
History of Monetary Policy Making and Communications at the Czech National Bank

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The Better Policy Project Seminar

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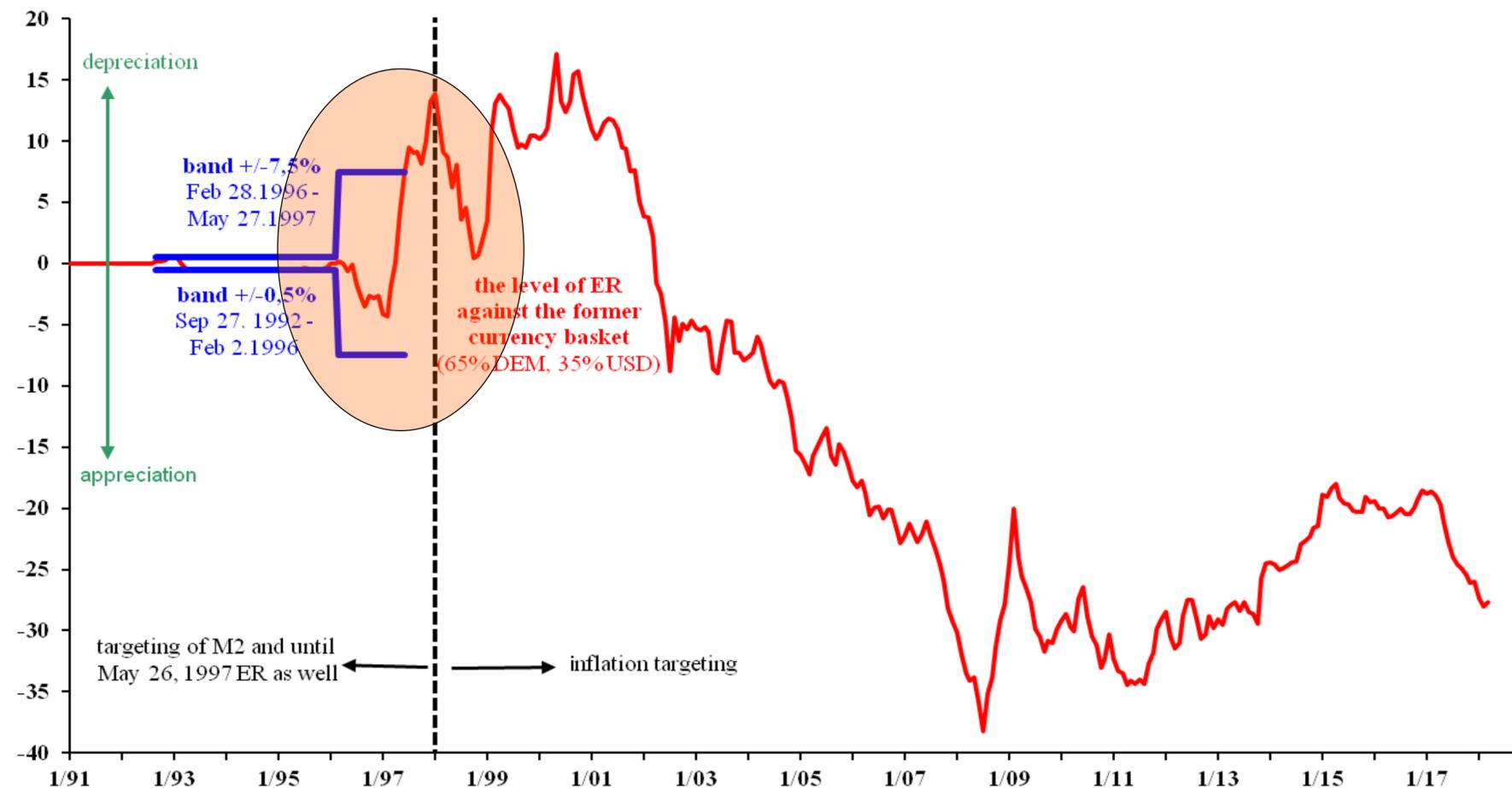


Outline

- History of the CNB's monetary policy framework
- Evolution of communications procedures
- The CNB's exchange rate commitment at the ZLB
(2013–2017)

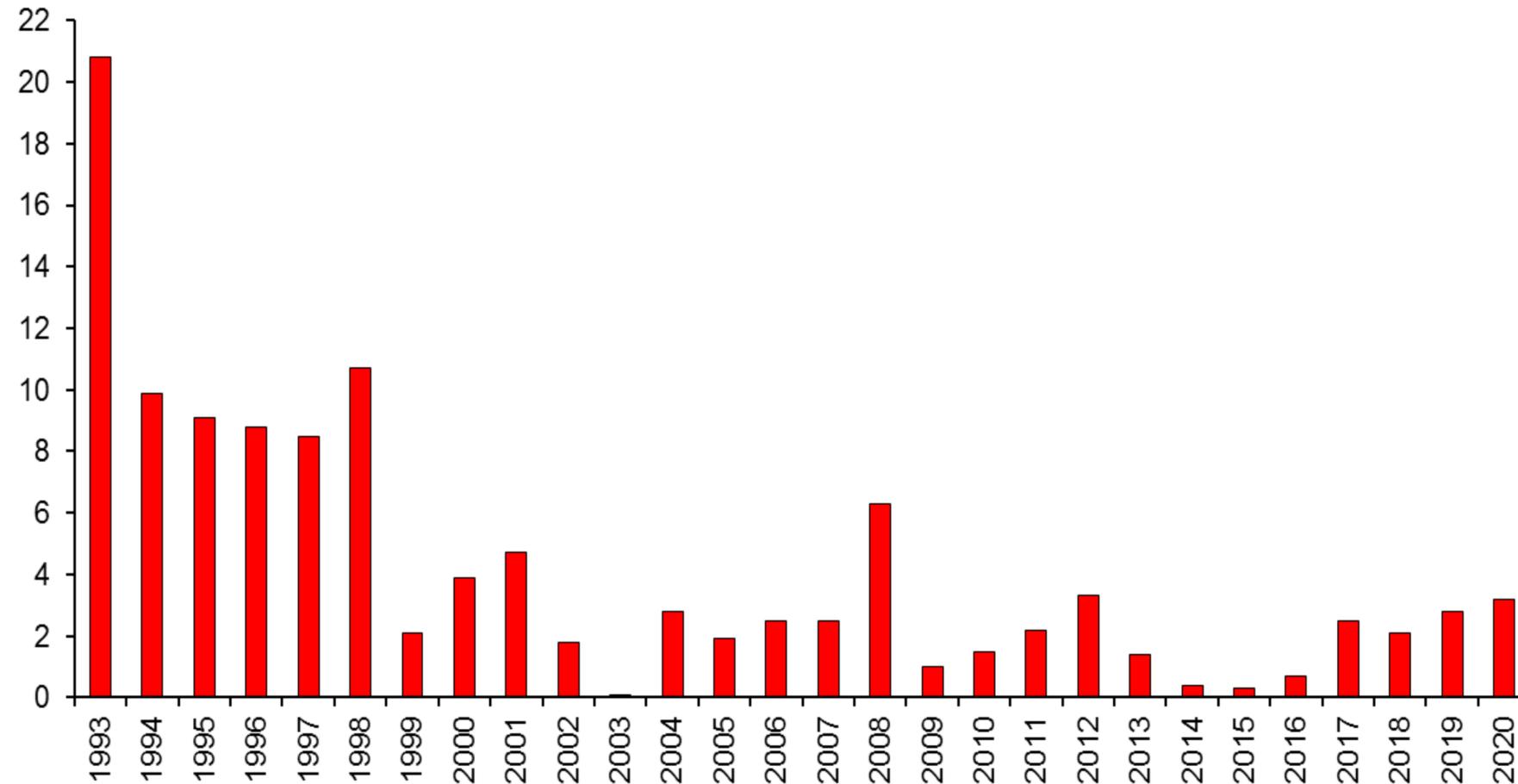


The Monetary Policy Regime until 1997



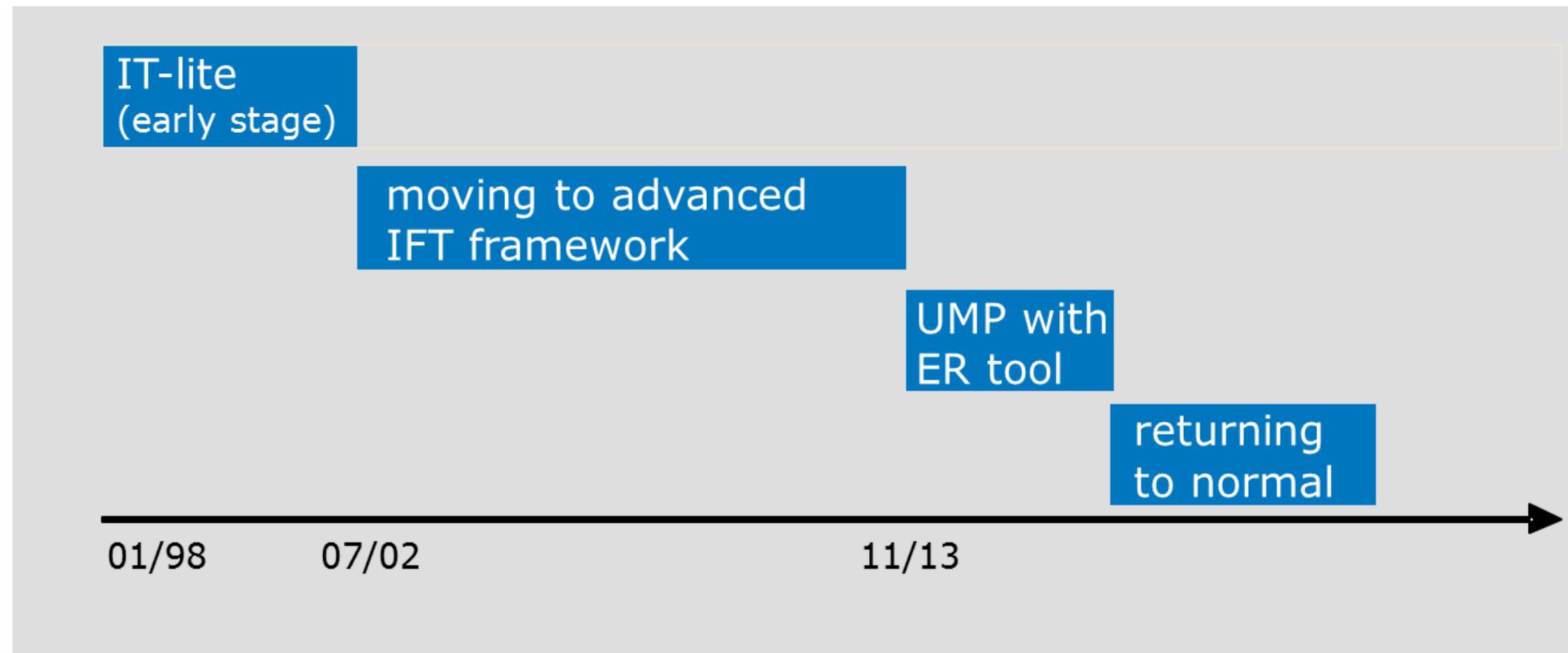
- Before 1998, the CNB's policy was based on a mix of money targeting and an exchange rate peg.
- This policy became increasingly inconsistent with the ongoing BoP liberalisation.
- The peg was abolished in May 1997 due to a currency crisis, and money targeting was applied until the end of 1997.
- The switch to inflation targeting was announced in Dec 1997, effective 1 Jan 1998(!), in a very destabilised economy.

