

12. Changing the system vs. changes within the system

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Evropské strukturální a investiční fondy
Operační program Výzkum, vývoj a vzdělávání

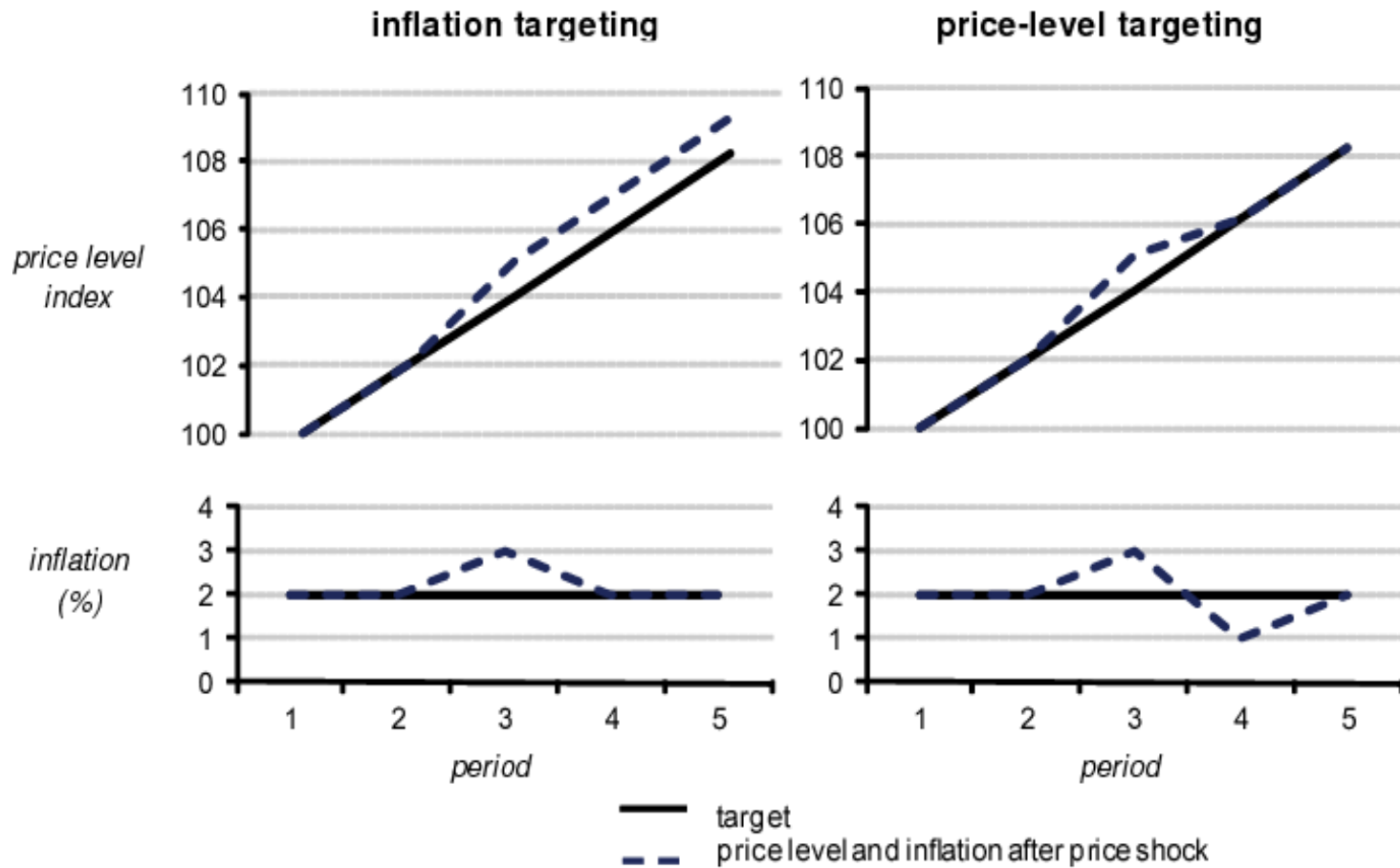
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Outline

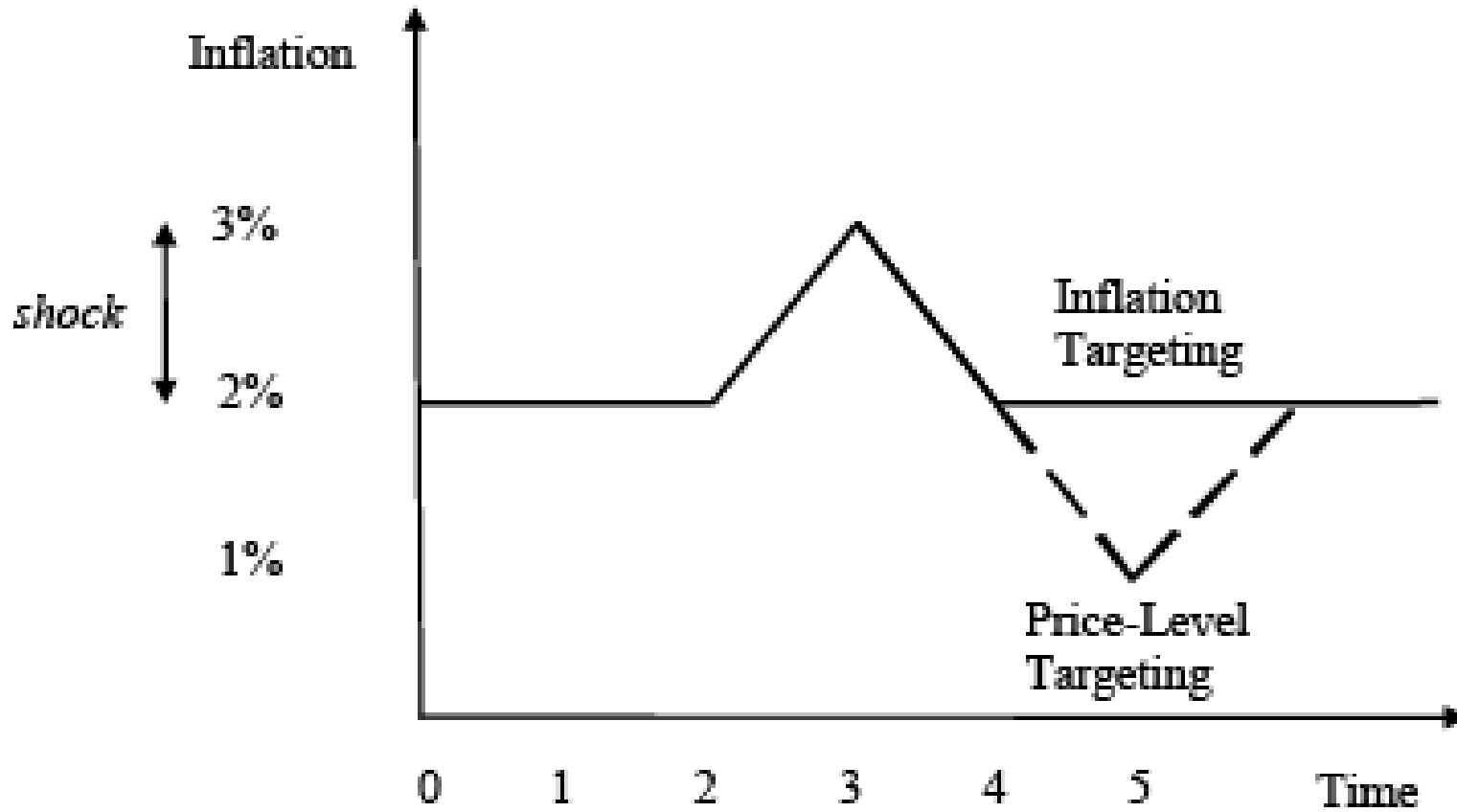
- Price level targeting
- Nominal GDP targeting
- Asset prices – to target or not to target?
- Prices of residential housing and CPI
- Financial stability and asset prices – an exercise
- Conclusions

Price level targeting



Source: Bohm, Filacek et al. (2011)

