Economic Systems 36 (2012) 372–390

Contents lists available at SciVerse ScienceDirect

Economic Systems

journal homepage: www.elsevier.com/locate/ecosys

Monetary policy and stock prices in small open economies: Empirical evidence for the new EU member states

Mara Pirovano [a,b,*]

[a] *University of Antwerp, Faculty of Applied Economics, Prinsstraat 13, 2000, Antwerpen, Belgium*
[b] *CES, Catholic University of Leuven, Naamsestraat 69, 3000, Leuven, Belgium*

ARTICLE INFO

Article history:
Received 26 September 2011
Received in revised form 30 May 2012
Accepted 9 June 2012

JEL classification:
E44
E52
F36
G10

Keywords:
Monetary policy shocks
Stock prices
European integration

ABSTRACT

This study presents evidence on the effect of domestic and Euro Area monetary policy on stock prices in four new EU member states of Central Europe and the main determinants of stock price volatility, estimating structural vector autoregressive models identified with short-run restrictions. We find that stock prices in the considered new EU member states are more sensitive to changes in the Euro Area interest rate than to the domestic one. Moreover, the bulk of stock price volatility in these countries is due to shocks related to exchange rate and Euro Area monetary policy. Overall, we find that local stock markets are more sensitive to external shocks than to domestic ones.

1. Introduction

In two recent waves of enlargement, ten Central and Eastern European countries (henceforth, CEECs) became members of the European Union, bringing the number of official members to 27.[1] The liberalization of capital markets initiated in the beginning of the 1990s and EU membership stimulated financial integration both within these countries and between them, the Euro Area and the rest of the world. Since the beginning of the 1990s the new EU member states (henceforth, NMS) have been recipients of massive capital inflows, both in the form of foreign direct investment and, more

* Corresponding author at: University of Antwerp, Faculty of Applied Economics, Prinsstraat 13, 2000, Antwerpen, Belgium. Tel.: +32 3 265 4078.
E-mail address: mara.pirovano@ua.ac.be.

[1] The Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland, the Slovak Republic and Slovenia joined the EU in 2004, Bulgaria and Romania in 2007.

0939-3625/$ – see front matter
http://dx.doi.org/10.1016/j.ecosys.2012.06.001

recently, financial flows, originating mainly from Euro Area countries such as Austria and Germany, Finland for the Baltic countries and Greece for Bulgaria and Romania.[2] According to Lane and Milesi-Ferretti (2007), the degree of international financial integration in the CEECs measured through the capital account has doubled since the beginning of the transition process. The sum of external assets and liabilities as a percentage of GDP was on average 80% in 1994 and rose to 160% by 2004. Financial integration between the old and new EU member states is not only reflected in increased financial flows, but also in the behavior of the stock markets. Recent studies by Christiansen and Ranaldo (2009), Savva and Aslanidis (2010) and Büttner and Hayo (2011) explore this issue by examining the extent of co-movement between stock prices in the Euro Area and in the NMS. While their methodologies differ, they all find strong linkages between stock markets in the two regions. In particular, the connection between old and new member states is found to increase after the 2004 EU enlargement, and seems to be a phenomenon typical of the European Union rather than a general tendency of increased worldwide financial integration. Büttner and Hayo (2011) find that exchange rate risk and indicators of financial deepening significantly explain the co-movement between European stock markets and conclude that euro adoption would increase stock market correlations between the old and new EU member states.[3]

The process of integration between Eastern and Western Europe is still ongoing, as full monetary integration has so far only been achieved by a few former transition economies[4] that lost their monetary independence and delegated the conduct of monetary policy to the ECB. The remaining countries are expected to join the EMU as soon as they meet the conditions imposed by the Maastricht Treaty in terms of inflation, government finance and exchange rate. Prospects of EMU membership caused the proliferation, in recent years, of a large amount of studies focusing on assessing the extent of similarity of responses to monetary policy shocks both among the NMS and between them and the Euro Area. Such studies focused primarily on the effect of monetary policy on output and inflation, and reached different conclusions. On one side, Elbourne and De Haan (2006) find substantial heterogeneity among the former transition economies. On the other hand, Anzuini and Levy (2007) find that although impulse-responses for the NMS are qualitatively similar to those found for old EU members, they are quantitatively less pronounced. The authors relate this finding to the difference in the degree of financial development between the two regions. Jarociński (2008) compares the monetary transmission mechanism between the NMS and the Euro Area and finds similar responses of output and prices to monetary policy shocks.

Here, we focus on the interplay between financial integration, monetary policy and stock prices. First, we examine the effect of domestic monetary policy on stock prices in the NMS, an issue not investigated so far. While monetary policy shocks are passed through the real economy with considerable delay, financial markets are much more reactive in that asset prices tend to quickly incorporate new information. Secondly, in light of the heavy financial linkages between the NMS and the Eurozone, we examine the response of the domestic stock market to Euro Area monetary policy shocks. In particular, we will interpret a significant response of the domestic stock markets to a Euro Area monetary policy shock as further evidence of financial integration. Thirdly, we determine which domestic and foreign variables are the main drivers of stock price movements in the countries under analysis.

Our methodology is rather standard. We estimate a macro-econometric model of a small open economy using monthly observations on seven macroeconomic variables for the Czech Republic, Hungary, Poland and Slovenia. We identify the structural VARs by means of short-run restrictions following Neri (2004), Jarociński (2008) and Li et al. (2010) and examine impulse-response functions and forecast error variance decompositions. The study is structured as follows. In Section 2, we introduce the theoretical underpinning of our analysis and review the literature exploring the interplay between monetary policy and stock prices. Section 3 presents the baseline SVAR model, the

[2] We refer to Lane and Milesi-Ferretti (2007) and Pirovano et al. (2011) for an overview of capital inflows and external asset positions in the Central and Eastern European Countries.

[3] On stock market integration in NMS, see also Babetsii et al. (2007), Cappiello et al. (2006), Chelley-Steeley (2005) and Poghosyan (2009).

[4] Slovenia adopted the Euro in 2007, Slovakia in 2009 and Estonia in 2011.