Restricted Credit Growth, Loan Cuts, and Employment Growth in the Great Recession*

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Abstract

The Great Recession limited firms' ability to finance operations and growth due to credit constraints. This paper examines how restricted credit growth and loan cuts influenced employment among Danish firms during the crisis. Using Danish administrative data linking firms to their primary banks, we find that less healthy banks reduced lending more, especially impacting small and young firms. By distinguishing between limited access to new loans and loan reductions, we show that constrained credit growth hindered employment on the intensive margin, while loan cuts seemed to raise firm closure risks. Our findings offer insights into how credit constraints affect employment and survival among small, young firms.

Keywords: Labor market flows, poaching, financial constraints, firm dynamics
JEL: E24, E32, E44, J63

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1. Introduction

Access to credit is a lifeline for businesses, especially for small-young businesses during economic downturns. This paper examines how the bank credit crunch of 2008-09 translated into employment losses in firms by disentangling two channels of credit constraints. We argue that primarily small-young firms were affected in one of two ways during the Great Recession: some could not obtain new loans to fund expansion, while others had existing loans cut by their banks. Using Danish administrative data, we show that these two forms of credit restriction had different consequences for employment.

Firms unable to secure new loans were forced to scale down hiring and growth, leading to substantially lower employment growth – an intensive margin effect. In contrast, firms that suffered loan cuts faced smaller immediate employment effects among survivors but seemed to experience increased exit rates – an extensive margin effect. By differentiating these mechanisms, we reveal that the nature of credit disruptions – not merely their magnitude – determines their aggregate economic impact. Restricted credit growth primarily suppresses job creation in otherwise viable firms, while our evidence indicates that forced loan reductions push firms toward closure.

These insights have important policy implications, particularly in the context of financial crises and macroprudential regulation. During a crisis, regulators and central banks must decide how to stabilize the banking system and credit markets. Our results suggest that policies which restrict credit growth (for example, tightening standards for new loans or imposing countercyclical capital buffers) will mainly curb future hiring and expansion, but may avoid destroying existing jobs. In contrast, policies or shocks that force banks to cut existing loans (such as aggressive deleveraging requirements or a collapse in interbank funding for weak banks) have the potential to trigger firm closures and permanent job losses. Recognizing this difference is important for designing interventions. In the Great Recession, for instance, emergency support that enabled banks to maintain current loans (e.g., government liquidity facilities or guarantees) may have helped preserve jobs, even if overall credit growth was subdued.

Our study contributes to a growing body of literature that has sought to understand how cross-sectional differences in bank health influenced the labor market during the Great Recession.[1] Much

[1] The references include Chodorow-Reich (2014); Iyer *et al.* (2014); Duygan-Bump *et al.* (2015); Cingano *et al.* (2016); Gilchrist *et al.* (2017); Bentolila *et al.* (2018); Popov and Rocholl (2018); Berton *et al.* (2018); Huber (2018);

of this work focuses on the role of credit constraints in shaping employment outcomes, particularly for small and medium-sized firms, which tend to be more vulnerable to disruptions in financing. For example, Siemer (2019) shows that tight credit disproportionately reduces employment at small firms, with an even larger impact on young firms. This aligns with theories of financial frictions where younger, less established firms – often lacking collateral and credit history – are more vulnerable to credit constraints (e.g., Petersen and Rajan, 1994; Berger and Udell, 1995, 1998).

Related empirical studies find mixed aggregate effects of credit shocks, often depending on firm size and age. Greenstone *et al.* (2020) find little effect of tighter lending on overall small business employment in the U.S., but Davis and Haltiwanger (2024) report significant job losses concentrated in small, young firms in the U.S. These findings underscore the idea that firm characteristics like age and size mediate the impact of financial shocks. Indeed, young firms, though a small share of total employment, normally contribute disproportionately to net job creation. Haltiwanger *et al.* (2013) show that startups account for about 20% of gross job creation in the U.S., so if credit constraints hit young firms especially hard, economy-wide job growth is hampered disproportionately. We build on these insights from the literature by providing evidence of why small and young firms suffered most: it was not only the severity of the credit contraction, but also the form it took. Our results add new insights to the credit channel literature (e.g., Bernanke and Gertler, 1995; Kiyotaki and Moore, 1997) by illustrating that the way a shock manifests as a lost growth opportunity or an actual credit withdrawal leads to different real outcomes.

In our empirical strategy, we exploit the fact that some banks were less healthy at the onset of the financial crisis. Less healthy banks reduced their total lending more than healthy banks, and this differential loan reduction mainly hit loan growth in small and young firms. We classify banks as healthy or less healthy based on their loan-to-deposit ratio (LTD) being above or below the median at the onset of the crisis. LTD is a relevant measure of bank health as it measures a bank's reliance on deposit funding versus external borrowing. Danish banks have traditionally used deposit financing, but they also relied on unsecured, short-term loans on the international interbank market for credit expansion leading up to the financial crisis. We argue that it is plausibly exogenous

Siemer (2019); Greenstone *et al.* (2020); Bonin (2020); Adamopoulou *et al.* (2020); Davis and Haltiwanger (2024); Chodorow-Reich and Falato (2022).

whether firms had a bank with high or low LTD in 2007. We find similar pre-trends in both loan growth and employment growth for firms with high and low LTD banks. Furthermore, we find no statistically significant differences in key firm variables between firms with high- and low-LTD banks for large firms (more than 50 employees in 2007) and small-young firms (5-50 employees and 0-3 years old in 2007). For small firms (5-50 employees in 2007), we do find significant differences in means, but the differences are numerically small.

Our analysis proceeds in three steps. First, we compare the employment changes in firms whose primary banks have high and low loan-to-deposit ratios (LTD) at the onset of the crisis. Second, we employ an instrumental variable (IV) strategy using the primary banks' LTD to estimate the causal effect of credit constraints on employment. This approach allows us to isolate the direct employment effects of constrained credit. With this IV strategy, we separate demand-driven effects from credit supply effects: essentially, it isolates how much of a firm's employment change was caused by its bank's inability to lend, as opposed to the firm's own demand conditions. Third, as explained above, we decompose the impact into the two channels – constraints on loan growth vs. loan cuts – by exploiting that we observe each firm's loans.

For large firms, the health of their primary bank – measured by a high or low LTD – did not result in a significantly larger decrease in firm loans during the Great Recession. Large firms were likely better positioned with stronger financial histories and diversified financing sources. However, the story was different for small and small-young firms, where the credit reduction was greater when their primary bank had a high LTD. This pattern aligns with evidence from Germany and Spain, where small firms also faced a temporary credit squeeze during the financial crisis (see Bentolila *et al.*, 2018; Huber, 2018). Yet, in Denmark, the impact for small-young firms was not just temporary – it persisted for several years.

Like Greenstone *et al.* (2020), we find no significant aggregate effect on net employment growth for small firms or large firms. However, as with the reduction in loan growth, we do find economically and statistically significant effects of credit constraints on employment growth for small-young firms – similar to Davis and Haltiwanger (2024). We estimate that the additional employment reductions made by small-young firms with high LTD banks correspond to 30% of the total reduction in employment growth for small-young firms over the period of 2008-2013. In particular, credit constraints played an important role in the first year of the crisis, 2008, where this reduced-form effect corresponds to 40% of the total reduction in employment growth in 2008. Our estimated

shares are similar to the short-term results in Chodorow-Reich (2014) for small and medium-sized firms in the US (30-50%), and the short-term results in Siemer (2019) for small firms and young firms in the US (30-35%).

In summary, our contribution is to show that the composition of a credit crunch matters for its economic fallout. We find that restricted credit growth and loan cuts have distinguishable effects on firm employment. This nuance refines our understanding of the credit channel in recessions and carries implications for both theory and policy. The evidence can help inform models of business cycles that include financial frictions, by illustrating how credit supply constraints can differentially affect firm growth versus survival. It also offers guidance to policymakers aiming to design macroprudential regulations and crisis interventions that safeguard financial stability without excessively constraining job creation. Recognizing the heterogeneous nature of credit constraints can lead to more effective and targeted responses when the next financial crisis hits.

The rest of this paper is organized as follows. Section 2 describes the data sources used and presents evidence of worker flows across firms. In Section 3, we show that banks with a high LTD tightened their credit supply relatively more. Section 4 zooms in on small and young firms and studies how labor market flows respond to financial conditions in these firms. We conclude in Section 5.

2. Data and Descriptive Statistics

In this section, we describe our comprehensive firm-level dataset, constructed by linking detailed Danish employer-employee records, firm accounting data, and bank loan information. We present summary statistics highlighting initial differences across firm types and document key patterns in employment flows that motivate our subsequent analysis of how credit constraints impacted firms differently during the Great Recession.

2.1. Data

For our analysis, we draw on several Danish population data sets, which can be combined using unique worker and firm identifiers. We use monthly employer-employee data to construct a quarterly firm-level data set, including worker transitions to and from each firm. This data set is linked to annual firm accounting data to construct a measure of value added per worker. Finally, we combine this with data on firms' bank loans and bank connections.

We construct a monthly spell data set covering all persons (employed or non-employed) aged 18-60 years for 2003-2013. This data set has been constructed using five data sets of which four (MIA, CON, RAS, BFL) are maintained by Statistics Denmark, and the fifth (DREAM) is maintained by the Danish Labor Market Board and contains weekly information on each person's public transfers.

We only consider private firms. We use monthly data to record worker transitions, which we aggregate into a quarterly firm data set. We measure the quarterly employment in a firm as the average monthly employment in the quarter. In Appendix A1, we describe the spell data construction in more detail.

We extract the basic information about the population of firms, such as industry and sector, from the annual FIRM register, maintained by Statistics Denmark. We supplement these data with the firm accounting data set, KOB, which the private data provider, Experian, maintains. The KOB data includes information on all limited liability firms and stock companies and has a higher coverage of variables such as value added compared to the accounting data from Statistics Denmark. Value added is recorded for 96% of firms in KOB, and the KOB data also includes the unique firm identifier.

We use the URTEVIRK register, provided by Statistics Denmark and maintained by the Danish Tax Authorities, to link limited liability firms and stock companies to their banks and other lenders.[2] In this register, we observe each firm's loans from each of its lenders by the end of the year. Almost all loans are unsecured bank loans.[3] To this, we merge balance-sheet information for the individual banks using data from the Danish Financial Supervisory Authority. We then characterize banks according to their loan-to-deposit ratio, LTD

$$LTD_j = \frac{Loans_j}{Deposits_j} \tag{1}$$

where j indexes the bank. We have information on LTD for 131 banks in 2007, which represent about 93.6% of the firms' total bank loans in 2007.

Jensen and Johannesen (2017) find that Danish banks with higher LTD in 2007 tightened their credit supply to Danish households more in response to the financial crisis. We use a similar strategy to identify bank credit supply shocks to firms.

[2]Other lenders are foreign banks, other firms, public debt, and other financial institutions (such as holding companies, financial leasing).

[3]Less than 0.5% of firms in 2007 have a collateralized loan.

We divide banks into high LTD and low LTD banks according to whether their LTD in 2007 is above or below the loan-weighted median in 2007. Next, we define a firm's primary bank as the bank with the highest loan amount in 2007 and group the firms by their primary bank's LTD. We refer to these two types of firms as high and low LTD firms. We only group firms by their LTD if they have loan amounts of at least 7,000 DKK (approximately 1,000 USD) per worker in 2007.[4] Otherwise, we categorize them as having no (or very limited) bank credit in 2007.[5]

We restrict our sample to firms with at least 5 employees in the third quarter of 2007 to ensure a minimum size and to exclude micro firms for which measurement of growth can be noisy. Furthermore, we exclude firms that have loans in foreign banks up to 2007 because we cannot track foreign banks. This removes about 2% of the observations. Lastly, we exclude firms in the financial sector. The final data set is a quarterly firm data set, which we use to graphically examine the worker flows over the business cycle. However, as bank loans are only available on an annual frequency, we also aggregate the firm data to an annual level to use in regressions.

2.2. Summary Statistics

Table 1 presents summary statistics for 2007, categorized by firm size and age, since our analysis examines how credit constraints affect firms of different sizes and ages. We consider three firm groups: large firms (more than 50 employees), small firms (5-50 employees), and small-young firms (5-50 employees and 0-3 years old, all as of 2007). Within each size and age category, we further split firms based on their credit access into firms whose primary bank had a high (above-median) loan-to-deposit (LTD) ratio, firms with a low (below-median) LTD ratio, and firms with no bank credit in 2007.

A first takeaway from Table 1 is that firms without bank credit differ markedly from those with bank loans. No-credit firms tend to be much smaller and are less likely to be manufacturers (more likely to be in construction) compared to firms that do borrow. In contrast, firms with high-LTD and low-LTD banks appear quite similar in 2007. The last column of Table 1 reports t-tests for differences in means between high- and low-LTD groups, and most differences are statistically insignificant.

[4] In the appendix, we show that we obtain similar results using cut-offs at 3,500 DKK and 14,000 DKK.

[5] The sample of limited liability firms and stock companies covers 1.1 million workers in 2007, which represents about 77% of the total private sector employment.

Large firms	Low LTD		High LTD			t-test
	Average	Std.error	Average	Std.error		low vs. high
Number of employed	194.88	25.68	217.21	23.51		-0.64
Manufacturing	0.41	0.02	0.42	0.02		-0.47
Construction	0.09	0.01	0.08	0.01		1.01
Large city	0.21	0.01	0.25	0.02		-2.11
Firm age	21.52	0.60	23.19	0.64		-1.92
Value-added per worker	546	25	545	22		0.05
Average salary per firm	27.9	0.25	28.6	0.26		-1.69
Total loans per worker	592	128	400	60		1.35
Total loan / total asset	0.24	0.01	0.23	0.01		1.14
Total debt / total asset	0.69	0.01	0.68	0.01		1.18
Equity per worker	788	110	1,045	259		-0.91
Firms	808		776			

Small firms	Low LTD		High LTD		No bank credit		t-test
	Average	Std.error	Average	Std.error	Average	Std.error	low vs. high
Number of employed	15.15	0.13	15.51	0.14	14.71	0.24	-1.88
Manufacturing	0.18	0.00	0.21	0.01	0.15	0.01	-4.03
Construction	0.20	0.00	0.18	0.01	0.25	0.01	2.47
Large city	0.21	0.01	0.21	0.01	0.19	0.01	-0.48
Firm age	12.29	0.13	13.51	0.16	13.64	0.27	-5.83
Value-added per worker	514	12	539	10	663	42	-1.64
Average salary per firm	25.5	0.10	26.5	0.13	28.2	0.25	-6.34
Total loans per worker	473	28	542	48	81	17	-1.23
Total loan / total asset	0.30	0.01	0.29	0.01	0.06	0.00	0.95
Total debt / total asset	0.74	0.00	0.72	0.00	0.59	0.01	4.62
Equity per worker	817	110	1,016	156	1,230	581	-1.04
Firms	6,308		5,050		1,641		

Small-young firms	Low LTD		High LTD		No bank credit		t-test
	Average	Std.error	Average	Std.error	Average	Std.error	low vs. high
Number of employed	12.42	0.22	13.04	0.28	12.56	0.54	-1.73
Manufacturing	0.13	0.01	0.14	0.01	0.09	0.02	-0.93
Construction	0.25	0.01	0.24	0.01	0.26	0.03	0.25
Large city	0.24	0.01	0.22	0.01	0.16	0.02	1.26
Firm age	2.10	0.02	2.09	0.03	2.09	0.05	0.37
Value-added per worker	437	20	461	15	491	19	-0.97
Average salary per firm	24.4	0.22	24.8	0.26	28.9	0.78	-1.21
Total loans per worker	306	35	414	70	87	21	-1.37
Total loans / total assets	0.37	0.02	0.37	0.02	0.12	0.02	0.06
Total debt / total assets	0.78	0.01	0.78	0.01	0.65	0.01	0.22
Equity per worker	430	160	378	102	256	33	0.27
Firms	1,323		895		243		

Table 1: Summary statistics for firms in 2007. Large firms have more than 50 employees, small firms have between 5 and 50 employees, and young firms are between 0 and 3 years old in 2007. Firms are split by their banks' LTD at the median. Firms with no bank credit either have no bank connection in 2007, or have 0 credit. Firms with high and low LTD banks have at least 7000 DKK in loans in 2007. Value-added per worker, average salary per firm, loan amount per worker, and Equity per worker are measured in 1,000 DKK in 2007, all annual except for average salary per firm, which is monthly. We have omitted sample statistics for large firms with no bank credit due to too few observations.

While about half of the sample means are significantly different for small firms, we note that the magnitudes of the differences are quite small. Among small firms, those linked to high-LTD banks have on average 0.36 more employees, pay about 1,000 DKK (roughly 140 USD) higher monthly salary per worker, and are about one year older than small firms with low-LTD banks. For large firms, the only significant difference is that 25% of high-LTD firms are located in a large city, versus 21% for low-LTD firms. Small-young firms show no significant differences at all between the high- and low-LTD groups. Furthermore, when we regress a high-LTD indicator on all 11 characteristics from Table 1, we find no joint significance for either large or small-young firms in explaining selection into high-LTD banks. In other words, observable traits do not systematically differ between firms with healthy vs. distressed banks in these categories.

2.3. Descriptive Evidence on Worker Flows

Using worker flows for the entire Danish private sector, we find that small firms – especially young ones – had the strongest employment growth before 2008 and then suffered the sharpest drop during the Great Recession. In Figure 1, small-young firms stand out with a peak-to-trough decline in net employment growth on the order of 6 percentage points, far greater than the contractions seen in any other group.[6] Further, the employment growth of small young firms after the crisis remain at a significant lower level than pre-crisis, indicating long lasting effect of the crisis. By contrast, larger or more mature firms exhibit milder fluctuations, and even high-wage or high-productivity firms (which were fast-growing pre-crisis) see declines only about half as severe as those of small-young firms. This indicates that the recession's impact on jobs was concentrated among the very firms that had been driving employment gains, suggesting a potential role of credit constraints in amplifying the bust for these vulnerable, growth-dependent businesses.

Similar findings have been documented by Haltiwanger *et al.* (2018) for the U.S. and by Bertheau and Vejlin (2022) for Denmark (1992-2013). These observations suggest a potentially important role for credit constraints in disproportionately amplifying the downturn among vulnerable, growth-dependent small-young firms – a mechanism we explore in detail in the subsequent analysis.

[6]We define small firms as those with fewer than 50 employees in the previous year and large firms have more than 50 employees in the previous year. High (low) productive firms have value added per worker above (below) the median in the year before. Similarly, we define high and low wage firms based on the average salary being above or below the median in the year before.

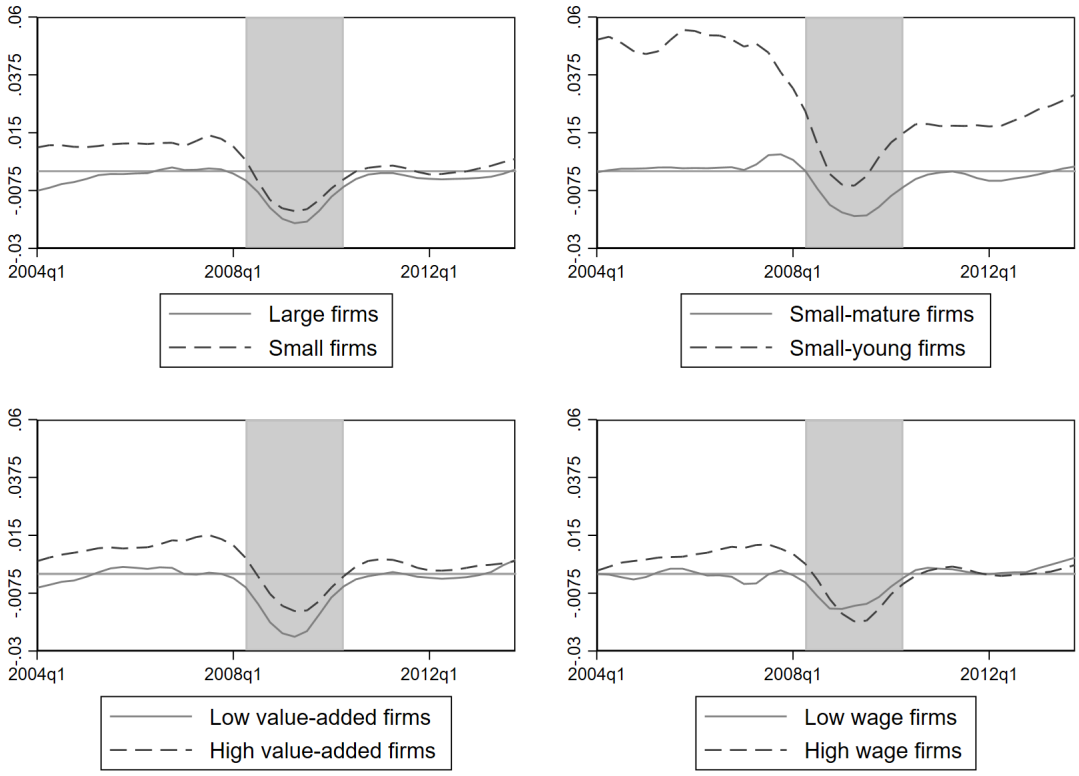

Figure 1: Quarterly net employment flows by firm size, firm age for the small firms, firm value added per worker, and average firm wage. Net employment flows are measured as total hires minus total separations for each firm-quarter relative to the previous quarter's employment level. Large firms have more than 50 employees in the previous year, while small firms have fewer than 50 employees in the previous year. Young firms are 3 years old or younger and mature firms are 4 years old and above in previous year. High value-added firms have above median value-added per worker in the year before. Low value-added firms have below median. High wage firms have average salaries above the median in the year before. Low wage firms have below median average salary. The plotted series are centered moving averages. The flows include flows due to firm entry and firm exit. In Appendix Figure A-2 the flows without firm entry and exit are depicted.

