Direct inflation targeting in Poland

Dariusz K. Rosati

Kiev, 20.05.2016.

Brief history

- New law on National Bank of Poland adopted in 1997 (compatible with EU regulations):
  - Full independence of NBP;
  - Price stability as the main objective of monetary policy;
  - Ban on direct deficit financing;
  - Monetary Policy Council established;
- First Monetary Policy Council (MPC) appointed in February 1998 (for 6 years term);
- Direct Inflation Targeting (DIT) strategy adopted by MPC in September 1998, and implemented in 1999;
- Accompanied by flexible exchange rate system, switched to free float in April 2000;
- Radical disinflation achieved: from 13-14% in 1998 to 3-4% in 2004;
- Broadly stable inflation after 2004;

Direct inflation targeting

- DIT: a radical departure from traditional – backward-looking - monetary policy rules (such as monetary aggregates targeting, or exchange rate targeting) to a forward-looking monetary policy rule;
- Under DIT, monetary policy is adjusted to the difference between a forecasted inflation rate in the medium term and the pre-established inflation target;

Justification

- Monetary policy goal clearly defined, transparent and easy to be understood by the public;
- Transparency reduces scope for policy shortsightedness, time inconsistency and political interference, and contributes to increased montary policy credibility;
- DIT helps effectively influence inflationary expectations, which lowers macroeconomic cost of disinflation;
- DIT implies flexible exchange rate, which increases autonomy of monetary policy, and helps insulate the economy from external shocks,
- DIT offers more flexibility and autonomy in monetary policy in reacting to shocks;

Initial limitations

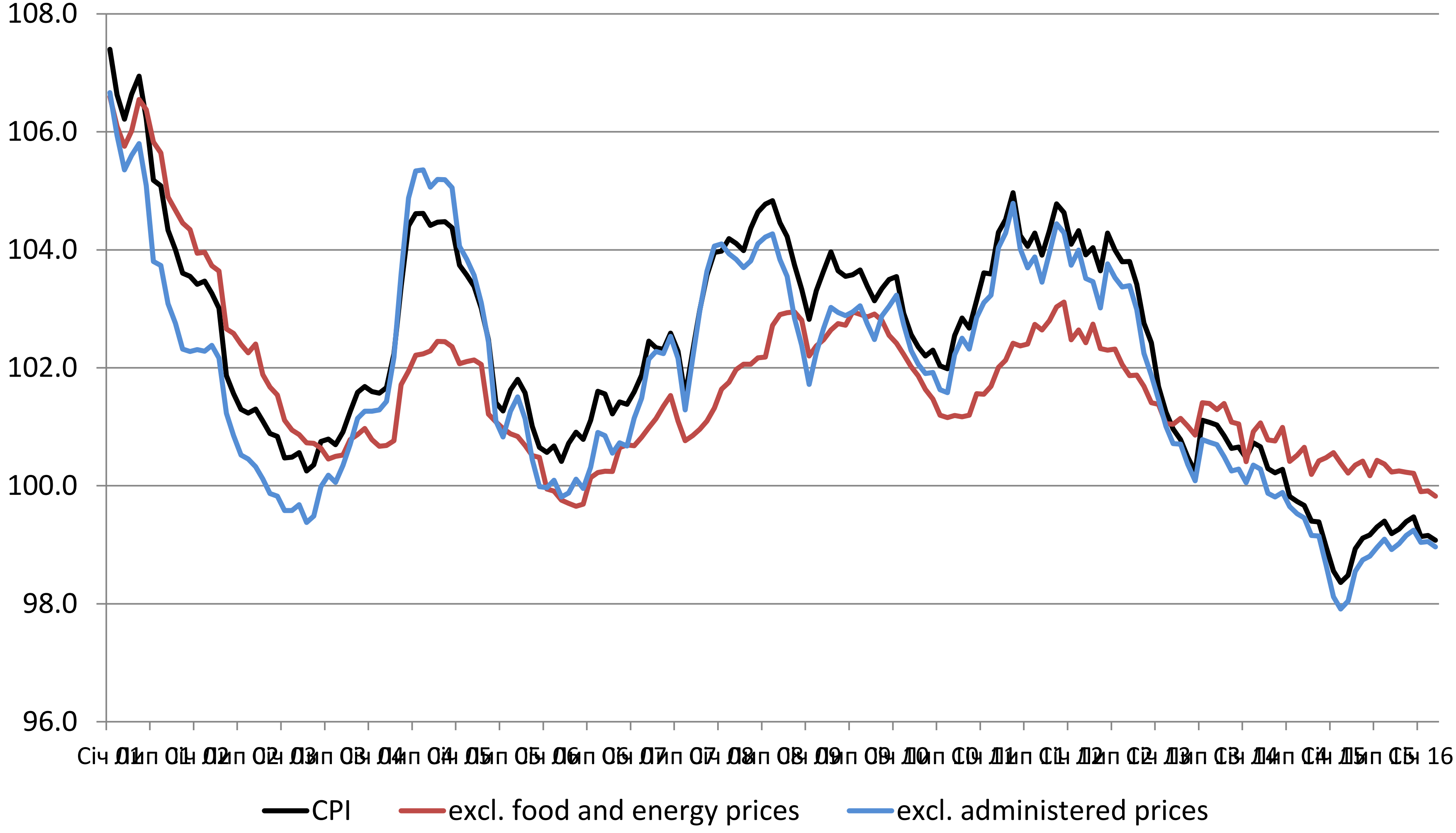
- Data time series limited – risky forecasts;
- Variable and uncertain lags between monetary policy decisions and inflation changes;
- Large excessive liquidity in the banking sector reduced effectiveness of monetary policy
- Entrenched inflationary static expectations;
- Suboptimal policy-mix, with expansionary fiscal policy, undermined the credibility of anti-inflationary policy.

