Monetary Policy in a Small Economy after Tsunami:

A New Consensus on the Horizon?

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Czech National Bank

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Presentation Outline / Structure of background paper

- 1. Introduction
- 2. The Great Moderation versus the Asset Markets‘ Wilderness
- 3. The BIS Approach, or the Austrian Business Cycle Revisited
- 4. Global Liquidity, Asset Prices and Monetary Policy before the Crisis
- 5. Does the Exchange Rate Make Monetary Policy Strategy Different?
- 6. Monetary Policy and Financial Stability in the New Consensus
- 7. The New Consensus and Post-Crisis Policy Making
- 8. Conclusion

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- **ASSET PRICE BUBBLES**
- Kamil JANÁČEK
  Asset Price Bubbles (Introduction)
- **Jan Frait, Zlatuše KOMÁRKOVÁ, Luboš KOMÁREK**
  Monetary Policy in a Small Economy after Tsunami: A New Consensus on the Horizon?
- Ivana KUBICOVÁ, Luboš KOMÁREK
  The Classification and Identification of Asset Price Bubbles
- Petr ZEMČÍK
  Is There a Real Estate Bubble in the Czech Republic?
- Luboš KOMÁREK, Michal HLAVÁČEK
  Regional Analysis of Housing Price Bubbles and their Determinants in the Czech Republic
- Alexis DERVIZ
  Real Implications of Bursting Asset Price Bubbles in Economies with Bank Credit

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1. Introduction

- 2nd half of the 80s ⇒ response of CB´s to two high inflation decades ⇒ price stability was achieved relatively quickly…. but
- fall in inflation expectation and the efforts to stop currency appreciation ⇒ decline of interest rates to historically low values ⇒ „Great Moderation“ lead to gradual decline in risk premia ⇒ economic agents become more risk neutral than risk averse…….and the result was:
- financial markets were losing part of their capacity to value risk ⇒ **Tsunami effect** (risk first disappeared from the markets like water from the oceans before the form of a destructive tidal wave)

1. Introduction

Great Moderation

Stable inflation and solid economic growth

Finacial Crisis

Lehman Brothers

PIGS „disease“

New Concensus?

Promise of better time?

2. The Great Moderation versus the Asset Markets' Wilderness

- I. *„benign neglect view"*
  - CB cannot an should not try to constrain asset price bubbles on their own;
  - Direct response to asset price $\Rightarrow$ few if any gains and bring greater variability of output, interest rates and exchange rate;
  - MP is not a sufficient tool to contain the potentially damaging effect of booms and busts in asset prices;
  - Application of the Tinbergen separation principle (**n** targets require at least **n** tools)
  - Proponents: Bernanke, Getler, …

2. The Great Moderation versus the Asset Markets‘ Wilderness

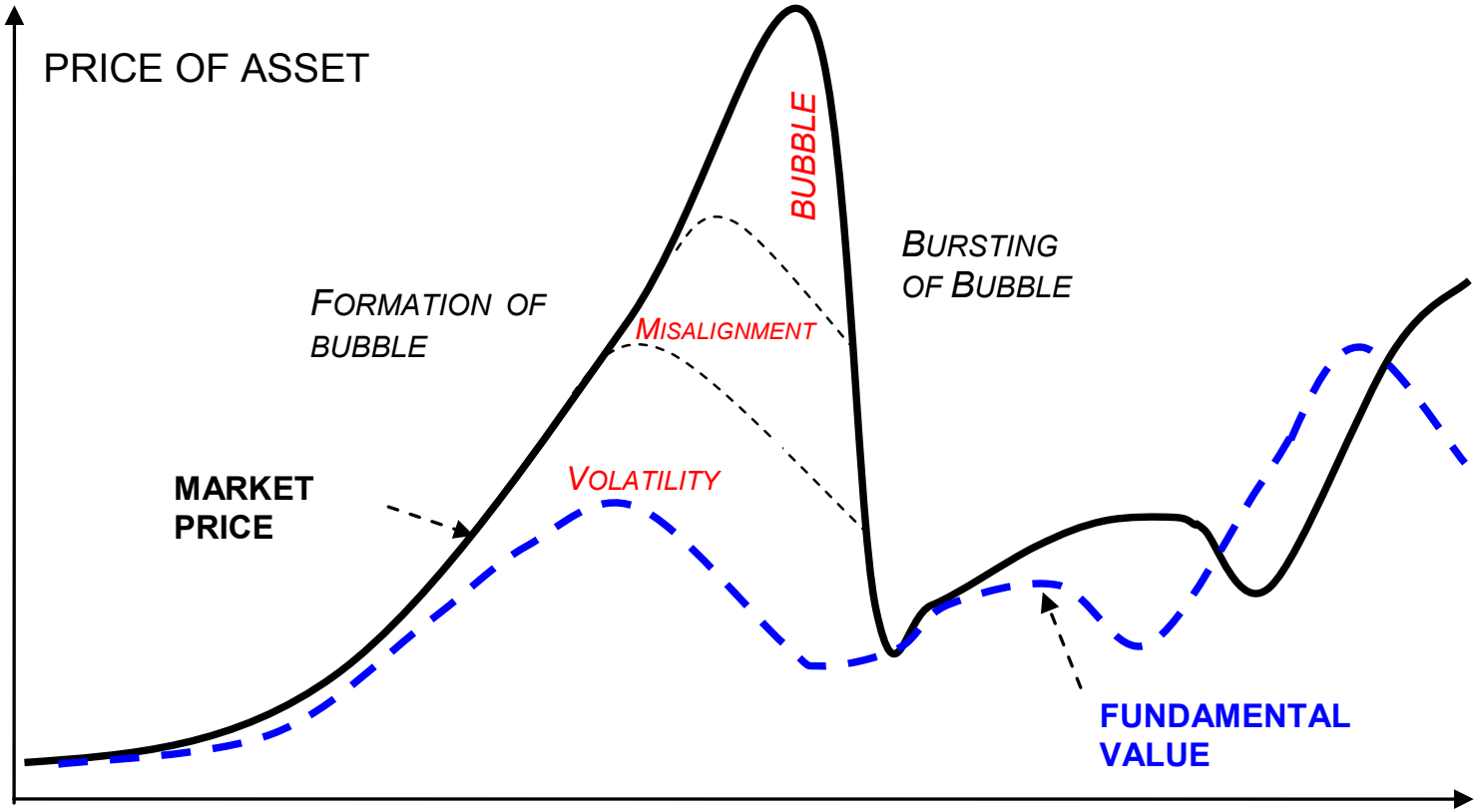
- *II. the „predominant view“*
  (more active MP approach to asset price swings)
  - CB should „lean against the wind“ cannot an should not try to constrain asset price bubbles on their own;
  - Inflation targeting CB is likely to succeed by adjusting its policy rates not only in response to its forecast of the inflation and output gap, but also in response to asset prices $\Rightarrow$ reduction of output volatility….. but…
  - they not recommending that CB either seek to burst bubbles or target specific levels of asset prices
  - It is important for CB to develop a framework for policy making that account for the various sources of uncertainty that they face in meeting their objectives
  - Proponents: Cecchetti et al., …

2. The Great Moderation versus the Asset Markets' Wilderness

- Traditional arguments against the „lean against the wind" strategy;
  1. CB cannot reliably identify bubbles in asset prices, since it does not have any information advantage relative to private market participants.
  2. Timing of the CB´s reaction is not easy to set.
  3. Pursuing a separate asset price objective could mean having to compromise on the inflation objective.
  4. CB´s focus on assets could lead to public confusion about its policy objectives.
  5. Even if a CB can identify bubbles, MP does not posses appropriate tools for effective use against them.

