is in greater plenty; as a greater quantity of it is required to represent the same quantity of goods; it can have no effect, either good or bad, taking a nation within itself; any more than it would make an alteration on a merchant's books, if, instead of the ARABIAN method of notation, which requires few characters, he should make use of the ROMAN, which requires a great many. (...)

Though the high price of commodities be a necessary consequence of the encrease of gold and silver, yet it follows not immediately upon that encrease; but some time is required before the money circulates through the whole state, and makes its effect be felt on all ranks of people. At first, no alteration is perceived; by degrees the price rises, first of one commodity, then of another; till the whole at last reaches a just proportion with the new quantity of specie which is in the kingdom. (...)

[The artisan] carries his money to market, where he, finds every thing at the same price as formerly, but returns with greater quantity and of better kinds, for the use of his family. The farmer and gardener, finding, that all their commodities are taken off, apply themselves with alacrity to the raising more; and at the same time can afford to take better and more cloths from their tradesmen, whose price is the same as formerly, and their industry only whetted by so much new gain. It is easy to trace the money in its progress through the whole commonwealth; where we shall find, that it must first quicken the diligence of every individual, before it encrease the price of labour. (...)

In my opinion, it is only in this interval or intermediate situation, between the acquisition of money and rise of prices, that the encreasing quantity of gold and silver is favourable to industry.”

The quantitative theory of money (I)

$$M \textcircled{V} = P Y$$

Velocity of money

Source:
ECB, FERL.

Hence:

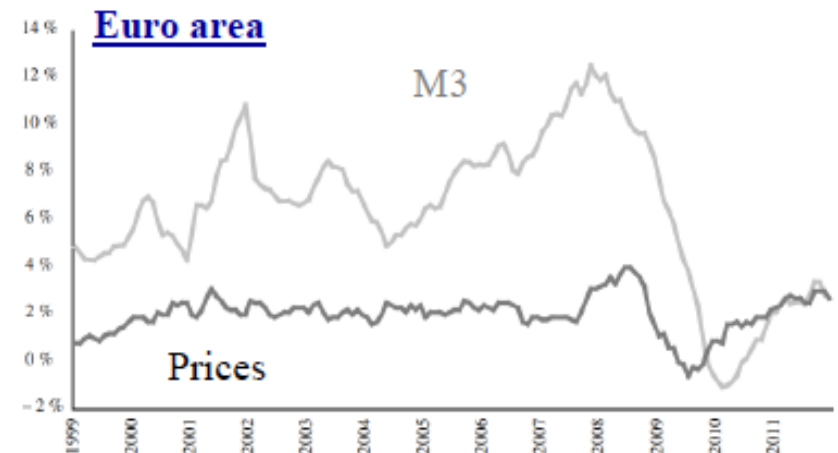
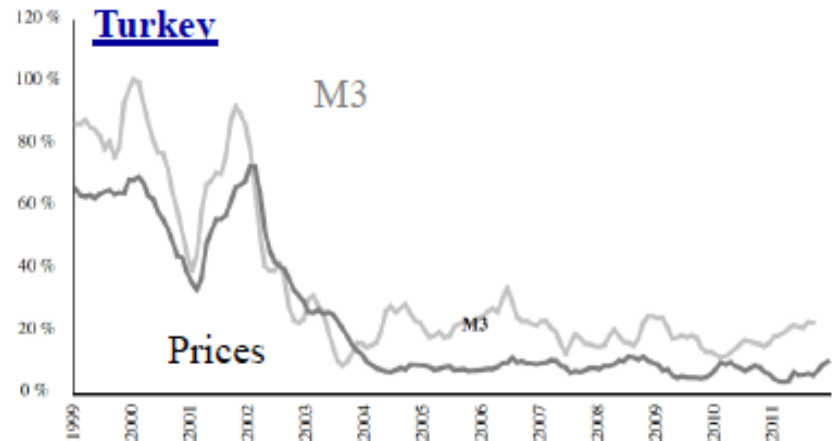
$$\Delta P/P = \Delta V/V + \Delta M/M - \Delta Y/Y$$

Ex: 1st pillar of ECB strategy

$$\Delta Y/Y \sim 2\% \text{ yoy}$$

$$\Delta V/V \sim -0.5\% \text{ yoy}$$

$$\Delta P/P \sim 2\% \Leftrightarrow \Delta M/M \sim 4.5\% \text{ yoy}$$



QUANTITATIVE THEORY OF MONEY (II)

- **$P \cdot Y = M \cdot V$** **P** – price level; **Y** – real GDP; **M** – money supply; **V** – velocity of money
- **$(\Delta P / P) = (\Delta V / V) + (\Delta M / M) - (\Delta Y / Y)$**
- ECB and Bundesbank model in 1999:
- **$(\Delta M / M) = 4,5\%$; $(\Delta P / P) = 1,5\%$; $(\Delta Y / Y) = 2,5\%$; $(\Delta V / V) = -0,5\%$**
- **Objective: $(\Delta M / M) = 4,5\%$**
- **$1,5\% = -0,5\% + 4,5\% - 2,5\%$ **M=M3****

SOME THEORETICAL UNDERPINNINGS OF MONETARY POLICY

SHORT-RUN NOMINAL RIGIDITIES

- **WHY IS MONEY NOT NEUTRAL IN THE SHORT-RUN?** : Imperfect information on relative prices; staggered contracts; “menu costs” (the costs for firms of changing nominal prices).
- **STANDARD MODELING:** Fixed probability of being unable to adjust price/wages + rational expectations (Calvo)

FISCAL DOMINANCE

- **Debt monetization is an alternative to default** when governments have exhausted ways to increase their surplus.
- It ultimately leads to inflation, which is a tax on consumers; large-scale monetization leads to hyperinflation.
- When monetary policy is constrained by fiscal policy, one speaks of fiscal dominance.
- Should fiscal and monetary authorities be coordinated in the short-run? **PROS:** both fiscal and monetary policy impact on aggregate demand; risk of suboptimal (and unstable) Nash equilibrium; **CONS:** benefits of central bank independence are lost; risk of being dragged into fiscal dominance.

