



Macro-financial determinants of the great financial crisis: Implications for financial regulation [☆]



Gerard Caprio Jr.^a, Vincenzo D'Apice^{b,c}, Giovanni Ferri^{d,e}, Giovanni Walter Puopolo^{f,*}

^aWilliams College, United States

^bEconomic Research Department of Italian Banking Association, Italy

^cIstituto Einaudi (IstEin), Italy

^dLUMSA University of Rome, Italy

^eCenter for Relationship Banking & Economics – CERBE, Italy

^fBocconi University, CSEF and P. Baffi Center, Italy

ARTICLE INFO

Article history:

Received 15 April 2012

Accepted 4 March 2014

Available online 29 March 2014

JEL classification:

G01

G15

G18

G21

Keywords:

Banking crisis

Government intervention

Regulation

ABSTRACT

We provide a cross-country and cross-bank analysis of the financial determinants of the Great Financial Crisis using data on 83 countries from the period 1998 to 2006. First, our cross-country results show that the probability of suffering the crisis in 2008 was larger for countries having higher levels of credit deposit ratio whereas it was lower for countries characterized by higher levels of: (i) net interest margin, (ii) concentration in the banking sector, (iii) restrictions to bank activities, (iv) private monitoring. The bank-level analysis reinforces these results and shows that the latter factors are also key determinants across banks, thus explaining the probability of bank crisis. Our findings contribute to extend the analytical toolkit available for macro and micro-prudential regulation.

© 2014 Elsevier B.V. All rights reserved.

1. Introduction

As much as it was known that the Great Depression of the 1930s was the acid test for any reputable macroeconomic theory, the outbreak of the Great Financial crisis in 2008 has shaken not only financial institutions, but also long-held beliefs and theories on how the regulation of the financial system should be structured, with renewed emphasis on macro-prudential supervision and reforming micro-prudential regulation.

In turn, the financial regulatory reforms have sparked a vibrant debate among institutions, academics and practitioners. On the one hand, the Basel Committee, starting with its consultative docu-

ment (BCBS, 2010a), has focused more on the stability of the financial system, arguing that the costs of the new regulation will be much lower than the relative benefits (see BCBS, 2010b; MAG, 2010). On the other hand, the banking industry argues that the new measures could put economic growth at risk imposing high costs on the financial intermediaries and, in turn, on economic systems (IIF, 2010). In the middle, some academics argue that the principles implicitly or explicitly subscribed by the Basel Committee may be questionable to secure more resilient financial systems (see among others Ferri, 2001; Barth et al., 2004, 2006; Caprio, 2010).

In this debate, we study whether a wide set of banking indicators, such as business model, funding strategy, market structure, efficiency, stability, profitability, regulation, the quality of governance and a measure of financial globalization could explain the ex-post incidence of the crisis both across countries (that is, at the macro-level) and across banks (that is, at the micro-level), and be added to the analytical toolkit available for prudential supervision. Specifically, in the cross-country analysis we investigate the (macro) financial determinants of the probability that a country experienced the crisis in 2008, as reported by Laeven and Valencia (2010), using data on 83 countries from 1998 to 2006. In the cross-bank analysis, by contrast, we pursue a twofold

[☆] We would like to thank the Editor, an anonymous referee, Luc Laeven, Ross Levine, Marco Pagano, Andrea Sironi, Randy Stevenson, Gianfranco Torriero, Giuseppe Zadra and seminar participants at IFABS Conference and ISTEIN seminar for helpful comments. This paper's findings, interpretations, and conclusions are entirely those of the authors and do not necessarily represent the views of the World Bank and the Italian Banking Association.

* Corresponding author. Tel.: +39 02 58362725.

E-mail addresses: Gerard.Caprio@williams.edu (G. Caprio Jr.), v.dapice@abi.it (V. D'Apice), g.ferri@lumsa.it (G. Ferri), giovanni.puopolo@unibocconi.it (G.W. Puopolo).

objective: first, using the information on the 10 largest banks by average total asset during 1998–2006 for all the countries considered in our sample we focus on the determinants of the probability that a bank experienced some form of distress during the Great Financial crisis, to understand whether the main results obtained in the cross-country analysis hold also with bank-level data. Second, we can address the potential problem of omitted variables arising from the cross-country analysis.

A novel feature of our approach with respect to the related literature¹ consists in measuring the financial indicators used as explanatory variables taking into account all the information relative to the 9 years that preceded the Great Financial crisis and not just to the most recent years before its outbreak. In fact, we firmly believe that the early signals of what happened, starting from 2008, were already embedded in the financial characteristics of the countries and their banks several years before the crisis erupted. Then, the use of such “back-in-time variables” is justified by the fact that these contain information about (i) the health of the financial system in the past and (ii) how this evolves over time. As a consequence, they may be useful in understanding the genesis of the crisis.

Our cross-country analysis shows that, first, countries with a higher credit/deposit ratio had higher probability to be in crisis in 2008. Next, a few determinants negatively impinged on the probability of crisis. Specifically, such probability was lower for countries with a higher level of net interest margin, higher level of concentration in the banking sector, higher level of private monitoring, and more restrictions on bank activities. Moving to the cross-bank analysis, it is important to underline that our micro-level evidence contributes to reinforce these results by showing that they hold not only across countries, but also across banks. In other words, we find that the financial factors found at the country-level are also key determinants at the bank-level, thus explaining the probability of bank crisis as well.