2. The Great Moderation versus the Asset Markets' Wilderness

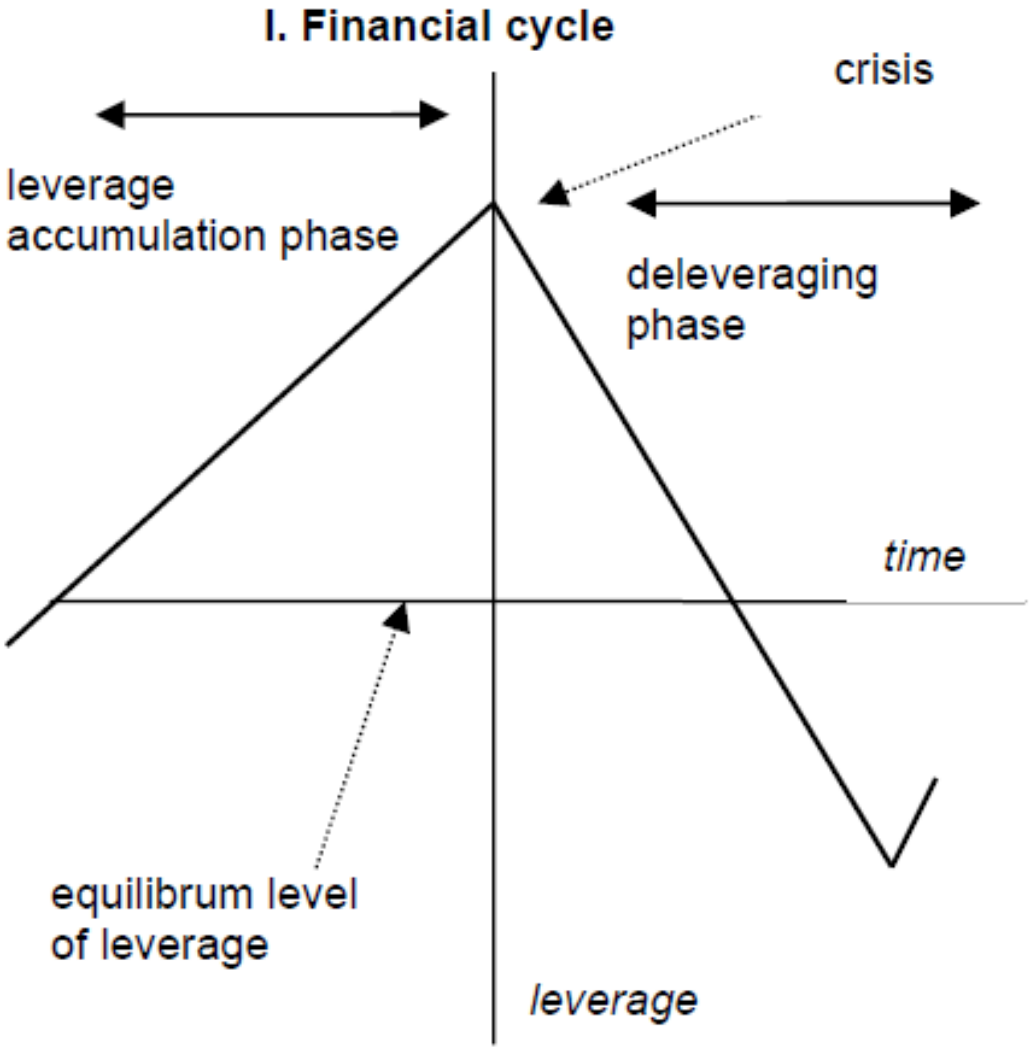
Volatility, misalignment, bubble…



3. The BIS Approach or the Austrian Business Cycle Revisited

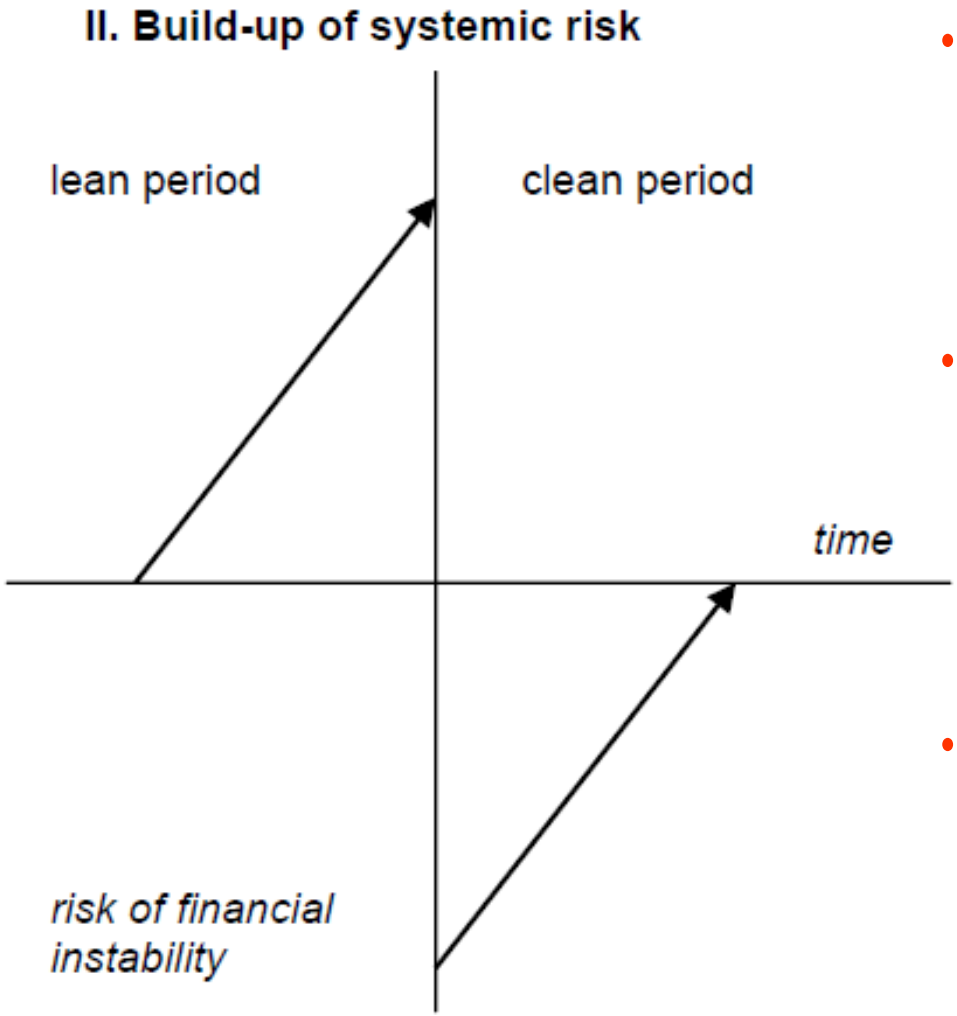
- BIS approach:
  - Achieving both price and output stability still does not automatically guarantee financial stability
  - One of the primary causes of financial instability (simultaneously contributed to the stabilization of inflation) is behaviour of globalised and liberalised financial markets.
  - Liberalized financial markets have create favorable environment for endogenous „boom and bust“ cycle.
  - In periods with low volatility of inflation and stable growth market participants may be led to underestimate the level of risk in the economy $\Rightarrow$ agents have incentives to take on more risk than before….
  - The asymmetric „can't lean, but can clean“ (originally by Greenspan) approach to MP creates sources of long-term instability and that optimal MP should be much more symmetric.

