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Can Closer Lender-Borrower Relations Save Homes during Foreclosure?

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ABSTRACT

This study contributes to the extant research on foreclosure by focusing on the relevance of lender-borrower relations. Donald Black's theory of the behaviour of law is assessed by examining the association between revocation of compulsory sale by the lender and four different variables, proxying variations in the scope, history, and frequency of contact between the lender and the borrower. This association is modelled in a logistic regression framework of micro-level data on compulsory sale and mortgage borrowers in Sweden from 2010 to 2014. The results indicate that there are more revocations in cases that are deferred by the lender. There are fewer revocations in cases with digital banks and when there are also other creditors than the lender. These empirical findings partially confirm Donald Black's propositions about the association between the quantity of law and relational distance, and point at the importance of lender-borrower relations in explaining foreclosure outcomes.

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Mortgage; foreclosure; relational distance; lender; borrower; Donald Black

Introduction

Your home is your sanctuary. This proverb highlights the immense social value accorded to the places we live. In combination with home ownership, our homes also represent great economic value. Both these values are threatened by foreclosure. Not only can foreclosure result in over-indebtedness or economic hardship through a ruined credit rating, but foreclosure can also result in displacement of the actual physical location of the home and of social networks. It is no wonder then that the threat of foreclosure strikes at the very heart of the economic and social organization of our lives. Yet the threat of foreclosure upon mortgage delinquency need not necessarily result in the compulsory sale of the property and eviction from one's home. There are alternative solutions, such as forbearance, loan modifications, refinancing, or voluntary sale. This has been documented by numerous research efforts since the onset of the U.S. foreclosure crisis, mainly targeting the economic drivers of foreclosure outcomes (e.g., Been et al. 2013; Chan et al. 2014; Voicu et al. 2012).

From a socio-legal perspective, there is more law in cases with completed foreclosure sale and less law in other cases (compare Black 1976). The relationship between the lender

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and the borrower is important since most of the alternatives to compulsory sale require that some form of negotiations take place between the lender and the borrower. However, the relevance of lender-borrower relations has largely been neglected. How are lender-borrower relations associated with the revocation of foreclosure proceedings? To what extent do these associations correspond to Donald Black's (1976) predictions about relational distance and the behaviour of law? In this study, I answer these questions by employing an empirical investigation of micro-level data on compulsory sale cases in Sweden from 2010 to 2014. The main results are that there are fewer revocations if the mortgage lender is a digital bank and if there are also other creditors. There are more revocations if there is deferment during case proceedings. These results indicate that lender-borrower relations matter for whether a compulsory sale case is revoked, and provide partial support for Donald Black's theoretical predictions.

Foreclosure is the legal proceeding that is initiated by the mortgage lender upon default by the borrower and is aimed at selling the collateral property for the payment of the mortgage debt. If completed, foreclosures may have a major negative impact on the individual borrower and her household. This includes illness (e.g., Pevalin 2009; Pollack et al. 2011), economic hardship (Immergluck 2009, 141–145), psychological distress (Ross and Squires 2011), and social consequences (Immergluck 2009, 145–147; Ross and Squires 2011, 143–144). Additionally, beyond the individual level, foreclosures impact neighbourhoods through house price depreciation (Vernon-Bido et al. 2017) and higher levels of crime (Immergluck and Smith 2006). Thus, there is a lot to be gained if foreclosure and compulsory sale can be avoided after mortgage default.

Figure 1 illustrates that, on the European level, house prices were instable while the percentage of households that reported mortgage or rent arrears was quite stable during the study period 2010–2014. By contrast, Sweden distinguishes itself with greater annual house price increases and lower levels of arrears. Regarding the potential drivers of arrears, Swedish homeownership households were likely not experiencing negative equity. This suggests that households going into foreclosure were facing long-term affordability problems while at the same time being, for some reason, unable to downsize to a more affordable dwelling (compare Gerlach-Kristen and Lyons 2018).

Foreclosure and its repercussions is a relevant study field for housing scholars. This includes empirical studies on how counselling, mediation, bank practices, preventive measures such as loan modifications, and alternative dispute resolution are related to the outcomes of foreclosure (e.g., Agarwal et al. 2017; Collins and Orton 2010; Collins and Schmeiser 2013; Collins and Urban 2015; Collins, Lam, and Herbert 2011; Collins, Reid, and Urban 2015; Goldstein, Weidig, and Boateng 2013; Haughwout, Okah, and Tracy 2016; Kulp and Shack 2013; Reid, Urban, and Collins 2017; Schmeiser and Gross 2016; Temkin et al. 2014). This research demonstrates that there are alternative ways to resolve foreclosure than turning to the law and that, in many cases, interventions such as counselling or mediation, that directly or indirectly target the lender-borrower relationship, may be important variables in such resolutions. Still, the role and impact of variations in this relationship remain a relatively undeveloped aspect in empirical work on foreclosure outcomes. From an empirical perspective, this study is intended as a contribution to this literature. In particular, I study the significance of lender-borrower relations for foreclosure outcomes irrespective of any intervention, which is lacking in the empirical literature.

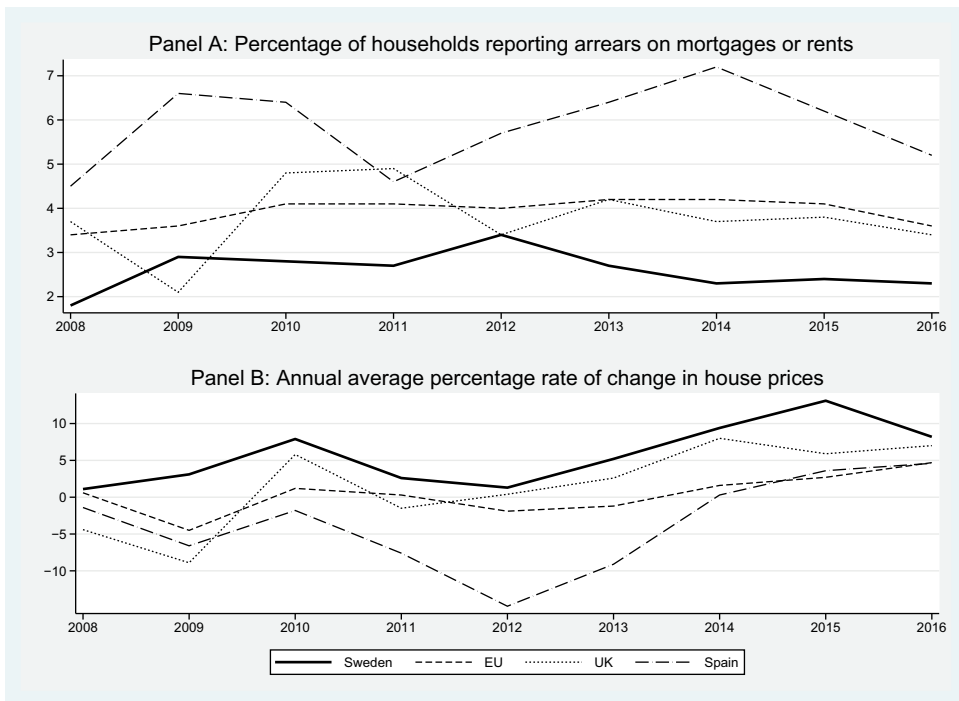


Figure 1. Mortgage and Rent Arrears and House Prices 2008–2016 in Sweden, the EU, and in select European countries. *Source:* Eurostat (Panel A: retrieved 26/10/2020 at https://ec.europa.eu/eurostat/databrowser/view/ilc_mdcs05h/default/table?lang=en; Panel B: retrieved 26/10/2020 at https://ec.europa.eu/eurostat/databrowser/view/PRC_HPI_A/default/table)

The theoretical motivation for this study draws upon Ruonavaara’s (2018) discussion regarding “theory about housing” as one potentially rewarding way to theorize within housing. Ruonavaara argues that, since housing is not a single coherent research object, a general theory of housing may be difficult to achieve. Rather, theorizing within housing may be advanced by employing theories developed outside housing on housing-related research topics. Donald Black’s (1976) sociological theory of law is one such theory. Employing this theory means that the operations of law are studied as the dependent variable. Law permeates housing in a multitude of ways which is also true for foreclosure. Black’s theory offers predictions how, and explanations why, lender-borrower relations matter for foreclosure outcomes. In this sense, I explore the relevance of the theory to increase our understanding of foreclosure as a research object relevant for housing, and its potential as a “theory about housing”.

