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High bids and low recovery: A possible case for non-performing loan auctions in India

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Abstract This paper considers the possibility that the prices bid by asset reconstruction companies in India under a security receipt mechanism may not reflect the ultimate recoverable value of non-performing loans. The paper establishes, using a model and simulations, that the price bid by asset reconstruction companies will reveal their own rational interest and can significantly exceed the recoverable value. The conclusions arrived at in this paper raise concerns regarding the use of auction bids as an indicator of fair value on banks' financial statements. The paper offers certain recommendations to mitigate the impact of an erroneous auction design.

Introduction

The non-performing loans (NPLs) on the balance sheet of Indian banks have increased significantly in the last three years, primarily owing to an intervention by the Reserve Bank of India (RBI) which forced banks to recognise the problem rather than rely upon unviable restructuring and other mechanisms to delay recognition of NPLs. The ratio of gross stressed assets for public sector banks has increased from eight percent in the year 2013 to approximately 15% in the year 2016, of which 11% of loans are gross non-performing assets and remaining 4% are restructured loans (Acharya, 2017; Financial Stability Report, 2017). The use of asset management companies (AMCs), organisations established with the specific purpose of either disposing of NPLs transferred from banks or restructuring such NPLs, is one of the standard approaches to the resolution of banking crisis (Campbel, 2007; Caprio & Klingebiel, 1999; Claessens, Djankov & Klingebiel, 1999; Haley, 2000; Kane, 1989; Mako, 2001, and 1999; Woo, 2000). Hryckiewicz (2014) cites intervention of AMCs in 62 instances in 25 countries. Asset management companies help stressed banks by addressing their stock problems (quantity of NPLs on balance sheets) and thereby improving regulatory capital and solvency outlook. In situations where AMCs relieve banks from NPL burden, banks are in a position to focus on improving flow measures (profitability and credit disbursement, among others) for continued viability (Dziobek & Pazarbasioglu, 1997; Klingebiel, 2000). Indian banks have also relied on AMCs or Asset Reconstruction Companies (ARCs) as they are referred to in India,[1] to tackle the growing NPL problem (Narang & Kaveri, 2016). Banks in India are allowed to sell NPLs to ARCs using a security receipt mechanism where ARCs pay a small, upfront payment and the remaining amount is paid in the form of security receipts (SRs). The proportion of SRs purchased by

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[1] The terms AMC and ARC have been used interchangeably throughout this paper.

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banks has been as high as 95% of sale value till August 2014. The RBI guidelines (RBI, 2014) issued in August 2014 restrict a bank's maximum participation to 85% of sale value, and 15% of SRs have to be mandatorily retained by the ARC. The recovery for banks on the SRs is entirely contingent upon the recovery made by the ARC on the underlying NPLs resulting in a possibility that the bank may have an impairment on its investment in SRs at a later date. In effect, the bank retains up to 95% of the risk on assets sold to ARCs and only de minimis risk is effectively transferred.

This paper demonstrates, using a model and a simulation, that the price bid by ARCs for NPLs under a security receipt mechanism may or may not reflect the ultimate recoverable value from the disposition of such NPLs. The paper also establishes that the price bid by ARCs will reveal their own rational interest and may not be aligned with the bank's recoverable value. Importantly, this paper illustrates multiple scenarios where bids made by ARCs in a rational setting can significantly exceed the recoverable loan value. The paper determines that the ARC's entry value bears a limited relationship to the seller's exit value in many instances, and therefore ARC bid cannot be construed as fair value of NPLs in isolation. The conclusions arrived at in this paper raise concerns regarding the real financial strength and potential losses for Indian banks that have frequently used the sale of NPLs to ARCs to establish fair value. They also offer guidance to banks and regulators towards an effective auction mechanism design that can mitigate conflicts and align incentives between banks and AMCs. The rest of this paper is structured as follows: The second section reviews existing literature and formalises research enquiry. In the third section, using a combination of model results and simulations, we highlight the fallacy that auction of NPLs by Indian banks is an effective risk transfer mechanism that maximises seller utility and establishes fair market value of NPLs. The fourth section concludes this paper with a discussion of results and their implications for the Indian banking economy.

