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Banks' Net Interest Margin in the 2000s: A Macro-Accounting international perspective

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A B S T R A C T

This paper re-examines the determinants of Net Interest Margin (NIM) in the banking industries of 15 developed and emerging economies. It presents three main contributions with respect to previous studies: first, we analyze the determinants of NIM in the years leading to the 2008 financial crisis; second, we account for the role of different accounting standards across countries; third, we use multi-way cluster estimation methodologies which control for cross-sectional and time-series dependence in macroeconomic and banking variables. We find that the introduction of International Financial Reporting Standards (IFRSs) contributed to lower NIM variations unexplained by standard accounting variables. Interest rate volatility is found to be positively and strongly related to NIM dynamics, whereas inflation risk is often found to be a relevant driver of NIM cross-country differences.

1. Introduction

As it is well-known, banks' intermediary role in the financial side of the economy involves borrowing and lending. These essential banking activities entail financial costs and benefits, and the difference between the lending interests and the borrowing costs is known as the Net Interest Margin (hereafter NIM). High Net Interest Margins are typically associated with a loss of efficiency in the financial system and lead to distortions in the saving and investment patterns of relevant economic

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agents. In turn, a reduced level of saving and investment slows down economic growth and employment creation. As a result, NIM determinants turn out to be key variables for the financial markets and the real economy. The present paper is an attempt to better understand these determinants from an empirical perspective.

This paper presents three main new contributions: first, we analyze NIM dynamics across a set of developed and emerging countries in the years leading to the 2008 financial and economic crisis, whereas most previous empirical research on NIM focuses on the 80s and 90s (see Brock and Rojas, 2000; Saunders and Schumacher, 2000; Maudos and Fernández de Guevara, 2004 and Hawtrey and Liang, 2008 among others). The role of banks in the build-up of the financial crisis has been crucial (see The Economist, 2008; International Monetary Fund, 2008, and Bank for International Settlements, 2009) and our study sheds some light on the banking industry margins right before the financial crisis.

Second, in contrast to the vast majority of previous studies, this paper takes into account the impact of the accounting standards on NIM. Previous empirical research has not considered the different accounting standards across and within countries as well as their incidence on the value relevance of the accounting variables. The only exception is Demirgüç-Kunt et al. (2004), who examine the influence of bank regulations and institutional development on bank margins using data of 72 countries and over 1400 banks. However, they do not control for the role of accounting standards, as they only focus on regulations concerning bank entry, reserve requirements, restrictions on bank activities, and an overall index of regulatory restrictions on banks, using the database developed by Barth et al. (2001b, 2004). In this paper, we consider the role of different accounting standard across and within countries. We indeed show that the introduction of International Financial Reporting Standards (hereafter, IFRSs) is an important determinant in lowering the part of NIM unexplained by accounting variables across several countries. This can be explained by the fact that IFRSs accounting numbers are of higher quality than those of Local General Accounting Accepted Principles (hereafter Local GAAP), except for the US. Consistent with this hypothesis, Barth et al. (2008) find that firms applying IFRSs from 21 countries generally exhibit less earnings management, more timely loss recognition, and more value relevance of accounting numbers than do matched sample firms applying their Local GAAP (non-US domestic standards).

Third, following Saunders and Schumacher (2000), we use a two-step approach to estimate NIM determinants. This methodology is particularly appropriate for our analysis, since it takes into account both accounting and macro-finance variables as potential NIM drivers. In the first step, NIM is regressed on a comprehensive set of accounting variables for each country, such as size, loan loss provisions, market power and loan to total assets, among others. These variables have been proposed by a number of authors as drivers of NIM in the recent literature. In the second step the resulting pure spread is regressed on a set of macro-finance variables. In this second-step, we adopt the novel multi-way clustering econometric methodology outlined by Petersen (2009) – in a Finance context – and by Gow et al. (2009) – in Accounting – in order to control for cross-sectional and time-series dependence in macro-finance variables. In contrast, previous studies such as Hawtrey and Liang (2008) and Lepetit et al. (2008) analyze NIM determinants using panel data techniques, which do not appropriately correct for the data dependence in a Macro-Accounting setting, because they do not correct for cross-sectional and time-series dependence simultaneously.

We report four main results in the paper. First, banks following IFRSs commanded statistically significant lower NIMs in Germany (since 1999 to 2007), France, Netherlands, Poland, Spain and the UK (six of the eight countries with IFRSs banks in our sample). Second, we show that the developed countries' NIMs are lower than those in emerging markets and decreased during our sample period. Third, we also show that the reduction of interest rate volatility in the 2000s explains much of the cross-country NIM differences as well as NIM reduction in developed countries. Fourth, inflation risk is often found to be a relevant variable driving NIM differences among countries.

Several studies focus on NIM determinants across alternative sets of countries. For instance, some papers have analyzed the US and European banking systems (Saunders and Schumacher, 2000; Maudos and Fernández de Guevara, 2004; Carbó and Rodriguez, 2007), Eastern European economies (Drakos, 2003; Claeys and Vander Vennet, 2008; Horvath, 2009); Latin American countries (Catao, 1998; Barajas et al., 1999; Brock and Rojas, 2000; Afanasieff et al., 2002; Maudos and Solís, 2009); developed versus developing economies (Demirgüç-Kunt and Huizinga, 1999 and Hawtrey