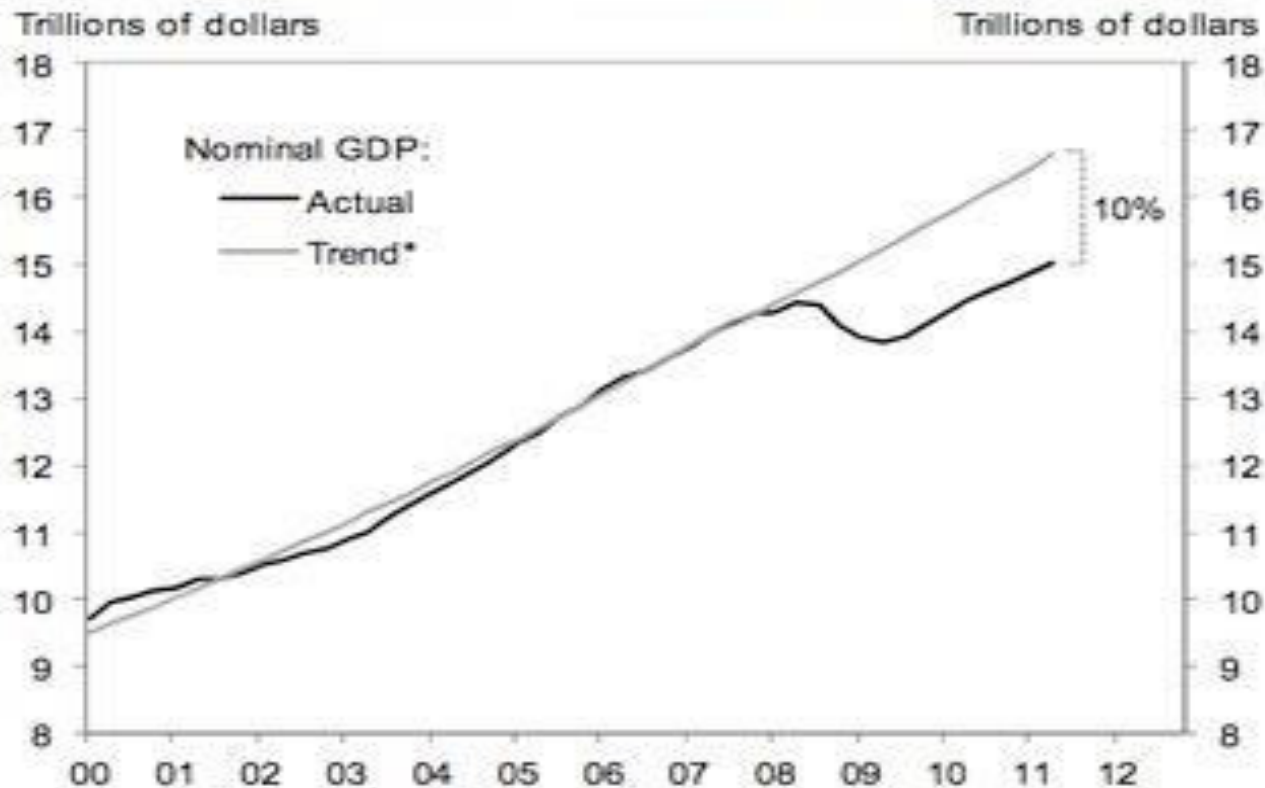
Price level targeting



Source: econlib.org

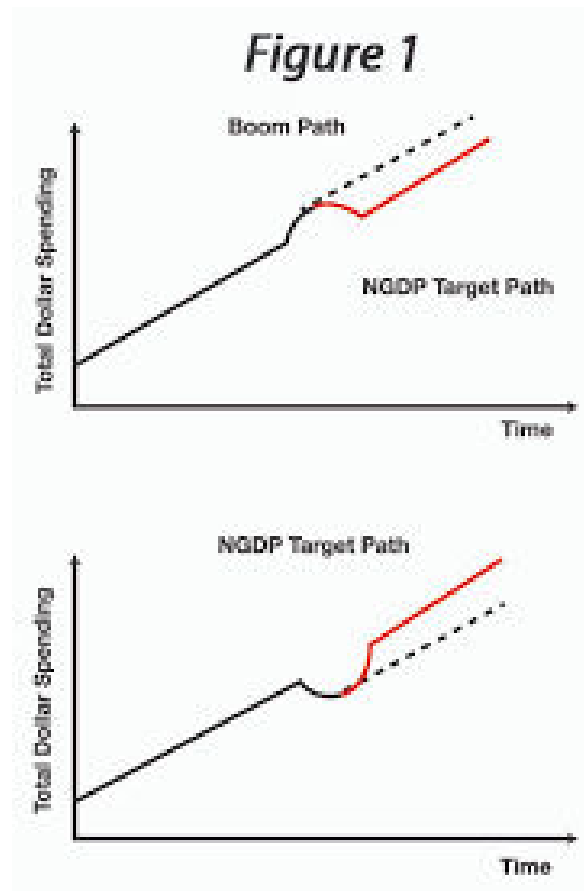
Nominal GDP Targeting – popular during the crisis

Nominal GDP Languishes Far Below the Pre-2007 Trend



* Estimated as level of nom. GDP in 2007Q4 extrapolated backward at historical trend rate of 5.3% and extrapolated forward at assumed 4.5%.
Source: Department of Commerce. GS Global ECS Research.

Nominal GDP Targeting requires that the central bank to be „credibly irresponsible“ even in good times

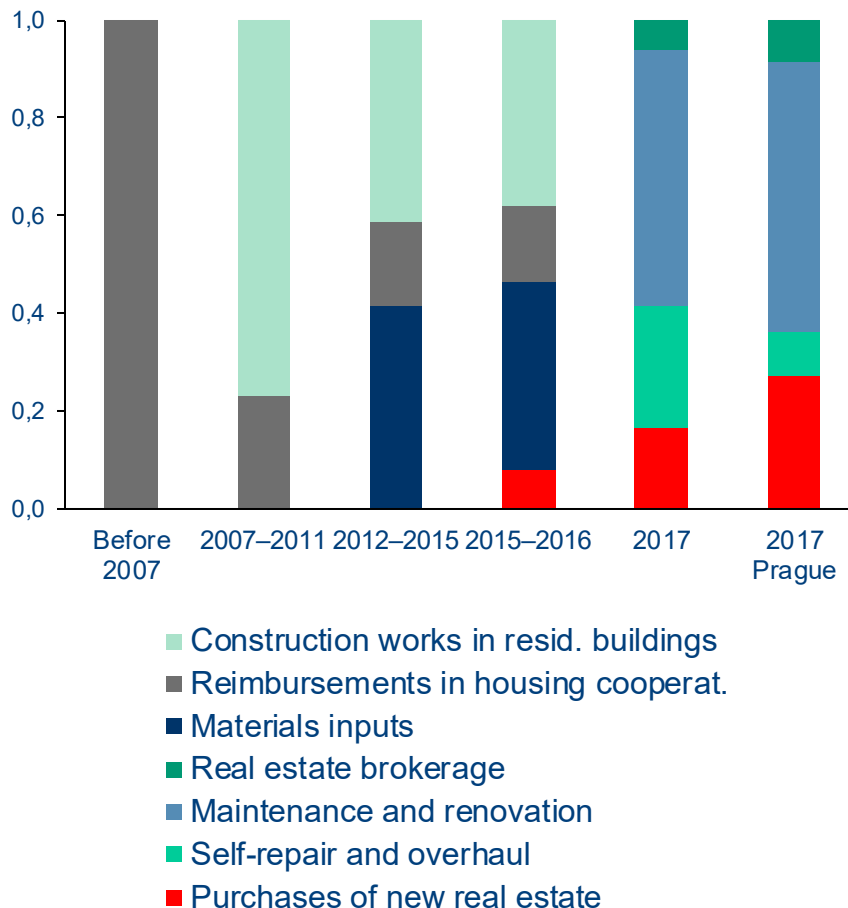


Why asset prices at all? To target or not to target?

- A general notion that each and every financial crisis is typically preceded by (Kindleberger, Alison (2005)) one or more:
 - Elevated real estate prices
 - Elevated asset prices
 - Faster credit growth
 - Decreasing risk premia

House prices in the official consumer price index

The composition of owner-occupied housing costs („imputed rent“) in the Czech CPI



- The Czech Republic is one of the few countries where CPI includes house prices
- Weight cca. 16% in imputed rent, which has about a 9% weight in the CPI
- So the total weight is 1.4% (for comparison: tobacco has a 5% weight)
- CPI only includes the prices of new dwellings

Measuring the costs of owner-occupied housing

- An important item of perceived inflation (especially in the CR, where 80% of the population own their homes)
- CPI typically measures the cost of current consumption
- Alchian and Klein (1973): a proper inflation index measures the cost of expected life-time consumption. Difficult in practice, but four simplification methods have been commonly used:

	Acquisitions	Rental equivalence	User cost	Payments
House purchase	x			
Property rates and charges	x		x	x
Owner-occupied rents		x		
Owner-occupied user costs			x	
Mortgage interest charges				x