Inflation Rate (annual averages in %)



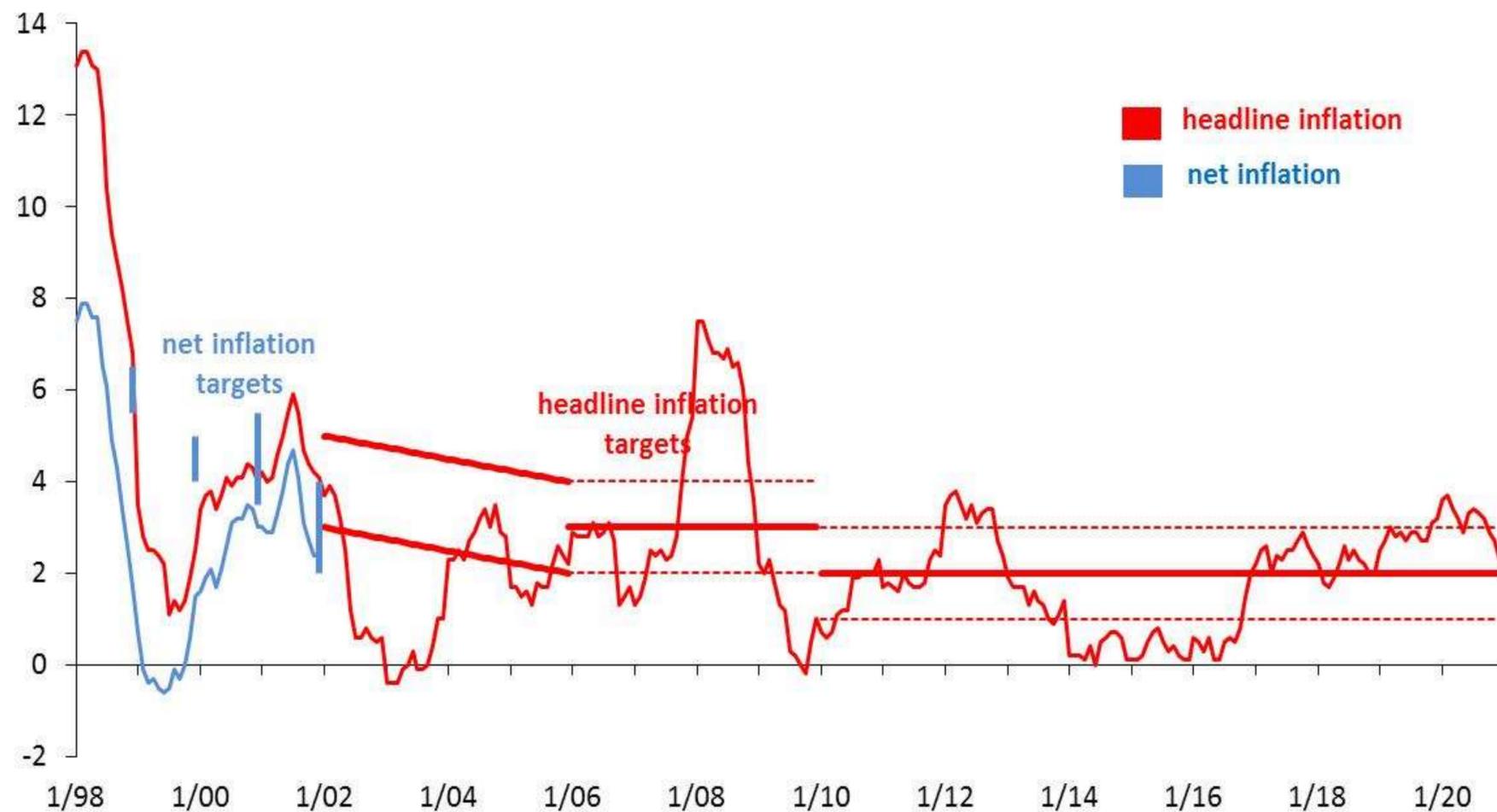
- Disinflation was only very gradual in 1994–1997, i.e. under the previous regime.
- Inflation then went up in 1997–1998 (CZK depreciation, price deregulation).
- Successful disinflation was achieved under inflation targeting.

Evolution of the Inflation(-Forecast-)Targeting Framework



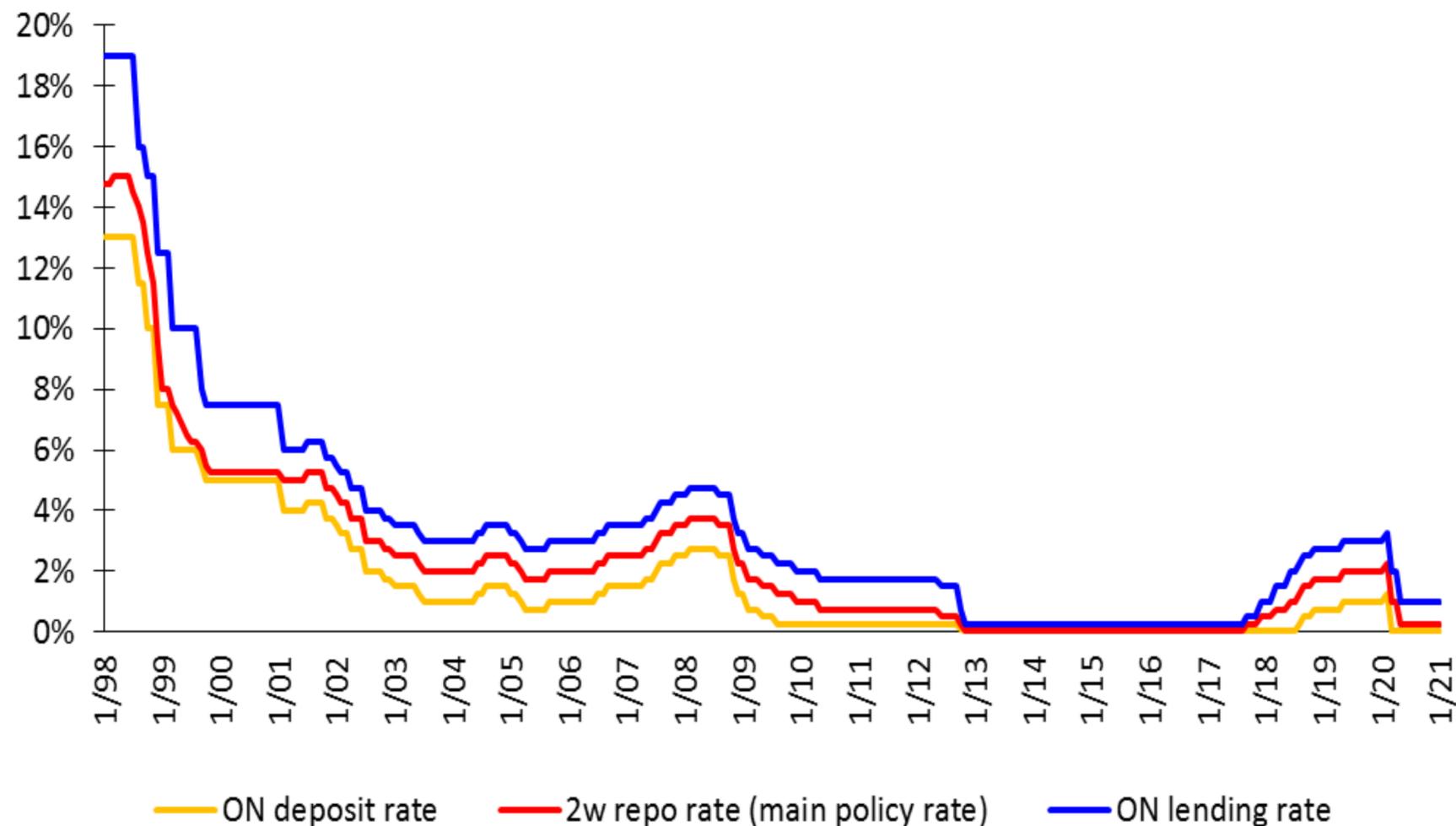
- In January 1998, inflation targeting was introduced in a “lite” version, but this period was relatively brief.
- An advanced IFT framework, backed by a modern FPAS, was built in 2002–2008, i.e. before the GFC.
- This advanced framework provided the analytical foundations for conducting monetary policy at the ZLB, using the exchange rate as a UMP instrument, from November 2013 until April 2017, and for subsequent policy normalisation.

Inflation Rate (y/y in %)



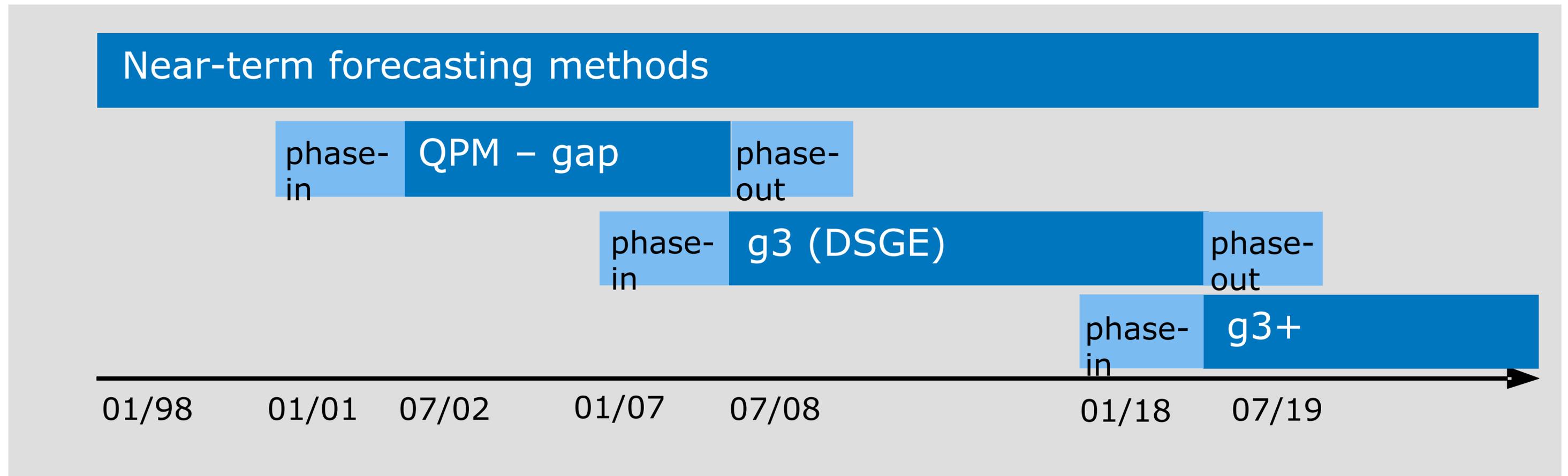
- The inflation targets have evolved over time in terms of their level, the index targeted, range vs. point targets, etc.
- The current target is 2% for headline inflation, i.e. in line with best practice.
- Much of the disinflation process took place in the early stage (faster than intended).
- In 2014–2016, the Czech Republic was on the verge of deflation. Since 2017, inflation has mostly exceeded the 2% target.
- On average, inflation has been fairly in line with the targets since 2002.

Monetary Policy Rates (in % p.a.)



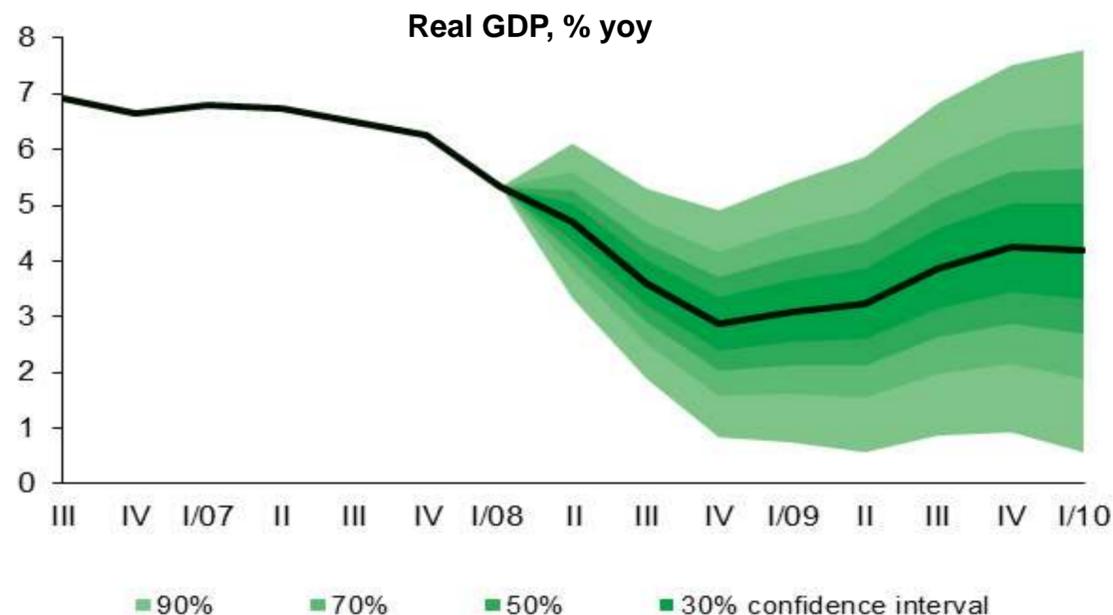
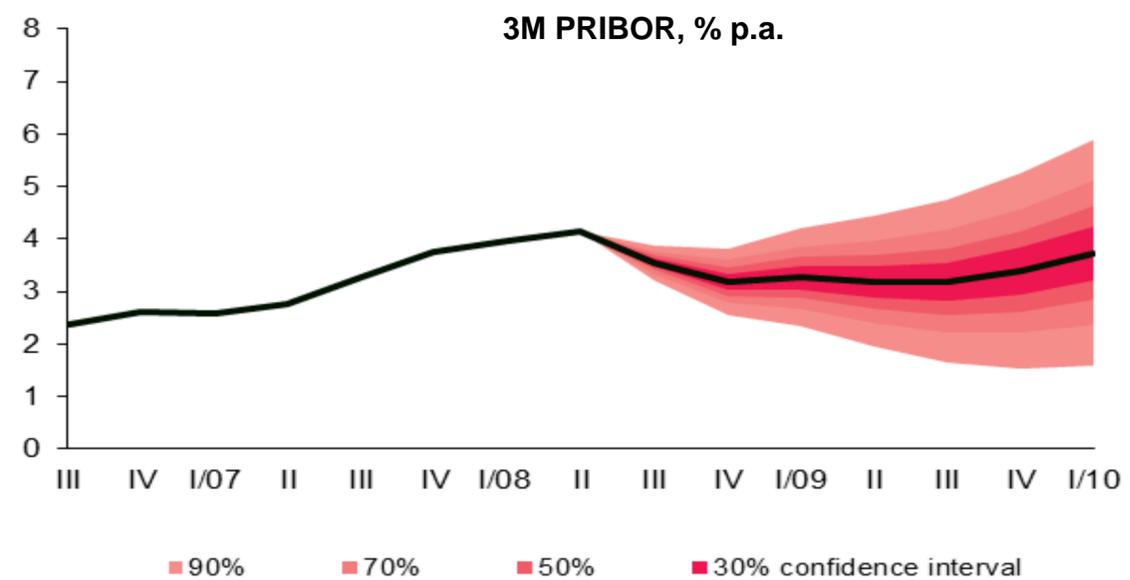
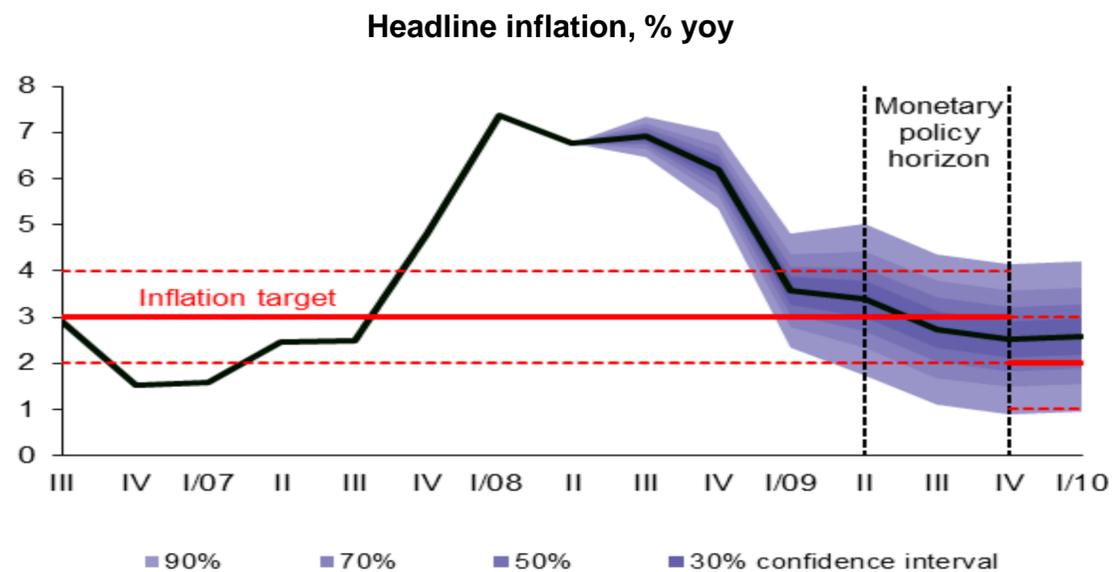
- Thanks to the disinflation process, nominal interest rates declined to relatively low levels in the early stage.
- From Nov 2012 until Sep 2017, rates were stuck at the ZLB.
- Policy normalisation had progressed further than in most other advanced European countries before the COVID shock
- Interest rates were cut to low but positive levels in spring 2020.

