



Coordinating Monetary and Macroprudential Policies in a Low Interest Rate Environment

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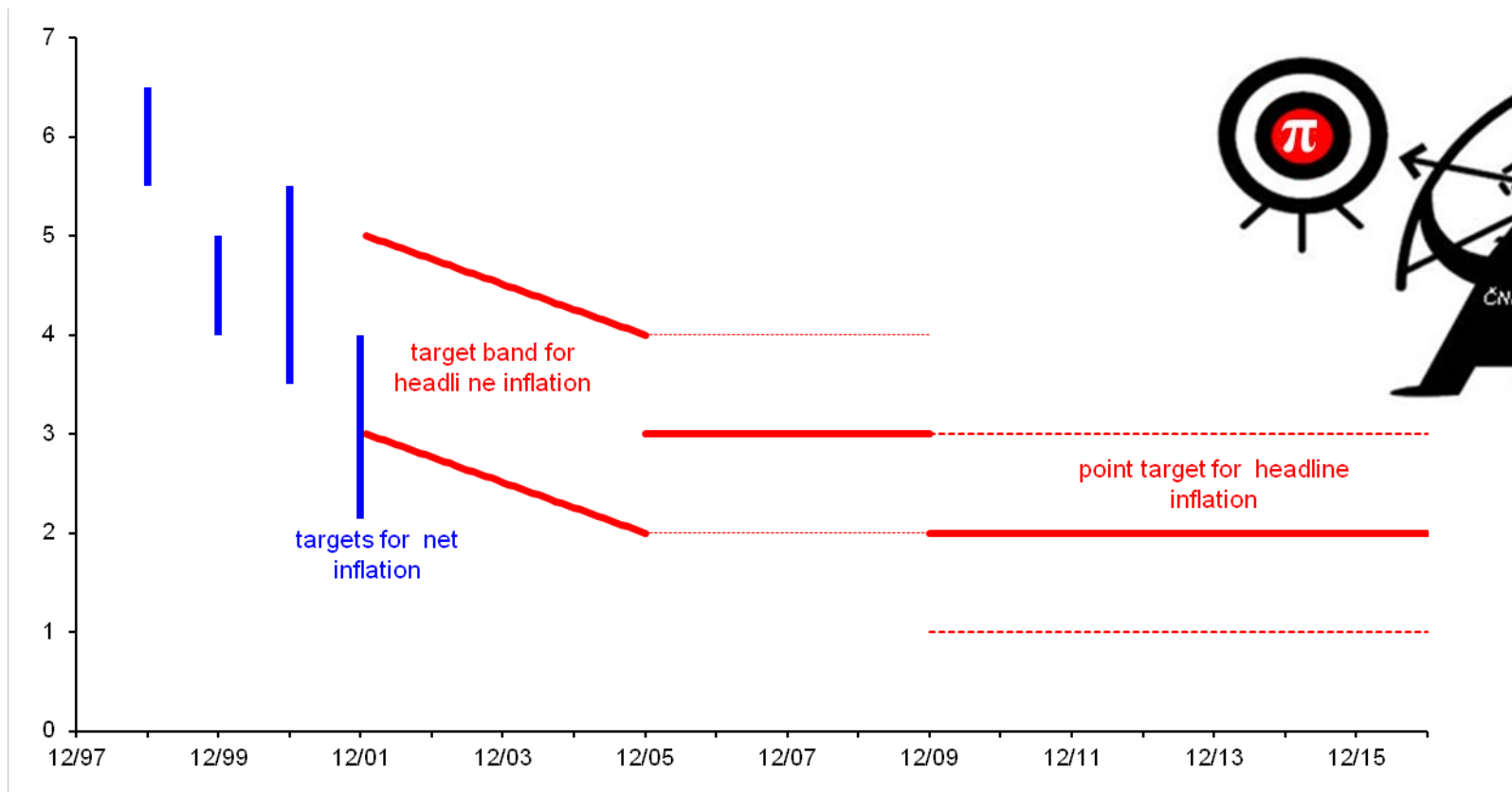
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I. The CNB and Its Policy Framework

- Monetary authority and bank supervisor (since its establishment in 1993).
- Integrated supervisor of financial market.
 - Mandate for supervising capital market, insurance companies and pension funds acquired in 2006.
 - New responsibility for supervising non-bank credit providers given in 2016.
- Macroprudential policy authority (since 2013).
- Resolution authority (since 2015).
- Authority responsible for consumer protection in financial market (since 2008).

Evolution of inflation targets

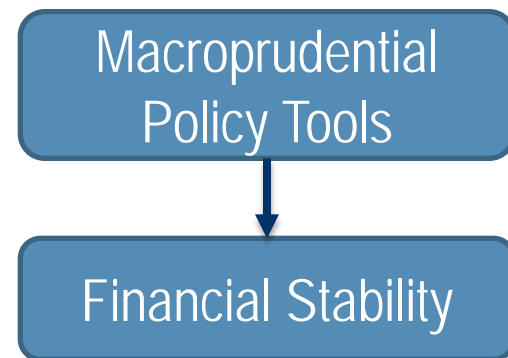
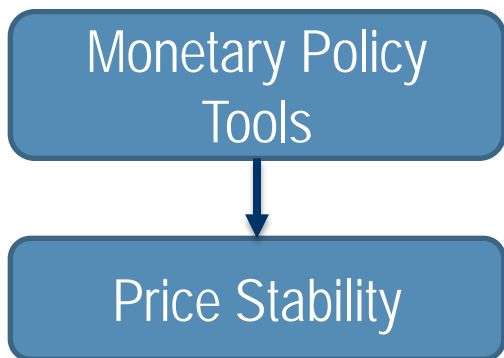
- Targets originally set for “net inflation”; since 2002 for headline inflation.
- From January 2006 target set at 3% with tolerance band of $\pm 1\%$; in January 2010 point target of 2% established.



II. Monetary and Financial Cycles in Small Open Economies: The Case for Policy Coordination

- Monetary policy in small open economy faces extra challenges relative to large advanced economies:
 - less autonomy (strong impact of external environment),
 - significant impact of exchange rate changes on monetary conditions,
 - impact of global financial cycle on lending rates and credit dynamics.
- Such challenges have strong implications for policy making:
 - need for more broadly defined flexibility,
 - necessity to coordinate monetary policy closely with (macro)prudential policies.
- CNB experienced two rather different periods from policy coordination perspective in last decade:
 - inflationary pressures and credit boom (2006–2008).
 - deflationary pressures and credit growth recovery (since 2013).
- Holistic approach to transmission of the two policies is called for.