Assessment of the effectiveness of monetary policy

Regarding the time dimension!

- The great advantage of monetary policy in comparison with other economic policies is the short delay that, administratively, the appropriate measures need to be implemented. It was this advantage that led to the independence of many central banks from the political bodies.
- Regarding the time necessary to produce economic effects, as we have just seen, it may be long and variable. However, in some cases, monetary policy can through changes in the interest rates be efficient in the achievement of certain objectives (for example, in the correction of a deficit in the balance of payments, without perverse effects on the expected exchange rate).
- **THEREFORE, MONETARY POLICY IS OFTEN PREFERRED TO OTHER ECONOMIC POLICIES AND THEIR INSTRUMENTS DUE TO ITS SHORT TIME LAG FROM THE ADMINISTRATIVE POINT OF VIEW.**

Central Bank Credibility

- Barro and Gordon (1983)
 - When central banks exploit workers expectation errors to stimulate supply, their strategy is *temporally inconsistent* and results in an *inflationary bias* and a lack of credibility
- To overcome the credibility problem, the central bank must establish its *reputation*:
 - By *extending its time-horizon* so that a repeated game can be established (= long mandates, independence from politicians)
 - By *tying its hands* e.g. through exchange-rate pegs, monetary policy rules
 - By selecting *conservative central bankers* more adverse to inflation than society (Rogoff, 1985)
 - By designing *incentive-compatible contracts* for central bankers (Walsh, 1995)

The ECB: credible throughout the crisis

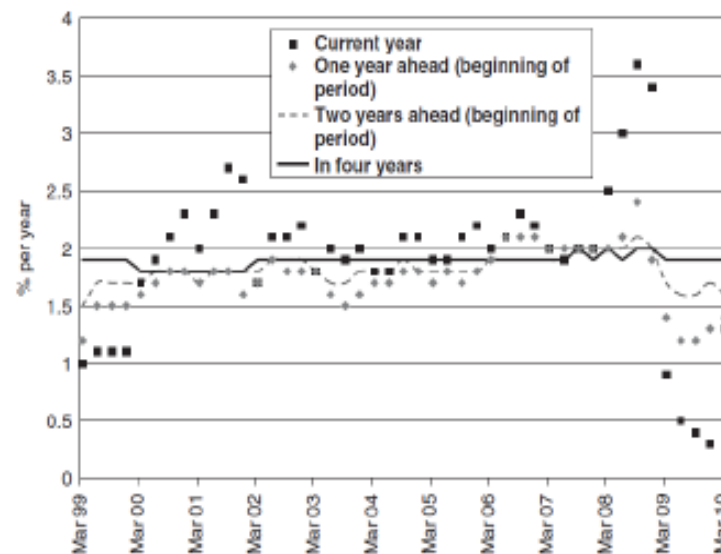
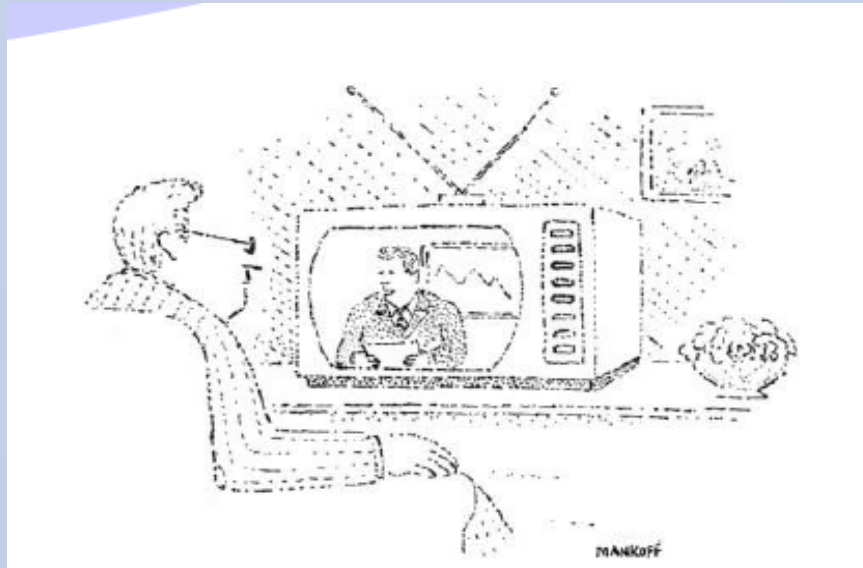


Figure B2.7.1 Inflation expectations in the euro area.
Source: ECB Survey of Professional Forecasters, April 2010.

TRANSMISSION CHANNELS: The short term risk



“On Wall Street today, **news of lower interest rates** sent the stock market up, but then the expectations that these rates would be inflationary sent the market down, until the realization that lower rates might stimulate the sluggish economy pushed the market up, before it ultimately went down on fears that an overheated economy would lead to a re-imposition of higher interest rates”.

