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The macroeconomic impact of financial fragmentation in the euro area: Which role for credit supply?*



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ABSTRACT

This paper studies the macroeconomic impact of financial fragmentation in the euro area by analysing the role of credit supply shocks during the recent pre-crisis, bust, and post-crisis periods. We estimate a time-varying parameter vector autoregression (TVP-VAR) with stochastic volatility à la Primiceri (2005) for euro area countries, and we identify the structural shocks by imposing sign restrictions on impulse response functions based on the theoretical model by Gerali et al. (2010). The results suggest that credit supply shocks have been an important driver of business cycle fluctuations in euro area countries, and that their effects on the economy have generally increased since the recent crisis. More specifically, we find evidence that credit supply shocks contributed positively to output growth during the pre-crisis period and negatively during the downturn in economic activity in 2008 -2009 in all the countries considered. In the post-crisis period, by contrast, we observe a strong rise in cross-country heterogeneity, reflecting financial fragmentation in the euro area associated with the sovereign debt crisis and weaker banks' balance sheets. Although this heterogeneity across euro area countries started to decline around 2012, the contribution of credit supply shocks to

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GDP growth and credit growth remained negative in most euro area countries in mid-2013 (the end of our sample), suggesting that constraints in the supply of credit continued to weaken economic activity.

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"Credit weakness appears to be contributing to economic weakness in these [stressed] countries. Our analysis suggests that credit constraints are putting a brake on the recovery in stressed countries, which adds to the disinflationary pressures. And heterogeneity becomes a factor in assessing low inflation in the euro area."

Mario Draghi, ECB Forum on Central Banking, Sintra, Portugal, 26 May 2014.

1. Introduction

Credit markets play a key role in the business cycle of advanced economies. The weakness of bank lending in many economies in the wake of the global financial crisis has led to an intensive debate about its economic implications. A key question in this regard is to what extent the weakness in bank lending is due to tight credit supply conditions or weak demand for credit. Understanding the relative role of credit supply and demand is important as they have different implications for macroeconomic conditions. If the sluggishness in bank lending reflects bottlenecks in the supply of credit rather than a lack of demand, weak lending is more likely to dampen economic activity (Darvas, 2014; Bijsterbosch and Dahlhaus, 2015). For example, the fact that demand for credit cannot be met implies that investment projects cannot be undertaken, which would otherwise help the economy to recover. In countries facing weakness in lending, the correct identification of credit supply dynamics is thus crucial for policy makers. Moreover, it is also important to understand how credit markets contribute to the propagation of macroeconomic disturbances arising in other sectors of the economy, and how they can be a source of disturbance by themselves.

Inspired by recent events, this paper attempts to shed light on the role of credit supply shocks in euro area countries during the past decade, focussing on developments in output and credit volumes. To this purpose, we estimate a time-varying parameter VAR (TVP-VAR) with stochastic volatility à la Primiceri (2005) for each country in our sample of euro area countries. Quarterly data covering the period 1980Q1–2013Q2 are used. Time-variation in the coefficients and stochastic volatility are necessary ingredients to control for the non-linearities associated with the structural economic changes and heteroscedastic macroeconomic shocks usually occurring over long time spans. To tackle the high dimensionality of the parameter space and the non-linearities of the model, the estimation is carried out using Bayesian methods. The structural shocks are then identified by imposing sign restrictions on impulse response functions based on the DSGE model proposed by Gerali et al. (2010). The identification of structural shocks via sign restrictions is appealing, as it allows us to avoid the usual recursive assumptions on the contemporaneous effects between endogenous variables.

A fast growing literature has attempted to identify credit supply shocks through vector autoregressions (VAR) by imposing sign restrictions on impulse responses (Halvorsen and Jacobsen, 2009; Busch et al., 2010; De Nicolò and Lucchetta, 2011; Eickmeier and Ng, 2011; Tamási and Világi, 2011; Gambetti and Musso, 2012; Hristov et al., 2012; Barnett and Thomas, 2013; Darracq Paries and De Santis, 2013; Houssa et al., 2013; Darracq Paries et al., 2014; Kick, 2014), or by using other identification schemes (Ciccarelli et al., 2010; Abildgren, 2012; Darracq Paries and De Santis, 2013).¹ A constant

¹ There have also been attempts in the theoretical literature to better capture shifts in the supply of credit by expanding the focus beyond borrowing constraints in collateral markets and emphasizing the role of constraints on lenders (Justiniano et al., 2014).

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