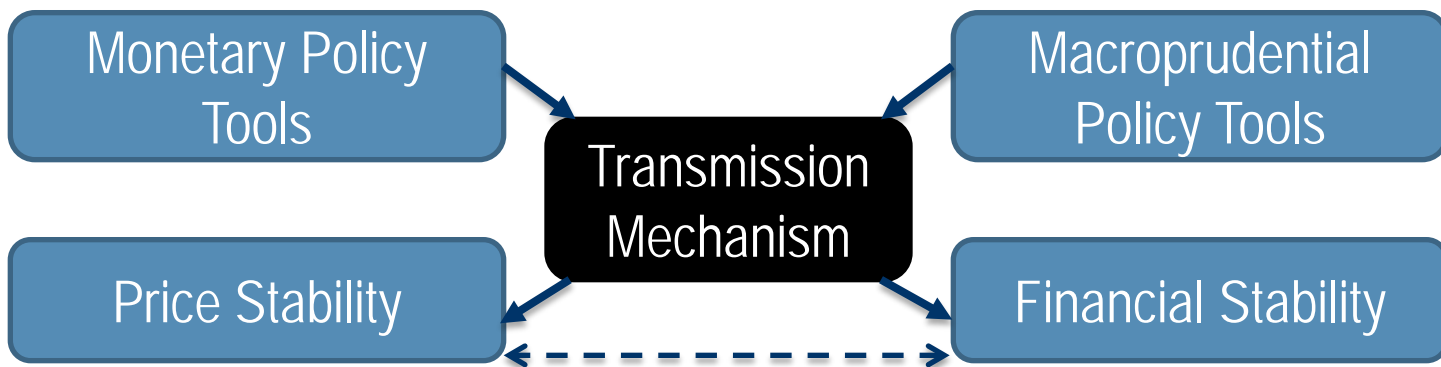
- Monetary authority's dream:



- Monetary authority's dream:



- Reality:



- Black box is always complex – various stages and channels.

- Models currently used by central banks for monetary policy purposes work primarily with interest rate and exchange rate channels.
- Changes to monetary policy tools also act via credit demand and supply channels, asset price channel and risk-taking channel.
- Bank lending channel (also bank capital and bank regulation channels):
 - acts via bank credit supply,
 - CB affects banks' access to funding sources and their price; clients' debt servicing costs and creditworthiness.
- Balance sheet channel:
 - acts via credit demand,
 - affects ability of households and firms to obtain credit through changes in collateral valuation.

- Asset price channel:

- households (wealth effect): $\downarrow i \rightarrow \uparrow P_A \rightarrow \uparrow W \rightarrow \uparrow C$
- corporations ("Tobin's q" effect) : $\downarrow i \rightarrow \uparrow P_E \rightarrow \downarrow \text{Costs} \rightarrow \uparrow I$

- Risk-taking channel:

- low rates (in long run) \rightarrow incentive to expand balance sheets of banks and invest in more risky assets (to attain original target rates of return (Diamond and Rajan, 2012)),
- \rightarrow higher lending and softer lending conditions (Borio and Zhu, 2008),
- \rightarrow higher proportion of market-based funding with compressed risk premia and amount of maturity transformation (Adrian and Liang, 2014).

- **Macroprudential and monetary policy tools are not independent.**
 - They affect both credit and monetary conditions via their effect on lending standards and credit growth.
 - Anything that affects availability and price of credit also affects credit growth and thus also monetary policy transmission.
- Central banks therefore have to carry out analyses of policy interactions and strive to coordinate policies.
 - In some situations it may be desirable for policies to act in same direction.
 - In other situations the two can come into conflict because of need for them to work in opposite directions.
- Right policy mix depends on intersection of two different cycles – business cycle and financial cycle.
 - Different properties of the two cycles makes coordination of the two policies challenging (Frait, Malovaná and Tomšík, 2015).

- Strength of potential conflict depends on:
 - position in financial and business cycle (Borio, 2014b),
 - openness of economy,
 - sort of shocks economy is currently exposed to.
- Suitable combinations of responses of two policies below:
 - in truly good or bad times choice is obvious.
 - sometimes it can be very hard to decide on right mix in reality.

		Inflationary pressures		Disinflationary pressures	
		Strong demand	Weak demand	Strong demand	Weak demand
Rapid credit growth and rising asset prices	Monetary pol.	Tightening > IT	Tightening	Easing < IT	Easing
	Macroprud. pol.	Tightening	Tightening	Tightening	Tightening
Decline in credit and falling asset prices	Monetary pol.	Tightening	Tightening < IT	Easing	Easing > IT
	Macroprud. pol.	Easing	Easing	Easing	Easing

- Example #1
 - During financial bust, rise in interest rates in response to increased inflation pressures would further dampen credit growth and in turn economic recovery.
 - Right response is to partially ease macroprudential policy.