Transmission channels

1) *Interest-rate channel*

- Traditional Keynesian link between the interest rate, savings and investment
- Depends on financing structure of firms and households (LT/ST, fixed/variable rates)

2) *Asset-price channel*

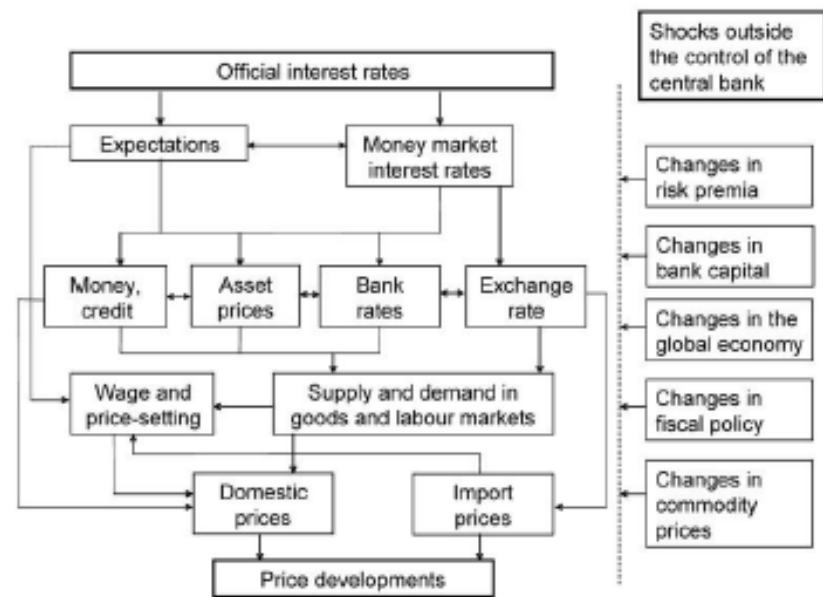
- $\downarrow r$ raise asset prices, then stimulate aggregate demand
- Theoretical toolbox: asset valuation models (ex: Gordon-Shapiro); consumer theory (wealth effects); neoclassical investment theory (Tobin's q)

3) *Risk-taking channel*

- Lower policy rates induce higher risk profiles and create favorable conditions to increase banks balance sheets (see e.g. Borio and Zhu, BIS, 2008)

4) *Credit channel*

- Lower short-term interest rates stimulate credit supply through shifts within banks balance sheets
- Toolbox: credit rationing (Stiglitz-Weiss); credit cycles (Kiyotaki-Moore); financial accelerator (Bernanke-Gertler) and new models with financial frictions;



Source: ECB.

5) *Foreign-exchange channel*

- Lower short-term interest rates stimulate net exports through exchange-rate depreciation (Mundell-Fleming)

The asset-price channel

Gordon-Shapiro formula

$$P_t = \frac{d_t}{r - g}$$

dividend

growth rate

interest rate

share price

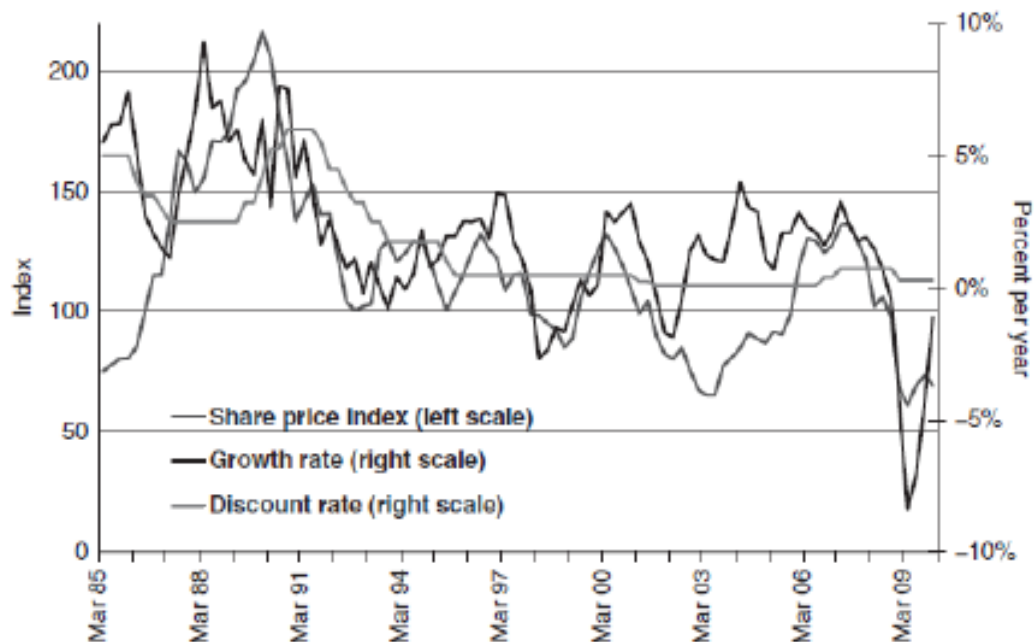
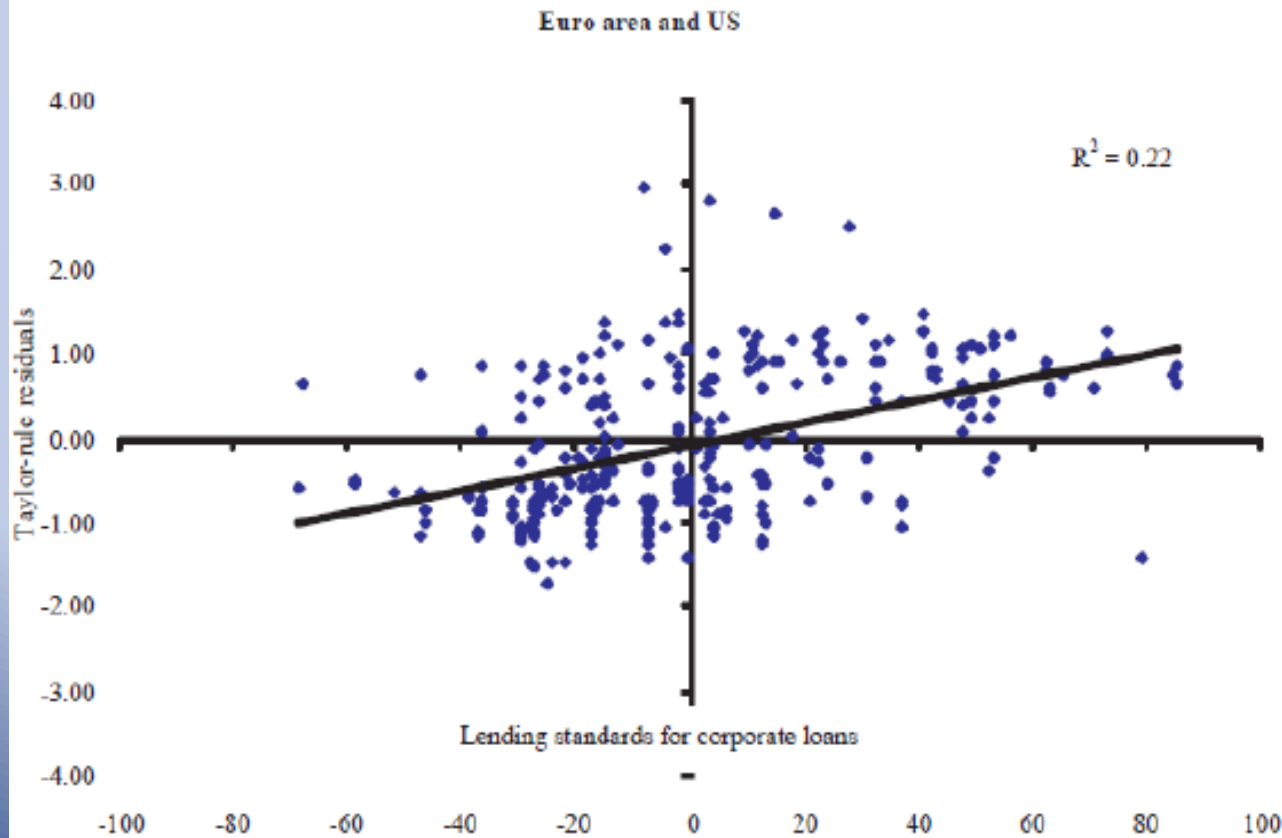


