Journal of Central Banking Theory and Practice, 2012, 1, pp. 77-90
Received: 3 February 2012; accepted: 29 February 2012.

UDC: 336.711(4)

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Transparency analysis in the function of central bank objective

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Abstract: During the late 1980s and early 1990s there was an interest in the academics literature in the role of transparency in monetary policy-making, which partly reflects the increased attention central banks devoted to communication issues in monetary policy practice. Most commonly, transparency implies the absence of asymmetrical information between financial markets and monetary policy makers. With respect to central bank, transparency requirement applies in the first instance to minimizing uncertainty associated with its monetary policy. An increase in transparency has been greatly influenced by the practice of publishing the inflation report, which is especially common in countries that accepted inflation targeting as their monetary strategy.

Key words: monetary policy, inflation report, central bank, inflation, inflation targeting, interest rate

JEL Classification: E31, E42, E52

Introduction

During the late 1980s and early 1990s, there was an interest in the academics literature in the role of transparency in monetary policy-making, which partly reflects the increased attention that central banks devoted to communication issues in monetary policy practice. A trend towards greater transparency can be related to the increased independence and accountability of central banks in a number of countries. Most economists consider greater transparency in monetary policy desirable since it enables the private sector to be more effective in

decision-making (i.e. to improve welfare) and to make informed decisions. However, some do not agree with this statement. Some argue incomplete transparency to be optimal since the effect on the central bank credibility and ability to control inflation must be balanced with regard to the private sector orientation towards accomplishing other goals such as output, employment, prices, etc. The increase in transparency has greatly been influenced by the practice of publishing the inflation report, which is especially common in countries that accepted inflation targeting as their monetary strategy. Central bank announcement of medium-term inflation targets increases flexibility in response to shocks and decrease inflation persistence, with obvious significant welfare benefits; disclosure of information regarding specific interest rate movements reduces volatility in bond markets (except over very short time-horizons).

1. The concept and importance of Central Bank transparency

During the late 1980s and early 1990s there was an interest in the academics literature on the role of transparency in monetary policy-making, which partly reflects increased attention central banks devoted to communication issues in monetary policy practice. A trend towards greater transparency can be related to increasing independence and accountability of central bank in a large number of countries. Most commonly, transparency implies the absence of asymmetrical information between financial markets and monetary policy makers. Release of precise, comprehensive information at regular intervals is useful since it reduces information asymmetry and uncertainty in financial markets.

The growing trend in central bank transparency has been first observed in the central banks of New Zealand, Canada, Great Britain and Sweden. They adopted inflation targeting as their monetary policy regime during the early 1990s. This monetary strategy implies an explicit targeting of low and stable inflation rates, announcing inflation forecasts and monetary policy changes (interest rates) depending on whether the predicted inflation rate is above or below the target rate. A review of central bank transparency mainly involves the examining of inflation targeting effects.

Since most economic decisions are made amid uncertainty, assessments of current and future trends play a key role in economic decision-making (Remsperger and Worms, 1999). If these assessments are wrong, the decisions based on them are likely to be wrong as well. Therefore, institutions operating at the macroeconomic level should keep the uncertainty regarding their policy as low as possible. At least, they should make sure not to increase the existing uncertainty.

With respect to central bank, transparency requirement applies in the first instance to minimizing uncertainty associated with its monetary policy. Advocates of ultra-transparency demand that the central bank reveals each and every detail and piece of evidence on which its decisions are based. They are of the opinion that this would make the central bank more predictable. The advocates and potential beneficiaries of this extreme definition of transparency are above all financial markets. They can profitably convert information into transactions. The request for greater predictability of the central bank is also prompted by the need to avoid market overreaction and the associated excessive volatility.

However, predictability also has its disadvantages. It can make a central bank a hostage to the market. The central bank would then be forced to act, or rather react, solely in order to meet short-term expectations of interested parties. Therefore, the limits of central bank predictability have to be defined. In order to ensure that a central bank can counteract undesirable developments, its activity must not be completely predictable at all times. A short-term horizon is being discussed here, of course.