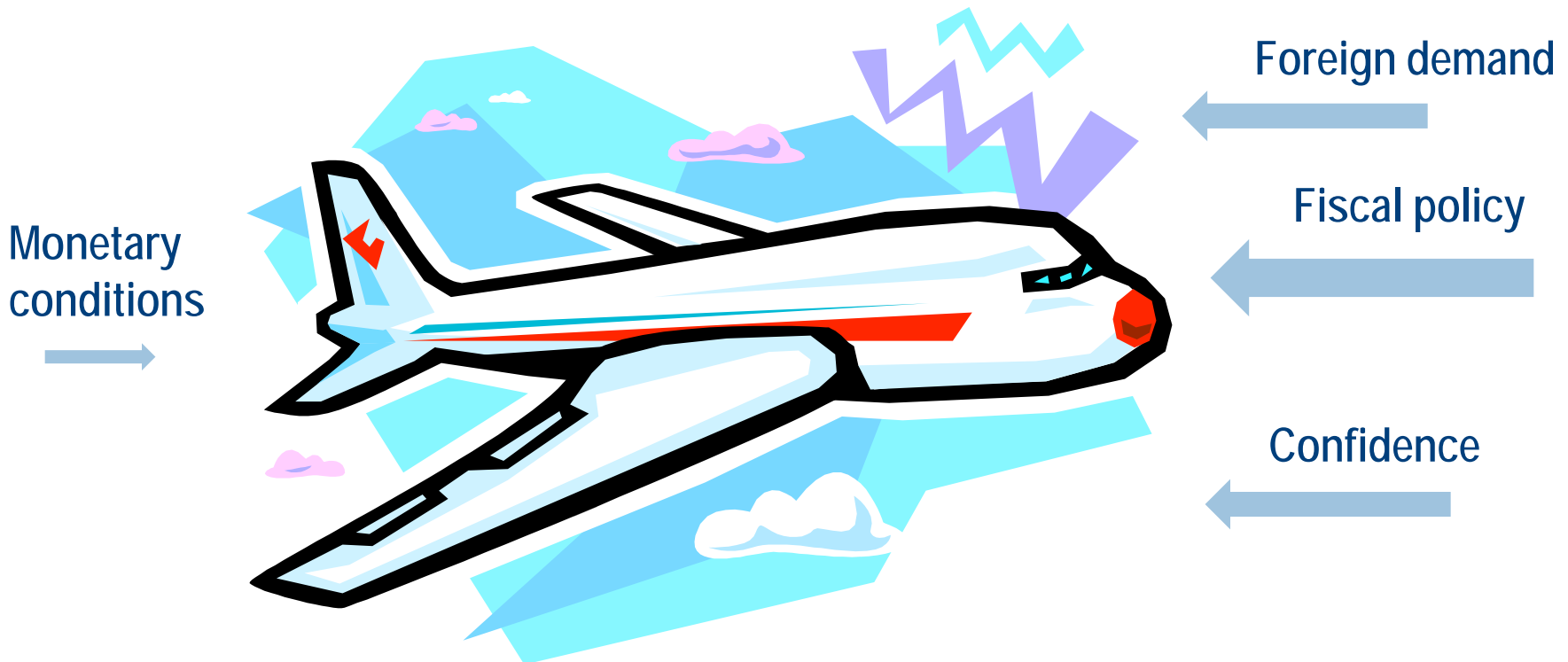
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Decline in credit and falling asset prices	Monetary pol.	Tightening	Tightening < IT	Easing	Easing > IT
	Macroprud. pol.	Easing	Easing	Easing	Easing

- Example #2
 - During financial boom, reduction of interest rates to combat below-target inflation could further increase credit growth and demand for risky assets.
 - From conceptual perspective, right response is to tighten macroprudential policy
 - ...pre-emptively tighten monetary conditions too?

		Inflationary pressures		Disinflationary pressures	
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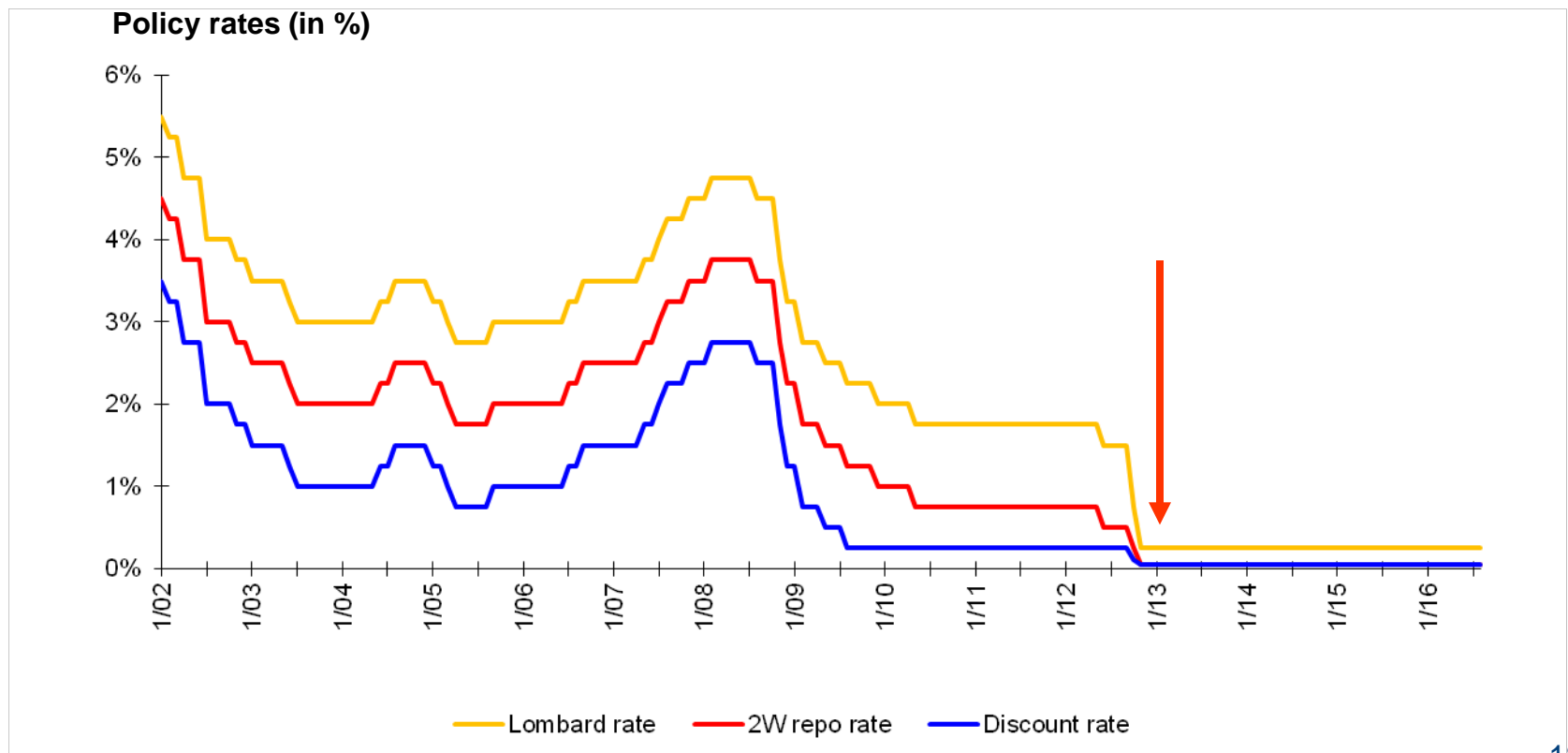
- Proper coordination of the two policies might be very difficult due to different probabilities of failure to fulfil the two main objectives:
 - risk of not meeting inflation target in short term implied by forecast will be viewed as most likely development,
 - materialisation of systemic risk that builds up will be seen as potential in medium term only.
- Preference is unlikely to be given to financial stability objective, as this would require consensus that risk of future financial crisis has exceeded critical level.
 - Such consensus was reached neither before recent financial crisis, nor in economies facing credit/property boom today.
- Macroprudential policies overburdened these days?
 - Expected to constrain credit growth, contain asset price accelerations, keep banks resilient...

