Monetary Strategies from the Perspective of Intermediate Objectives

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Summary: Central bank can apply different kinds of monetary strategies. This paper analyses monetary strategy from the perspective of intermediate objectives. Right strategy should help to fulfil targeted goals. However, it is not easy to choose right strategy in right moment under certain economic conditions. This paper summarises basic principles, advantages, and disadvantages of four main strategies. Thus, it should simplify choice of the optimal one. Some practical aspects are explained through experience of several central banks and especially through example of the National Bank of Slovakia that applied gradually different strategies. These modifications were influenced by specific evolution of Slovak economy that has been typical for countries in transition. Thus, its experience can serve other countries that are in the beginning of transition process.

Key words: Monetary strategy, Implicit inflation targeting, Explicit inflation targeting, Monetary targeting, Exchange rate targeting, Central bank

JEL: E50, E52, E58

1. Analyses of monetary strategies

Central banks in the world use different strategies of their monetary policy. Monetary strategies can be specified according several aspects. We can classify strategies from the point of view of decision-making process as well as from the point of view of intermediate monetary objectives. Both types of strategies should be taken into account in every ambitious central bank. However, the right choice in one country does not have to suit in another country. In particular, accurate timing of different strategies is very important in transition and post-transition countries.

Analyses of monetary strategies from the perspective of intermediate objectives have been chosen for this paper.

Three main monetary policy strategies can be deduced from intermediate monetary policy objectives:

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a) monetary targeting,
b) exchange rate targeting,
c) inflation targeting.

1.1 Monetary targeting

Monetary targeting is a strategy when a central bank observes and targets monetary aggregates (i.e. monetary base, M1, M2 or M3 aggregate). Final objective is low and stable inflation rate.

**Monetary targeting is based on three main aspects:**
- Central bank has to rely on information signalled by monetary aggregates evolution.
- Central bank announces targeted level of monetary aggregates.
- Central bank should have at its disposal a controllable mechanism that would permit to eliminate big and systematic gaps from assigned monetary objectives.

**Advantages of monetary targeting are basically following:**
- Central bank focuses mainly on domestic interests.
- Economy is quite independent from other countries as for applying of monetary policy.
- Central bank activities are transparent.
- Accountancy of central bank activities increases, time inconsistency decreases.
- It is easier for central bank to control monetary base and aggregate M1 than inflation rate.

**Disadvantages of monetary targeting are e.g. following:**
- There is no stable and predictable relationship between intermediate variables (monetary aggregates) and inflation.
- Broader monetary aggregates like e.g. M2 and M3 are less controllable.

Thus, at the end of 80’ and at the beginning of 90’ several changes occurred from the point of view of intermediate objectives themselves and monetary strategies based on these objectives as well. Central banks in the most of developed countries prefer monetary policy targeting directly through stable interest rates. Application of monetary aggregates in the role of intermediate objectives is rather omitted at present. Consequently, monetary policy mechanism is very simplified as for instruments, operative objectives, intermediate objectives as...
well as final objectives. Following scheme demonstrates these worldwide tendencies:

**Figure 1. Actual trends in central bank monetary policy**

<table>
<thead>
<tr>
<th>monetary instruments</th>
<th>operational objectives</th>
<th>intermediate objectives</th>
<th>final goals</th>
</tr>
</thead>
<tbody>
<tr>
<td>- open market operations ✓</td>
<td>- short term interest rate ✓</td>
<td>- chosen monetary aggregate ✓</td>
<td>- price stability ✓</td>
</tr>
<tr>
<td>- administrative regulations ×</td>
<td>- monetary base ×</td>
<td>- exchange rate ×</td>
<td>- long term growth ×</td>
</tr>
<tr>
<td>- reserve requirements ×</td>
<td>- credit limitations ×</td>
<td>- long term market interest rate ×</td>
<td>- employment ×</td>
</tr>
<tr>
<td>- limitations of credit and debit interest rate ×</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

realisation and tactics of MP (operational procedures) monetary policy strategy

=> monetary policy transmission mechanisms =>

Source: Jílek, 2004, p.375

Strategy that prefers targeting of inflation directly through operational objective is called inflation targeting.

