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285

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DISRUPTED LENDING RELATIONSHIP AND BORROWER'S STRATEGIC DEFAULT: EVIDENCE FROM THE TOURISM INDUSTRY DURING THE GREEK ECONOMIC CRISIS

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Abstract

Using a sample of bank loans to firms operating in the tourism industry for the period 2010-2015, and regional variation of tourism activities to identify the strategic defaulted firms, we examine the impact of Greek banks consolidation on the firms' payment behavior. We show that a merger-induced impairment of the lending relationship is related to a higher likelihood of strategic default by the target bank's borrowers. In contrast, mergers with a limited impact on the lending relationship have no effect on the probability of strategic default of target bank's borrowers. The results highlight the importance of relationship lending benefits in strategic default decisions. Our findings are robust to the alternative interpretation of soft budget constraints.

JEL-classification: G21, G32, G33

Keywords: Bank consolidation, strategic default, lending relationship.

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1 Introduction

When a firm's loan is transferred to another bank, following a bank merger, acquisition or resolution, the firm-bank relationship is likely to undergo structural changes. Specifically, bank consolidation is associated with the replacement of the target bank's management (Hadlock, Houston and Ryngaert (1999)), the adoption of structures and policies of the acquirer (Peek and Rosengren (1998)) and an increase in organizational complexity (Ogura and Uchida (2014)). Such actions may engender the loss of valuable soft information, reflecting negatively on the relationship benefits drawn by the target bank's borrowers. On the other hand, consolidated banks, having more market power and, presumably, higher efficiency, may actually benefit certain types of borrowers, especially small firms, by offering lower priced loans (i.e. Sapienza (2002), Erel (2006)).

The reaction of the target bank's borrowers to the acquisition of their bank and the ensuing changes in their bank relationship remains so far unexplored by the literature. If relationship benefits, such as credit availability and enhanced loan terms, provide a strong incentive to borrowers to service their debts by increasing the implicit cost of default, (Bolton and Scharfstein (1990)), the following questions arise: Does the consolidation-induced disruption to the firm-bank relationship prompt firms to alter their payment behavior? Can consolidating banks ensure that firms' payment behavior remains unaffected by minimizing the disruption?

This paper tries to answer empirically the above research questions. To this end, we use a proprietary data set of bank loans to Greek firms operating in the tourism industry for the period 2010-2015 to examine the impact of the consolidation of the Greek banking sector on the firms' payment behavior in the course of the Greek economic crisis.

The Greek crisis offers a unique opportunity to examine the opportunistic behavior of firms when their relationship with the bank experiences structural changes, for two reasons. First, the deep and protracted recession of the Greek economy culminated in a severe banking crisis leading to a large wave of consolidation. Importantly, the restructuring of the banking system involved two different forms of assets and liabilities transfers to the four largest, so-called "systemic", banks. Specifically, the transfer of assets was either part of an acquisition

of a going-concern (operating) bank by a systemic bank or the result of a resolution process, i.e. the transfer of selected assets and liabilities from a resolved (non-operating) bank to a systemic bank.

Such a differentiation in the way of consolidation has an important implication on the firm-bank relationship. Resolved (non-operating) target banks had a significantly lower market value, compared to operating target banks, before their acquisition. This divergence is indicative of the failures observed among resolved banks including cost inefficiency and poor management performance that were significantly less obvious among the operating target banks. It also implies that the restructuring required to improve efficiency and, consequently, the magnitude of disruption to the firm-bank relationship was substantially higher for resolved, compared to operating, target banks. Indeed, published figures on the cumulative reduction of target banks' personnel and branches in the two-year post-absorption period showed a significant differentiation between operating and resolved target banks. This heterogeneity in the level of the firm-bank relationship disruption allows us to identify empirically the role of lending relationship benefits on the firm's repayment behavior.

Second, by focusing on Greek firms operating in the tourism industry, we are able to identify strategic default behavior. Given the sector's high dependence on foreign tourists (who account for more than 90% of total revenues), the firms operating in the tourism industry were relatively shielded from the Greek economic crisis and the substantial decrease in domestic demand which accompanied the fiscal consolidation and internal devaluation over the period 2010-2015. Figure 1 shows that during the Greek crisis, real GDP in Greece declined by 25%. In contrast, receipts from tourism at constant prices declined by 10% in 2010, but increased substantially after 2012, so that by 2015 they had exceeded their pre-crisis level by 25%. The diverging performance of the Greek tourism sector compared to the rest of the economy suggests that hospitality firms that have defaulted on their loan payments are less likely to have suffered from financial distress.[1]

[Insert Figure 1 About Here]

[1] Empirical evidence using Greek loan and firm data shows that one out of six firms with non-performing loans across all sectors of the economy was a strategic defaulter during the crisis (Asimakopoulos et al. (2017)).

Our empirical research design uses regional hotel occupancy rates and other tourism activity data that are exogenous to the firm to proxy the firm's ability to pay and, hence, to identify the unobserved strategic defaulters. In this way, we ensure that the firm's ability to pay is not approximated by the endogenous financial performance reported by the firm's management. Furthermore, we use a difference-in-difference estimation method to control for any confounding unobserved factors that are likely drivers of borrowers' payment behavior.

We find that firms with loans transferred from a resolved bank to a systemic bank were more likely to strategically default after their transfer to the new bank. Specifically, a firm with a loan from a resolved bank that was absorbed by a systemic bank had approximately 5.5 percentage points higher probability to strategically default compared to existing borrowers of the systemic bank. In contrast, loans transferred from an operating bank to a systemic bank exhibited a lower probability to strategically default. In particular, a firm with a loan from a bank absorbed by a systemic bank had approximately 11.3 percentage points lower probability to strategically default if the acquisition involved an operating bank compared to a non-operating bank. Finally, when we compare loans transferred from an operating bank to a systemic bank with the existing borrowers of the systemic bank, we find no difference in payment behavior. We therefore conclude that the higher disruption of the firm-bank relationship and, thus, the higher loss of relationship benefits implied in the case of resolved banks, but not in the case of operating banks, is the incentive for the firm to strategically default on its bank debt.

An alternative interpretation to our findings is the soft budget constraint hypothesis that a financially insolvent borrower with a strong relationship with the bank is more likely to receive credit to forestall its default (Boot (2000)) or extract rents and secure future business in return (Schäfer (2019)). Since target banks and especially the resolved banks were, as argued above, considerably more inefficient compared to the systemic banks, it is reasonable to assume that they had more insolvent borrowers in their portfolios. In this case, loan transfers could yield an increase in the number of target bank borrowers defaulting, because the (consolidated) systemic bank management abstained from extending loans to financially distressed firms. However, there are strong grounds for rejecting this alternative interpretation. First, the reported results indicate an increase in defaults among financially solvent

borrowers, i.e. the strategic defaulters, and not an increase in defaults among insolvent borrowers as implied by the soft budget hypothesis. Second, direct comparison between the target bank's borrowers and the systemic bank (existing) borrowers reveals that target banks did not have more insolvent borrowers in their portfolios compared to systemic banks.

Finally, we examined the payment behavior of borrowers common to the target and the acquiring bank and found no significant increase in their strategic default probability. Thus, we conclude that the increase in the strategic default rate observed among the targeted banks' exclusive borrowers but not observed among the targeted banks' borrowers with a pre-existing relationship with the systemic bank derives from the discontinuation of the firm-bank relationship benefits experienced by the former but not by the latter group.

Our paper relates mainly to two strands of the literature. The first one is the rich literature of relationship banking (see Boot (2000), Srinivasan (2014) and Duqi et al. (2018)). Customer relationships arise between banks and firms because, in the process of lending, a bank learns more about its own customers (Sharpe (1990)). For example, the lender learns about the firm's sales by monitoring the cash flowing through its checking account or by factoring the firm's accounts receivables (Petersen and Rajan (1994)). By spreading the information production costs implied by a borrower over multiple products, lenders reduce the cost of providing loans and thus increase loan availability and lower the collateral requirements benefiting the borrowers (Petersen and Rajan (1994); Berger and Udell (1995)). Furthermore, relationship lending alleviates credit constraints during a downturn, especially for small and opaque firms (Beck et al. (2018)), leading to lower default rates (Fiordelisi et al. (2013)).

