Journal of Empirical Finance 37 (2016) 214–232

Contents lists available at ScienceDirect

Journal of Empirical Finance

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

Macro-economic determinants of European stock and government bond correlations: A tale of two regions

Erica R. Perego[a, b, *, 1], Wessel N. Vermeulen[a, 2]

[a] *CREA, University of Luxembourg, Luxembourg*
[b] *IRES, Université Catholique de Louvain, Louvain-la-Neuve, Belgium*

ARTICLE INFO

Article history:
Received 29 March 2015
Received in revised form 26 November 2015
Accepted 16 April 2016
Available online 20 April 2016

Keywords:
Currency union
Financial markets
Time-varying correlation

ABSTRACT

This paper presents an analysis of Euro-zone financial markets based on a joint assessment of bonds, stocks and stock–bond correlations between groups of Euro-zone countries. The quarterly component of dynamic correlations indicates the divergence of integration in Europe and highlights the heterogeneity in these markets. Panel regressions on these dynamic correlations, controlling for unobserved heterogeneity, offer new insights into the role of macro-economic determinants of financial markets between assets and regions. This combined analysis of markets provides evidence on the importance of macro-economic factors such as inflation, uncertainty, debt, current account and economic growth in European financial integration. These factors may be overlooked when analysing a single market for individual pairs of countries. As a result we find that the robust role of economic fundamentals in European financial market correlations points to the need for European economic integration based on sound macro-economic fundamentals for both current and future Euro-zone members.

© 2016 Published by Elsevier B.V.

1. Introduction

In the first decade following the introduction of the Euro, Euro-zone financial markets showed an increasing degree of integration and of economic and financial convergence.[3] This showed up both in the equity and sovereign bond markets. With respect to the latter, it appeared that differences in current accounts, balance of payments, debt ratios and growth rates were not captured by the markets.[4] However, after the revelation of the Greek financial mis-report and the beginning of the sovereign debt crisis at the end of 2009, the differences in fundamentals showed up in bond spreads as fears of southern countries' defaults

* Corresponding author at: CEPREMAP, Paris.
E-mail address: erica.perego@cepremap.org (E. Perego).
1 Present address: CEPREMAP, Paris, France.
2 Present address: OxCarre, Department of Economics, Oxford University, United Kingdom.
3 See for instance Kim et al. (2006), discussed further below. Just before the crisis broke, the European Commission celebrated the 10 year anniversary of the Euro with the publication of a booklet that documents the "macroeconomic stability" and "financial integration" that resulted from the monetary union. Joaquín Almunia, Commissioner for Economic and Monetary Affairs, wrote: "[F]or the world, the euro is a major new pillar in the international monetary system and a pole of stability for the global economy." (European Commission, 2008 p. iii).
4 Besides economic indicators, there are institutional (e.g. government setup, health and elderly insurance) and sociological (e.g. participation rate, demography) differences that are highlighted now but were of little concern before.

http://dx.doi.org/10.1016/j.jempfin.2016.04.002
0927-5398/© 2016 Published by Elsevier B.V.

mounted. One well-known piece of evidence at this point was the flight-to-quality from southern countries' bonds towards their "risk-free" northern counterparts. Instead the equity markets did not suffer such a strong flight-to-quality between countries but suffered from higher volatility. Starting from those two observations, this work studies the dynamic correlations of the bond, stock and bond–stock markets of the Euro-zone and tries to test their relations with the evolution of the macro-economic determinants before and during the recent crisis.

Understanding the time varying behaviour of the stock and bond correlations and which factors affect their development is of primary importance for investors as well as for policy makers. Asset allocations and risk management directly rely on the correlation between portfolio's assets, where negative correlations across regions and assets offer opportunities for diversification and for the hedging of risks. Moreover, a well-functioning financial market is crucial for the wider economy. Since stocks and government bonds account for a dominant share in all traded financial assets as well as in banks' balance sheets, the determinants of such comovements become of interest for regulatory and monetary authorities as well. In particular, macroeconomic determinants of stock and bond returns correlations, such as inflation, economic growth and balance of payment indicators can provide useful information for monetary policy on the status of financial markets and the expectations of investors. In addition, it is essential to understand the role of macroeconomic determinants, which include fiscal variables, in order to implement optimal policies at the national level and their coordination in the Euro-zone. Since the spreading of the financial turmoil and the sovereign debt crisis in the Euro-zone, European countries started showing divergent macro-financial behaviour, which triggered concerns about the preservation of the single currency.