3. The Credit Channel

This section examines how credit constraints among banks affected firm credit during the Great Recession. In the years before the financial crisis leading to the Great Recession, bank lending in Denmark was expanded substantially. For this credit expansion, Danish banks had relied on unsecured, short-term loans on the international interbank market. This was a change in the way Danish banks financed loans as they had traditionally relied on deposit financing. This change in

lending channel naturally implied an increasing loan-to-deposit ratio (LTD) of Danish banks in the build-up to the crisis. Between 2000 and 2007, the LTD of the 131 banks we consider went from an average of 1.03 to an average of 1.44.

Danish banks had very little direct exposure to the US subprime mortgage crisis. However, their exposure to the international interbank market made them vulnerable as the international interbank market froze following the bankruptcy of Lehman Brothers in September 2008. The financial crisis in Denmark started with the collapse of the 10th largest bank, Roskilde Bank, in August 2008. From this point until the autumn of 2010, the Danish banking sector experienced a systemic financial crisis with liquidity dry-ups and large write-downs on bad loans.

The Danish Central Bank intervened several times to provide liquidity to the banks, and the Danish government provided an unlimited guarantee covering all the liabilities in the Danish banking sector. Despite these interventions, many banks were distressed, and the authorities closed 15 banks from 2008 to 2011, and several other banks agreed to take part in mergers to avoid failure (Rangvid, 2013).

3.1. Banks and Credit Constraints

Banks with high loan-to-deposit (LTD) ratios were particularly vulnerable when the interbank market froze in September 2008. Facing acute liquidity shortfalls, these banks sharply tightened lending to preserve solvency. In our analysis, we classify each firm based on the health of its primary bank before the crisis. Firms whose primary bank had an above-median LTD ratio in 2007 are labeled as high-LTD firms, while firms whose primary bank had a below-median LTD ratio are labeled as low-LTD firms.[7]

We examine how these lending patterns differed by firm size and age, since younger small firms might be especially sensitive to credit shocks. Figure 2 shows aggregate loan volume (indexed to 1 in 2007) for high- vs. low-LTD firms in three groups: large firms (50+ employees), small firms (5-50 employees), and small-young firms (5-50 employees and 0-3 years old in 2007). We focus on small-young firms because, as noted in 2.3, they experienced the most severe employment contractions during the recession, suggesting they might be most vulnerable to credit constraints.

[7] Most Danish firms only have bank loans from their primary bank. As much as 96% of the firms' total loan amounts are loans from their primary bank. Furthermore, 89% of the firms have more than 90% of their total bank loans from their primary bank.

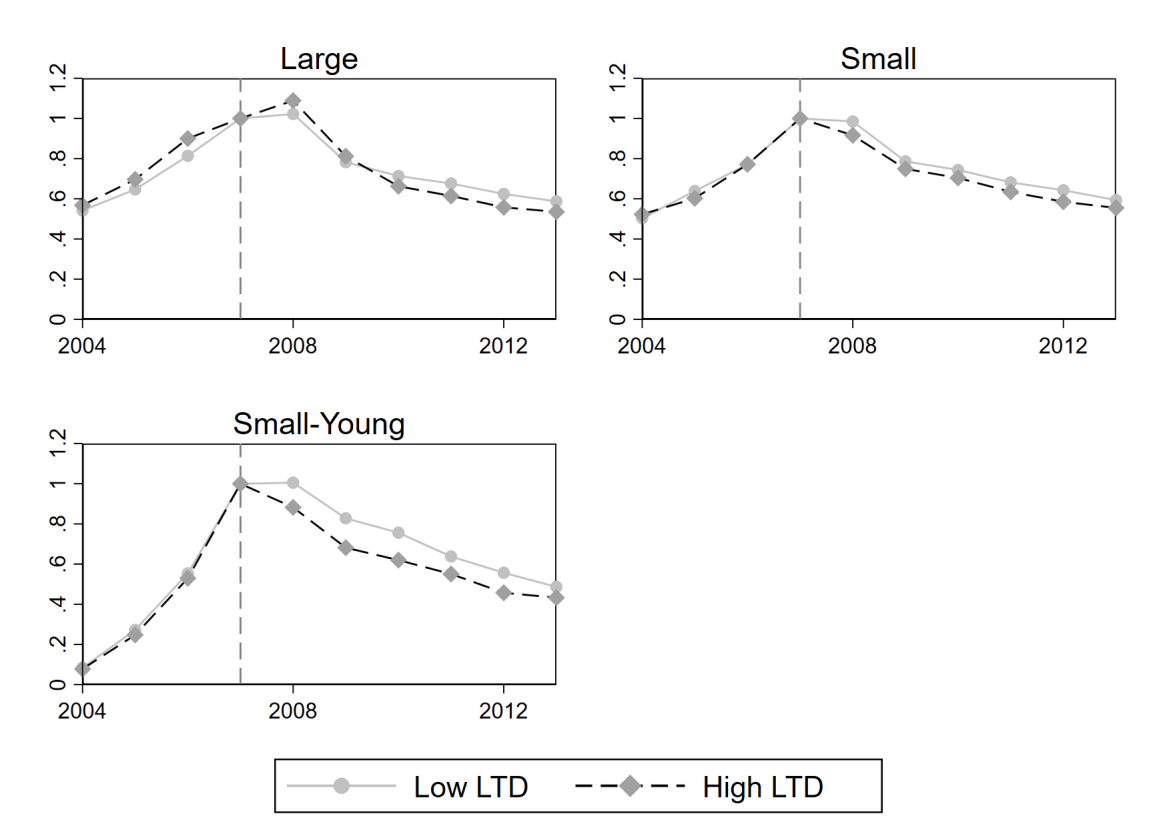

Figure 2: The aggregate loans (index=1 in 2007) for large firms (more than 50 employees in 2007), small firms (between 5 and 50 employees in 2007), and small-young firms (between 5 and 50 employees in 2007 and up to three years old in 2007). Firms are only included if their loan amount exceeds 7,000 DKK per worker in 2007. Only firms existing in 2007 are included. Loans are winsorized at the 99% level in 2007.

After 2007, aggregate loan balances declined for firms in all categories, but the drop was steepest for small-young firms. Among large firms, high- and low-LTD groups show virtually no difference in loan trend. In contrast, small firms – especially the small-young subset – linked to high-LTD banks suffered substantially larger loan contractions in 2008. The decline in credit for small-young firms with high-LTD banks was roughly twice as large as that for similar small firms with healthier banks. Notably, high- and low-LTD firms had very similar loan growth trajectories before 2008 (particularly in the small and small-young categories), which suggests that the divergence observed during the crisis was driven by the sudden credit supply shock rather than differences in firms' initial trends.

In summary, firms reliant on distressed (high-LTD) banks experienced greater credit contractions during the crisis, particularly if they were small and young. Next, we formally test whether this credit supply effect is statistically significant at the firm level and what it implies for firm outcomes.

3.2. Event Study of Credit Constraints

It is difficult to disentangle how much of the overall reduction in bank lending was driven by credit supply vs. credit demand. While banks faced liquidity and solvency problems and needed to cut lending, some firms also reduced their bank loans as a result of investments being less profitable under the weaker economic conditions. To isolate the credit supply effect, we exploit the variation in bank health by comparing firms tied to high-LTD banks with those tied to low-LTD banks. This approach relies on the assumption that a firm's primary bank LTD ratio in 2007 is unrelated to the firm's underlying performance or credit demand. Under this assumption, any difference in lending outcomes between high-LTD and low-LTD bank firms can be attributed to the bank's liquidity shock. Thus, we focus on the differential impact of having a weaker (high-LTD) bank on firm-level loan growth.

We next conduct an event-study analysis around the crisis to test whether the loan differences between high- and low-LTD firms observed in Figure 2 are statistically significant at the firm level, and whether their pre-2008 trends were parallel. Specifically, we estimate the following model:

$$log(loan_{i,t}) - log(loan_{i,t-1}) = \psi_i + \beta_t highLTD_{j(i)} + \Omega_t + \delta X_{it} + u_{it} \tag{2}$$

In this model, the outcome is the annual log change in firm i's total loans, in which we have recoded zero loans to 1 DKK. The key independent variable is the indicator $highLTD_{j(i)}$ that equals 1 if firm i's primary bank j had an above-median LTD ratio in 2007. We include firm fixed effects to control for time-invariant firm characteristics, and year fixed effects Ω_t to absorb economy-wide shocks. The vector X_{it} adds further controls: industry-by-year and municipality dummies (and for the small-young firm subsample, we also include firm-age-by-year dummies to account for lifecycle effects of young firms). The coefficients β_t measure the year-by-year difference in loan growth between firms with high-LTD banks and those with low-LTD banks, with β_{2007} normalized to zero (so all differences are relative to the pre-crisis baseline year 2007). We cluster standard errors by the firm's primary bank (as of 2007) to allow for correlated shocks among firms sharing the same bank.

In addition, we estimate a simplified difference-in-differences version of the model, where we set all pre-2008 β_t to zero and estimate a common differential effect, β, for the post period:

$$log(loan_{i,t}) - log(loan_{i,t-1}) = \psi_i + \beta highLTD_{j(i)} \times post_t + \Omega_t + \delta X_{it} + u_{it} \quad (3)$$

where $post_t$ is a dummy variable indicating that the year is 2008 or later.[8] The parameter β is the difference-in-differences effect which measures the average annual change in the log of loans for high LTD firms relative to low LTD firms.

It is worth noting that our difference-in-differences strategy captures only a partial equilibrium effect of the credit supply shock. In other words, it measures the direct impact on affected firms and does not incorporate general equilibrium feedback. For example, if reduced lending lowered overall product demand, this could indirectly suppress loan demand across the entire economy. Such general equilibrium effects are instead absorbed by the time dummies included in equations (2) and (3).

Figure 3 plots the estimated year-by-year differences in loan growth (β_t from equation (2)) between high-LTD and low-LTD bank firms with 95% confidence bands. The credit supply shock has its clearest impact in 2008. Small-young firms with high-LTD banks experienced a statistically significant drop in loan growth compared to firms linked to healthier banks. Small firms (5-50 employees) experienced a similar, though statistically insignificant, decline in 2008, while large firms (50+ employees) showed only a minor reduction. For small-young firms, the negative gap persisted through 2013, with β_t remaining below zero in each year following the crisis. This indicates a prolonged period of tighter credit constraints for these firms, although not all annual estimates are individually statistically significant. Importantly, Figure 3 also confirms parallel loan growth trends between high-LTD and low-LTD firms prior to 2008. The β_t estimates for 2005-2007 are essentially zero. This supports our interpretation that the differences observed after 2008 stem from the credit supply shock.

The post-2007 differential loan effect can be interpreted as supply effects if the loan growth had been parallel in the absence of the credit crunch disproportionally affecting high LTD banks. Figure 3 suggests that loan growth prior to 2008 was parallel for high and low LTD firms, as none of the pre-2008 effects are significantly different from 0. Furthermore, Table 1 shows that,

[8] For the samples of large and small firms, we use a pre-period of 2004-2007, but because small-young firms are 0-3 years old in 2007, we can only use 2005-2007 as the pre-period.

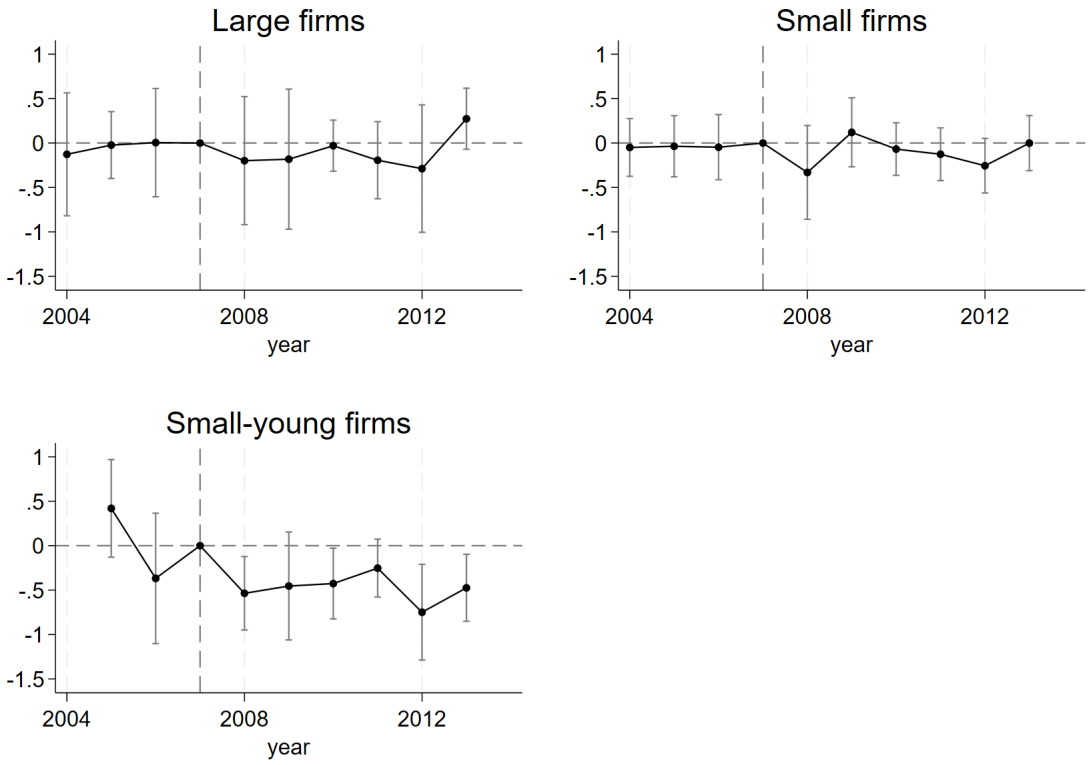

Figure 3: Estimated differential year effects between high and low LTD firms, i.e. β_t from equation (2) where the dependent variable is the growth rate in total loans. Effects are estimated for large firms (more than 50 employees in 2007), small firms (between 5 and 50 employees in 2007) and small-young firms (between 5 and 50 employees in 2007 and up to three years old in 2007) separately. We include industry $\times$ year fixed effects, municipality fixed effects, and firm fixed effects. For small-young firms, we also include firm-age $\times$ year fixed effects. In Appendix Figure A-3, the same figure is depicted without any fixed-effects. Firms are only included if their loan amount exceeds 7,000 DKK per worker in 2007. In Appendix Figures A-4 and A-5 estimated coefficients are shown from regressions using cutoffs of 3,500 and 14,000 DKK per worker in 2007. The confidence 95% pointwise intervals are based on standard errors clustered at the firms' primary bank level.

in particular, large and small-young firms had similar characteristics in 2007. Therefore, we argue that firms did not select banks based on the banks' LTD in 2007. Hence, we believe that we can exclude anticipation effects for the banks' credit supply and estimate the causal effect of a high LTD primary bank on firm credit.[9]

[9]Jensen and Johannesen (2017), studying the effect of the credit crunch for consumers with the same research strategy, also find no selection effect for consumers in Denmark.

Table 2 shows the results from estimating the effect of having a bank with a high LTD as one's primary bank in 2007 on the loan growth rate using the difference-in-differences design in equation (3). This serves as a way of testing the coefficients from Figure 3 jointly. As above, we consider different samples based on firm size and age. Furthermore, we also consider different post-treatment periods: 2008, 2008-2009, and up to 2008-2013. Each cell in Table 2 gives the difference-in-differences estimate of β from equation (3) for a different sample. For example, in the first row, we only include 2008 as the post-treatment period, and in the first column, the results are for large firms.[10]

In line with our results from Figure 3, we estimate substantially larger differential reductions in loan growth for small-young firms compared to large and small firms. Specifically, we estimate a differential effect of -0.50 log points for small-young firms with 2008 as the post period. The same effect is -0.19 log points for large firms and -0.34 for small firms, though it is not significant at a 5% level for large firms. Extending the post-period diminishes the estimates for small firms, and the loan reductions are all insignificant. In contrast, estimates for small-young firms remain high and significant for all considered post-periods. This implies that the post period effects from Figure 3 are jointly significant for small-young firms. Thus, small-young high LTD firms experienced persistently lower loan growth rates after 2007.

Our conclusions from Figure 3 and Table 2 regarding small and small-young firms are in line with the banking literature, which suggests that lending to small firms was adversely affected in the Great Recession (see e.g., Albertazzi and Marchetti (2010), Chodorow-Reich (2014), and Iyer *et al.* (2014) and the review in Udell (2020)). Small firms typically do not have access to the corporate bond market, limiting their ability to raise liquid capital. Furthermore, due to large information asymmetries in the capital market, credit is rationed. This rationing of credits especially affects small firms and particularly small-young firms since assessing small-young firms' future prospects is more difficult for lenders. Furthermore, small-young firms, by definition, have shorter bank-firm relationships than older firms.

To further pinpoint which small firms drove the credit supply effect, Figure 4 breaks down the small firm category by firm age (0-3, 4-9, 10-14, and 15+ years old in 2007). This reveals that

[10] Table 2 shows estimates that are firm weighted and with controls. We provide results without controls in Appendix Table A-1 and employment weighted estimates in Appendix Table A-2. The results are qualitatively similar.

	Large firms	Small firms	Small-young firms
HighLTD X 2008	-0.193	-0.335**	-0.498***
	(0.217)	(0.167)	(0.153)
HighLTD X 2008-2009	-0.185	-0.0876	-0.374**
	(0.208)	(0.127)	(0.181)
HighLTD X 2008-2010	-0.124	-0.0820	-0.388**
	(0.132)	(0.101)	(0.158)
HighLTD X 2008-2011	-0.118	-0.0915	-0.365**
	(0.119)	(0.0868)	(0.149)
HighLTD X 2008-2012	-0.119	-0.117	-0.435***
	(0.118)	(0.0767)	(0.144)
HighLTD X 2008-2013	-0.0781	-0.0870	-0.406***
	(0.104)	(0.0744)	(0.128)
Observations			
2008	7,513	49,059	5,847
2008-2009	9,063	60,731	9,062
2008-2010	10,468	70,448	11,190
2008-2011	11,817	79,402	13,103
2008-2012	13,110	87,668	14,801
2008-2013	14,360	95,325	16,356

Table 2: The effect on annual log changes in total loan amounts from having a primary bank with a high LTD as in equation (3). Each cell is the difference-in-differences estimate from a regression of the log changes in total loans on a dummy for high loan-to-deposit ratio interacted with different post periods, i.e. the estimated β from equation (3). We include industry $\times$ year fixed effects, municipality fixed effects, and firm fixed effects. For small-young firms, we also include firm-age $\times$ year fixed effects. Large firms have more than 50 employees in 2007, small firms have between 5 and 50 employees in 2007, and small-young firms have between 5 and 50 employees in 2007 and are up to three years old in 2007. Firms are only included if the firms' loan amounts per worker exceed 7,000 DKK in 2007. In Appendix Table A-1 results are shown without controls and with only firm fixed effects. In Appendix Table A-2 results from employment weighted regressions are shown. Appendix Table A-3 shows results for firms with loan amounts exceeding 3,500 and 14,000 DKK per worker, respectively. In Appendix Table A-4 zero loans have been recoded to 0.001 and 1,000 DKK, respectively. In Appendix Table A-5 results for the intensive margin are shown. Standard errors are clustered at the primary bank level. *** $p < 0.01$, ** $p < 0.05$, *$p < 0.1$.

the credit shock's impact is concentrated among the youngest small firms. Small firms founded 0-3 years before the crisis show a pronounced and persistent loan growth gap under high-LTD banks, whereas slightly older small firms (4-9 years) exhibit a weaker and less consistent effect (with a significant gap appearing only in 2011). Small firms over 10 years old experienced virtually no difference in loan growth between high- and low-LTD bank groups. Thus, within the small firm segment, it was primarily the very young firms – those likely to be most dependent on external finance – that suffered most from the credit tightening.