Evolution of Forecasting Tools (FPAS)



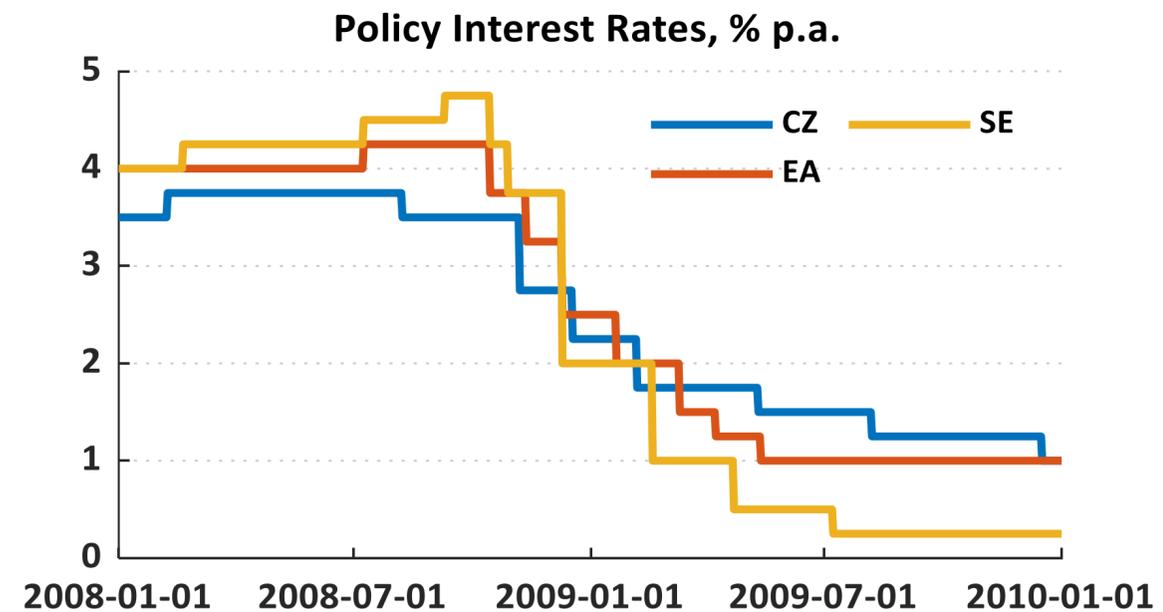
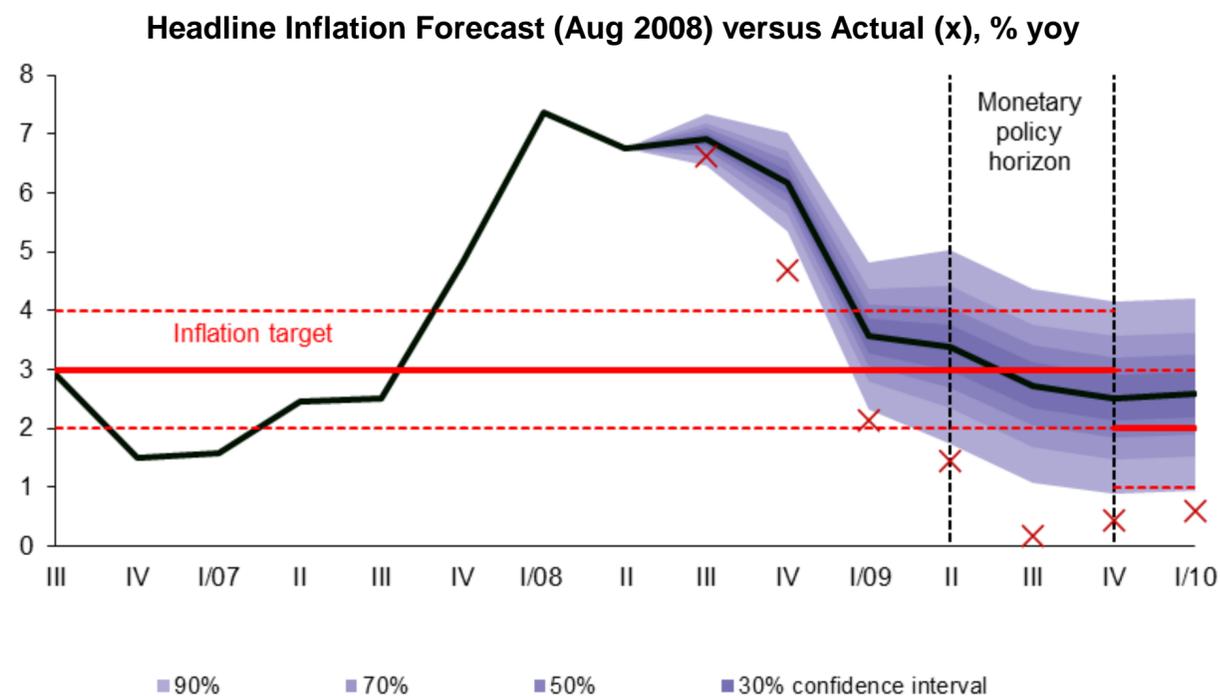
- The key improvement took place in mid-2002, when a QPM-gap (forward-looking, general equilibrium) model with endogenous monetary policy, exchange rates and expectations became the core forecasting model.
- The g3-DSGE model brought even more flexibility in terms of incorporating judgement and dealing with ZLB issues. g3+ has recently incorporated the accumulated experience with this type of model.

Forecast with Endogenous Rates (August 2008 example)



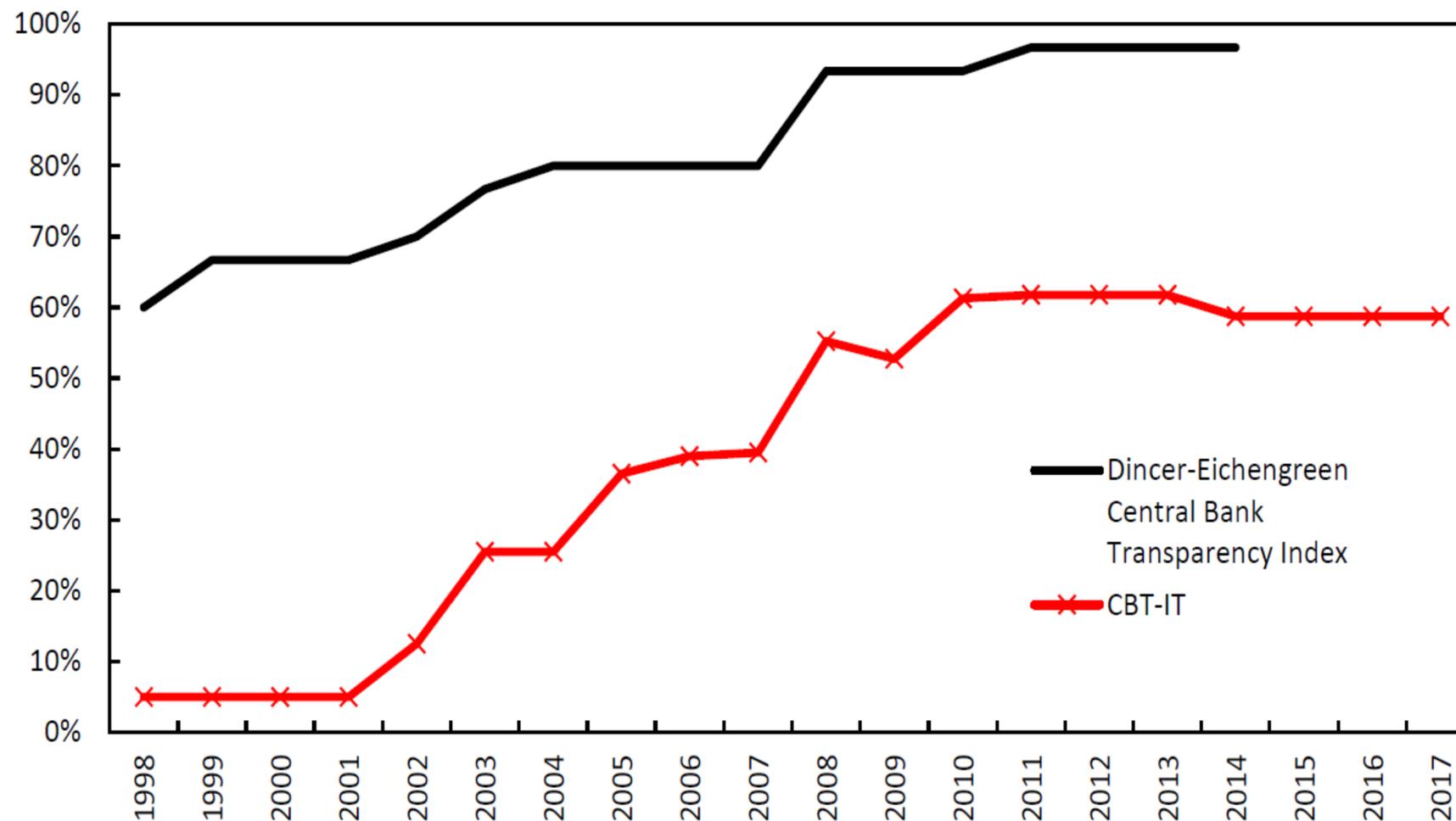
- The model-based forecast tells a consistent, forward-looking story providing guidance for policy-makers (sometimes much better than a backward-looking policy would do).
- The forecast with endogenous rates always goes back to the target, no matter what the starting point is. It thus helps to anchor inflation expectations.

Forecast with Endogenous Rates (August 2008 example)



- Although the forecasts are never exactly correct in numerical terms, the direction of inflation and the macroeconomic story tend to be broadly right.
- A reliable FPAS enables the right decisions to be made -- examples include the August 2008 policy meeting and policy rate cut despite inflation being above the target, and the ECB hike in July 2008.