Figure 4.8 Interest rates, financial asset prices and growth in Japan.
Source: OECD.

The risk-taking channel



Banks seem to be taking more risk (as shown by lower credit standards) when short-term interest rates are low with respect to Taylor rule

Source: Maddaloni and Peydró-Alcade (2010).

The foreign exchange channel

THE OVERSHOOTING MODEL

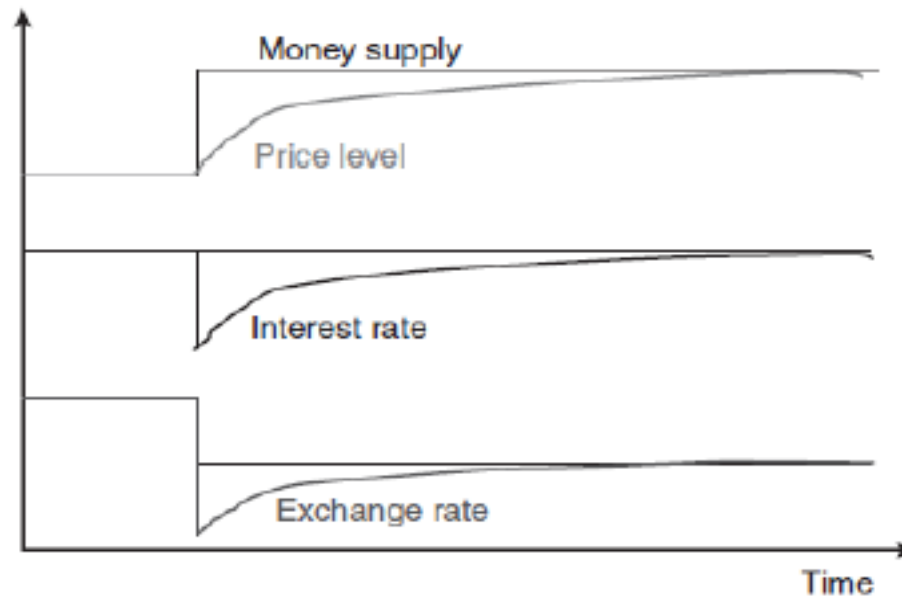


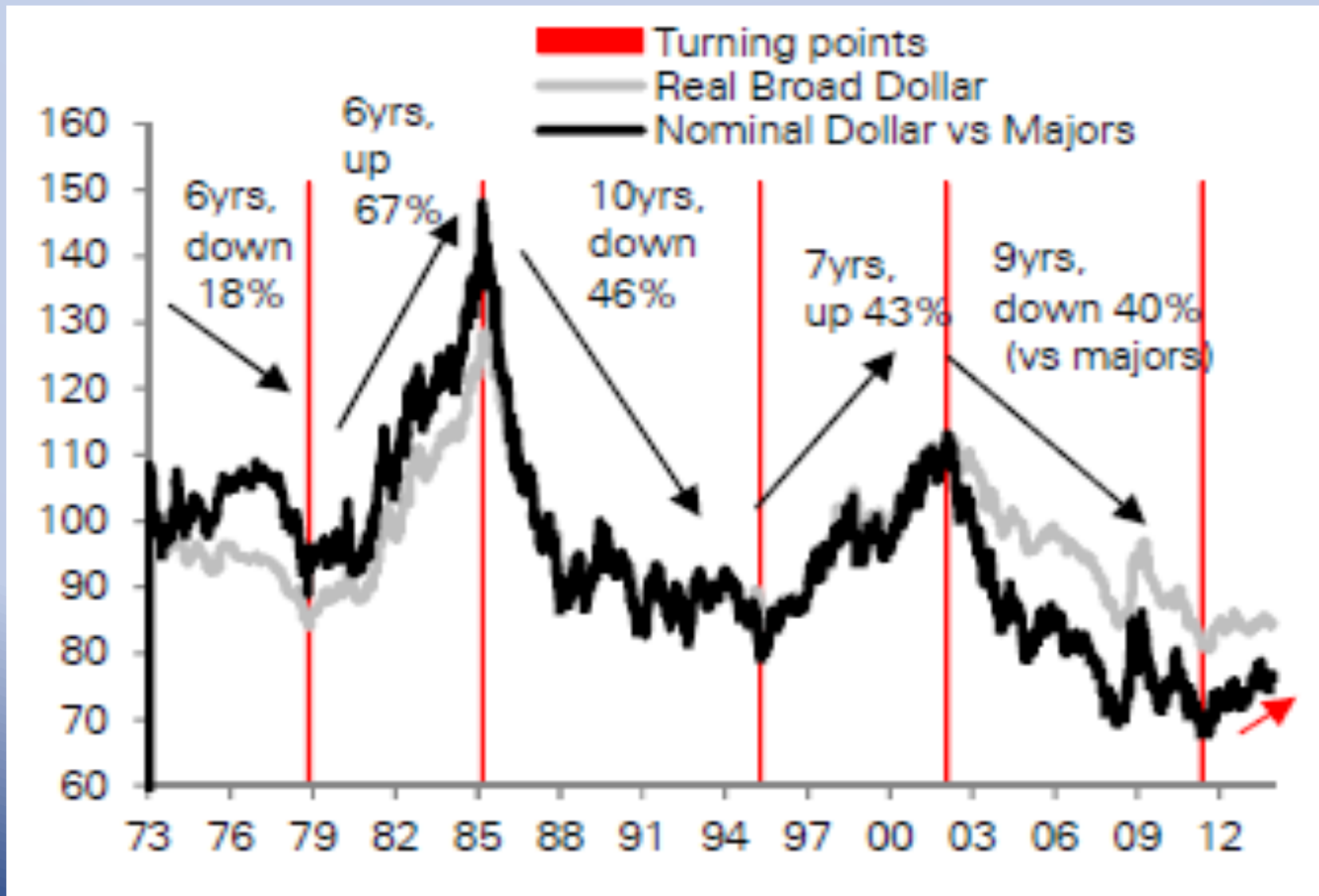
Figure 4.14 The Dornbusch overshooting model: How prices, the interest rate, and the exchange rate react to a once-and-for-all increase in money supply.

Case study: the euro/dollar exchange rate on 5-6 June 2008



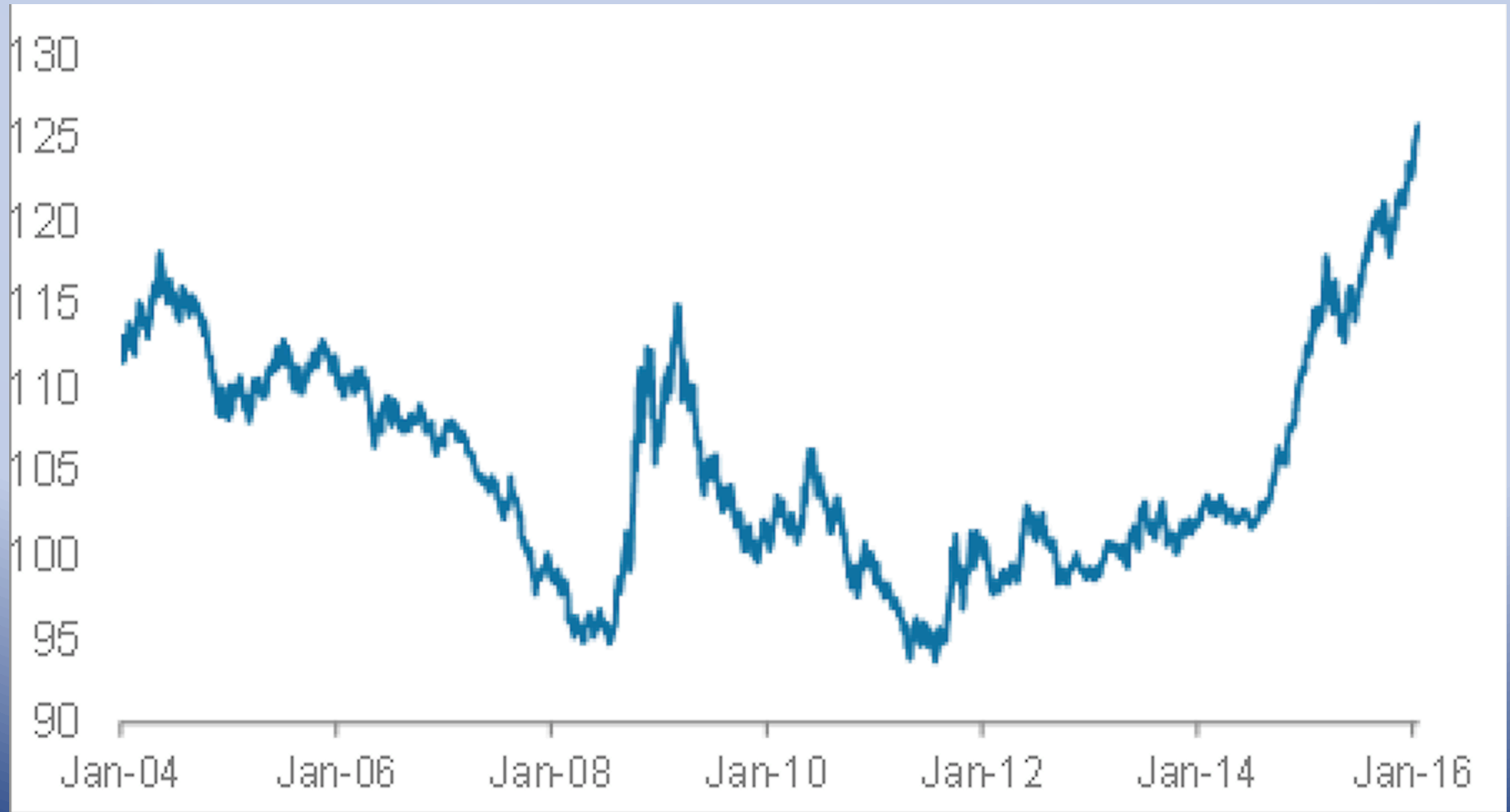
Source: Reuters.