In summary, our findings in Sections 3.1 and 3.2 confirm a significant credit supply contraction

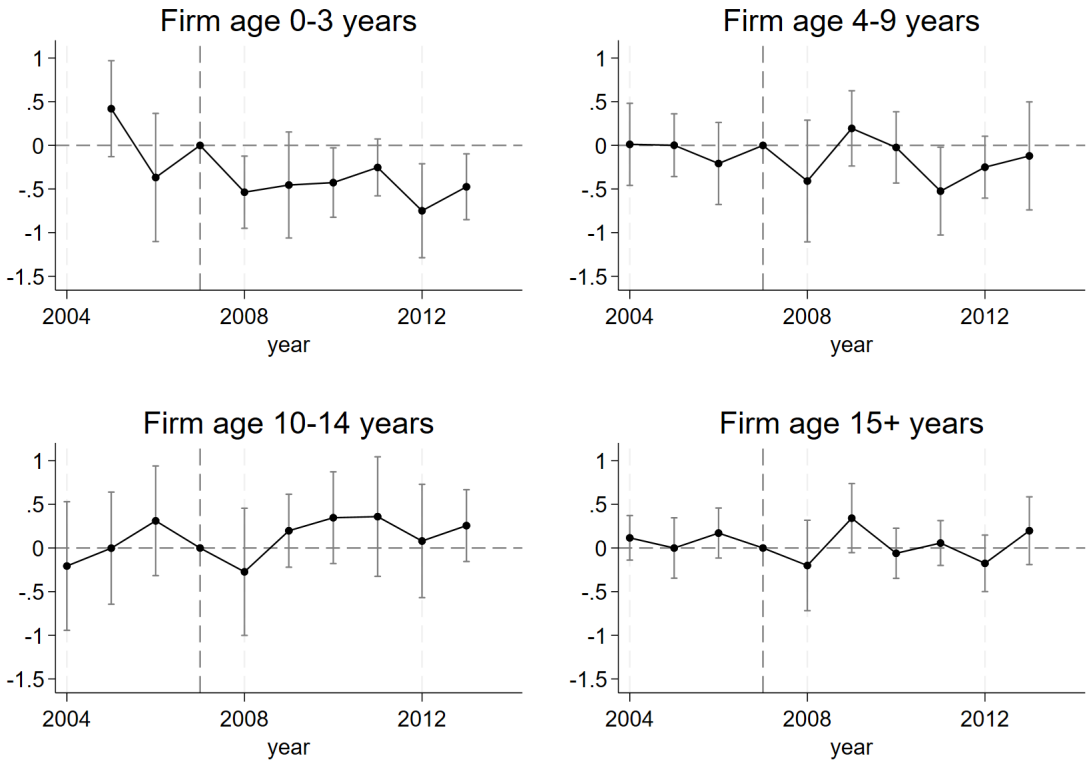

Figure 4: Estimated differential year effects between high and low LTD firms, i.e. β_t from equation (2) for small firms (between 5 and 50 employees in 2007) by age in 2007 into categories of ages 0 to 3, ages 4 to 9, ages 10 to 14, and ages 15 and above. The dependent variable is the growth rate in total loans. We include industry $\times$ year fixed effects, municipality fixed effects, and firm fixed effects. For firms aged 0-3 years, we also include firm-age $\times$ year fixed effects. In Appendix Figure A-6, the same figure is depicted without any fixed-effects. Firms are only included if their loan amounts exceed 7,000 DKK per worker in 2007. The confidence 95% pointwise intervals are based on standard errors clustered at the firms' primary bank level.

for firms connected to distressed banks, particularly among small, young businesses. In the next section, we examine how these differential credit constraints translated into differences in employment growth.

4. Employment Growth and Credit Constraints

In Section 2.3, we saw that the small-young firms experienced especially large reductions in net employment flows during the Great Recession. Next, Section 3 established that it was the small firms and mainly the small-young firms with a high LTD bank that experienced a larger reduction in credit. In this section, we combine the aggregate net employment flows with the bank information of the firms to analyze the direct effect of bank credit on employment.

4.1. Bank Credit Exposure and Employment Growth

Figure 5 illustrates the trajectory of aggregate net employment flows for each firm type, grouping firms by their banks' 2007 LTD ratios (high vs. low). Two insights are clear from the figure. First, small firms – especially the youngest ones – without any bank credit before the crisis saw the smallest declines in net employment during the recession.[11] For instance, small firms without bank credit had a minimum quarterly growth rate of -1.8%, much milder than the -2.8% low point for bank-dependent firms. All three types of firms had around 2% employment growth before the crisis. Note that we do not interpret the superior performance of firms with no 2007 loans as a causal effect of lacking credit, since the decision to have bank credit itself reflects firm traits (Table 1).[12]

Second, large and older small firms show negligible differences in employment growth between high- and low-LTD bank groups during the recession. Only small-young firms exhibit a clear divergence: those tied to high-LTD banks suffer a sharper initial drop in net employment and remain on a lower growth path through early 2012, compared to peers with healthier banks.

Figure 6 further breaks down small firms by age (0-3, 4-9, 10-14, 15+ years) to examine whether the credit effect persists as firms mature. Consistent with the earlier loan growth patterns (see Figure 4), any employment growth gap disappears for firms older than 3 years. This age breakdown also explains why Figure 5's small-firm series showed little difference overall as young firms form only a small fraction of all small firms and an even smaller fraction of their total employment.[13]

[11] We do not show the development in net employment growth for large firms with no bank credit since this series is too noisy due to too few observations.

[12] Consequently, we drop firms with no bank credit in 2007 in all the subsequent figures and tables. In Table 3 with our main results, we actually drop all firms with bank loans of less than 7,000 DKK per worker in 2007, which corresponds to roughly 1,000 USD per worker. As a robustness check, we drop firms with, respectively, 3,500 DKK and 14,000 DKK per worker in 2007 in Appendix Table A-3. Qualitatively, we obtain similar results.

[13] There are 2.218 small-young firms and 11.358 small firms with bank credit in our sample. On average, the small-young firms with bank credit have 13 employees, whereas small firms with bank credit have 15 employees per firm. Together, this means that small-young firms employ approximately 17% of the overall sample of workers in

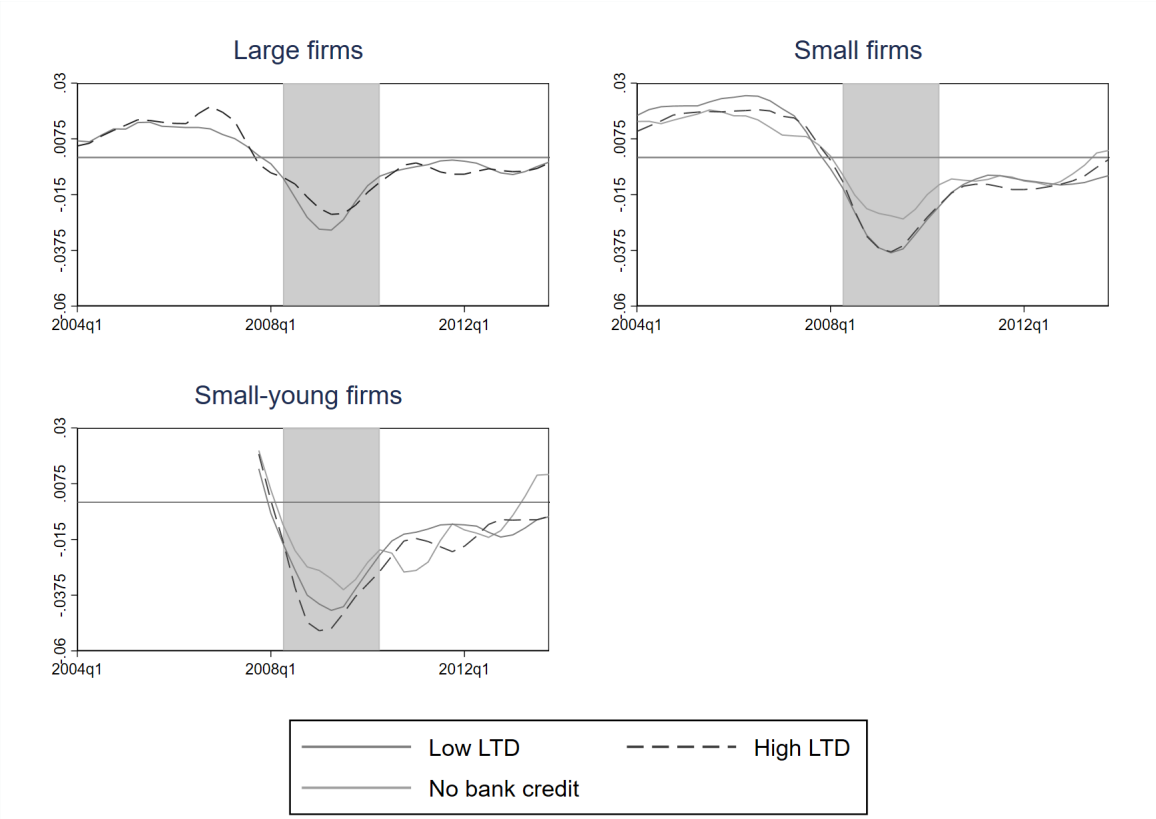

Figure 5: Quarterly net employment flows. We compare firms with no bank credit, low LTD banks, and high LTD banks. Small firms have between 5 and 50 employees in 2007, young firms are 0-3 years old in 2007, and large firms have more than 50 employees. Large firms with no bank credit are not depicted due to too few observations. The flows include firm exits. The corresponding figure without firm exits is Appendix Figure A-8. The plotted series are centered moving averages.

We interpret the differential post-2008 employment trends as causal effects of credit supply shocks under the parallel-trends assumption – namely, that in the absence of the credit shock, high-LTD and low-LTD firms would have had similar loan and employment trajectories. The fact that their pre-2008 trends in Figure 5 are nearly identical supports this assumption, so we proceed with a difference-in-differences analysis.[14]

small firms. If we alternatively consider firms with between 5 and 25 employees in 2007, we see a small employment effect, as shown in Appendix Figure A-10. However, the share of employment by small-young firms among firms with between 5 and 25 employees is higher at 20%.

[14] Additionally, Table 1 showed that small-young and large firms seem balanced across high and low LTD. The

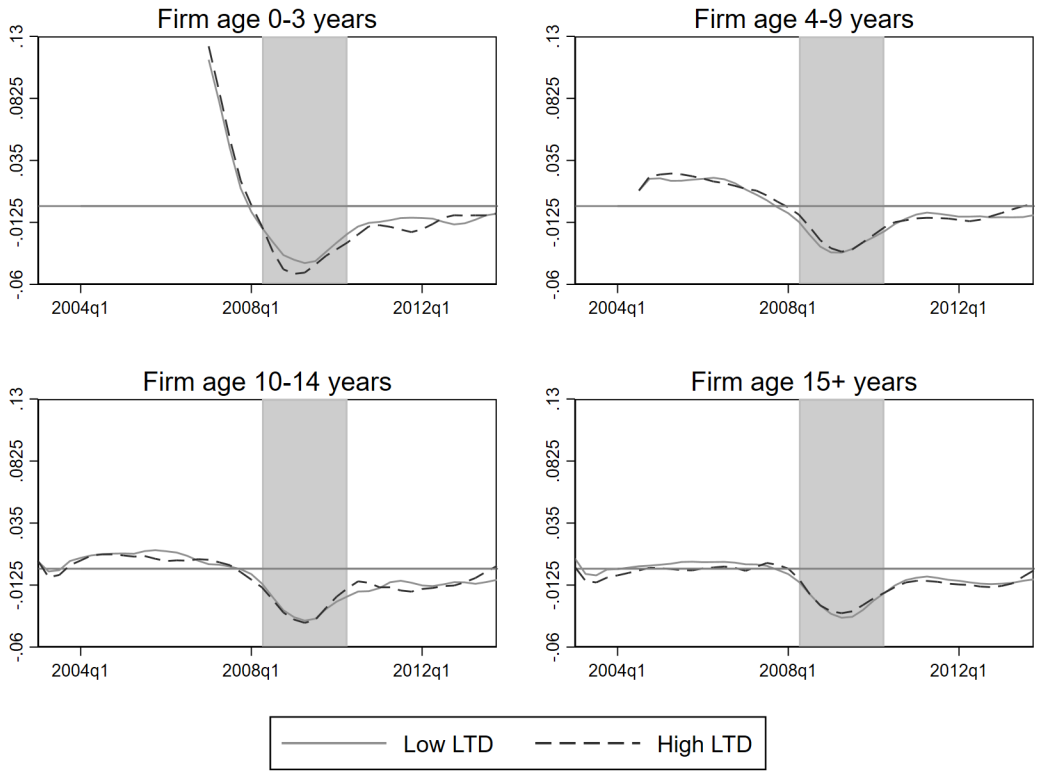

Figure 6: Quarterly net employment flows for small firms (between 5 and 50 employees in the third quarter of 2007) by age in 2007, divided into categories of ages 0 to 3, ages 4 to 9, ages 10 to 14, and ages 15 and above. We compare firms with low LTD banks and firms with high LTD banks. The flows include firm exits. In Appendix A-9, we extend the pre-period by one year for firms aged 0-3 years in 2007 to verify that the pre-trends indeed are parallel. The plotted series are centered moving averages.

In Table 3, we present difference-in-differences estimates from reduced-form regressions (similar to equation (3)) that replace total loan growth with employment growth as the dependent variable. We measure annual employment growth as net employment flows (hires minus separations) divided by the previous year's workforce.

Columns 1-2 show negligible, statistically insignificant effects on employment for large and small firms. This outcome is unsurprising for large firms, given the insignificant first-stage results in Table

pre-crisis loan growth trends are also parallel, as demonstrated in Figures 2 and 3, further supporting the assumption of comparable counterfactual loan and employment growth across firm types.

	Large firms	Small firms	Small-young firms
HighLTD X 2008	-0.0247	-0.000523	-0.0808**
	(0.0266)	(0.0123)	(0.0328)
HighLTD X 2008-2009	-0.0169	0.00217	-0.0637**
	(0.0214)	(0.0108)	(0.0247)
HighLTD X 2008-2010	-0.0120	0.00300	-0.0579**
	(0.0182)	(0.0104)	(0.0234)
HighLTD X 2008-2011	-0.0112	0.00319	-0.0668***
	(0.0165)	(0.00948)	(0.0229)
HighLTD X 2008-2012	-0.0118	0.00200	-0.0665***
	(0.0155)	(0.00945)	(0.0232)
HighLTD X 2008-2013	-0.0118	0.00384	-0.0646***
	(0.0149)	(0.00949)	(0.0232)
Observations			
2008	7,619	50,985	6,155
2008-2009	9,181	62,859	9,412
2008-2010	10,617	72,963	11,658
2008-2011	11,993	82,307	13,677
2008-2012	13,308	90,993	15,486
2008-2013	14,577	99,128	17,171

Table 3: The effect on annual employment growth in the firm from having a primary bank with a high LTD. Employment growth is defined on the intensive margin as the firm's net employment flow (hires-separations) divided by its lagged employment. Each cell in the Reduced-form columns is a difference-in-differences estimate from a regression of employment growth on a dummy for high LTD interacted with different post periods, i.e. β from equation (3) when replacing the dependent variable with the employment growth. We include firm age $\times$ year fixed effects, industry $\times$ year fixed effects, municipality fixed effects, and firm fixed effects. Firms are only included if the firms' loan amounts per worker exceed 7,000 DKK in 2007. Appendix Table A-6 shows reduced-form results without controls and with only firm fixed effect. The corresponding results using employment weighted regressions are provided in Appendix Table A-7. Appendix Table A-8 shows results for firms with loan amounts exceeding 3,500 and 14,000 DKK per worker. Standard errors are clustered at the primary bank level. *** $p < 0.01$, ** $p < 0.05$, *$p < 0.1$.

2. While the first stage is significant for small firms in 2008, it does not translate into a discernible employment impact.

By contrast, small-young firms with high-LTD banks experience a notable decline in net employment growth compared to those with low-LTD banks. Specifically, Table 3 (column 3, row 1) indicates an 8.1 percentage-point drop in net employment growth from 2007 to 2008 for small-young firms tied to high-LTD banks. These annual regression coefficients exceed the figure-based estimates (which use quarterly data), naturally inflating the measured magnitude. Moreover, the employment gap remains substantial. Having a high-LTD bank is associated with approximately 6.5 percentage points lower annual job growth (on average from 2008-2013), and this effect is statistically significant.

4.2. The Direct Effect of Credit on Employment Growth

To quantify how a change in credit affects firm-level employment, we estimate an elasticity of employment growth with respect to loan growth, using the following regression:

$$\frac{NEF_{it}}{emp_{i,t-1}} = \phi_i + \alpha \left[log(loan_{i,t}) - log(loan_{i,t-1}) \right] + \Theta_t + \pi X_{it} + v_{it} \tag{4}$$

In this equation, the left-hand side is the net employment flow (NEF_{it}) at firm i divided by the previous year's employment. We include firm fixed effects ϕ_i to absorb time-invariant differences and year effects (Θ_t) to capture common shocks. X_{it} contains additional controls (industry-by-year, municipality, and firm-age-by-year dummies). The coefficient α is our parameter of interest, capturing the employment-growth elasticity with respect to loan growth.

For our baseline IV specification, we use the bank health shock as an instrument for loan growth. Specifically, we instrument the change in log loans with $highLTD_i \times post_t$ (from equation (3)), which captures being attached to a distressed bank after 2008. The 2SLS estimates (Table 4, column 1) suggest an employment-loan growth elasticity around 0.13 to 0.16, although these estimates are only significant at the 5% level for the post-periods that include 2012 onward.[15] We probe the robustness of this result using alternative instrument sets in Table 4. All variants interact the instrument with a post-2008 dummy. First, instead of a high-LTD dummy, column 2 uses a linear LTD term ($LTD_i \times post_t$), treating bank health as continuous.[16] Second, column 3 combines the high-LTD dummy with a linear term for banks below the median LTD ($LTD_i \times (1 - highLTD_i) \times post_t$), since the relationship between LTD and loan growth is stronger in the lower half of the distribution. As a balancing test, we regress each of the three instruments – omitting their interaction with the post-2008 dummy – on the 11 variables from Table 1 for the small-young firm sample and find no joint significance (results not reported). While this does not prove exogeneity, it is nonetheless reassuring.

Using the alternative instruments in columns 2 and 3, we obtain both higher and lower estimates. Reassuringly, the two alternative IV estimates lie within the baseline 2SLS estimate's 95% confidence interval. In column 3, we obtain significant effects at the 5% level for all post-periods that include 2011 onwards.

[15] We have not reported the insignificant 2SLS estimates for large and small firms since the reduced-form estimates are insignificant.

[16] For this estimation, we enforce a linear relationship between loan growth and LTD. To achieve significant first stages, we trim the dataset by removing very high LTDs. This reduces the 2005-2013 dataset by 239 observations.

One concern with the IV results is instrument weakness, given that several first-stage F-statistics in Table 4 are below 10. Nonetheless, the F-statistics and Stock-Wright LM-S p-values reported in Appendix Table A-9 indicate that our instruments remain informative. In particular, when both HighLTD and linear LTD for low LTD values are included (column 3), the F-statistics exceed 10. Although the other specifications have lower F-values, the Stock-Wright LM-S test is rejected across all models, implying that the IV estimates still possess sufficient power. To further validate these findings, we re-estimate the overidentified specification (column 3) using LIML, which is more robust to weak instruments (Angrist and Pischke, 2009). The resulting LIML estimates (column 4) closely match those from 2SLS and, together with the expected signs and significance in the reduced-form relationships, reinforce confidence in our IV strategy.