I proceed with an outline of the foreclosure proceedings in Sweden. I then introduce Donald Black’s theoretical and conceptual contribution to the empirical study of law and define the central concepts of quantity of law and relational distance. This is followed by a review of prior empirical research on foreclosure outcomes. In the Data and Methods section, I state how quantity of law and relational distance are operationalized and how I predict that the relational variables should behave. I also account for the data set and the analytic design. In the Results section, the main focus is on how the relational variables

correspond to the predictions. In conclusion, I discuss the implications of the empirical findings that confirm the association between relational distance and quantity of law.

Foreclosure Proceedings in Sweden

Foreclosure proceedings in Sweden consist of two different phases: litigation and compulsory sale. In this section, I describe these proceedings with a focus on the specific characteristics that make lender-borrower relations relevant for their resolution.¹

Foreclosure is preceded by delinquency and default. The borrower is delinquent immediately upon not paying interest and amortization. The lender normally terminates the mortgage credit when payment is 90 days past the due date, which is the point of default. This is followed by a formal debt collection notice with a short due date, usually ten days, after which the lender may initiate foreclosure proceedings. The debt collection strategies of the major mortgage lenders in Sweden during this pre-foreclosure process are not uniform in terms of the intensity of the efforts to establish contact with the borrower. However, most lenders report that it is quite common that there is no contact with the borrower. Furthermore, while most mortgage credits are held in portfolio by the lender, as opposed to securitized (Sveriges Riksbank 2014), the Swedish lenders differ in that some have kept debt collection in-house, while other have outsourced it to external agents.²

The initial phase of foreclosures in Sweden is when the lender litigates to establish that the borrower is in default and that the collateral property is attached for the payment of the mortgage debt. That the property is attached means that the lender may proceed with a request for compulsory sale at the Swedish Enforcement Authority (SEA)³ within two months after the verdict comes into force. The lender normally litigates at SEA in summary proceedings. SEA formally serves the borrower an order to pay,⁴ which is then issued after ten days if the borrower does not contest. It comes into force after one month. Contestations are uncommon.⁵ This means that these summary proceedings at SEA take place quite quickly, provided that the service of documents is not delayed.⁶ If the borrower contests the order to pay, then the lender has to bring the case to the local municipality court. Both an order to pay and a court verdict are deficiency judgements, which means that the lender may pursue enforcement of arrears in other borrower properties or through garnishment of salary.

Compulsory sale is the final phase of foreclosure proceedings in Sweden. These cases are exclusively handled at SEA. It is important to note that SEA may attach the foreclosed property for the payment of debts to creditors other than the mortgage lender. Such debts may be ordinary consumer debt, for example credit card or tax debt. However, a consequence of the right to payment *in rem* according to the lien is that the mortgage lender gets paid ahead of other creditors.

Compulsory sale is predominantly carried out at public auction.⁷ Preliminaries include a professional market value assessment, notifications to known creditors, public announcement and marketing, and arranging viewings for prospective buyers. The lender or borrower may demand deferment at any time. SEA automatically grants deferment upon request from the lender or if the lender complies with a request from the borrower. The lender may revoke the case at any time. In the instance of revocation, the lender has to pay all costs incurred during proceedings.⁸ During the actual auction, the lender may

refuse any bid that does not result in full payment of the mortgage credit. The complete time frame for compulsory sale proceedings is usually shorter than five months.⁹

Donald Black's Theory of Law

Donald Black is an American sociologist who in 1976 wrote his seminal book on a theory for sociological study of law: *The Behaviour of Law*. The central concepts relevant for this study are the quantity of law and relational distance. Law is defined as "governmental social control" (Black 1976, 2). Social control is any response to deviant behaviour (Black 1984, 4–5). Thus, debt default is an example of deviance because it sparks social control responses. One of these responses is the initiation of foreclosure by the lender. Foreclosure in the Swedish context is an example of social control through law because it is carried out by a governmental authority (SEA). Law is but one of several forms of social control (Black 1984, 7–8, 1993, 5–6). Other forms include negotiations and settlement, which is also a prevalent response to default on mortgage debt. Furthermore, law is variable, which means that more law or less law is involved in any given case (Black 1976, 3–4). The quantity of law may be measured in various ways, including "comparisons in which one event is ranked as less or more law than a second event" (Black 1980, 211). In the case of foreclosures, there is more law if foreclosure proceedings are completed with the compulsory sale of the property. There is less law if foreclosure proceedings are discontinued due to the lender's revocation.

In Donald Black's theory, a given case may be empirically observed as variable aspects of its social configuration. These aspects, such as differences in wealth or education between the stakeholders of a case, are quantifiable. Relational distance is one of these variable aspects. Relational distance measures how intimate people are. If the relational distance between people is shorter, then they are more intimate. Relational distance varies from complete permeation to complete alienation. Relational distance is measured by "the scope, frequency, and length of interaction between people, the age of their relationship, and the nature and number of links between them in a social network," as exemplified by Black (1976, 41). The scope of relational distance between the lender and borrower in a foreclosure case signifies how intense the relationship is. This may vary according to, for example, how much information is shared or whether contacts happen physically or virtually. Variations in frequency denote the number of contacts between the lender and borrower during foreclosure proceedings. The age of the relationship refers to the historical aspect of lender-borrower contacts, for example how long the borrower has been a client at the mortgage bank or whether debt delinquency is recurrent.

With the central concepts in place, it is helpful to think about Donald Black's theory in terms of one dependent variable, which is the social fact being investigated, and several independent variables, which relate to the social configuration of the case under investigation (Black 1984). In this study, the quantity of law is the dependent variable. It is explained by the independent variables through various propositions about the relationship between the quantity of law and the social configuration of a case (Black 1976, 6–7). These propositions make up the behaviour of law. Donald Black provides propositions for all aspects of the social configuration of a case and all propositions are possible to confirm empirically. With regard to relational distance, Black states that "[t]he relationship between law and relational distance is curvilinear" (Black 1976, 41). This means that at

the extremes of intimacy there is very little or no law. As the relational distance increases, so does the quantity of law, but only up to a certain point, at which the quantity of law instead starts to decrease. This is the point where the relational distance is so great that people do not interact in any meaningful way.

This proposition about the relationship between quantity of law and relational distance applies on the foreclosure case between the lender and borrower as well. However, in a foreclosure case, the variation in the intimacy of these stakeholders is much smaller because the lender and borrower, by virtue of the mortgage credit relationship, cannot be completely alienated from each other. It also seems improbable that they should be completely immersed in each other, akin to strong family ties. Instead, I propose that the range for the variation in the relational distance between lenders and a borrowers during foreclosure proceedings is located on the upward slope of the curved line described by Black (compare Black 1993, 60–61). This means that the relationship between quantity of law and relational distance in this case can be approximated by a straight line and described by the following proposition: *In a foreclosure case, law varies directly with relational distance.*

Prior Research

In this section, I use three empirical studies to illustrate that variables pertaining to the following groupings are commonly used to predict foreclosure outcomes: borrower socioeconomic status, lender and loan characteristics, property characteristics, local socioeconomic landscape, macroeconomic market conditions, and legal regulation. These three key studies have been chosen because of their standard of excellence and because they are representative of this research field. All three studies employ borrower micro-level data as well as aggregate economic indicators in various types of regression modeling. The context for the three studies is similar in that they were part of a surge of empirical interest in foreclosure outcomes in the wake of the US subprime crises (see also, e.g., Agarwal et al. 2011; Pennington-Cross 2010; Zhang 2013; Zhu and Pace 2015).

The three studies are Been et al. (2013), Chan et al. (2014), and Voicu et al. (2012). Been and colleagues examine primarily the determinants of loan modifications for a data set consisting of both prime and subprime mortgages in New York City from 2004 to 2008. Chan and colleagues focus on the determinants of the competing outcomes loan modification, refinancing, and voluntary sale for a data set consisting of non-prime mortgages in New York City from 2003 to 2008. Their model includes both pre- and post-foreclosure outcomes. The study by Voicu and colleagues is similar the Chan study in that it models foreclosure outcomes in two stages, but stands out in relation to both the other studies because *national* US data on subprime mortgages between 2004 and 2006 are used.

