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Optimal Supervisory Policy in a Model of Endogenous Bank Opacity

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The monetary model uniquely incorporates the collateral misrepresentation problem in the banking sector with the role of external auditors. The novelty of the research presented in this brief is two-fold: (i) the cost of collateral misrepresentation hinges upon the banks' demand for prime audits and the central bank supervision intensity, respectively, and (ii) the quality of audits, like the quality of mortgages, can be compromised. The yield spread between mortgages and government bonds increases with the fundamental value of housing since an increase in the value of housing creates lucrative opportunities for banks to misrepresent the sub-prime loans as prime loans and use them as collateral to back the newly created deposit liabilities. An opaque audit sector coupled with a central bank's open market purchase of government debts might deteriorate market imperfections in the banking sector, leading to an overproduction of prime audits and a fall in welfare. The optimal supervisory policy helps mitigate the market imperfections in the banking sector but cannot eliminate these imperfections.

In the pioneering work, Rajan (2006) discusses the worsening moral hazard problem in the banking sector during the Great Moderation. Similarly, there is an array of literature in which the low interest rates induce banks to compromise the quality of their assets in their books, as discussed in Williamson (2018) and Kang (2019). It turns out that this asset misrepresentation in the banking sector has taken the form of mortgage frauds ahead of the Great Recession, as documented by Ben-David (2011), Jiang et al. (2014), Piskorski et al. (2015), Griffin and Maturana (2016), and Mian and Sufi (2017). Moreover, as documented by Sikka (2009), the audit failures in the banking sector during the Great Recession have exacerbated the opacity of the banking sector in major economies. This brief discusses the major findings of Tuluk (2021) in which a monetary model with opaque audit and banking sectors is designed to focus on supervisory policy to alleviate the collateral misrepresentation in the environment of low interest rates.

This paper stipulates that the banks' opacity is the product of the scarcity of safe collateral in the form of government debts. More specifically, a decrease in the consolidated government debt increases banks' demand for private loans such as mortgages, generating higher incentives to misrepresent the sub-prime loans and use them as collateral to back the new deposit liabilities. As the fundamental value of housing rises, an abundance of mortgages alarms depositors about their banks' potential practices of asset misrepresentation. The threat of losing depositors forms a market discipline, forcing banks to keep a fraction of mortgages in their books, but not to use them as collateral to prevent depositors from transferring their deposits to another bank. In turn, haircut for mortgages generates a yield spread between private assets and government debts. Moreover, the yield spread is monotonically increasing with the fundamental value of housing even if there is no aggregate risk associated with this value.

The novelty of this paper is that the cost of collateral misrepresentation increases with the efforts of external auditors and the central bank's supervision intensity, respectively. Therefore, the supervisory policy can affect the banks' incentive structure, such as the haircut for mortgages. Another value-added piece of this paper is that the dependence on auditors to mitigate the banks' opacity creates incentives for banks to acquire fraudulent audits to spur collateral misrepresentation. Therefore, the opacity of the banking sector is intertwined with the opacity of the audit sector.

The central bank's accommodative monetary policy in the form of open market purchases of government debts intensifies a paucity of safe collateral in the banking sector, which might aggravate the banks' opacity through an audit channel. A monetary easing under an opaque audit sector induces banks to demand a large quantity of prime audits to alleviate the worsening moral hazard problem in the banking sector. More specifically, the cost of overproduction of prime audits might overwhelm the welfare gains from the trade at the zero lower bound, implying that the policy of zero nominal interest rate is suboptimal.

When the government debts are sufficiently scarce in the banking sector, both collateral and audit misrepresentations matter in equilibrium. In this case, the supervisory policy with a higher supervision intensity implies that the public supervision crowds out private auditing to the extent that the total supervision increases. This policy increases the cost of asset misrepresentation, expanding the aggregate stock of collateral and mitigating incentive problems in the banking sector. Thus, even when monetary and fiscal policies are both passive, an active supervisory policy alone boosts pledgeable assets and deposit liabilities in the banking system. Hence, a larger volume of deposit liabilities creates a higher level of consumption and employment in the economy.

When the safe collateral is sufficiently plentiful, banks' demand for external audits suffices to eliminate the collateral misrepresentation problem, inducing passive supervisory policy to be optimal. In this case, the central bank optimally relinquishes supervision to auditors since the private auditing sector fully corrects the moral hazard problem in the banking sector. However, as the government debts outstanding is sufficiently small in the banking sector, an active supervisory policy increases welfare via two channels. First, an increase in the central bank's supervision intensity reduces the demand for prime audits by banks, reducing welfare loss from the overproduction of these audits. Second, a more active supervisory policy crowds out prime audits to the extent that the total supervision - the sum of public supervision and private audits - increases, making collateral misrepresentation more expensive for banks. This outcome reduces incentive problems in the banking system, increasing the volume of deposit liabilities issued by banks and implying a welfare-improving effect on the economy.

As in the same line with the findings of Rochet (2009), the market discipline by itself is limited in mitigating incentive problems at the banking sector, implying a need for an autonomous supervisory authority. Therefore, financial frictions in the banking sector are not only the product of banks' incentives to misrepresent the asset quality in their portfolios, but also the product of a supervisory policy that affects banks' demand for prime audits and alters the incentive structure of the banking system. Lastly, a market discipline coupled with the optimal supervisory policy still turns out to be insufficient to get rid of the collateral misrepresentation, implying a limitation of the supervisory policy against the market imperfections in the banking sector.

Implications

Banks have strong incentives for misrepresenting their collateral in an opaque audit sector in which it is optimal for the central bank to set a low yet positive nominal interest rate. In this situation, the policy of zero nominal interest rate exacerbates the moral hazard problem in the banking sector, causing a surge in demand for prime audits and a larger decrease in welfare due to the overproduction of audits than welfare gains from the trade at the zero lower bound. This result implicitly shows that the government can mitigate incentive problems in the banking sector by conducting more stringent policies against the opaqueness of the audit sector when the economy experiences low-interest rates. Second, even when the monetary and fiscal policies are both passive, the government might alleviate the moral hazard problem in the banking sector by using the appropriate supervisory policy. When the government debts are sufficiently scarce, an active supervisory policy can induce banks to collateralize a larger fraction of their private assets, increasing the deposit liabilities, the quantity of trade, and welfare. Third, even though the optimal supervisory policy mitigates collateral misrepresentation problem in the banking sector, it cannot completely remove this problem in the banking sector, suggesting the limit of the supervisory policy. Although it is feasible to eliminate this problem, it is socially costly.

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