Source: Author

Country statistics and owner-occupied housing

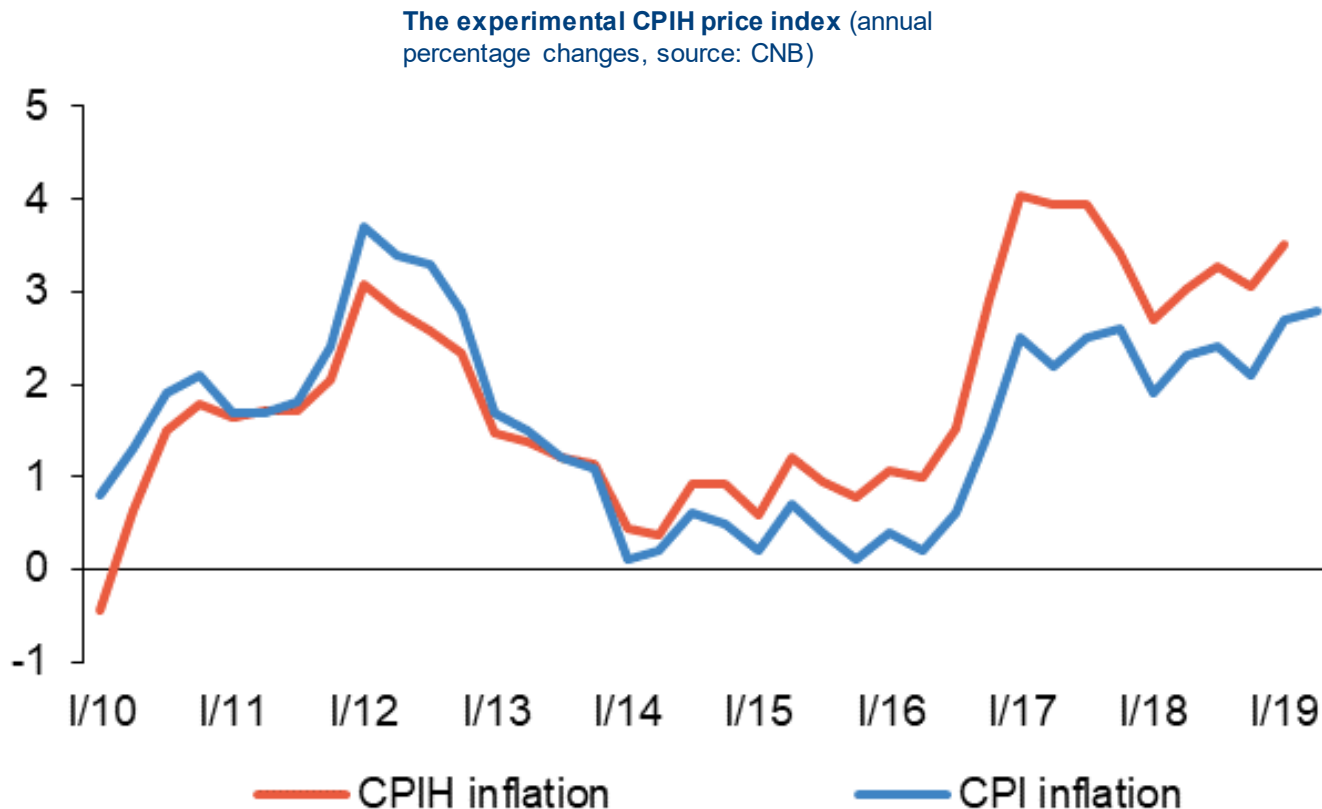
Method	Countries
Net acquisitions	Australia, New Zealand (euro area in 2019?)
Rental equivalence	Denmark, Germany, Netherlands, Norway, Switzerland; Japan, Mexico, South Africa, USA
User costs	Iceland, Ireland, Finland, Sweden; Canada
Payments	Austria
The main CPI measure does not include owner-occupied housing	Belgium, Estonia, euro area, France, Greece, Italy, Luxembourg, Poland, Portugal, Spain, United Kingdom; Argentina, Brazil, China, India, Indonesia, Korea, Russia, Saudi Arabia, Turkey

Source: Hampl, M., Havránek, T. (2017)

Also a VOX column on this topic: [Headline inflation measures shouldn't ignore costs of home ownership](#).

CPIH: alternative inflation including the prices of older dwellings

- The weight of older dwellings in CPIH set to 14 %
- Determined according to the share in household expenditure; consistent with the construction of weights for other CPI items

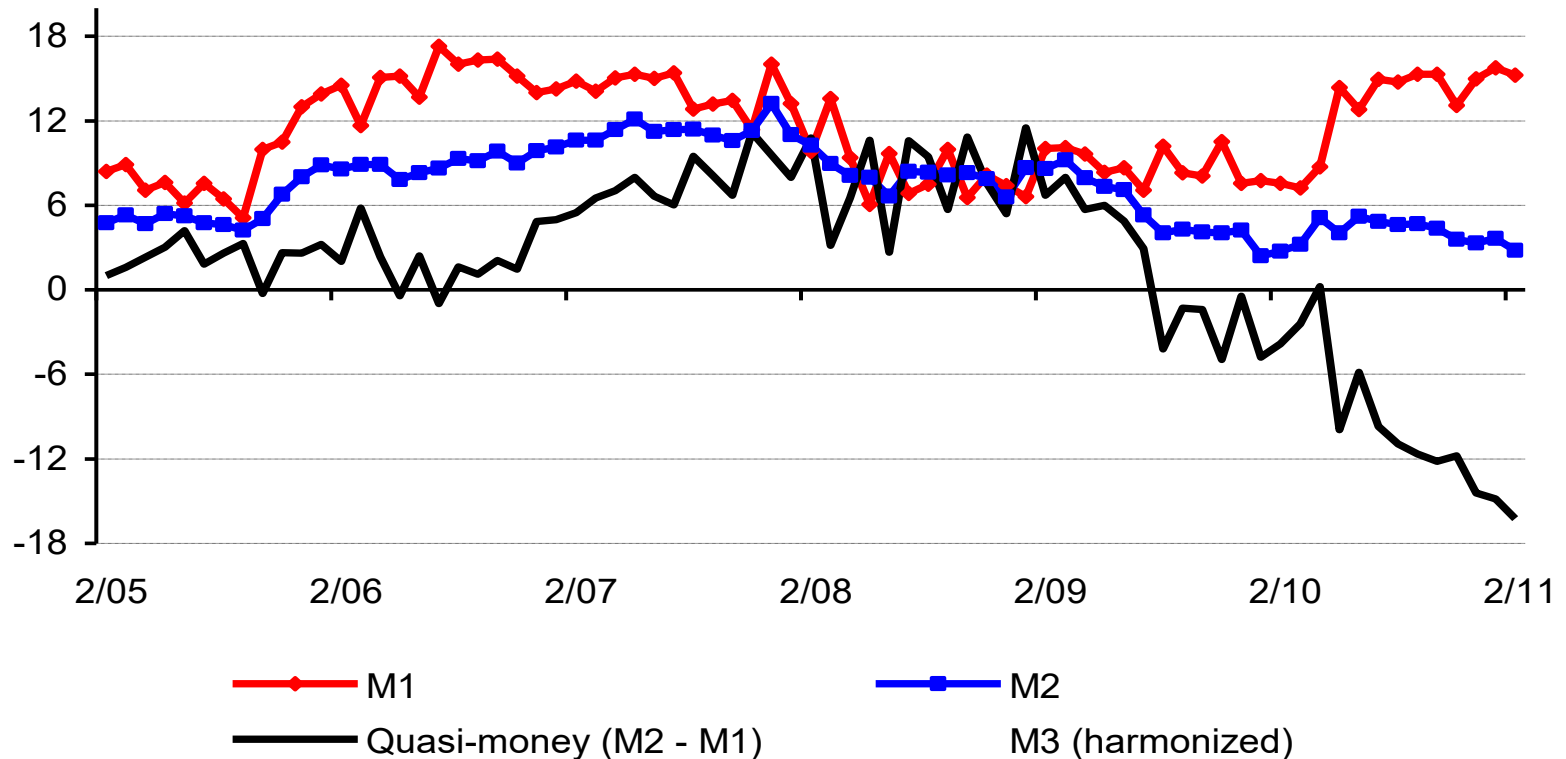


Source: <https://www.cnb.cz/en/monetary-policy/inflation-reports/boxes-and-annexes-contained-in-inflation-reports/An-experimental-price-index-including-prices-of-older-properties>

Why asset prices at all? A case study of the Czech republic after 2008 (source of all the data: Czech National Bank)

- There has been no sign of FS risks in the Czech economy:
 - Broad money supply growth weak
(even though the liquid component is growing fast)
 - Credit growth has been recovering only gradually
 - Real estate prices still declining
 - Risk premiastill elevated
 - The banks could have withstood even strongly adverse situations.

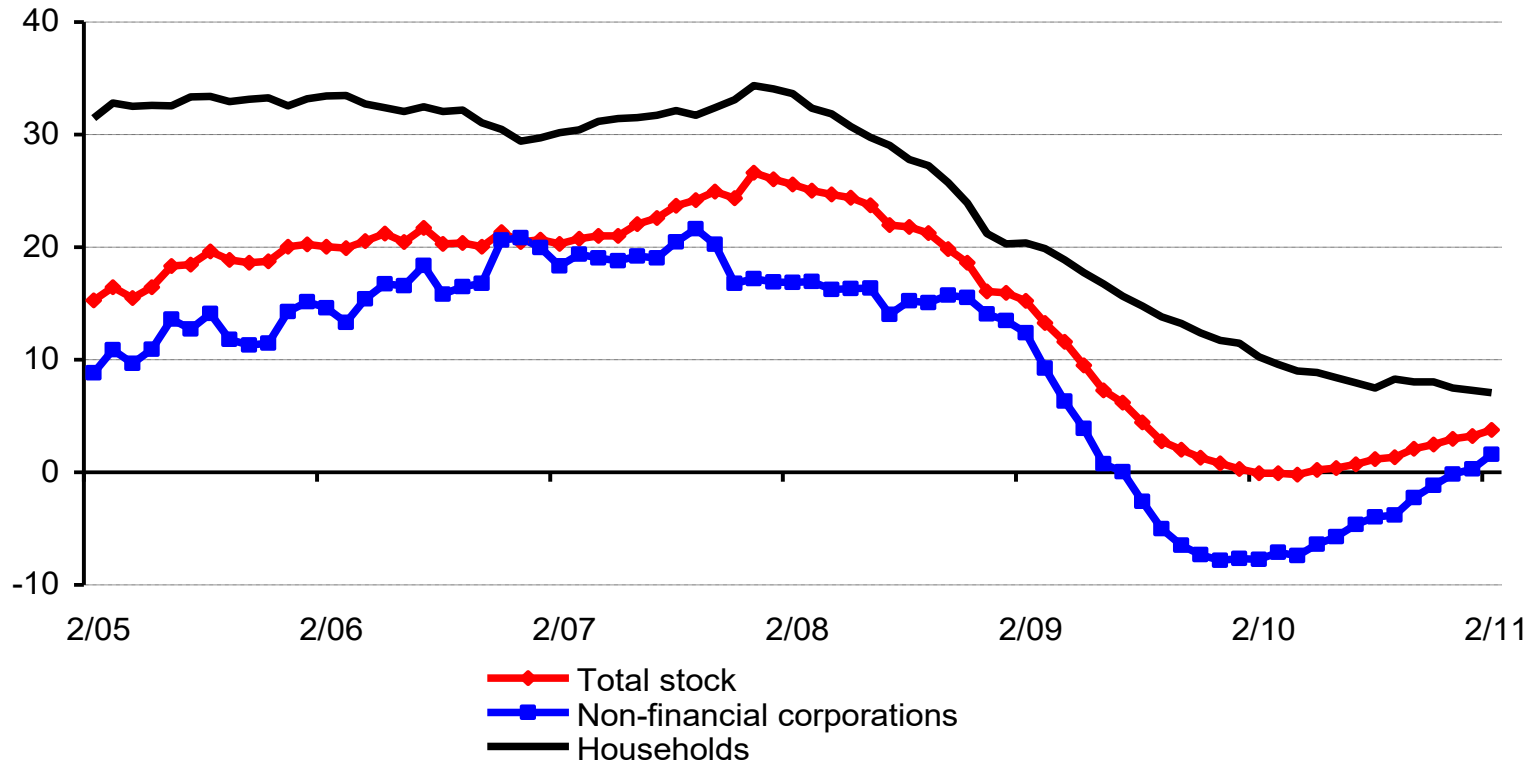
Monetary aggregates (in %, y/y)



