Bank asset reallocation and sovereign debt

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\section*{Abstract}

This paper examines how banks around the world have resized and reallocated their earning assets in response to the subprime and sovereign debt crises. We also focus on the interaction between sovereign debt and the asset allocation process. We find that banks have readjusted asset shares and the overall regulatory credit risk by substituting government securities for loans. Furthermore, they have been sensitive to variables of direct interest to the regulator and the supervisor, a result that is consistent with high-debt governments having exerting moral suasion on banks to favor the purchase of government securities over loans to the private sector.

\section*{1. Introduction}

This paper examines how banks around the world have resized and reallocated their earning assets in response to the subprime and sovereign debt crises. We focus on three aspects of the reallocation mechanism: the substitution between securities and loans, in particular government securities and loans to the private sector (de-risking for short); the impact of total assets on the asset shares of loans and securities (de-leveraging for short); and the sensitivity of banks’ decisions to variables that are of interest to the regulator and the supervisor. In this paper, regulators and supervisors have different roles: the regulator determines explicit and transparent rules, for example by assigning zero credit risk on holdings of government securities; the supervisor, on the other hand, affects banks’ behavior in an indirect and less transparent way, for example by discouraging an “excessive” accumulation of government securities in a bank’s portfolio. Of the two, the supervisor has more opportunity to exert moral suasion on banks than the regulator.

The initial impact of the subprime financial crisis occurred through the re-pricing of risk across a variety of assets and the shrinking of balance sheets. Then, recapitalization became increasingly costly, and leverage was effected by selling assets in illiquid markets. In the absence of fresh capital and without significant profits to retire debt in the short run, the...
Bank bailouts shifted risk from banks to governments (Acharya et al., forthcoming; Hryckiewicz, 2014). The sovereign debt crisis of 2010 in the Eurozone and the subsequent rise in spreads of government yields in the Southern countries relative to Germany’s drove banks to purchase massive amounts of government securities, motivated also by carry-trade strategies. Acharya and Steffen (2015) present evidence of this strategy in which government securities with a preferential treatment in capital regulatory risk weights and in government guarantees are an ideal collateral to obtain central-bank funding at very low rates. This phenomenon reached its zenith when the South of the Eurozone, facing a sudden stop and later a reversal in capital flows, became disconnected not only from the non-Euro money market but also from the money market in the North of the Eurozone. The European Central Bank (ECB) launched in 2011 and 2012 two rounds of exceptional long-term lending to banks to ease the fragmentation in the inter-bank market.

Despite these interventions, high interest rates on sovereign debt encouraged banks to invest in bonds (Gennaioli et al., 2015). The shift from bank loans to securities occurred with a home bias (Popov and van Horen, 2013; Levy and Levy, 2014; Ongena et al., 2015). Battistini et al. (2014) suggest three reasons for this bias (which is positively correlated with sovereign yield spreads): moral suasion exerted by governments issuing high-risk debt on banks to purchase more of this debt; the mentioned carry-trade motive, mostly by undercapitalized banks in periphery countries; and the superior hedge that domestic government securities provide over foreign euro-denominated securities against the possibility that the country may reintroduce a national currency. A fourth reason is that banks’ informational advantage on domestic securities increases during turbulent times (Saka, 2016). Furthermore, Becker and Ivashina (2015) find a positive correlation of government control, effected through direct equity holdings and board appointments, with banks’ propensity to buy domestic sovereign debt. Whether with or without home bias, undercapitalized banks raised the share of their assets in securities at the expense of private-sector credit. The implication is a displacement of investments, as in the model by Broner et al. (2013) where the sovereign, in turbulent times, issues high-interest rate debt that is so attractive to crowd out alternative forms of debt.

The nexus between banks and sovereign debt may generate vicious circles. The traditional view is that a credit crunch worsens borrowers’ prospect of repaying outstanding loans, making banks riskier and necessitating further de-leveraging and de-risking. Angelini et al. (2014) offer the alternative explanation that the risk of an insolvent government permeates the entire economy and not just the banking system, making the surge in government debt in banks’ portfolio a consequence of the crisis. Both interpretations predict a shift towards government securities in banks’ portfolio during a sovereign debt crisis. There are some recent studies on this topic. In Croisignani’s model (2015), undercapitalized banks prefer domestic securities during crises because they receive a higher payoff when the sovereign services the debt while being protected by limited liability should the sovereign defaults; hence, the gamble for resurrection occurs with a home bias. In Sandleris’ model (2014), sovereign defaults can lead to a decline in foreign and domestic credit to the domestic private sector, even if domestic agents do not hold sovereign debt; stronger domestic financial institutions can amplify this effect. Acharya et al. (forthcoming) introduce a national currency. A fourth reason is that banks’ informational advantage on domestic securities increases during turbulent times (Saka, 2016). Furthermore, Becker and Ivashina (2015) find a positive correlation of government control, effected through direct equity holdings and board appointments, with banks’ propensity to buy domestic sovereign debt. Whether with or without home bias, undercapitalized banks raised the share of their assets in securities at the expense of private-sector credit. The implication is a displacement of investments, as in the model by Broner et al. (2013) where the sovereign, in turbulent times, issues high-interest rate debt that is so attractive to crowd out alternative forms of debt.

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