6. Monetary Policy and Financial Stability in the New Consensus



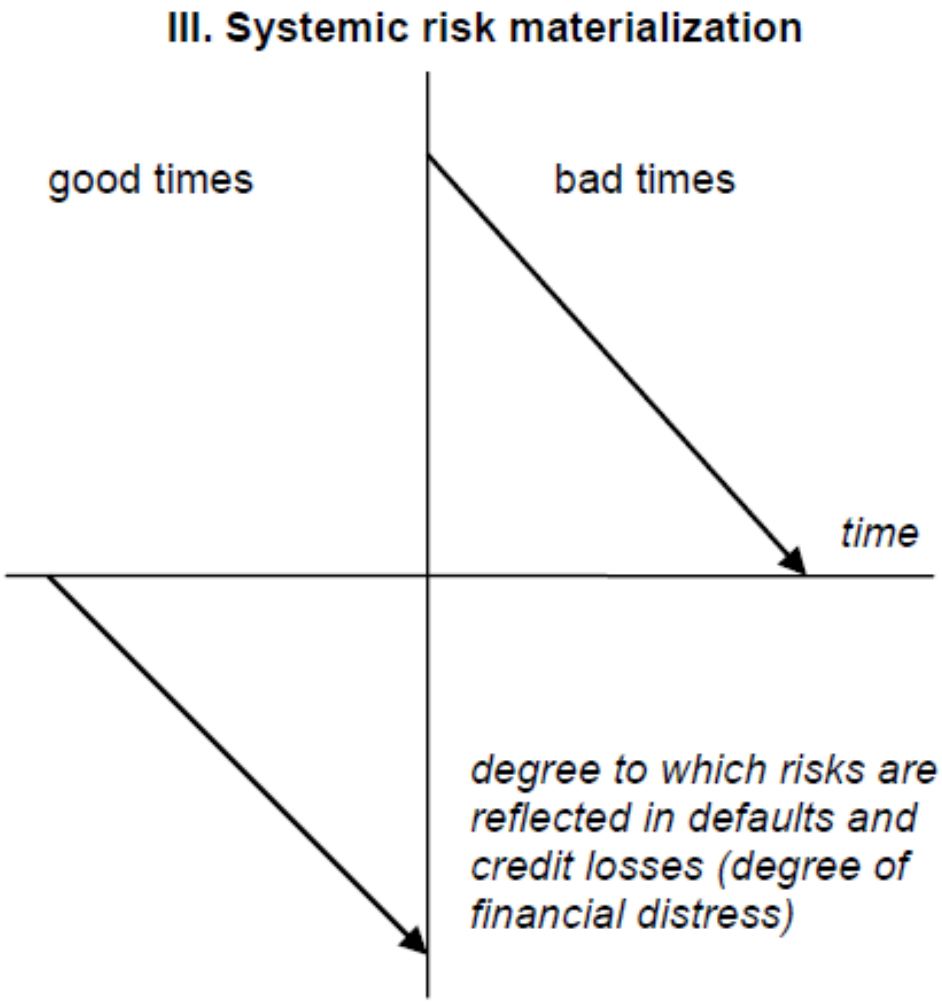
- L↑ until the point, when the crisis breaks out ⇒ optimistic phase (temporarily good times)
- L↓ (deleveraging) ⇒ pessimistic phase, although remaining high in the initial phase of the crisis
- L in the stock sense adjusts to changed economic conditions, but it cannot be a MP response variable (no a forward-looking variable)

6. Monetary Policy and Financial Stability in the New Consensus



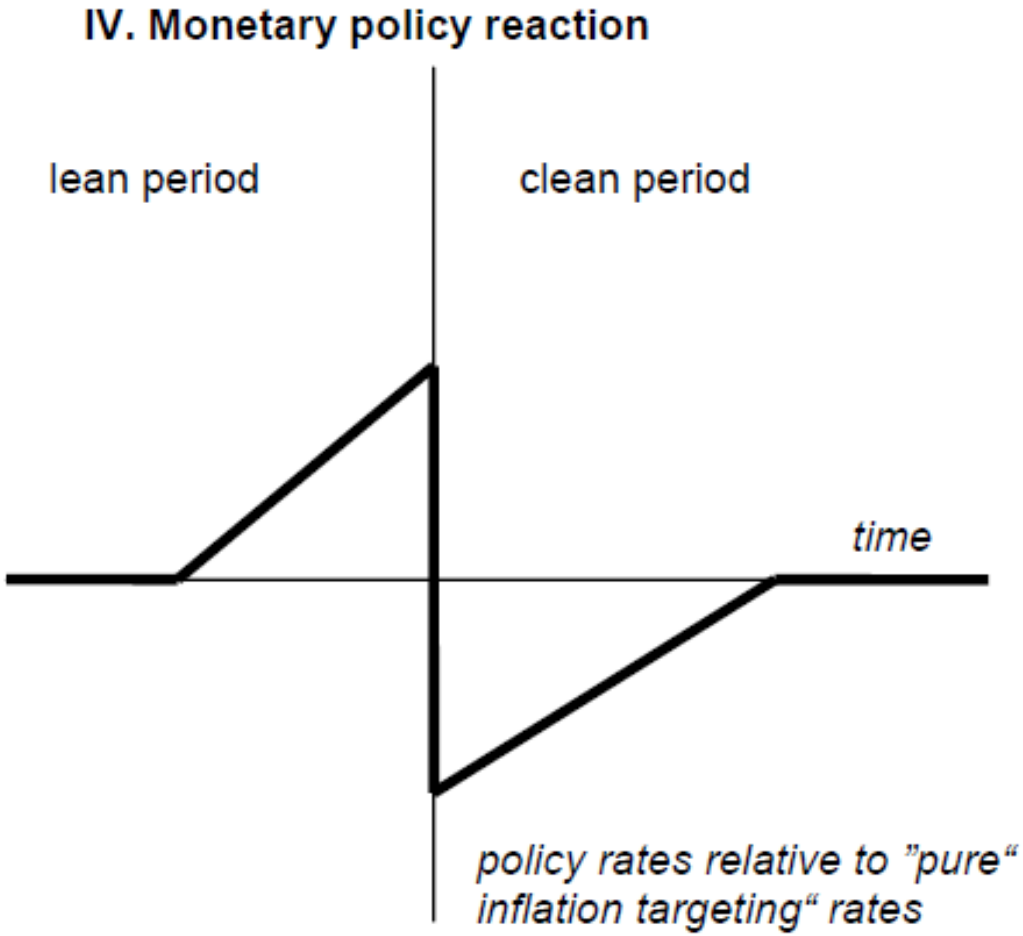
- The risk of financial instability is strongly discontinuous variable (risk ↑ in good times as L↑ and ↓ when crisis occurs)
- Sources of risk of financial instability:
  (i) availability of cheap credit
  (ii) overly optimistic expectations about future income and asset ⇒ development of asset price bubble.
- Bubble burst ⇒ over-pessimistic reaction of agents (reduce their demand for credit) ⇒ phase of deleveraging sets

6. Monetary Policy and Financial Stability in the New Consensus



- In good times, when the risk of financial instability ↑ , default rates ↓ , NPL ratio ↓, banks creates fewer provisions and report low credit losses.
- In the beginning of bad times the situation is reversed ⇒ CB based on stress test start to assess if the financial sector withstand the materialization of risks
- *Financial stability analysis must be focused in good times on assessing the risk of financial instability and in the bad times on measuring the magnitude of the problem related to the materialization of risks that were previously „allowed“ to build up.*

6. Monetary Policy and Financial Stability in the New Consensus



- When the risk of financial instability is rising ⇒ MP rates should at some point rise sharply above neutral level consistent with „pure" inflation targeting)
- When the crisis breaks out, the central bank should respond with sharp rate cuts ⇒ as the economy recovers, rates would then start to be increased back to the neutral level.