Ingredients of DIT

- The metric (CPI, PPI, core inflation?): CPI selected plus 4 core inflation indices as additional measures;
- The inflation target: monthly inflation y/y of 2,5% +/-1 p.p.
- System of independent, recurrent and credible forecasts by NBP (methodology open to public);
- Reaction function to respond to the gap between the forecast and the target, and to shocks;
- The principle of „*forward looking*": lags of 4-6 quarters;
- Communication strategy;

CPI and core inflation in Poland, 01.2001-03.2016: the role of non-monetary factors

(same period of previous year = 100)



Fixing the inflation target

- Target formula:
  - Point target (probablility ≈ 0);
  - Interval – wide or narrow? (no „anchor” for expectations)
  - Point target with permissible margins;
- Width of the interval: CPI variability and the role of the pass-through effect from the exchange rate (0,2-0,3 in PL);
- Time horizon (medium term – 2-3 years);
- Choosing the specific inflation target level (the role of Balassa-Samuelson effect: 1-3% in PL));
- Inintial medium-term target of below 4% for 1999-2003, with gradually falling short-term end-year targets;
- Constant medium-term target of 2,5% +/- 1 p.p. after 2003;

Reaction function: flexible approach

- Standard Taylor rule:

$$i = NIR + p_e + \alpha(y - \bar{y}) + \beta[p_e - \pi]$$

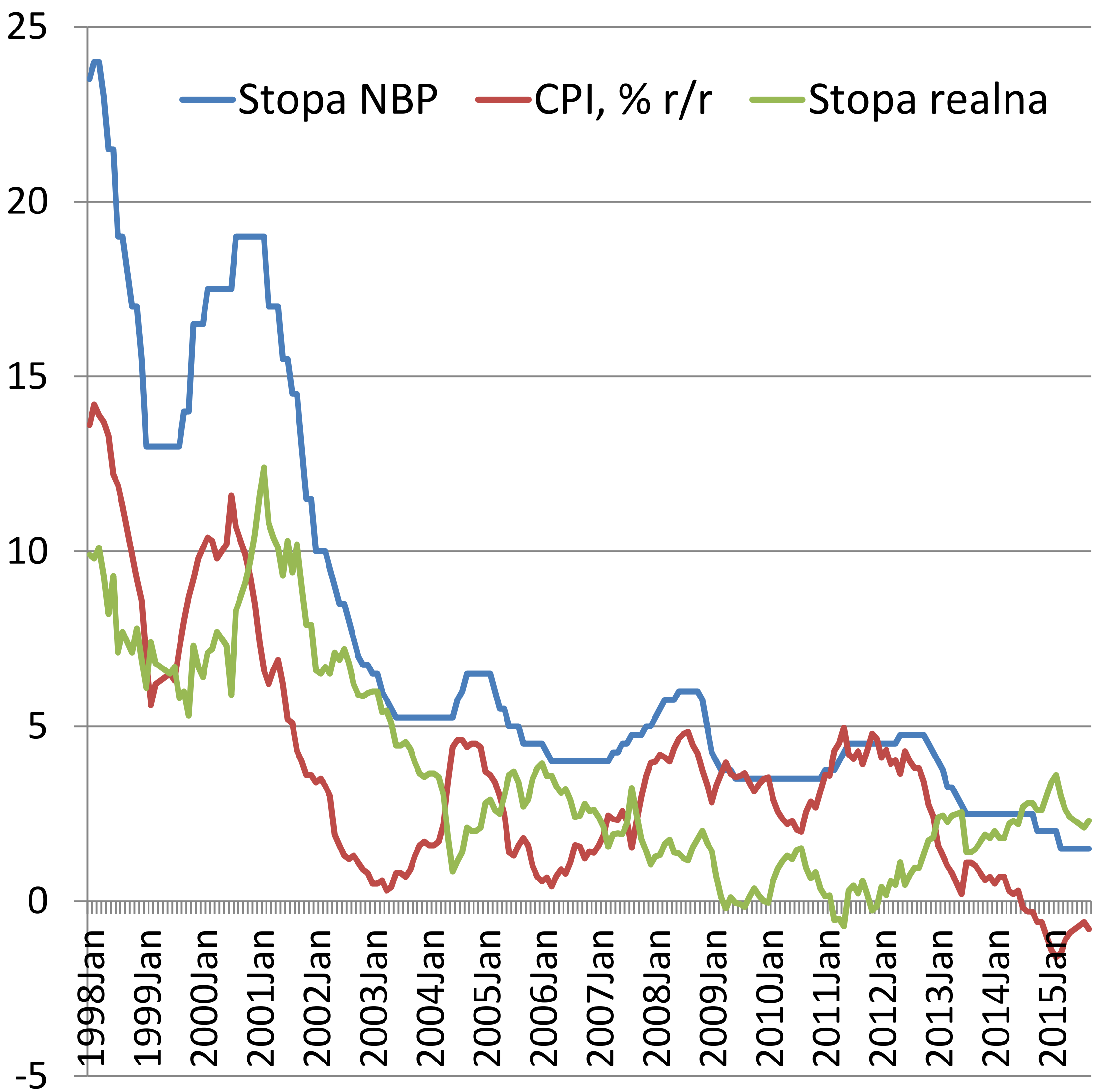
- Standard Taylor principle:

$$i = NIR + p_e + \alpha(y - \bar{y}) + \beta(p_e - \pi)$$

$$i = p_e(1 + \beta) - \beta\pi + NIR + \alpha(y - \bar{y})$$

- Since β > 0, an increase in the expected inflation rate by 1 p.p. implies an increase in the interest rate my more than 1 p.p. to increase the real increase rate (and vice versa);
- <u>No mechanical application!</u>: the role of supply side shocks and one-off events;
- Reaction to supply-side shocks: „secondary monetary effects";