Overall, our findings align with those of Greenstone *et al.* (2020) and Davis and Haltiwanger (2024) in that credit shocks had only modest aggregate employment effects on average for small firms, but importantly we find a statistically significant impact within the vulnerable subgroup of small-young firms (where credit constraints bind the most). In Greenstone *et al.* (2020), the estimated elasticities are below 0.025. However, we find that among the small-young firms, bank credit does have a statistically significant effect on employment growth during the Great Recession. This is similar to Davis and Haltiwanger (2024), although the elasticities are not directly comparable.[17] We also note that the magnitude of our elasticity is sensitive to how we treat zero-loan observations in the first stage. If, for example, we recode zero loan values as 0.001 DKK instead of 1 DKK, the estimated elasticities for small-young firms drop slightly (to around 0.09-0.12, see Appendix Table A-11).[18] Thus, despite some sensitivity in magnitude, the evidence consistently indicates that increases in credit availability led to higher employment growth for small, young firms during the Great Recession.

4.3. The Importance of Credit for Firm Expansion and Contraction

Why is the employment of small-young firms affected more by credit constraints than other firms? Unlike other small firms, many small-young firms are in a phase of expansion which often

[17] The main focus of Davis and Haltiwanger (2024) is on the effect of housing prices on employment growth at the MSA level. For their estimation of the effect of small business loans, they use a shift-share variable where different banks' national small business loan growth rates are weighted by each bank's share of small business lending in the MSA. Our elasticity estimates are about 2-3 times larger than their small business loan elasticity estimates. This seems intuitive as the tightening of credit policies probably will not impact all firms in a MSA with the same intensity.

[18] When recoding zero loans to 1,000 DKK, we obtain elasticities in the range of 0.21 to 0.25.

	Loan growth				Positive loan growth	Negative loan growth
2008	0.128*	0.267*	0.116*	0.122*	0.156	-0.0136
	(0.0692)	(0.156)	(0.0610)	(0.0656)	(0.0987)	(0.131)
2008-2009	0.150	0.353	0.104*	0.132	0.155*	0.00872
	(0.0964)	(0.245)	(0.0570)	(0.0856)	(0.0897)	(0.0834)
2008-2010	0.127*	0.268*	0.0911*	0.110*	0.134*	0.00399
	(0.0761)	(0.151)	(0.0476)	(0.0644)	(0.0767)	(0.0804)
2008-2011	0.163*	0.301*	0.124**	0.148**	0.167**	0.0256
	(0.0856)	(0.152)	(0.0509)	(0.0719)	(0.0781)	(0.0753)
2008-2012	0.135**	0.238**	0.116**	0.124**	0.146**	0.0531
	(0.0630)	(0.111)	(0.0441)	(0.0495)	(0.0663)	(0.0681)
2008-2013	0.142**	0.234**	0.125***	0.133**	0.148**	0.0571
	(0.0635)	(0.0984)	(0.0471)	(0.0523)	(0.0635)	(0.0786)
Estimation:	2SLS	2SLS	2SLS	LIML	2SLS	
Instruments:						
High LTD	✓		✓	✓	✓	
Linear LTD		✓				
Linear LTD for low LTD			✓	✓	✓	
Observations:	5,847	5,761	5,847	5,847	5,847	
	9,062	8,933	9,062	9,062	9,062	
	11,190	11,029	11,190	11,190	11,190	
	13,103	12,913	13,103	13,103	13,103	
	14,801	14,585	14,801	14,801	14,801	
	16,356	16,115	16,356	16,356	16,356	

Table 4: The effect of annual loan growth on annual employment growth for small-young firms. Employment growth is defined on the intensive margin as the firm's net employment flow (hires-separations) divided by its lagged employment. All estimation results are from IV estimations, with each row considering different post-periods. In columns 1-3, we use 2SLS, whereas in column 4, we use LIML. In column 1, loan growth is instrumented with a dummy for high LTD interacted with a post-period dummy. In column 2, we instrument using the linear LTD interacted with the post-period dummy. For this regression with linear LTD as instrument, the dataset was trimmed at the top 1% of LTD values to obtain a stronger first stage. In columns 3 and 4, we use the high LTD dummy and linear LTD for LTDs lower than the median as instruments. Both variables are interacted with the post-2008 dummy. Columns 5-6 give the joint estimates for positive and negative loan growth where we also use the high LTD dummy and linear LTD for LTDs lower than the median as instruments. All regressions include firm age $\times$ year fixed effects, industry $\times$ year fixed effects, municipality fixed effects, and firm fixed effects. Firms are only included if their loan amount per worker exceeds 7,000 DKK in 2007. The corresponding first stage results are shown in Appendix Table A-9. Results with only year fixed effects and firm fixed effects are shown in Appendix Table A-10. Appendix Table A-11 shows the 2SLS estimates using high LTD as instrument, with zeros recoded as 0.001 DKK and as 1,000 DKK. Standard errors are clustered at the primary bank level. $p < 0.01$, ** $p < 0.05$, *$p < 0.1$.

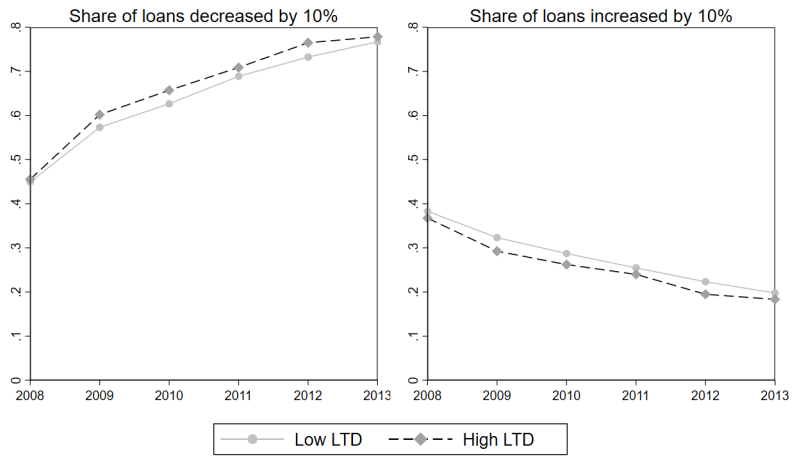

Figure 7: Share of loans that have increased or decreased by more than 10% since 2007 for high and low LTD firms. Firms that have closed are included among those with loan decreases of more than 10%. The figure includes only small-young firms with loan amounts per worker exceeding 7,000 DKK in 2007. Appendix Figure A-11 shows the figure with 25% increases and decreases.

requires credit. This implies that the growth of small-young firms depends on them being able to increase credit, not just maintain existing credit. Furthermore, Figure 3 showed that the differential decrease in loan growth for small young firms lasted up until 2013. This could suggest that - in addition to reducing credit - high LTD banks were also hesitant to give new credit to small-young firms.

Our previous results have not discerned whether the differential effect on loans among small-young firms happens through lower loans or through reduced possibilities of increasing loans. Figure 7 addresses this question by showing the share of firms whose loan was reduced by more than 10% or increased by more than 10% relative to their 2007 loan amounts. We see that firm loans in high LTD banks were both more likely to be cut and less likely to increase. Notably, the difference in the share of firms with decreasing loans versus increasing loans appears quite similar.[19] This suggests that small-young firms in high LTD banks face a dual constraint: both a higher likelihood of loan reductions and limited access to additional credit for expansion.

To get an idea of the extent to which credit constraints reduce firm expansion or lead to

[19] In Appendix Figure A-11, we use 25% rather than 10% and reach the same conclusion.

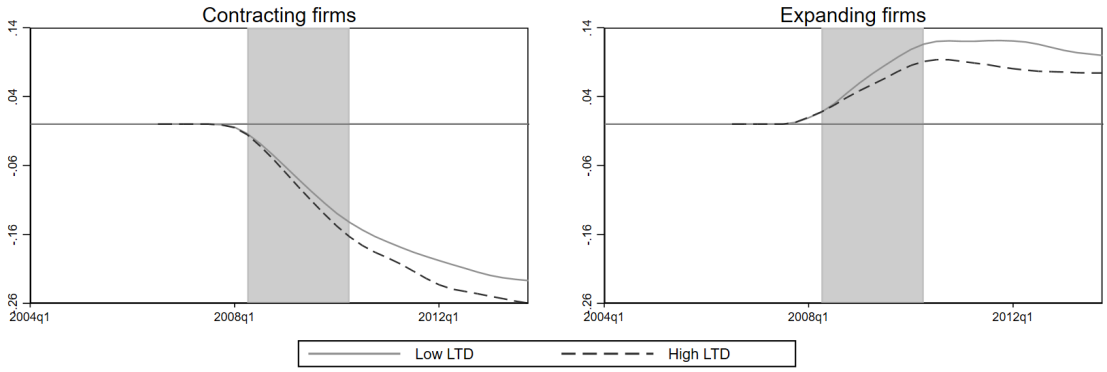

Figure 8: Cumulative quarterly employment growth relative to the employment level in 2007 for small-young firms (firms with 5-50 employees in Q3 2007 and aged 0-3 years in 2007). We compare firms associated with banks that have low LTD ratios vs. those with high LTD ratios. Additionally, we differentiate between firms that contracted and those that expanded during the crisis period (2008:Q2 to 2010:Q2). The cumulative growth is measured relative to the total employment levels of firms with low and high LTD banks. The similar magnitude of differences between firms associated with high and low LTD banks, across both contracting and expanding firms, suggests that both positive and negative employment growth are equally significant in explaining net growth. Note that contracting firms do not include firms that closed during the crisis. Firms with a constant workforce during the crisis are also excluded from this figure. Contracting and expanding firms that subsequently closed during the recovery period (2010:Q3-2013:Q4) are included.

employment cuts, we separately consider firms that were expanding and contracting during the crisis, as shown in Figure 8. The figure reveals that both among expanding and contracting firms, high LTD firms experience a lower employment growth. Furthermore, this differential effect is slightly more pronounced for expanding firms. This suggests that constrained expansion opportunities play a larger role than actual workforce cuts in explaining the reduced net employment growth observed in firms with a high LTD ratio. While this is descriptive evidence – since the classification of firms as expanding or contracting is endogenous and influenced by crisis loan growth – Appendix Table A-14 shows that the share of firms contracting or expanding is quite similar across both high and low LTD firms.

While constrained expansion opportunities were more important in explaining the differential net employment growth, Appendix Table A-14 overall shows that more small-young firms contracted (39%) than expanded (25%) during the crisis. The remaining firms either kept a constant workforce (13%) or closed during the crisis (23%). Appendix Table A-14 also shows that only slightly more high LTD firms closed during the crisis (24%) compared to low LTD firms (23%). We consider firm closures in the subsequent subsection.

To better understand whether employment growth of small-young firms is primarily affected by reductions or the absence of increases in credit, we distinguish between positive and negative loan growth in the following equation:

$$\begin{aligned}\frac{NEF_{it}}{emp_{i,t-1}} &= \phi_i + \beta_1 loangrowth_{it} \times 1(loangrowth_{it} > 0) + \\ &\quad \beta_2 loangrowth_{it} \times 1(loangrowth_{it} < 0) + \Theta_t + \pi X_{it} + v_{it} \end{aligned} \tag{5}$$

where $loangrowth_{it} = log(loan_{i,t}) - log(loan_{i,t-1})$. The interpretation of β_1 and β_2 is the same as for α in (4) and measure the effect of an additional loan amount given respectively a loan increase and a loan reduction. As we need more than one instrument to estimate both β_1 and β_2 using 2SLS, we will use the same instruments as before, i.e. the high LTD ratio and the linear LTD ratio below the median, both of which are interacted with the post 2008 dummy.

Columns 5 and 6 in Table 4 show the estimated parameters for equation (5) using 2SLS. For the full post-period we estimate an employment elasticity of 0.15 for positive loan growth, which is significant at the 5% level. The elasticity for negative loan growth is 0.06, but not statistically significant. Across all periods considered, negative loan growth shows no significant effect, while positive loan growth consistently shows significant employment effects at the 5% level for post-periods 2008-2011 and beyond. Thus, our overall takeaway is that positive loan growth has a larger employment effect than negative loan growth, which may be surprising given the existing literature's focus on credit reductions on employment. Our finding reflects the importance of credit availability for firms looking to expand. However, so far we have only included the intensive margin in our regression for employment growth. In the next subsection, we examine the effects on the extensive margin, focusing on firm closures.

4.4. Credit and Firm Closure

Conventional wisdom holds that reductions in existing loans or a lack of new credit can force small, young firms out of business. Consistent with this view, Figure 9 shows that from 2008 to 2013 small-young firms connected to high-LTD banks experienced higher closure rates, whereas large firms and mature small firms saw no appreciable difference in exit rates based on their bank's health.

Unlike the employment growth analysis, we cannot observe a true pre-crisis period for firm exits because the sample is conditioned on firms surviving through 2007. However, as Figure 9 shows, firm closures were very rare in 2008, which allows us to treat 2008 as a quasi-pre-period when

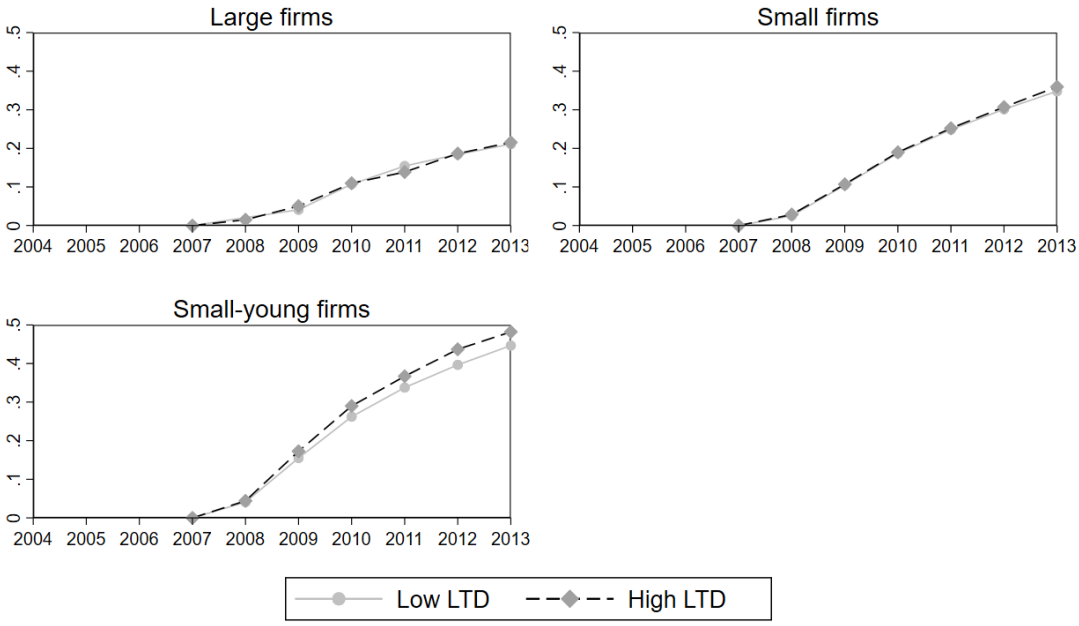

Figure 9: Cumulative firm exit rates since 2007 for large firms, small and small-young firms. We compare firms with high and low LTD banks. Small firms have between 5 and 50 employees in 2007, young firms are 0-3 years old in 2007.

examining how loan changes affect subsequent survival. We proceed to estimate the effect of loan growth on firm closure. The results are presented in Appendix Table A-15.

In our baseline 2SLS estimation, we find no statistically significant effect of credit growth on the probability of firm closure (at the 5% level). A likely reason is sample dilution: the small-young firms truly vulnerable to credit constraints tend to be those with relatively large pre-crisis loans, so including firms with as low as 7,000 DKK in loans per worker in 2007 mutes the estimated effect.

However, when we restrict the sample to small-young firms with a substantial pre-crisis debt load (at least 35,000 DKK in loans per worker in 2007), we do find a significant effect of credit on firm survival (columns 5-8). In this subsample, higher credit growth is associated with a significantly lower likelihood of closure over the post periods, 2008-2011, 2008-2012, and 2008-2013, and this relationship is statistically significant at the 5% level when using either the high-LTD dummy or the linear LTD ratio as an instrument. By contrast, in the two-instrument specification (using both the high-LTD dummy and the linear LTD ratio for low values of LTD), the coefficient estimates remain similar in magnitude but lose statistical significance. Moreover, the Stock-Wright LM-S test fails to reject at the 5% level in these two-instrument regressions, indicating weak identification (Appendix Table A-16).[20] Given this limitation, attempting to split the loan growth variable into its positive and negative is not meaningful and also yields insignificant, unreported results.

The most intuitive explanation for the stronger effects in the high-debt subsample is that firms carrying greater debt are more vulnerable to loan cuts.[21] Thus, although the evidence is weak, it suggests that actual loan reductions play a more prominent role in driving firm exits than merely limited loan growth. Interpreted in this light, our findings align with the classic 'up or out' narrative often applied to small, young firms. Firms that secure additional credit tend to expand, following the 'up' trajectory. In contrast, firms hit by loan cuts face a disproportionate risk of closure, fitting the 'out' trajectory. These dynamics are especially relevant during economic crises, when access to credit can determine whether a small-young firm continues to grow or is forced out of the market.

[20] In all IV estimations for employment growth in Table 4, we rejected the Stock-Wright LM-S test (Appendix Table A-9).

[21] Appendix Table A-17, which restricts the sample to firms with at least 35,000 DKK in loans per worker in 2007, yields employment-growth results that closely mirror our baseline findings in Table 4.

4.5. Were the Employment Responses Economically Relevant?

Our elasticity estimates suggest that credit constraints had substantial real effects on employment for small- young firms. Nonetheless, quantifying the complete effect of restricted credit on firm-level employment is challenging due to the intertwined effects of loan supply and demand.

To isolate the minimum plausible impact of the credit crunch, we rely on our reduced-form estimates, which assume that lower loan volumes at relatively healthy (low-LTD) banks arose from decreased borrower demand, rather than from supply-side constraints. Under this assumption, the differences between high- and low-LTD banks capture how much tightening in credit supply contributed to reduced employment.

As shown in Appendix Table A-18, these comparisons suggest that at least 38% of the initial (2008) employment reduction observed among small, young firms can be attributed directly to the contraction in credit. Even over the longer horizon following 2008, our findings imply that credit constraints still explain at least 26% of the total decline in employment among these firms. These results underscore that access to credit plays a vital role for small, young enterprises – particularly those poised for expansion. In recessionary periods, a sharp contraction in loan supply can quickly translate into both forgone hiring and more frequent firm exits.

5. Conclusion

This paper provides insight into the role of credit constraints on employment growth in the Great Recession. By using Danish data on firm-bank connections, we are able to exploit the fact that some banks were less healthy at the onset of the crisis. We confirm that there was no systematic sorting of firms into banks by pre-crisis health, lending credibility to our identification strategy. We find that credit supply tightening was concentrated among small-young firms, and we quantify the impact of this contraction on their employment growth during the Great Recession.

Our findings contribute to the literature by disentangling two distinct mechanisms through which credit constraints influence employment growth: restricted access to new loans and outright loan reductions. Restricted loan access primarily curtailed firms' expansion plans, resulting in lower employment growth on the intensive margin through lower hires. In contrast, we provide suggestive evidence that loan cuts led to more firm closures, an extensive margin effect. This distinction highlights that while some firms were hindered from growing, others were forced to exit the market due to curtailed credit access.

These results underscore the crucial role of credit access in firm growth and survival for small-young businesses. This is important since although small-young firms only represent a modest share of total employment, they contribute disproportionately to job creation. To avoid stifling job creation in times of crisis, policymakers should first ensure the stability of existing credit lines to prevent forced closures, while also guaranteeing that small-young firms can obtain new funding for expansion. These findings speak to measures such as targeted liquidity facilities and selective government guarantees, which can help viable small-young firms sustain their current borrowing while still accessing the new credit needed for growth. By prioritizing both channels, policymakers can reduce the risk of abrupt loan pullbacks without unduly stifling job creation.