8. Conclusion

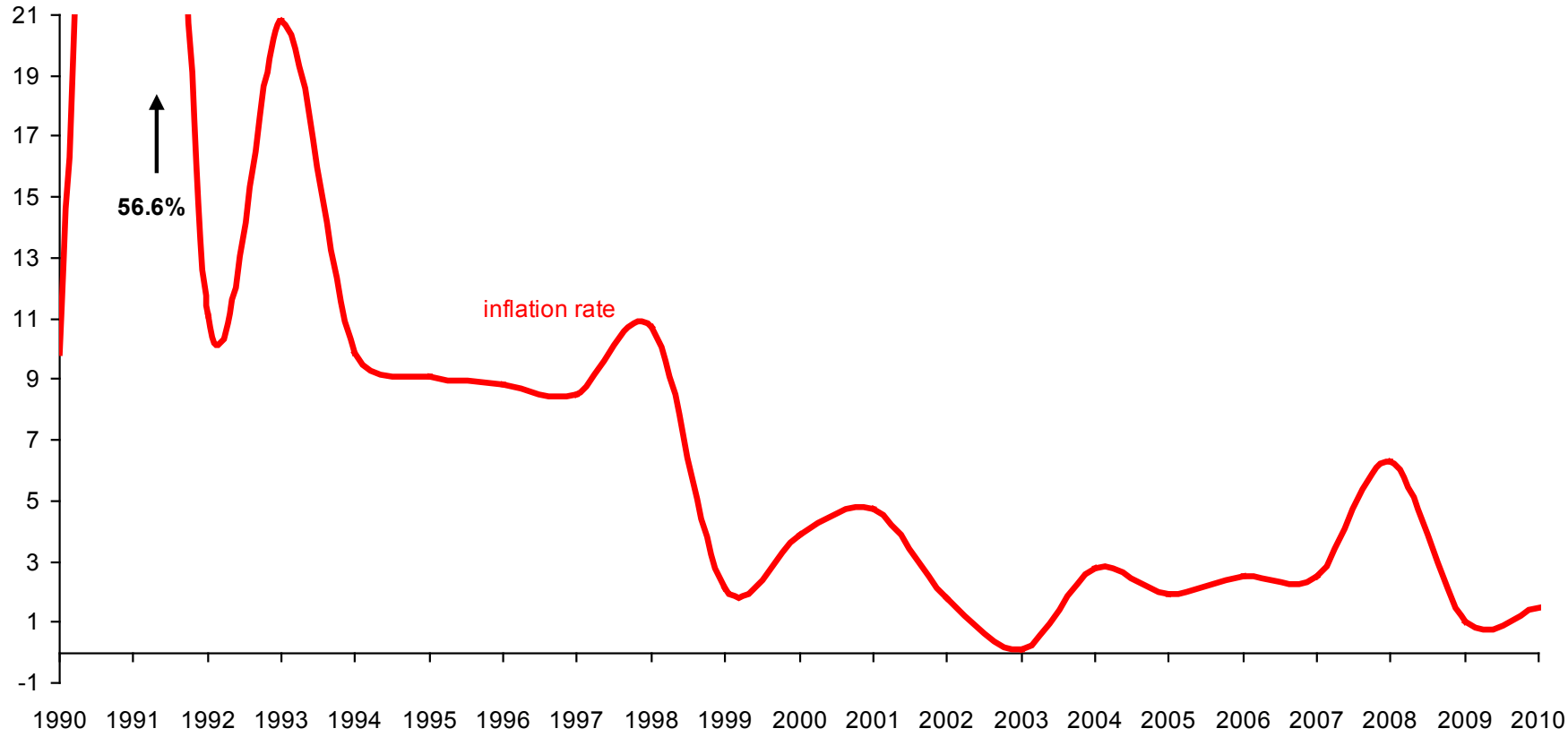
- The financial crisis significantly modified views concerning the relationship among monetary policy, asset prices and financial stability.
- The financial tsunami effect was observed, i.e. decline of risk premia during tranquil years of the Great Moderation replaced by a destructive tidal wave (CDS spreads ↑)
- We have confronted the predominant pre-crisis view with the alternative view of BIS economists
  - Pre-crisis: CB should pay attention to asset market developments, but cannot and should not try to constrain asset price bubbles on their own
  - BIS-view: APB had been the wrong focus and a proper emphasis should be place on financial imbalances and the risks of financial stability

8. Conclusion

- Following an assessment of what happened during the last decade the approach favoured by the economic profession has begun to shift from benign neglect to leaning against the wind strategy.
- These lead to the fundamental changes to the existing monetary policy paradigm (via the way the financial sector and its role in the transmission mechanism is covered in the existing models) $\Rightarrow$ “New consensus“
- We expect the features of the new consensus to become embodied in both the macroeconomic models and monetary policy frameworks of CB´s.