However, empirical studies provide evidence that bank consolidation may have a detrimental effect on the relationship benefits. Specifically, consolidating banks tend to reduce the amount of lending or terminate lending relationships, possibly due to the re-evaluation of existing borrowers (e.g., Berger et al. (1998); Focarelli et al. (2002); Sapienza (2002); Carow et al. (2006); Bonaccorsi di Patti and Gobbi (2007); Degryse et al. (2011), Fraisse et al. (2018)). These detrimental effects occur due to the loss of soft information following a merger-induced increase in the organizational complexity (Erel (2011), Ogura and Uchida (2014)). Furthermore, studies show that the consolidated banks adopt the credit policies of the acquirer (Peek and Rosengren

(1998)) and result in the replacement of the target's management (Hadlock, Houston and Ryngaert (1999)). These organizational changes may have an adverse impact on payment behaviour (Allen Damar, and Martinez-Miera (2016)) by leaving transferred borrowers confused or dissatisfied with the new post-transfer reality (Karceski et at 2005). Nevertheless, cost cutting is neither universal nor inescapable. If a merged bank evaluates that the accumulation of soft information yields future profits that exceed the efficiency gain resulting from a personnel cut, then the bank would try to preserve the information production capacity (Ogura and Uchida 2014). As such, the extent of disruption of the targeted bank's relationship with the borrowers is determined by the trade-off between cost cutting and the profits from continuing the relationship with the transferred borrower.

Our paper contributes to this literature by exploring the impact of the consolidation-induced disruption to relationship banking on the borrower's payment behavior. Specifically, by exogenously controlling for the ability of the firm to service its debt using the instrumented firm's z-score, we provide evidence that the transfer-induced impairment of the firm-bank relationship affects the borrower's willingness to pay back its loan debt. Moreover, the results in this study suggest that, during consolidation, the loan transfer effect on the default risk depends on the degree of the impairment to the firm's relationship with the bank.

Our paper also contributes to a growing but still limited literature of firm's strategic default decision.[2] In particular, most of the studies in the corporate literature on strategic defaults investigate how the incentives to strategic default affect corporate choices, capital structure, asset prices and equity risk (see for example Davydenko and Strebulaev (2007), Garlappi et al. (2008), Garlappi and Yan (2011), Favara et al. (2012), Valta, (2016)). The empirical literature of the determinants of strategic default has explored the role of contractual characteristics on the opportunistic behavior of borrowers (e.g. Edelberg 2004; Mayer et al. 2014). Moreover, empirical evidence suggests that the lender's financial status is another driver of strategic default, since firms will opt to default on loans issued by frail banks (Schiantarelli et al. (2020)).

[2] Note that most of the empirical evidence on strategic default comes from the consumer credit market (i.e. Guiso et al. (2013), Elul et al. (2010), Fay et al. (2002), Gross and Souleles (2002), Deng et al. (2000)).

The role of relationship benefits on the payment behavior of borrowers has been investigated theoretically. Specifically, Hart and Moore (1994) argue that borrowers' opportunistic behavior manifests when liquidation is too costly. To mitigate this risk, lenders commit to terminate funding. According to Bolton and Scharfstein (1990), lenders discipline borrowers by putting forward the penalty to withhold future finance rather than liquidating existing assets in case of non-payment of debt. Implicitly, indebted borrowers would forgo the benefits of strategic default if such an opportunistic behavior hurts the benefits of increased credit availability and enhanced debt terms resulting from the relationship banking. Our findings confirm empirically the important mitigation role of relationship benefits in firms' strategic default risk. The results also corroborate earlier studies of consumer loans implying that the potential value of bank relationship to the households reduces their incentives to default (Puri et al. 2017). Our study provides an explicit link between firm-bank relationship and firm's decision to strategically default.

The implications of our findings are important to bank managers and policymakers, especially in bank-dependent European economies where the discussion for further consolidation of the banking sector is fuelled by persistent low bank profitability.[3] We suggest that, bank consolidation should aim to maintain the relationship of target banks' borrowers to avoid the negative side effect of opportunistic payment behavior. Moreover, the findings are relevant to the secondary loan markets participants. We posit that loss of relationship benefits from loan sales will reduce the affected borrowers' incentives to pay back these loans.[4] This implication can give rise to inefficiencies that are likely to impede the loan market's functioning.

The remainder of the paper is structured as follows: In section 2, we provide a description of the structural changes in the banking sector during the Greek economic crisis. Section 3 describes the data used in the empirical analysis. The empirical framework and the results are presented in section 4. We conclude with a discussion

[3] See indicatively the speech of the Chair of the Supervisory Board of the ECB on banks' profitability and the need for consolidation https://www.bankingsupervision.europa.eu/press/speeches/date/2020/html/ssm.sp200610~27b3ba0a0d.en.html

[4] Dahiya, Puri and Saunders (2003) find that a significant proportion of firms, whose loans are sold, file for bankruptcy within 3 years of the loan sale announcement. Interestingly, these firms are not the worst-performing firms in their industry at the time of the loan sale.

of our findings and their implications for banks, firms and supervisory authorities in section 5.

2 Bank consolidation and bank-firm relationship disruption

The Greek economic crisis was the catalyst for a structural transformation of the domestic banking system. The unprecedented increase of nonperforming loans precipitated the significant consolidation of the sector.[5] Indicatively, non-performing loans that amounted to 14 bn euros at the end of 2008 (or 5.7% of total loans) jumped to 68 bn euros (31%) at the end of 2012, climbing to an all-time high of 107 bn euro (49%) at the end of March 2016. Additionally, banks suffered from the erosion of their capital (close to 38 bn euros) due to losses on their sovereign bond holdings following the banks' participation in the Greek public debt restructuring in 2012.[6]

In this environment of limited capital resources, the banking map was redrawn by eliminating spare capacity and taking advantage of economies of scale leading to a more resilient banking system. As part of the second economic adjustment programme for Greece, the Bank of Greece carried out an assessment of the banking sector using a broad range of regulatory and business criteria including, inter alia, shareholders' soundness and willingness to inject new capital, quality of management, reliability of risk management systems as well as capital, liquidity, and profitability metrics.[7]

The strategic assessment identified four "systemic banks", which were deemed suitable candidates for recapitalisation using public funds. In contrast, the "non-systemic", mostly smaller, were absorbed by one of the four systemic banks. However, the consolidation of the banking system occurred in two distinct ways: a number of smaller banks, deemed non-viable by the supervisor authority, were resolved and their assets and liabilities were subsequently absorbed by the systemic

[5] For a detailed analysis of the events surrounding the Greek crisis see https://www.bankofgreece.gr/Publications/The%20Chronicle%20Of%20The%20Great%20Crisis.pdf and Gourinchas et al. (2017).
[6] For more details on the Greek debt restructuring, see https://www.esm.europa.eu/content/what-was-private-sector-debt-restructuring-march-2012.
[7] For a comprehensive analysis of the restructuring of the Greek banking system, see https://www.bankofgreece.gr/Publications/Report_on_the_recapitalisation_and_restructuring.pdf

banks, while some other banks were directly acquired by the systemic banks as going-concern (operating) banks.

In total, the restructuring of the Greek banking system involved the absorption of deposits and loans of eleven commercial banks and seven cooperative banks by the four systemic banks. As a result of this consolidation process, between 2010 and 2015 banks reduced personnel expenses by 27% and the number of their branches by 36% on average. Nevertheless, cost cutting was not uniform. Resolved (non-operating) target banks were characterised by lower cost efficiency, insufficient management performance and underinvestment in risk management compared to the going-concern (operating) target banks. The difference in the inefficiencies between resolved and operating target banks is manifested in the market capitalization to book equity ratio. Specifically, for the operating target banks the market to book ratio was more than four times bigger compared to the resolved target banks' ratio, one year before the acquisition of the target bank from a systemic bank. Thus, operational cost reductions, involving employee turnover and reallocation, were more profound among those banks that were resolved. Indicatively, the cumulative reduction of personnel and number of branches for the case of the largest absorption of an operating bank by a systemic bank in the two-year post-absorption period amounted to 18% and 15%, respectively, while for the case of resolved banks the comparative figures were nearly double. Moreover, resolved banks underwent significant organisational changes to improve management performance as well as changes in the data processing and internal borrower evaluation systems.

Severe personnel cut or relocation and branch closures mean that valuable soft information of the target banks' borrowers may have been lost, causing a permanent impairment of the underlying bank-firm relationships and the implied benefits. In contrast, when the restructuring involved the absorption of assets, liabilities and personnel from an operating bank, the disruption to employee turnover or loan-data monitoring systems was less severe, implying that there was no significant loss of soft information and most of the benefits from relationship lending were preserved.