The independent variables in these studies are similar. Measurements of the socioeconomic characteristics of the borrowers include credit rating, household income, educational level, family type, and race. In the Been study, the characteristics of the lender are measured using variables indicating whether the loan is securitized or not, and variables indicating servicer-fixed effects. Also the Voicu study includes the identities of the servicers. Loan characteristics include, for instance, loan purpose, principal payment time, loan-to-value ratio, how well-documented the underwriting is, how the interest rate is set (fixed versus adjusted), whether there are subprime terms, lien priority (senior versus

junior), if there is a prepayment penalty, and prior performance and current balance. Property characteristics typically focus on the type of real estate and whether it is owner-occupied. Local social and economic characteristics are aggregate measures of, among other things, unemployment and foreclosure rates, as well as housing market conditions. Macro-level economic indicators measure market conditions such as interest rate fluctuations and house price indexes. The characteristics of the legal environment surrounding foreclosures include the duration of foreclosure proceedings (see also Zhu and Pace 2015), but predominantly pertain to variations relevant in the U.S. context, such as whether judicial foreclosure is required and whether the mortgage credit is full recourse. Of the three key studies, only the Voicu study includes these variables since it is the only study with national data.

A few predictors emerge as having significant effects across all three studies, even though the results are not always intuitive. This may depend on the specific characteristics of the US mortgage credit market at the time, since two of the studies use data on subprime mortgages only. Borrower socio-economic status, the amount of equity in the house, risky loan characteristics, owner-occupancy, and local house price variations are examples of variables that are correlated with alternative outcomes to foreclosure sale. Furthermore, with relevance for the present study, foreclosure counselling is positively related with loan modifications in both the Been and the Chan studies, and Been and colleagues also find that outcomes vary across servicers.

Data and Methods

In this empirical study, I employ logistic regression analysis to evaluate predictions based on Donald Black's theory of law about the relationship between quantity of law and relational distance. Below, I describe the data and research design, including how the central concepts in Donald Black's theory have been operationalized.

Data

The data used in this study consist of unique cross-sectional micro-level data on compulsory sale cases at SEA regarding mortgage foreclosures of housing properties¹⁰ from 2010 to 2014. Each observation in the data corresponds to one case, which normally concerns one property. All cases were closed at the time of data retrieval from the SEA register. One or several borrowers may be subject to compulsory sale in a specific case since a single mortgage may have several co-borrowers. The borrowers are identified by their personal identity numbers, the Swedish equivalent of a social security number. This made it possible to merge the SEA data with borrower-level socioeconomic variables from Statistics Sweden (SCB).¹¹ The result was data with variables measured at two levels: case and borrower. Since the dependent variable is at the case level, the borrower-level variables were aggregated to the case level. The mode of aggregation is not uniform across all borrower-level variables due to their different properties. For example, household disposable income was aggregated by selecting to highest value among the borrowers in a case. Higher education was assigned value 1 if there is at least one borrower with higher education in a case. Employment was aggregated as the proportion of employed borrowers of all borrowers in a case. All modes of aggregation are specified

in [Table 1](#). This means that in the data set used in the analysis there are only variables at the case level. A specific property or borrower may be recurrent in the register.

As a context to the data in this study, [Figure 2](#) shows the number of foreclosure initiations in Sweden from 2006 to 2018 as the annual number of cases at SEA regarding order to pay from mortgage lenders and regarding compulsory sale of real estate properties. However, it should be kept in mind that these cases do not make up the complete world of foreclosure initiations, since the lenders may also turn to the civil courts to litigate. In the study data set, the total number of compulsory sale cases at SEA regarding real estate during the 2010–2014 time period was 12,792. The total number attributable to mortgage foreclosure was 5,964, of which 4,292 cases concerned housing properties. The regression sample contains 3,062 observations, which is because only cases with mortgage lenders classified as belonging to the bank types traditional, digital, and new are included.

Variables and Operationalizations

In this section, I describe the dependent and independent variables. The main focus is on the relational variables, which operationalize Donald Black's concept of relational distance. The variables, their operational definition, and their coding is summarized in [Table 1](#).

The dependent variable is a dummy variable indicating revocation of compulsory sale at SEA. This variable operationalizes the concept of quantity of law. If there is no revocation, there is more law. If there is revocation, there is less law (compare Black 1976, 2–4, 1984, 13–16). Reasons for revocations are not coded in the data. Potential reasons for revocations are either an agreement between the lender and the borrower to continue their contractual obligations, possibly with changed credit terms temporarily or permanently, or an agreement to terminate their contractual obligations involving prepayment in combination with refinancing or voluntary sale of the property (compare Voicu et al. 2012, 945). The most prevalent reasons for revocations according to debt collection officers at Swedish mortgage banks are that the borrower cures the default, sometimes involving repayment plans, and voluntary sale. Refinancing at a different bank seems to be quite uncommon.¹²

Four variables operationalize the concept of relational distance: bank type, other creditors than the mortgage lender, borrower recurrence, and deferment. I refer to these variables as the relational variables. These variables all serve as proxies for different aspects of the lender-borrower relationship in terms of the scope, frequency, and history of their mutual contacts before and during foreclosure. If there are more contacts or the contacts are more intense, their relational distance is shorter, i.e., there is more intimacy.

The bank type variable proxies variations in the scope of lender-borrower contacts by measuring to what extent bank operations are digitalized in relation to the customer. The lenders are categorized as traditional, digital, or new banks.¹³ Digital banks rely to a higher extent on digital operations in relation to their clients in the sense that they have no local branch offices.¹⁴ New banks are banks that offer mortgage credits specifically aimed at borrowers with less-than-prime characteristics.¹⁵ New banks are digitalized to the same extent as digital banks. However, the reason for singling out new banks as a distinct category is that they have different characteristics in terms of business model in

Table 1. Code Book.

Variable	Type	Operational definition	Level of Measurement	Coding	Data Source	Data level	Aggregation	Missing data
Revocation	DV	Quantity of law	Dichotomous	0 = No revocation, 1 = revocation	SEA	Case	No	No
Bank type	IV	Relational	Categorical	1 = Traditional banks, 2 = Digital banks, 3 = New banks	SEA	Case	No	No
Also other creditor(s) than mortgage lender	IV	Relational	Dichotomous	0 = No, 1 = Yes	SEA	Case	No	No
Borrower recurrence	IV	Relational	Continuous	Number of recurrent cases in relation to the same bank	SEA	Borrower	Mean	No
Deferment	IV	Relational	Dichotomous	0 = No deferment, 1 = Deferment	SEA	Case	No	No
LTV	IV	Wealth	Continuous	Loan-to-value ratio. ^a	SEA	Case	No	No
Household disposable income	IV	Wealth	Continuous	Total household yearly disposable income in Swedish crowns (SEK). Money value adjusted to year 2014.	SCB	Borrower	Max	Mean
More than one property owner	IV	Organization	Dichotomous	0 = No, 1 = Yes	SEA	Case	No	No
Higher education	IV	Culture	Dichotomous	0 = No higher education, 1 = At least one borrower in household with higher education	SCB	Borrower	Max	No
Borrower resides at property	IV	Integration	Dichotomous	0 = No, 1 = Yes (at least one borrower resides at real estate)	SCB	Borrower	Max	No
Property is rural	IV	Integration	Dichotomous	0 = No, 1 = Yes if property is located in rural municipality ^b	SCB	Case	No	No
Employment	IV	Integration	Continuous	Proportion of employed borrowers in the case, ranges from 0 to 1	SCB	Borrower	Proportion	Mean
Married household	IV	Integration	Dichotomous	0 = No, 1 = Yes	SCB	Borrower	Recorded	No
Number of children	IV	Integration	Continuous	Number of children (highest value if several borrowers in case)	SCB	Borrower	Max	Mean
Sex	IV	Status	Continuous	Proportion of male borrowers in the case, ranges from 0 to 1	SEA	Borrower	Proportion	No
Age	IV	Status	Continuous	Age in years at time of initiation of compulsory sale proceedings at SEA	SEA	Borrower	Mean	No
Birth country	IV	Status	Dichotomous	0 = All borrowers not born in Sweden, 1 = All borrowers born in Sweden	SCB	Borrower	Min	No
Year	IV	Fixed effect	Categorical	Year dummies for 2010–2014	SEA	Case	No	No
Property location	IV	Fixed effect	Categorical	Municipality dummies	SCB	Case	No	No

Note: *Type* refers to Dependent Variable and Independent Variable. Operational definition refers to aspects of the lender-borrower foreclosure case in accordance with Donald Black's theoretical concepts. *Source* refers to the Swedish Enforcement Authority (SEA) and Statistics Sweden (SCB). *Data level* specifies whether a given variable is observed at the case or borrower level in the original data. *Aggregation* specifies which type of aggregation was performed from the borrower to the case level. Mean aggregation presents mean value for all borrowers in a case. Max aggregation presents the highest value for any borrower in the case. Min aggregation presents the lowest value for any borrower in the case. Proportion aggregation presents a value for the proportion of borrowers with a specific characteristic out of all borrowers in the case. Recoded aggregation presents values according to the coding for that specific variable. *Missing data* specifies for which variables mean imputation was performed.