Monetary Policy Transparency

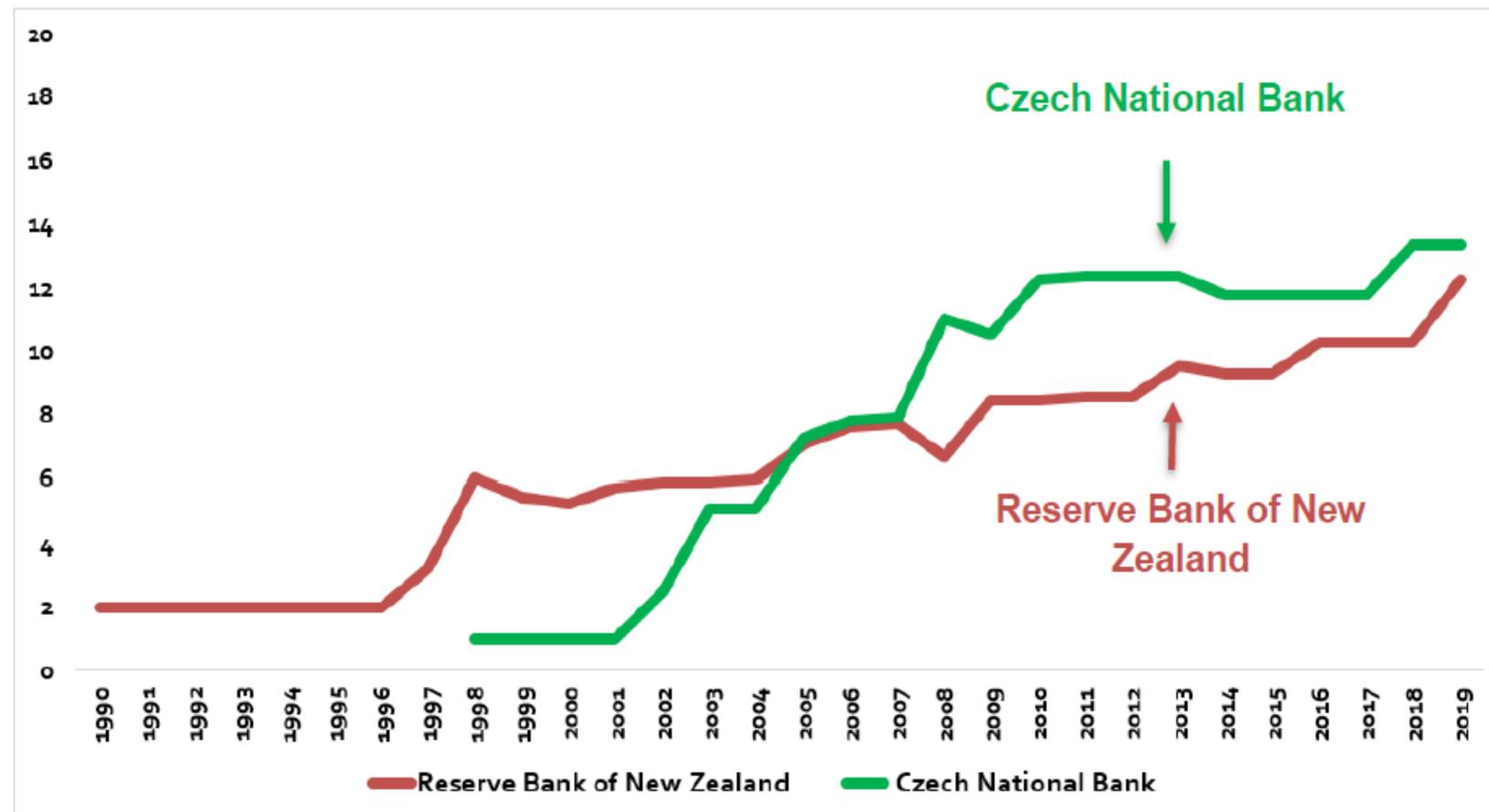


Source: Al-Mashat et al. (2018)

- The introduction of inflation targeting in 1998 led to a relatively small increase in monetary policy transparency (and only as measured by the less demanding D-E index).
- Advances in forecasting tools created a true starting point for much greater monetary policy transparency in 2002–2008.
- The exchange rate tool was associated with a small and temporary decline in communication openness (but in general it was designed in a very transparent way).

Transparency Compared to New Zealand

Figure 8: Reserve Bank and Czech National Bank (CNB) CBT-IT index comparison



- The chart compares the first-ever IT country (NZ) with the first EME/post-communist country to adopt the framework (CZ).
- Despite starting much later, the CNB has managed to stay slightly ahead of the RBNZ since 2008.
- In the D-E index, the RBNZ and the CNB rank third and second respectively behind Sweden (i.e. the chart provides a tough benchmark).
- The chart shows the temporary nature of the slightly reduced transparency in 2014–2017.

Cornerstones of the CNB's Communication

- Immediate press release of decision
- Press conference after all MP meetings (with Q/As), since 2014 with written Board Statement
- Inflation Reports describing forecast (verbal comment on IR path since 2002, numerically since 2008; ER path since 2009); changed to Monetary Policy Report in 2021
- Minutes (voting ratio since 2001, individual votes since 2008, fully attributed since 2020)
- Meetings with analysts (every quarter since 2005; currently live webcasts)
- Full transcript of discussions and situation reports published after 6 years (first one in 2008)
- More focus also on communication with general public, social media, etc.

Publication of the Interest Rate Path

| Country | Publish the Policy Rate Path and in Some Cases Confidence Bands (if yes, year when start) |
|----------------|---|
| New Zealand | Yes (1997) |
| Norway | Yes (2005) |
| Sweden | Yes (2007) |
| Israel | Yes (2007) |
| Czech Republic | Yes (2008) |
| United States | Yes (2012) |
| Canada | No |
| Chile | No |
| Colombia | No |
| Hungary | No |
| South Korea | No |
| Peru | No |
| Turkey | No |

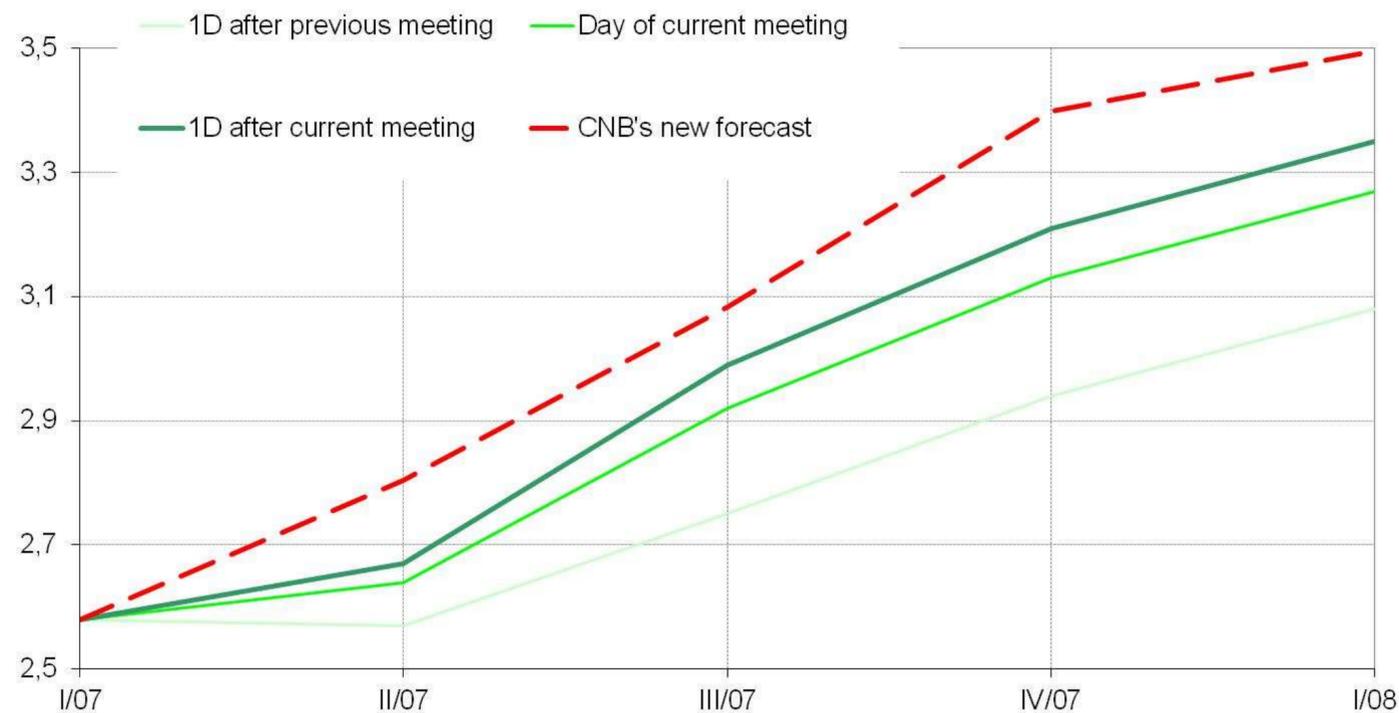
- Publication of the interest rate path is clearly state-of-the-art, but at the same time there is an apparent “fear of publishing”.
- Two major reasons, in my view:
 - (i) fear of perceived false commitment;
 - (ii) fear of “staff dominance”.
- Based on my experience, both are misguided, or at least overstated.
- A good division of labour between staff and policy-makers is actually an element of a good institutional set-up, i.e. a good disciplining device, and at the same time effective prevention of perceived false commitment.

Source: Source: Clinton, et al. (2017)

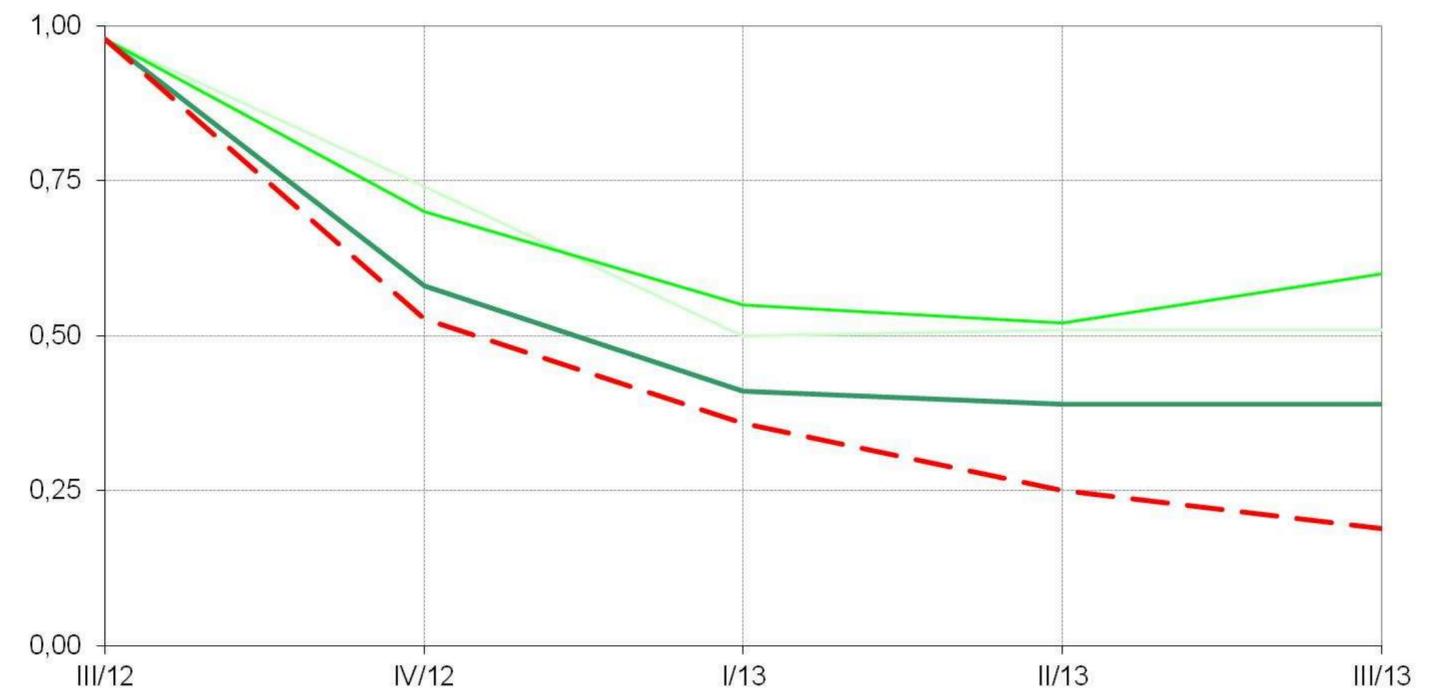
Publication of the Interest Rate Path: The CNB's Experience (i)

**Verbal publication :
Inflation Report II/2007 (April)**

Source: Clinton,
et al. (2017)