We exploit the heterogeneity in the magnitude of the consolidation-induced disruption to the bank-firm relationship between non-operating and operating banks to examine the role of relationship benefits on the firm's strategic decision to default on its bank debt.

3 Data and sample

3.1 Sample selection

The empirical analysis uses a unique proprietary database of business loans, based on data submitted to the Bank of Greece by domestic banks. We focus on eight commercial banks with significant exposure to the tourist industry whose loans were transferred and three systemic banks that absorbed these loans.[8] Five of the acquired banks were resolved (non-operating) at the time of the transfer while the other three were operating at the time of the acquisition.

The loan database contains annual data over the period 2010 to 2015 on outstanding corporate loans exceeding 1 million euro for companies domiciled in Greece.[9] For the purposes of the analysis, we exclude off-balance sheet items, such as letters of guarantee and loan exposures that are reported by non-banking financial institutions (e.g. leasing, factoring) or subsidiaries. The database also includes the amount, if any, that is 90 days past due and the value of associated collateral, primarily tangible assets (e.g. real estate), but also financial collateral. The loan database is supplemented with financial information retrieved from ICAP, a Greek business information provider. The ICAP database includes accounts and ratios from the published annual financial statements of the companies. For smaller in size companies for which no information was available in the ICAP database, data were hand collected from the General Commercial Registry.

We focus on firms operating in the tourism sector by selecting those firms whose main activity is accommodation and food services according to the statistical classification of economic activities in the European Community (NACE code). After merging the loan and financial databases, our loan sample comprises 2,219 firm-bank-year observations that correspond to 351 unique firms. The transferred firms consist of 752 firm-bank-year observations that correspond to 120 unique firms while the systemic banks' existing borrowers comprise 1,467 firm-bank-year observations that correspond to 231 unique firms. Common borrowers defined as firms with loans from

[8] The fourth systemic bank did not acquire any portfolio of loans related to the tourism industry and therefore it is omitted from the analysis.

[9] Banks report total exposures per business customer, provided that they exceed 1 million euro. However, according to the Bank of Greece's Governor Acts, if one of the connected borrowers has an exposure that exceeds 1 million euro, banks report the exposures of all the connected borrowers, irrespective of the size of individual exposures.

both the systemic (acquiring) bank and the acquired bank, are excluded from the sample, but used for robustness tests subsequently. Among the transferred firms, we have 548 firm-year observations, corresponding to 92 unique firms whose loans were transferred from a resolved, non-operating bank and 204 firm-year observations, corresponding to 28 unique firms whose loans were transferred from an operating bank.

3.2 Descriptive statistics

We use the measure of firm's *z-score,* that converts key financial ratios into a single score, to detect signs of firm financial insolvency that would imply an imminent likelihood of default. In particular, we employ Altman's z-score modified for non-listed, non-US companies (Altman 2000) that evaluates the firm's working capital (*WC*), retained earnings (*RE*), earnings before interest and taxes (*EBIT*), expressed as a percentage of the firm's total assets (*TA*), and the book value of equity (*BVE*) over total liabilities (*TL*):

$$z = 3.25 + 6.56 \times \frac{WC}{TA} + 3.26 \times \frac{RE}{TA} + 6.72 \times \frac{EBIT}{TA} + 1.05 \times \frac{BVE}{TL}. \qquad (1)$$

Furthermore, we measure firm's *size* using the logarithm of its reported total assets; *profitability* is the ratio of earnings before interest and tax (*EBIT*) to total assets. Moreover, we define the firm-bank *relationship depth* as the ratio of the firm's loan with the bank over the firm's total loans and the firm's *loan collateral* as the ratio of the value of the associated collateral to the firm's loan exposure to the bank. Finally, we winsorize the variables at the 1st and 99th percentiles to curb the impact of spurious extreme values on our findings.

Table 1 Panel A contains the summary statistics of the sample of firms with loans from a systemic bank that had no relationship with any acquired banks (top) and the summary statistics of the sample of firms with transferred loans to a systemic bank (bottom). We perform a direct comparison between the two groups of firms using the univariate t-test of means. Specifically, the t-test of the loan exposures shows that transferred firms had statistically significantly higher loans on average (6,649 thousand Euro) than existing firms' loans (5,819 thousand Euro). Similarly, the average collateral to loan ratio of transferred loans is 1.28, which is statistically different at the 1% level of significance from the average collateral to loan ratio of the

acquirer bank's existing loans of 0.88. The latter is consistent with empirical evidence that applicants with more collateral tend to apply to smaller banks (Cole *et al*, (2004)).

In addition, the two borrower groups display no statistically significant difference in size (firms with transferred loans have total assets of 25,357 thousand Euro while firms with loans from the systemic banks have total assets of 24,121 thousand Euro) and in financial distress (z-score is 3.28 for firms with transferred loans vs 3.47 for firms with loans from the systemic bank). Furthermore, they display no statistically significant difference in profitability (0.8% for firms with transferred loans vs 1.4% for firms with loans from the systemic bank). Table 1 Panel B contains summary statistics of the sample separately for the pre-acquisition period (i.e. 2010-2012) and the post-acquisition period (i.e. 2013-2015). Finally, Table 1 Panel C contains the summary statistics of all firms in the sample.

[Insert Table 1 About Here]

3.3 Regional tourism activity data

To proxy the financial performance of the sample's firms, we use data on tourism activities collected by the Hellenic Statistical Authority through a census survey.[10] According to the Hellenic Statistical Authority, the population of the survey contains all the collective accommodation establishments, which are active and registered at the Hellenic Chamber of Hotels. Reported data in this survey refer to the capacity of the establishments (units, rooms, bed-places) by type and category of the establishment and by geographical area (Prefecture).

The key variables of the survey are tourists *overnight stays* and *occupancy rates*. Overnight stays at an establishment are calculated for each customer and not by room. Monthly occupancy rates of hotels measure the percentage use of bed-places during the month and are calculated as:

$$Occupancy\ rate = \frac{\#\ of\ overnight\ stays\ during\ the\ month}{(\#\ of\ bed{-}places\ in\ use)\times(\#\ of\ days\ of\ the\ month)} \times 100 \qquad (2)$$

Monthly occupancy rates of hotels are then aggregated by Prefecture and annual occupancy rates are computed as the average of monthly occupancy rates.

[10] The Hellenic Statistical Authority collects the data through a census survey in implementation of the Regulation (EU) No 692/2011 of the European Parliament and the European Council on the collection of statistical information in the field of tourism. The data are also available on the website of the Greek Tourism Confederation, www.sete.gr

Figure 2 maps the average occupancy rates for the period 2010-2015 across all 49 Prefectures with reported data. We observe sufficient heterogeneity in occupancy rates across different regions. Specifically, the average annual occupancy rate is 32.7%, ranging from 5.5% in less popular areas to 64% in highly popular areas. Table 2 presents descriptive statistics of occupancy rates and overnight stays per year. Tourism activity displays a mild cyclicality with 2012 being the year of lowest activity and 2015 the year of highest activity. Importantly, there is sufficient regional heterogeneity within each year of the observation period, as suggested by the wide difference between the 25th and the 75th-percentile of the distributions. Finally, the firms included in our sample display sufficient regional variation since they are located in 42 out of the 49 prefectures with reported tourism activity.

[Insert Figure 2 About Here]

[Insert Table 2 About Here]

4 Empirical analysis

4.1 Strategic default identification

A bank reports a loan as non-performing, i.e. in default, if payment is delinquent for more than 90 days. Based on this definition, we observe 342 defaulted firm observations in our sample of 2,219 observations that corresponds to a default rate of 15.41%. In contrast, strategic default behavior is not an observable event (Guiso et al. (2013)). Thus, a challenge to our study is to identify the strategic defaulters, i.e. borrowers who default although they experience an increasing demand for their services that positively reflects on their financial performance, from distress defaulters, i.e. borrowers who are in genuine financial distress due to decreasing demand.

Looking directly at the firm's financial statements is insufficient because reported statements are endogenous information. For example, strategic defaulters could report financial ratios that are less favorable than their actual financial position in order to put pressure on banks to forgive or restructure some of their debts. Thus, identification requires an instrument to approximate the unobserved financial performance of the firm. This instrument must be exogenous to the firm and related to the demand for the firm's services and thus to its operating performance.

