



Full Length Article

Does central bank independence affect stock market volatility?

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ABSTRACT

This paper addresses the issue of impacts of central banks' independence on stock market volatility. Using a simple theoretical macroeconomic model, we analytically find a positive link between stock prices volatility and central bank independence. By applying panel data analysis on a set of 29 countries from 1998 to 2005, sufficient evidence for this positive relationship is provided using two different measures of stock market volatility.

1. Introduction

The new paradigm in monetary policymaking gives accent to central banks' independence and transparency. In effect, a very important strand of the literature, starting with the seminal papers by Kydland and Prescott (1977), Barro and Gordon (1983), and Rogoff (1985), by assuming that individuals form rational expectations and modeling the behavior of government, they showed that a discretionary monetary policy creates an inflation bias. However, the so-called time inconsistency problem of monetary policy can be solved when considering central banks which are politically, economically and personally independent because inflation expectations are better anchored and therefore surprise inflation generated by politicians is prevented. Moreover, more transparent monetary policies gained importance based on accountability and economic arguments. Since the pioneer work of Cukierman and Meltzer (1986), a large body of the literature on the economic desirability of central bank transparency has been developed.¹ There is common wisdom that more information is crucial for the private sector and financial operators helping them to improve expectations and therefore their decisions (Blinder, 1998; Eijffinger et al., 2000; Van der Cruysen and Demertzis, 2007; Crowe and Meade, 2008; Papadamou, 2013; Papadamou et al., 2015 among others).

Recent studies on central bank independence mainly investigate the effects of central bank independence on macroeconomic performance² (Cukierman, 2008; de Haan et al., 2008; Carlstrom and Fuerst, 2009; Alpanda and Honig, 2009; Alesina and Stella, 2011; Klomp and de Haan, 2010a; Klomp and de Haan, 2010b; Arnone and Romelli, 2013; Dincer and Eichengreen, 2014).

However, little attention has been paid to the link between central bank independence and financial stability. Garcia Herrero and Del Rio (2003) and Čihák (2007) suggest that there is a positive relationship between central bank independence and financial stability. In their analysis, they consider that financial instability is proxied by the occurrence of banking crises. More recently, Klomp

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¹ See for a survey on central bank transparency, Geraats (2002) and Eijffinger and van der Cruysen (2010).

² For an overview of previous literature on central bank's independence macroeconomic desirability, see Arnone et al., 2009.

and de Haan (2009) have resulted to the same conclusion by using factor analysis on a number of financial instability indicators. Kuttner and Posen (2010), focusing on the impact of central bank governor appointments on exchange rates and bond yields, have shown that less independence may result in higher markets' reaction. Moser and Dreher (2010) find that high governor turnover affects stock market returns, if the perceived inflation aversion of the new central bank governor differs from that of the predecessor's. Förch and Sunde (2012) investigate the effect of central bank independence on stock market returns, finding evidence of a positive effect which is however based on the economic independence rather than the political independence. Berger and Křišmer (2013) find a negative link between central bank independence and financial stability. According to their view, a preemptive interest rate hike gives rise to a lower inflation rate in the boom period, leading to an undesirable undershooting of the inflation target for independent central bankers. In this context, Borio and Lowe (2002) underlines that a credible low inflation policy reduces the vigilance of investors and financial institutions to the occurrence of future economic downturns, leading to further borrowing and lending, respectively, positively affecting asset prices.

Unambiguously, in our days, central banks by their speeches, reports and actions have a more upgraded role in the formation of investors' expectations in the stock markets. Jubinski and Tomljanovich (2013), by using intraday data find that stock volatility is higher (lower) when the FOMC minutes are released after the Federal Reserve engages in restrictive (expansionary) monetary policy. In this line also Kurov (2012) who finds that monetary policy statements are associated with higher conditional volatility of stock returns in recessions but not in expansions.

This study tries to identify the effect of central bank independence on the stock market volatility measures. The level of central bank independence may also have an influential effect on stock market volatility, as central bank's level of transparency proposed by Papadamou et al. (2014). More precisely, this study contributes to the existing literature in two ways: a) by developing a theoretical model which shows the link between stock market volatility and central bank independence and b) by providing, in an international context, empirical evidence for the effect of independence on stock market volatility. Our findings imply that a high level of independence can increase stock market volatility. An interesting policy implication is that a high degree of central bank independence can contribute to financial instability.

The remainder of the paper is structured as follows: The next section presents modern central banking missions and challenges. Section 3 describes the theoretical model developed. Section 4 presents the empirical analysis, and finally, we conclude in the last section.

2. A new era for monetary policy: central bank missions and challenges

It is widely accepted that in modern monetary policymaking, central banks have three key goals. The first and most important is price stability. The second goal is high employment reflected to high and sustainable economic growth. The third goal, related to our issue, is financial stability, mostly obtained through the stabilization of long term interest rates. This latter issue also includes an efficient system of payments and the prevention of financial crises.

We historically observe that, in the beginning, central banks (starting from the Bank of England and the Swedish Risksbank) were supposed to fund government's debt and to facilitate commerce. However, they also became involved in banking activities, becoming the repository for most banks and thus the lender of last resort in times of financial crises. A later wave of central banks in the twentieth century, including the Federal Reserve System, was created to manage the gold standard and to enhance financial stability. After World War I, central banks began to be concerned about unemployment, real activity, and the price level, reflecting important changes and challenges in the political economy of a large number of countries. Unambiguously, a key element in central banking history has been the instauration of central bank independence. Originally, central banks were independent, however, in the twentieth century, a large part was nationalized and monetary policies were driven by the fiscal authorities. Most of the central banks regained their independence in the 1990's in an effort to follow anti-inflationary policies after a long period characterized by Keynesian macroeconomic policies. It is to mention that independence levels vary from country to country.³

The role of central banks in preserving financial stability gained importance, especially across advanced economies. The instability of financial systems and the resulting banking crises between the world wars led central banks to provide funds to banks facing insolvency. Afterwards, a battery of measures (i.e., regulation, among others) was adopted in order to prevent such crises. However, in the 1970s, financial innovations led to deregulation and increased competition, resurfacing banking instability worldwide and the necessity to bail out banks that were too big to fail. Another problem faced by central banks was asset prices bubbles that trigger economic downturns. Conventional central bank policies are not related to a proactive defusing of booms before they turn to busts, but a reaction after the bust occurs by providing all necessary liquidity to protect the banking system.

In this context, as suggested by Bordo (2007), the main challenge for central banks in the future will be to balance their three policy goals. The primary goal of price stability requires credibility that can be achieved through the independence and transparency of central banks. The second goal of stable economic growth positively depends on the low inflation environment of the last decades. However, in the occurrence of relatively big shocks, central banks should considerably ease their monetary policies to tackle recessionary effects of such shocks in the economy. A key aspect in this context is that the more credible monetary policy actions are, the less inflation expectations will be altered accordingly. The third and last goal of financial stability has been tested recently, following the financial crisis of 2007. It appears that most important central banks provided whatever liquidity was required for the

³ See Dincer and Eichengreen (2014) for a comprehensive illustration of central bank independence levels for a large number of countries. It is also worth mentioning that ECB, as a continuity of the Bundesbank, enjoys one of the largest levels of independence in accordance with its primary objective (i.e., price stability).

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