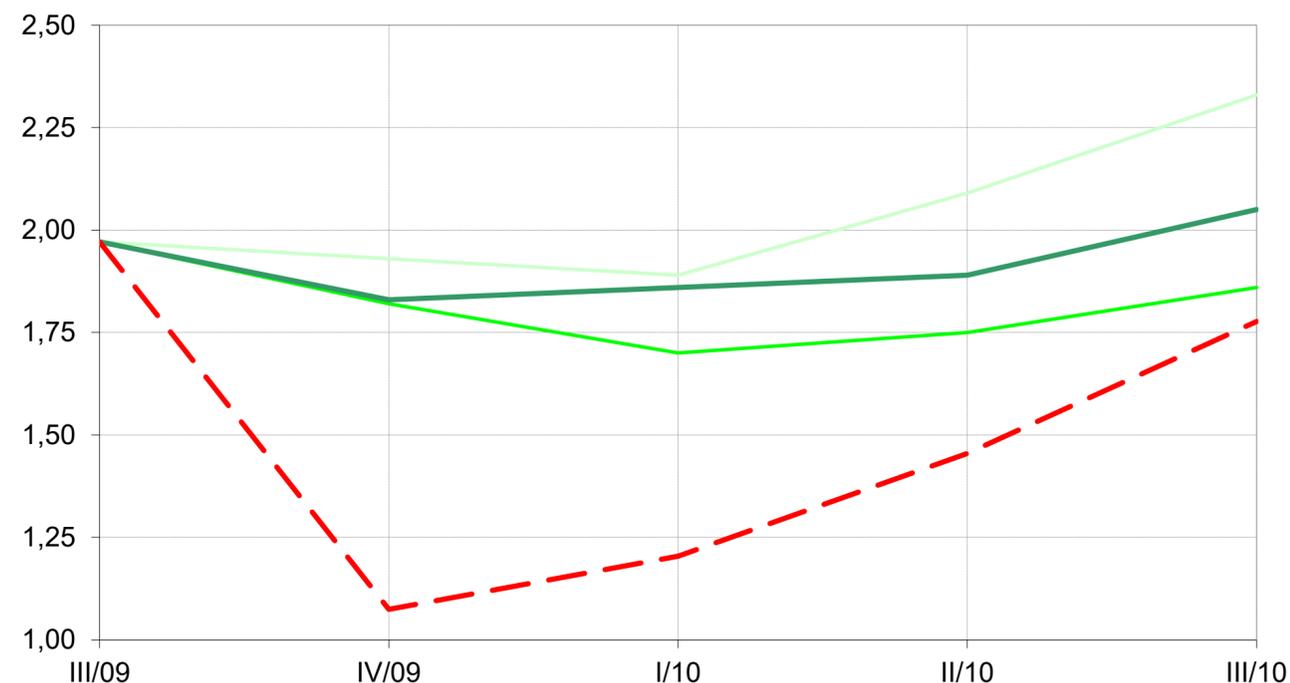
**Numerical publication :
Inflation Report IV/2012 (Nov)**



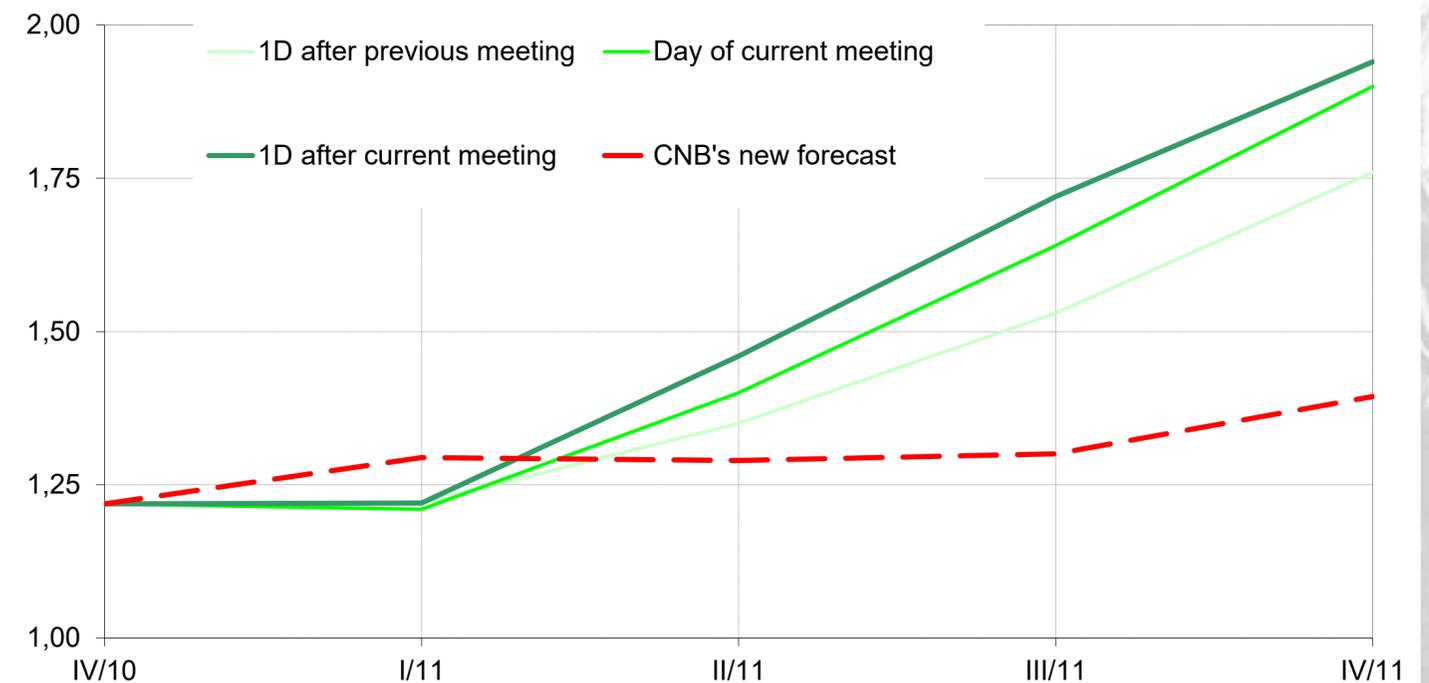
- Publication of the interest rate path may provide good guidance to the market.
- Good news 1: Verbal communication may be sufficient initially for those with a “fear of publishing”.

Publication of the Interest Rate Path: The CNB's Experience (ii)

Inflation Report IV/2009 (November)

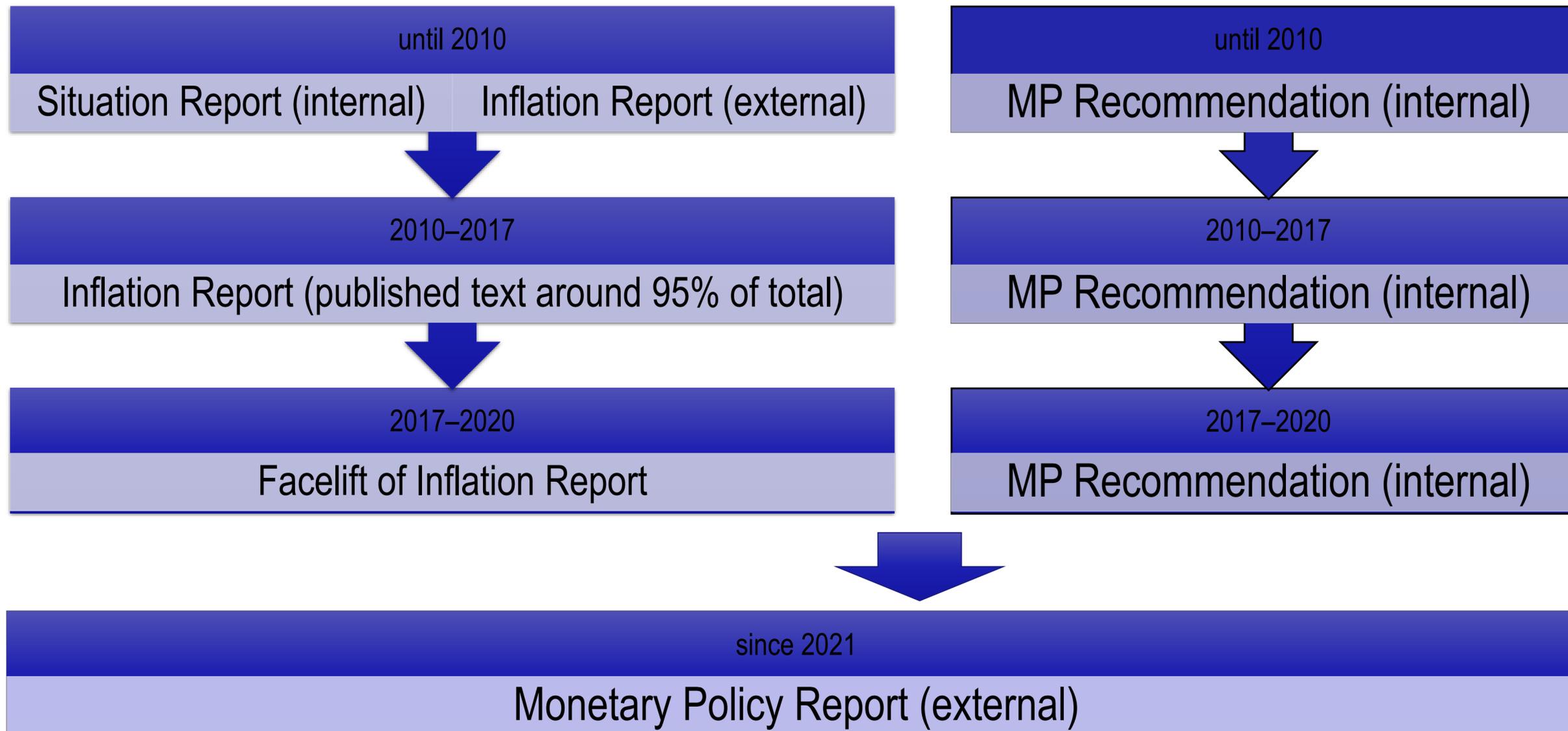


Inflation Report I/2011 (February)



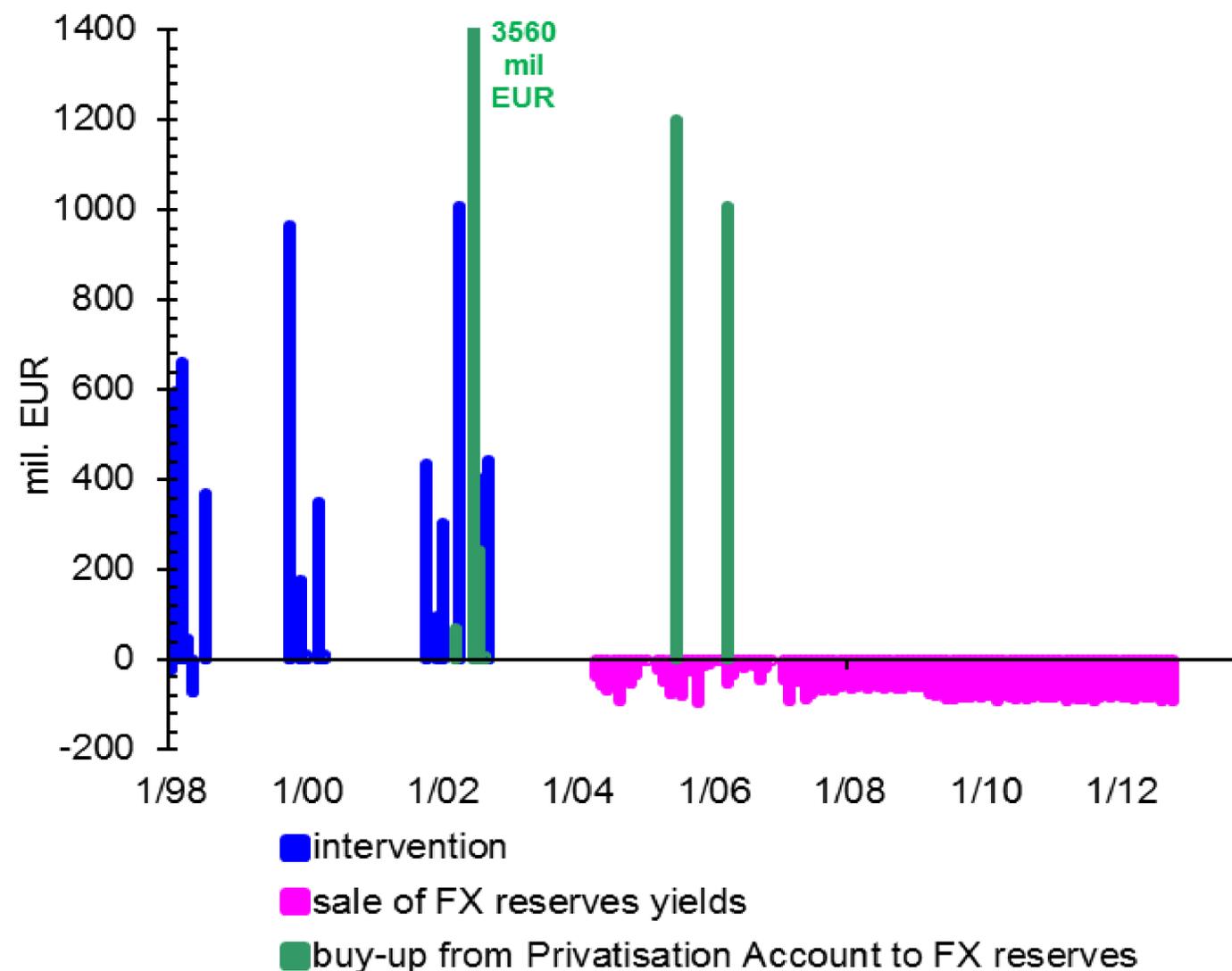
- Good news 2: The impact on market expectations is not mechanistic, especially if the Board communicates some reservations relative to the baseline forecast.
- Hence, both the fear of perceived false commitment and the fear of “staff dominance” are overdone.