In a similar study, Giroud et al. (2012) use the level of snowfall as a measure of the demand for ski resort holidays to identify the ski hotel's operating performance of defaulted firms. In this study, we use as instruments the annual hotel occupancy rates and overnight stays of the firm's location to identify the operating performance of defaulted firms. Specifically, we identify as strategic defaulters the firms which defaulted on their bank loans although, based on their location, they were facing high demand for their hospitality services. Both variables are directly related to the operational profitability of the firm. Specifically, occupancy rates are a direct measure of operating capacity while overnight stays calculated at the customer level captures the tourists' turnover, which, multiplied with the average spending per day measures the economic contribution of tourism activity on the firm's revenue.

To assess the potential validity of our instruments, we first provide some descriptive statistics. We find that the average annual occupancy rate among non-defaulted firms is 50.2%, compared to 46% for defaulted firms, a significant difference at the 1% probability level. Furthermore, from the pairwise correlations reported in Table 3, we conclude that occupancy rates and overnight stays have a positive and statistically significant correlation with firm's profitability, suggesting that firms located in areas with high occupancy rates exhibit higher profitability due to the increased demand for their services.

[Insert Table 3 About Here]

If we focus on defaulted firms, occupancy rates range from 0.7% to 68.5%, with a mean of 46%, as reported above. This large variation, combined with the above findings of the association between occupancy rates (or overnight stays) and firm's profitability, indicate the existence of a considerable percentage of strategic defaulters, i.e. defaulted firms with higher unobserved operating performance due to higher occupancy rates in their locations.

Following the above initial evidence, we use a two-step identification process of strategic defaulters. The first step is the estimation of the firm's z-score using a two-stage least squares regression and instrumental variables to measure the endogenous firm's profitability. Specifically, in the first-stage regression we use the location's occupancy rates and the number of overnight stays as instruments to estimate the

firm's EBIT to total assets ratio. In the second-stage regression, we estimate the firm's z-score using the estimated firm's profitability.

Table 4, columns (1)-(2) present the results from the two-stage least square estimation of the endogenous profitability and the instrumented firm's z-score and the corresponding identification tests. The Sanderson-Windmeijer (SW) first-stage chi-squared and the Kleibergen-Paap rk LM statistics for under-identification are statistically significant at the 5% and at the 1% level, respectively, thus we reject the null hypothesis that the endogenous regressors in question are unidentified. Moreover, based on the Cragg-Donald Wald F and the Kleibergen-Paap rk Wald F statistics for weak-identification, we can reject at the 1% level the null hypothesis that the equation is weakly identified. Furthermore, based on the Sargan–Hansen J statistic for the over-identifying restrictions test we cannot reject at the 1% level the null hypothesis that all instruments are uncorrelated with the error term, a condition that ensures the validity of the two instruments.

[Insert Table 4 About Here]

At the second step of the identification process, we distinguish the group of strategic defaulters from the group of financially distressed defaulters using the instrumented firm's z-score. We do this by performing three separate statistical methods of classification. First, we use the Altman's z-score threshold of distressed firms, namely the score of 3.25 (Altman 2000) and characterize as strategic the defaulted firms with instrumented z-score above the distress threshold while defaulted firms with instrumented z-score below the distress threshold are denoted as the distressed defaulted firms.

As a second method we use the median split. Specifically, we characterize as strategic the defaulted firms with instrumented z-score above the median value while defaulted firms with instrumented z-score below the median value are denoted as the distressed defaulted firms. As a third method, we distinguish the group of strategic defaulters from the group of distressed defaulters using means cluster analysis. Cluster analysis attempts to determine the natural groups of defaulted firms based on the distribution of some observable variables, in our case the instrumented firm's z-score. In the means cluster analysis, we define the Euclidean distance as the similarity

measure and we choose at random the starting centers for the two groups from among those to be clustered.

The results from the three statistical classification methods applied over the instrumented firm z-score (generated using the 2SLS model in Table 4) are presented in Table 5. Specifically, the threshold of distressed firms (Panel A) identifies 135 cases of strategic defaulted firms and 207 cases of distressed defaulted firms. Similarly, the median split (Panel B) identifies 121 cases of strategic defaulted firms and 221 cases of distressed defaulted firms. Finally, cluster analysis (Panel C) identifies 144 cases of strategic defaulted firms and 198 cases of distressed defaulted firms.

[Insert Table 5 About Here]

Table 6 summarizes the estimated strategic default rates from the three identification processes for each category of firms, i.e. transferred from operating bank, transferred from non-operating bank or existing borrower. A direct comparison of the default rates reveals some interesting facts. First, firms transferred from resolved banks on average have consistently the highest strategic default rates. Second, firms transferred from operating banks display on average strategic default rates similar to those of existing borrowers. Finally, for each group of firms, the estimated rates are relatively stable across all classification methods

[Insert Table 6 About Here]

4.2 Empirical model

A common concern among empirical studies is the absence of the counterfactual, in our case the payment behavior of firms if there had been no absorption of their bank by the systemic bank and therefore no loan transfer. In the absence of the counterfactual, the existence of some hidden economy-wide factor that could drive up strategic default behavior goes undetected. For example, Guiso et al. (2013) show that unobserved factors such as social contagion and society-level emotions, such as anger about the economic situation or trust on banks, are likely to affect strategic default decisions among households. Similarly, Artavanis and Spyridopoulos (2020) suggest that factors such as prior engagement in moral hazard and liquidity preference play an important role in strategic behavior. In order to address the concern of similar unobserved confounding effects among businesses, we

apply a comparative analysis using a control group of firms in a difference-in-difference model framework. Since firms in the control group are subject to the same unobserved economy-wide factors, we are able to cancel out any confounding effects that are likely to drive payment behavior among bank borrowers.

We use a binary variable X_i to implement the comparison between different groups of borrowers. Specifically, to examine the effect on strategic default when loans are transferred and there is an impairment of the firm-bank relationship compared to non-transferred loans, the variable X_i takes the value of one if the firm's loans were *transferred from a resolved (non-operating) bank* and zero if the firm's loans *existed* in the systemic bank's portfolio. Similarly, to examine the effect on strategic default among transferred loans when there is a relative continuity compared to an impairment of the firm-bank relationship, the variable X_i takes the value of one if the firm's loans were *transferred from an operating bank* and zero if the firm's loans were *transferred from a resolved (non-operating) bank*. Finally, to examine the difference in the strategic default when loans are transferred with a relative continuity in the firm-bank relationship compared to non-transferred loans, the variable X_i takes the value of one if the firm's loans were *transferred from an operating bank* and zero if the firm's loans *existed* in the systemic bank's portfolio. By design, each of the above definitions of binary variable X_i yields a different sub-sample. For example, when we compare loans *transferred from a resolved (non-operating) bank* to loans *existed* in the systemic bank's portfolio, the observations involving loans *transferred from an operating bank* are omitted from the sample.

Further, we define the binary variable *Post-transfer (P_t)* that takes the value of one for the years after the transfer of the loan portfolio to the systemic bank and zero for the years before the transfer.[11] To limit the possibility that a firm-specific characteristic confounds with the results, we use a set of control variables. Specifically, we include as covariates the *firm's size*, the *loan size*, the firm-bank *relationship depth* and the *loan to collateral* ratio. The binary dependent variable of strategic defaulters, SD_{it}, follows up from the three classification methods presented in section 4.1. Therefore, given the set of covariates, C_{it}, the conditional probability of strategic default, $P(SD_{it}|C_{it})$, is estimated by the logistic regression model:

[11] All transfers were effectively completed before banks reported their updated loan portfolio to the Bank of Greece for the year 2013, with one exception in which case the transferred loans were reported in 2014. Omitting the latter case from our sample made no difference to the empirical findings.

$$P(SD_{it}|C_{it}) = \frac{1}{1+e^{-V_{it}}}, \text{ where}$$

$$V_{it} = \beta_0 + \beta_1 X_i \times P_t + \beta_2 X_i + \beta_3 P_t + \gamma C_{it} + y_t + b_j + \varepsilon_{it} \quad (3)$$

where y_t are year fixed effects, b_j are bank fixed effects and ε_{it} is the error term that is clustered at the firm-level. The interaction parameter β_1 captures the effect on the probability of strategic default of firms whose loans were transferred to a systemic bank compared to the control group of firms.