Source: Author

Overall money supply growth low, even though the liquid component was growing fast (low interest rate environment).

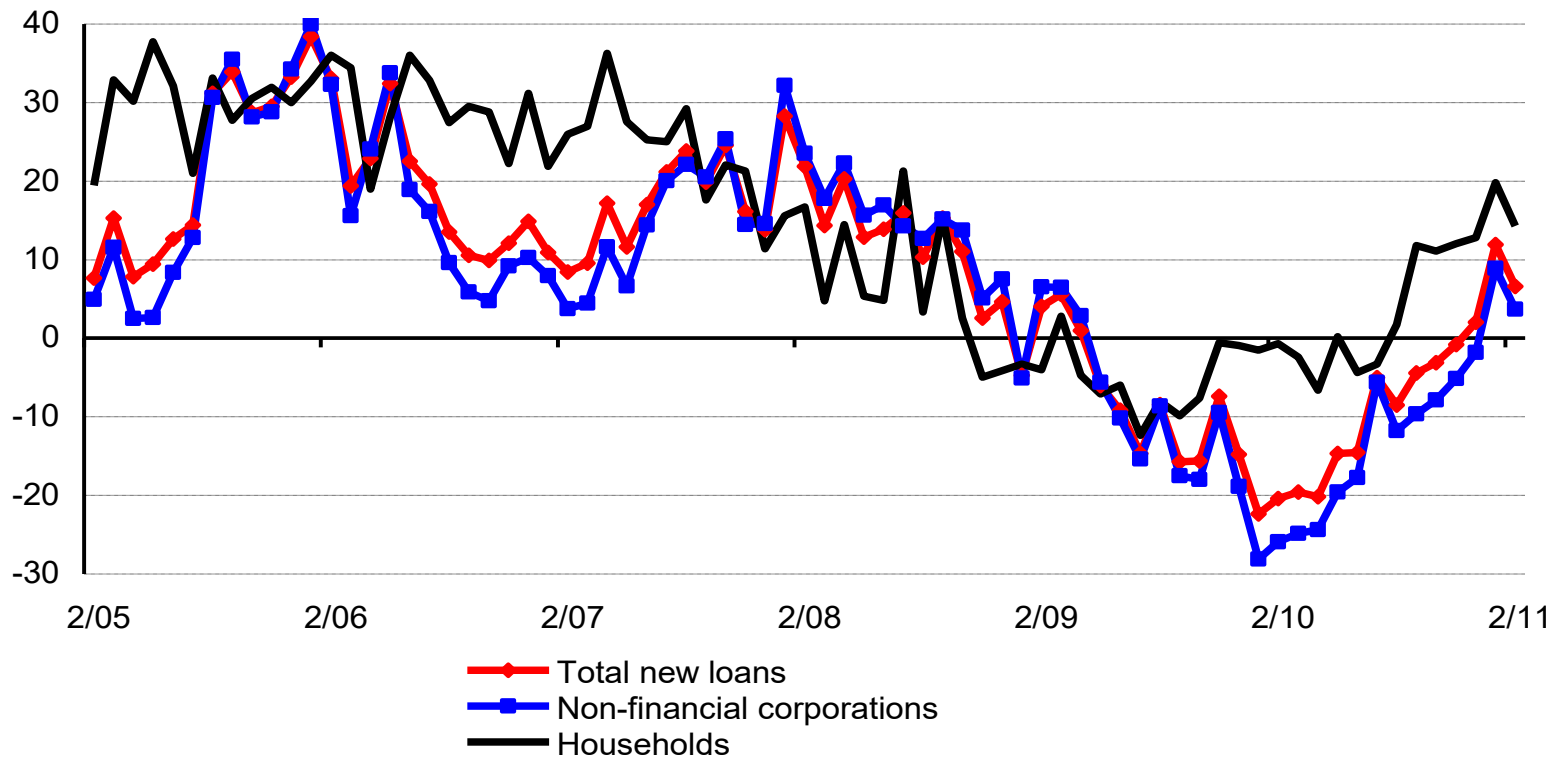
Loans to corporations and households (in %, y/y)



Source: Author

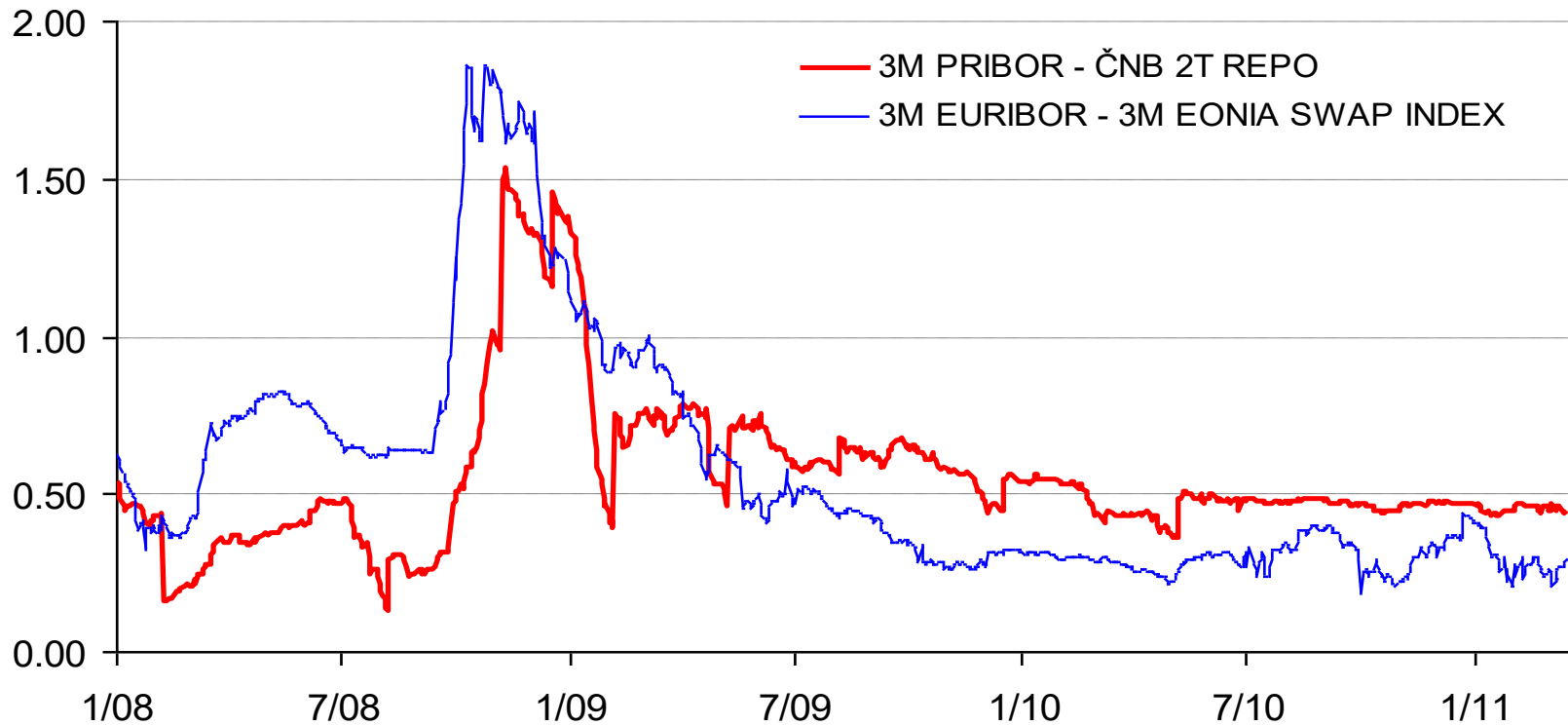
Credit growth to corporations recovered gradually, lagging behind the cyclical recovery of the economy.