THE GREAT CYCLES OF USD EXCHANGE RATE, 1973-2013

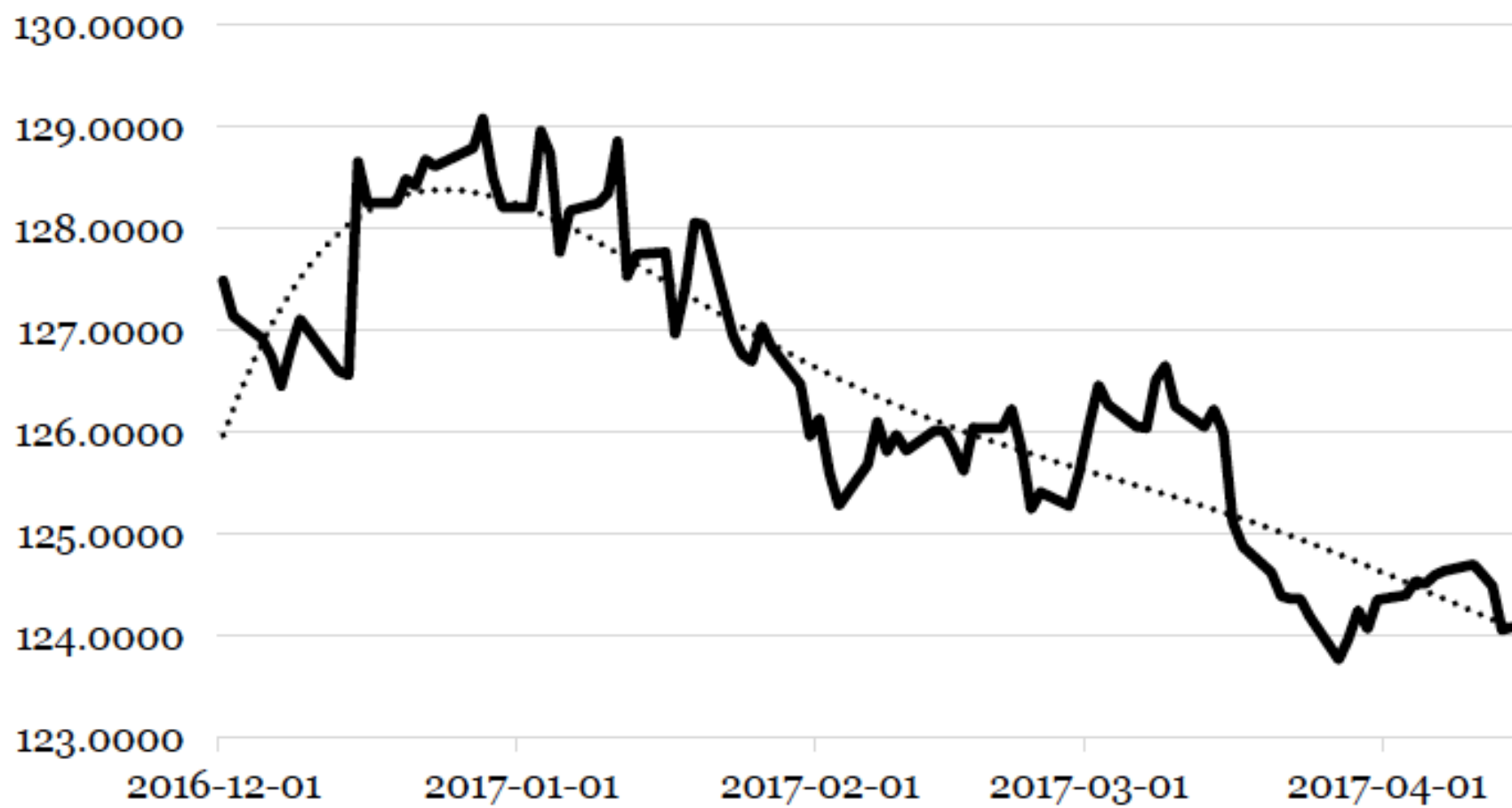


SOURCE: Deutsche Bank: "The Dollar in 2014", December 18, 2013)

More recent evolution of USD: NEER – Nominal effective exchange rate (weighted)



**Figure 7: US Trade Weighted Dollar Index,
December 2016-April 2017**



Source: Federal Reserve Bank of St. Louis.

THE DYNAMICS OF THE MONETARY POLICY: THE OBJECTIVES TO BE ACHIEVED BY CBs

- **Mandate: the targets that the Central Bank must achieve;**
- **In the 1970s: there was general targets with very difficult *trade-offs* to solve;**
- **The need for precise objectives: price stability**
- **After the crisis: the need for financial stability**

II INSTITUTE DESIGN

- ✓ **Independence**
- ✓ **Mandate**
- ✓ **Accountability**
- ✓ **Decision-making structure**

Independence, accountability, and communication

- Central banks are almost everywhere *independent* by law or by Treaties
 - They do not accept instructions from the executive branch (except in some cases on exchange-rate policy)
 - Governors have long mandates
- They are *accountable* to the legislative branch and in some cases to the executive branch
 - US ‘Humphrey Hawkins’ testimony
 - ‘Monetary dialogue’ at European Parliament
 - BoE Governor letter
- But their *communication* differ quite a lot
 - ECB President press conference
 - Disclosure of FOMC and BoE MPC minutes and individual votes; of FOMC members’ interest forecasts
 - Disclosure of expected interest rate path by Swedish Riksbank, Bank of Norway, RBNZ, and soon by US Fed

