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## Monetary policy transparency in a forward-looking market: Evidence from the United States



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### ABSTRACT

Because unsatisfactory measures of the monetary policy transparency were used, the existing literature found mixed empirical results for the relationship between the monetary policy transparency and risk/volatility. This paper extends the literature by using a recently developed monetary transparency index [Kia's (2011) index] which is dynamic and continuous. Furthermore, the existing literature ignores the fact that market participants can be forward looking and, therefore, not policy invariant. This study also finds that the agents in the market are not policy invariant and the more transparent the monetary policy is the less risky and volatile the money market will be.

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## 1. Introduction

The impact of the monetary policy transparency on risk and volatility in the economy in general and in the financial markets in particular depends on the behavior of agents in the economy and specifically in the money market. In fact, when agents are forward looking, say, in the money market, the impact of the monetary policy transparency on risk and volatility may remain constant over time (temporal stability) but is not policy invariant (not stable) since the behavior of forward-looking agents will change with policy regime changes or other exogenous shocks. In such a case, the monetary policy transparency influences the ex-post risk, but since the behavior of agents in the market is forward looking, it also influences the future or ex-ante risk. This important fact is completely ignored in the existing literature. This paper deals with this issue as well as other shortcomings in this literature. The forward-looking behavior of market participants, if any, in the money market makes the property of monetary policy transparency more efficient as it affects both current and future expected risk and volatility.

As Lucas (1976) points out, temporal stability and policy invariance are two distinctly different concepts. The estimated parameters of a given relationship may remain constant over time, but they could still vary in response to a policy regime change or other exogenous shocks in the economy and vice versa. This issue has been completely ignored in this literature. In this study we will also deal with the behavior of market participants with response to monetary policy transparency.

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Another main problem with the current literature, in general, is that central bank communications are difficult to measure. Furthermore, the use of dummy variables, as it was also mentioned by [Lasaosa \(2005\)](#) and [Kia \(2011\)](#), can result in a misleading conclusion as some announcements may have already been taken into account by the market participants before the announcement. Furthermore, as [Blinder, Ehrmann, Fratzscher, De Hann, and Jansen \(2008\)](#) argue, there are unobserved factors which affect asset prices. A rise in the volatility as a result of central bank communications may be due to the reaction of financial markets to shocks other than central bank communications. Moreover, the communication of the central bank may be due to a sudden change in economic outlook or some other news which also increase the volatility of asset prices. Therefore, the higher volatility is not due to the central bank communications, but to the shocks which caused the communications.

Consequently, the dummy variables may not actually reflect the impact of the announcements or the change in the policy. Moreover, as also mentioned by [Blinder et al. \(2008\)](#), among others, the coding approach is subjective and there is always a possibility of misclassifications. To investigate clearly the impact of monetary policy transparency on forecast error, risk or volatility we need to have an objective market-based monetary policy transparency index. Such an index should also be dynamic so that it can be used for a long range of time series data. [Kia \(2011\)](#) has developed such an index for the United States which can be used to measure monetary policy transparency for a country or, simultaneously, a series of countries, using time-series as well as cross-sectional data. Using Kia's index, this study also investigates the impact of monetary policy transparency on risk (forecast error) and volatility in the money market in the United States. [Papadamou and Arvanitis \(2015\)](#) also use [Kia's \(2011\)](#) index to investigate the effectiveness of the Federal Reserve's transparency on the volatility of inflation and output in the United States.

The next section is devoted to the survey of the literature which will be followed by a section which briefly explains Kia's index. Section 4 concentrates on the impact of the index on the risk in the money market. Section 5 is devoted to the analysis of the impact of monetary policy transparency on the volatility in the money market in the United States. The final section provides some concluding remarks. The description of the data and the definitions of dummy variables are given in the [Appendix](#).

## 2. Survey of the literature

The findings in the existing literature on the impact of monetary policy transparency on the volatility of interest rates and/or risk are mixed. [Tabellini \(1987\)](#), for example, shows that when market participants face parameter uncertainty (or multiplicative uncertainty) and learn over time, using Bayes' rule, the learning process is the source of additional volatility in asset prices. In this case, more transparency tends to reduce market volatility. Furthermore, [Thornton \(1996\)](#), using Fed funds futures and Mean Squared Error, finds the consequences of the Fed's policy shift toward immediate disclosure on the federal funds rate in 1994 resulted in a lower forecast error for all interest rates. [Blinder \(1998\)](#), theoretically, argues that more open public disclosure of central bank policies may enhance the efficiency of markets. [Haldane and Read \(2000\)](#), using dummy variables for the change in the monetary policy transparency, show that a higher monetary policy transparency leads to a lower conditional variance in the yield curve in the United Kingdom and the United States. Their cross-country (Italy, Germany, UK and US) empirical results also confirm their finding.

[Blinder, Goodhart, Hildebrand, Lipton, and Wyplosz \(2001\)](#), using descriptive accounts of transparency (do's and don'ts of the central bankers' actions), find a higher market transparency leads to a lower forecast error. [Geraats \(2002\)](#) theoretically shows the transparency reduces the variance of private sector forecast errors. [Rafferty and Tomljanovich \(2002\)](#) study whether the Federal Reserve System's 1994 policy shift toward more open disclosure improved or worsened the predictability of financial markets. They find that since 1994, the forecasting error has decreased for interest rates on US bonds of most maturity lengths and that the expectations hypothesis has performed better at the low end of the yield curve. [Swanson \(2004\)](#) finds that when the Federal Reserve began to announce its policy action in 1994 the financial markets' uncertainty about the future course of short-term interest rates significantly fell. [Reeves and Sawicki \(2007\)](#), using dummy variables, find evidence that the publication of the Minutes of the Monetary Policy Committee meetings and the Inflation Report in the UK significantly affects near-term interest rate expectations, an effect particularly visible in intraday data. [Neuenkirch \(2012\)](#), using data of nine major central banks, finds that, in general, monetary policy transparency, by lowering the variation of expectations, reduces expectation bias in the money market.

[Lasaosa \(2005\)](#) analyzes the impact of the announcements on market activities and concludes that the increase in transparency facilitates the prediction of monetary policy in the UK once the latest macroeconomic data are known. She investigates the impact of the announcement five, fifteen and sixty minutes after an announcement. Then she compares the result with those days with no announcement at the same times. [Swanson \(2006\)](#) argues that increases in the monetary policy transparency in the US have played a significant impact on the private sector's forecast improvement. He uses Fed futures and Eurodollar options rate to estimate and compare forecast errors as well as implied volatility, respectively, in different periods. [Crujnsen and Demertzis \(2007\)](#), using [Eijffinger and Geraats' \(2006\)](#) index, and [Rosa and Verga \(2007\)](#), using dummy variables, find that monetary transparency improves the expectation on inflation as well as short-term interest rate, respectively. [Ehrmann and Fratzscher \(2007\)](#) find communication is a tool to prepare markets for upcoming decisions. [Blinder et al. \(2008\)](#) conclude that central bank communications lead to improvement in the ability of the market to predict monetary

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