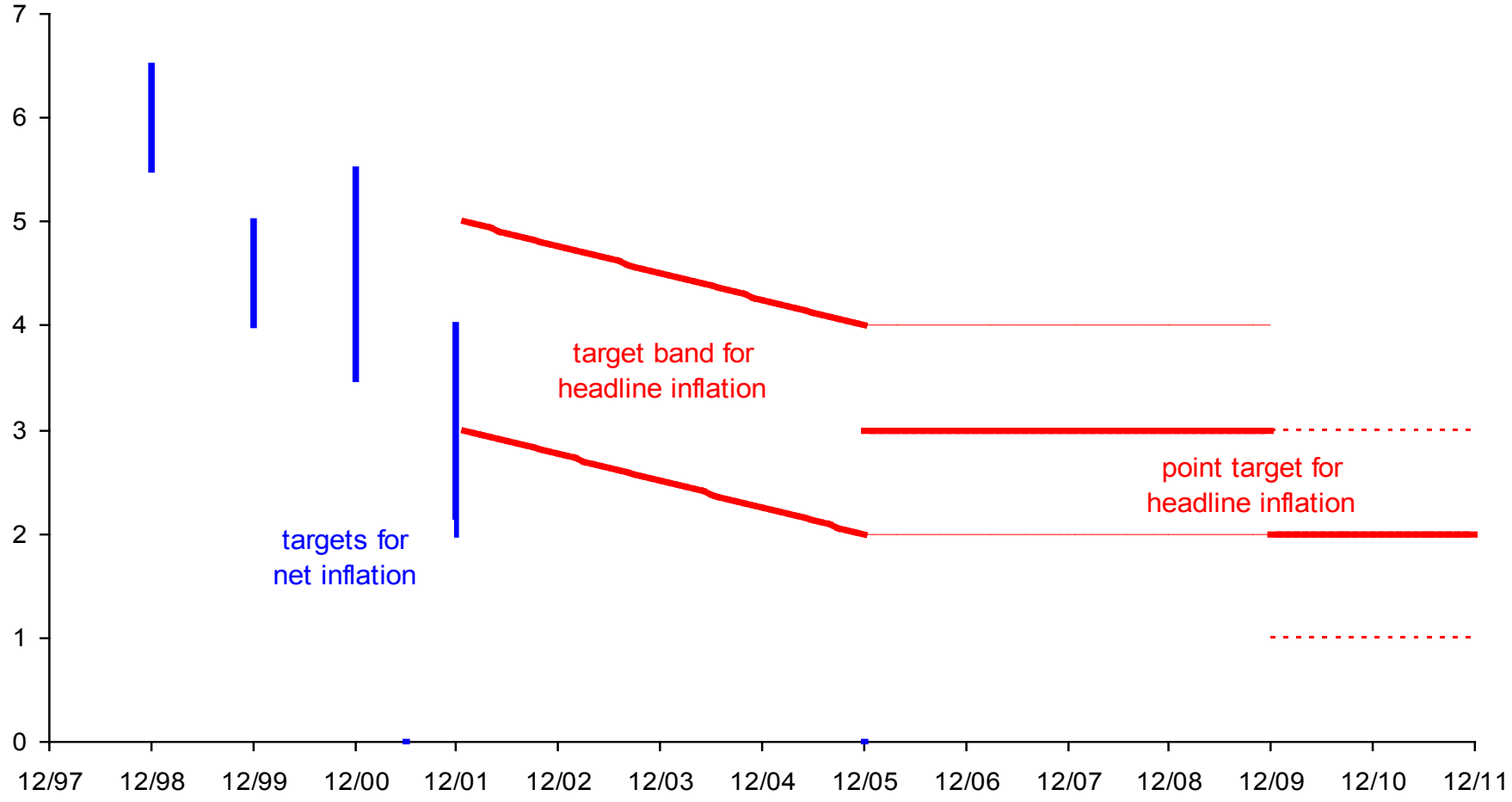
Czech Economy
a) inflation

Clear disinflation process, from 1998 successful IT framework



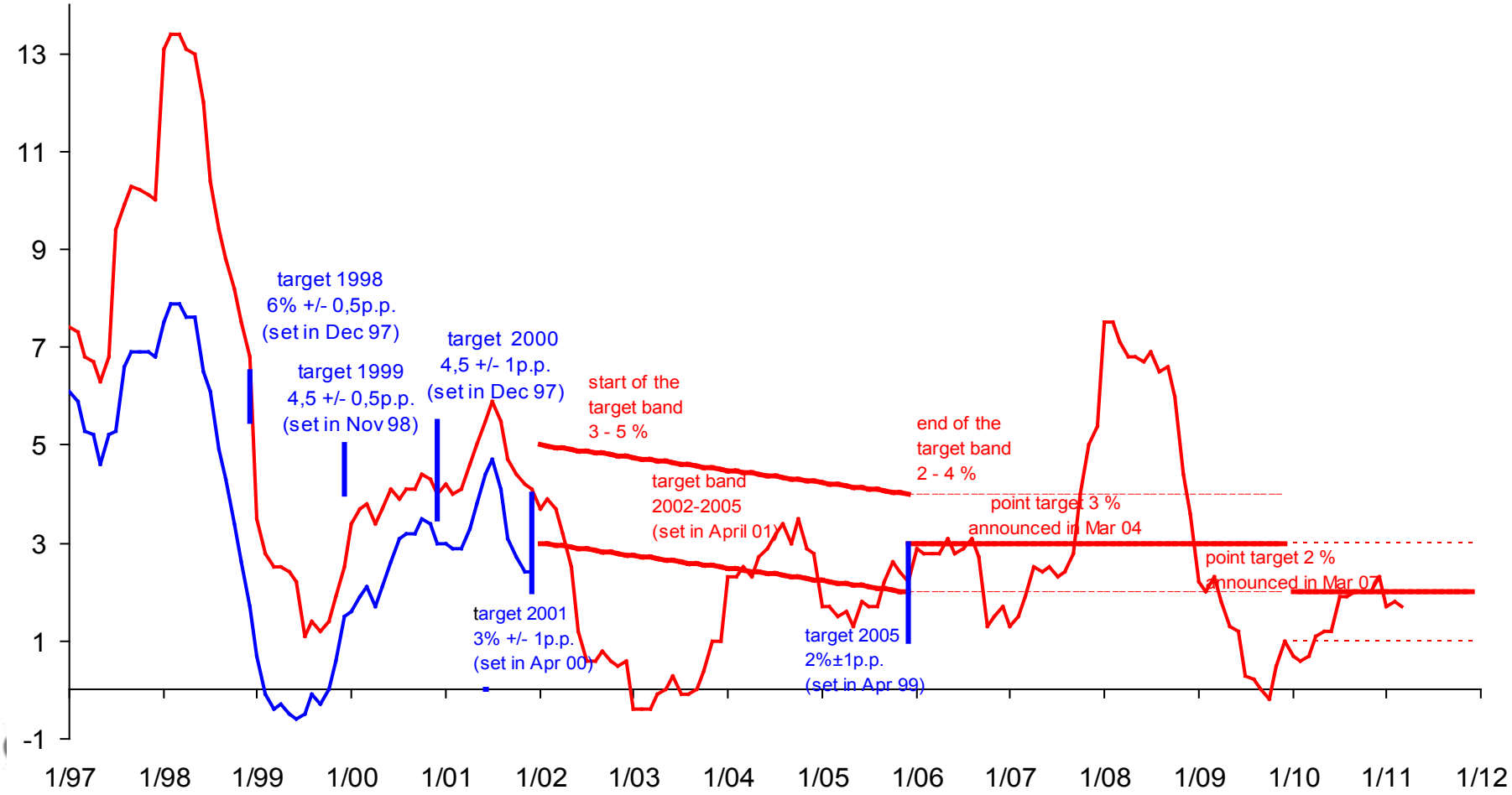
Czech Economy
a) inflation

Few mistakes in implementing the IT framework at beginning .....



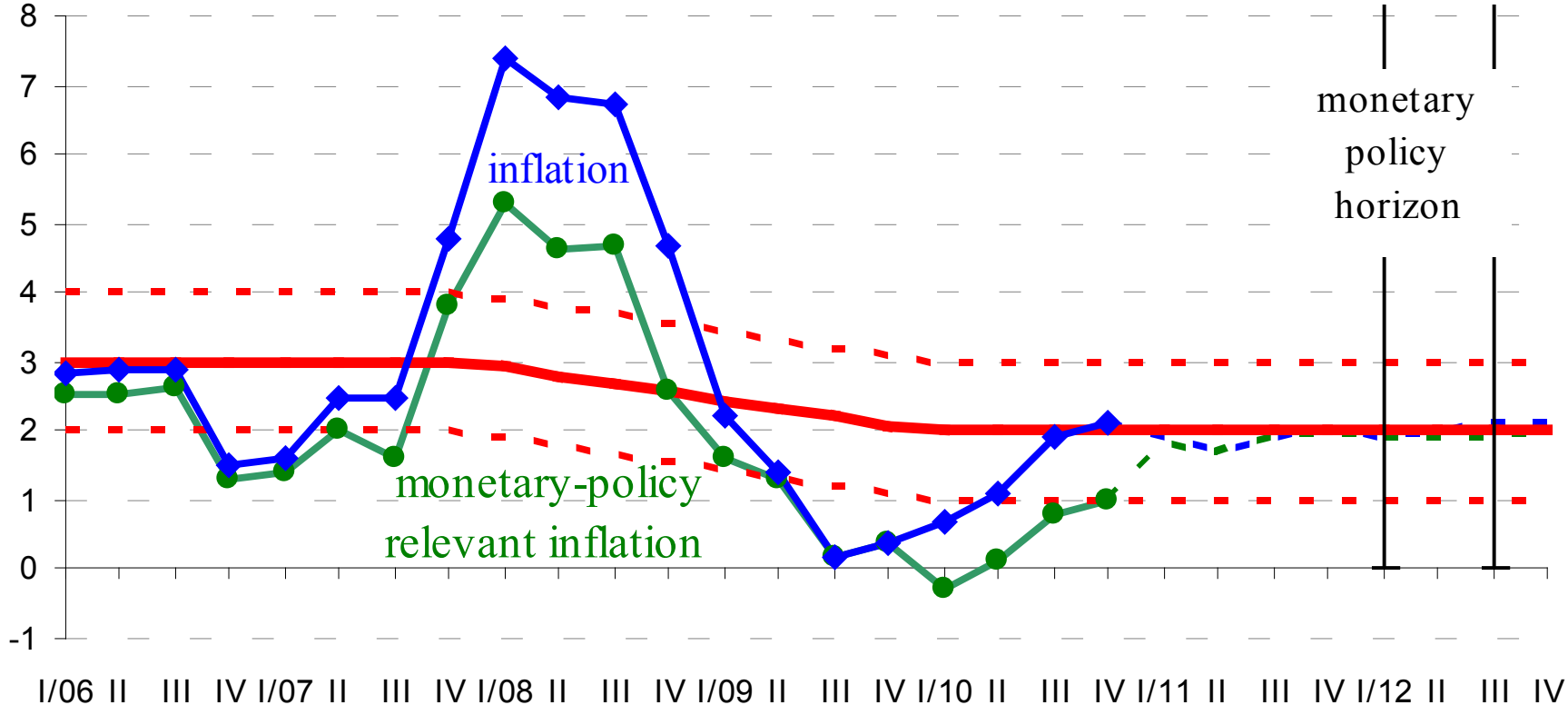
Czech Economy
a) inflation

Fulfilment of inflation targets were not always perfect…..