The emphasis on monetary policy transparency coincides with the acceptance of the idea that monetary policy can affect long-term real variables. (Thornton, 2002)

The increase of transparency has greatly been influenced by the practice of publishing the Inflation Report, which is especially common in countries that accepted inflation targeting as their monetary strategy. The Inflation Report includes the following (Krušković, 2007):

1. Basic inflation determinants;
2. Inflation forecast and its assumptions;
3. Explanation why changes in monetary policy were (or were not) necessary; and
4. Explanation of expected effects of changes in monetary policy

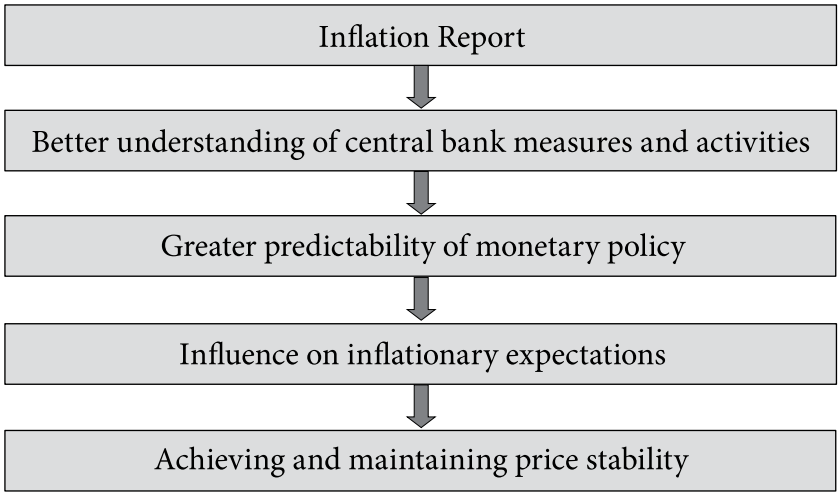
A lack of transparency could be said to arise when a central bank has private information about the nature of shocks and the way in which monetary policy affects economy; or when the central bank has not stated its objectives clearly; or when the public is uncertain about the preferences of the central bank (Demertzis and Hallett, 2003).

1.1. Inflation Report

Informing the public about the central bank mandate can increase its credibility and possibility of pursuing a consistent monetary policy. Transparency simplifies communication with the public, providing the necessary support for the central bank to optimally follow monetary policy by focusing on the medium-term time horizon. This enables financial market participants to better understand monetary policy actions and their influence on macroeconomic developments and economic shocks.

Inflation report is particularly significant since all relevant information about monetary policy is contained in one document; it is connected with ongoing monetary policy decisions and contributes to transparency and credibility of the pursued monetary policy. Therefore, inflation report plays both the internal role since it represents the base for monetary policy decision-making, as well as the external role as the main instrument of communication between the central bank and the public. A good inflation report contributes to better understanding of the central bank measures and activities, which suggests fewer surprises. It explains the objectives of monetary policy, the targeted rate of inflation, the instruments used to plan its realization, the limitations of monetary policy, macroeconomic environment and potential reasons for the deviation from the target (Fabris, 2006)

Figure 1: Inflation Report



The function of the inflation report is to provide transparency and accountability of monetary policy. It is used to explain the measures of monetary policy that will be used to achieve target inflation rate; the explanation is based on the medium-term inflation projections, macroeconomic projections, and risk analysis; relevant information is provided to the private sector to generate realistic expectations with regard to future macroeconomic developments by understanding the function of the central bank's reaction.

Inflation report includes the following:

- Analysis of current macroeconomic developments
  - Inflation trends
    - Achievement of the target inflation;
    - Expected inflation in the following quarter;
  - Inflation determinations
    - Monetary conditions (interest rates and exchange rates);
    - Import prices;
    - Balance of payments;
    - Monetary developments and monetary policy;
    - Supply and demand;
    - Labour market developments;
- Inflation projection
  - Medium-term inflation projection;
  - Assumptions on which the projection is based;
  - Analysis of the basic risks involved in achievement of the target inflation;
  - Analysis of monetary policy measures required for the objectives' attainment;

Therefore, inflation report contains information on current and expected inflation rates, analysis of macroeconomic developments that define it, reasoning behind the central bank decisions, and an assessment of the monetary policy efficiency. The special attention is devoted to the inflation projection for the upcoming period, including the assumptions on which the projection is based, as well as the analysis of the basic risks involved in the achievement of the target inflation. Explanations of expected effects of potential changes in monetary policy are also presented.

Finally, inflation report should particularly address:

- Relation between the current and target inflation rate;

- Relation between the projected and target inflation rate, and in particular, changes in inflation projection and causes for these changes;
- Determination of the key policy rate;
- Movement of the key policy rate in the future and factors that can influence its change.