^aLoan includes all debt at the time of attachment of the property. The property value is calculated by multiplying the property tax value by 1.15, which is derived as follows. All real estate properties in Sweden are assigned tax values by the Tax Agency. The tax value is meant to correspond to 3/4 of the property's market value. In some cases in the regression sample ($N = 2375$), there are contemporaneous house values in the form of professional market value assessments. These are the cases that are not revoked before SEA commissions this appraisal. The ratio between market value and tax value in these cases is 1.15 at the mean ($p50 = 1.07$).

^bMunicipality is defined as rural if there are less than 15,000 inhabitants.

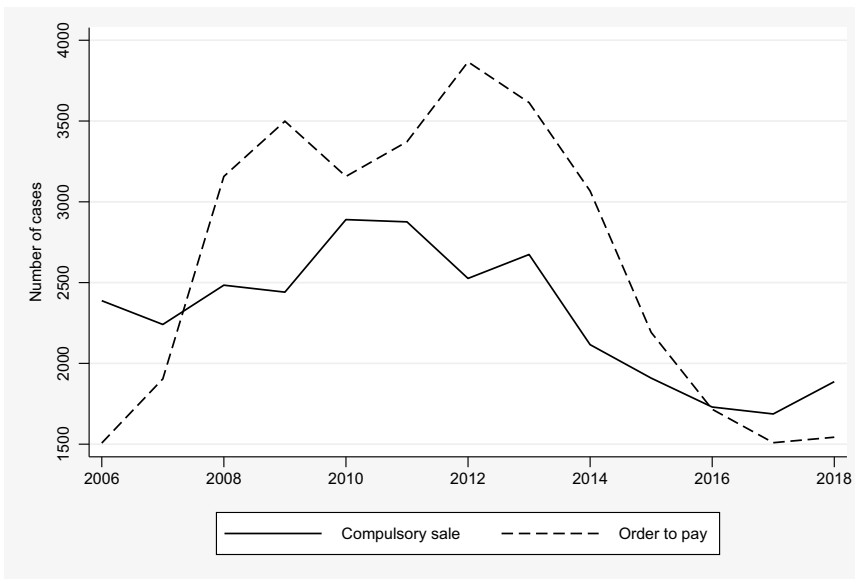


Figure 2. Foreclosures in Sweden 2006–2018. *Source:* SEA

comparison with both traditional and digital banks. The aim of the new bank category is thus to isolate any unobserved heterogeneity in relation to such factors that distinguish new banks from other digital banks. Traditional banks are negatively defined as not belonging to the other two bank types. It is important to stress that traditional banks, notwithstanding this label, are also digitalized, but still retain a local physical presence.

The reason that digital bank type is relevant for the scope of lender-borrower relations is that we may expect this digitalization of bank operations to typically influence how many contacts there are over time, the intensity of these contacts, and how they take place (compare Dietz et al. 2014; Jayawardhena and Foley 2000; Lapavitsas and Dos Santos 2008). I predict that for digital banks, there should typically be less contact over time before and after default with the borrower. Furthermore, actual real-world meetings between the bank and borrower are less likely for digital banks, which results in less-intense contacts. This means that for digital banks, the relational distance to the borrowers is typically greater.

The dummy variable for other creditors than the mortgage lender is used as a proxy for greater total relational distance between the borrower and all creditors. If the property has been attached for the payment of other debts than the mortgage debt, the borrower has to negotiate with all creditors to achieve revocation. If a single creditor denies revocation, the compulsory sale case continues. As there are multiple relationships for the borrower to deal with, the typical relational distance in this type of case is greater. The presence of a junior lien is a similar variable in extant research (e.g., Voicu et al. 2012).

Recurrence proxies variations in the history of the lender-borrower relationship. This variable measures the number of previous compulsory sale cases between the same lender and borrower. This means that, if there is recurrence, there typically have been more historical contacts than in the non-recurrent cases. More historical contacts between the lender and borrower implies a shorter relational distance. A caveat is that this

operationalization targets only the quantity of contacts, not their quality in terms of nature, content, or results. Similar attempts at modelling recurrence in previous research includes self-reported prior foreclosures (e.g., Boehm and Schlottmann 2017).

The dummy variable for deferment proxies actual contacts during the compulsory sale case. Deferment means that SEA defers compulsory sale proceedings upon request from either the lender or the borrower. Upon request from the borrower, the lender has to approve a deferment or else SEA refutes the request. In most cases, the lender requests deferment at SEA, which then automatically decides to defer proceedings. Reasons for deferment are not coded in the data, but in interviews with debt collection officers at Swedish banks, forbearance measures, such as repayment plans and voluntary sale, are mentioned.¹⁶ Even if deferment is correlated with revocation, it is not a necessary precondition for revocation. Rather, this correlation is explained by how deferment entails shorter relational distance, because, typically, the instance of deferment during compulsory sale means that there have been recent contacts between the lender and the borrower.

However, it may be objected that deferment is rather a proxy for “good” or “bad” cases in the sense that only borrowers with strong socioeconomic resources and lower debts achieve deferment. According to this line of reasoning, banks grant deferment only to these “good” borrowers because they are most likely to be able to cure mortgage default and thus make it out of foreclosure. To test this “cherry-picking” argument, I posit deferment as the dependent variable in the same logistic regression model I employ for the main analysis. If banks are cherry-picking, then we should expect variables that indicate strong borrower socioeconomic resources, and low debt to be positively related to deferment. However, the regression results do not unequivocally point in this direction.¹⁷ A few variables, such as family type and age, behave as predicted by the cherry-picking proposition. But the coefficient for the loan-to-value ratio (LTV) variable is positive, indicating that lenders are more prone to defer cases with less-wealthy borrowers. The income, education, birth country, and employment variables are all statistically insignificant. Hence, these results indicate that cherry-picking is less likely.

The remaining independent variables operationalize the other aspects of the social configuration of the lender-borrower foreclosure case in accordance with Donald Black’s theory (see Table 1). They are also consistent with the main significant predictors employed in modelling foreclosure outcomes in prior research. The logic of their operationalization is that the variables measure distances or rank positions between the lender and the borrower. There are no covariates with lender characteristics in the data. Even if there are some differences between Swedish mortgage lenders, for example pertaining to size or organizational capacity, these differences are reasonably not significant in relation to position of the borrower. This is because the lender’s superior position in terms of access to wealth, organizational resources, and expertise is so far removed from the borrower to begin with. Hence, there is principally no need to control for lender characteristics to implement the theory in the foreclosure case.

Predictions for Relational Variables

As proposed in the theory section, there is a direct positive relationship between relational distance and quantity of law in the lender-borrower foreclosure case. This means that, drawing on Donald Black, I predict that there should be more law if the relational distance between the lender and borrower is greater. In this study, more law is measured by fewer revocations.

From this theoretical proposition and the operational definitions of the relational variables, it is possible to predict how the relational variables will behave in terms of the direction of the effect on revocations. For the bank type variable, there should be fewer revocations for digital banks. There should also be fewer revocations if there are other creditors than the mortgage lender in the case. There should be more revocations if the borrower is recurrent. There should also be more revocations if there is deferment. This study aims to evaluate these predictions. Operationalizations and predictions are summarized in [Table 2](#).

Model Specification

Formally, I specify the following logistic regression:

$$\ln\left(\frac{p}{1-p}\right) = \beta_0 + \beta_1 \text{banktype}_i + \beta_2 \text{creditors}_i + \beta_3 \text{recurrence}_i + \beta_4 \text{deferment}_i + \beta_5 \text{education}_i \\ + \beta_6 \text{organization}_i + \delta_1 \text{wealth}_i + \delta_2 \text{integration}_i + \delta_3 \text{status}_i + \gamma_1 \text{year}_t + \gamma_2 \text{location}_m \\ + \varepsilon_{itm}$$

where $\ln\left(\frac{p}{1-p}\right)$ is the log-odds (logit) of the probability that a compulsory sale case i in year t and property location m is revoked, β_1 to β_4 are the coefficients for the relational variables, β_5 is the coefficient for the education variable, β_6 is the coefficient for the number of property owners variable, δ_1 to δ_3 are vectors for the remaining variables measuring the social configuration of the case, γ_1 is a fixed effect for year of application, γ_2 is a fixed effect for property location on the municipality level, and ε_{itm} is the error term. The fixed effects are not presented in the regression output.