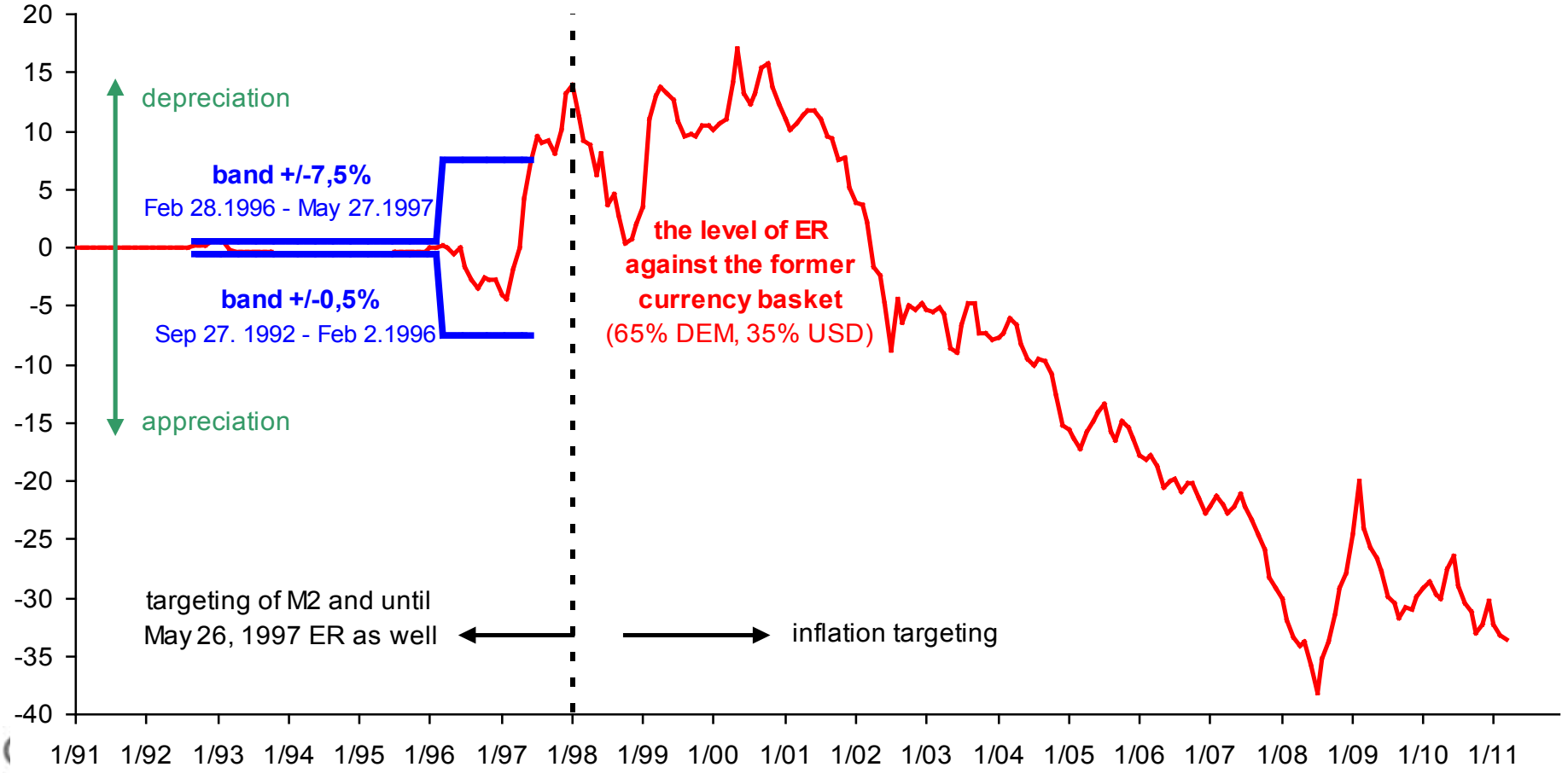
Czech Economy
a) inflation

May 2011 prediction – we are exactly at the 2% inflation target



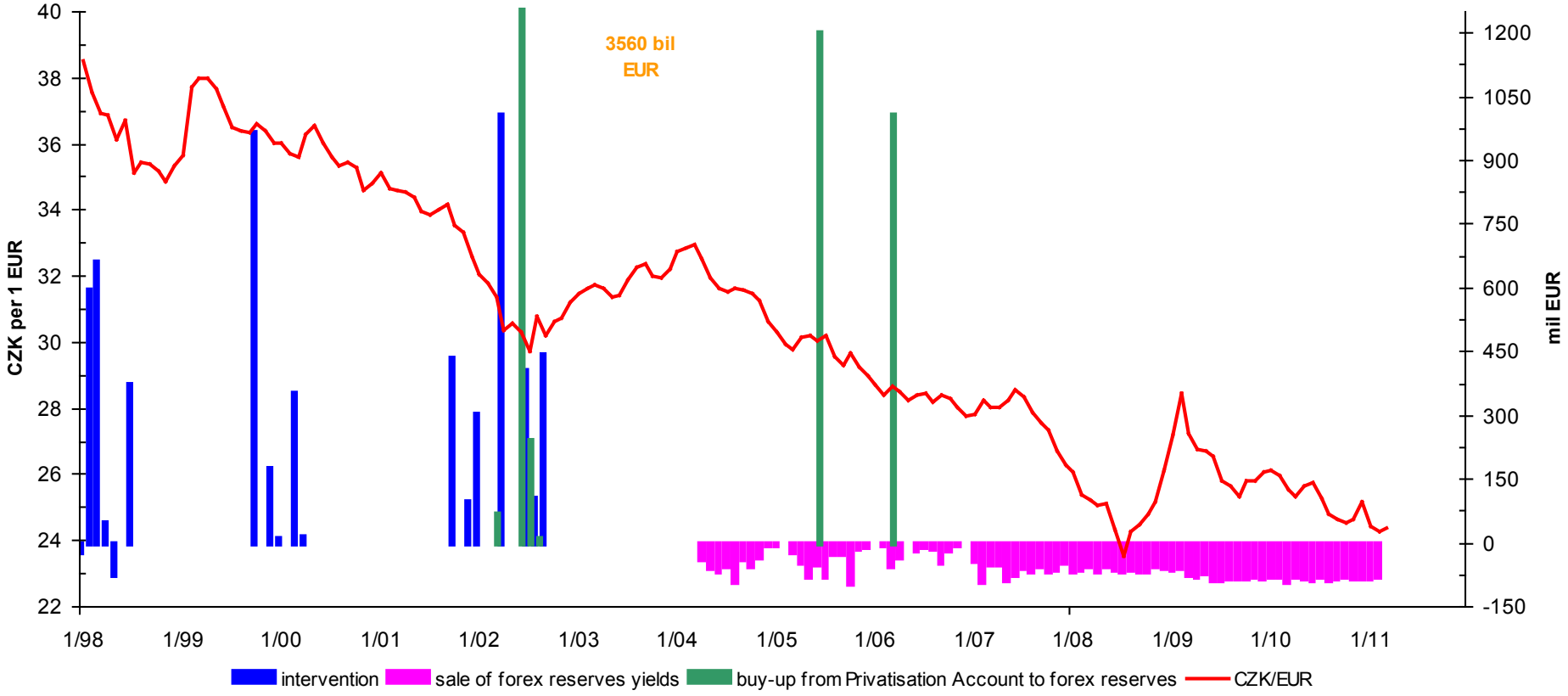
Czech Economy
b) exchange rate

Exchange rate development of the CZK during last 20 years



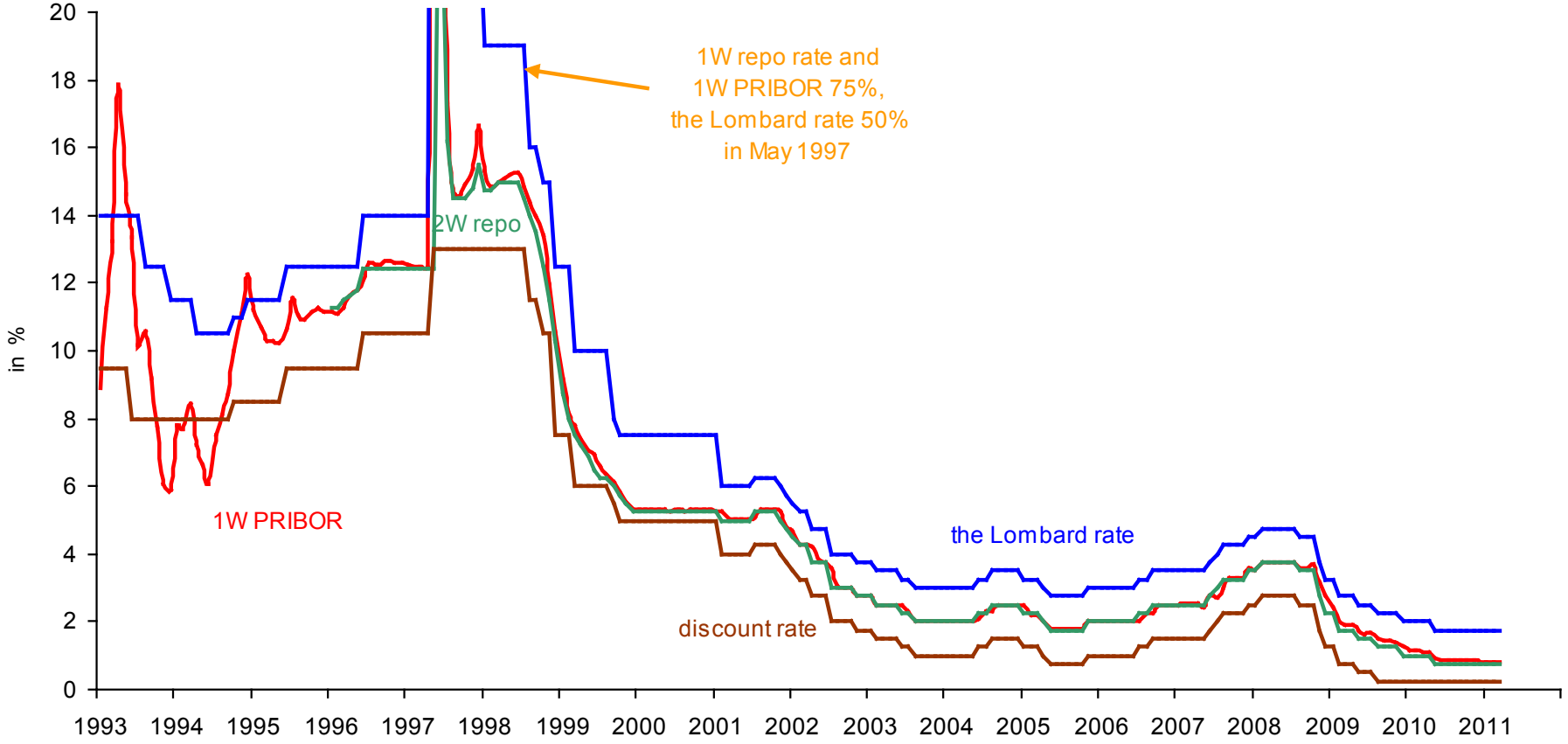
Czech Economy
b) exchange rate

Exchange rate development of the CZK and FX intervention



Czech Economy
c) interest rates

Interest rates stay for last decade very low, sometimes below ECB rates



Thank for your attention!

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Practical techniques for identifying bubbles

A) Trend curves and statistical filters

- Purpose: An initial idea of the degree of misalignment (but without identifying main factors)
- Methods:
  - Standard linear or non-linear fitting methods
  - Simple univariate filtres (Hodrick-Prescott, Band-Pass filter); discretion in parameter choosing