To that end, it is necessary to differentiate between annual, quarterly and monthly rates. The focus is on annual and quarterly information, rather than monthly or cumulative information since the time horizon is not short-term but medium- and long-term.

2. Limitations and disadvantages of Central Bank transparency

In the academic literature, "perfect transparency" is regarded as being achieved when the public is given all the information it needs to be able to infer the central bank's intentions given its monetary policy measures (Remsperger, 1999).

However, in the real world this problem is much more complex. "Perfect transparency" might imply that the central bank must make available all information that contributed to its decisions, regardless of the extent of their contribution. Nevertheless, from purely practical reasons, it cannot publish everything such as the minutes of all the meetings, every discussion about conceptual or statistical definitions, all information at its disposal, etc. Therefore, transparency can never be complete and perfect in practice as it is in theoretical models. Even if inflation forecasts were to be announced, the public would wonder whether this was really the only inflation forecast made by the central bank. Similarly, if minutes of meetings were published, some people would ask whether they really contain everything that was discussed when decisions on a particular monetary policy measure were made. In the real world, there are also technical limits to processing information, so the relevant core has to be selected and interpreted from the bulk of available data.

Most economists find greater transparency in monetary policy desirable since it enables the private sector to be more effective in decision-making (i.e. to improve welfare) and to make decisions based on more information available. But, some does not agree with this statement. Some argue incomplete transparency to be optimal since the effect on the central bank credibility and ability to curb inflation must be balanced with regard to the orientation of the private sector to accomplish other goals such as output, employment, prices, etc. Others claim that certain restrictions to transparency are important for operational reasons.

Greater transparency makes monetary policy more predictable as well as more effective and credible (Winkler, 2000). However, transparency which is good for credibility (reducing inflation expectations) limits flexibility in trying to achieve the stabilization of output.

Central bank uses certain policy instruments to achieve its goals in a defined time frame. Adjustments of policy instruments depend on the central bank estimates of macroeconomic developments as the expected policy influence on the economy is based on the way in which the policy creators understand the functioning of the economy. The interpretation of macroeconomic developments creates the connection between policy goals and instrument changes. Transparency in policy exists when the public is familiar with the way in which the information on situation in the economy is transformed into actions. That connection includes relevant information available to the central bank, economic models (if any) that the monetary policy creators use to explain the economy's functioning, and the way in which decisions are made.

For each type of transparency, there is also the possibility of different degrees of transparency (Carpenter, 2004). For example, a central bank may announce that it targets interest rates, but not the current rate. It may announce that it is concerned about both inflation and output, but not what it considers to be their optimal relation. In some cases, it may not be possible for a central bank to be precise; the models it uses do not have adequate performances. Alternatively, a central bank may not believe in any economic model, thus not explaining the functioning of the economy. Most central banks currently use a short-term interest rate as a policy instrument and precisely quantify their goals (operational and ultimate).

Most central banks currently use short-term interest rates as a monetary policy instrument and precisely quantify their objectives (operational and ultimate). Their operational objective, the money supply, cannot be perfectly controlled, but it can be traced. In such an environment, the public uses the information on the amount of money, in order to conclude whether the central bank goal is attained or not. Transparency can mean that monetary policy is unable/UNFIT? because it is thought to affect the real economy only through surprises. The ability of a central bank to affect the economy only through surprise inflation suggests that transparency can be harmful.

Central bank transparency can be harmful due to the impact of inflationary expectations (Jensen, 2000). If economic agents are aware of the central bank objectives, the central bank's future behaviour can be predicted. Therefore, inflation expectations are extremely sensitive to policy actions. As a result, the central

bank may bring down inflation more than socially optimal, thus jeopardizing production. The aforesaid indicates that greater transparency causes higher sensitivity of inflation to monetary policy. The question remains whether this kind of transparency reduces the possibility of central banks to stabilize production fluctuations.

Regardless of the accuracy of forecasts, publishing economic forecasts by the central bank would greatly diminish the effectiveness of monetary policy (Cukierman, 2002; Gersbach, 2003). This result comes from their use of Lucas` supply curve, which implies that monetary policy affects production only through surprises. As a result, the announcement of stabilization measures by the central bank would be expected and therefore neutralized by private agents. This claim is based solely on the assumption that the monetary policy can affect the economy through surprises. In this way, this mechanism is identical to the criticism of objective transparency. If the economic agents would use Keynesian supply curve, then the stabilization would be possible, but the central bank would need larger adjustments in interest rate than in the situation when its goals would be unknown to the public. If the function of social loss punishes the unstable interest rates, implementation of transparency may not be optimal (Carpenter, 2004).