Consequently, several studies led in 90-ties had drawn particular attention to instable relations between volume of circulating money (volume of chosen aggregates) and overall expenditures, overall demand or inflation. Thus, monetary targeting, i.e. quantitative direction of monetary policy was abandoned in several countries.

That was the reason why central banks had to chose another intermediate objective or to exclude it completely. Reactions of central banks were different:

- In the most of countries their central banks have decided to apply interest rate as an intermediate objective and monetary aggregates are observed only as a reference benchmark. It is so called qualitative direction of monetary policy. This approach was applied e.g. by the National bank of Slovakia since 2000 till 2004.
- Central banks in some countries have excluded completely application of intermediate objective. Canada represents such an example. Bank of Canada aims final goals directly; it applies so-called inflation targeting. Since 2005 this is also the case of the Slovak Repub-
lic. It is another modification of qualitative direction of monetary policy.

- In other countries their central banks have decided to observe a group of several indicators, as it is not possible to rely only on monetary aggregates.

**Examples of monetary targeting application**

Despite several disadvantages of monetary targeting these strategy is still practised in certain central banks with less or more success. One of the example is People’s Bank of China that has been applying this strategy since late 1980’. However, its application developed through several phases. Last phase has been implementing since 1998 when credit ceilings were eliminated and money supply; precisely M2 has become the single intermediate objective. Reserve money has become operating objective. However, from 1994 to 2004 targeted and actual values of monetary aggregates were only seldom the same [Laurens, Maino, 2007, p.10]. Consequently, even in China we can observe instability between monetary aggregates and inflation rate.

Perú’s central bank applies monetary targeting in a very dangerous and risky way according to several authors e.g. Mishkin and Savastano [2001, p.15]. Central bank monetary targeting is not publicly announced and as instability of money-inflation relationship is in Latin America very high it can be quite harmful for economy.

Mexico has gradually replaced monetary targeting by inflation targeting during last decade and first positive results are already obvious [Mishkin, Savastano, 2001, p.14].

German Bundesbank is probably the best-known example of monetary targeting with rather successful impact on the economy. However, even the Bundesbank had to admit some problems with money-inflation relationship. Consequently, it built its two-pillar strategy based mainly on monetary aggregates growth but also on forecasted inflation rate. The Bundesbank succeeded mostly thanks to its high credibility, flexibility and transparency.

The European Central Bank (ECB) as the follower of the Bundesbank reacts in the analogical way, however it has not reached yet such high level of transparency and credibility because of its short history.

Slovenia has passed through several monetary strategies since its independence. From 1991 to 1995 it pursued monetary targeting with M1 as an intermediate target and base money as an operating target. This strategy brought positive results as for inflation level as well as other macroeconomic indicators as it is more precisely analysed e.g. by Capriolo and Lavrač [2003, p.8]. From 1996 to 2001, Slovene central bank applied so-called dual targeting. It pursued price and real exchange rate stability. Monetary aggregates were formally used as intermediate and operating targets. From 2001 till its accession to the EMU,
Slovenia practiced monetary policy based on exchange rate as a nominal anchor. Also this strategy helped to Slovenia fulfil needed requirements for joining euro zone.

In transition economies application of monetary targeting can be even less efficient. In these countries money demand is usually very unstable because of numerous structural and institutional changes, price shocks, penetration of new financial assets and agents. Thus, several transition economies have chosen exchange rate targeting. This was also the case of Slovenia, Slovakia and the like.

1.2. Exchange rate targeting

In the case of exchange rate targeting, exchange rate serves as a nominal anchor. Final goal is low and stable inflation rate.