New loans to corporations and households (in %, y/y)



Source: Author

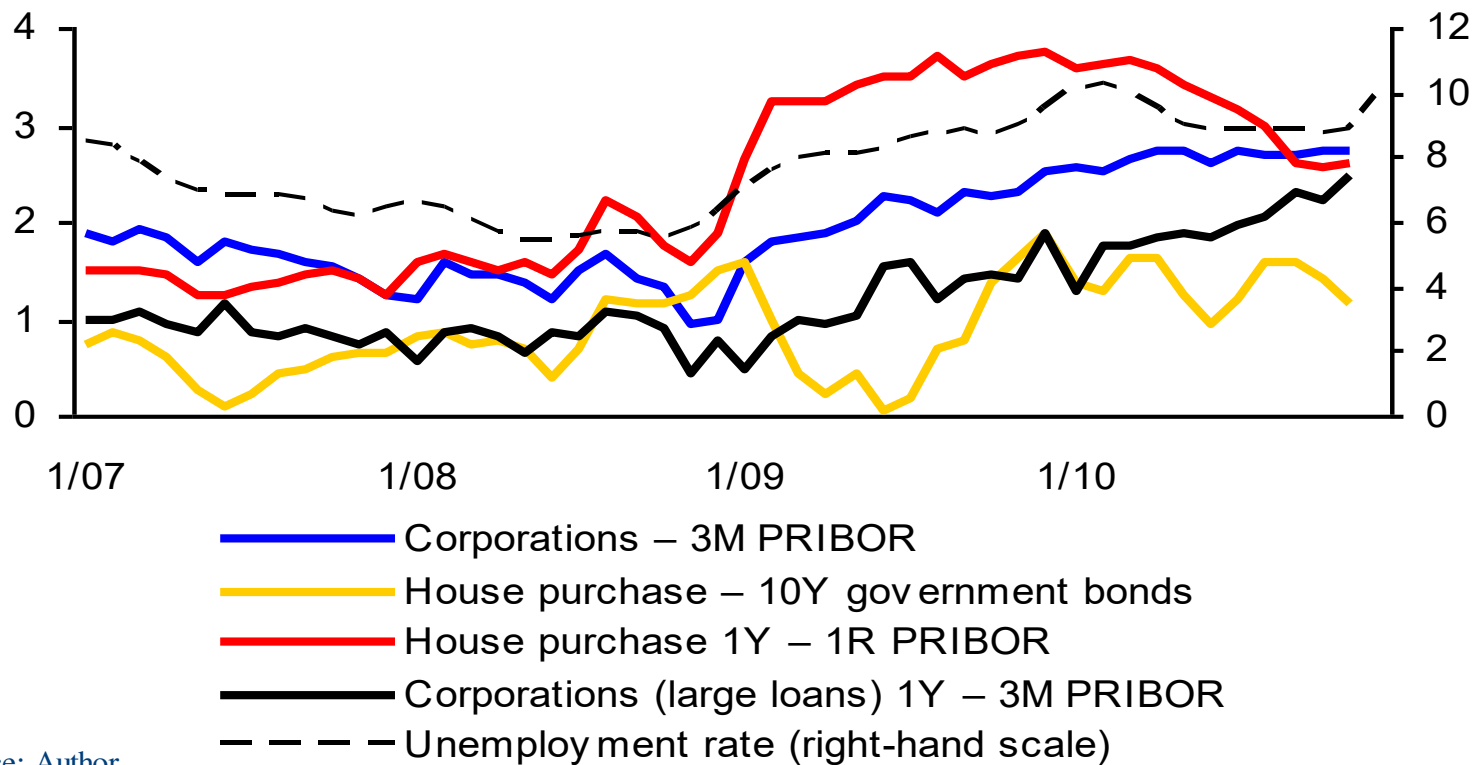
New loans have recovered in both sectors, but their growth still remained relatively muted.



Source: <https://slideplayer.cz/slide/11221581/>

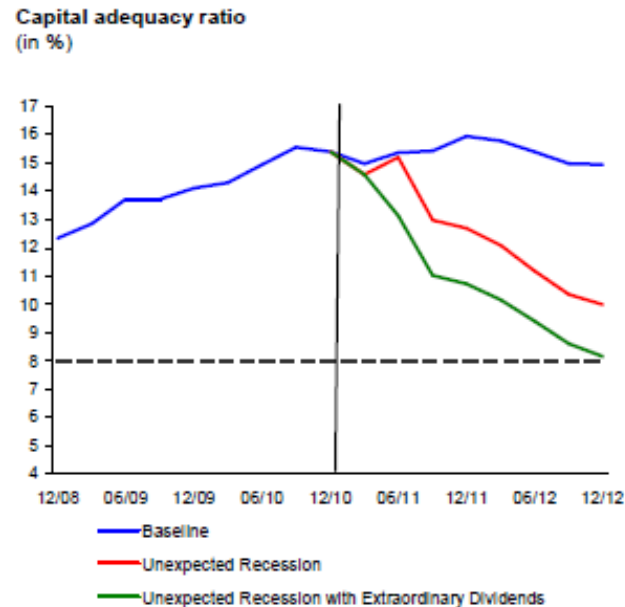
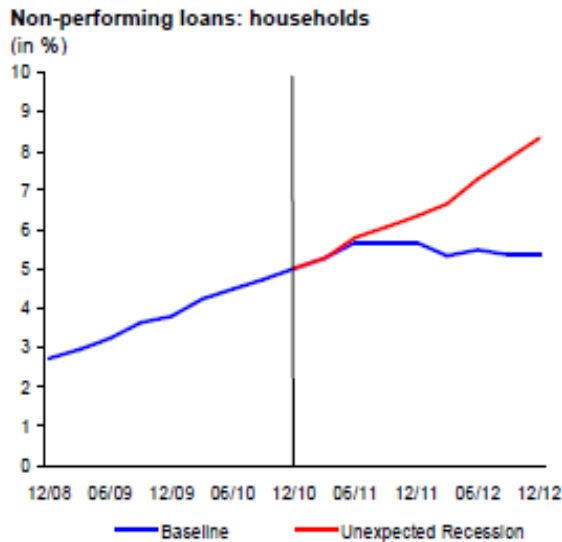
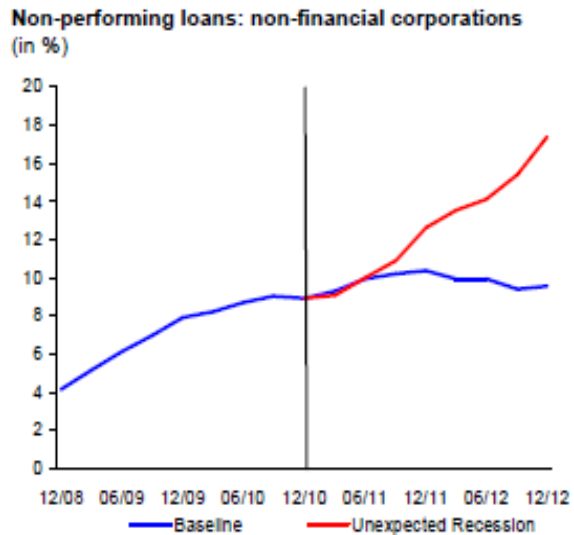
Money market premium stabilised, but remained above the EA level, as well as above the pre-crisis level.

Spreads of interest rates on loans
(percentage points; percentages)