III. Case Study of the CNB's Policy Challenges



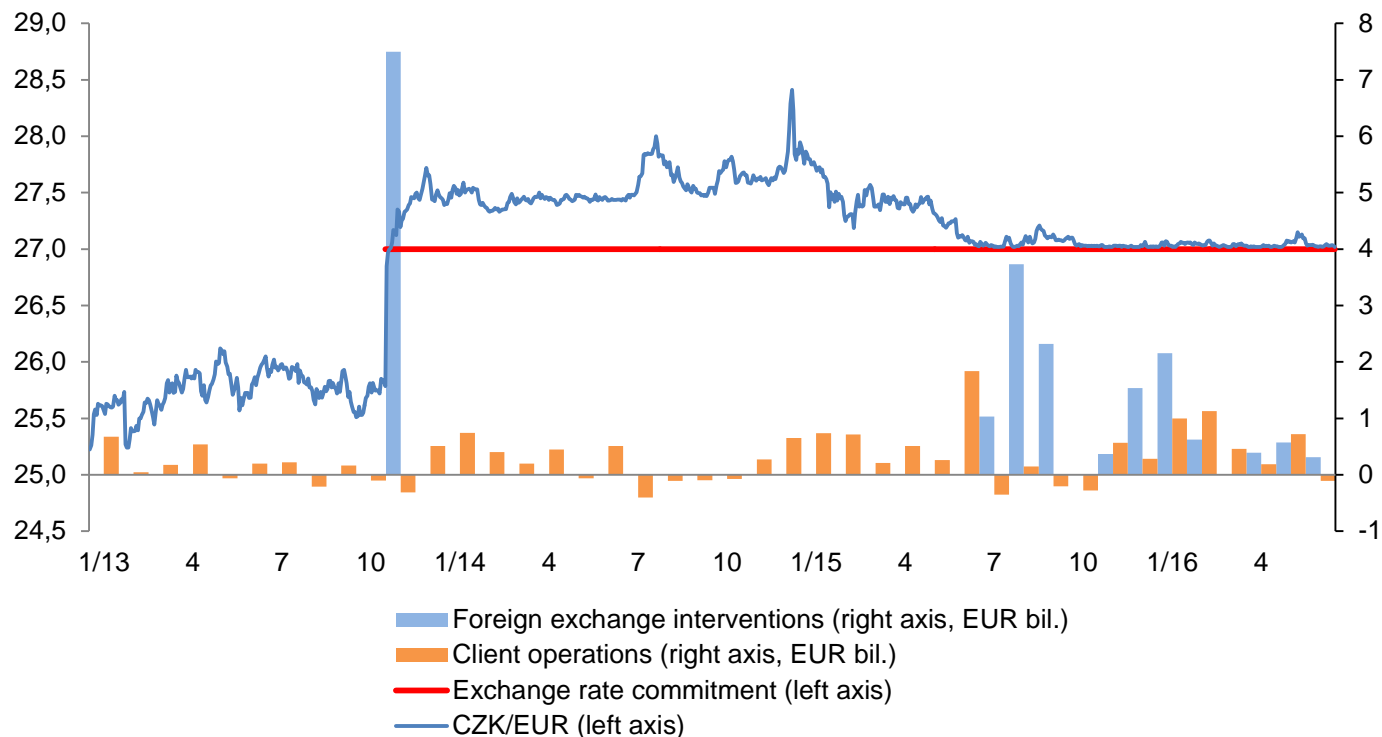
- In 2012–2013, economy faced significant headwinds from foreign demand (EA sovereign crisis), domestic fiscal consolidation, as well as from very weak consumer and business confidence.
- Monetary conditions were loose: zero interest rates, forward guidance and verbal FX interventions, but not enough to offset headwinds.

- In November 2012, CNB hit zero lower bound (ZLB).
- Since then, policy rates have been set at “technically” zero level: 0.05% for 2W repo rate and O/N deposit (i.e. discount) rate, and 0.25% for O/N lending (i.e. Lombard) rate.



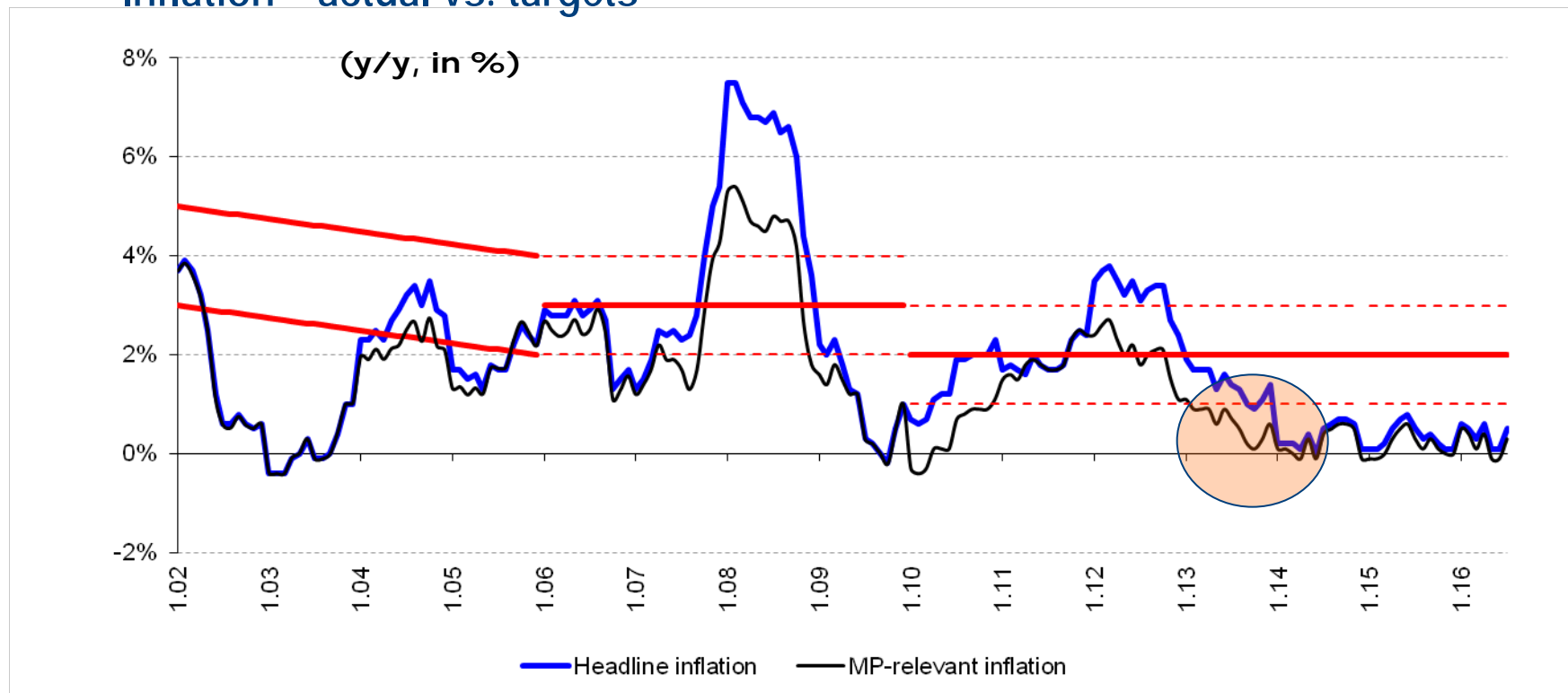
- CNB's November 2013 decision:
 - Board decided to start using exchange rate as additional instrument for easing monetary conditions, stating that: "The CNB will intervene on the FX market to weaken the koruna so that the exchange rate is close to CZK 27/EUR."
 - Exchange rate level was chosen to avoid deflation or long-term undershooting of inflation target and to speed up return to situation in which CNB would be able to use its standard instrument, i.e. interest rates.
 - Exchange rate commitment is one-sided:
 - CNB stands ready to prevent excessive appreciation of koruna exchange rate below CZK 27/EUR.
 - On weaker side of CZK 27/EUR level, CNB allows exchange rate to move according to supply and demand on FX market.

