



What drives the time to resolution of defaulted bank loans?☆



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ABSTRACT

Using a unique data base of Global Credit Data with individual loan information from small and medium sized entities in Germany, Great Britain and the United States, we evaluate the time to resolution of defaulted loans. A comparison across countries reveals country specific drivers for the resolution time which can be explained fairly well by differences in the regulatory and legal framework. Lenders seem to be aware of these differences and adjust their lending behavior in the limits set by these bankruptcy systems of the countries.

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1. Introduction

The time to resolution (TTR) of defaulted loan contracts is of great relevance to all kind of creditors. Following [Hotchkiss et al. \(2008\)](#), indirect costs—e.g. opportunity costs and reputational losses—are characterized by a considerable magnitude and importance. However, these cost are not directly captured in the loss rate. As they are challenging to measure, the TTR might serve as a proxy (see, e.g., [Franks and Torous, 1989](#); [Bris, Welch, Zhu, 2006](#); [Annabi et al., 2012](#)). Furthermore, the TTR seems to be positively correlated with the loss given default (LGD) of loan contracts. High TTRs increase uncertainty regarding the timing of cash flows during resolution and, therefore, liquidity and interest rate risk. To the best of our knowledge, no analysis exists so far which deeply examines drivers for the TTR on a transnational basis even though a profound understanding of it seems crucial in an international setting. A reason for missing studies in this field of literature might be found in the lack of data availability. Thus, our paper uses access to a unique loss data base provided by Global Credit Data (GCD)¹ and conducts a detailed and comprehensive analysis of the TTR across Germany, Great Britain, and the United States. We provide insights which components of loans contribute to a short TTR and to which extent it depends on exter-

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¹ GCD is a non profit initiative which aims to help banks to measure their credit risk by collecting and analyzing historical loss data. They are formally known as the Pan-European Credit Data Consortium (PECDC). See <http://www.globalcreditdata.org/> for further information.

nal factors such as the macroeconomic environment. Thereby, substantial differences among Germany, Great Britain, and the United States arise. These might be ascribed to discrepancies in the insolvency regimes.

While there exists a variety of analyses which examine drivers and estimation methods for the loss rate (see, e.g., Grunert and Weber, 2009; Qi and Yang, 2009; Bastos, 2010; Qi and Zhao, 2011; Loterman et al., 2012), the literature regarding the TTR is more limited even though its importance is indicated in the related analyses. Using a data base from a Portuguese bank, Dermine and Neto de Carvalho (2006) analyze recovery rates (RRs) by means of survival time analysis. Their results show the importance of the resolution process as the impact of determinants of RRs change over time. In addition, they point out the importance of the timing of cash flows during the resolution process in the presence of interest rate risk. Gürtler and Hibbeln (2013) empirically find LGDs to be positively correlated with the TTR and quicker resolution times for defaulted loans which return back to performance. Davydenko and Franks (2008) detect transnational discrepancies caused by varying legislations with respect to the LGD. This might hold true for the TTR. However, previous analyses are restricted to individual countries while data sets are usually specific regarding their origin, i.e., banks or courts. Most studies consider the bankruptcy system in the United States—in particular Chapter 11. Helwege (1999) analyzes the TTR of junk bonds using ordinary-least-square (OLS) regressions. In contrast to our analysis, he focuses on borrower specific characteristics and uses a bankruptcy portfolio of minor debtor quality. Bris et al. (2006) use a data set of bankruptcies in Arizona and New York. They run OLS and Heckman models with the log transformation of the TTR as dependent variable and find that the outcome of bankruptcy (reorganization vs. liquidation) has no influence on the TTR. Denis and Rodgers (2007) and Wong et al. (2007) apply survival methods for examining the TTR of Chapter 11 bankruptcies. Overall they detect firm size, pre-default performance and the macroeconomic environment to be important drivers for TTR while accounting information seems to be less relevant. Few analyses have been made with respect to the TTR in other countries. Focusing on Portugal, the main interest of Bonfim et al. (2012) is on access to credit after default. They find that large firms tend to have shorter TTR. This contradicts with results in the United States from Denis and Rodgers (2007) and indicates country specific differences regarding the TTR. Dewaelheyns and Van Hulle (2009) examine bankruptcies in Belgium and observe that, among others, secured debt and industry conditions play an important role for the TTR. However, none of these analyses examine transnational differences with respect to the TTR.

Hence, we try to fill this gap and contribute to the literature in three ways. First, we investigate important drivers for the TTR of loan contracts using a data base containing loans of small and medium sized entities (SMEs) from Germany, Great Britain, and the United States. Thereby, we cover two major bankruptcy regimes, i.e., Germany being traditionally creditor friendly and the Anglo American area more debtor orientated. In a second step, we examine whether deviations in the insolvency codes impact the determinants of the TTR on an inner-country basis and, thus, whether adjustments of lending regularities arise. This approach is motivated by Davydenko and Franks (2008) who show how differences in creditors' rights impact the general lending behavior in France, Germany, and the United Kingdom. Third, we analyze effects of the macroeconomic environment on the TTR. By including defaults from 2000 until 2014, our analysis covers at least one complete economic cycle.

After controlling for explanatory variables, we find that the resolution process in Germany is shortest compared to Great Britain and the United States. The TTR of American (British) loan contracts is c.p. on average 0.1 (0.5) years longer. This is in line with a higher degree of efficiency regarding the resolution of insolvency in Germany that is assigned by the World Bank. For the overall data set, we find seniority, nature of default, collateralization, industry, and the macroeconomic environment to be important determinants for the TTR. Additionally, we examine significant differences across countries. The most important results refer to collateralization and its impact on the seniority order. This seems to be driven by varying regulations regarding access to collateral during resolution and the importance of the seniority order during the bankruptcy proceeding given a certain access to collateral. Assuming easy access to collateral during resolution, its existence should reduce the TTR. In Germany, *real estate* backed loans as well as loans secured by *other collateral* types are resolved faster by 0.1 and 0.2 years, respectively. The access to collateral seems to be more complicated in the Anglo American counties as *other collateral* enhances TTR by 0.1 years and *real estate* is insignificant in the United States.

It seems that creditors are aware of these country specific features as they seek for the best safety mechanism in the limits set by the insolvency code by adjusting their lending behavior. As the access to collateral is easier in Germany compared to Great Britain and the United States, a majority of German loans is collateralized (72% general, 53% *real estate*). On the contrary, collateralization in Great Britain (67% general, 42% *real estate*) and the United States (64% general, 12% *real estate*) is less usual. Creditors in the Anglo American area seem to compensate this by demanding the highest rank in the seniority order (*super senior*). In Great Britain (44%) and the United States (84%), a higher fraction of loans exhibit the *super senior* status while German creditors do not depend on being the one and only preferred claimant (5% *super senior*). This seems to work for creditors in Great Britain as the *super senior* status reduces TTR by 1.2 years. In the United States it suffices to be among preferred claimants as no significant difference regarding TTR occurs among situations with one single and more than one (*pari-passu*) preferred claimants. However, being not among preferred claimants increases the TTR by 1.4 years.

The remainder of this paper is structured as follows. Section 2 provides the data description and descriptive statistics. Section 3 presents our main analysis. Section 4 provides several robustness tests. Section 5 concludes.

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