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Institutions, moral hazard and expected government support of banks☆

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ABSTRACT

We model the expected support of banks with credit ratings from Moody's and Fitch, taking explicitly into account the capacity and willingness of governments to provide support in case of need, as well as their concerns about moral hazard (i.e., that the expected support may induce banks to assume bigger risks). Our results suggest that moral hazard concerns are relatively weak. In addition, a substantial part of the expected support can be attributed to the quality of a country's institutions. These findings have important implications for the dynamics of banking crises, the value of the 'fair' insurance premium banks might be called upon to pay for the expected support, as well as for ways to reduce the resulting negative externalities.

1. Introduction

The global financial crisis, which started in 2007, has brought forcefully to the center of academic and policy debates the expected support of banks in need by governments. The growing literature has explored several issues, such as, the size and determinants of the expected support, the funding advantage banks derive from it, the potential distortions in competition and the moral hazard it creates for banks. The latter refers to the concern that, in the expectation that support will be extended in case of need, banks will ex-ante assume more risks, thus making support more likely, bigger and, perhaps, less affordable.

Indicatively, Schich and Lindh (2012) measure the expected support as the difference between two credit ratings: an all-in rating – which encompasses expected support, and a stand-alone rating, both from Moody's. This support lowers banks' cost of funding (Morgan and Stiroh, 2005), as it is recognized by market participants. The estimates of this funding advantage vary widely, but are substantial. For example, Ueda and Weder di Mauro (2012), using credit ratings from Fitch, estimate it to between 60 and 80 bp (for a neat presentation of ways to measure it, see Noss and Sowerbutts, 2012). The expected support also affects banks in subtler ways as it reduces the capital they must set aside for their holdings of other banks' debt; it also allows the use of such debt as collateral in central bank funding.

Since its level varies across countries and, within countries, across banks (Schich and Lindh, 2012), the expected support may distort competition. Briefly, it may tempt banks to assume more risks, as market discipline weakens; and/or push their competitors to do so, the rationale being that a bank's funding advantage leads to fiercer competition that reduces the franchise value of its competitors (Gropp et al., 2011). Moreover, if, as is widely believed, it is positively related to the size of a bank, it may tempt banks to expand – another form of moral hazard which exacerbates the negative externalities of bank fragility. Last, but

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not least, the expected support creates a potentially destabilizing feedback loop between government creditworthiness and bank fragility (see, for example, Estrella and Schich, 2012), that is, as bank fragility increases, the contingent fiscal cost of the expected support may perversely affect government's creditworthiness. Closing the loop, the decrease in government's creditworthiness may lead to increased bank fragility through the reduced capacity to support.

Market participants question the strength of moral hazard, but, as the literature on financial safety nets indicates, it is a possibility and, hence, an open question. The theoretical papers support both views, i.e., for and against the safety nets (see, for example, Diamond and Dybvig, 1983 and Diamond and Rajan, 2000). The empirical evidence seemingly supports the negative view (see, for example, Demirgüç-Kunt and Detragiache, 2002; Barth et al., 2004, and more recently, Dam and Koetter, 2012). Yet, one cannot dismiss the possibility of 'near-misses' which are not recorded in the literature; that is, of crises that have been averted because of the existence of safety nets. In any event, the existing literature on the expected support of banks is primarily focused on the 'negatives' and largely overlooks the potential benefits of a government safety net, part of which is the expected support. This implies that its policy recommendations must be viewed with caution.

Thus motivated, we take a fresh and broader look at the expected support of banks, using bank credit ratings from Moody's and Fitch. In doing so, we try to explicitly consider a government's capacity to provide support to a bank in need, its willingness to do so or not being in default when support is needed. Everything else equal, government's capacity to support a bank in need will affect expected support positively; and vice versa. Likewise for government's willingness. Willingness is associated with the systemic significance of a bank and, hence, with the potential economic repercussions of bank fragility: The bigger the systemic significance, the higher the willingness; and vice versa. Potentially restraining the expected support are the aforementioned moral hazard concerns.