**Main advantages of the strategy based on exchange rate targeting are following** [Nell, 2004a, p.8]:
- Central bank uses automatic mechanism:
  - Depreciating factors cause monetary policy restriction.
  - Appreciating factors lead to monetary policy release.
- Central bank is characterised by high transparency. Consequently, time inconsistency is lower.
- Advantage for transition countries aiming disinflation is that exchange rate targeting is good signal for creation of private sector expectations.

**Disadvantages of this strategy are e.g. following:**
- Domestic interests are less followed.
- Economy looses its independency in monetary field.
- Economic shocks are transferred from external shocks more sensitively.
- Vulnerability caused by financial crises is higher.
- Capital controls are necessary in order to prevent speculative attacks in the capital field.
- Goal of low and stable inflation seems to be unattainable (difficult to reach).

**Examples of exchange rate targeting application**

Exchange rate targeting has been applied e.g. in Argentina since 1990. First results were positive especially as for inflation rate. Inflation dropped from 800% in 1990 to 5% in 1994. However, exchange rate targeting requires solid banking and financial system as well as sound and sustainable fiscal policy [Mishkin,
As these factors were in Latin America rather missing, central bank of Argentina did not manage to avoid great crisis through its exchange rate targeting.

Panama is other example of exchange rate targeting. Its results are rather positive. Average inflation rate in Panama is approximately 2.8% per year during several decades [Mishkin, Savastano, 2001, p.8]. Exchange rate targeting was applied also in several transition countries especially at the beginning of their transition process. This helped them to reduce inflation and encourage competitiveness of their economies through exchange rate as a nominal anchor. However, if this strategy was practiced too long without adequate firming of banking and financial system, negative effects predominated positive one.

National Bank of Hungary practised exchange rate targeting till 2001. Exchange rate path was based on pre-announced devaluation of the forint in order to maintain economic stability. However this strategy was replaced by inflation targeting in 2001 [MNB Annual Report, 2000, p.3]. Similar situation was realised in Slovakia till October 1998.

### 1.3 Inflation targeting

Inflation targeting represents a monetary strategy based on absence of intermediate monetary policy objectives. Central bank aims final goal that is again low and stable inflation rate. This goal should be attained directly through monetary instruments, usually through interest rates.

Bernanke, Laubach, Mishkin, Posen [1999] define inflation targeting as a framework for monetary policy that is realised through public announcement of official quantified goals (or scales) for inflation rate. The rate is quantified for one or several future periods. This goal quantification should be accompanied by an explicit confirmation that low and stable inflation is a long-term primary monetary policy goal

**Five basic elements of inflation targeting** [Nell, 2004a, p.12]:

- Public announcement of mid term inflation goals by a numeric way.
- Price stability is a primary, final and long-term goal. Role of other goals is just secondary and they are taken into account only for short term.
- Transparent and clear communication of plans, objectives and decisions towards public. Monetary measurements are publicly announced too. All changes in monetary policy are explained to economic agents.
- High rate of monetary authority accountancy.
Economic agents that know precisely central bank strategy behave consistently with primary goal and consequently it fortifies activities of a monetary authority.