Internal and External Policy Reports



- The key MP documents have now all been merged into a single one, which serves both internally as a basis for the Board's decisions, and for external communication.

The CNB's FX Operations before Nov 2013

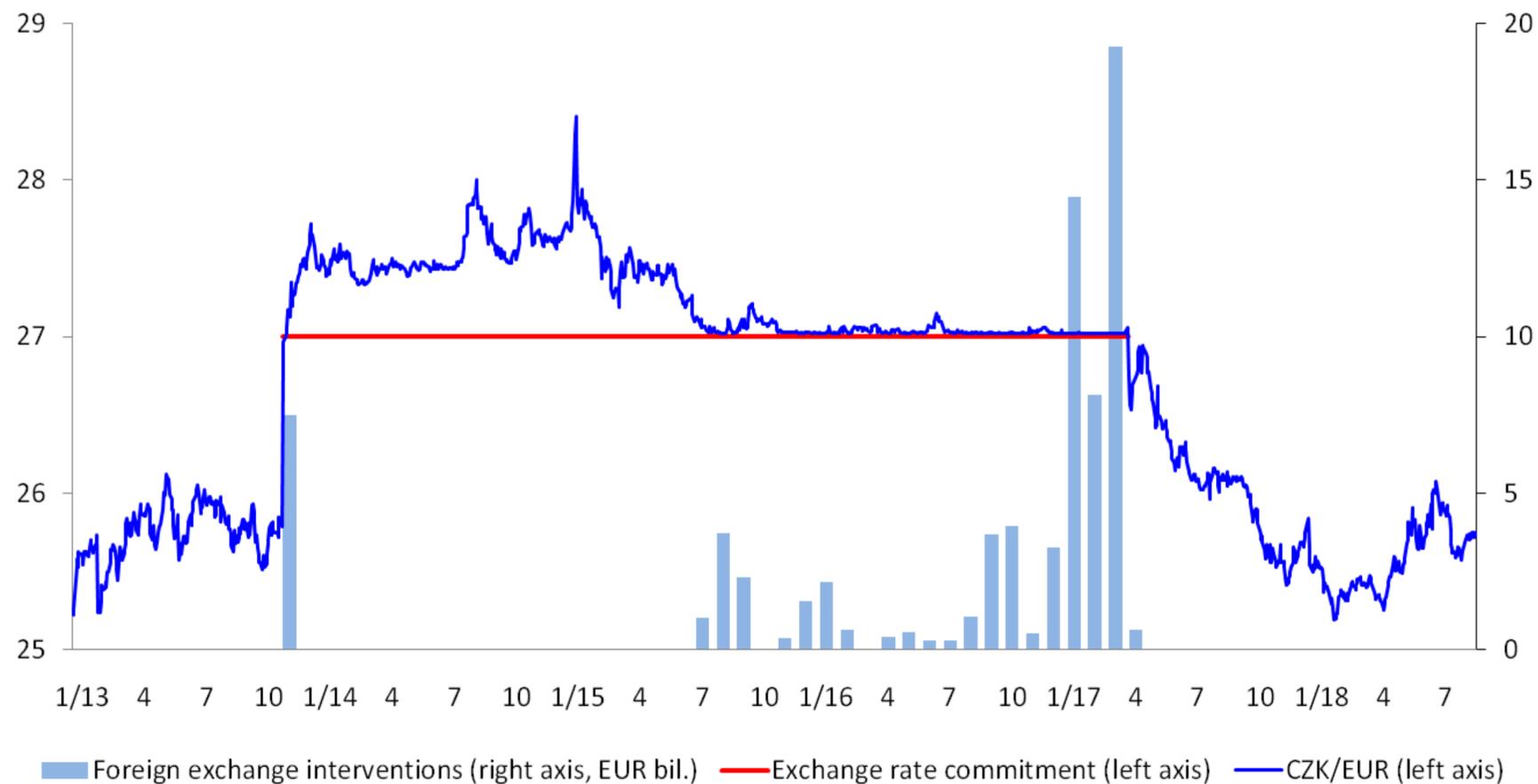


- Officially, the exchange rate regime is a managed float.
- Interventions in the FX market took place only in the IT-lite phase (1998–2002), in three episodes.
- For almost a decade, the exchange rate was then de facto freely floating (and the same is true now).
- In Nov 2013–Apr 2017, the exchange rate was used as a UMP instrument (i.e. for a very different reason than under standard exchange rate management).

Introduction of the FX Commitment (7 Nov 2013)

- The Board decided to start using the exchange rate as an additional instrument for easing the monetary conditions, stating that: “The CNB will intervene on the FX market to weaken the koruna so that the exchange rate is close to CZK 27/EUR.”
- The exchange rate level was chosen to avoid deflation or long-term undershooting of the inflation target and to speed up the return to the situation where the CNB would be able to use its standard instrument, i.e. interest rates.
- The exchange rate commitment was one-sided. This means that the CNB prevented the koruna from appreciating below CZK 27/EUR. On the weaker side of the CZK 27/EUR level, the CNB allowed the exchange rate to move according to supply and demand on the FX market.

Implementation of the FX Commitment



- After the CNB's policy announcement, the koruna quickly reached 27 CZK/EUR and moved at somewhat weaker levels until mid-2015.
- The interventions were quite large in November 2013, but short-lived.
- Another massive round of interventions started in July 2015 and especially before the exit.
- In April 2017, a smooth exit was carried out, followed by gradual CZK appreciation and interest rate hikes.

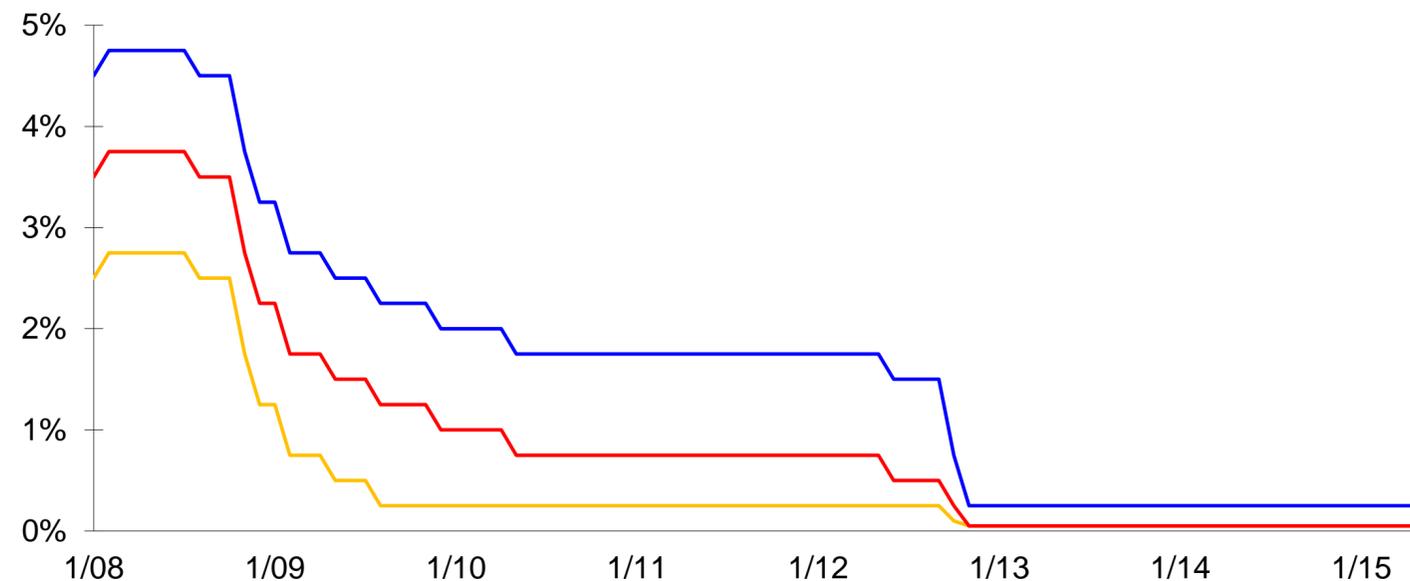
— Swiss vs. Czech Case

| | Swiss | Czech |
|-----------------------------|--|--|
| MP regime | officially not inflation targeting free float | inflation targeting officially managed float |
| Reason for entry | sharp appreciation export competitiveness | deflation risk, undershooting of inflation target |
| Design of the "floor" | publicly announced unlimited interventions | publicly announced unlimited interventions |
| Duration of the "floor" | 1227 days | 1246 days |
| Safe haven | yes, on global scale | no |
| Balance sheet constraints | quite important | none |
| Communication of exit | none | from the very beginning |
| Characteristics of the exit | discretionary, surprising | rule-based, telegraphed |
| Exchange rate after exit | jump appreciation | mild appreciation |
| Inflation after exit | deflation | above target so far |
| Economy after exit | temporary slowdown, small unemployment increase | resilient (until the current global slump) |
| Interest rates after exit | cut further below zero | normalization to 2.25% |

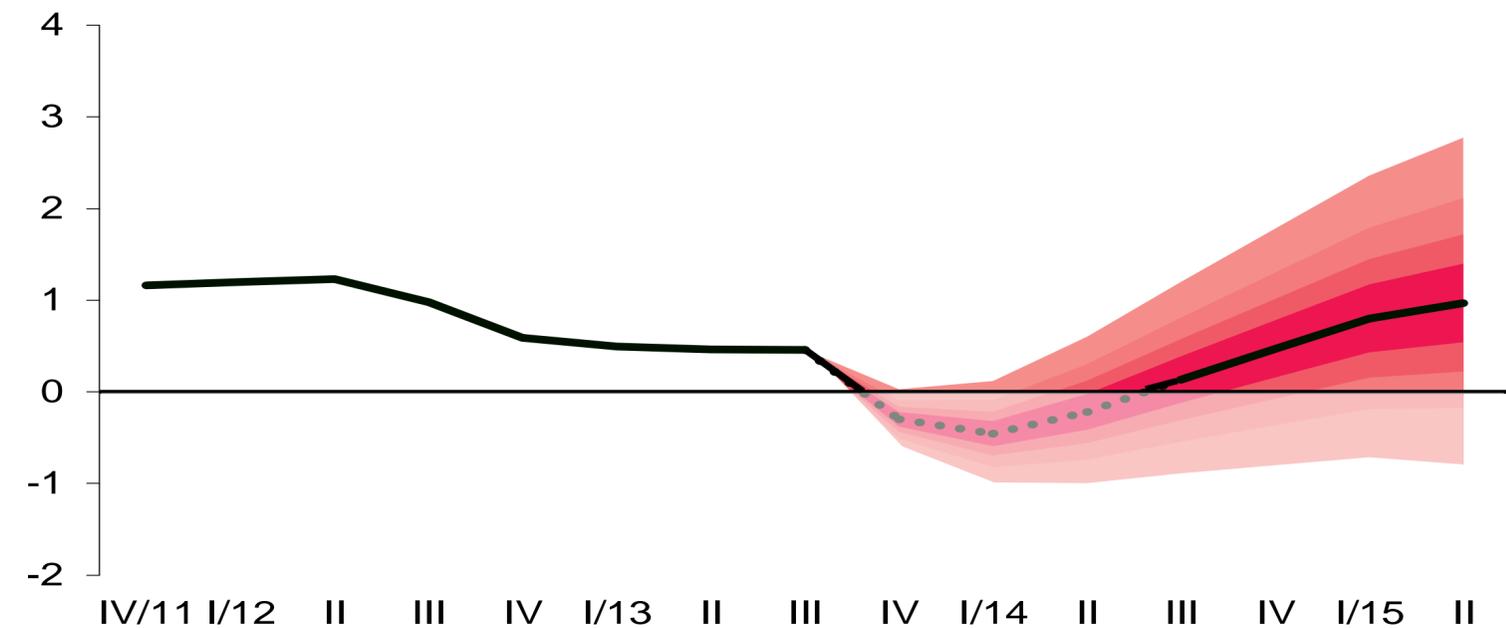
Reasons for the Decision to Act

- The November 2013 forecast identified a need for significant further monetary policy easing.
- The disinflation process was seen as driven primarily by insufficient demand, not by favourable supply-side shocks (i.e. no possibility to look beyond temporary disinflation).
- Declining inflation expectations were shifting real interest rates in the opposite direction than needed (and the real ER was slightly overvalued).
- Passive MP scenarios showed a high probability of inflation turning negative in early 2014.
- The risk assessment pointed to high potential costs of a policy error for the passive approach, and to a higher probability of such an outcome than implied by the core analyses.