Furthermore, we also model explicitly firm's unobserved heterogeneity using a fixed effects linear probability model. By introducing firm's fixed effects (f_i), we limit further the possibility that a firm-specific characteristic confounds with the results. Thus, we also present the results from the linear probability model:

$$SD_{it} = \beta_0 + \beta_1 X_i \times P_t + \beta_2 X_i + \beta_3 P_t + \gamma C_{it} + y_t + b_j + f_i + \varepsilon_{it} \quad (4)$$

4.3 Empirical results

We begin with examining the impact of loans *transferred from a resolved bank* compared to loans that *existed* in the systemic bank's portfolio. The empirical findings using the maximum likelihood estimate of the logistic regression model (3) are presented in Table 7, columns (1)-(3) for the three identification processes. Similarly, in columns (4)-(6) we present the results from the ordinal least squares estimate of the linear probability regression with fixed effects model (4). The effect on the strategic default of firms whose loans were *transferred from a resolved bank* is positive and statistically significant under all classification methods of strategic defaulters. The findings support our hypothesis that loan transfers that impaired the firm-bank relationship increase the likelihood of strategic default because the firm discounts the loss of relationship benefits making strategic default more profitable. Specifically, the marginal effects from the estimated model of Table 7 column (1) suggests that the probability of strategic default increases by 5.5 percentage points, an economically significant increase given that the sample average probability of default is approximately 15.4 percentage points.

[Insert Table 7 About Here]

We continue with focusing on the transferred loans only and compare those *transferred from operating bank* to those *transferred from resolved bank*. The empirical findings are presented in Table 8, columns (1)-(6) for the two model

specifications and three classification methods. The effect on the strategic default of firms whose loans were *transferred from an operating bank* is negative and statistically significant under all identification strategies. The findings support our second hypothesis that loan transfers that preserve the lending relationship, and consequently the benefits derived from this relationship, reduce the likelihood of strategic default. Specifically, the marginal effects from the estimated model of Table 8 column (1) suggests that the probability of strategic default decreases by 11.3 percentage points, an economically significant impact given that the sample average probability of default is approximately 15.4 percentage points.

[Insert Table 8 About Here]

Finally, we compare the impact of loans *transferred from an operating bank* with loans that *existed* in the systemic bank's portfolio. The empirical findings are presented in Table 9. We find no difference in the probability of strategic default between firms whose loans were *transferred from an operating bank* and firms whose loans *existed* in the systemic bank's portfolio. Our findings highlight the role of firm-bank relationship continuity on the firm's payment behavior following the transfer to a new bank. In particular, the above estimates suggest that if the loan transfer does not impair significantly the firm-bank relationship, firms with transferred loans will be reluctant to engage in any opportunistic behavior that could endanger the relationship benefits.

[Insert Table 9 About Here]

We conclude the empirical analysis with examining the alternative interpretation of soft budget constraints hypothesis (Boot 2000) that default rates increase because the consolidated bank abstains from lending to insolvent borrowers who had a strong relationship with the target bank. At first glance, this interpretation looks plausible given that target banks and, more specifically, the resolved target banks were considerably more inefficient compared to the systemic banks, as shown above. Thus, one would assume that target banks had more insolvent borrowers in their portfolio compared to the more efficiently managed systemic banks and they kept them afloat through loan restructures and new credit. In this case, loan transfers could yield an increase in the number of target bank borrowers defaulting, because the

(consolidated) systemic bank management will abstain from lending to financially distressed firms.

We can safely reject this interpretation for various reasons. First, the documented increase in strategic default involves the default of firms with the highest z-score i.e. the solvent rather than the insolvent borrowers presumed by the soft budget constraints hypothesis. Second, direct comparison between the target and the systemic bank (existing) borrowers reveals no differences in respect to the firm's ability to service its debt. Specifically, the t-test of means shows that there is no difference in the z-scores (p-value=0.2403) between the two types of borrowers. Moreover, the t-test of means on profitability shows that there is weak evidence (p-value=0.0682) that the target had actually lent to more profitable firms compared to the systemic banks (see also descriptive statistics in Table 1 Panel A). The latter confirms earlier findings that diversified banks are able to pursue to pursue higher-risk activities in lending (Demsetz, and Strahan 1997). Therefore, there is no indication that target banks had more insolvent borrowers in their portfolios compared to systemic banks.

Finally, we examine if the loan transfer has an impact on the strategic default rate of borrowers common to the target and the acquiring bank. The empirical findings are presented in Table 10. We find no evidence of an increase in the strategic default rates for the common borrowers. We conclude that the increase in the strategic default observed between target and systemic bank borrowers (Table 7) but not observed among borrowers common to target and systemic banks (Table 10) is due to the disruption of the firm-bank relationship affecting the former group but not the latter group of borrowers.

[Insert Table 10 About Here]

5 Concluding remarks

Firms are motivated to pay back their bank loans by the benefits they derive from their relationship with the bank. However, the incentive works for as long as the firm's relationship with the bank continues uninterrupted. If the firm's loan account is transferred to another bank, due to the bank's acquisition, the benefits could become illusive. In this study, we show that firms are more likely to strategically default following the transfer of their loans to a new bank, if this transfer yields a permanent

impairment of the firm-bank relationship. Moreover, we show that loan transfers that leave the relationship benefits largely intact, lower significantly the likelihood of strategic default among transferred borrowers. Finally, we find no difference in payment behavior between firms with transferred loans that maintained their relationship and firms that were existing customers of the acquirer bank.

Our findings have important implications for banks, fund managers and supervisory authorities. Specifically, top management of banks that acquire other banks should be aware of the likely shift in payment behavior triggered by the perception among the transferred firms that any benefits from their relationship could be revoked. Banks are advised to respond to this risk by easing the "new" borrower's concerns and emphasizing on the continuation of the lending relationship. In practice, lowering the target bank's loan officer turnover and maintaining the information infrastructure for a reasonable time helps alleviate these concerns. Otherwise, consolidating banks risk ending up with an unexpected increase in their loan loss provisions that may cancel out the expected cost savings from consolidation.

Our findings are also important to private fund managers seeking to buy performing loan portfolios from banks. In particular, the transfer of loans is likely to foster higher strategic defaults among borrowers, leading to a surge in loan losses. The phenomenon is likely to be exacerbated by the fact that these funds are purely transaction-based oriented, which means that the losses of the future benefits from the bank relationship for the affected firms will be more tangible.

Finally, our findings are relevant to supervisory authorities dealing with emergency driven changes in the banking system. Although there is no evidence that consolidation *per se* leads to higher default risk, the transfer of a bank's portfolio to another bank during the restructuring of a banking system, could inflict further loan losses if it undermines the role of relationship banking.