*Conditions for an implementation of inflation targeting are following* [Nell, 2004a, p.13-18]:
- Central bank should have sufficient level of independence and thus it can fully bear responsibility for achieved results.
- Central bank has to give up other nominal anchors in order to avoid a conflict between previous nominal anchors and price stability as a new anchor and new final goal. That is the reason why fixed exchange rate system usually is not compatible with inflation targeting.
- Declaration of price stability as a final goal itself does not express precisely what does it mean in fact. It is necessary to determinate an explicit numeric inflation target.
- Inflation targeting is characterised by dependence of goals and by independence of instruments. Inflation targeting should be announced together by central bank as well as by government. That would mean indirect commitment of government to fortify inflation targeting by its fiscal policy.
- Fiscal policy should not be dominating policy in an economy. That is very common feature in transition countries. Consequently, there is bigger risk of high inflation because of direct and indirect financing of state budget deficit. Thus, pumping of central bank finance by government should be restricted (restrictions of so called credit links). Monetary and fiscal policy should be coordinated. It means that fiscal inflation pressure should be eliminated in practise [Brucháčová, 2000, p. 28]
- Accountancy, transparency and comprehension of monetary strategy.
- There should be certain assumptions for financial stability, financial system and institutional development in the economy. It enables independency in monetary instrument application. More developed financial markets enable better functions of the channels of monetary transmission and thus, more effective application of monetary policy.
- Central bank should be able to predict future evolution of macroeconomic indicators to aim an inflation goal in a more realistic way. The more precisely is evolution predicted, the more adequate monetary instrument is chosen. Correct predictions require sufficient understanding of effects of monetary transmission channels; sufficiently long time ranks of macroeconomic variables and above all
low sensibility of economy to different external and transformation chocks.
- External stability, i.e. limited fluctuations of exchange rate is important as well.

Monetary strategy in the form of inflation targeting can be realised in two modifications:
  a) Explicit inflation targeting (“full-fledged inflation targeting”)
  b) Implicit inflation targeting (“light inflation targeting“)

Explicit inflation targeting

Central bank fulfils all five above-mentioned elements of inflation targeting in this monetary strategy. Monetary authority predicts explicitly inflation rate and announces explicitly and publicly numeric value of inflation goal in mid term. It meets its engagements strictly and precisely.

*Monetary policy is in this case relatively straightforward, outright:*

application of a unique main monetary instrument

unique operational objective

unique nominal anchor (i.e. unique final goal)

Implicit inflation targeting

Central bank fulfils only some aspects of five above-mentioned elements of inflation targeting in this monetary strategy. Monetary authority realises sort term and explicit predictions. It sets value of final goals in short term in implicit way, i.e. not officially. It does not have to meet targeted value so strictly and precisely. There is not such a big public control.

*Monetary policy is in this case less straightforward, outright:*

application of several main monetary instruments

mixed package of operational objectives

several nominal anchors (i.e. several final goals)
Main reason for implication of implicit inflation targeting instead of explicit one is partial or complete absence of necessary conditions for monetary strategy in the form of inflation strategy. Central bank has for instance insufficient knowledge about transmission channels, thus it applies several instruments and goals. Implicit inflation targeting should be just temporary strategy before implementation of proper explicit inflation targeting.

**Examples of inflation targeting application**

Among pioneer central banks implementing inflation targeting were Reserve Bank of New Zealand, the Bank of Canada, the Bank of England, Reserve Bank of Australia, etc. Different variants of inflation targeting proliferated in emerging-market economies as Brazil, Israel, Korea, Mexico, South Africa and the like. Recently, this policy has been also adopted in some transition countries as Poland, Czech Republic, Hungary and Slovakia.

According to several economic analyses, macroeconomic results following implementation of inflation targeting were mostly positive. Consequently, none of the central banks adopting the policy has abandoned the approach [Bernanke, 2003, p.1].

Gradual implementation and creating of condition for implicit and explicit inflation targeting is explained in the following chapter through example of the Slovak Republic.