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APPENDICES

A1. Data Appendix

The spell data set has been constructed using five data sets (MIA, CON, RAS, BFL, DREAM). For 2003-2007, we mainly use the MIA register, which contains monthly registrations of wage payments for the population of workers and firms. Unfortunately, this register does not hold any information on the origins of wage payments to workers. This implies that if the worker receives income from more than one firm in a given month, we cannot, based on MIA data alone, determine the primary employment for that month. Therefore, we also use the yearly wage income for each worker's employment relation to determine the worker's primary employment in a month. For this purpose, we draw on the registers CON (2003-2005) and RAS (2006-2007). In practice, we distribute the yearly income from a given firm evenly across the months with a wage payment according to the MIA data set. Next, we rank each worker's employer on a monthly basis by the average monthly wage payments. However, we want to avoid registering transitions between primary and secondary jobs. Therefore, we prioritize employment relations, which last more than a month over single-month employment relationships irrespective of the relative average monthly wage payments.

For 2008-2014, we use the BFL register, which has monthly wage payments between all employers and their employees. Therefore, it is easy to rank a worker's employers by wage income in a month. Again, we prioritize employment spells with durations of more than a month over single-month spells.

For the entire sample period 2003-2014, we use the data set DREAM, to determine periods of nonemployment. The DREAM data has weekly indicators for each person's primary public transfer (e.g., unemployment benefits) if the person receives any benefits. In a given month, it is not unlikely that a worker gets wage payments as well as public benefits. Throughout the sample period, we give the highest priority to information from the DREAM data. We determine whether a person is non-employed by taking into account the type(s) of public benefits received and the number of weeks these benefits are received. We want to use a time-consistent way to determine nonemployment before and after the data break in 2008. Therefore, we estimate the employment probability using BFL data for 2008-2014 separately for each type of public transfer in the DREAM data. For example, the likelihood of being employed in BFL is very low if the worker receives early

retirement benefits for at least three weeks of a month. Therefore, throughout the sample period, we classify a person as being primarily non-employed if he receives early retirement benefits even if we also observe wage payments for the given month.

Initially we construct worker transitions at the monthly level. We distinguish between hires and separations and by whether transitions happen between two firms and between a firm and nonemployment. Next, we remove recalls to the same job. This implies that we construct a continuous employment spell at an employer if the worker returns to the same employer within six months.

Our focus is on firms in the private sector of the economy. The public sector in Denmark is relatively large, and about 40% of the monthly observations are public employment. In the analysis, we do not consider public sector employment flows. However, we record a job-to-job hire when a private sector firm hires a worker from the public sector and a job-to-job separation when a worker leaves the private sector to work in the public sector.

Reclassification and mergers imply that the rate of job-to-job transitions in the raw data is artificially high. We remove transitions if more than 50% of employees in a firm change to another firm, where this group of workers also constitutes more than 50% of the workforce in the destination firm. Furthermore, we remove transitions if more than 75% of employees in a firm change to another firm and if the origin firm ceases to exist within a year. Similarly, we remove transitions if job-movers constitute more than 75% of the employees in the destination firm and the destination firm has existed for less than a year.

The spells data set constructed above includes 181,933,785 monthly observations for 2,676,105 workers and 137,047 firms. We aggregate the spells data to a quarterly firm-level dataset with 2,831,758 observations for the period 2003-2014. Of the 137,047 firms, 62,027 exist in 2007, 40,678 are limited liability firms or stock companies and 31,130 also have more than 5 employees. Lastly, 20,513 of those firms either have larger total loans than 7000 DKK per worker or have no bank connection at all. This constitutes the final sample for estimation.

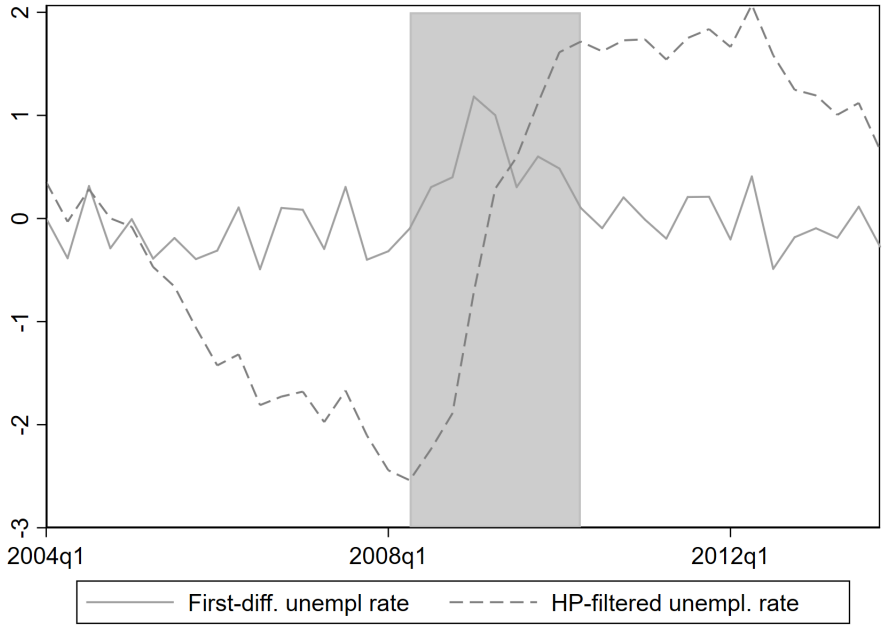

Figure A-1: First-differenced and HP-filtered Danish Labor Force Survey (AKU) unemployment rate. We follow Haltiwanger *et al.* (2018) to measure cyclical indicators and use both the level of unemployment and the change in the unemployment rate. Level of unemployment is measured as the HP-filtered unemployment rate and the first difference as the increase in unemployment rate relative to previous quarter. We use aggregate quarterly unemployment data from Statistics Denmark and construct the exact periods of recession from quarters with positive growth in the unemployment rate.

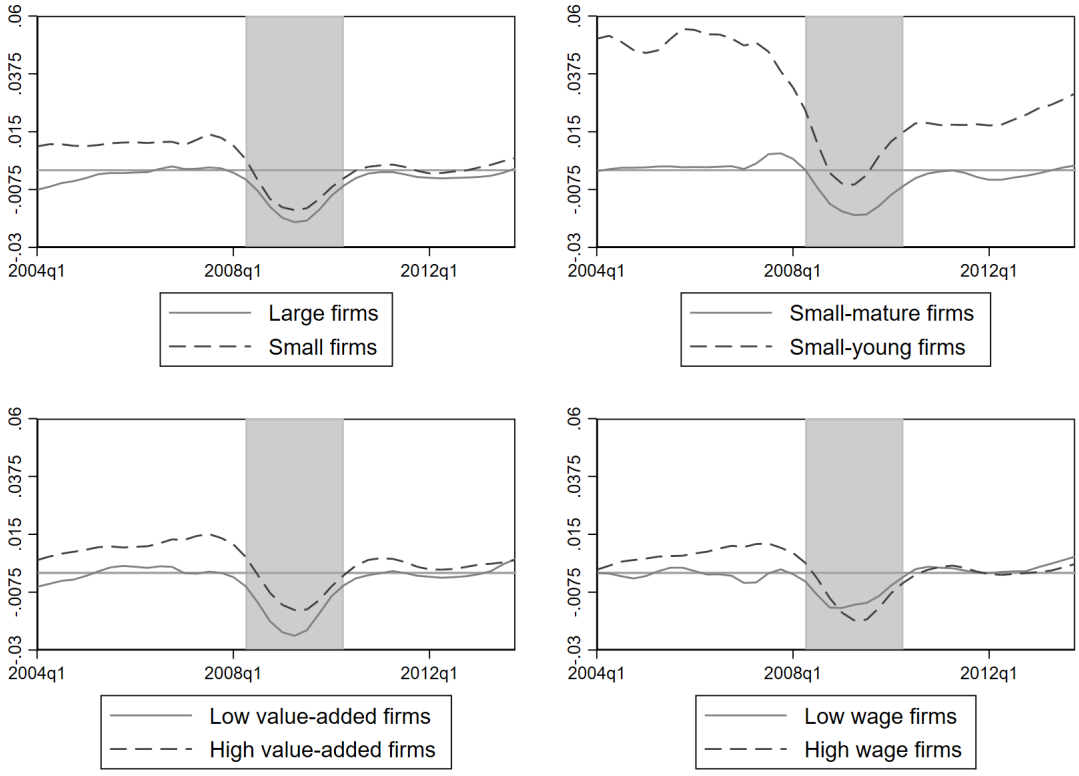

Figure A-2: Quarterly net employment flows by firm size, firm age for the small firms, firm value added per worker, and average firm wage. Large firms have more than 50 employees in the previous year, while small firms have fewer than 50 employees in the previous year. Young firms are 3 years old or younger and old firms are 4 years old and above in the given year. High value-added firms have above median value-added per worker in the year before. Low value-added firms have below median. High wage firms have average salaries above the median in the year before. Low wage firms have below median average salary. The plotted series are centered moving averages. The flows exclude flows due to firm entry and firm exit, while Figure 1 include firm exits.

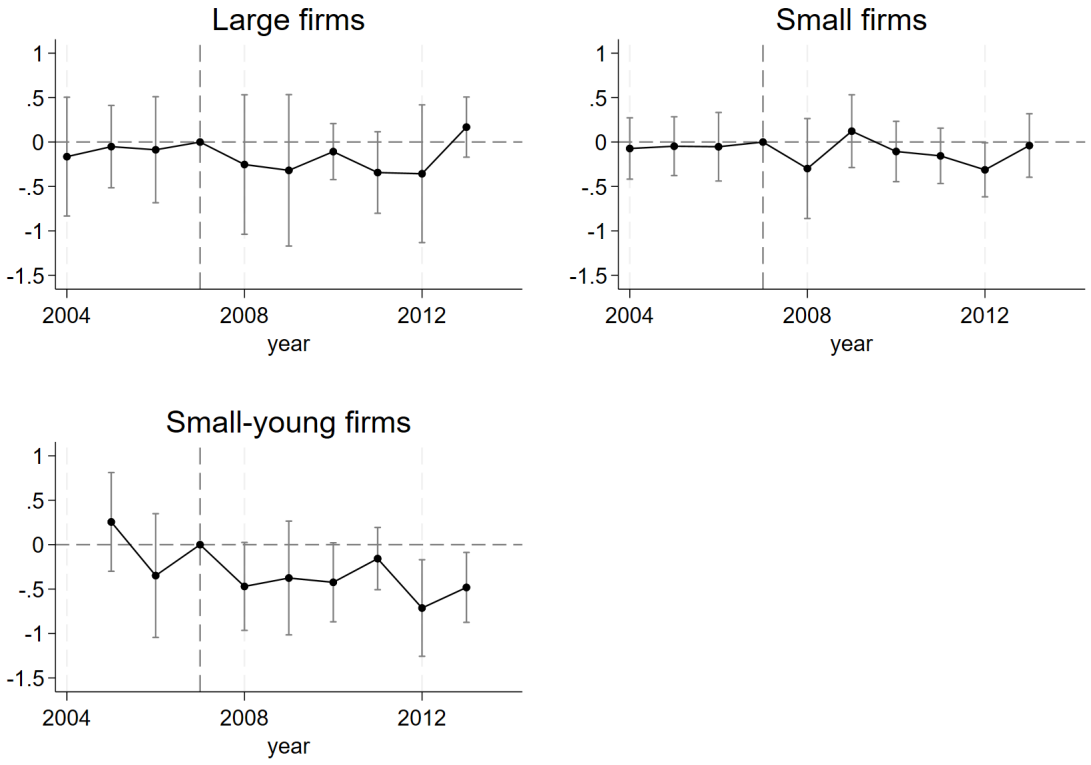

Figure A-3: Estimated differential year effects between high and low LTD firms, i.e. β_t from equation (2) where the dependent variable is the growth rate in total loans. Effects are estimated for large firms (more than 50 employees in 2007), small firms (between 5 and 50 employees in 2007) and small-young firms (between 5 and 50 employees in 2007 and up to three years old in 2007) separately. No fixed effects are included. The same figure with fixed effects is Figure 3. Firms are only included if their loan amount exceeds 7,000 DKK per worker in 2007. In Appendix Figures A-4 and A-5 estimated coefficients are shown from regressions using cutoffs of 3,500 and 14,000 DKK per worker in 2007 as well as fixed effects. The confidence 95% pointwise intervals are based on standard errors clustered at the firms' primary bank level.

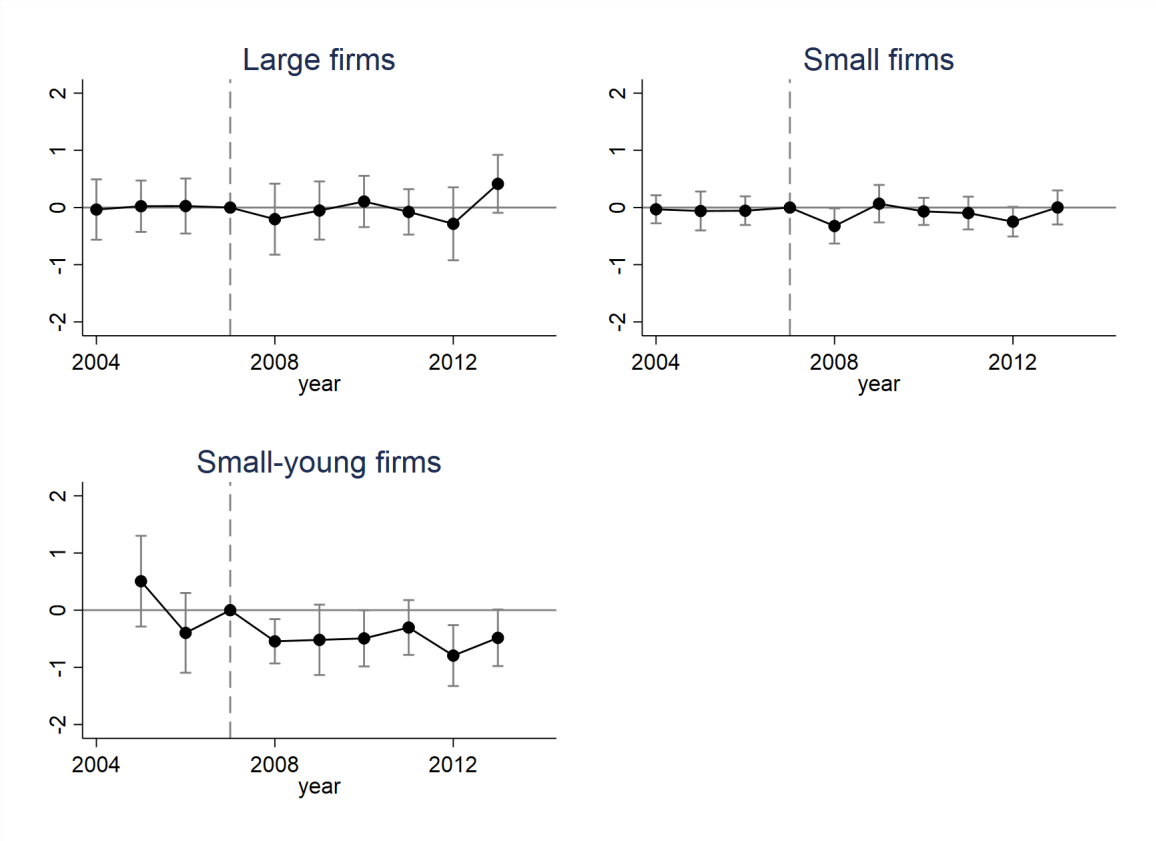

Figure A-4: Estimated differential year effects between high and low LTD firms, i.e. β_t from equation (2) where the dependent variable is the growth rate in total loans. Effects are estimated for large firms (more than 50 employees in 2007), small firms (between 5 and 50 employees in 2007) and small-young firms (between 5 and 50 employees in 2007 and up to three years old in 2007) separately. We include industry $\times$ year fixed effects, municipality fixed effects, and firm fixed effects. For small-young firms, we also include firm-age $\times$ year fixed effects. Firms are only included if their loan amount is greater than 3,500 DKK per worker in 2007. Figure 3 and Appendix Figure A-5 show the same figure, with cutoffs of 7,000 DKK and 14,000 DKK, respectively. The confidence 95% pointwise intervals are based on standard errors clustered at the firms' primary bank level.

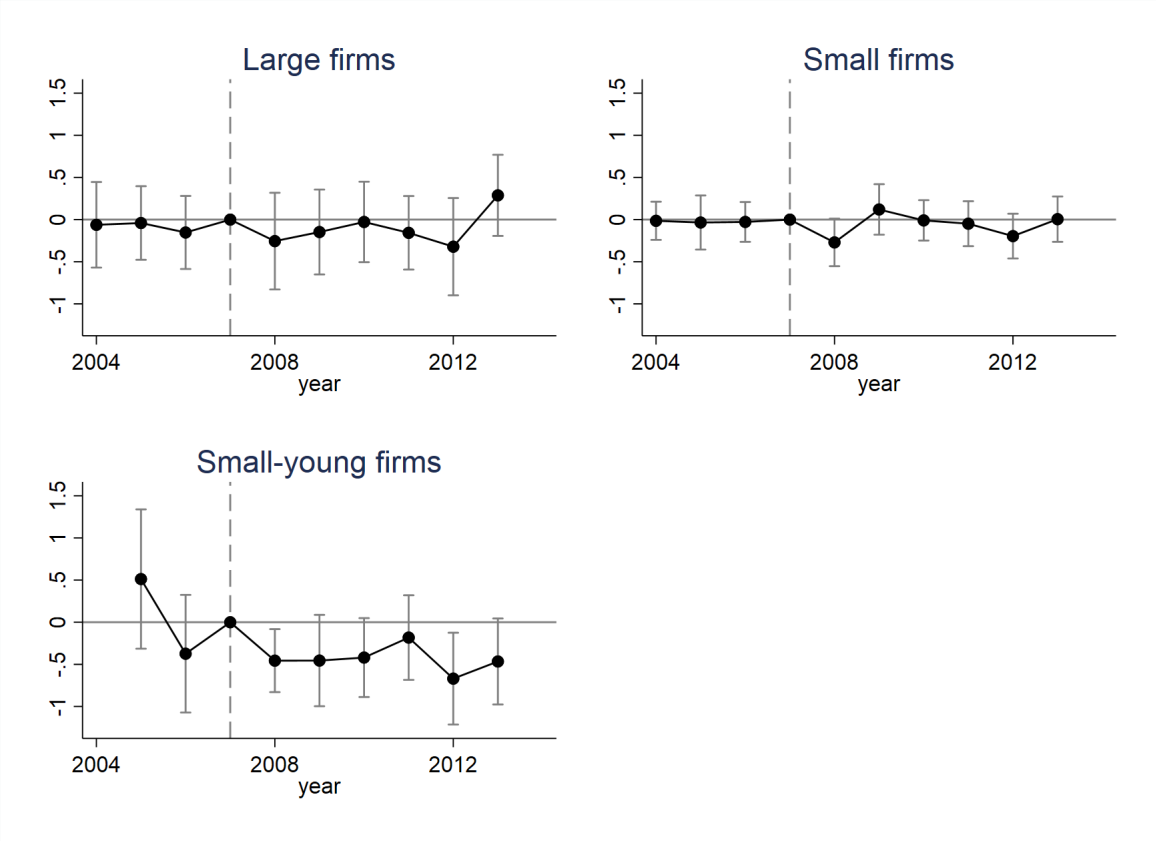

Figure A-5: Estimated differential year effects between high and low LTD firms, i.e. β_t from equation (2) where the dependent variable is the growth rate in total loans. Effects are estimated for large firms (more than 50 employees in 2007), small firms (between 5 and 50 employees in 2007) and small-young firms (between 5 and 50 employees in 2007 and up to three years old in 2007) separately. We include industry $\times$ year fixed effects, municipality fixed effects, and firm fixed effects. For small-young firms, we also include firm-age $\times$ year fixed effects. Firms are only included if their loan amount is greater than 14,000 DKK per worker in 2007. Appendix Figure A-4 and Figure 3 show the same figure, with cutoffs of 3,500 DKK and 7,000 DKK, respectively. The confidence 95% pointwise intervals are based on standard errors clustered at the firms' primary bank level.