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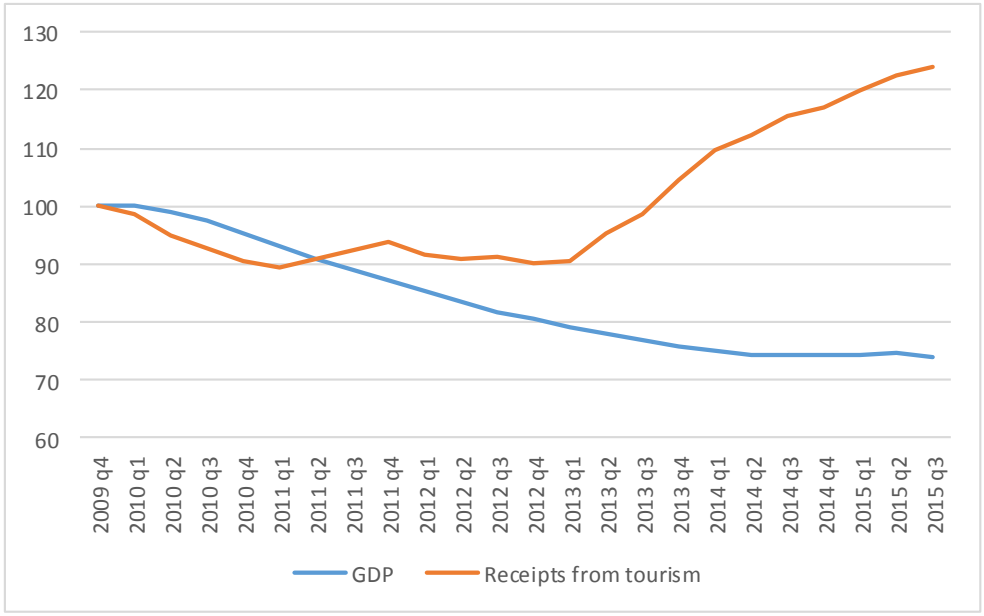
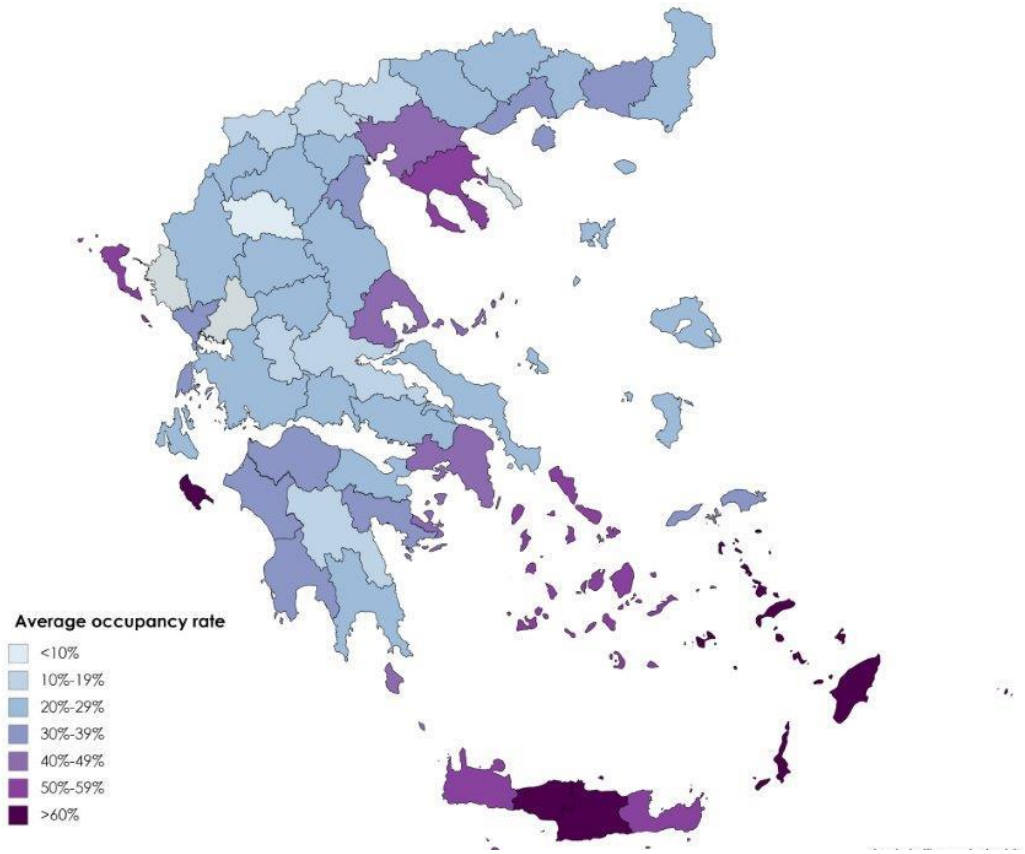
Tables and Figures

Figure 1: GDP and receipts from tourism during the Greek crisis (four-quarter moving average, constant prices, index, 2009:Q4=100)



Source: Hellenic Statistical Authority and Bank of Greece Balance of Payments statistics.

Figure 2. Average hotel occupancy rates 2010-2015 per region defined by Prefectures.



Source: Hellenic Statistical Authority and authors' calculations.

Table 1. Firm data descriptive statistics. Panel A: The top rows include data of firms with loans originated by the systemic bank ("existing firms"). The bottom rows include data of firms whose loans were transferred from the target bank to the systemic bank ("transferred firms"). Panel B: The top rows include data of firms before the wave of banks' mergers (i.e. 2010-2012); the bottom rows include data of firms after the wave of banks' mergers (i.e. 2013-2015). Panel C: All firms included in the sample. Definitions of variables: *Firm's loans* is the bank's reported loan exposure to the firm in €1,000; *Collateral to loan* ratio is the bank's reported collateral from the firm over the loan exposure; *Firm-bank relationship depth* is the ratio of the firm's loan with the bank over the firm's total loans; *Total assets* is the firm's reported total assets in €1,000; *Profitability* is the firm's EBIT/TA; *z-score* is calculated using modified Altman z-score for non-listed, non-US companies (see section 3.2); *p25* is the 25%-percentile and *p75* is the 75%-percentile.

Panel A		*Firm's Loans*	*Loan Collateral Coverage*	*Firm-bank relationship depth*	*Total Assets*	*Profitability*	*Firm z-score*
Existing firms (N=1,467)	*mean*	5,819	0.882	0.816	24,121	0.008	3.466
	min	10	0.007	0.025	603	-0.464	-26.864
	p25	1,523	0.631	0.681	4,571	-0.019	2.123
	p75	5,882	1.000	1	25,060	0.035	5.109
	max	39,088	8	1	287,266	0.228	13.641
Transferred firms (N=752)	*mean*	6,649	1.275	0.850	25,357	0.014	3.284
	min	10	0.027	0.046	544	-0.464	-26.864
	p25	1,609	0.661	0.833	5,946	-0.017	2.130
	p75	8,112	1.331	1	27,232	0.042	4.769
	max	39,088	9	1	234,819	0.228	13.641
Panel B							
Before mergers (N=1,128)	*mean*	5,771	1.121	0.827	24,217	-0.005	3.405
	min	54	0.007	0.025	561	-0.464	-26.864
	p25	1,635	0.625	0.732	4,892	-0.027	2.149
	p75	6,318	1.203	1	25,370	0.022	4.751
	max	39,088	9	1	234,310	0.228	13.641
After mergers (N=1,091)	*mean*	6,441	0.906	0.828	24,874	0.026	3.404
	min	10	0.007	0.025	544	-0.464	-26.864
	p25	1,481	0.663	0.732	5,073	-0.006	2.103
	p75	7,053	1.000	1	25,543	0.054	5.306
	max	39,088	5	1	287,266	0.228	13.641
Panel C							
Total (N=2,219)	*mean*	6,100	1.015	0.828	24,540	0.010	3.405
	min	10	0.007	0.025	544	-0.464	-26.864
	p25	1,546	0.638	0.732	5,013	-0.018	2.130
	p75	6,518	1.057	1	25,423	0.037	5.010
	max	39,088	9	1	287,266	0.228	13.641

Table 2. Regional tourist activity data. Hotel occupancy rates and overnight stays annual data is collected by the Hellenic Statistical Authority through a census survey. Data is aggregated at Prefecture level. Definitions of variables: *Overnight stays* are calculated at the establishment level for each customer. *Occupancy rates* of hotels measure the percentage use of bed-places and they are calculated using the equation provided in section 3.3. *p25* is the 25%-percentile and *p75* is the 75%-percentile.

Year		*Occupancy rates*	*Overnight stays*
2010	*mean*	0.506	5,181,261
	p25	0.396	1,249,853
	p75	0.630	7,260,659
2011	*mean*	0.511	5,613,915
	p25	0.403	1,277,299
	p75	0.651	7,984,958
2012	*mean*	0.460	5,139,694
	p25	0.336	1,120,670
	p75	0.606	7,857,401
2013	*mean*	0.480	5,655,970
	p25	0.373	1,162,552
	p75	0.609	8,972,454
2014	*mean*	0.500	5,880,567
	p25	0.451	1,204,621
	p75	0.618	9,096,832
2015	*mean*	0.512	5,958,981
	p25	0.450	1,226,740
	p75	0.648	9,046,482
Total	*mean*	0.495	5,550,741
	p25	0.373	1,249,853
	p75	0.618	7,984,958

Table 3. Pairwise correlation table. Definitions of variables: *Overnight stays* are calculated at the establishment level for each customer. *Occupancy rates* of hotels measure the percentage use of bed-places and they are calculated using the equation provided in section 3.3. *Firm's loans* is the bank's reported loan exposure to the firm in €1,000; *Collateral to loan* ratio is the bank's reported collateral from the firm over the loan exposure; Firm-bank *relationship depth* is the ratio of the firm's loan with the bank over the firm's total loans; *Firm size* is the log of the firm's reported total assets in €1,000; *Profitability* is the firm's EBIT/TA; *z-score* is calculated using modified Altman z-score for non-listed, non-US companies (see section 3.2); *p<0.05.

