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journal homepage: www.elsevier.com/locate/jfecSecuritization without adverse selection: The case of CLOs[☆]Efraim Benmelech^a, Jennifer Dlugosz^{b,*}, Victoria Ivashina^c^a Harvard University and NBER, Littauer Center, Cambridge, MA 02138, USA^b Federal Reserve Board, 20th & C St. NW, Washington, DC 20551, USA^c Harvard Business School, Baker Library 233, Boston, MA 02163, USA

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ABSTRACT

In this paper, we investigate whether securitization was associated with risky lending in the corporate loan market by examining the performance of individual loans held by collateralized loan obligations. We employ two different data sets that identify loan holdings for a large set of CLOs and find that adverse selection problems in corporate loan securitizations are less severe than commonly believed. Using a battery of performance tests, we find that loans securitized before 2005 performed no worse than comparable unsecuritized loans originated by the same bank. Even loans originated by the bank that acts as the CLO underwriter do not show under-performance relative to the rest of the CLO portfolio. While some evidence exists of under-performance for securitized loans originated between 2005 and 2007, it is not consistent across samples, performance measures, and horizons. Overall, we argue that the securitization of corporate loans is fundamentally different from securitization of other assets classes because securitized loans are fractions of syndicated loans. Therefore, mechanisms used to align incentives in a lending syndicate are likely to reduce adverse selection in the choice of CLO collateral.

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1. Introduction

In the third quarter of 2007, structured finance markets ground to a halt after nearly a decade of phenomenal growth. Mortgage-backed securities (MBSs) and collateralized debt obligations (CDOs) suffered a major blow to their reputation after being tied to a record-breaking wave of downgrades and bank losses. Both academics and practitioners have blamed securitization for encouraging risky lending and for being responsible, in part, for the recent credit crisis. In particular, several empirical studies of MBSs (Keys, Mukherjee, Seru, and Vig, 2010; Drucker and Mayer, 2008; Nadauld and Sherlund, 2009) show that securitization resulted in lower lending standards, which led to adverse selection in the collateral pools underlying these products.

In this paper, we focus on collateralized loan obligations (CLOs), which are CDOs backed by corporate loans. We analyze the performance of loans purchased by CLOs

between 1997 and 2007 using a battery of performance tests.¹ Contrary to the findings in studies of other forms of securitization, we find no consistent evidence that securitized corporate loans were riskier than similar loans that were not securitized. When looking separately at the early (1997–2004) and late (2005–2007) periods of securitization, we find mixed evidence concerning the underperformance of securitized loans originated during the latter period. This result is sensitive to the choice of the sample, the horizon over which we measure performance, and the performance measure we use. Thus, even for the later period of securitization, no consistent evidence exists that adverse selection played an important role in securitized lending. Further, when we examine a subset of securitized loans for which we expect agency problems to be particularly pronounced—loans purchased by the CLO from its underwriter—we also find no evidence of under-performance regardless of the time horizon, sample, or performance measures used.

While the overall result can be viewed as a negative finding—we find that securitization is not statistically significant in predicting poor performance—there are important positive results in our paper: Adverse selection is not an inevitable consequence of securitization, and not all securitized markets are the same. The fact that the only evidence of under-performance of securitized loans is weak and concentrated in the second year among loans originated in the 2005–2007 period could be due to the passive nature of CLOs and overheated market conditions driven by large CLO issuance and institutional investors' demand for corporate loans more broadly (Ivashina and Sun, 2011a).² Recent findings by Bord and Santos (2011) indicate, that overheated market conditions during this period were also connected to the reduction in the share of the loan (“skin in the game”) retained by the originating bank.³

A potential explanation for the different findings between our paper and those that study mortgage securitization has to do with the fact that corporate loans are only partially securitized. Corporate loans are significantly larger than mortgages and are typically syndicated; that is, at origination, the loans are funded by a group of banks and institutional investors. Fractions of the same underlying loan are simultaneously held by multiple CLOs as well as by other institutional investors and banks. In addition, the bank that originated the loan (the lead bank) typically retains a fraction of the loan on its balance sheet and each underlying loan is rated. In contrast, subprime mortgages are typically sold in one piece to MBS issuers with little to no risk retention by the originator. Large corporate loans, therefore, involve a greater number of

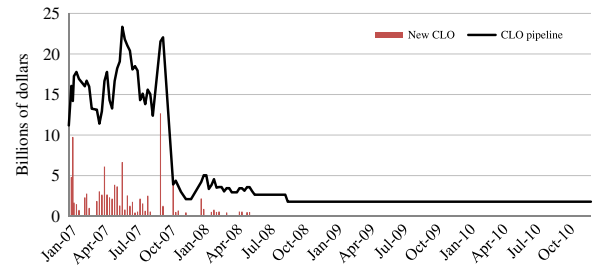


Fig. 1. Weekly collateralized loan obligation (CLO) pipeline, 2007–2010. The figure is compiled using weekly CLO calendars published by Reuters Gold Sheets. The pipeline indicates CLOs that have not yet closed (i.e., been issued).

formal and informal screeners whose reputation is at stake and the loan originator has skin in the game.

We argue that the size of the loan and the syndication process make corporate loans less prone to adverse selection when securitized. Our view is consistent with a large body of research studying the mechanisms that mitigate asymmetric information in the market for corporate loans (Gorton and Pennacchi, 1995; Dennis and Mullineaux, 2000; Sufi, 2007; Drucker and Puri, 2009; Ivashina, 2009). These studies find that the lead bank's retained share and reputation are the key mechanisms for reducing information asymmetry between the originating bank and other lenders in loan syndication. Therefore, syndication before securitization reduces the potential for adverse selection. Moreover, in contrast to residential mortgages, corporate loans are large. The average securitized corporate loan is roughly \$522 million (and the minimum syndicate participation amount is \$1–\$5 million) compared with an average loan size of only \$150 thousand–\$190 thousand for residential mortgages. We argue that if there are fixed costs of monitoring a borrower, investors are more likely to monitor larger loans or assets that make their collateral pools less susceptible to adverse selection.

Is it trivial then that securitization of syndicated corporate loans is adverse selection-proof? Judging by the sudden contraction in CLO issuance (along with other structured issuance) in the third quarter of 2007 and the absence of a subsequent rebound, the answer is no (see Figs. 1 and 2). A simultaneous disconnect between yields on existing CLO tranches and corporate bonds with similar ratings suggests that the market perceived the underlying problem as specific to structured finance. The disappearance of CLO issuance coincided with the widespread fear that strong demand for securitizable assets could have led to risky lending in the corporate sector.⁴

¹ Throughout the paper we refer to loans with CLO lenders in the syndicate as securitized loans or loans purchased by CLOs.

² Consistent with this interpretation, following the 2007–2009 economic crisis, low borrowing costs and loose credit standards returned ahead of the CLO market's recovery. See Wall Street Journal (2010) and Financial Times (2011).

³ The time pattern of shrinkage in skin in the game is clearly shown in Ivashina and Scharfstein (2010).

⁴ See for example Reuters (2007) “In the old days of relationship banking, banks relied on credit quality control and huge balance sheets to ride out any problems, but CLO investors may be more short-term oriented. Lack of credit quality control by some managers of CLOs is particularly frightening to veteran private equity investors. ‘What all of this will show—and it will show more as CLOs become more popular—is that risk management has not been very well practiced,’ said billionaire financier Wilbur Ross, founder of private equity firm WL Ross & Co.” See also Wall Street Journal (2007) “Investors searching for higher yields have put so much money into CLOs that even weak companies can get

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