All model specifications are presented without robust standard errors (Long and Freese 2014, 103–105). To test for the effects of clustering on bank identification, I have, in an alternative model specification, introduced robust standard errors. P-values remain significant in this specification.¹⁸

I have also estimated the regression model with alternative sub-samples to test if the relational variables are stable in the face of heterogeneity across borrowers with high versus low socioeconomic status. The sub-samples are based on high and low income and education, respectively. Coefficients for the relational variables remain stable. This is also true for the p-values, with a few exceptions for the digital bank dummy.¹⁹

Finally, I will address a few points about the limitations of the research design. The data available in this study covers only what happens during compulsory sale at SEA. Other research efforts (e.g., Chan et al. 2014; Voicu et al. 2012) demonstrate that the pre-foreclosure phase, stretching from initial delinquency to lender-borrower negotiations and debt collection measures, is also relevant for foreclosure outcomes. Access to data covering this phase would have made it possible to control for such factors. Furthermore,

Table 2. Summary of Operationalizations and Empirical Predictions for Relational Variables.

Variable	Type of Variation	Impact on lender-borrower relationship	Prediction	Predicted sign
Digital bank	Variations in the scope of contacts	Fewer and less-intense contacts during foreclosure for digital banks	Fewer revocations in cases with digital banks	Negative
Also other creditor(s) than mortgage lender	Variations in the total relational distance between the lender(s) and the borrower(s)	Fewer contacts during foreclosure if there are also other creditors	Fewer revocations in cases with other creditors	Negative
Borrower recurrence	Variations in the history of lender-borrower relations due to previous compulsory sale cases	More historical contacts if there is recurrence	More revocations in cases with borrower recurrence	Positive
Deferment	Variations in actual contacts during the compulsory sale case	More contacts during compulsory sale case if there is deferment	More revocations in cases with deferment	Positive

Note: *Type of Variation* indicates which type of variation in the lender-borrower relationship that the relational variable proxies. *Impact on lender-borrower relationship* describes how these variations are predicted to impact the lender-borrower relationship in terms of contacts. *Prediction* formulates the hypothesized relationship between the relational variable and revocations. *Predicted sign* denotes this same prediction as the expected coefficient sign in the logistic regression model.

the empirical material consists of historical data and there are potential endogeneity issues. For example, the results for the digital bank type dummy may be driven by borrower self-selection. To some extent it is possible to investigate the severity of the problem. I have tested regressing the same variables as in the main regression on bank type in a multinomial logistic model to see if socioeconomic status predicts bank types.²⁰ The results indicate that higher LTV is associated with the digital bank type. Other than that, the choice of bank type seems to be fairly neutral to socioeconomic indicators. This suggests that the result for the bank type variable in the main regression is not driven primarily by borrowers with low socioeconomic status self-selecting into the digital category. However, this does not conclusively address endogeneity and similar objections could principally be made against all independent variables in the model. To some extent, endogeneity has to be accepted in this research design which invites caution when interpreting the results.

Results

In this section, I analyse how the results of the logistic regression compare with my predictions concerning how the relational variables should behave. I present these results for each prediction separately. When I find support for a prediction, I evaluate the size of the effect. I also briefly present the results for the remaining independent variables. Initially, I provide some descriptive statistics for the regression sample.

Descriptive Results

Descriptive statistics for all variables are provided in [Table 3](#). For transformed variables, this table also includes the values for the original variables. A few things are striking about

these compulsory sale cases and the foreclosed properties. Approximately half of the cases – 47 percent – were revoked. There is deferment in 36 percent of the cases. 80 percent of the cases originate from traditional banks. New banks account for 14 percent of the cases and digital banks for 6 percent.²¹ There are other creditors than the mortgage lender in only 6 percent of the cases. The foreclosed properties do not seem to be heavily underwater, as the median LTV is 0.76 (mean = 1.10). The median debt is SEK 479,800 and the median estimated market value is SEK 693,400. The borrower resides at the property in 67 percent of the cases.

As for the socioeconomic characteristics of the borrowers, the descriptive statistics indicate that the typical borrower subject to foreclosure in Sweden is middle-aged, male, Swedish, and without higher education. The mean proportion of male borrowers in a case is 0.66. The mean age is 48 years. In 80 percent of the cases, the household is all Swedish in terms of birth country. Someone in the household possesses higher education in 21 percent of the cases. The median disposable household income is SEK 259,500 and the interquartile range is SEK 206,500. The borrower(s) are married in 38 percent of the cases. The mean number of children is 0.79. In comparison with the Swedish population, the borrowers are less wealthy and less educated (see notes in [Table 3](#)).

[Table 4](#) moves the focus to the bivariate associations between the relational variables and revocations. This provides a “raw” test of the predictions by looking at them one at a time without regression controls. According to Panel A, the share of revocations is lower in cases with digital banks and in cases with other creditors, while it is higher in cases with deferment. This indicates that the predictions for these variables are accurate. Additional support is provided by the significant differences for these three variables when comparing their shares across subgroups of cases with and without revocation. In Panel B, as expected, the shares of cases with digital banks and with other creditors are higher when there is no revocation, while it is lower for deferment. For the recurrence variable, there seems to be no discernible correlation with revocation.

Logistic Regression Results

I present the regression output in [Table 5](#) for all variables except fixed effects. Regarding bank types, the prediction is that there should be fewer revocations if the mortgage lender is a digital bank. This prediction is supported, since the coefficient for the digital bank dummy is negative and significant. In the regression model, the traditional bank type is the baseline. The size of the effect is illustrated in [Table 6](#). This table shows the average marginal effect as change in the probability of revocation when we discretely vary the relational variables one by one and hold all other variables at their observed values. It also shows how the average predicted probabilities change accordingly. The average marginal effect for comparing digital banks with traditional banks is -0.101 . This implies that, on average, the probability of revocation decreases by 0.101, from 0.471 to 0.369, when a digital bank applies for compulsory sale in comparison with a traditional bank. Revocation rates are also lower for digital banks in comparison with new banks. With regard to the comparison between new and digital banks, we observe on average an increase of 0.128, from 0.369 to 0.497, in the probability of revocation for new banks. These are substantial effects.

Table 3. Descriptive statistics.

Variable	Mean	SD	Min	Max	p25	p50	p75
Revocation	0.469	0.499	0	1	0	0	1
Traditional bank	0.801	0.399	0	1	1	1	1
Digital bank	0.056	0.230	0	1	0	0	0
New bank	0.143	0.350	0	1	0	0	0
Also other creditor(s) than mortgage lender	0.061	0.239	0	1	0	0	0
Borrower recurrence	0.136	0.462	0	6	0	0	0
Deferment	0.355	0.479	0	1	0	0	1
LTV	1.103	4.239	0.000473	167.9	0.390	0.755	1.137
Log LTV	-0.439	0.999	-7.657	5.123	-0.942	-0.281	0.128
Total debt (tSEK)	829.2	1100.1	0.9	14,539.3	238.8	479.8	975.2
Market value (tSEK) ^a	1033.4	1013.4	5.8	14,168.8	412.4	693.4	1288.1
Household disposable income (tSEK) ^b	270.9	180.9	0	2090.9	152.4	259.5	358.9
Household disposable income, centred and standardized	0	1	-1.498	10.062	-0.655	-0.063	0.487
More than 1 property owner	0.362	0.481	0	1	0	0	1
Higher education ^c	0.205	0.404	0	1	0	0	0
Borrower resides at property	0.672	0.470	0	1	0	1	1
Rural property	0.308	0.462	0	1	0	0	1
Borrower employment ^d	0.492	0.445	0	1	0	0.5	1
Married household ^e	0.378	0.485	0	1	0	0	1
Borrower's number of children ^f	0.791	1.099	0	8	0	0	1
Borrower sex	0.661	0.358	0	1	0.5	0.5	1
Borrower age	48.3	12.0	21	94	40	47	56
Borrower is Swedish ^g	0.800	0.400	0	1	1	1	1
N	3062						

Note: 1 tSEK = 1,000 SEK = €98 = \$116 (exchange rates as of 11 November 2020 according to Sveriges Riksbank <https://www.riksbank.se/en-gb/statistics/>, accessed same day). Money values adjusted to year 2014.