- Examples: Goodhart and Hofmann (2008), Borio and Lowe (2002), Adalid and Detken (2007), Hlaváček and Komárek (2009, 2010), Komárek and Kubicová (2011).

Practical techniques for identifying bubbles

B) Ratios

- Purpose: An initial idea of the degree of misalignment (but without identifying main factors)
- Types of ratios: Price-to-Income, Price-to-Rent, Price-to-Earning
- Examples: Himmelberg, Mayer and Sinai (2005), Hlaváček and Komárek (2009, 2010), Komárek and Kubicová (2011).

Practical techniques for identifying bubbles

C) Empirical Models

- Purpose: A detailed idea of the degree of misalignment
- Methods: regressions, cointegration, panel data
- Examples: Himmelberg, Mayer and Sinai (2005), Hlaváček and Komárek (2009, 2010), Komárek and Kubicová (2011).

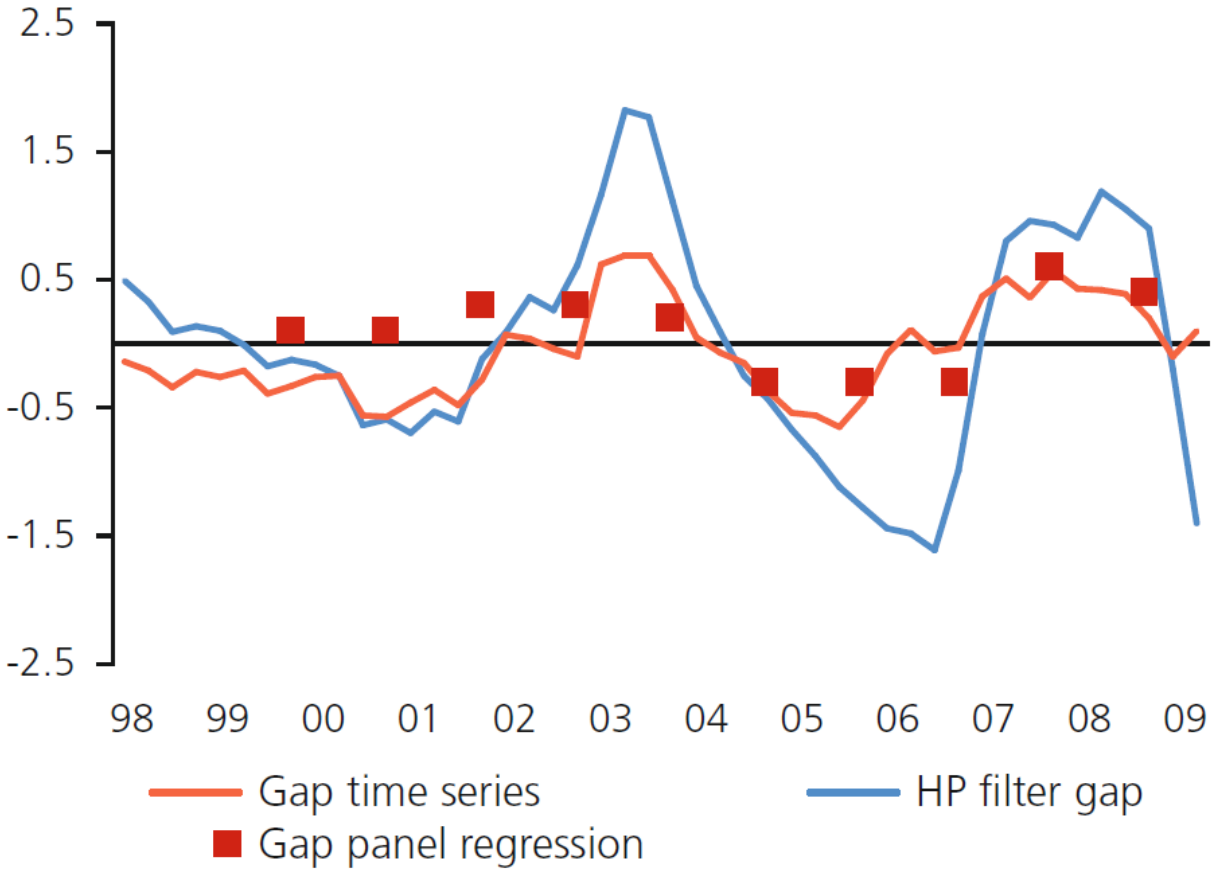
Practical techniques for identifying bubbles

D) Structurally reach theoretical models

- Purpose: A very detailed idea of the degree of misalignment
- Methods: simultaneous models
- Examples: Hlavacek, Komarek and Motl (work in progress).