The ZLB Constraint in the Czech Case



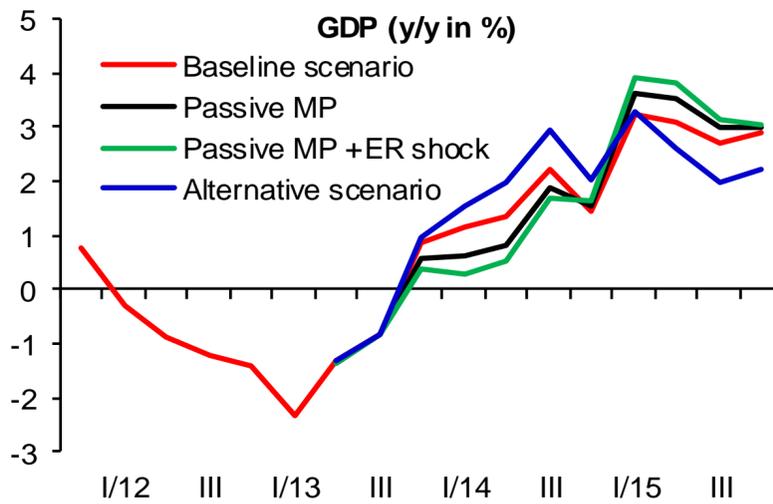
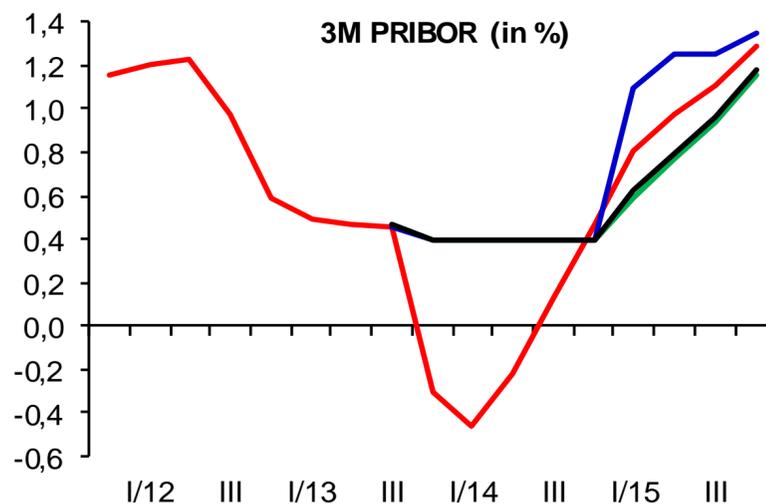
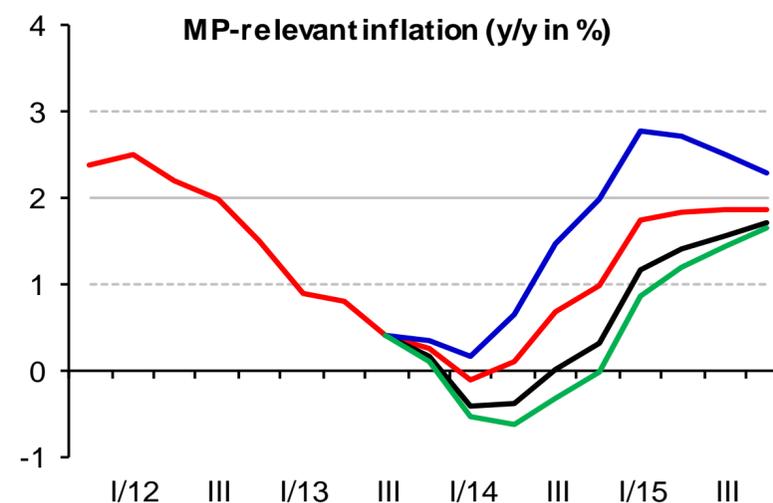
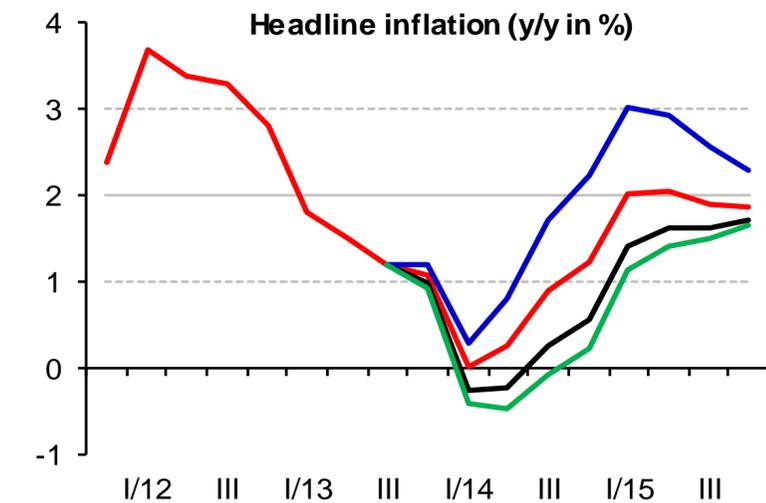
— Discount rate — 2W repo rate — Lombard rate



■ 90% ■ 70% ■ 50% ■ 30% confidence interval

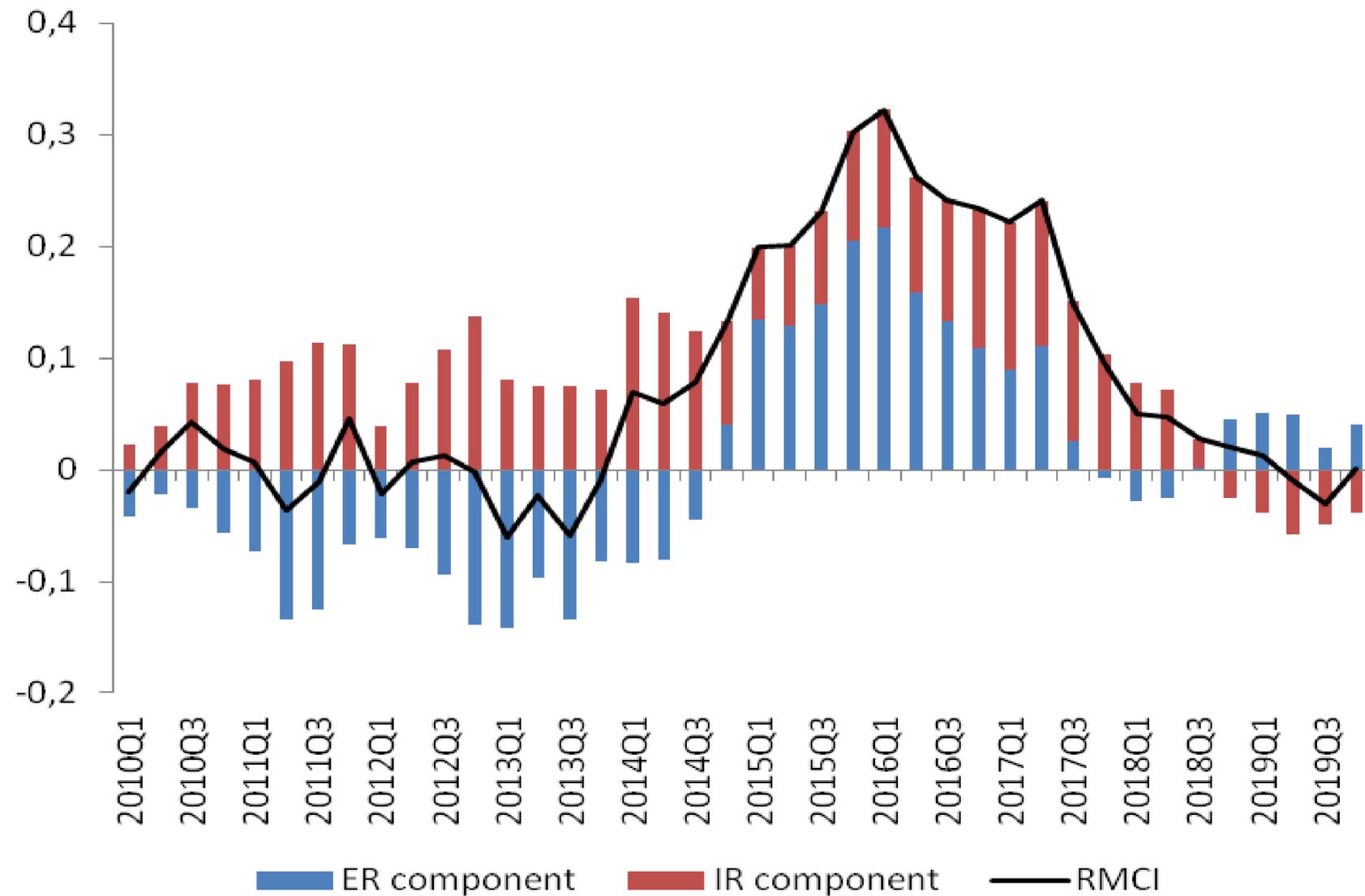
- The ZLB was hit in November 2012.
- The November 2013 forecast identified a need for (hypothetically) significantly negative interest rates.
- The CNB did not consider it efficient to go below the ZLB at that time.
- A need to use another UMP tool thus became clear. An ER commitment was assessed as the most effective.

Policy Scenarios in Nov 2013



- Passive scenarios: helpful for justifying the need to act (but should never be published as a baseline).
- The level of the ER commitment was chosen so as to allow for an (ex ante) overshoot of the target (implicit PLT/AIT element).

Monetary Conditions Index

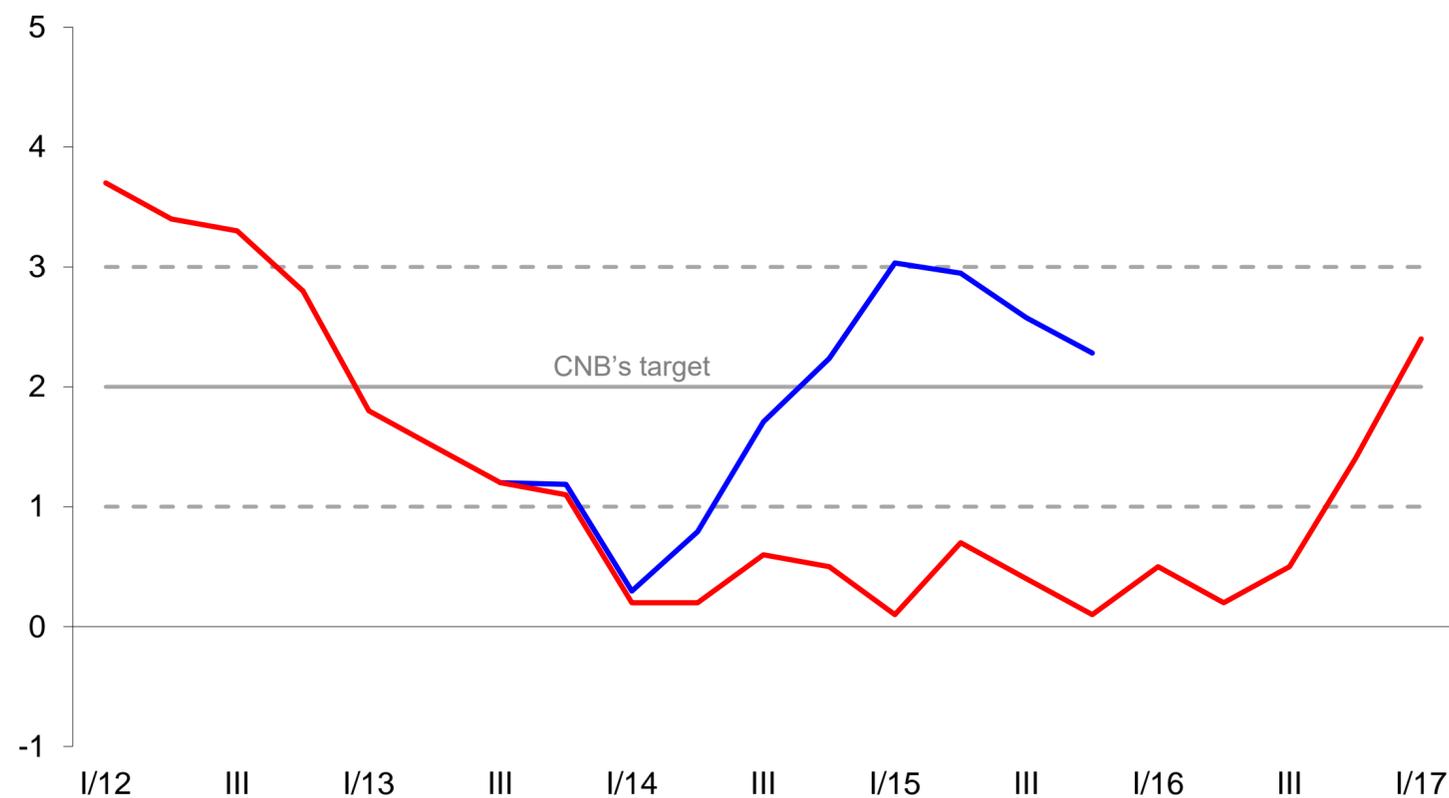


The CNB's policy measure significantly eased the overall monetary conditions in both their interest rate component (via higher inflation expectations) and their exchange rate component.