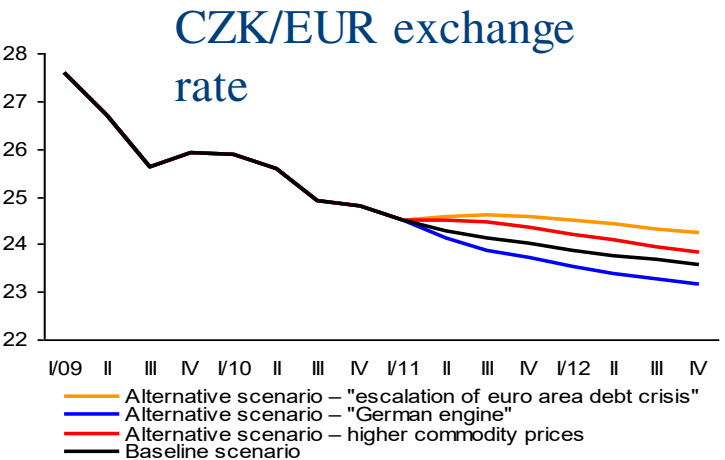
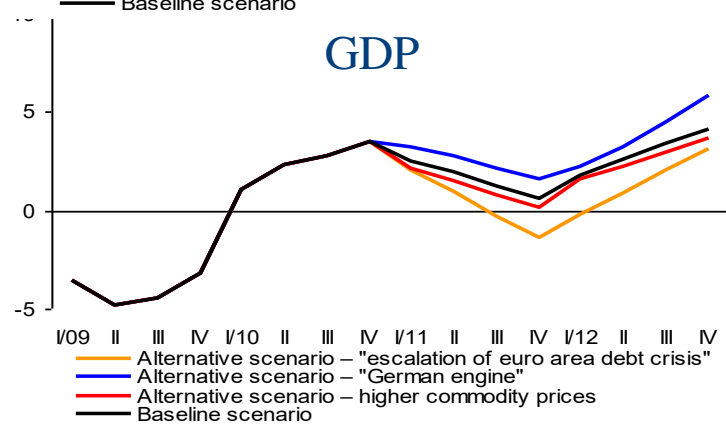
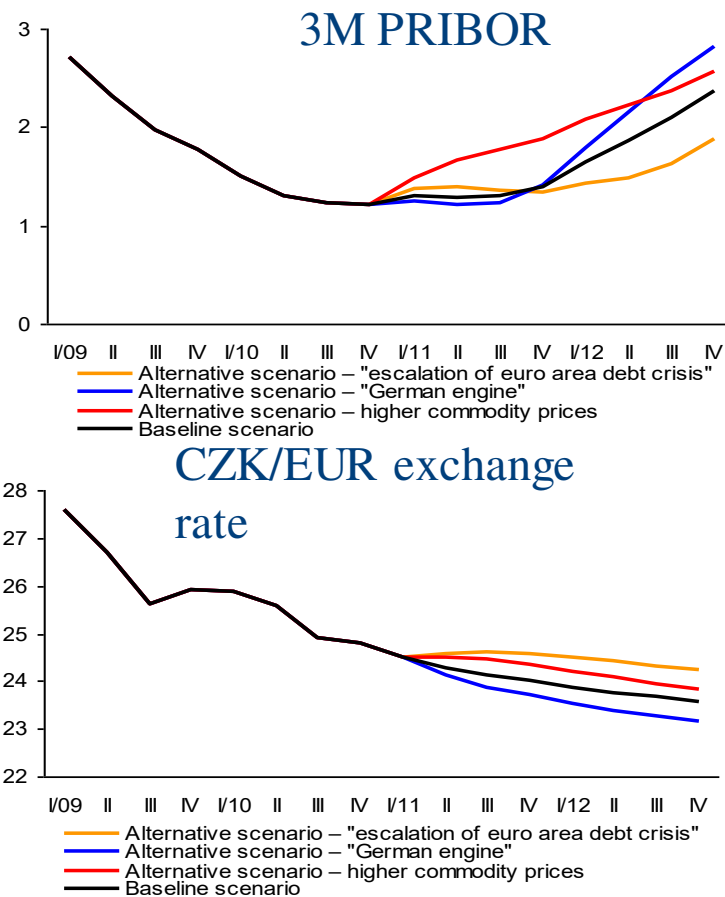
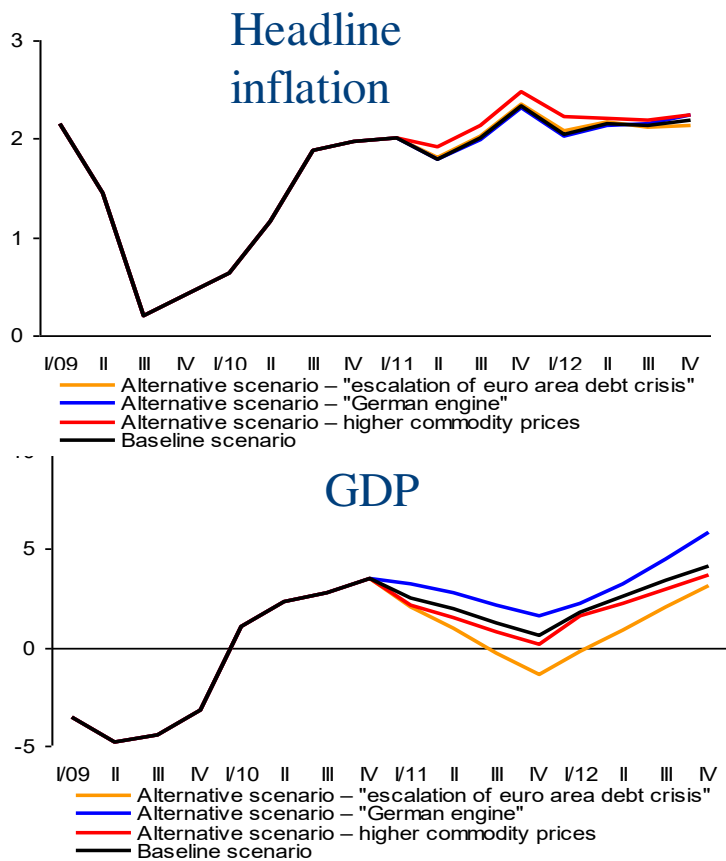
Source: Author

Credit risk premia remained elevated, suggesting no danger of excessive risk taking.



Source: Author

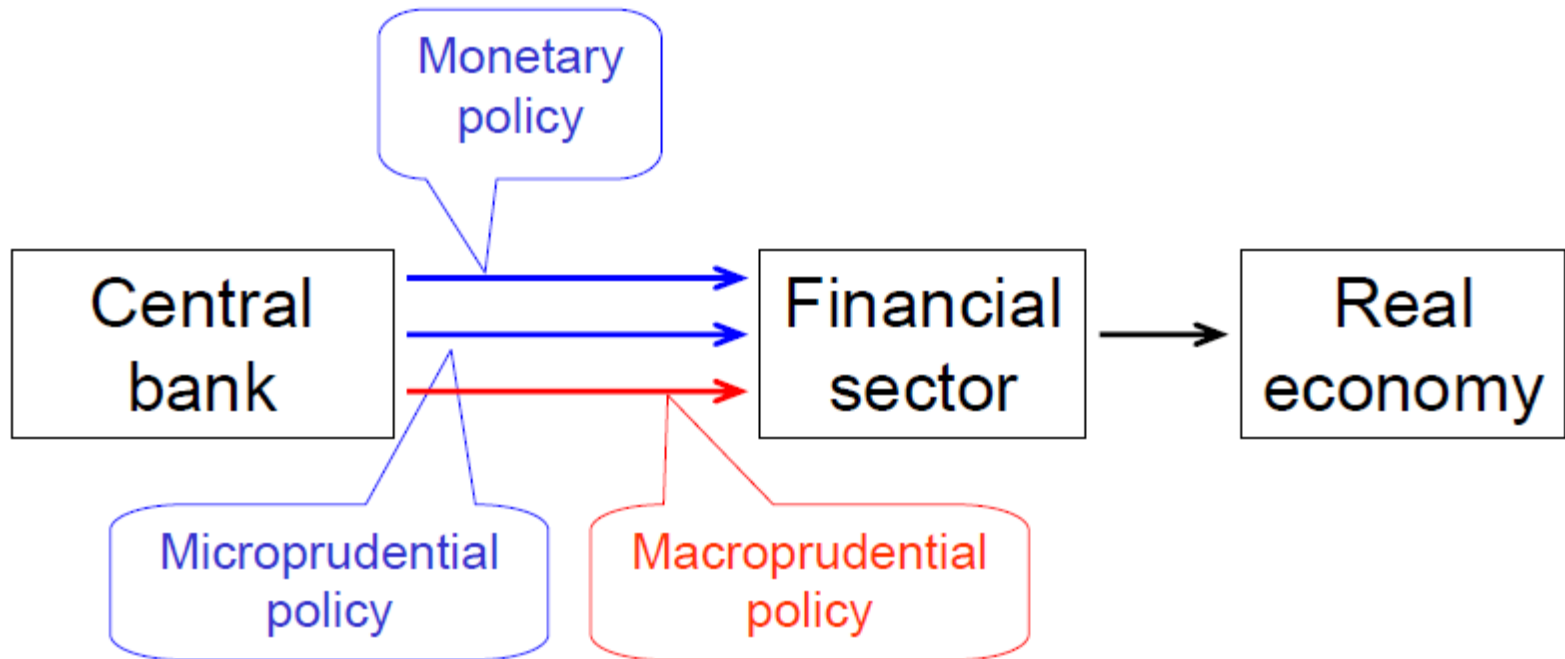
Stress-test results indicated that the banking sector was stable to withstand even very adverse macroeconomic scenarios. The NPLs still growing, but the banks remain well capitalised (there is a large capital buffer).