- Exchange rate weakened immediately and has moved with relatively low volatility above level of CNB's commitment.
- Actual interventions were quite massive, but took place only for few days after policy decision of CNB.
- In July 2015, exchange rate stabilised close to "floor". Volume of CNB interventions varies over time.

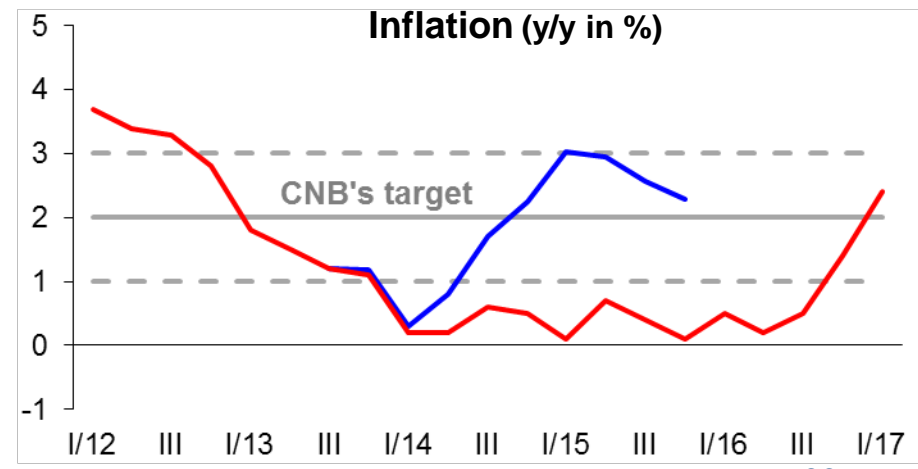
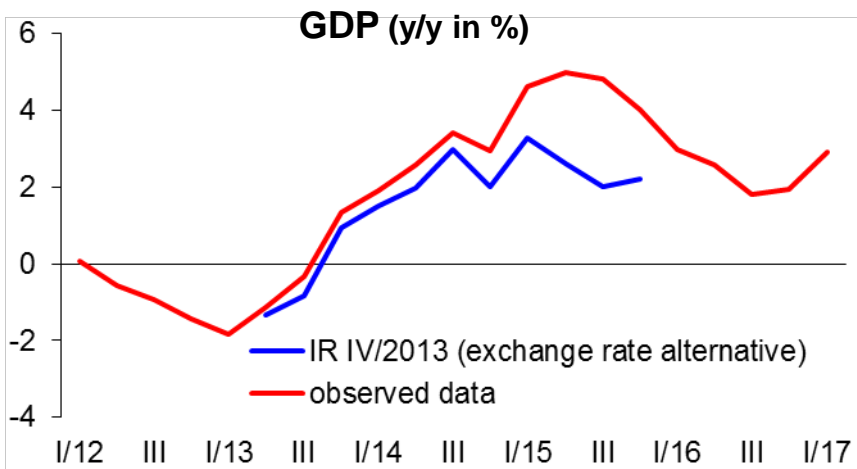


- Headline inflation was close to 1% in 2013 (i.e. well below target, but seemingly far from deflation) due only to indirect tax increases.
- MP-relevant inflation had been below target since November 2012 and fell towards zero during 2013.