^aMarket value is calculated by multiplying the property tax value by 1.15 (see note ^a in Table 1).

^bThe mean disposable household income for the Swedish population aged 18+ years was tSEK 438.4 in 2014. The median income was tSEK 344.5 (Source: Statistics Sweden).

^c35 per cent of the Swedish population aged 16–74 years had higher education in 2014 (Source: Statistics Sweden).

^d58.4 per cent of the Swedish population over 16 years of age was employed in 2014 (Source: Statistics Sweden).

^e33.5 per cent of the Swedish population was married in 2014 (Source: Statistics Sweden).

^f30 per cent of the Swedish households in 2014 included children aged 0–24 years (Source: Statistics Sweden).

^g83.5 per cent of the Swedish population had Sweden as birth country in 2014 (Source: Statistics Sweden).

The prediction that there should be fewer revocations if the foreclosed property is attached for other debt than the mortgage debt is also supported. The coefficient for this dummy is negative and significant. According to Table 6, the average marginal effect for the comparison between cases with a mortgage lender only (the baseline) and cases also including other creditors is -0.113 . This means that the probability of revocation on average decreases by 0.113, from 0.476 to 0.363, holding all other variables at their observed values. It should be kept in mind that the regression model controls for total debt through the LTV variable. Accordingly, the dummy for other creditors measures an effect beyond the simple fact that more creditors implies higher debt.

According to the prediction for recurrence, there should be more revocations when the borrower is recurrent in relation to the same bank. In the regression model, the coefficient is positive, as expected. However, given the insignificant p-value for this variable, the regression analysis does not provide evidence in support of this prediction.

The final prediction for the relational variables is that deferment during foreclosure proceedings should be correlated with more revocations. In the regression model, the coefficient for the deferment dummy is positive and significant. Accordingly, the results support this prediction. Furthermore, the size of the effect is substantially stronger than

Table 4. Bivariate Associations for Relational Variables and Revocations.

	PANEL A: <i>Subgroups by relational variable</i>		PANEL B: <i>Subgroups by revocation</i>	
	<i>N</i>	<i>Share revocations</i>	<i>No</i>	<i>Yes</i>
BANK TYPE				
Traditional	2454	.46	.81*	.79*
Digital	171	.39	.06*	.05*
New	437	.54	.12*	.16*
ALSO OTHER CREDITOR(S) THAN MORTGAGE LENDER				
No	2876	.48		
Yes	186	.37	.07*	.05*
BORROWER IS RECURRENT				
No	2710	.47		
Yes	352	.46		
Mean number of cases			0.13	0.14
DEFERMENT				
No	1974	.33		
Yes	1088	.73	.18**	.55**

Note: In Panel A, the column *Share revocations* expresses shares as the number of revoked compulsory sale cases compared to the total number of cases for subgroups defined by the relational variables by row. The column *N* expresses the number of cases by row. In Panel B, the column *No* expresses shares as the number of cases with the specific trait defined by the relational variable by row compared to the total number of cases without revocation, except for Borrower recurrence which expresses mean number of cases. The column *Yes* expresses shares in the same way but in comparison with the total number of cases with revocation. *N* for the subgroup without revocation is 1,626 and *N* for the subgroup with revocation is 1,436.

T-test for difference in means for the variable Borrower recurrence is insignificant.
Significance levels for Pearson's chi-squared test of independence: * $<.01$ ** $<.001$

for the other relational variables. As seen in [Table 6](#), there is an average increase of 0.362, from 0.341 to 0.703, in the probability of revocation when comparing cases without and with deferment.

Moving now to the remaining independent variables, these variables operationalize other aspects of the social configuration of the lender-borrower foreclosure case. Just as for relational distance, Donald Black provides predictions about how these aspects are associated with the quantity of law. These predictions are not reviewed in detail here, since the focus of this study is on relational distance. However, it should be noted that many of the variables in the regression model behave as predicted by Donald Black. Drawing on these predictions, borrower wealth should be negatively associated with quantity of law (compare Black 1976, 24). This is confirmed by the negative coefficient for the main LTV variable and by the positive coefficient for the income variable. Both are significant. The same prediction applies for the status variables, which is supported by the result for the birth country variable. Furthermore, there should be less law in cases with more highly integrated borrowers (compare Black 1976, 49–50). This is confirmed by the significant and positive coefficients for the family type, employment, and residential variables. The significant and positive coefficient for the educational variable is as predicted by Black with regard to the association between quantity of culture and quantity of law (compare Black 1976, 65).

Table 5. Estimated Coefficients from Logistic Regression Model Predicting the Probability of Revocation in Compulsory Sale Cases.

	B	se	z	p	min95	max95
Bank type (baseline: Traditional)						
Digital	-0.60625	0.21550	-2.81325	0.00490	-1.02861	-0.18388
New actors	0.15304	0.13603	1.12500	0.26059	-0.11358	0.41966
Also other creditor(s) than mortgage lender						
Yes	-0.67978	0.20573	-3.30425	0.00095	-1.08301	-0.27656
Borrower recurrence	0.09745	0.10235	0.95208	0.34106	-0.10316	0.29805
Deferment						
Yes	1.90643	0.10163	18.75872	0.00000	1.70724	2.10562
More than 1 property owner						
Yes	-0.16363	0.11399	-1.43558	0.15112	-0.38704	0.05977
Log LTV	-0.42123	0.06177	-6.81976	0.00000	-0.54229	-0.30017
Log LTV # Log LTV	0.04415	0.02516	1.75451	0.07934	-0.00517	0.09347
Household disposable income, centred and standardized	0.21425	0.06089	3.51873	0.00043	0.09491	0.33359
Higher education						
Yes	0.49493	0.12113	4.08606	0.00004	0.25753	0.73234
Borrower resides at property						
Yes	0.55906	0.10545	5.30180	0.00000	0.35239	0.76573
Rural property						
Yes	-0.07834	0.92178	-0.08498	0.93228	-1.88500	1.72833
Borrower employment	0.29740	0.11735	2.53431	0.01127	0.06740	0.52740
Married household						
Yes	0.63706	0.11910	5.34906	0.00000	0.40363	0.87048
Borrower's number of children	0.02138	0.05101	0.41908	0.67516	-0.07860	0.12136
Borrower sex	-0.21423	0.13682	-1.56574	0.11741	-0.48240	0.05394
Borrower age	0.00308	0.00432	0.71177	0.47661	-0.00540	0.01155
Borrower is Swedish						
Yes	0.43811	0.12479	3.51088	0.00045	0.19353	0.68268
Constant	-2.50371	1.09693	-2.28248	0.02246	-4.65365	-0.35378
N	3062					
Chi2	1076.3					
P	>0.001					
Log likelihood	-1578.4					
Pseudo R ²	0.254					

Note: Estimated coefficients in logits. Fixed effects for year and real estate location (municipality) suppressed.

Conclusions and Discussion

This study investigates the relevance of lender-borrower relations for foreclosure outcomes. The results of this study indicate that the nature of the relationship between the lender and the borrower matters for the resolution of foreclosure proceedings. The main findings are that there are fewer revocations in compulsory sale cases with lenders that are digital banks and in cases that include other creditors in addition to the mortgage lenders. There are more revocations in cases with deferments, which proxy for the existence of a dialog between the lender and the borrower.

Deferment is by far the strongest predictor of the relational variables in terms of effect size. We should probably not be surprised by this. Deferment proxies actual negotiations during the case, while the other relational variables proxy typical characteristics of these relations (bank types and other creditors) and historical relations between the lender and borrower (recurrence). This means that deferment is something that actually happens during the case, which signifies contact between the stakeholders. For this reason, we can expect a stronger effect.

Table 6. Average Marginal Effects and Predicted Probabilities of Revocation in Compulsory Sale Cases for the Relational Variables.

Variable	Direction	Change	From	To
Bank type	Digital vs. Traditional	-0.101*	0.471	0.369
	New vs. Traditional	0.026	0.471	0.497
	New vs. Digital	0.128*	0.369	0.497
Also other creditor(s) than mortgage lender	Yes vs. No	-0.113*	0.476	0.363
Borrower recurrence	+1	0.017	0.469	0.486
	+ SD	0.008	0.469	0.477
	5% to 95%	0.017	0.467	0.483
Deferment	Yes vs. No	0.362**	0.341	0.703

Note: All estimations are based on the main regression (Table 4). *Direction* indicates discrete changes for dummy variables. For the continuous variable, this column also specifies changes by 1 standard deviation and from the 5th to the 95th percentile. *Change* indicates the average increase or decrease in the probability of revocation for a given change in the relational variable. *From* and *To* indicate how the predicted probabilities of revocation on average change for a given change in the relational variable. All other variables held at observed values. The average predicted probability of revocation is 0.469.