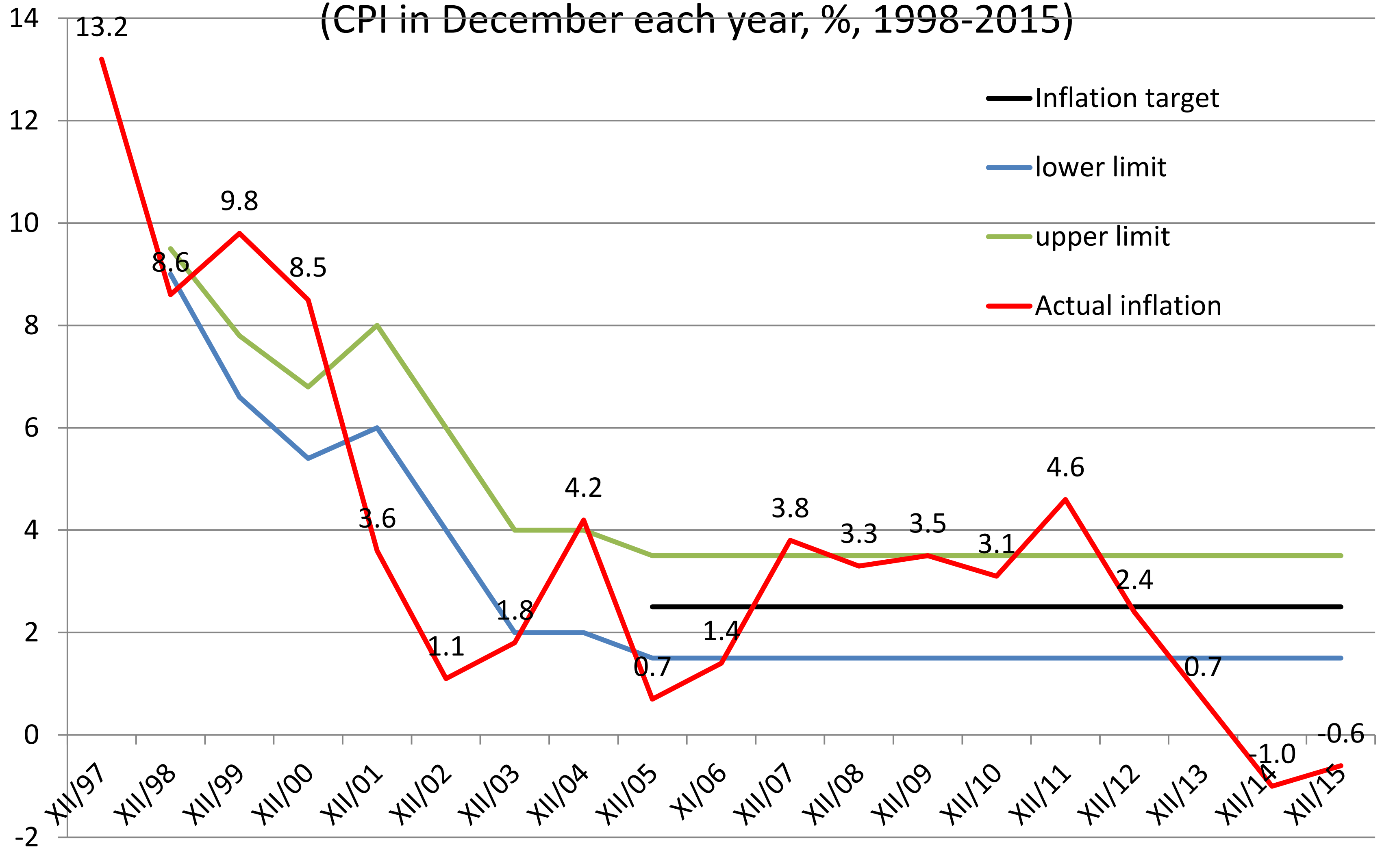
The actual policy (%, 1998-2015)



1. Supply-side shocks pushed inflation from 5% in 1999 to 11% in 2000;
2. Monetary policy overreacted: sharp interest rate hikes (real rates up to 10%) helped reduce inflation to 1% in 2000-2002, well below 4% target;
3. Very high macroeconomic cost: GDP growth in 2001 fell to 1%, domestic demand declined;
4. Inflation dropped to less than 1% („undershooting„ caused by excessive tightening);
5. After 2003 inflation broadly under control, though with wide fluctuations;
6. Medium-term objective achieved, short=term objectives missed frequently;