While the literature has focused on the stock, bond and stock–bond market categories separately, assessing the role of macro-economic determinants at the national level (see Section 2), this work studies the three categories in the Euro-zone in a new way by analysing all the relations simultaneously. This general approach to financial markets enables us to highlight patterns between assets and countries that would otherwise remain hidden and ignored, thereby giving important insights on the European financial integration. Therefore, we will pay attention to the differences within the Euro-zone. Specifically, for the estimations we do not consider the European Monetary Union (EMU) as one economic unit but —with the benefit of hindsight- we consider our sample of Euro-zone countries as if they belonged to two groups (north and south) and proceed in two steps.

First, for each country pair and asset combination we compute the time-varying dynamic conditional correlations (DCC) using the component model of Colacito et al. (2011). In the second step we conduct a panel study to find the macro-economic determinants of the quarterly components of six groups of pairwise correlations. Namely, by grouping together the correlation pairs at the asset-region level we study six categories of correlations: cross-asset for both regions, cross-region for both assets and cross asset-region correlations (i.e. North-bond South-stock and North-stock South-bond).

Theory predicts differentiated impacts of macro-economic fundamentals based on cash flow determinants, risk determinants and the interaction of the two.[5] We will analyse to what extent the impact of such determinants have changed since the European debt crisis. This method allows us to look at all country–asset relations simultaneously and show how macro-economic factors affected these relations differently.

We find that looking at the north countries together and south countries together helps to visualise the divergence in the Euro-zone for the cross-asset correlation and subsequently helps to explain the underlying determinants of such divergence. The disintegration of the bond market over time is clearly leading to the heterogeneous effects on the other asset markets. Additionally, our regression results show that the correlations are mostly driven by two factors: the relative uncertainty between countries and balance of payments dynamics, represented by the current account and government debt. We find that the balance of payments dynamics is not only important for the difference in the pricing of bonds between countries, but even for the stock markets. However, current account dynamics appear of secondary importance once we control for other economic fundamentals and unobserved fixed effects. Moreover, we find no evidence that the results are driven primarily by a change in investors' perceptions on the economic situation, but that the variation in economic fundamentals can explain most of the development of markets' comovements. For instance, we find that relative imbalances between the northern and southern European countries have a major impact on the correlations, not only in the sovereign bond market, but also in the stock market.

We interpret these results as a potential risk for the Euro-zone, but not as indicators of irreversible developments. The results confirm that there is heterogeneity among the Euro-zone members with respect to their economic fundamentals, which is in turn reflected in the financial markets. However, the way these determinants interact with the correlation in financial markets indicates that further economic integration and growth would work positively on financial integration although, for the moment, our results indicate that the Euro-zone is a divided union.

To our knowledge this is the first work that looks at the time-varying correlations of bond, stock and bond–stock markets jointly and at their determinants, directing attention to the different patterns for the northern and southern countries of the Euro-zone. In this way we extend the existing literature by combining the rising sovereign bond market literature with the well-documented stock–bond factor pricing and international stock market convergence literature for the Euro-zone, and we shed new light on their interaction.

The remainder of the paper is set out as follows: Section 2 reviews the literature, Section 3 estimates the asset market correlation and documents the DCC results, Section 4 presents the panel regressions and Section 5 concludes.

[5] E.g. Campbell and Ammer (1993), Ilmanen (2003) and Li (2002), discussed further below.

Download English Version:

https://daneshyari.com/en/article/7360692

Download Persian Version:

https://daneshyari.com/article/7360692

Daneshyari.com