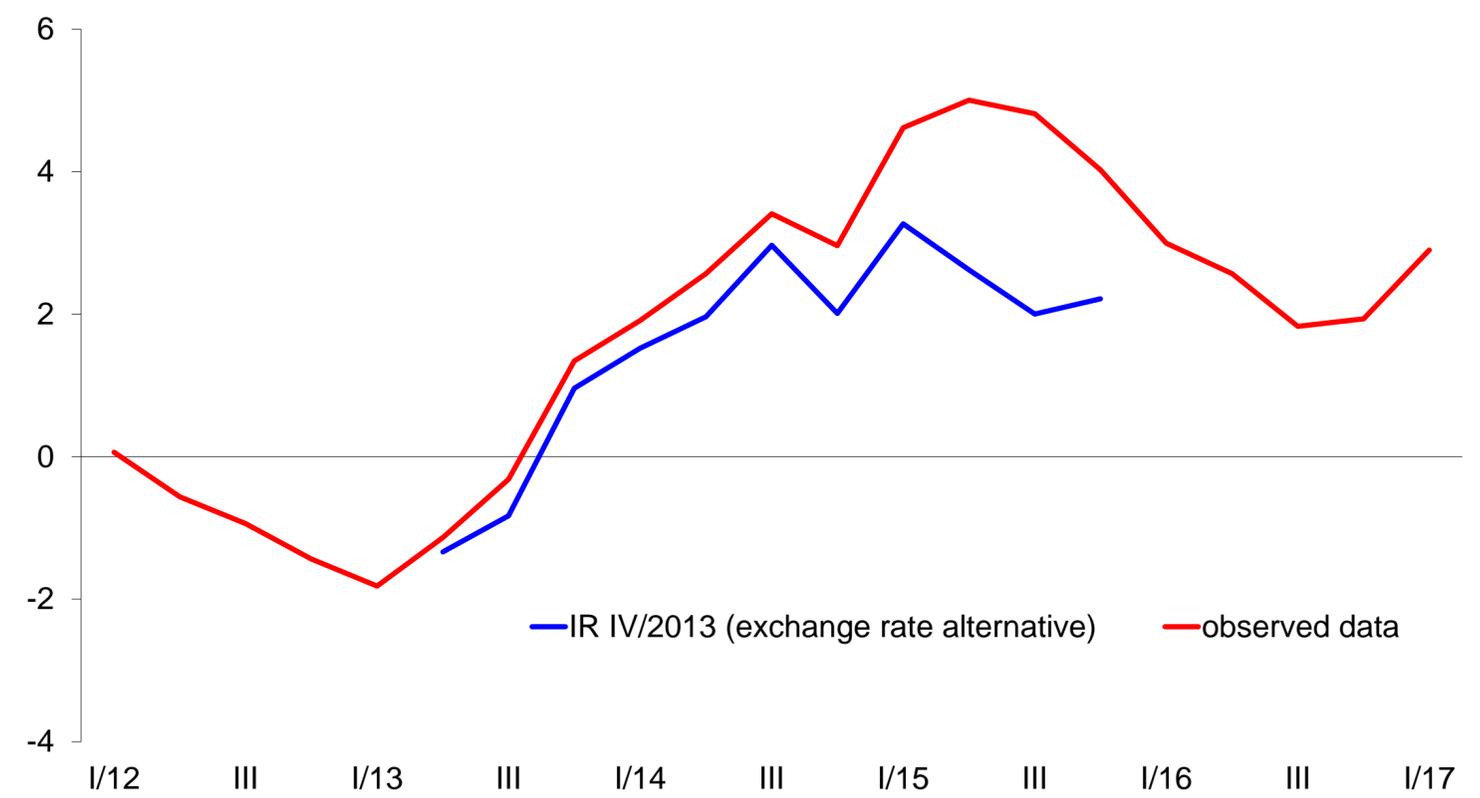
This is what any UMP instrument is supposed to do.

Expectations vs. Reality

Inflation (y/y in %)



GDP (y/y in %)



- The revival of economic activity was even faster than predicted in Nov 2013 (EU funds, drop in oil prices).
- Deflation was successfully avoided, but inflation exceeded the CNB's 2% target two years later than originally envisaged (due to external disinflation).

Empirical Evaluation: Brůha and Tonner (2017)

Table 3: Comparison of Various Approaches

| | Our approaches | | | | Independent approaches | | | | |
|---------------------------|----------------|-------------------------|------|------|------------------------|-------------------|-----------------|-------------------------|-------------------------|
| | g3 | Tonner et al. (2015) | SCM | GSCM | Svacina (2015) | Opatrny (2016) | Timko (2015) | Caselli (2016) (SCM) | Caselli (2016) (DiD) |
| CPI inflation (2014) | 1.2 | 1.2 | 0.1 | 0.2 | 0.5 | ±0 | 1.5 | ±0 | 0.5–1.0 |
| CPI inflation (2015) | 1.8 | 1.5 | 0.6 | 0.8 | | ±0 | 1.5 | 0.5 | |
| GDP growth (2014) | 1.2 | 0.8 | 0.3 | 0.4 | 0.8 | +0 | ±0 | | |
| GDP growth (2015) | 0.6 | 1.2 | 1.7 | 1.8 | | 2.0 | ±0 | | |
| Consumption growth (2014) | 1.4 | 0.3 | 0.4 | 0.4 | | | | | |
| Consumption growth (2015) | 0.9 | 1.0 | 1.5 | 1.7 | | | | | |
| Unemployment rate (2014) | | -0.3 | -0.2 | -0.1 | | -1.0 | | | |
| Unemployment rate (2015) | | -1.2 | -0.6 | -0.5 | | -1.8 | | | |

Notes: g3 is the simulation with the g3 model; Caselli (SCM) is the result from Caselli (2017) using the synthetic control method; Caselli (DiD) is the result from Caselli (2017) using the difference-in-difference method.

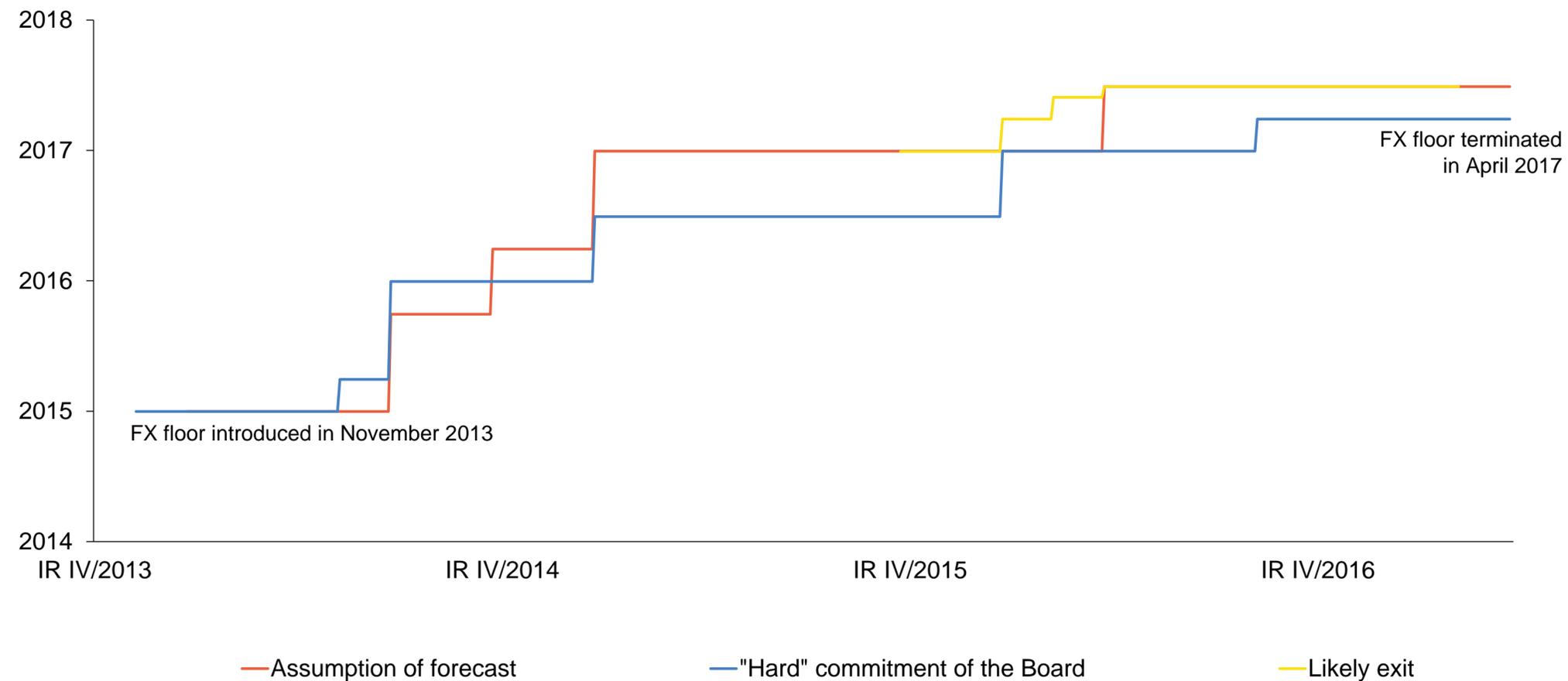
Blank spaces mean that the study does not address the variable of interest; ±0 means that the study implies that the effect is both economically and statistically insignificant. Some results are not found in the tables or texts but were read from the graphs in the papers.

- All the approaches summarised in the table show a positive impact on either inflation or GDP growth, or both. There is also some evidence of a negative impact on the unemployment rate.

Communication of the Exit (i)

- This communication started almost from the beginning.
- Ex post, it signalled the subsequent reality quite well (see the quotes below from 2014), with increasing precision over time:
 - *“The timing of the exit assumed in the forecasts is communicated very transparently (i.e. via the IR path).*
 - *The Board may (and does) deviate from the forecast in its assessment and forward guidance due to perceived risks.*
 - *Exit = return to the standard inflation targeting framework with interest rates as the main instrument, combined with managed floating.*
 - *It can have a one-off character, or be more gradual (with backstops).*
 - *Exit will come only once monetary policy tightening is needed, and this need is sufficiently strong and durable to avoid hitting the ZLB again.*
 - *There is a trade-off between a ‘velvet exit’ and a robust one.”*

Communication of the Exit (ii)



- As a policy tool, the Board primarily used a “hard commitment” specifying the minimum duration of the “FX floor”.
- The CNB also provided information on the exit date expected or considered likely by the Board, as well as on the timing of the exit assumed in the forecast.

Literature on the Czech FX Commitment

- Franta, M., Holub, T., Král, P., Kubicová, I., Šmídková, K., Vašíček, B. (2014): “The Exchange Rate as an Instrument at Zero Interest Rates: The Case of the Czech Republic.” CNB Research and Policy Note 3/2014 (September), http://www.cnb.cz/en/research/research_publications/irpn/2014/rpn_03_2014.html.
- Alichí, A., Benes, J., Felman, J., Feng, I., Freedman, C., Laxton, D., Tanner, E., Vavra, D., Wang, H. (2015): “Frontiers of Monetary Policymaking: Adding the Exchange Rate as a Tool to Combat Deflationary Risks in the Czech Republic.” IMF Working Paper 15/74 (April), <http://www.imf.org/en/Publications/WP/Issues/2016/12/31/Frontiers-of-Monetary-Policymaking-Adding-the-Exchange-Rate-as-a-Tool-to-Combat-Deflationary-42829>.
- Brůha, J., Tonner, J. (2017): “An Exchange Rate Floor as an Instrument of Monetary Policy: An Ex-post Assessment of the Czech Experience.” CNB Working Paper 4/2017 (September), http://www.cnb.cz/en/research/research_publications/cnb_wp/2017/cnbwp_2017_04.html.
- Baxa, J., Šestořád, T., (2019): “The Czech Exchange Rate Floor: Depreciation without Inflation?” CNB Working Paper 1/2019 (February), https://www.cnb.cz/export/sites/cnb/en/economic-research/.galleries/research_publications/cnb_wp/cnbwp_2019_01.pdf.

Summary and Conclusions

- The CNB managed to move from a “lite” version of IT to fully fledged IFT within a decade.
- Support from the CNB’s top management was a key ingredient of the success.
- The forecast with endogenous interest rates is crucial for anchoring inflation expectations.
- The “fear of publishing” the interest rate path is not supported by the Czech experience.
- The advanced forecasting tools also fostered a fast move to a high transparency level.
- Further advances in transparency have been made recently (attributed minutes, MPR)
- The CNB has a unique experience with using the exchange rate as a UMP instrument

Thank you for your attention

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