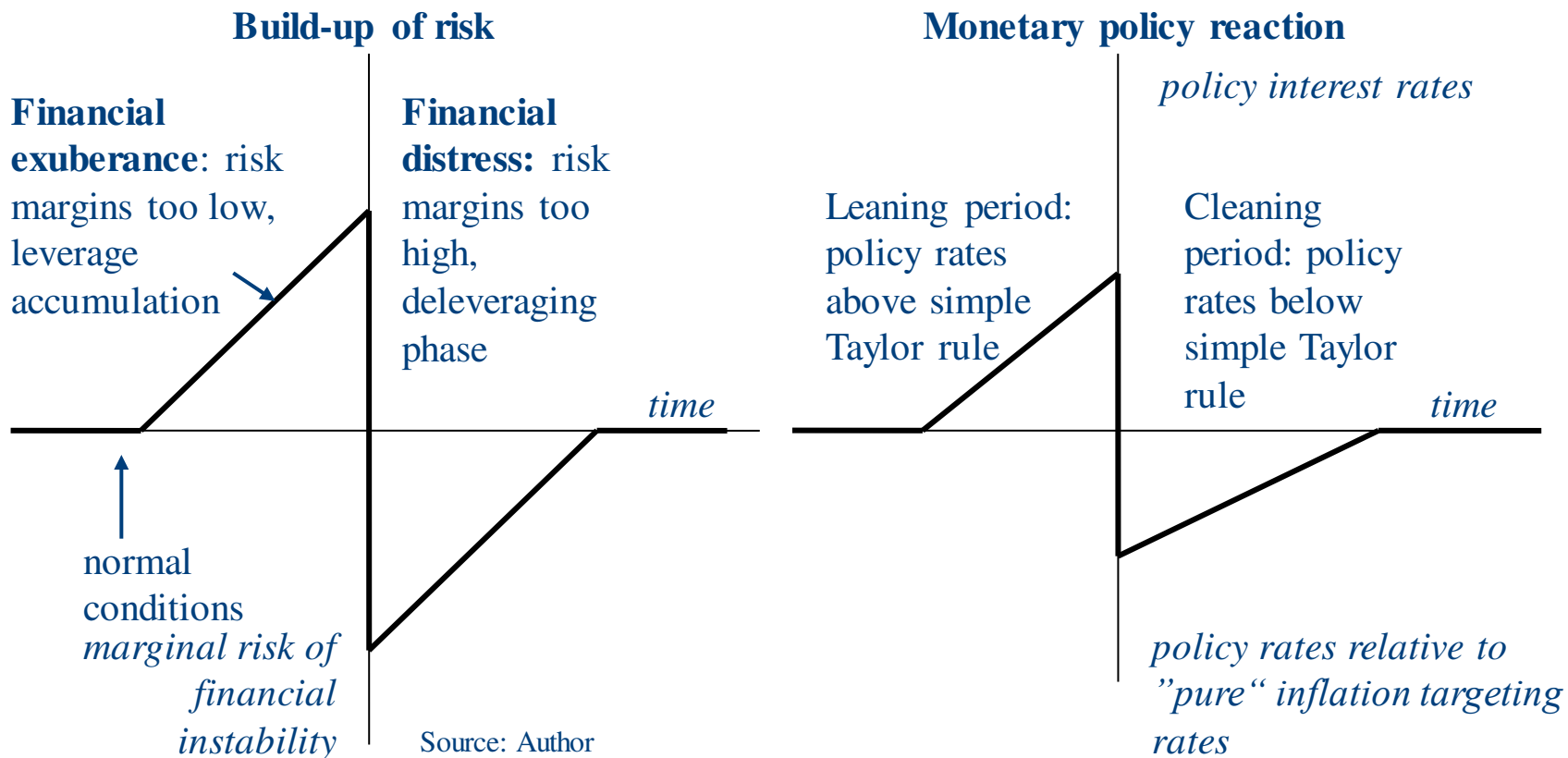
Source: Author

The key risks for Czech monetary policy were global, not related to financial stability.

Monetary policy transmission mechanism: New approach



Source: Author

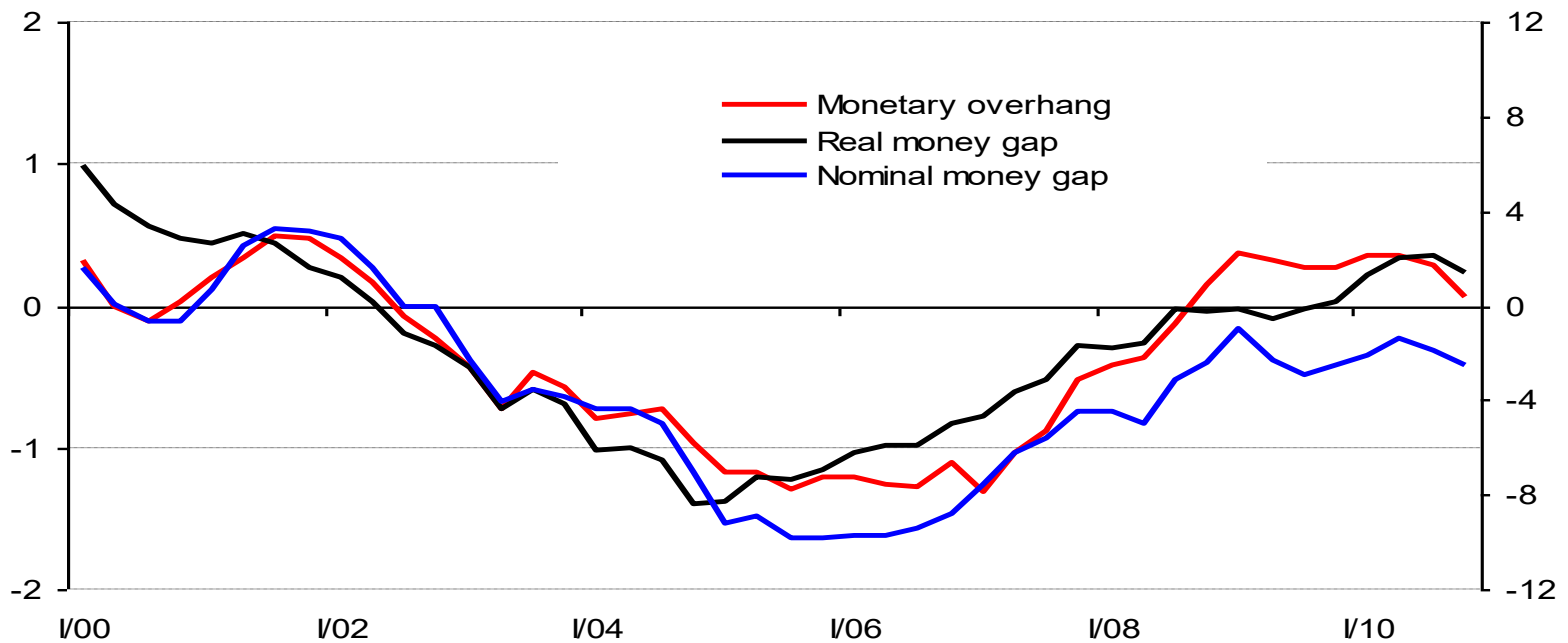


- The idea of **leaning-against-the wind** has become more popular (in exceptional situations; not to target asset prices, but to reduce FS risks).

Final Outcome of the exercise

- There are currently several links between MP and FS:
 - Analysis of the **money gaps**
 - **Macroeconomic scenarios** for the stress tests
 - **Macro-financial panel** as a discussion platform
 - Discussions on measuring **the inflation (OOH)** and **publishing an experimental HCPI** as mentioned above

Monetary overhang, real money gap, nominal money gap (in %)



Source: Author

Indicators calculated in line with the ECB's methodology.

Chart 1
Alternative scenarios: real GDP growth
(in %)

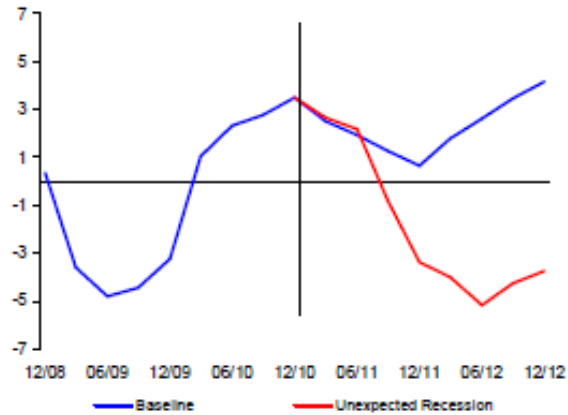


Chart 2
Alternative scenarios: 3M PRIBOR
(in %)

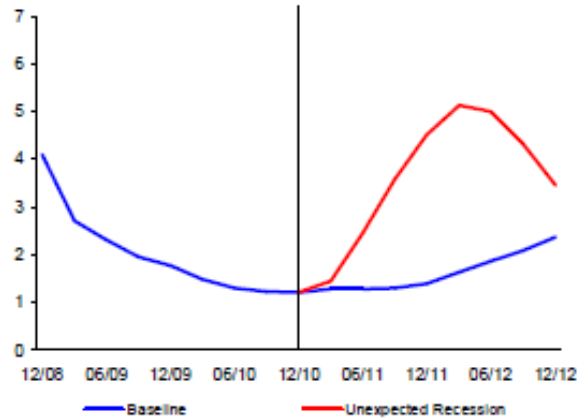


Chart 3
Alternative scenarios: inflation
(in %)

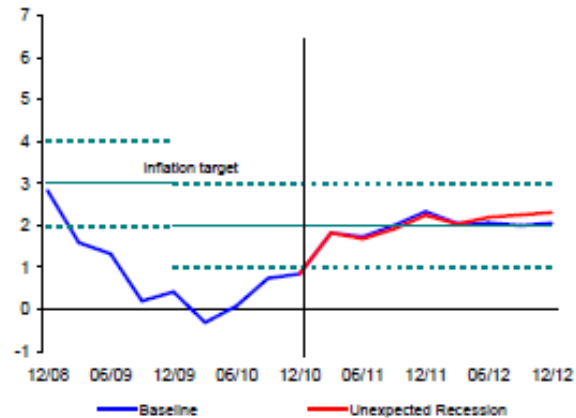
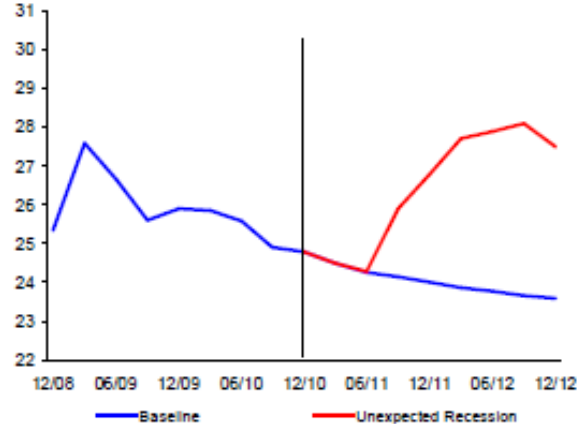