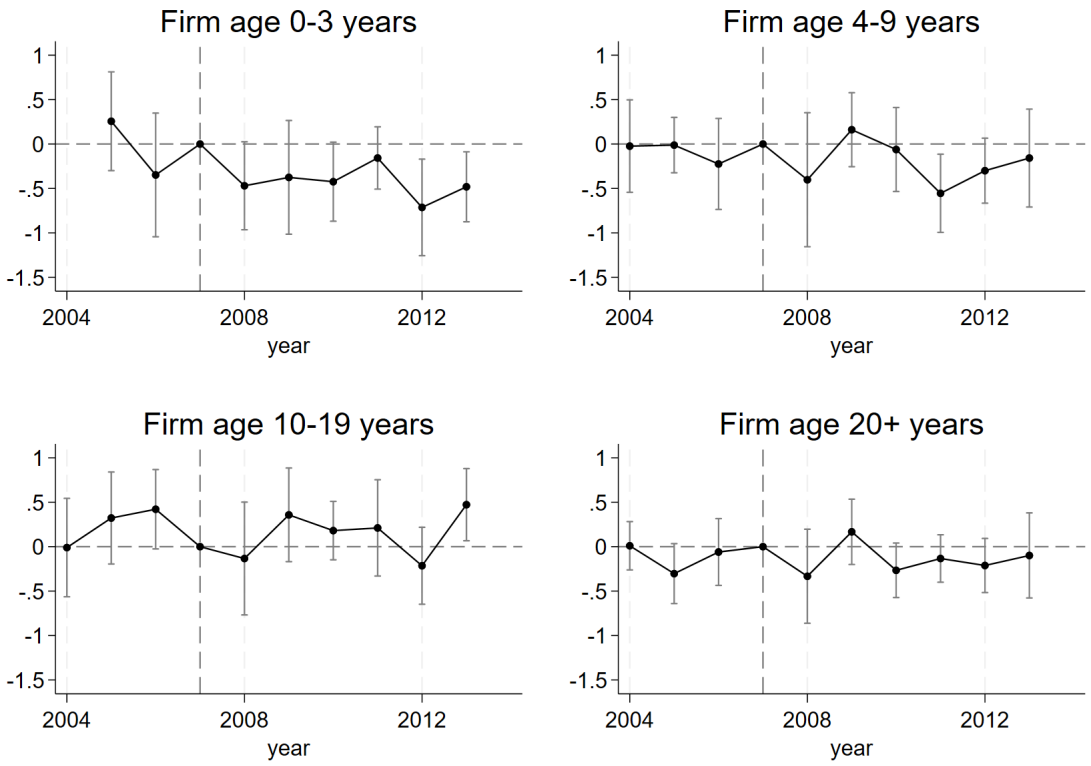

Figure A-6: Estimated differential year effects between high and low LTD firms, i.e. β_t from equation (2) for small firms (between 5 and 50 employees in 2007) by age in 2007 into categories of ages 0 to 3, ages 4 to 9, ages 10 to 14, and ages 15 and above. The dependent variable is the growth rate in total loans. No fixed effects are included. For firms aged 0-3 years, we also include firm-age $\times$ year fixed effects. The same figure with fixed effects is Figure 4. Firms are only included if their loan amounts exceed 7,000 DKK per worker in 2007. The confidence 95% pointwise intervals are based on standard errors clustered at the firms' primary bank level.

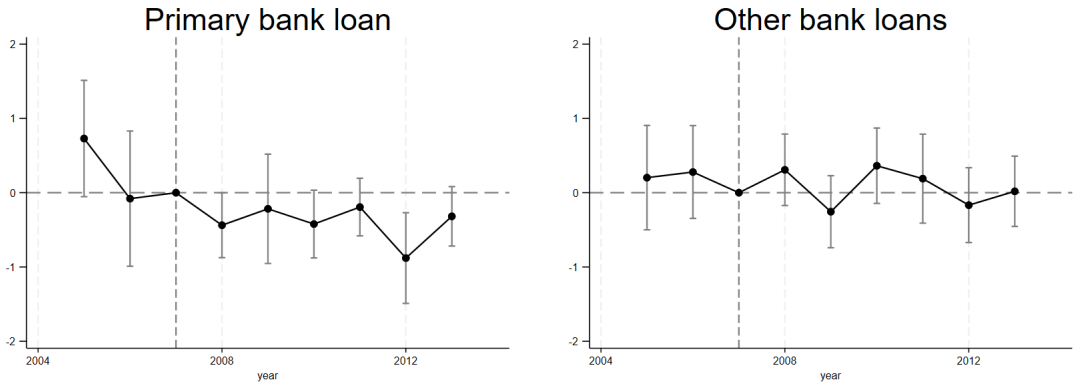

Figure A-7: Estimated differential year effects between high and low LTD firms, i.e. β_t from equation (2) for small-young firms (between 5 and 50 employees in 2007 and up to three years old in 2007). The dependent variable is the growth rate in, respectively, primary loans and other loans. We include firm-age $\times$ year fixed effects, industry $\times$ year fixed effects, municipality fixed effects, and firm fixed effects. Firms are only included if their loan amount is greater than 7,000 DKK per worker in 2007. The confidence 95% pointwise intervals are based on standard errors clustered at the firms' primary bank level.

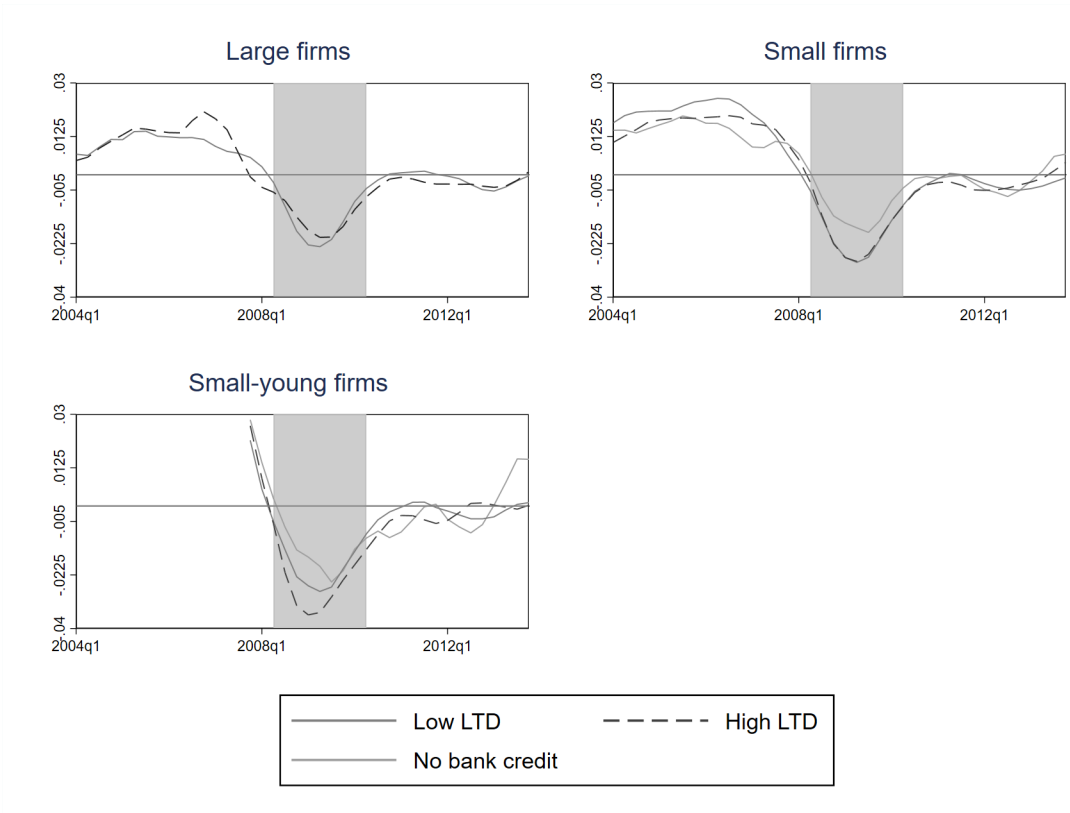

Figure A-8: Quarterly net employment flows. We compare firms with no bank credit, low LTD banks, and high LTD banks. Small firms have between 5 and 50 employees in 2007, young firms are 0-3 years old in 2007, and large firms have more than 50 employees. Large firms with no bank credit are not depicted due to too few observations. The flows exclude firm exits. The corresponding figure with firm exits is Figure 5. The plotted series are centered moving averages.

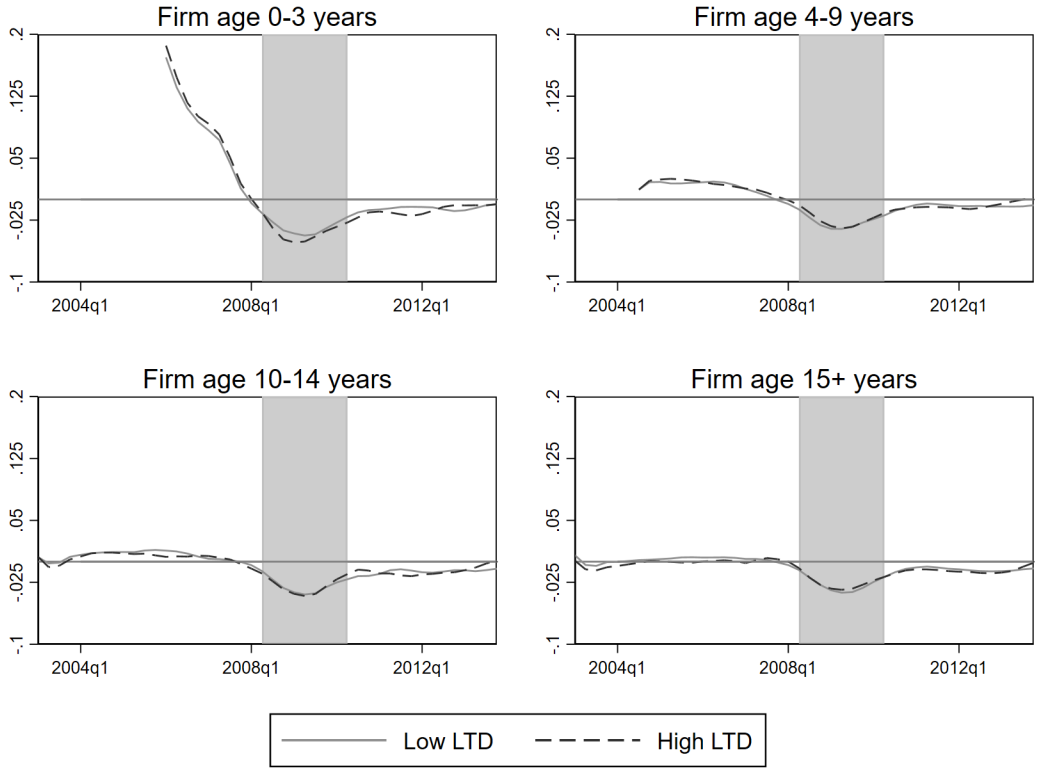

Figure A-9: Quarterly net employment flows for small firms (between 5 and 50 employees in the third quarter of 2007) by age in 2007, divided into categories of ages 0 to 3, ages 4 to 9, ages 10 to 14, and ages 15 and above. We compare firms with low LTD banks and firms with high LTD banks. The flows include firm exits. In this figure, the pre-period has been extended by one year compared to Figure 6 for firms aged 0-3 years in 2007 to verify that the pre-trends indeed are parallel. The plotted series are centered moving averages.

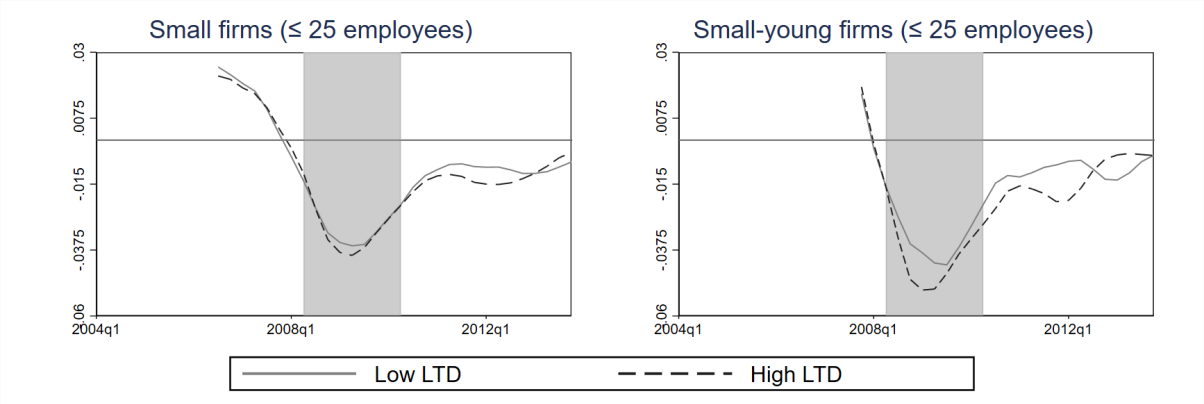

Figure A-10: Quarterly aggregate employment flows for small firms and small-young firms with 5-25 employees in 2007. Young firms are between 0 and 3 years old in 2007. The flows include firm exits. The plotted series are centered moving averages.

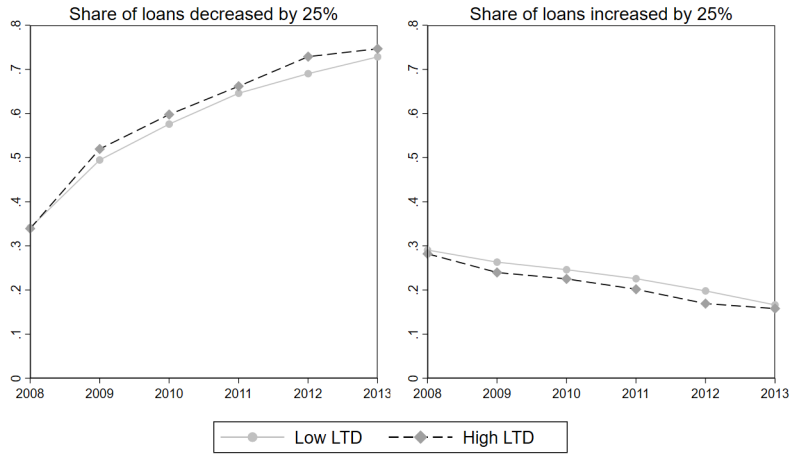

Figure A-11: Share of loans that have increased or decreased by more than 10% since 2007 for high and low LTD firms. Firms that have closed are included among those with loan decreases of more than 10%. The figure includes only small-young firms with loan amounts per worker exceeding 7,000 DKK in 2007. Appendix Figure 7 shows the figure with 25% increases and decreases.

	No controls			With only firm fixed effects			All controls		
	Large firms	Small firms	Small-young firms	Large firms	Small firms	Small-young firms	Large firms	Small firms	Small-young firms
HighLTD X 2008	-0.168	-0.258	-0.386*	-0.200	-0.337*	-0.540***	-0.193	-0.335**	-0.498***
	(0.211)	(0.183)	(0.205)	(0.221)	(0.195)	(0.166)	(0.217)	(0.167)	(0.153)
HighLTD X 2008-2009	-0.201	-0.0593	-0.342	-0.227	-0.0767	-0.387*	-0.185	-0.0876	-0.374**
	(0.209)	(0.144)	(0.213)	(0.210)	(0.152)	(0.213)	(0.208)	(0.127)	(0.181)
HighLTD X 2008-2010	-0.149	-0.0614	-0.342*	-0.159	-0.0702	-0.402**	-0.124	-0.0820	-0.388**
	(0.121)	(0.120)	(0.196)	(0.127)	(0.124)	(0.192)	(0.132)	(0.101)	(0.158)
HighLTD X 2008-2011	-0.176*	-0.0730	-0.288*	-0.166	-0.0789	-0.341*	-0.118	-0.0915	-0.365**
	(0.102)	(0.0990)	(0.173)	(0.106)	(0.104)	(0.173)	(0.119)	(0.0868)	(0.149)
HighLTD X 2008-2012	-0.196*	-0.106	-0.340**	-0.178	-0.105	-0.405**	-0.119	-0.117	-0.435***
	(0.111)	(0.0862)	(0.161)	(0.111)	(0.0924)	(0.165)	(0.118)	(0.0767)	(0.144)
HighLTD X 2008-2013	-0.130	-0.0919	-0.347**	-0.118	-0.0753	-0.364**	-0.0781	-0.0870	-0.406***
	(0.0904)	(0.0836)	(0.147)	(0.0886)	(0.0917)	(0.155)	(0.104)	(0.0744)	(0.128)
Observations									
2008	7,581	50,230	6,826	7,546	49,130	5,912	7,513	49,059	5,847
2008-2009	9,110	61,096	9,348	9,104	60,810	9,126	9,063	60,731	9,062
2008-2010	10,523	70,821	11,487	10,517	70,533	11,261	10,468	70,448	11,190
2008-2011	11,878	79,763	13,395	11,872	79,492	13,181	11,817	79,402	13,103
2008-2012	13,177	88,026	15,097	13,170	87,763	14,886	13,110	87,668	14,801
2008-2013	14,431	95,683	16,655	14,425	95,425	16,448	14,360	95,325	16,356

Table A-1: The effect on annual log changes in total loan amounts from having a primary bank with a high LTD as in equation (3). Each cell is the difference-in-differences estimate from a regression of the log changes in total loans on a dummy for high loan-to-deposit ratio interacted with different post periods, i.e. the estimated β from equation (3). The columns with all controls include industry $\times$ year fixed effects, municipality fixed effects, and firm fixed effects. For small-young firms, we also include firm-age $\times$ year fixed effects. Large firms have more than 50 employees in 2007, small firms have between 5 and 50 employees in 2007, and small-young firms have between 5 and 50 employees in 2007 and are up to three years old in 2007. Firms are only included if the firms' loan amounts per worker exceed 7,000 DKK in 2007. In Appendix Table A-2 results from employment weighted regressions are shown. Appendix Table A-3 shows results for firms with loan amounts exceeding 3,500 and 14,000 DKK per worker, respectively. In Appendix Table A-4 zero loans have been recoded to 0.001 and 1,000 DKK, respectively. In Appendix Table A-5 results for the intensive margin are shown. Standard errors are clustered at the primary bank level. *** $p < 0.01$, ** $p < 0.05$, *$p < 0.1$.

	No controls			With only firm fixed effects			All controls		
	Large firms	Small firms	Small-young firms	Large firms	Small firms	Small-young firms	Large firms	Small firms	Small-young firms
HighLTD X 2008	0.409***	-0.227	-0.402**	0.246**	-0.328	-0.623***	0.194	-0.330*	-0.598***
	(0.103)	(0.208)	(0.180)	(0.121)	(0.230)	(0.161)	(0.188)	(0.197)	(0.139)
HighLTD X 2008-2009	0.103	0.00260	-0.386*	-0.00510	-0.0263	-0.511***	-0.0203	-0.0343	-0.534***
	(0.141)	(0.151)	(0.212)	(0.178)	(0.164)	(0.192)	(0.119)	(0.135)	(0.146)
HighLTD X 2008-2010	-0.0331	-0.0293	-0.391**	-0.0797	-0.0692	-0.528***	-0.110*	-0.0767	-0.521***
	(0.0548)	(0.120)	(0.182)	(0.0715)	(0.133)	(0.168)	(0.0616)	(0.102)	(0.126)
HighLTD X 2008-2011	-0.181*	-0.0456	-0.285*	-0.141	-0.0648	-0.449***	-0.0411	-0.0727	-0.472***
	(0.0947)	(0.0973)	(0.171)	(0.0903)	(0.114)	(0.155)	(0.0458)	(0.0902)	(0.115)
HighLTD X 2008-2012	-0.0877	-0.0686	-0.327**	-0.0435	-0.0947	-0.513***	-0.0387	-0.103	-0.558***
	(0.0878)	(0.0846)	(0.162)	(0.0887)	(0.102)	(0.146)	(0.0634)	(0.0820)	(0.114)
HighLTD X 2008-2013	0.0399	-0.0822	-0.363**	0.0241	-0.0781	-0.468***	0.0703	-0.0846	-0.515***
	(0.0518)	(0.0884)	(0.157)	(0.0576)	(0.106)	(0.145)	(0.0439)	(0.0838)	(0.103)
Observations									
2008	7,581	50,230	6,826	7,546	49,130	5,912	7,513	49,059	5,847
2008-2009	9,110	61,096	9,348	9,104	60,810	9,126	9,063	60,731	9,062
2008-2010	10,523	70,821	11,487	10,517	70,533	11,261	10,468	70,448	11,190
2008-2011	11,878	79,763	13,395	11,872	79,492	13,181	11,817	79,402	13,103
2008-2012	13,177	88,026	15,097	13,170	87,763	14,886	13,110	87,668	14,801
2008-2013	14,431	95,683	16,655	14,425	95,425	16,448	14,360	95,325	16,356

Table A-2: The effect on annual log changes in total loan amounts from having a primary bank with a high LTD as in equation (3). All estimates are weighted by the firm's number of employees in year $t-1$. Each cell is the difference-in-differences estimate from a regression of the log changes in total loans on a dummy for high loan-to-deposit ratio interacted with different post periods, i.e. the estimated β from equation (3). We include industry $\times$ year fixed effects, municipality fixed effects, and firm fixed effects. For small-young firms, we also include firm-age $\times$ year fixed effects. Large firms have more than 50 employees in 2007, small firms have between 5 and 50 employees in 2007, and small-young firms have between 5 and 50 employees in 2007 and are up to three years old in 2007. Firms are only included if the firms' loan amounts per worker exceed 7,000 DKK in 2007. Appendix Table A-1 show estimates from the same regressions, where the regressions are unweighted. Appendix Table A-3 shows results for firms with loan amounts exceeding 3,500 and 14,000 DKK per worker, respectively. In Appendix Table A-4 zero loans have been recoded to 0.001 and 1,000 DKK, respectively. Standard errors are clustered at the primary bank level. *** $p < 0.01$, ** $p < 0.05$, *$p < 0.1$.