**2. Example of Monetary Strategy Evolution in the Slovak Republic**

The Slovak Republic (SR) applied fixed exchange rate till October 1998. Fixed exchange rate was for the SR nominal anchor that simplified achieving of final goal. In those times final objective was exchange rate stability. Since October 1998, managed floating has been applied; consequently, Slovak Republic lost its nominal anchor. New nominal anchor was implemented only in 2000 within inflation targeting strategy. It is questionable if such a long period without any nominal anchor was favourable for transition country. It was obvious that Slovak economy did not fulfil all conditions required for explicit inflation targeting. However, it would have been already possible to implement at least implicit inflation targeting. For instance, Czech National Bank had decided to implement inflation targeting earlier, in 1998 [Brucháčová, 2000, p. 25]. This nominal anchor had positive effect on new main monetary goal – price stability. Evolution of monetary policy strategies in Slovakia is expressed in the following table.
Central bank strategy and exchange rate regime offer several possible combinations that can occur while monetary policy is realised. Combinations used generally as well as those applied by NBS during its short history are expressed in table 1. After joining the mechanism ERM II in November 2005, National Bank of Slovakia (NBS) has applied specific form of inflation targeting that is called like explicit inflation targeting under the conditions of ERM II. Thus, NBS has to control beside inflation stable exchange rate as well. Slovak crown has to be maintained within fluctuation bands +/- 15% around central rate in relation with euro for two years. This measurement was implemented because of perspective of Economic and Monetary Union membership.

**Obstacles of inflation targeting implementation in the beginning of the Slovak Republic history and generally in the case of transition economies:**

Slovak republic as well as other transition economies did not fulfil above-mentioned requirements of inflation targeting. The most important obstacles in the case of Slovakia were e.g.:

- Small and open economy is much more vulnerable to external chocks in comparison with other countries. Thus, it is more complicated to forecast macroeconomic evolution and to maintain external stability of the economy, for instance exchange rate. Transition countries have to face numerous unusual chocks because of the transition process itself (e.g. price deregulations, political and social changes).

- Other complications in predicting are connected with short time ranks of transition economies. These economies have at their disposal relevant macroeconomic data only after implementation of market economy. In the case of the Slovak Republic, time ranks are even shorter because of its short history. However, these difficulties will be gradually eliminated.

- Insufficient understanding of the channels of monetary transmission represents another obstacle for inflation targeting.
- During first years, there were applied more often administrative monetary instruments in comparison to direct, i.e. market instruments in Slovakia. However, according to economic practise as well as economic theory, application of administrative instruments is considered to be less effective than application of market instruments. Though, overall employment of market instruments was not possible from the very beginning as financial markets, systems and institutions were not sufficiently developed as it would be desirable.

- Less developed and less stable financial markets cause changes in price signals of assets. Price changes do not provide enough information; even some signals about economic fundamentals and market expectations can be incorrect.

- Till 1998 fiscal policy of the Slovak government was not always in harmony with central bank monetary policy. Consequently, achieving of targeted objectives and goals was more complicated. Monetary strategy in the form of inflation targeting could hardly exist in such a heterogeneous environment.

- Very important obstacle of inflation targeting is impossibility to control fully final goal by central bank. If the final goal of price stability is expressed through e.g. consumer price index (CPI) and changes in indirect taxes, price deregulations and other modifications are often realised by government, central bank can control and influence just small fraction of CPI. In the case of transition countries changes in indirect taxes and price deregulations are usually very frequent. Thus, some countries target rather core or net inflation. For instance, Czech Republic at the beginning of inflation targeting, i.e. since 1998 aimed index of net inflation. However it targeted inflation through consumer price index when differences between net and overall inflation were narrow. Thus, since April 2001 Czech National Bank targets overall inflation through consumer price index (CPI), and since 2004, after joining European Union through harmonised CPI (HICP) [CNB, 2006]. Changes in net or core inflation are easier to predict than changes in overall inflation. However, indicators of core or net inflation are less understandable and accountable for public. This is in conflict with basic condition of transparency in inflation targeting. Thus, some countries target overall inflation from the very beginning as e.g. Poland since 1998 [Brucháčová, 2000, p. 26]. Basically, choice of inflation targeting indicator is a compromise between transparency and responsibility of central bank. If central bank chooses indicator of net or core inflation, its goal is mostly long-term trend of inflation evolution. Choice of overall CPI indicator means that central bank wants to reduce even short-term inflation fluctuations. At present, the Slovak Repub-
lic is targeting HICP instead of CPI because of harmonisation with European Union and euro zone. It is binding commitment as the Slovak Republic has engaged in strategy for adopting the euro. Indicators of CPI or HICP are less controllable by National Bank of Slovakia in comparing with net and core inflation. However differences between them are getting smaller as the biggest part of price deregulation has already finished and changes in indirect taxes are not so frequent.