Inflation – actual vs. targets

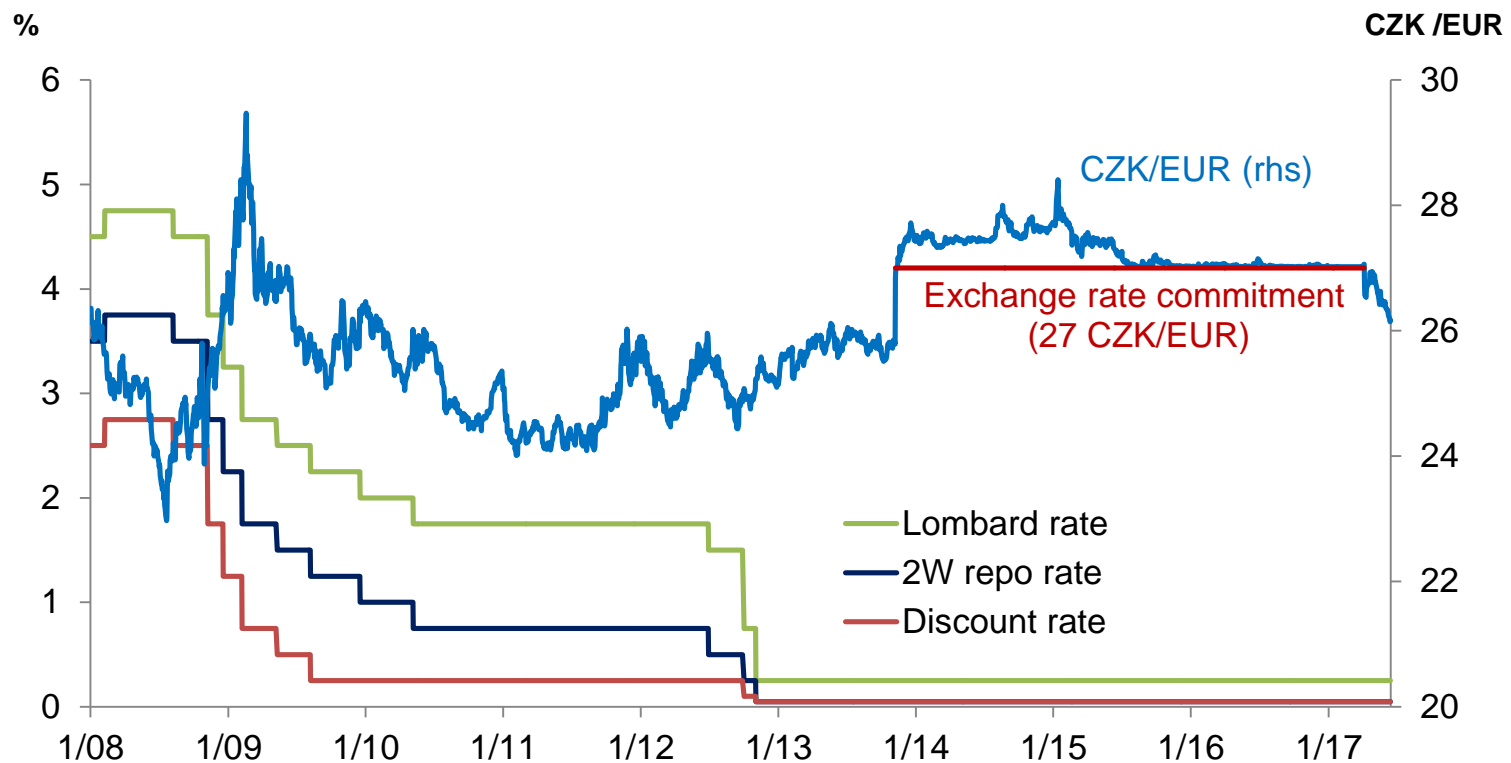


- Weakened exchange rate contributed significantly to economic recovery that occurred in 2014 (together with recovery in external demand and with end of restrictive domestic fiscal policy).
- Revival of economic activity was even faster than predicted in November 2013 (in 2015 fostered by EU funds and effect of oil price drop).
- Deflation was successfully avoided; core inflation turned positive quite soon.
- However, inflation reached upper half of tolerance band around CNB's 2% target two years later than originally envisaged due to external disinflation.