Predicting the actions of policy makers may be difficult for several reasons. One reason is that monetary policy decisions are very complex to be presented by one algebraic equation. A bigger problem with the political rules is that policy making requires discretion, even if the policy makers want to stick to simple rules. Suppose that policy makers have only one monetary policy objective, say price stability, and one political tool, for example, an open market. A simple rule would be to buy the government bonds when inflation goes below the target and sell the bonds when inflation rates exceed the target. Moreover, in this simple setting, it would be difficult to say precisely when and how the central bank will conduct the open market operations in response to changes in inflation. This occurs because monetary policy makers need to know the source of shock and whether the shock is permanent or temporary before they can act. Price level shocks are associated with changes in productivity, oil prices, etc. Due to differences in the market caused by the slow price adjustments, such shocks are reflected in the rate of inflation deviations from the inflation targets. There may be permanent inflation rate shocks that are associated with permanent changes in productivity growth. Even with this very simple policy rule, policy makers must assess economic conditions in order to implement the policy. According to current knowledge, a certain level of discretion is necessary to apply the monetary policy, even if policy makers want to adhere to the policy rules. Adhering to the policy rules

becomes even more problematic when certain shocks occur, such as the 9/11 terrorist attack.

Finally, if the monetary policy affects the output and inflation only with its influence on the long term interest rate, it is more important that market participants anticipate how long the monetary policy creators will maintain the interest rate rather than to predict when they will change the policy. The rule by which the first mentioned situation can be predicted is not the same as the rule for predicting the latter situation.

In the case of the neo-monetarist transmission mechanism, monetary policy affects the economy through unanticipated inflation. If there is a supply shock, information on shocks provide a central bank with the additional leverage to shape the scope of inflation surprises in relation to the magnitude of the realized shock in the sense that, except in extreme cases, it reduces the absolute value of deviations and inflation and employment comparing to their benchmark objectives. In the case of the neo–Keynesian transmission mechanism, monetary policy affects the economy through changes in the nominal interest rate which, given the inflation expectations and fixed prices, convert in changes in the real interest rate. The change in the real interest rate then affects the output and deviation of the output level from the target level, and then production policy in turn affects inflation. Since the transmission mechanism does not work through unanticipated inflation, information disclosure in this case does not affect the relationship between inflation variations and production. But disclosure of information in advance increases the fluctuations in inflationary expectations. The result is that, to achieve the real interest rate, the selected disclosed information now requires wider fluctuations in the nominal interest rate of the central bank.

It is important to emphasize that greater transparency is sometimes not desirable. Transparency about supply shock is harmful when it influences the current aggregate supply because it prevents the stabilization of production.

3. Analysis of different types of transparency in the function of the Central Bank objective

There are five types of transparency: political, economic, procedural, policy transparency and operational (Eijffinger and Geraats, 2004). These aspects of transparency correspond to the stages of policy creation and implementation (Geraats, 2002).

Political transparency refers to the openness of policy objectives. This includes a report on formal monetary policy objectives, explicit prioritization in case of possible conflict of interests, and the quantification of goals. Political transparency is improved through institutional arrangements, such as central bank independence which ensures that there is no excessive influence or political pressure to deviate from stated goals.

Economic transparency refers to the availability of economic information necessary for the pursuit of monetary policy. That includes all economic data used by the central bank, models on which the forecasts are made or evaluations of effects of the central bank decisions. It is known that monetary policy actions have effect only with a significant shift. Therefore, the central bank actions are the result of unwanted, expected trends in the future.

Procedural transparency indicates the way monetary policy decisions are made. This implies the existence of explicit monetary policy rules within the monetary strategy. Decisions are made by adhering to the strict rules, as can be seen in published minutes of meetings.

Policy transparency means prompt (immediate) disclosure of decisions and explanations thereof, but also indications of likely future actions. Monetary policy actions are usually performed in discrete steps, because the central bank wants to wait in assessing the effects of its actions.

Operational transparency concerns the implementation of the central bank decisions. It includes discussions of past forecast errors and (unanticipated) macroeconomic deviations that have affected the transmission mechanism of monetary policy.