Furthermore, taking into account the dynamic interaction between governments and banks, we include in our analysis potential explanatory variables that are related to the structure of a country's banking sector and to the quality of its institutional environment. To the best of our knowledge, such country-specific variables have not been used in the literature so far. The rationale is that, in evaluating the expected support of a bank, one has to take into account the potential repercussions of generalized financial fragility caused by this bank's fragility, as well as factors that may affect a government's capacity or willingness.

Focusing on the quality of the institutional environment, the reaction, or the expectation of reaction, by the markets and the public in general, may be a strong proponent for or deterrent of support. For example, in a country with strong institutions, non-support for a bank in need might be regarded negatively by the markets as well as by a public apprehensive of the potential repercussions of financial fragility. Conversely, in a country with weak institutions, support might be construed as rewarding imprudent banks and heightening moral hazard and, hence, regarded negatively. Thus, public hostility to bank support may be smaller in the first country and, as a result, capacity and willingness to support may be higher, while moral hazard concerns lower.

The available data does not allow us to disentangle the main drivers of expected support, i.e., capacity, willingness and moral hazard concerns. However, the results, from a sample of more than 700 banks from all over the world, suggest that a substantial part of the expected support can be attributed to a country's institutional environment. A good institutional environment is associated with higher expected support. This, together with the relatively small contribution of bank-specific variables often associated with moral hazard concerns, allows us to infer that moral hazard concerns were relatively weak.

The remainder of the paper is as follows. Section 2 discusses the expected support of banks and the potential explanatory variables. Section 3 presents the data and the econometric specification. Section 4 presents the empirical results, while Section 5 elaborates on their potential policy implications.

2. Logical foundations

2.1. Related studies

In Schich and Lindh (2012), the all-in rating is a bank's long term deposit rating, which includes the expected support, while the stand-alone rating its *financial strength rating* (symbol *BFSR*). Using a sample of 123 large European banks, they find that their difference, the proxy of the expected support, is positively related to the sovereign rating and negatively related to the stand-alone rating. In a similar spirit, Ueda and Weder di Mauro (2012) use ratings from Fitch to explore the effect of expected support on a bank's long-term rating and to quantify the funding cost advantage mentioned above. They find that the long-term rating is explained by a bank's own financial strength – Fitch's analogous to *BFSR* –, the expected support plus the sovereign rating; all with a positive sign.

Our work is also related, but distinct from, papers that explain *BFSR* using publicly known data, starting with the work of Poon et al. (1999). Interestingly, Poon et al. find that country risk indicators do not appear to be significant predictors of *BFSR* – in line with Moody's assertion that *BFSR* is "intended to provide a globally consistent measure of a bank's financial condition before considering external support factors that might reduce default risk, or country risks that might increase default risk" (Moody's, 2007b, p. 6). Provided this holds for the period of our analysis, 2007–2011, it increases the significance of our findings which suggest that such indicators do affect the expected support. In a more recent paper, which additionally provides an illuminating review of related studies, Shen et al. (2012) introduce the quality of information and of the institutional environment as a potential determinant of the long-term credit ratings of commercial banks in 86 countries, for the period 2002–2008. They find that better information quality is associated with higher stand-alone ratings. Lastly, Peresetsky and Karminsky (2008) find that a corruption-perceptions index affects both *BFSR* and deposit ratings negatively.

2.2. Theoretical discussion

Going one step further, we try to explicitly consider which variables, both bank-specific and country-specific, might affect the government's capacity and willingness to provide support. To do so, we explicitly take into account the strategic interaction of governments and banks which, presumably, is behind the aforementioned moral hazard concerns.

Capacity depends positively upon the government's own financial condition and the room for support, and negatively upon the size of the potential support. It may also depend upon other factors that affect a government's leeway to provide support, both country- and bank-specific. Willingness, on the other hand, is associated with the systemic significance of a bank and, hence, with the potential repercussions of bank fragility. The bigger the systemic significance, the higher the willingness. It is also likely to depend on some other characteristics of the banks. Both capacity and willingness may also depend upon the macroeconomic conditions and to be path-dependent.