Significance levels: * <0.01 ** <0.001

For the variable indicating the presence of more creditors than the mortgage lender, the results show that a change from a bilateral relationship between the borrower(s) and a single creditor to a multilateral structure with several stakeholders on the creditor side is associated with fewer revocations. In a multilateral environment, the borrower has to negotiate and deal with several creditors simultaneously, since all creditors have to revoke their applications for compulsory sale to be avoided. This makes it harder for the borrower in the sense that he or she has to reach separate agreements with each creditor. SEA does not assist with this.

The results for the bank type variable, indicating fewer revocations for digital banks, tentatively attest to the importance of the scope of relational distance, i.e., the preconditions for the lender-borrower relationship in terms of the way contact takes place and the intensity of this contact. However, we have to keep in mind that this categorization is quite crude. It relies on the physical presence of local branch offices rather than on the actual level of digitalization of banks in relation to their customers generally, and to mortgage credits and foreclosure specifically. In this sense, digital banks are treated as a black box in this study, ignoring the rich diversity of digitalization trends in banking (compare Dietz et al. 2014). Furthermore, as discussed previously, this result may be driven by borrower self-selection to digital banks. Still, my results are an indication that this is an area worthy of future research.

Debtor recurrence, as a proxy for historical contacts between the lender and the borrower, was predicted to be negatively related with the propensity for foreclosure to result in completed compulsory sale. However, the recurrence variable is insignificant in the regression model. One possible reason is that this variable focuses narrowly on the *quantity* of historical contacts and does not measure the *quality* of these contacts. Depending on their nature, it is conceivable that they may bias the lender against negotiating with the borrower, rather than, as the prediction suggests, facilitating negotiations. Data on the quality of historical contacts have not been available in this study but could probably be fruitfully explored in a different empirical design.

From a practical perspective, the implication of this study is that lender-borrower relations matter for how foreclosures are resolved. More contacts, proxied by deferment in this study, are associated with more revocations. Accordingly, one key issue is to

promote contacts between the lender and the borrower during foreclosure proceedings. There are several examples of such policy interventions in the U.S. context, including mandatory negotiation (Collins and Urban 2015) and settlement conferences (Wagner 2010) or other foreclosure-prevention initiatives (Collins, Lam, and Herbert 2011). No such policies have been adapted in Sweden. However, Swedish mortgage banks are subject to Article 28 of the Mortgage Credit Directive (European Union 2014), which states that banks should exercise reasonable forbearance, as well as to the European Banking Authority's Guidelines on Arrears and Foreclosure (2015). The impact of this regulation on Swedish banks is unclear and should be monitored.

The negative relationship between digital banks and revocations indicates that contacts may be impeded by the physical location of the lender in relation to the borrower. A potential remedy is to offer the borrower local access to counselling and mediation institutions. This would provide access to a local interface with the lender, even when communicating with a digitalized bank. Additionally, these institutions may assist the borrower in contacts with other creditors since this is necessary to resolve foreclosure. These creditors are often highly professional firms within the debt collection industry. The finding in this study that there are fewer revocations in such multilateral creditor environments indicates that there is a need for such assistance.

Tentative evidence that local access may be effective is offered by Russell, Moulton, and Greenbaum (2014). In their study, they show that geographic accessibility matters for borrower disposition to complete an application for mortgage assistance. In Sweden, an institutional framework, which may provide assistance to borrowers in handling mortgage delinquency, is already in place in the form of municipal budget and debt-counselling services. By law, every municipality must offer access to such services, including assisting in contacts with creditors. However, a governmental audit in 2015 came to the conclusion that these services are not uniformly implemented across the country, resulting in variations in waiting times and preventive measures (Swedish National Audit Office 2015). There is a need to evaluate the effectiveness of debt-counselling services in Sweden and consider how to make best use of them in order to promote more mutually beneficial lender-borrower relationships.

Notes

1. Gerardi, Lambie-Hanson, and Willen (2013) consider the characteristics of foreclosure legal proceedings in the U.S. context. See also Taylor Poppe (2016, 811, 813) and Wagner (2010, 424, 434).
2. This section on the pre-foreclosure process is based on the author's key-informant interviews with debt collection officers at seven of the major Swedish mortgage banks or their appointed agents in 2018–2019. See also Finansinspektionen (2012, 10). The legal regulation regarding termination of mortgage credits is located in the 2010 Consumer Credit Act (*Swe. Konsumentkreditlagen*, SFS 2010:1846).
3. Swe. Kronofogdemyndigheten (www.kronofogden.se).
4. Swe. Betalningsföreläggande.
5. Borrowers contested about 9 percent of the applications for order to pay from mortgage lenders in 2016–2018 (*Source*: SEA).
6. The median number of days from application to order to pay in mortgage lender cases at SEA varied between 65 and 70 days in 2016–2018 (*Source*: SEA).

7. SEA may sell the property by commissioning a real estate broker. This is quite uncommon.
8. These costs include costs for market value assessment and for enforcement proceedings according to the legal regulation. Typical costs for a housing property amount to about SEK 20,000–40,000. Costs can be higher in urban areas due to higher tax values for the real estate.
9. The median number of days from initiation at SEA until first auction was 116 days for all compulsory sale cases between 2010 and 2014. The medium number of days until revocation was 79 days for the same time period. Source: SEA.
10. Housing real estate includes both residential and recreational/vacation properties.
11. This study has been subject to ethical vetting.
12. Source: Key-informant interviews (see footnote 2).
13. There is a total of 13 mortgage lenders in the regression sample, including the local savings banks, which are classified as one lender. Four lenders are classified as digital and two lenders as new.
14. The classification of banks as digital relied on time-series data on the number of branch offices. Source: The Swedish Bankers' Association (www.swedishbankers.com).
15. New banks were identified by the author by reviewing what types of mortgage credit products each bank offers on their public websites. New banks target customers who have been rejected by other banks, who have impaired credit records, or who are subject to enforcement at SEA. There is no subprime market for mortgage credit in Sweden *per se* (Hullgren and Söderberg 2013, 214), but the emergence of “niche players” is recognized (Swedish Competition Authority 2013, 49). This is supported by anecdotal evidence in the daily press; see, for example, article by Caroline Neurath and Patricia Hedelius on 11 September 2015, in *Svenska Dagbladet* (“Småbanker blir rika på utsatta kunder.”, retrieved 6 December 2017, from <https://www.svd.se/smabanker-bli-snabbt-rika-pa-utsatta-kunder>) and by Dan Lucas on 13 April 2018, in *Dagens Nyheter* (“Boräntor sänks när nya långivare kommer.”, retrieved 17 April 2018, from <https://www.dn.se/ekonomi/borantor-sanks-nar-nya-langivare-kommer/>).
16. Source: Key-informant interviews (see footnote 2).
17. Regression results are provided in Table A1 in the Appendix.
18. Regression output is available on request from the author.
19. Regression output is available in Tables A2 and A3 in the Appendix.
20. Regression output is available in Table A4 in the Appendix.
21. The market shares for the four major traditional banks corresponded to approximately 80 percent of the Swedish market for mortgage credits in December 2013 (Svenska Bankföreningen 2014).