Chart 4
Alternative scenarios: exchange rate
(CZK/EUR)



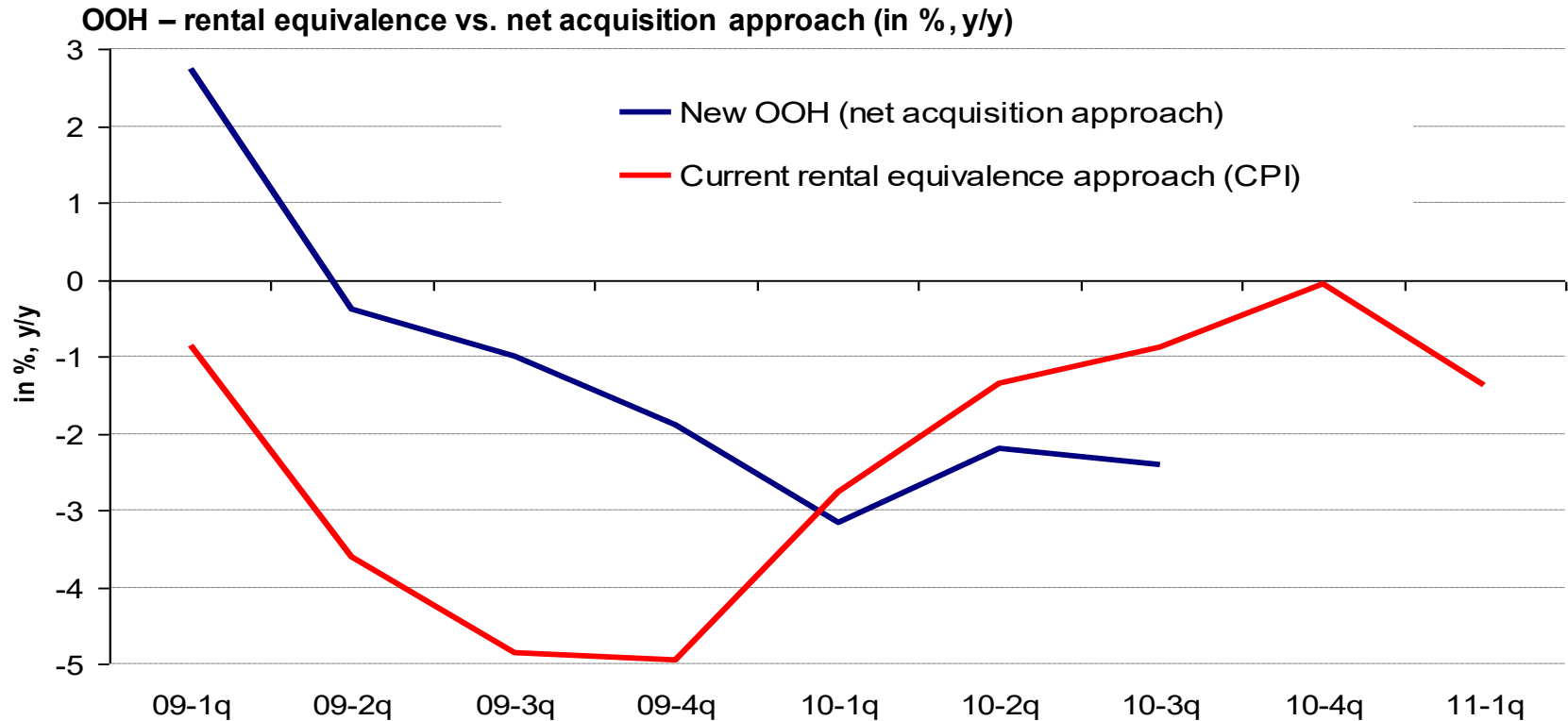
Final outcome: Stress-test scenarios

Macro scenarios for stress-test simulated using the core projection model.

As mentioned: Measuring inflation requires a decision: Owner occupied housing vs. Net Acquisition Approach

- Different approaches how to work with OOH
 - Net acquisition approach
 - User cost approach
 - Rental equivalents approach
 - Payment approach
- Pilot projects of OOH are being conducted (Eurostat, CZSO)
- Net acquisition approach for HICP and CPI
 - Captures price development of residential real estate which can signal possible imbalances
 - Enables evolutionary linking of inflation targeting with financial-stabilization aspects of MP
 - Reflects margins of real estate agencies and developers, that are related to development of market demand

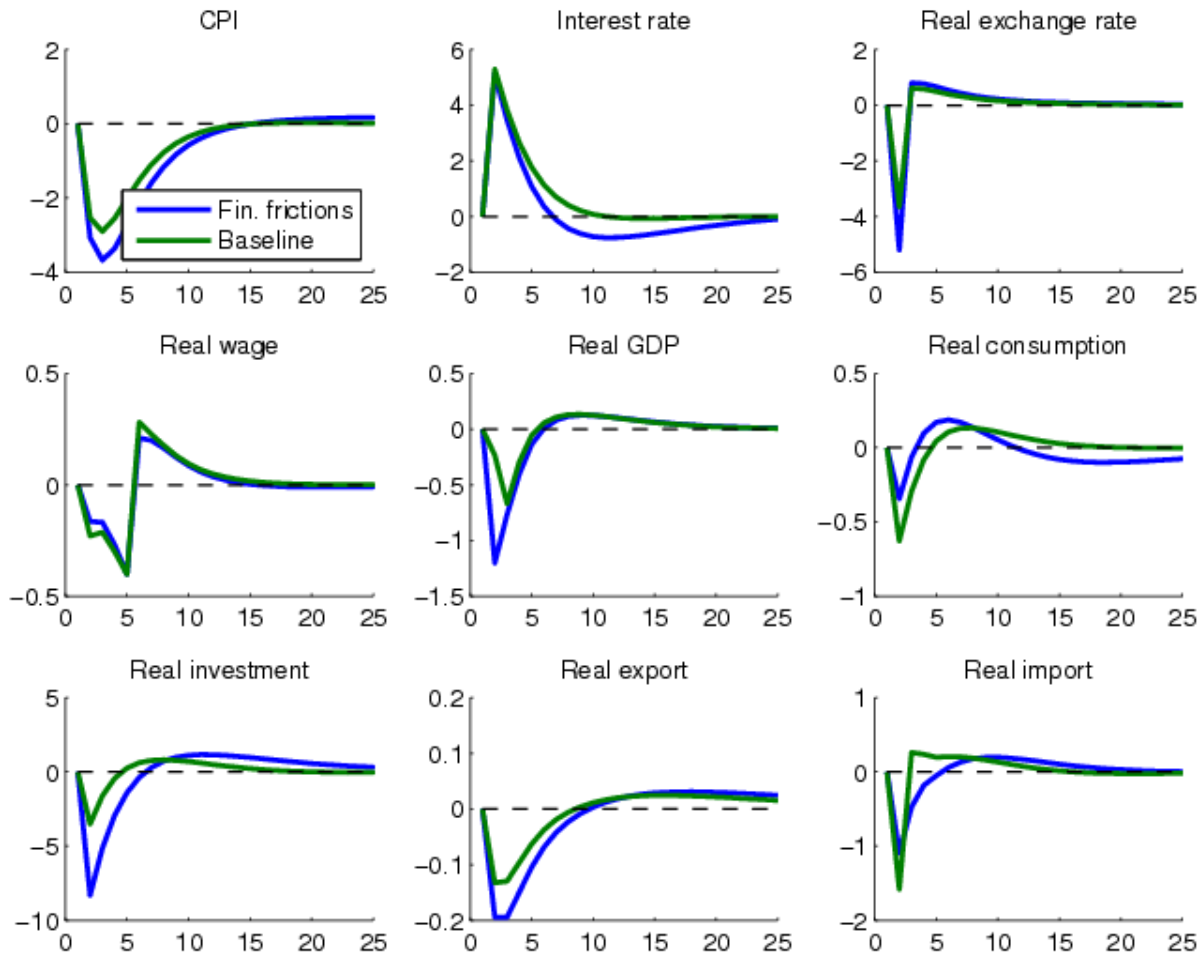
Owner occupied housing



1st results of the CZSO's pilot project have now become available.

Source: Author

Modelling macro-financial linkages



Impulse responses of the CWT model estimated on local data – the difference is there, but not huge in magnitude.

Source: Author

Final conclusions

- Linking monetary policy with financial stability and asset price a very long- term project!
- It requires changing the mindset off the policy-makers to a large extent, it is revolutionary in essence
- **So far as a general rule: Central bank targeting inflation are delivering price stability while central banks targeting financial stability are delivering financial stability reports😊😊**

References:

1. **Alchian, A., Klein, B., 1973.** „On a Correct Measure of Inflation“, Journal of Money, Credit and Banking, vol. 5, issue 1.
2. **Böhm, J., Filáček, J. (et al), 2011.** „Price Level Targeting – A Real Alternative to Inflation Targeting?“, Czech National Bank, RPN Nr 1/2011.
3. **HAMPL, M. & Havránek, T., 2017.** “Should Monetary Policy Pay Attention to House Prices? The Czech Approach“, IES Working Paper, 12/2017.
4. **Kindleberger, C., Aliber, R., 2005.** „Manias, Panics, and Crashes, A History of Financial Crises, 5th edition, New Jersey, Wiley.

Thank you for your attention!

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