Literature review and research enquiry

Auction theory literature

The auction mechanism used by Indian banks is a first price, sealed bid auction with two payment streams – Payment One with certainty at the time of winning the bid (which is equivalent to the ARC's participation interest), and Payment Two in the form of a debt security whose redemption is contingent upon the amount of overall recovery.[2] This auction mechanism is similar to contingent payments auctions that were first analysed by Hansen (1985) and subsequently studied by Riley (1988) and DeMarzo, Kremer and Skrzypacz (2005). They found that auctions with contingent payment generate a bid higher than cash auctions, and held that higher utility of contingent payment auction mechanism is generalisable across a class of securities and auction types. Additional literature on contingent payment auctions exists in the field of bankruptcy and corporate reorganisation (Aghion, Oliver & John, 1992) and privatisation (Bolton & Roland, 1992). Auctions with contingent payments involve a signalling aspect where the bidder wants the seller to believe that he has the highest bid. This leads to a valuation problem as a seller is forced to select the highest bid but the value of the bid itself in not known fully to the seller due to an attached contingency. For example, in an NPL sale where the bank receives a debt security of the underlying trust as a part of total payment, the value of such debt security is unknown until the debt is completely resolved either by restructuring or by disposition. While the signalling phenomenon does increase the bid amount, it may not increase the seller's expected revenue if contingencies evolve along an unfavourable dimension. Further, in situations where upfront investment by the bidder is low and the bidder is compensated for his efforts by the seller, auctions designed with contingent payment create misaligned objectives. Rhodes-Kropf and Viswanathan (2000) demonstrate this outcome in corporate bankruptcy situations where bankruptcy costs are small and the contingent bid is in the form of debt security. In these cases, the bids will be extremely high rendering ex-post bankruptcy a virtual certainty and the seller may eventually end up repossessing the assets sold. Samuelson (1987) similarly shows the possibility of high bids that appropriate almost the entire surplus for the seller's benefit and, consequently, may result in an adverse selection and a principal-agent problem. This outcome has also been empirically observed in the case of spectrum sale in the United States (Cramton, 1997).

Literature on asset management company conflicts

Concerns that banks can use private AMCs for perverse reasons and not for addressing their stock problems (quantity of NPLs on balance sheet) have been expressed in the literature. Principal-agent conflict and misalignment of incentives between banks and AMCs in certain situations are possible and require careful monitoring and timely intervention (Ingves, Seelig & He, 2004; Kane, 1990; Klingebiel, 2000; Terada-Hagivara & Pasadilla, 2004; Woo, 2000). Ingves et al. (2004) highlight the inherent conflict of interest between an AMC's objectives of rapid resolution and its continued existence. Klingebiel (2000) notes that "They [private AMCs] can be used for window-dressing if assets are transferred at book value or above market value i. e., not all losses are taken at the bank level but some are effectively transferred to another entity." Klingebiel (2000, p.4) also notes that large privately held centralised AMCs are rare. In India, however, all AMCs as of date are private AMCs. The principal-agent conflict is completely eliminated when the ARC's participation interest is 100% (Samuelson, 1987), but that is not the case in India under security receipt mechanism auctions. In instances where ARC participation via retention of SR is not significant, and ARC have an additional income stream besides participation in recovery proceeds, it is possible that a rational bid by ARC is in excess of true economic value.

The literature in contingent-payment auction theory points to a possibility where high bids appropriate the entire surplus for the seller's benefit and, consequently, result in an adverse selection and a principal-agent conflict. The AMC literature similarly suggests that AMC bids may exceed market value and there may be a misalignment of interest between the AMC and the bank. But to the best of our

[2] The transaction structure for an NPL sale under a security receipt mechanism is detailed in Appendix 1.