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The effectiveness of the ECB's asset purchase programs of 2009 to 2012☆

Heather D. Gibson[a], Stephen G. Hall[a,b], George S. Tavlas[a,b,*]

[a] Bank of Greece, 21 El. Venizelos Avenue, 10250 Athens, Greece
[b] University of Leicester, United Kingdom

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ABSTRACT

We examine the impact of the ECB's Securities Market Program (SMP) and the ECB's two Covered Bond Purchase Programs (CBPPs) on sovereign bond spreads and covered-bond prices, respectively, for five euro-area stressed countries – Greece, Ireland, Italy, Portugal, and Spain. Our data are monthly and cover the period from 2004M01 through 2014M07. In contrast to previous studies, we use actual, confidential, intervention data. Our results indicate that the respective asset purchase programs reduced sovereign spreads and raised covered bond prices. The quantitative effects of the programs were modest in magnitude, but nevertheless significant. We also provide a simple theoretical model that explains why official asset purchases can reduce a country's default-risk spreads.

1. Introduction

In response to the global financial crisis, which erupted in 2007 with the failure of the U.S. subprime market and then intensified in September 2008 with the collapse of Lehman Brothers, and the euro-area's sovereign debt crisis which broke-out in late-2009 and early-2010, the ECB's Governing Council adopted a number of non-standard measures to support financial conditions and credit flows to the euro-area economy over-and-above what could be achieved through reductions in key interest rates. Among those measures were two asset purchase programs – a Covered Bond Purchase Program (CBPP) and a Securities Market Purchase Program (SMP).[1] The CBPP was comprised of two sub-programs – a CBPP1 and a CBPP2. Under the CBPP1, the

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* Corresponding author at: Bank of Greece, 21 El. Venizelos Avenue, Athens 10250, Greece. Tel.: +30 210 320 2370; fax: +30 210 320 2432.
E-mail address: gtavlas@bankofgreece.gr (G.S. Tavlas).

[1] These asset purchase programs were part of the ECB's overall response to the two crises. For detailed review of the ECB's responses, see Cour-Thimann and Winkler (2013).

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ECB committed to purchase a total of € 60 billion during the period from June 2009 to June 2010.[2] Under the CBPP2 the targeted amount of purchases was € 40 billion during the period from November 2011 to October 2012. A primary aim of the CBPP was to revive the covered-bond market, which is a primary source of funding for banks in the euro area, by promoting a decline in money market term rates and easing funding conditions for credit institutions and enterprises. The SMP was launched in May 2010 as a response to the drying up of some secondary markets for government bonds. The aim of the SMP was to improve the functioning of the monetary-policy transmission mechanism by providing depth and liquidity in segments of the sovereign-bond market that had become dysfunctional.

We investigate the impacts of the two CBPPs and the SMP on prices on euro-area covered bonds and spreads on sovereigns bonds, respectively, for five stressed euro-area countries – Greece, Ireland, Italy, Portugal and Spain. Our data are monthly and cover the period from 2004M01 through 2014M07. Our approach differs from the approaches undertaken in previous work in several ways. First, in contrast to many previous studies, which largely focused on global risk factors in the determination of spreads, we use fundamental economic variables of the countries under consideration to control for the effects of other factors that affect spreads, beyond those of the asset purchase programs. Second, in light of the effects of rating downgrades on spreads during the euro crisis, we introduce a measure of rating downgrades in our specifications. Third, whereas previous studies typically used dummy variables in an attempt to capture the effects of the asset purchase programs, we use the actual amounts of covered bonds and sovereigns purchased under the programs. These data are confidential but were made available to us for use in this study by the ECB. The use of these actual intervention data allows us to shed light on the accuracy of previous findings that have relied on dummy variables.

The remainder of this study is comprised of four sections. Section 2 provides a brief literature review. Section 3 provides a simple theoretical framework that explains why official asset purchases can affect a country's default-risk spreads. Section 4 first presents some details about the particular asset purchase programs. The section then describes our data and our modelling approach, and presents our empirical findings. As mentioned, we use actual intervention data to capture the effects of the asset purchase programs. We also present results using dummy variables as a way of comparing our findings with those of previous studies. Section 5 concludes.

2. Literature review

With interest rates close to, or at, their lower bound in the years following the outbreak of the global financial crisis, major central banks increasingly resorted to non-standard monetary-policy measures. Reflecting the prevalence of these non-standard measures, a literature has emerged that examines their effectiveness. In this connection, work by Peersman (2011) used a SVAR to examine the impact of non-standard measures on economic activity in the euro area. That author represented non-standard measures by using innovations to bank lending caused by monetary policy; these innovations were orthogonal to the policy rate. The author found that non-standard measures had an impact on economic activity similar to that of conventional monetary policy operating through the interest-rate channel. Gambacorta et al. (2014) performed a similar analysis on a panel of eight industrial economies – Canada, the euro area, Japan, Norway, Switzerland, Sweden, the United Kingdom, and the United States. They found that non-standard measures had an impact on economic activity for each of the counties considered, with the size of the impact depending on the country. Individual country results suggested that there were no major differences in the macroeconomic effects of unconventional monetary policies across countries, despite the heterogeneity of the measures that were taken.

Another line of research has focused on the impact of non-standard measures on yields in financial markets – a line of research that we pursue in this study. Szczerbowicz (2012) examined the effects of a range of euro-area non-standard policies – including the SMP, the CBPP1, the CBPP2 – on euro-area covered-bond spreads and sovereign spreads. Using daily data from July 2007 to September 2012, the author used an event-based regression methodology under which dummies were used for each announcement of non-standard measures. Szczerbowicz found that the SMP reduced 10-year sovereign spreads by an average of 17 basis points for the euro area, with the impact on the five crisis countries ranging from 476 basis points in the case of Greece to 35 basis points for Italy. Eser and Schwaab (2013) focused on the SMP purchases over the period October 2008 to December 2011 (daily frequency). Along with the purchases made under the SMP, they also included two measures of global risk aversion (the US VIX Volatility Index and the change in the spread between AAA and BBB-rated corporate bonds). Their evidence showed that the SMP reduced both spreads and the volatility of spreads. Specifically, a € 1 billion purchase of sovereign bonds was associated with a fall in spreads of around 1–2 basis points in Italy to 17–21 basis points in Greece. Ghysels et al. (2014) and Rivolta (2014) obtained similar results.

Studies that focus on specific euro-area countries include Doran et al. (2013), who examined the impact of the SMP on Irish sovereign yields, Casiraghi et al. (2013) who assessed the impact of the SMP, OMT and LTROs on the Italian economy, and Gibson et al. (2014), who examined the determinants of Greek sovereign spreads. Doran, Dunne, Monks and O'Reilly found little evidence that SMP purchases had a significant effect on daily yields once the announcement effects were controlled for. They found that SMP effects are very visible when they are analysed using an intraday event-based methodology. Overall, they found substantial announcement effects and strong evidence that SMP interventions, on-average, halted declines in bond prices (rises in yields); the policy was, therefore, effective if the main objective of the SMP were interpreted as passive containment. In a study of the

[2] The € 60 billion represented around 2.5 per cent of the total of the outstanding amount of covered bonds denominated in euro and issued in the euro area.

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