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Appendix

Table A1. Estimated Coefficients from a Logistic Regression Model Predicting the Probability of Deferment in Compulsory Sale Cases.

	b	se	z	p	min95	max95
Bank type (baseline: Traditional)						
Digital	−0.06243	0.18792	−0.33223	0.73971	−0.43076	0.30589
New actors	−0.16321	0.12436	−1.31242	0.18938	−0.40695	0.08053
Also other creditor(s) than bank						
Yes	0.28268	0.17731	1.59430	0.11087	−0.06484	0.63020
Borrower recurrent (same bank)	−0.20252	0.10038	−2.01751	0.04364	−0.39926	−0.00578
Log LTV	0.09435	0.05651	1.66956	0.09501	−0.01641	0.20511
Log LTV # Log LTV	0.03841	0.01927	1.99302	0.04626	0.00064	0.07618
Household disposable income, centred and standardized	0.01614	0.05435	0.29692	0.76653	−0.09039	0.12267
More than 1 property owner						
Yes	0.02280	0.10318	0.22101	0.82508	−0.17943	0.22503
Higher education						
Yes	0.06796	0.10852	0.62626	0.53114	−0.14473	0.28066
Borrower resides at property						
Yes	0.49385	0.09955	4.96104	0.00000	0.29875	0.68896
Rural property						
Yes	0.71938	0.78335	0.91835	0.35844	−0.81595	2.25471
Borrower employment	0.08667	0.10920	0.79368	0.42738	−0.12735	0.30069
Married household						
Yes	0.57765	0.10852	5.32306	0.00000	0.36496	0.79034
Borrower's number of children	0.04620	0.04543	1.01683	0.30924	−0.04285	0.13524
Borrower sex	−0.37527	0.12668	−2.96242	0.00305	−0.62356	−0.12699
Borrower age	0.00952	0.00404	2.35943	0.01830	0.00161	0.01743
Borrower is Swedish						
Yes	0.13449	0.11324	1.18765	0.23497	−0.08746	0.35645
Constant	−1.78057	0.94665	−1.88091	0.05998	−3.63597	0.07483
N	2972					
chi2	348.7					
p	>0.001					
Log likelihood	−1774.5					
Pseudo R2	0.0895					

Note: Estimated coefficients in logits. Fixed effects for time and real estate location (municipality) suppressed.

Table A2. Estimated Coefficients from Logistic Regression Models Predicting the Probability of Revocation in Compulsory Sale Cases with Subsamples Based on High/Low Income.

	Full	High income	Low income
Bank type (baseline: Traditional)			
Digital	-0.606** (0.215)	-0.662* (0.314)	-0.534 (0.343)
New actors	0.153 (0.136)	0.167 (0.194)	0.400+ (0.241)
Also other creditor(s) than bank			
Yes	-0.680** (0.206)	-0.623+ (0.331)	-0.775* (0.316)
Borrower recurrent	0.0974 (0.102)	0.252 (0.213)	-0.157 (0.146)
Deferment			
Yes	1.906** (0.102)	1.790** (0.156)	2.341** (0.168)
N	3062	1446	1412
Chi2	1076.3	563.3	504.7
Degrees of Freedom	278	231	218
Log likelihood	-1578.4	-715.8	-706.2
P	>0.001	>0.001	>0.001
Pseudo R2	0.254	0.282	0.263

Note: Estimated coefficients in logits. Standard errors in parentheses under their respective coefficients. The full model is the same model as the main regression model in Table 4. The high income model is estimated using a subsample of cases with household disposable income higher than the median value. The low income model is estimated using a subsample of cases with household disposable income equal to or lower than the median value. All other variables, fixed effects for year and real estate location (municipality), and constant suppressed in all models.

Significance levels: + $p < 0.10$, * $p < 0.05$, ** $p < 0.01$

Table A3. Estimated Coefficients from Logistic Regression Models Predicting the Probability of Revocation in Compulsory Sale Cases with Subsamples Based on High/Low Education.

	Full	High education	Low education
Bank type (baseline: Traditional)			
Digital	-0.606** (0.215)	-0.339 (0.528)	-0.539* (0.260)
New actors	0.153 (0.136)	0.118 (0.412)	0.181 (0.157)
Also other creditor(s) than bank			
Yes	-0.680** (0.206)	-0.955+ (0.507)	-0.724** (0.259)
Borrower recurrent	0.0974 (0.102)	0.332 (0.257)	-0.00520 (0.126)
Deferment			
Yes	1.906** (0.102)	1.938** (0.307)	2.070** (0.119)
N	3062	495	2392
Chi2	1076.3	223.8	869.1
Degrees of Freedom	278	130	262
Log likelihood	-1578.4	-229.5	-1209.5
P	>0.001	>0.001	>0.001
Pseudo R2	0.254	0.328	0.264

Note: Estimated coefficients in logits. Standard errors in parentheses under their respective coefficients. The full model is the same model as the main regression model in Table 4. The high education model is estimated using a subsample of cases with value = 1 for the education dummy. The low education model is estimated using a subsample of cases with value = 0 for the education dummy. All other variables, fixed effects for year and real estate location (municipality), and constant suppressed in all models.

Significance levels: + $p < 0.10$, * $p < 0.05$, ** $p < 0.01$

Table A4. Estimated Coefficients from Multinomial Logistic Regression Model Predicting the Probability of Bank Type in Compulsory Sale Cases.

	b	se	z	p	min95	max95
Digital bank type						
Also other creditor(s) than bank						
Yes	1.20992	0.22353	5.41286	0.00000	0.77182	1.64803
Borrower recurrent (same bank)	-0.45055	0.26298	-1.71323	0.08667	-0.96600	0.06489
Deferment						
Yes	-0.05157	0.16954	-0.30420	0.76098	-0.38386	0.28071
More than 1 property owner						
Yes	0.54279	0.19055	2.84857	0.00439	0.16932	0.91626
Log LTV	0.16444	0.09116	1.80392	0.07124	-0.01422	0.34310
Log LTV # Log LTV	0.01065	0.03404	0.31293	0.75434	-0.05607	0.07738
Household disposable income, centred and standardized	0.10118	0.08962	1.12895	0.25892	-0.07448	0.27684
Population change	0.00001	0.00005	0.19425	0.84598	-0.00009	0.00011
Borrower resides at property						
Yes	0.12334	0.18915	0.65205	0.51437	-0.24740	0.49407
Borrower employment	0.01439	0.21131	0.06808	0.94572	-0.39977	0.42854
Married household						
Yes	0.28750	0.19962	1.44021	0.14981	-0.10375	0.67875
Borrower's number of children	-0.03683	0.08625	-0.42709	0.66932	-0.20587	0.13220
Higher education						
Yes	0.00057	0.19308	0.00293	0.99766	-0.37786	0.37899
Borrower sex	-0.28607	0.25477	-1.12285	0.26150	-0.78540	0.21327
Borrower age	0.01287	0.00776	1.65813	0.09729	-0.00234	0.02809
Borrower is Swedish						
Yes	-0.02356	0.20134	-0.11704	0.90683	-0.41818	0.37105
Constant	-3.66328	0.58980	-6.21105	0.00000	-4.81927	-2.50729
	<i>b</i>	<i>se</i>	<i>z</i>	<i>p</i>	<i>min95</i>	<i>max95</i>
New bank type						
Also other creditor(s) than bank						
Yes	-1.88552	0.46786	-4.03009	0.00006	-2.80251	-0.96853
Borrower recurrent (same bank)	0.12854	0.11647	1.10364	0.26975	-0.09974	0.35682
Deferment						
Yes	-0.09433	0.11442	-0.82444	0.40969	-0.31858	0.12992
More than 1 property owner						
Yes	-0.37055	0.13133	-2.82160	0.00478	-0.62795	-0.11316
Log LTV	0.09036	0.08251	1.09518	0.27344	-0.07136	0.25209
Log LTV # Log LTV	-0.11243	0.04343	-2.58895	0.00963	-0.19755	-0.02732
Household disposable income, centred and standardized	0.30948	0.06442	4.80436	0.00000	0.18323	0.43574
Population change	0.00004	0.00004	0.96995	0.33207	-0.00004	0.00011
Borrower is residential						
Yes	0.72993	0.13380	5.45547	0.00000	0.46769	0.99217
Borrower employment	0.35254	0.13685	2.57615	0.00999	0.08432	0.62076
Married household						
Yes	0.22312	0.13945	1.59998	0.10960	-0.05020	0.49644
Borrower's number of children	-0.04869	0.05588	-0.87138	0.38355	-0.15821	0.06083
Higher education						
Yes	-0.21592	0.14120	-1.52916	0.12623	-0.49268	0.06083
Borrower sex	-0.63660	0.15449	-4.12071	0.00004	-0.93939	-0.33381
Borrower age	-0.00110	0.00531	-0.20704	0.83598	-0.01151	0.00931
Borrower is Swedish						
Yes	-0.00340	0.14211	-0.02393	0.98091	-0.28194	0.27513
Constant	-2.26020	0.40296	-5.60892	0.00000	-3.04999	-1.47040
N	3062					
chi2	257.6					
p	>0.001					
Log likelihood	-1758.5					
Pseudo r2	0.0682					

Note: Estimated coefficients in logits. The baseline category is the traditional bank type. Population change variable measures change in number of municipality inhabitants compared to preceding year. Fixed effects for year suppressed.