Some practical aspects of successful monetary strategy

Every central bank adopting inflation targeting should apply active and open communication strategy that would inform public in accountable and understandable manner. Communication strategy should consist of e.g.: regular announcements of inflation indicators development, information about monetary policy principles, inflation predictions, publication of prediction principles and methodology, explanations of measurements applied in case of missed monetary goals, early announcements in monetary policy changes, etc. [Brucháčová, 2000, p. 29].

Strategy of explicit inflation targeting supposes optimal choice of inflation goal corridors, i.e. bands of aimed inflation. If the corridor is too narrow, it is supposed that application of monetary instruments will be very changeable and instable. On the other hand, too wide corridor can reduce central bank credibility. National Bank of Slovakia has chosen in 2005 corridor of +/-0,5 around targeted level 3,5% of HICP. This goal was attained. Value of HICP in December 2005 was 3,9. Just upper limitation is set for the following years, as it is obvious from the following graph. Graph determinates targeted value of HICP at the end of year. In 2006 National Bank of Slovakia did not fulfil its goal. HICP should be less than 2,5% in the end of the year, but in fact it was 3,7%.

Graph 1. Inflation goal of NBS till 2008

Time horizon of forecasting within inflation targeting should be optimal as well. If time horizon is too short, central bank reacts to changes too often. On the contrary, if time horizon is too long, application of the monetary policy is less effective. Time horizon should respond to time lags of the monetary policy transmission channels. According several studies, e.g. Batini, Haldane [1999], optimal horizon seems to be one quarter. It responds to time horizon chosen by National Bank of Slovakia.

Responsibility of the central bank should be clearly specified. It is supposed that central bank can influence central bank just in limited way. It is sometimes difficult to determine whether missing of targeted inflation goal is caused by external shocks and factors that are out of monetary authority control or whether it is caused by unsuitable monetary policy measurements. Thus, it is convenient to specify situation when inflation goal could be modified, eventually missed. It is called like an escape clause [Brucháčová, 2000, p.31].

E.g. in the Slovak Republic, inflation goal can be missed in the following exceptional cases [NBS, 2004, p. 4]:
- Fulfilling of inflation goal is conditioned by fiscal deficit reduction. Since 2007 it must be under 3% of GDP. However, if government does not attain this commitment, it can endanger inflation goal.
- If effects of administrative measurements (modifications of regulated prices and effects of indirect taxes) cause a price rise of more than 1% in 2005, 0,6% in 2006, 0,8% in 2007 and 1,1% in 2008.
- Significant fluctuations of energy prices.
- Significant fluctuations of exchange rate (mostly towards USD) that are not connected with monetary policy measurements and with evolution of economic fundamental indicators but they are caused by regional effects.
- Significant modifications in food prices caused by unexpected climate changes or by possible changes in common European agriculture policy.
- Enormous natural disasters.
- Exceptions set in escape clause should be adapted according specifics of every economy.

Conclusion

Right choice of an optimal monetary strategy has a positive impact on central bank activities but also on economic subjects themselves. Explicit inflation targeting as a transparent nominal anchor could fortify long term fulfilling of price stability as a main monetary goal. Consequently, it creates assumptions for stability of financial markets, for increasing of credit possibilities of entrepreneurial
agents. Thus, it encourages entrepreneurial activities in all regions in a country equally. It can help to reduce regional disparities as adequate central bank monetary strategy has overall favourable effects, i.e. it has the same advantages for every region. This paper was elaborated within the project VEGA 1/2561/05.

References


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Monetarne strategije iz perspektive srednjoročnih ciljeva


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