Variable	*Occupancy rates*	*Overnight stays*	*Profitability*	*z-score*	*Firm's Loans*	*Collateral to loan*	*Relationship depth*
Overnight stays	0.6509*						
Profitability	0.2955*	0.1446*					
z-score	0.1020*	-0.0255	0.3946*				
Firm's Loans	0.1980*	0.2471*	-0.0124	-0.1142*			
Collateral to loan	0.0733	-0.0054	0.1308*	0.2368*	-0.1201*		
Relationship depth	-0.1295*	-0.076	0.082	0.2015*	-0.1228*	0.1322*	
Firm's size	0.3005*	0.3184*	0.0153	0.0016	0.6658*	-0.1322*	-0.5395*

Table 4. Estimation of instrumented firm's z-score with endogenous profitability. Column (1) presents the results from the first-stage least squares regression with the endogenous variable of firm's profitability (EBIT/TA) and the instrument variables of regional occupancy rates and the number of overnight stays. Column (2) presents the results from the second-stage least squares regression of the instrumented profitability on firm's z-score. The Sanderson-Windmeijer (SW) first-stage chi-squared and the Kleibergen-Paap rk LM statistics are under-identification tests of the instruments. The Cragg-Donald Wald F and the Kleibergen-Paap rk Wald F statistics are weak-identification tests of the instruments. Sargan–Hansen J statistic is the over-identification test of instruments (H_o: model over-identified). Robust, firm-clustered standard errors in parentheses. **p<0.01, *p<0.05.

	(1)	(2)
Regional occupancy rates	0.104**	
	(0.0163)	
Number of overnight stays	-0.000768	
	(0.000479)	
EBIT/TA		6.790**
		(0.921)
BVE/TL	-0.00232*	0.888**
	(0.000951)	(0.0981)
RE/TA	0.0730**	3.556**
	(0.00623)	(0.232)
WC/TA	0.0143	5.910**
	(0.00750)	(0.423)
Constant	-0.0442**	3.383**
	(0.00807)	(0.0931)
Under-identification test		
H1: matrix has rank=K1 (identified)		
Sanderson-Windmeijer (SW) first-stage chi-squared		66.97**
Kleibergen-Paap rk LM statistic		47.56**
Weak identification test		
Ho: equation is weakly identified		
Cragg-Donald Wald F statistic		78.02**
Kleibergen-Paap rk Wald F statistic		33.24**
Over-identifying restrictions test		
Sargan–Hansen J-statistic		3.045
R-squared	0.348	0.973
Bank fixed effects	yes	yes
Year effects	yes	yes

Table 5. Strategic defaulters' identification using statistical classification methods. Panel A: Strategic defaulters are identified as defaulted borrowers whose instrumented firm's z-score is above the Altman's model distress threshold. Panel B: Strategic defaulters are identified as defaulted borrowers whose instrumented firm's z-score is above the median value. Panel C: Strategic defaulters are defaulted borrowers identified from a means-cluster analysis of the instrumented z-score. Reported significances are from the univariate T-test of mean difference. Definitions of variables: *Profitability* is the firm's EBIT/TA; *z-score* is calculated using the modified Altman z-score for non-listed, non-US companies (see section 3.2); **p<0.01, *p<0.05.

		Firm zscore		*Profitability*	
Panel A- Classification method: instrumented firm's z-score above the distress threshold					
	Obs	Mean	Std.Error	Mean	Std.Error
Distressed	207	0.641	0.198	-0.004	0.002
Strategic	135	4.948	0.115	0.026	0.002
Difference of means		-4.306**	0.262	-0.030**	0.003
Panel B- Classification method: instrumented firm's z-score above the median					
	Obs	Mean	Std.Error	Mean	Std.Error
Distressed	221	0.816	0.203	-0.003	0.002
Strategic	121	5.127	0.114	0.027	0.002
Difference of means		-4.31**	0.272	-0.029**	0.003
Panel C- Classification method: cluster analysis using instrumented firm's z-score					
	Obs	Mean	Std.Error	Mean	Std.Error
Distressed	198	0.526	0.203	-0.005	0.002
Strategic	144	4.836	0.114	0.025	0.002
Difference of means		-4.31**	0.257	-0.029**	0.003

Table 6. Strategic default rates per group of firms. (1) Strategic defaulters are identified as defaulted borrowers whose instrumented firm's z-score is above the Altman's model distress threshold. (2) Strategic defaulters are identified as defaulted borrowers whose instrumented firm's z-score is above the median value. (3) Strategic defaulters are defaulted borrowers identified from a means-cluster analysis of the instrumented z-score.

	(1) distress threshold	(2) median split	(3) clustering
Existing	5.25%	4.50%	5.66%
Transferred from resolved bank	8.76%	8.21%	9.31%
Transferred from operating bank	4.90%	4.90%	4.90%
Total	6.08%	5.45%	6.49%

Table 7. Borrowers transferred from resolved banks vs existing borrowers. (1) Maximum likelihood logistic regression model (equation 1) and strategic defaults identified using the distress threshold on the instrumented firm's z-score after estimating profitability using occupancy rates and overnight stays. (2) Maximum likelihood logistic regression model (equation 1) and strategic defaults identified using the median split on the instrumented firm's z-score after estimating profitability using occupancy rates and overnight stays. (3) Maximum likelihood logistic regression model (equation 1) and strategic defaults identified using the mean-cluster analysis on the instrumented firm's z-score after estimating profitability using occupancy rates and overnight stays. (4) Ordinary least squares of linear probability model with fixed effects (equation 2) and strategic defaults identified using the distress threshold on the instrumented firm's z-score after estimating profitability using occupancy rates and overnight stays. (5) Ordinary least squares of linear probability model with fixed effects (equation 2) and strategic defaults identified using the median split on the instrumented firm's z-score after estimating profitability using occupancy rates and overnight stays. (6) Ordinary least squares of linear probability model with fixed effects (equation 2) and strategic defaults identified using the mean-cluster analysis on the instrumented firm's z-score after estimating profitability using occupancy rates and overnight stays. Robust, firm-clustered standard errors in parentheses. **p<0.01, *p<0.05.

	(1) distress threshold	(2) median split	(3) clustering	(4) distress threshold	(5) median split	(6) clustering
Transferred from resolved bank ×Post-transfer	0.995*	1.060*	1.077**	0.0979**	0.0948**	0.107**
	(0.391)	(0.417)	(0.403)	(0.0239)	(0.0228)	(0.0245)
Transferred from resolved bank	-0.108	0.0260	-0.172	-0.0473	-0.00808	-0.0667
	(0.468)	(0.504)	(0.457)	(0.0538)	(0.0485)	(0.0573)
Post-transfer	1.618**	1.737**	1.352**	0.0481**	0.0411**	0.0431**
	(0.539)	(0.613)	(0.499)	(0.0163)	(0.0153)	(0.0167)
Relationship depth	-0.197	-0.342	-0.427	0.0123	-0.0358	-0.0213
	(1.099)	(1.262)	(0.985)	(0.0565)	(0.0458)	(0.0732)
Collateral to loan	-0.276	-0.405	-0.292	0.0134	0.00797	0.0107
	(0.226)	(0.258)	(0.212)	(0.00714)	(0.00675)	(0.00750)
Loan size	0.518*	0.518**	0.527**	0.0195	0.0126	0.0178
	(0.209)	(0.199)	(0.201)	(0.0105)	(0.00933)	(0.0107)
Firm size	-0.859**	-1.011**	-0.848**	0.0584	0.0620*	0.0537
	(0.286)	(0.288)	(0.272)	(0.0301)	(0.0296)	(0.0305)
Constant	5.831	8.187	5.958	-1.041*	-0.999*	-0.935*
	(4.189)	(4.354)	(3.924)	(0.466)	(0.456)	(0.476)
Firm fixed effects	-	-	-	yes	yes	yes
Bank fixed effects	yes	yes	yes	yes	yes	yes
Year effects	yes	yes	yes	yes	yes	yes
Observations	2,015	2,015	2,015	2,015	2,015	2,015

Table 8. Borrowers transferred from operating banks vs borrowers transferred from resolved banks. (1) Maximum likelihood logistic regression model (equation 1) and strategic defaults identified using the distress threshold on the instrumented firm's z-score after estimating profitability using occupancy rates and overnight stays. (2) Maximum likelihood logistic regression model (equation 1) and strategic defaults identified using the median split on the instrumented firm's z-score after estimating profitability using occupancy rates and overnight stays. (3) Maximum likelihood logistic regression model (equation 1) and strategic defaults identified using the mean-cluster analysis on the instrumented firm's z-score after estimating profitability using occupancy rates and overnight stays. (4) Ordinary least squares of linear probability model with fixed effects (equation 2) and strategic defaults identified using the distress threshold on the instrumented firm's z-score after estimating profitability using occupancy rates and overnight stays. (5) Ordinary least squares of linear probability model with fixed effects (equation 2) and strategic defaults identified using the median split on the instrumented firm's z-score after estimating profitability using occupancy rates and overnight stays. (6) Ordinary least squares of linear probability model with fixed effects (equation 2) and strategic defaults identified using the mean-cluster analysis on the instrumented firm's z-score after estimating profitability using occupancy rates and overnight stays. Robust, firm-clustered standard errors in parentheses. **p<0.01, *p<0.05.