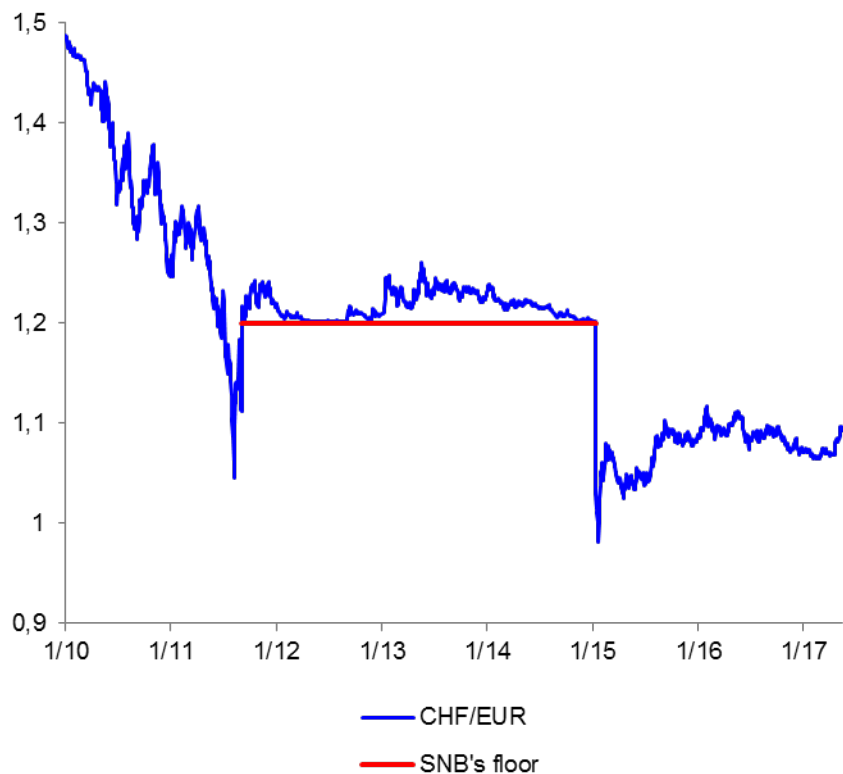


Exit from the exchange rate commitment

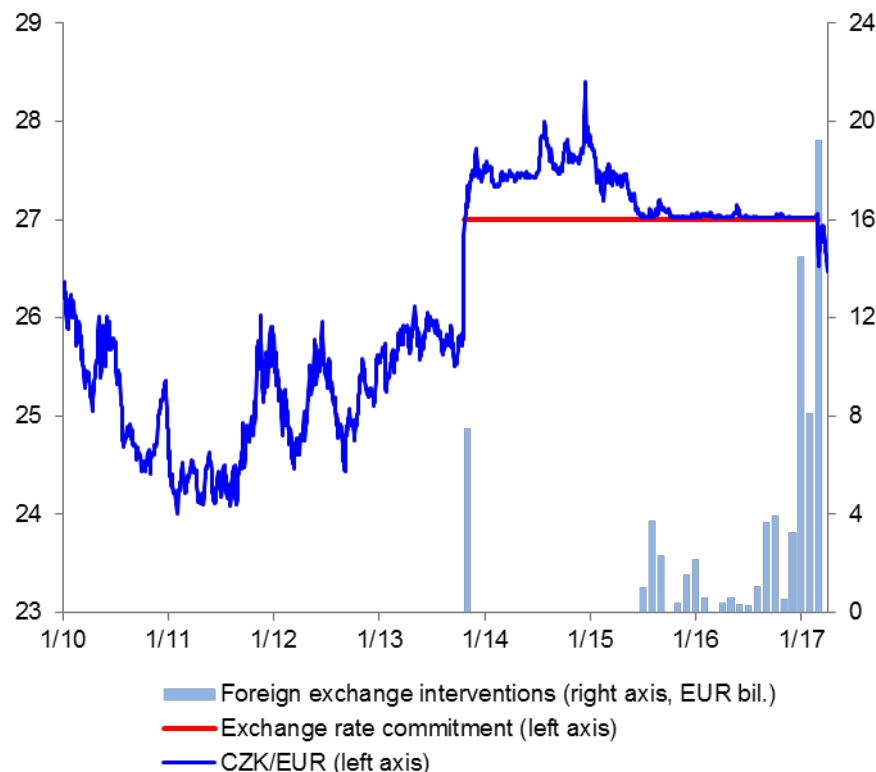
- Commitment was ended in April 2017, as conditions for sustainable fulfilment of 2% inflation target in future had been met.
- Exit from commitment was smooth. Czech koruna has been appreciating moderately since then.



CHF/EUR and SNB's "floor"



CZK/EUR, CNB's commitment and interventions



- Both cases show that entry can be technically very successful.
- In both cases, credibility of policy allowed for periods of exchange rate being above floor with no interventions.
- SNB faced pressures on interventions related to external factors. In CNB's case, pressures were associated with upcoming exit.

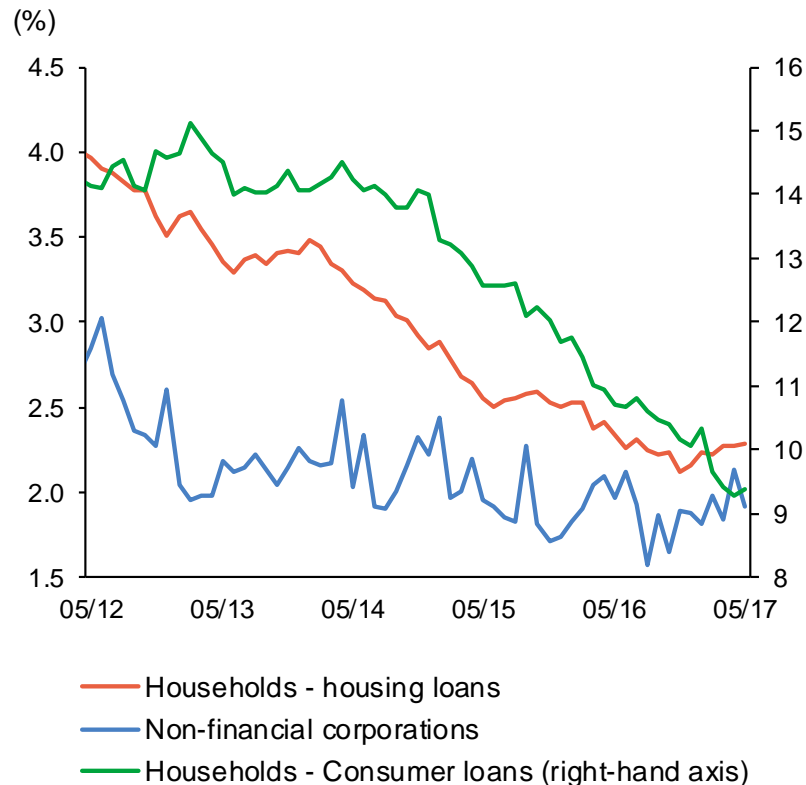
Swiss vs. Czech case

	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 "floor"	publicly announced unlimited interventions	publicly announced unlimited interventions
Duration of "floor"	1227 days	1246 days
Safe haven	yes, on global scale	no
Balance sheet constraints	quite important	none
Communication of exit	none	from very beginning
Characteristics of exit	discretionary, surprising	rule-based
Exchange rate after exit	Sharp appreciation	mild appreciation (so far)
Inflation after exit	deflation	return to target from above
Economy after exit	temporary slowdown, small unemployment increase	some acceleration and small unemployment decline likely
Interest rates after exit	cut further below zero	scope for normalisation

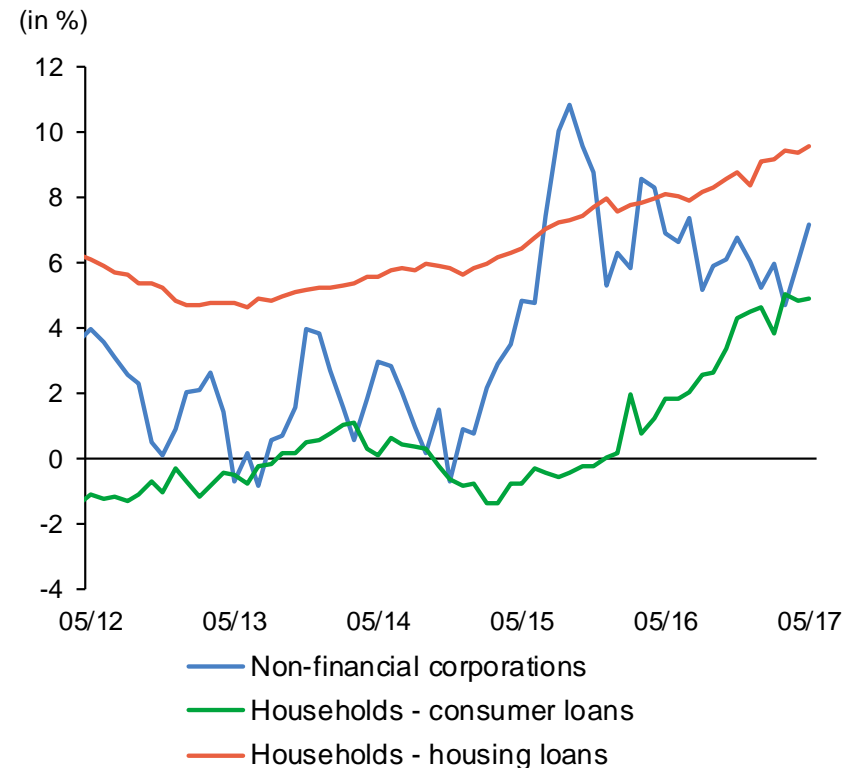
IV. Recent Issues in Macroprudential Policy Making

- Credit growth has responded to monetary impulse.
 - Decline in lending rates is supporting demand for credit.
 - Both corporate and household credit going up considerably.
 - More lenient lending conditions observed.