	Bank loans > 3,500 DKK/worker			Bank loans > 14,000 DKK/worker		
	Large firms	Small firms	Small-young firms	Large firms	Small firms	Small-young firms
HighLTD X 2008	-0.246	-0.332**	-0.475***	-0.278	-0.284*	-0.363**
	(0.232)	(0.167)	(0.148)	(0.200)	(0.147)	(0.149)
HighLTD X 2008-2009	-0.193	-0.108	-0.365*	-0.215	-0.0680	-0.328**
	(0.205)	(0.130)	(0.188)	(0.200)	(0.115)	(0.158)
HighLTD X 2008-2010	-0.106	-0.0988	-0.390**	-0.152	-0.0577	-0.352**
	(0.139)	(0.101)	(0.167)	(0.129)	(0.0935)	(0.147)
HighLTD X 2008-2011	-0.0924	-0.0999	-0.381**	-0.131	-0.0645	-0.328**
	(0.129)	(0.0859)	(0.156)	(0.111)	(0.0807)	(0.136)
HighLTD X 2008-2012	-0.118	-0.124	-0.446***	-0.145	-0.0902	-0.395***
	(0.128)	(0.0756)	(0.148)	(0.113)	(0.0698)	(0.139)
HighLTD X 2008-2013	-0.0827	-0.0919	-0.411***	-0.105	-0.0648	-0.368***
	(0.113)	(0.0734)	(0.134)	(0.0977)	(0.0687)	(0.122)
Observations						
2008	7,855	50,462	5,981	7,089	47,030	5,633
2008-2009	9,470	62,508	9,304	8,555	58,217	8,714
2008-2010	10,937	72,514	11,493	9,882	67,520	10,755
2008-2011	12,345	81,742	13,460	11,153	76,089	12,586
2008-2012	13,695	90,261	15,209	12,370	84,000	14,211
2008-2013	15,001	98,159	16,813	13,544	91,342	15,702

Table A-3: The effect on annual log changes in total loan amounts from having a primary bank with a high LTD as in equation (3). Each cell is the difference-in-differences estimate from a regression of the log changes in total loans on a dummy for high loan-to-deposit ratio interacted with different post periods, i.e. the estimated β from equation (3). We include industry × year fixed effects, municipality fixed effects, and firm fixed effects. For small-young firms, we also include firm-age × year fixed effects. Large firms have more than 50 employees in 2007, small firms have between 5 and 50 employees in 2007, and small-young firms have between 5 and 50 employees in 2007 and are up to three years old in 2007. In columns 2-4, firms are only included if their loan amount per worker is above 3,500 DKK in 2007. In columns 5-7, firms are only included if their loan amounts per worker exceed 14,000 DKK in 2007. In Table 2, corresponding estimates are shown for the case where the loan amount per worker exceeds 7,000 DKK in 2007. In Appendix Table A-1 results are shown without controls and with only firm fixed effects. In Appendix Table A-2 results from employment weighted regressions are shown. In Appendix Table A-4 zero loans have been recoded to 0.001 and 1,000 DKK, respectively. Standard errors are clustered at the primary bank level. *** $p < 0.01$, ** $p < 0.05$, *$p < 0.1$.

	Zero loans recoded as 0.001			Zero loans recoded as 1,000		
	Large firms	Small firms	Small-young firms	Large firms	Small firms	Small-young firms
HighLTD X 2008	-0.239	-0.460*	-0.711***	-0.147	-0.211**	-0.285***
	(0.266)	(0.245)	(0.224)	(0.173)	(0.0896)	(0.0901)
HighLTD X 2008-2009	-0.254	-0.125	-0.524*	-0.117	-0.0497	-0.225**
	(0.256)	(0.184)	(0.273)	(0.160)	(0.0713)	(0.0952)
HighLTD X 2008-2010	-0.178	-0.116	-0.540**	-0.0688	-0.0482	-0.237***
	(0.165)	(0.150)	(0.244)	(0.101)	(0.0521)	(0.0784)
HighLTD X 2008-2011	-0.151	-0.126	-0.496**	-0.0856	-0.0574	-0.235***
	(0.147)	(0.129)	(0.226)	(0.0917)	(0.0448)	(0.0776)
HighLTD X 2008-2012	-0.159	-0.161	-0.594***	-0.0794	-0.0724*	-0.277***
	(0.145)	(0.113)	(0.220)	(0.0904)	(0.0408)	(0.0746)
HighLTD X 2008-2013	-0.100	-0.116	-0.547***	-0.0558	-0.0581	-0.265***
	(0.128)	(0.110)	(0.196)	(0.0807)	(0.0394)	(0.0668)
Observations						
2008	7,513	49,059	5,847	7,513	49,059	5,847
2008-2009	9,063	60,731	9,062	9,063	60,731	9,062
2008-2010	10,468	70,448	11,190	10,468	70,448	11,190
2008-2011	11,817	79,402	13,103	11,817	79,402	13,103
2008-2012	13,110	87,668	14,801	13,110	87,668	14,801
2008-2013	14,360	95,325	16,356	14,360	95,325	16,356

Table A-4: The effect on annual log changes in total loan amounts from having a primary bank with a high LTD as in equation (3). Each cell is the difference-in-differences estimate from a regression of the log changes in total loans on a dummy for high loan-to-deposit ratio interacted with different post periods, i.e. the estimated β from equation (3). We include industry $\times$ year fixed effects, municipality fixed effects, and firm fixed effects. For small-young firms, we also include firm-age $\times$ year fixed effects. In column 2-4, zero loans are recoded to 0.001 DKK, while in column 5-7 zero loans are recoded to 1,000 DKK. Large firms have more than 50 employees in 2007, small firms have between 5 and 50 employees in 2007, and small-young firms have between 5 and 50 employees in 2007 and are up to three years old in 2007. Firms are only included if the firms' loan amounts per worker exceed 7,000 DKK in 2007. In Appendix Table A-1 results are shown without controls and with only firm fixed effects. In Appendix Table A-2 results from employment weighted regressions are shown. Appendix Table A-3 shows results for firms with loan amounts exceeding 3,500 and 14,000 DKK per worker, respectively. In Appendix Table A-4 zero loans have been recoded to 0.001 and 1,000 DKK, respectively. Standard errors are clustered at the primary bank level. *** $p < 0.01$, ** $p < 0.05$, *$p < 0.1$.

	No controls			With only firm fixed effects			All controls		
	Large firms	Small firms	Small-young firms	Large firms	Small firms	Small-young firms	Large firms	Small firms	Small-young firms
HighLTD X 2008	-0.119	-0.129***	-0.119*	-0.121	-0.126**	-0.120*	-0.0884	-0.119***	-0.139**
	(0.174)	(0.0487)	(0.0600)	(0.185)	(0.0527)	(0.0622)	(0.159)	(0.0402)	(0.0612)
HighLTD X 2008-2009	-0.0651	-0.0404	-0.136**	-0.0611	-0.0260	-0.109*	-0.0182	-0.0201	-0.141***
	(0.140)	(0.0419)	(0.0533)	(0.146)	(0.0426)	(0.0557)	(0.128)	(0.0342)	(0.0532)
HighLTD X 2008-2010	-0.0419	-0.0375	-0.103**	-0.0299	-0.0330	-0.0970	-0.00388	-0.0286	-0.137**
	(0.0984)	(0.0283)	(0.0475)	(0.108)	(0.0302)	(0.0595)	(0.0899)	(0.0217)	(0.0541)
HighLTD X 2008-2011	-0.0943	-0.0452**	-0.105**	-0.0791	-0.0416*	-0.0995*	-0.0410	-0.0385**	-0.139***
	(0.0911)	(0.0224)	(0.0455)	(0.0990)	(0.0250)	(0.0573)	(0.0863)	(0.0190)	(0.0510)
HighLTD X 2008-2012	-0.0737	-0.0571***	-0.131***	-0.0560	-0.0542**	-0.127**	-0.0158	-0.0527***	-0.159***
	(0.0915)	(0.0206)	(0.0421)	(0.0999)	(0.0234)	(0.0573)	(0.0797)	(0.0189)	(0.0515)
HighLTD X 2008-2013	-0.0505	-0.0536**	-0.140***	-0.0342	-0.0493*	-0.123**	-0.00589	-0.0474**	-0.154***
	(0.0767)	(0.0220)	(0.0412)	(0.0836)	(0.0252)	(0.0569)	(0.0727)	(0.0206)	(0.0518)
Observations									
2008	7,281	46,578	6,300	7,223	45,130	5,275	7,179	45,061	5,212
2008-2009	8,722	56,545	8,552	8,703	56,035	8,213	8,652	55,959	8,150
2008-2010	10,074	65,403	10,462	10,054	64,885	10,114	9,995	64,804	10,040
2008-2011	11,364	73,498	12,159	11,346	73,036	11,848	11,279	72,950	11,767
2008-2012	12,594	80,869	13,654	12,575	80,424	13,356	12,501	80,332	13,266
2008-2013	13,778	87,694	15,027	13,762	87,264	14,736	13,682	87,166	14,637

Table A-5: The effect on annual log changes in total loan amounts from having a primary bank with a high LTD as in equation (3). The table shows results for the intensive margin as observations with zero loans have been deleted. Each cell is the difference-in-differences estimate from a regression of the log changes in total loans on a dummy for high loan-to-deposit ratio interacted with different post periods, i.e. the estimated β from equation (3). We include industry $\times$ year fixed effects, municipality fixed effects, and firm fixed effects. For small-young firms, we also include firm-age $\times$ year fixed effects. Large firms have more than 50 employees in 2007, small firms have between 5 and 50 employees in 2007, and small-young firms have between 5 and 50 employees in 2007 and are up to three years old in 2007. Firms are only included if the firms' loan amounts per worker exceed 7,000 DKK in 2007. The estimation results when also including observations with zero loans can be found in Table 2 and Appendix Table A-1. *** $p < 0.01$, ** $p < 0.05$, *$p < 0.1$.

	No controls			With only firm fixed effects			All controls		
	Large firms	Small firms	Small-young firms	Large firms	Small firms	Small-young firms	Large firms	Small firms	Small-young firms
HighLTD X 2008	-0.0147	0.00251	-0.0651*	-0.0149	-0.00105	-0.0880***	-0.0247	-0.000523	-0.0808**
	(0.0260)	(0.0133)	(0.0367)	(0.0296)	(0.0146)	(0.0322)	(0.0266)	(0.0123)	(0.0328)
HighLTD X 2008-2009	-0.0184	-6.64e-05	-0.0615*	-0.0166	0.000449	-0.0734***	-0.0169	0.00217	-0.0637**
	(0.0212)	(0.0113)	(0.0313)	(0.0243)	(0.0127)	(0.0278)	(0.0214)	(0.0108)	(0.0247)
HighLTD X 2008-2010	-0.0178	0.00106	-0.0557*	-0.0132	0.00156	-0.0700**	-0.0120	0.00300	-0.0579**
	(0.0204)	(0.0107)	(0.0293)	(0.0221)	(0.0120)	(0.0267)	(0.0182)	(0.0104)	(0.0234)
HighLTD X 2008-2011	-0.0204	0.000306	-0.0579**	-0.0150	0.00121	-0.0766***	-0.0112	0.00319	-0.0668***
	(0.0203)	(0.00930)	(0.0275)	(0.0211)	(0.0110)	(0.0265)	(0.0165)	(0.00948)	(0.0229)
HighLTD X 2008-2012	-0.0209	-0.000234	-0.0542*	-0.0149	0.000922	-0.0728***	-0.0118	0.00200	-0.0665***
	(0.0200)	(0.00928)	(0.0276)	(0.0203)	(0.0110)	(0.0269)	(0.0155)	(0.00945)	(0.0232)
HighLTD X 2008-2013	-0.0213	0.00128	-0.0527*	-0.0150	0.00260	-0.0713***	-0.0118	0.00384	-0.0646***
	(0.0196)	(0.00894)	(0.0277)	(0.0197)	(0.0107)	(0.0270)	(0.0149)	(0.00949)	(0.0232)
Observations									
2008	7,679	51,992	7,069	7,650	51,054	6,219	7,619	50,985	6,155
2008-2009	9,225	63,155	9,671	9,220	62,937	9,476	9,181	62,859	9,412
2008-2010	10,669	73,255	11,918	10,664	73,046	11,730	10,617	72,963	11,658
2008-2011	12,053	82,601	13,940	12,047	82,396	13,756	11,993	82,307	13,677
2008-2012	13,374	91,290	15,755	13,369	91,089	15,574	13,308	90,993	15,486
2008-2013	14,650	99,431	17,448	14,645	99,231	17,268	14,577	99,128	17,171

Table A-6: The effect on annual employment growth in the firm from having a primary bank with a high LTD. Employment growth is defined on the intensive margin as the firm's net employment flow (hires-separations) divided by its lagged employment. Each cell in the reduced-form columns is a difference-in-differences estimate from a regression of employment growth on a dummy for high LTD interacted with different post periods, i.e. β from equation (3) when replacing the dependent variable with the employment growth. In the "All controls" columns, we include industry $\times$ year fixed effects, municipality fixed effects, and firm fixed effects. For small-young firms, we also include firm-age $\times$ year fixed effects. Firms are only included if the firms' loan amounts per worker exceeding 7,000 DKK in 2007. Small firms have between 5 and 50 employees in 2007, young firms are between 0 and 3 years old in 2007, and large firms have more than 50 employees in 2007. Appendix Table A-7 shows the same estimates, with the regressions weighted by firms' employment levels. Standard errors are clustered at the primary bank level. *** $p < 0.01$, ** $p < 0.05$, *$p < 0.1$.

	No controls			With only firm fixed effects			All controls		
	Large firms	Small firms	Small-young firms	Large firms	Small firms	Small-young firms	Large firms	Small firms	Small-young firms
HighLTD X 2008	-0.0162	0.00771	-0.0543**	-0.0191	0.00294	-0.0635**	-0.00236	0.00172	-0.0592*
	(0.0212)	(0.0122)	(0.0272)	(0.0226)	(0.0123)	(0.0296)	(0.0124)	(0.0105)	(0.0311)
HighLTD X 2008-2009	-0.00908	0.00740	-0.0504**	-0.00598	0.00587	-0.0596**	0.00333	0.00660	-0.0516**
	(0.0197)	(0.0114)	(0.0194)	(0.0212)	(0.0108)	(0.0229)	(0.00929)	(0.00933)	(0.0214)
HighLTD X 2008-2010	-0.0120	0.00575	-0.0518***	-0.00698	0.00608	-0.0581***	0.00249	0.00690	-0.0486**
	(0.0181)	(0.0104)	(0.0190)	(0.0198)	(0.00970)	(0.0219)	(0.00792)	(0.00851)	(0.0194)
HighLTD X 2008-2011	-0.0160	0.00434	-0.0489***	-0.0101	0.00538	-0.0604***	-0.000216	0.00639	-0.0524***
	(0.0152)	(0.00894)	(0.0172)	(0.0167)	(0.00869)	(0.0202)	(0.00791)	(0.00752)	(0.0178)
HighLTD X 2008-2012	-0.0144	0.00421	-0.0442***	-0.00774	0.00446	-0.0579***	0.000117	0.00491	-0.0562***
	(0.0151)	(0.00871)	(0.0164)	(0.0167)	(0.00867)	(0.0199)	(0.00776)	(0.00749)	(0.0186)
HighLTD X 2008-2013	-0.0137	0.00598	-0.0429**	-0.00744	0.00631	-0.0568***	-2.75e-05	0.00724	-0.0542***
	(0.0148)	(0.00849)	(0.0164)	(0.0164)	(0.00862)	(0.0198)	(0.00776)	(0.00762)	(0.0182)
Observations									
2008	7,679	51,992	7,069	7,650	51,054	6,219	7,619	50,985	6,155
2008-2009	9,225	63,155	9,671	9,220	62,937	9,476	9,181	62,859	9,412
2008-2010	10,669	73,255	11,918	10,664	73,046	11,730	10,617	72,963	11,658
2008-2011	12,053	82,601	13,940	12,047	82,396	13,756	11,993	82,307	13,677
2008-2012	13,374	91,290	15,755	13,369	91,089	15,574	13,308	90,993	15,486
2008-2013	14,650	99,431	17,448	14,645	99,231	17,268	14,577	99,128	17,171

Table A-7: The effect on annual employment growth in the firm from having a primary bank with a high LTD. Employment growth is defined on the intensive margin as the firm's net employment flow (hires-separations) divided by its lagged employment. Each cell in the reduced-form columns is a difference-in-differences estimate from a regression of employment growth on a dummy for high LTD interacted with different post periods, i.e. β from equation (3) when replacing the dependent variable with the employment growth. In the "All controls" columns, we include industry $\times$ year fixed effects, municipality fixed effects, and firm fixed effects. For small-young firms, we also include firm-age $\times$ year fixed effects. Firms are only included if the firms' loan amounts per worker exceeding 7,000 DKK in 2007. Small firms have between 5 and 50 employees in 2007, young firms are between 0 and 3 years old in 2007, and large firms have more than 50 employees in 2007. All estimates are weighted by the firm's number of employees in year t-1. Appendix Table A-6 presents the same estimates without weighting. Standard errors are clustered at the primary bank level. *** $p < 0.01$, ** $p < 0.05$, *$p < 0.1$.

	Bank loans > 3,500 DKK/worker			Bank loans > 14,000 DKK per worker		
	Large firms	Small firms	Small-young firms	Large firms	Small firms	Small-young firms
HighLTD X 2008	-0.0119	-0.000322	-0.0804**	-0.0269	0.00249	-0.0821**
	(0.0253)	(0.0124)	(0.0316)	(0.0268)	(0.0128)	(0.0336)
HighLTD X 2008-2009	-0.00720	0.00177	-0.0662***	-0.0198	0.00485	-0.0658**
	(0.0208)	(0.0108)	(0.0230)	(0.0212)	(0.0111)	(0.0253)
HighLTD X 2008-2010	-0.00396	0.00263	-0.0597***	-0.0147	0.00507	-0.0607**
	(0.0179)	(0.0105)	(0.0221)	(0.0178)	(0.0108)	(0.0240)
HighLTD X 2008-2011	-0.00394	0.00232	-0.0684***	-0.0137	0.00595	-0.0670***
	(0.0166)	(0.00961)	(0.0217)	(0.0163)	(0.00988)	(0.0235)
HighLTD X 2008-2012	-0.00441	0.00126	-0.0675***	-0.0144	0.00451	-0.0660***
	(0.0157)	(0.00955)	(0.0223)	(0.0152)	(0.00991)	(0.0241)
HighLTD X 2008-2013	-0.00476	0.00306	-0.0653***	-0.0141	0.00608	-0.0636**
	(0.0153)	(0.00959)	(0.0225)	(0.0148)	(0.00990)	(0.0242)
Observations						
2008	7,968	52,572	6,322	7,177	48,776	5,903
2008-2009	9,597	64,846	9,693	8,650	60,113	9,011
2008-2010	11,097	75,281	12,004	10,004	69,752	11,153
2008-2011	12,534	84,939	14,082	11,299	78,666	13,079
2008-2012	13,908	93,921	15,949	12,537	86,950	14,806
2008-2013	15,233	102,335	17,687	13,733	94,717	16,411

Table A-8: The effect on annual employment growth in the firm from having a primary bank with a high LTD. Employment growth is defined on the intensive margin as the firm's net employment flow (hires-separations) divided by its lagged employment. Each cell is a difference-in-differences estimate from a regression of employment growth on a dummy for high LTD interacted with a post-period dummy, i.e. β from equation (3) when replacing the dependent variable with the employment growth. In all regressions, we include industry $\times$ year fixed effects, municipality fixed effects, and firm fixed effects. In regressions for small-young firms we also include firm-age $\times$ year fixed effects. In column 1-3, the estimation samples only include firms with loans per worker exceeding 3,500 DKK. In column 4-6, the estimation samples only include firms with loans per worker exceeding 14,000. Small firms have between 5 and 50 employees in 2007, young firms are between 0 and 3 years old in 2007, and large firms have more than 50 employees in 2007. DKK. Standard errors are clustered at the primary bank level. $^{***}p < 0.01$, ** $p < 0.05$, $^{*}p < 0.1$.