These aspects of transparency are shown in a model that can be considered representative. Let us consider the function of central bank objective:

$$W = \alpha(\pi - \pi^*)^2 + \beta(\gamma - \gamma^*)^2 \quad (1)$$

where π is inflation and γ is production. An important component of political transparency is the disclosure of objective in terms of inflation (π^*) and production (γ^*). Perfect political transparency would require that output target γ^*, relative preferences α/β and the functional form of the objective function are also known to the private sector, but in practice, no central bank is transparent in this respect. In addition, institutional arrangements are also important because they clarify the motives of monetary policy makers. In particular, central bank independence ensures that monetary policy makers define their goals and in-

struments for their implementation without government any other institutional interference.

The structure of the economy can be represented using the equations of aggregate supply and demand:

$$\gamma = \bar{\gamma} - a(i - \pi^{e} - \bar{r}) + d \tag{2}$$

$$\pi = \pi^{e} + b(\gamma - \bar{\gamma}) + s \tag{3}$$

where i is nominal interest rate, while π^{e} indicates inflation expectations. Long term rate of output is $\bar{\gamma}$ and long term interest rate equals $\bar{r}$. In addition, there are shocks of aggregate demand d and aggregate supply shocks s.

In the context of the aforementioned models, political transparency means that the central bank accurately quantifies the primary monetary policy objective. Economic transparency means that the private sector has the same knowledge about the economy as the central bank. The central bank may use different procedures and formulate its own monetary policy strategy. Policy transparency means that the central bank immediately announces its decisions to change the interest rate i. Finally, the implementation of monetary policy could complicate the errors during forecasts in the past or transmission disorders as a result of shocks on the aggregate supply and demand s and d, respectively. Operational transparency means that these forecast errors and transmission disorders are disclosed to the public.

Theoretical arguments suggest that political, economic and operational transparency can increase the credibility of monetary policy of low inflation, while procedural transparency can improve the quality of decision making and policy transparency is the basis for a successful determination of interest rate. The fact that some aspects of transparency may have similar effects suggests the possibility of substitution.

There are six views regarding enhanced transparency impact on the public and market reactions to monetary policy.

1. The public could be reassured via information such as monetary policy objectives and their fulfilment, description of monetary policy regime, current measures, as well as their expected effects;
2. The public, and particularly markets, could find it easier to plan their activities if the central bank prognosis and respective explanations are available;

3. The public can find all announcements of the central bank irrelevant as long as central banks start to respond to shocks more strictly;
4. The public, and especially markets, can become highly aware of the central bank activities and thus demand information about central bank mandate and voting of certain members of the monetary board;
5. The public, and particularly markets, can become concerned if the central bank fails to meet its objectives or forecasts. Also, too much information can pose a threat since this can make the public confused;
6. The public can put pressure on the attainment of the announced objective, thus diverting the central bank from an optimum response to shocks. If politicians become involved in such a situation, the result shall be a higher level of intervention than desirable.

In the literature on monetary policy, there are six views of central bank transparency, but only two of them – the assuring and the exacting views – have clear empirical support. Central bank announcement of medium-term inflation targets increases flexibility in response to shocks and decreases inflation persistence, with obvious important welfare benefits; a disclosure of information regarding specific interest rate movements reduces volatility in bond markets (except at the very short time-horizon).

Conclusion

Most commonly, transparency implies the absence of asymmetrical information between financial markets and monetary policy creators. Release of precise, comprehensive information at regular intervals is useful as it reduces the information asymmetry and uncertainty in financial markets. With respect to the central bank, transparency requirement applies in the first instance to minimizing uncertainty associated with its monetary policy. However, predictability also has its disadvantages. It can make the central bank a hostage to the market. The central bank would then be forced to act, or rather react, solely in order to meet short-term expectations of interested parties. Therefore, the limits for central bank predictability have to be defined. In order to ensure that the central bank can counteract undesirable developments, its activity must not be completely predictable at all times. The short-term horizon is being discussed here, of course. The increase of transparency has been greatly influenced by the practice of publishing the inflation report, which is rather common in countries that accepted inflation targeting as their monetary strategy. Central bank uses certain policy instruments in order to achieve its goals over a defined time frame. Adjustments of policy instruments depend on the central bank estimates of macroeconomic

developments since the expected influence of policy on the economy is based on the way in which the creators of that policy understand the functioning of the economy. The interpretation of macroeconomic developments creates the connection between policy goals and instrument changes. Transparency in policy exists when the public is familiar with the way in which the information on the situation in the economy is transformed into actions. That connection includes relevant information available to the central bank, economic models (if any) that the monetary policy creators use to explain the economy's functioning, and the way in which decisions are made.

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