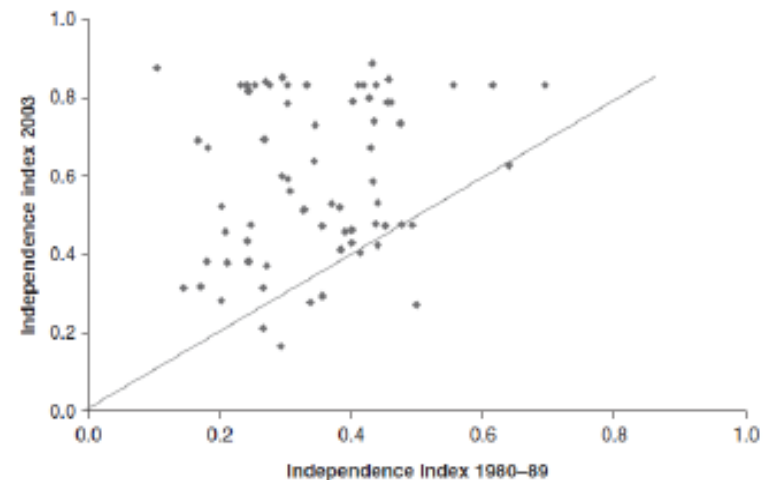


Figure 4.15 Central bank independence in the 1980s and the 2000s.

Source: Crow and Meade (2008), based on Cukierman et al. (1992).

Note: Central bank independence index based on “four components, relating to, respectively, appointment procedures for the head of the central bank, the resolution of conflict between the central bank and the executive branch of government, the use of an explicit policy target, and rules limiting lending to government.”

MANDATES

- Key differences:
 - US Fed has *dual mandate* of full employment and price stability, while ECB should give priority to price stability
 - ECB decides on objectives, while BoE and RBNZ do not
- Crisis has prompted fresh discussion on role of central bank role in financial stability
 - *European Systemic Risk Board* chaired since 2011 by ECB President and BoE Governor
 - ECB tasked in 2012 with banking supervisory tasks

The mandates of four central banks

	Legal vehicle	Price stability	Exchange-rate stability	Output stabilization	Financial stability
US Fed	Full Employment and Balanced Growth Act, 1978, a.k.a 'Humphrey-Hawkins Act'	Yes	No, but may intervene on exchange markets, alongside the USTreasury	Yes, on an equal footing with price stability	Yes
ECB	Treaty establishing the European Community as revised in 1992, a.k.a. 'Maastricht Treaty'	Yes	No, but exchange rates are part of the second pillar of the monetary-policy strategy, and the ECB has the sole right to conduct foreign-exchange operations.	Yes, secondary to price stability	Not explicitly
Bank of England	Bank of England Act, 1998	Yes. Definition of price stability belongs to government	No	Yes, secondary to price stability	Yes
Bank of Japan	Bank of Japan Law, 1997	Yes	No, but may be instructed to intervene on exchange markets	No, only as a consequence of price stability	Yes

DECISION-MAKING CHANNEL

- In Japan, UK or Canada, MPC has a fixed, limited size with no geographical basis
- In the US, regional Fed presidents only account for $4/12 = 33\%$ of the Federal Open Market Committee
- In euro area, national central banks governors represent $17/23 = 74\%$ of ECB Governing Council.
- From 19 members on in the euro area, voting rights will rotate among NCB governors

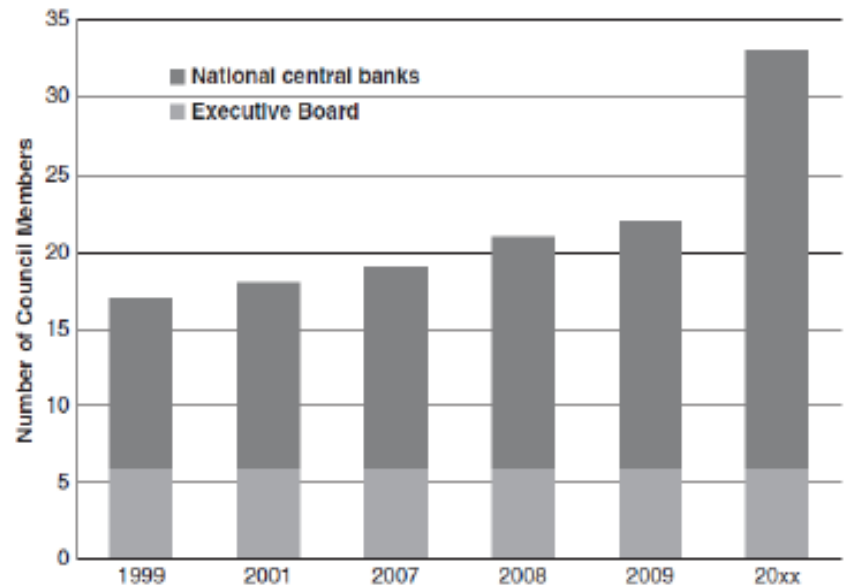


Figure 4.16 Size of the eurosystem's governing council.
Source: European Central Bank.

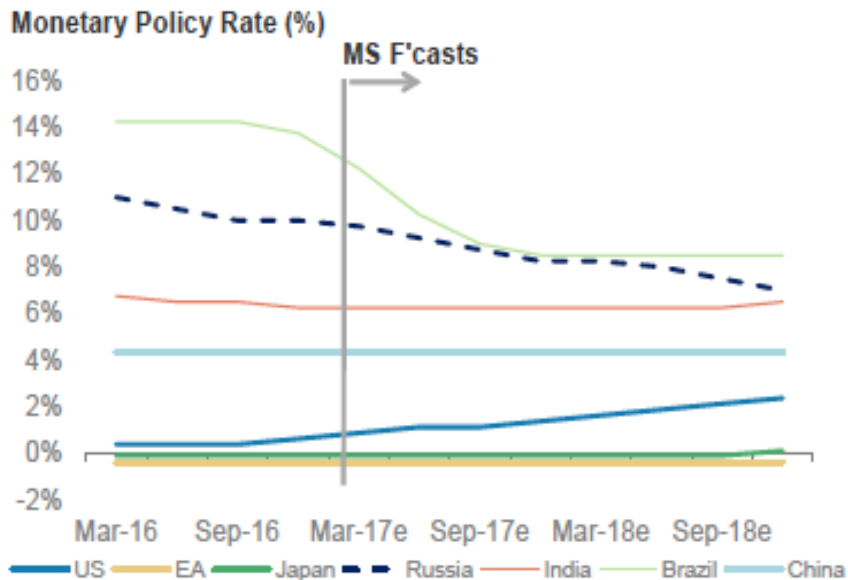
Recent interest rates and forecasts in DM and BRICS