Interest rates on new koruna loans to private non-financial sector



Year-on-year growth in bank loans to private non-financial sector



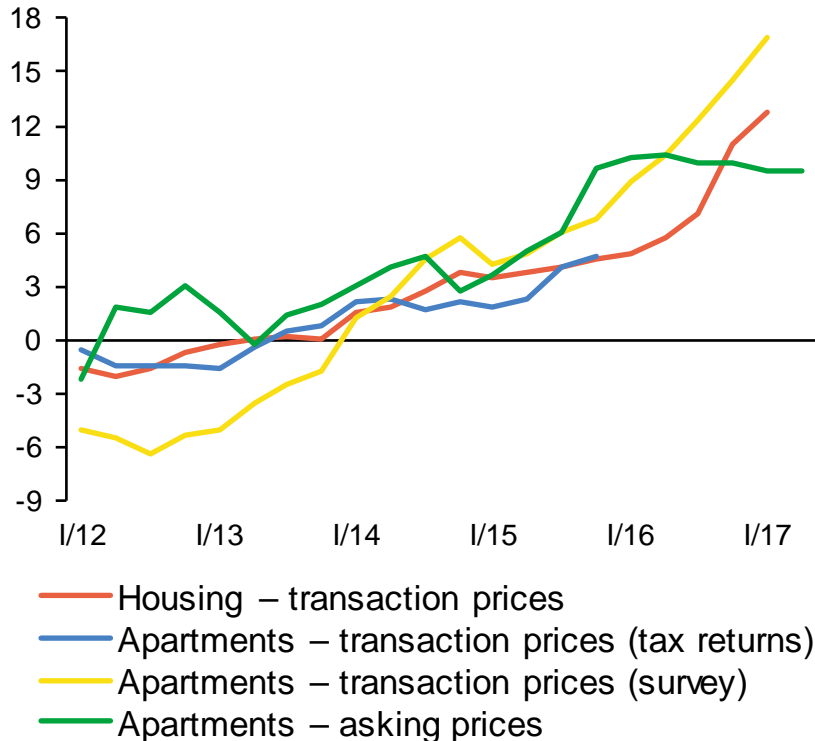
Source: CNB

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- Apartment prices have also been undergoing considerable recovery.
- Indicators of apartment affordability and apartment price sustainability have been deteriorating.

Transaction and asking prices of housing

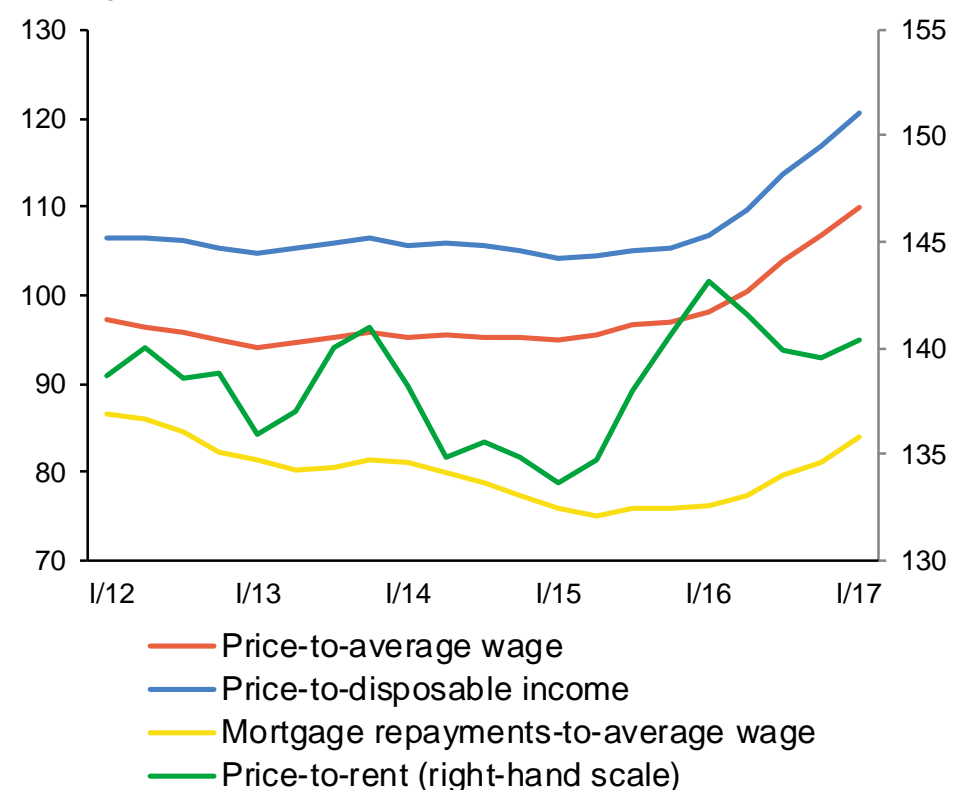
(annual percentage changes)



Source: CNB, CZSO

Apartment price sustainability indicators

(average for 2000–2007 = 100^{a)})



Source: CZSO, CNB, Institute for Regional Information

- Macroprudential policy has to be pre-emptively counter-cyclical:
 - Targeting emerging risks in particular areas of concern and ensuring build-up of buffers.
- Guidance on management of risks associated with provision of retail loans secured by residential property.
 - Recommendations on LTV, DSTI and DTI.
- Systemic risk buffer (SRB) applied to domestic systemically important banks set from 2017 onwards.
 - five major banks subject to SRB rate ranging from 1% to 3%.
- The CNB set CCyB rate for local exposures at above-zero level for first time at its December 2015 meeting on financial stability issues.
 - 0.5% rate has been applicable since January 2017;
 - 1.0% rate will be applicable from July 2018.

- Policy making in small open economy has to cope with extra challenges relative to large advanced economies.
- Being forward-looking and responsive to prospective risks is key to success.
 - Hope is not strategy.
- Should action be controversial, unpopular or have high probability of internal/external resistance:
 - Start to signal intention ahead (at best in good times).
 - Talk about it with all stakeholders and public.
 - Set measures relatively soft at start if necessary (you can make it tougher once people get used to it).

Thank you for your attention



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