Results of identifying bubbles for housing markets

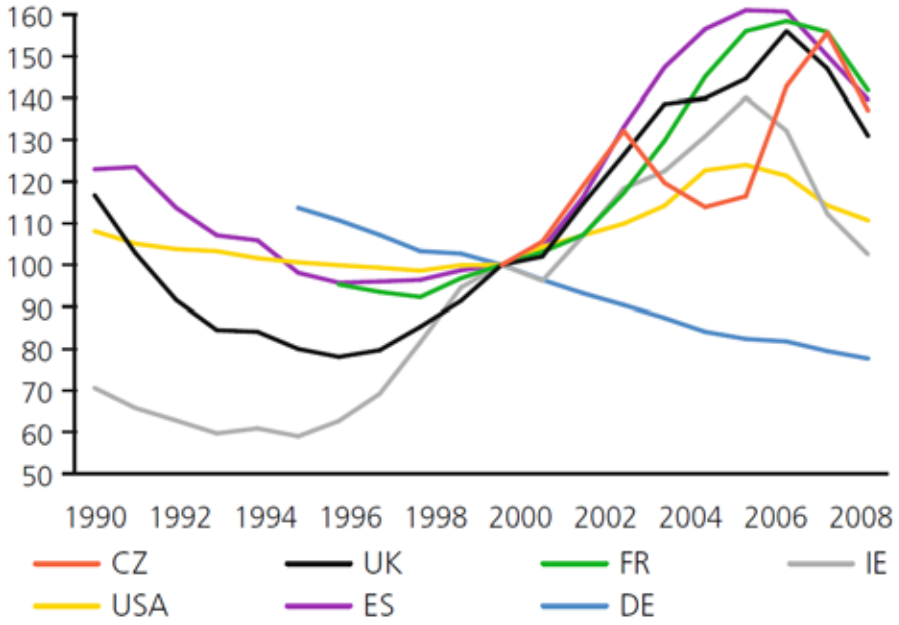
A) Trend curves and statistical filters



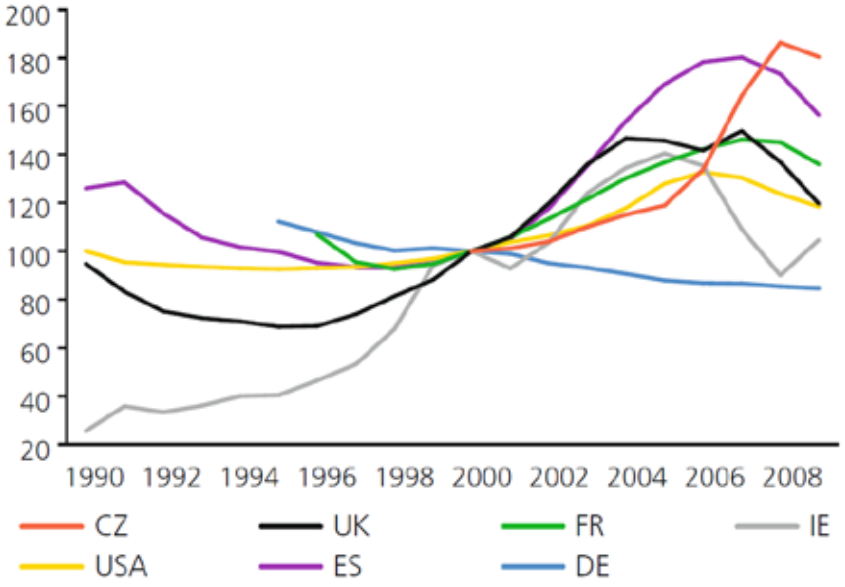
Results of identifying bubbles for housing markets

B) Ratios

Price-to-income
(absolute index; 2000 = 100)

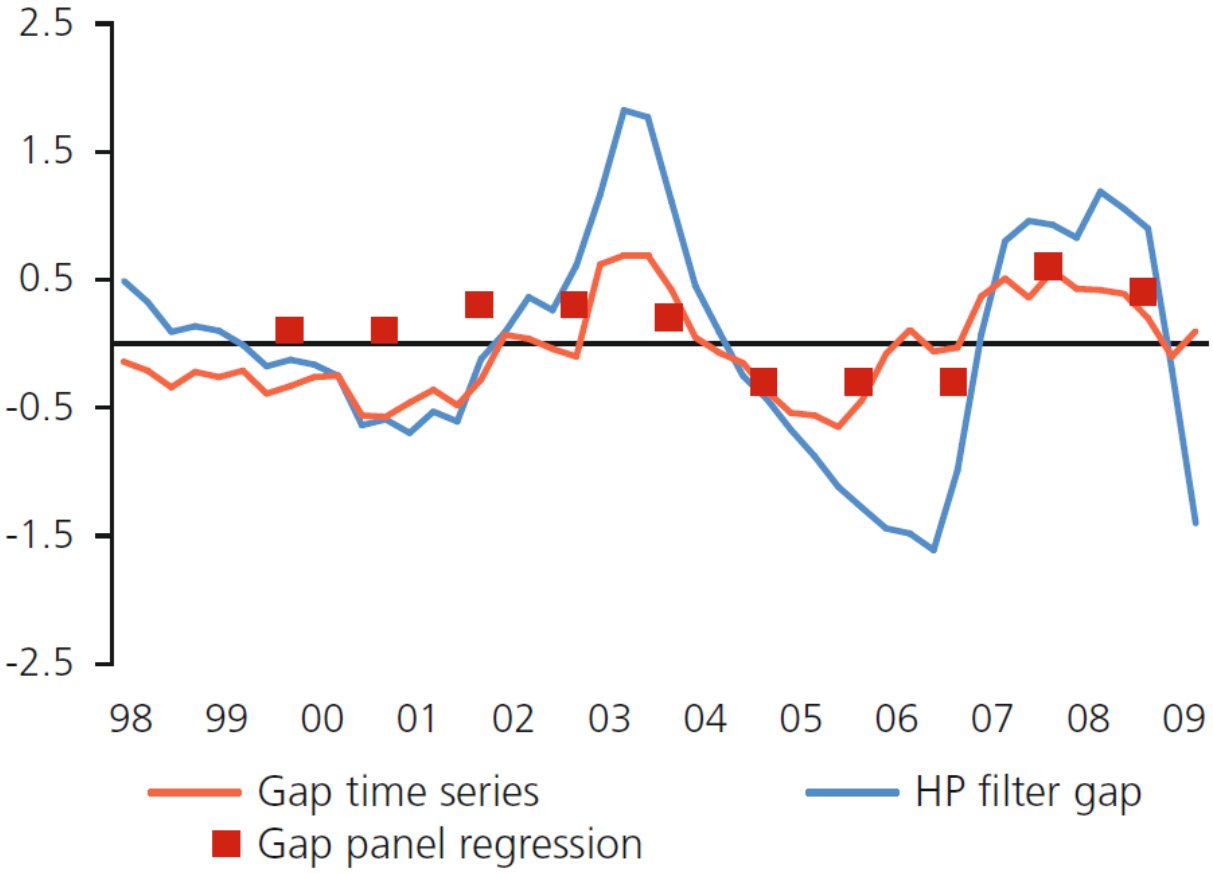


Price-to-rent
(absolute index; 2000 = 100)



Results of identifying bubbles for housing markets

C) Empirical Models



Concluding remarks

To sum up, approximate identification of bubbles is possible ex post, but:

- (i) continuous asset price monitoring is a necessary condition for this;
- (ii) we recommend using the entire range of methods and models available, from the simplest (trend curves and filters) to the comprehensive (models taking into consideration supply and demand factors and other theoretical models);
- (iii) it is desirable to create structurally rich models; (facilitating examination of the effects of asset market bubbles);
- (iv) it is vital to respect specifics across countries and markets (for example, large and growing deviations from trend in countries with undeveloped financial markets do not necessarily imply the existence of a bubble, owing to base effects).

Background papers

- Komárek et. al. (2010): Practical Approaches to the identification of Asset Market Bubbles. Financial Stability Report 2009/10, Box 5, pp 49-52. http://www.cnb.cz/en/financial_stability/fs_reports/fsr_2009-2010/index.html
- Hlaváček, M. – Komárek, L. (2011): Regional Analysis of Housing Price Bubbles and their Determinants in the Czech Republic. Czech Journal of Economics and Finance - Finance a úvěr. Vol. 61, Issue 1.
- Komárek, L. – Kubicová, I. (2011): The Classification and Identification of Asset Price Bubbles. Czech Journal of Economics and Finance - Finance a úvěr. Vol. 61, Issue 1.