Morgan Stanley

MORGAN STANLEY RESEARCH
Global Economics Playbook
April 2017

Monetary Policy Forecasts

G3 and BRIC Monetary Policy Rates



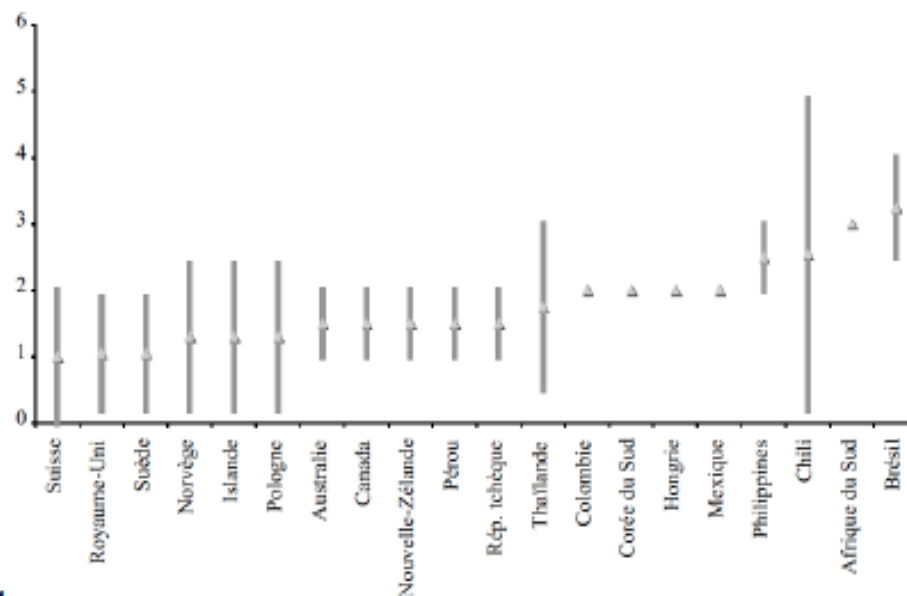
Despite rising US interest rates, the global monetary policy stance should remain generally accommodative.

Our central case is for two 25bp US rate hikes in June and December, with four further hikes in 2018. We expect the ECB to announce a further reduction in its asset purchases in September, to begin in 2018. The BoJ raises its YC target in 2H, but doesn't raise rates until late 2018. The BoE is on hold over our forecast horizon.

We see the risk of a 25bp rise in benchmark rates in China if external demand surprises on the upside. We continue to expect significant easing by the Brazilian and Russia central banks over the coming quarters.

Monetary-policy rules

- **Rules are useful** (remember Barro-Gordon)
- **Intermediate targeting** (e.g. of money aggregates) is less fashionable
 - But ECB monetary pillar has proven useful to monitor credit growth
- **Inflation targeting** (IT) has become fashionable in the 2000s
 - Target = inflation forecast conditional on market expectation of policy rate
 - IT requires transparency on models, procedures and forecast
 - Flexible inflation targeting gives some weight to output gap
- **Reconsidered after the crisis**



Inflation targets in 2012

What reactivity?

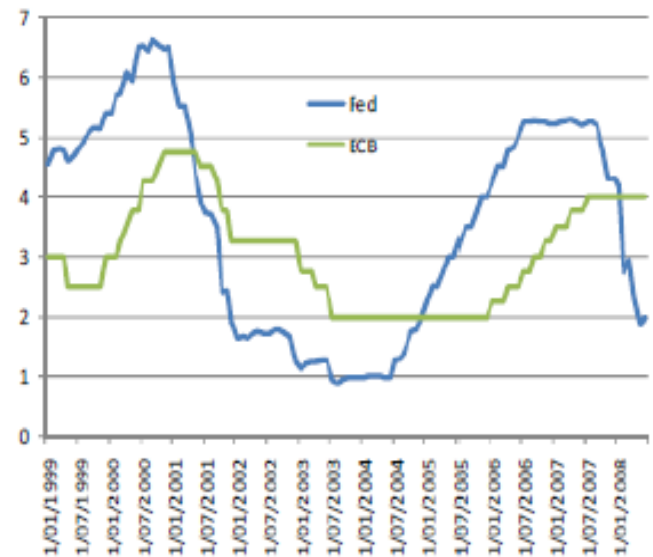
“The conduct of monetary policy in the United States has come to involve, at its core, crucial elements of risk management. Policy practitioners operating under a risk-management paradigm may, at times, be led to undertake actions intended to provide insurance against especially adverse outcomes.”

Alan Greenspan, 2004

“[The central bank needs] immunizing monetary policy against short-termism by solidly anchoring it on a medium-term perspective. Constantly bombarded by economic news, a central bank risks being swamped by the latest indicator and by its conjectures concerning markets’ likely reaction to the latest indicator.”

Jean-Claude Trichet, 2004

Policy rates in 2007-2008



➤ **ECB less prone to adjusting policy rates aggressively, but more flexible in providing liquidity**

Should financial asset prices become objectives of monetary policy?



Pros

- Promote financial stability
- Asset prices as leading indicators of CPI inflation



Cons

- Moral hazard
- One instrument, two objectives
- Target choice?

➤ *Asset prices do play a role as leading indicators of inflation but there are other instruments than the policy rate to promote financial stability: counter-cyclical capital buffers, taxes, etc.*