	(1)	(2)	(3)	(4)	(5)	(6)
	distress threshold	median split	clustering	distress threshold	median split	clustering
Transferred from operating vs resolved bank ×Post-transfer	-1.694*	-1.746*	-1.667*	-0.127**	-0.122**	-0.131**
	(0.843)	(0.852)	(0.844)	(0.0329)	(0.0324)	(0.0331)
Transferred from operating vs resolved bank	-12.83**	-12.56**	-12.81**	0.0807*	0.0800*	0.0828*
	(0.838)	(0.863)	(0.832)	(0.0355)	(0.0343)	(0.0366)
Post-transfer	1.701	1.782	1.617	0.114**	0.107**	0.120**
	(1.137)	(0.949)	(1.106)	(0.0333)	(0.0319)	(0.0348)
Relationship depth	-0.807	-0.866	-0.744	0.998	1.003	0.983
	(0.835)	(0.843)	(0.827)	(1.075)	(1.075)	(1.081)
Collateral to loan	-0.434	-0.500	-0.377	-0.00173	-0.00336	-0.00486
	(0.321)	(0.358)	(0.289)	(0.00863)	(0.00857)	(0.00886)
Loan size	0.127	0.112	0.174	-0.00496	-0.00826	-0.00628
	(0.245)	(0.250)	(0.248)	(0.0216)	(0.0214)	(0.0216)
Firm size	-0.566	-0.569	-0.565	0.0316	0.0380	0.0310
	(0.329)	(0.336)	(0.329)	(0.0449)	(0.0450)	(0.0451)
Constant	5.286	5.167	4.765	-1.073	-1.155	-1.051
	(4.031)	(4.078)	(4.034)	(1.106)	(1.107)	(1.110)
Firm fixed effects	-	-	-	yes	yes	yes
Bank fixed effects	yes	yes	yes	yes	yes	yes
Year effects	yes	yes	yes	yes	yes	yes
Observations	752	752	752	752	752	752

Table 9. Borrowers transferred from operating banks vs existing borrowers. (1) Maximum likelihood logistic regression model (equation 1) and strategic defaults identified using the distress threshold on the instrumented firm's z-score after estimating profitability using occupancy rates and overnight stays. (2) Maximum likelihood logistic regression model (equation 1) and strategic defaults identified using the median split on the instrumented firm's z-score after estimating profitability using occupancy rates and overnight stays. (3) Maximum likelihood logistic regression model (equation 1) and strategic defaults identified using the mean-cluster analysis on the instrumented firm's z-score after estimating profitability using occupancy rates and overnight stays. (4) Ordinary least squares of linear probability model with fixed effects (equation 2) and strategic defaults identified using the distress threshold on the instrumented firm's z-score after estimating profitability using occupancy rates and overnight stays. (5) Ordinary least squares of linear probability model with fixed effects (equation 2) and strategic defaults identified using the median split on the instrumented firm's z-score after estimating profitability using occupancy rates and overnight stays. (6) Ordinary least squares of linear probability model with fixed effects (equation 2) and strategic defaults identified using the mean-cluster analysis on the instrumented firm's z-score after estimating profitability using occupancy rates and overnight stays. Robust, firm-clustered standard errors in parentheses. **p<0.01, *p<0.05.

	(1)	(2)	(3)	(4)	(5)	(6)
	distress threshold	median split	clustering	distress threshold	median split	clustering
Transferred from operating bank ×Post-transfer	-0.714	-0.668	-0.568	-0.0321	-0.0296	-0.0271
	(0.770)	(0.782)	(0.773)	(0.0265)	(0.0262)	(0.0268)
Transferred from operating bank	0.658	0.787	0.486	0.0523*	0.0227	0.0243
	(0.606)	(0.620)	(0.606)	(0.0262)	(0.0196)	(0.0393)
Post-transfer	10.40**	9.574**	10.68**	0.00530	0.00283	-0.00731
	(1.423)	(1.494)	(1.330)	(0.0208)	(0.0197)	(0.0241)
Relationship depth	-0.365	-0.487	-0.646	0.0188	-0.0232	0.00685
	(1.273)	(1.470)	(1.127)	(0.0587)	(0.0478)	(0.0603)
Collateral to loan	-0.521	-0.774	-0.580	0.0118	0.00424	0.0107
	(0.361)	(0.413)	(0.338)	(0.00660)	(0.00486)	(0.00696)
Loan size	0.739*	0.726**	0.709*	0.0193*	0.0134	0.0183*
	(0.300)	(0.266)	(0.280)	(0.00907)	(0.00714)	(0.00927)
Firm size	-0.973**	-1.131**	-0.958**	0.0372	0.0373	0.0322
	(0.354)	(0.349)	(0.336)	(0.0247)	(0.0240)	(0.0252)
Constant	6.704	9.626	7.099	-0.710	-0.618	-0.601
	(4.984)	(5.119)	(4.648)	(0.406)	(0.393)	(0.414)
Firm fixed effects	-	-	-	yes	yes	yes
Bank fixed effects	yes	yes	yes	yes	yes	yes
Year effects	yes	yes	yes	yes	yes	yes
Observations	1,671	1,671	1,671	1,671	1,671	1,671

Table 10. Borrowers common to target and acquiring banks. (1) Maximum likelihood logistic regression model (equation 1) and strategic defaults identified using the distress threshold on the instrumented firm's z-score after estimating profitability using occupancy rates and overnight stays. (2) Maximum likelihood logistic regression model (equation 1) and strategic defaults identified using the median split on the instrumented firm's z-score after estimating profitability using occupancy rates and overnight stays. (3) Maximum likelihood logistic regression model (equation 1) and strategic defaults identified using the mean-cluster analysis on the instrumented firm's z-score after estimating profitability using occupancy rates and overnight stays. (4) Ordinary least squares of linear probability model with fixed effects (equation 2) and strategic defaults identified using the distress threshold on the instrumented firm's z-score after estimating profitability using occupancy rates and overnight stays. (5) Ordinary least squares of linear probability model with fixed effects (equation 2) and strategic defaults identified using the median split on the instrumented firm's z-score after estimating profitability using occupancy rates and overnight stays. (6) Ordinary least squares of linear probability model with fixed effects (equation 2) and strategic defaults identified using the mean-cluster analysis on the instrumented firm's z-score after estimating profitability using occupancy rates and overnight stays. Robust, firm-clustered standard errors in parentheses. **p<0.01, *p<0.05.

	(1)	(2)	(3)	(4)	(5)	(6)
	distress threshold	median split	clustering	distress threshold	median split	clustering
Common borrowers × Post-transfer	0.384	-0.119	0.118	0.0353	0.00649	0.0311
	(0.535)	(0.670)	(0.538)	(0.0266)	(0.0211)	(0.0297)
Common borrowers	0.415	0.224	0.729	0.0489	0.0330	0.0600
	(0.750)	(0.764)	(0.630)	(0.0305)	(0.0216)	(0.0331)
Post-transfer	1.648**	1.591*	1.396*	0.0441**	0.0406**	0.0415*
	(0.629)	(0.636)	(0.560)	(0.0163)	(0.0153)	(0.0167)
Relationship depth	0.0418	-0.490	-0.101	0.0309	-0.0365	0.0406
	(1.852)	(1.959)	(1.630)	(0.0655)	(0.0478)	(0.0667)
Collateral to loan	-0.650	-0.832*	-0.662*	0.00861	0.00400	0.00842
	(0.354)	(0.378)	(0.323)	(0.00550)	(0.00460)	(0.00584)
Loan size	0.619*	0.572*	0.580*	0.0158*	0.00969	0.0153*
	(0.291)	(0.280)	(0.259)	(0.00750)	(0.00655)	(0.00763)
Firm size	-0.877*	-0.983*	-0.847*	0.0626*	0.0576*	0.0572*
	(0.375)	(0.393)	(0.345)	(0.0286)	(0.0273)	(0.0291)
Constant	5.413	8.084	5.580	-1.042*	-0.877*	-0.948*
	(5.698)	(6.025)	(5.219)	(0.456)	(0.434)	(0.463)
Firm fixed effects	-	-	-	yes	yes	yes
Bank fixed effects	yes	yes	yes	yes	yes	yes
Year effects	yes	yes	yes	yes	yes	yes
Observations	1,609	1,609	1,609	1,609	1,609	1,609

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