In particular, among the various determinants of the crisis, a crucial role is played by the net interest margin indicator. This factor tends to be more significant the greater the importance of deposits. In fact, banks that had a large and stable deposit base likely paid less for funds (thus reaching a higher level of net interest margin) than the ones who had to rely on wholesale markets, which proved to be more volatile. At the same time, net interest margin also tends to be lower in banking systems more extensively engaged in securitization, both directly as securitization fees displace interest earnings (and interest on the securities is accruing to off-balance sheet entities), and indirectly as securitization boosts the supply of credit from non-bank entities which leads, other things equal, to a decrease in the lending rates.

The rest of the paper is structured as follows. Section 2 provides a review of the literature. Section 3 describes the data and the different models employed in the econometric specifications, focusing first on the analysis across countries and then across banks. Section 4 looks at the empirical results, while Section 5 offers some robustness checks. Finally, Section 6 concludes discussing some lessons and policy implications.

2. Literature review

Over the years, several scholars have studied financial crises, focusing on their possible causes and above all on predicting their time of occurrence. Historically, however, the economic analysis showed more success at identifying the incidence of the crises across firms, banks or countries (i.e. cross-sectional) rather than at forecasting the timing of crises (i.e. in time-series analysis). For instance, focusing on the financial crisis of 2008, [Rose and Spiegel](#)

(2009) use a latent variable approach to investigate whether a wide number of factors could have predicted the incidence and the severity of the crisis for many countries. They find few clear reliable indicators of the incidence of the great recession in the pre-crisis data: more precisely, only the natural logarithm of 2006 real GDP per capita and the size of the equity market run-up prior to the crisis result in a significant causality with the severity of the crisis.

In this regard, the closest paper to our cross-country analysis is [Barth et al. \(2004\)](#). Using their database on bank regulation and supervision in 107 countries to assess the relationship between specific regulatory and supervisory practices and banking-sector development, efficiency, and stability, they show that the likelihood of suffering a major crisis is greater the more countries: (1) restrict bank activities (or prevent or discourage diversification of income through non-traditional activities); (2) put limits on foreign bank entry/ownership; (3) exacerbate moral hazard via a more generous deposit insurance scheme. On the other hand, neither capital stringency nor official supervisory powers – which approximate respectively pillars one and two of Basel II – are robustly linked to banking crises when controlling for other supervisory/regulatory policies. Similarly, there is no significant association between private-sector monitoring and the likelihood of a banking crisis and only a weak positive relationship between government ownership and the likelihood of a crisis.

Our macro-level analysis differs from theirs along several dimensions. First, we focus on a different crisis episode, that is the Great Financial crisis started in 2008. Second, we use a different set of macro-financial indicators as possible explanatory variables of the probability for a country to be in crisis in 2008. Third, we do not restrict the observations to a precise year (for example 1999 as done by the already cited authors), but rather we take the annual mean of these financial factors from 1998 to 2006, to take into account the long-term evolution of the financial sector before the crisis broke out internationally. Finally, we reinforce our cross-country results by also investigating the determinants of the crisis at the bank-level.

Before the great financial crisis broke out in 2008, [Demirgüç-Kunt and Detragiache \(1998\)](#) investigate the relationship between banking crises and measures aimed at increasing the level of financial liberalization in 53 countries during the period 1980–1995. They find that banking crises are more likely to occur in liberalized financial systems. However, they do not consider data on regulation and supervision. [Mehrez and Kaufman \(2000\)](#) employ a multivariate probit model for 56 countries from 1977 to 1997 to examine how the level of corruption (i.e. transparency) affects the likelihood of financial crises. They report that, in countries where the government policy is characterized by lack of transparency, banks have incentives to raise credit above the optimal level, thus increasing the probability of a banking crisis.

Using data on 69 countries from 1980 to 1997, [Beck et al. \(2006\)](#) study the impact of bank concentration, bank regulation, and national institutions on the probability that a country can experience a systemic banking crisis. They also examine the international differences in bank capital regulations, rules restricting bank entry, regulatory restrictions on bank activities and the overall institutional environment. They show that crises are less likely to occur in economies characterized by: (1) more concentrated banking systems; (2) fewer regulatory restrictions on banks (i.e. lower barriers to bank entry and fewer restrictions on bank activities); (3) national institutions that facilitate competition. In addition, [Shehzad and De Hann \(2009\)](#) analyze the impact of financial reform on systemic and non systemic banking crises in 85 countries, from 1973 to 2002, finding that certain types of financial reform reduce the likelihood of crisis.

Focusing on the Great Financial crisis, [Giannone et al. \(2011\)](#) study cross-country differences in output loss between 2008 and

¹ See among the others [Rose and Spiegel \(2009\)](#), [Claessens et al. \(2010\)](#), [Barth et al. \(2004\)](#) and [Beck et al. \(2006\)](#).

متن کامل مقاله

دریافت فوری ←

ISIArticles

مرجع مقالات تخصصی ایران

- ✓ امکان دانلود نسخه تمام متن مقالات انگلیسی
- ✓ امکان دانلود نسخه ترجمه شده مقالات
- ✓ پذیرش سفارش ترجمه تخصصی
- ✓ امکان جستجو در آرشیو جامعی از صدها موضوع و هزاران مقاله
- ✓ امکان دانلود رایگان ۲ صفحه اول هر مقاله
- ✓ امکان پرداخت اینترنتی با کلیه کارت های عضو شتاب
- ✓ دانلود فوری مقاله پس از پرداخت آنلاین
- ✓ پشتیبانی کامل خرید با بهره مندی از سیستم هوشمند رهگیری سفارشات