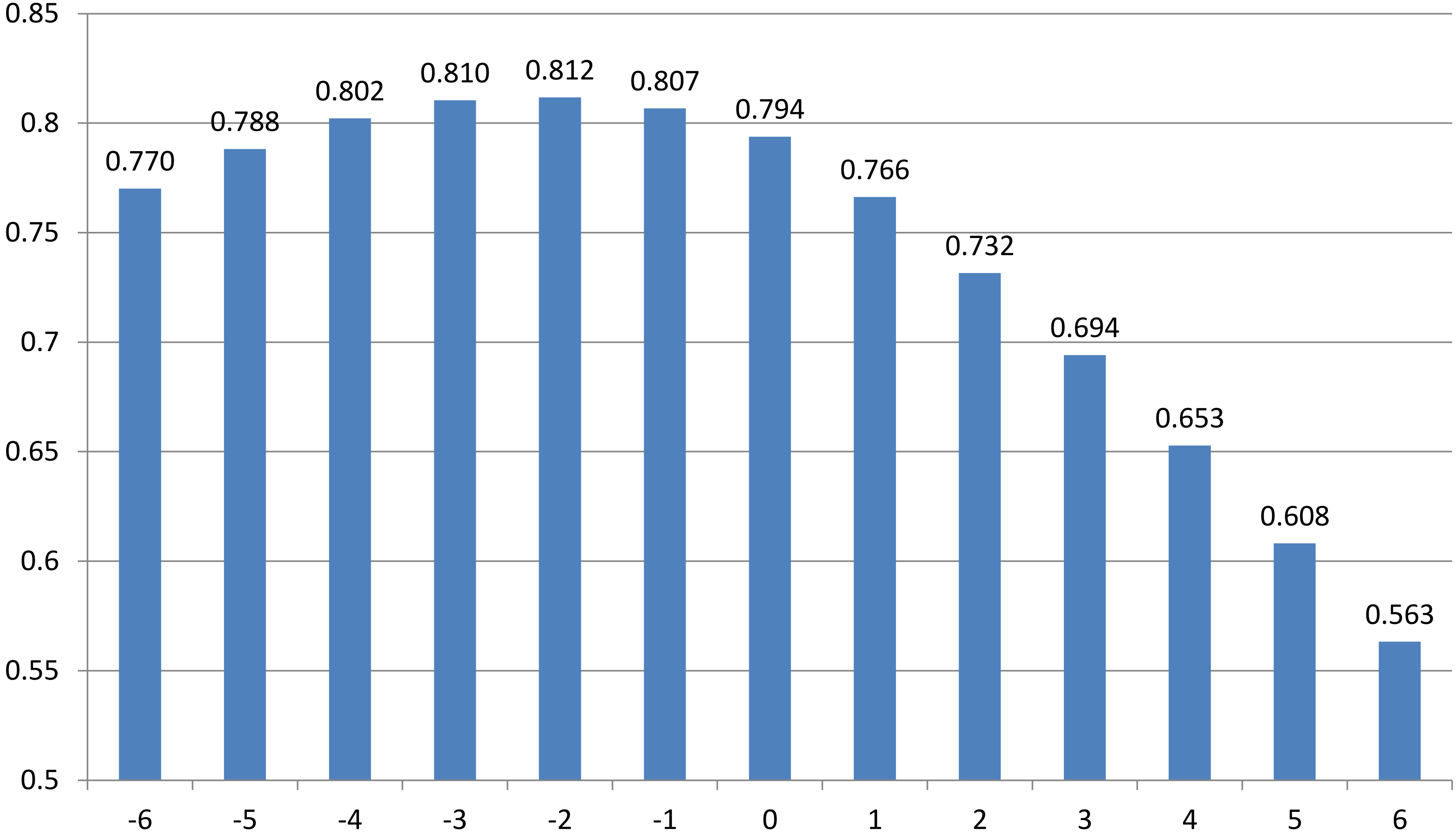
Short-term vs. medium-term targets:

short-term end-year targets missed frequently (13 times on 17 years), medium-term target broadly achieved (CPI in December each year, %, 1998-2015)



Was the Polish MPC backward-looking after all?

Correlation between NBP interest rates and CPI changes stronger for CPI leading than CPI lagging (calculated for varying lags and leads from -6 months to +6 months), 1998-2015.



Main lessons

- At early stage, inflation more influenced by non-monetary factors (supply shocks, administred price increases) – monetary policy less effective, disinflation costly;
- Aggregate demand relatively less sensitive to interest rate changes, due to low monetization (relatively smaller part of final demand financed by credit) and excessive liquidity in banks;
- DIT strategy better suited to maintaining stable inflation around the target, rather than to disinflating from high inflation levels, because of the need to systematically reduce static expectations;
- Too narrow bands and end-year readings (rather than continuous reading) responsible for inflation going frequently out of range;
- Medium-term target is key; short-term targets should only be indicative in disinflation, and abandoned after achieving price stability;
- Forward-looking rather than backward-looking;

In sum, DIT has served us well ☺!!!

The future of DIT - possible modifications

- Price-level targeting – PLT (Kahn, 2009; Carney, 2009)
- Nominal GDP growth rate targeting – NGRT (Sumner, 2011);
- DIT with higher target in „bad times” and lower target in „good times” (Blanchard et al., 2010);