		Loan growth			Positive loan growth	Negative loan growth
2008	HighLTD	-0.498***		-0.763***	-0.432***	-0.331**
		(0.153)		(0.192)	(0.157)	(0.157)
	Linear LTD		-0.00771*			
			(0.00388)			
	Linear LTD			-0.00276	-0.000198	-0.00256*
	(low values)			(0.00179)	(0.00105)	(0.00141)
2009	HighLTD	-0.374**		-0.763***	-0.285*	-0.478***
		(0.181)		(0.174)	(0.155)	(0.0899)
	Linear LTD		-0.00522			
			(0.00351)			
	Linear LTD			-0.00405***	0.000807	-0.00486***
	(low values)			(0.00150)	(0.000962)	(0.000929)
2010	HighLTD	-0.388**		-0.761***	-0.292**	-0.469***
		(0.158)		(0.147)	(0.139)	(0.0888)
	Linear LTD		-0.00625*			
			(0.00324)			
	Linear LTD			-0.00388**	0.000773	-0.00465***
	(low values)			(0.00148)	(0.000865)	(0.000931)
2011	HighLTD	-0.365**		-0.706***	-0.281**	-0.425***
		(0.149)		(0.199)	(0.122)	(0.148)
	Linear LTD		-0.00613**			
			(0.00298)			
	Linear LTD			-0.00355*	0.000777	-0.00433***
	(low values)			(0.00193)	(0.000767)	(0.00146)
2012	HighLTD	-0.435***		-0.781***	-0.292**	-0.489***
		(0.144)		(0.163)	(0.116)	(0.130)
	Linear LTD		-0.00753**			
			(0.00326)			
	Linear LTD			-0.00361**	0.000950	-0.00456***
	(low values)			(0.00162)	(0.000690)	(0.00135)
2013	HighLTD	-0.406***		-0.695***	-0.287**	-0.408***
		(0.128)		(0.141)	(0.110)	(0.105)
	Linear LTD		-0.00756**			
			(0.00287)			
	Linear LTD			-0.00302**	0.000985	-0.00400***
	(low values)			(0.00146)	(0.000663)	(0.00111)
	Observations					
		5,847	5,761	5,847	5,847	5,847
		9,062	8,933	9,062	9,062	9,062
		11,190	11,029	11,190	11,190	11,190
		13,103	12,913	13,103	13,103	13,103
		14,801	14,585	14,801	14,801	14,801
		16,356	16,115	16,356	16,356	16,356

(continues on next page)

F-statistics					
	10.61	3.944	9.091	4.845	2.552
	4.254	2.216	10.01	3.076	21.44
	6.061	3.712	13.41	4.040	19.98
	6.026	4.234	7.001	5.472	4.987
	9.141	5.326	12.13	7.073	7.981
	10.11	6.932	13.05	7.721	9.225
Stock-Wright LM-S p-value					
	0.0105	0.0273	0.0375	0.0375	
	0.00742	0.00954	0.0239	0.0239	
	0.0106	0.0104	0.0327	0.0327	
	0.00527	0.00512	0.0189	0.0189	
	0.00481	0.0105	0.0177	0.0177	
	0.00693	0.0131	0.0251	0.0251	

Table A-9: First stage results for the instrumental variable models for employment growth in Table 4: Column 1 is the first stage of column 1 in Table 4, column 2 is the first stage of column 2 in Table 4, column 3 is the first stage of column 3 and 4 in Table 4, and column 5-6 are the first stages for the joint estimation of column 5-6 in Table 4. All instrument variables are interacted with the post-2008 dummy. All regressions include firm age $\times$ year fixed effects, industry $\times$ year fixed effects, municipality fixed effects, and firm fixed effects. Firms are only included if their loan amount per worker exceeds 7,000 DKK in 2007. Standard errors are clustered at the primary bank level. $p < 0.01$, ** $p < 0.05$, *$p < 0.1$.

	Loan growth				Positive loan growth	Negative loan growth
2008	0.136**	0.242**	0.129**	0.130**	0.165	0.0385
	(0.0650)	(0.119)	(0.0539)	(0.0550)	(0.118)	(0.144)
2008-2009	0.170	0.368	0.113**	0.135*	0.186	0.00895
	(0.122)	(0.268)	(0.0510)	(0.0703)	(0.124)	(0.0769)
2008-2010	0.156	0.290*	0.105**	0.121**	0.169*	0.0111
	(0.0945)	(0.167)	(0.0399)	(0.0513)	(0.101)	(0.0707)
2008-2011	0.208*	0.358*	0.130***	0.161**	0.194**	0.0233
	(0.120)	(0.194)	(0.0405)	(0.0669)	(0.0943)	(0.0603)
2008-2012	0.164*	0.280**	0.125***	0.136***	0.166**	0.0542
	(0.0844)	(0.134)	(0.0391)	(0.0459)	(0.0808)	(0.0578)
2008-2013	0.179*	0.292**	0.137***	0.150***	0.170**	0.0589
	(0.0937)	(0.138)	(0.0436)	(0.0512)	(0.0794)	(0.0654)
Observations						
	5,912	5,826	5,912	5,912	5,912	
	9,126	8,997	9,126	9,126	9,126	
	11,261	11,100	11,261	11,261	11,261	
	13,181	12,991	13,181	13,181	13,181	
	14,886	14,670	14,886	14,886	14,886	
	16,448	16,207	16,448	16,448	16,448	

Table A-10: The effect of annual loan growth on annual employment growth for small-young firms with only year fixed effects and firm fixed effects. Table 4 shows the estimates for the same regressions when also including controls. Employment growth is defined on the intensive margin as the firm's net employment flow (hires-separations) divided by its lagged employment. All estimation results are from IV estimations, with each row considering different post-periods. In columns 1-3, we use 2SLS, whereas in column 4, we use LIML. In column 1, loan growth is instrumented with a dummy for high LTD interacted with a post-period dummy. In column 2, we instrument using the linear LTD interacted with the post-period dummy. For this regression with linear LTD as instrument, the dataset was trimmed at the top 1% of LTD values to obtain a stronger first stage. In columns 3 and 4, we use the high LTD dummy and linear LTD for LTDs lower than the median as instruments. Both variables are interacted with the post-2008 dummy. Columns 5-6 give the joint estimates for positive and negative loan growth where we also use the high LTD dummy and linear LTD for LTDs lower than the median as instruments. All regressions include firm age $\times$ year fixed effects, industry $\times$ year fixed effects, municipality fixed effects, and firm fixed effects. Firms are only included if their loan amount per worker exceeds 7,000 DKK in 2007. The corresponding first stage results are shown in Appendix Table A-9. Appendix Table A-11 shows the 2SLS estimates using high LTD as instrument, with zeros recoded as 0.001 DKK and as 1,000 DKK. Standard errors are clustered at the primary bank level. $p < 0.01$, ** $p < 0.05$, *$p < 0.1$.

	Zeros recoded as 1	Zeros recoded as 0.001	Zeros recoded as 1,000
2008	0.128*	0.0894*	0.223*
	(0.0692)	(0.0491)	(0.120)
2008-2009	0.150	0.107	0.250*
	(0.0964)	(0.0724)	(0.146)
2008-2010	0.127*	0.0911	0.208*
	(0.0761)	(0.0586)	(0.109)
2008-2011	0.163*	0.120*	0.253**
	(0.0856)	(0.0684)	(0.114)
2008-2012	0.135**	0.0988*	0.212**
	(0.0630)	(0.0500)	(0.0852)
2008-2013	0.142**	0.106**	0.218**
	(0.0635)	(0.0513)	(0.0840)
Observations			
2008	5,847	5,847	5,847
2008-2009	9,062	9,062	9,062
2008-2010	11,190	11,190	11,190
2008-2011	13,103	13,103	13,103
2008-2012	14,801	14,801	14,801
2008-2013	16,356	16,356	16,356

Table A-11: The effect of annual loan growth on annual employment growth using the dummy for high LTD interacted with the post period dummy as instrument for loan growth as in equation (4). Employment growth is defined on the intensive margin as the firm's net employment flow (hires-separations) divided by its lagged employment. We include industry × year fixed effects, municipality fixed effects, firm-age × year fixed effects, and firm fixed effects. The first column is identical to 2SLS estimates of column one in Table 4. In column two, we have recoded zero loans to 0.001 DKK prior to estimating the IV regression. In column three, the zero loans have been recoded as 1,000 DKK. Firms are only included if the firms' loan amounts per worker exceed 7,000 DKK in 2007. Only small-young firms (with 5 to 50 employees in 2007 and between 0 and 3 years old in 2007) are included. $p < 0.01$, ** $p < 0.05$, *$p < 0.1$.

	Hires	Separations	Hires	Separations	Hires	Separations	Hires	Separations
2008	0.150*	0.0228	0.341*	0.0738	0.150**	0.0337	0.150**	0.0363
	(0.0807)	(0.0412)	(0.189)	(0.0688)	(0.0722)	(0.0342)	(0.0722)	(0.0372)
2008-2009	0.223	0.0728	0.503	0.151	0.183**	0.0785**	0.197**	0.0788**
	(0.136)	(0.0562)	(0.326)	(0.108)	(0.0830)	(0.0365)	(0.0952)	(0.0368)
2008-2010	0.208*	0.0811	0.412*	0.145	0.169**	0.0774**	0.185**	0.0776**
	(0.118)	(0.0554)	(0.222)	(0.0889)	(0.0734)	(0.0360)	(0.0864)	(0.0362)
2008-2011	0.240*	0.0769	0.428**	0.127	0.200***	0.0760**	0.217**	0.0760**
	(0.122)	(0.0546)	(0.214)	(0.0812)	(0.0758)	(0.0365)	(0.0893)	(0.0365)
2008-2012	0.204**	0.0692	0.353**	0.115*	0.183***	0.0674**	0.190***	0.0674**
	(0.0933)	(0.0449)	(0.159)	(0.0645)	(0.0661)	(0.0322)	(0.0705)	(0.0323)
2008-2013	0.220**	0.0776	0.356**	0.122*	0.200***	0.0752**	0.208***	0.0754**
	(0.0985)	(0.0491)	(0.145)	(0.0633)	(0.0731)	(0.0366)	(0.0779)	(0.0367)
Estimation:	2SLS	2SLS	2SLS	2SLS	2SLS	2SLS	LIML	LIML
Instruments:								
High LTD	✓	✓			✓	✓	✓	✓
Linear LTD			✓	✓				
Linear LTD for low LTD					✓	✓	✓	✓
Observations:	5,847	5,847	5,761	5,761	5,847	5,847	5,847	5,847
	9,062	9,062	8,933	8,933	9,062	9,062	9,062	9,062
	11,190	11,190	11,029	11,029	11,190	11,190	11,190	11,190
	13,103	13,103	12,913	12,913	13,103	13,103	13,103	13,103
	14,801	14,801	14,585	14,585	14,801	14,801	14,801	14,801
	16,356	16,356	16,115	16,115	16,356	16,356	16,356	16,356
F-statistic:	10.61	10.61	3.944	3.944	9.091	9.091	9.091	9.091
	4.254	4.254	2.216	2.216	10.01	10.01	10.01	10.01
	6.061	6.061	3.712	3.712	13.41	13.41	13.41	13.41
	6.026	6.026	4.234	4.234	7.001	7.001	7.001	7.001
	9.141	9.141	5.326	5.326	12.13	12.13	12.13	12.13
	10.11	10.11	6.932	6.932	13.05	13.05	13.05	13.05
Stock-Wright LM-S p-value:	0.0317	0.582	0.0264	0.277	0.0605	0.107	0.0605	0.107
	0.0116	0.148	0.00520	0.0715	0.0373	0.0408	0.0373	0.0408
	0.0116	0.0924	0.00783	0.0486	0.0412	0.0696	0.0412	0.0696
	0.0112	0.113	0.00701	0.0777	0.0400	0.148	0.0400	0.148
	0.0111	0.115	0.00802	0.0499	0.0386	0.132	0.0386	0.132
	0.0110	0.0810	0.0107	0.0455	0.0389	0.0866	0.0389	0.0866

Table A-12: **XXXXX**. $p < 0.01$, ** $p < 0.05$, *$p < 0.1$.

	Hires		Separations	
	Positive loan growth	Negative loan growth	Positive loan growth	Negative loan growth
2008	0.151	0.146	-0.00513	0.159
	(0.116)	(0.219)	(0.101)	(0.166)
2008-2009	0.227*	0.0990	0.0722	0.0902*
	(0.128)	(0.102)	(0.0606)	(0.0496)
2008-2010	0.216*	0.0725	0.0819	0.0685
	(0.118)	(0.0962)	(0.0591)	(0.0474)
2008-2011	0.244**	0.0994	0.0770	0.0738
	(0.112)	(0.0954)	(0.0563)	(0.0533)
2008-2012	0.216**	0.114	0.0702	0.0614
	(0.101)	(0.0880)	(0.0531)	(0.0475)
2008-2013	0.226**	0.123	0.0783	0.0659
	(0.100)	(0.1000)	(0.0530)	(0.0522)
Observations:	5,847		5,847	
	9,062		9,062	
	11,190		11,190	
	13,103		13,103	
	14,801		14,801	
	16,356		16,356	
F-statistic:	1.463	2.552	1.463	2.552
	18.83	21.44	18.83	21.44
	20.85	19.98	20.85	19.98
	5.086	4.987	5.086	4.987
	8.045	7.981	8.045	7.981
	9.323	9.224	9.323	9.224
Stock-Wright LM-S p-value:	0.0605		0.107	
	0.0373		0.0408	
	0.0412		0.0696	
	0.0400		0.148	
	0.0386		0.132	
	0.0389		0.0866	

Table A-13: **XXXXX NB!! IS SOMETHING WRONG WITH THE F-STATS????!???! THEY ARE TOO CORRELATED!!!!**. $p < 0.01$, ** $p < 0.05$, *$p < 0.1$.

	Crisis		Recovery		Crisis and recovery	
	Low LTD	High LTD	Low LTD	High LTD	Low LTD	High LTD
Contracting firms:						
Share of firms	0.39	0.39	0.39	0.39	0.39	0.39
Job destruction	-0.337	-0.37	-0.208	-0.238	-0.545	-0.608
Expanding firms:						
Share of firms	0.26	0.24	0.26	0.24	0.26	0.24
Job creation	0.511	0.432	-0.146	-0.18	0.365	0.252
Closing firms:						
Share of firms	0.23	0.24	.	.	.	.
Number of firms	2022	1501	2022	1501	2022	1501
Employment in 2007	23581	18335	23581	18335	23581	18335

Table A-14: Cumulative employment growth in the crisis (2008:Q2-2010:Q2) and the recovery (2010:Q3-2013:Q4) and the combined period (2008:Q2-2013:Q4) for small-young firms (firms with 5-50 employees in Q3 2007 and aged 0-3 years in 2007). Job creation and destruction are relative to the employment level in 2007 and are not seasonally-adjusted (in contrast to Figure 8). The share of firms is measured in 2007. We compare firms with low LTD banks and firms with high LTD banks. Firms are categorized as contracting, expanding, or closing firms during the *crisis*. Note that contracting firms do not include firms that closed during the crisis. Firms with a constant workforce during the crisis are also excluded from this table. Contracting and expanding firms that subsequently closed during the recovery period are included as job destruction.

	Loans per worker ≥ 7,000 DKK				Loans per worker ≥ 35,000 DKK			
2008	-0.0365	-0.121	-0.0348	-0.0349	-0.0511	-0.163	-0.0490	-0.0500
	(0.0291)	(0.105)	(0.0267)	(0.0269)	(0.0387)	(0.150)	(0.0382)	(0.0394)
2008-2009	-0.0515	-0.232	-0.0351	-0.0380	-0.0786	-0.278	-0.0522	-0.0734
	(0.0431)	(0.289)	(0.0340)	(0.0383)	(0.0519)	(0.261)	(0.0428)	(0.0700)
2008-2010	-0.0525	-0.172	-0.0360	-0.0391	-0.0657*	-0.155	-0.0455	-0.0557
	(0.0374)	(0.164)	(0.0283)	(0.0320)	(0.0362)	(0.0938)	(0.0331)	(0.0435)
2008-2011	-0.0699*	-0.178	-0.0455*	-0.0552	-0.0758**	-0.147**	-0.0552*	-0.0715*
	(0.0418)	(0.138)	(0.0269)	(0.0353)	(0.0336)	(0.0679)	(0.0306)	(0.0428)
2008-2012	-0.0579*	-0.135	-0.0440*	-0.0479	-0.0634**	-0.122**	-0.0492*	-0.0565
	(0.0333)	(0.0911)	(0.0258)	(0.0291)	(0.0299)	(0.0566)	(0.0295)	(0.0353)
2008-2013	-0.0647*	-0.132*	-0.0520*	-0.0561*	-0.0702**	-0.116**	-0.0610**	-0.0666**
	(0.0349)	(0.0783)	(0.0275)	(0.0306)	(0.0291)	(0.0443)	(0.0299)	(0.0332)
Estimation:	2SLS	2SLS	2SLS	LIML	2SLS	2SLS	2SLS	LIML
Instruments:								
High LTD	✓		✓	✓	✓		✓	✓
Linear LTD		✓				✓		
Linear LTD for low LTD			✓	✓			✓	✓
Observations:	4,198	4,138	4,198	4,198	3,548	3,492	3,548	3,548
	7,412	7,309	7,412	7,412	6,259	6,164	6,259	6,259
	9,545	9,410	9,545	9,545	8,062	7,938	8,062	8,062
	11,458	11,294	11,458	11,458	9,663	9,513	9,663	9,663
	13,157	12,967	13,157	13,157	11,099	10,926	11,099	11,099
	14,712	14,497	14,712	14,712	12,416	12,221	12,416	12,416

Table A-15: The effect of annual loan growth on firm closure. All estimation results are from IV estimations, with each row considering different post-periods. In columns 1-4, we only include firms with loans per worker in 2007 exceeding 7,000 DKK. In columns 5-8, we only include firms with loans per worker in 2007 exceeding 35,000 DKK. In columns 1-3 and 5-7, we use 2SLS, whereas in column 4 and 8, we use LIML. In columns 1 and 5, loan growth is instrumented with a dummy for high LTD interacted with a post-period dummy. In column 2 and 6, we instrument using the linear LTD interacted with the post-period dummy. For this regression with linear LTD as instrument, the dataset was trimmed at the top 1% of LTD values to obtain a stronger first stage. In columns 3-4 and 7-8, we use the high LTD dummy and linear LTD for LTDs lower than the median as instruments. Both variables are interacted with the post-2008 dummy. All regressions include firm age × year fixed effects, industry × year fixed effects, municipality fixed effects, and firm fixed effects. The corresponding first stage results are shown in Appendix Table A-16. Standard errors are clustered at the primary bank level. $p < 0.01$, ** $p < 0.05$, *$p < 0.1$.

	Loans per worker ≥ 7,000 DKK			Loans per worker ≥ 35,000 DKK		
2008 HighLTD	-0.533***		-0.893***	-0.448***		-0.575**
	(0.200)		(0.286)	(0.138)		(0.228)
Linear LTD		-0.00616			-0.00555	
		(0.00427)			(0.00390)	
Linear LTD			-0.00373			-0.00132
(low values)			(0.00232)			(0.00211)
2009 HighLTD	-0.405*		-0.922***	-0.360**		-0.683***
	(0.238)		(0.248)	(0.149)		(0.179)
Linear LTD		-0.00339			-0.00366	
		(0.00408)			(0.00322)	
Linear LTD			-0.00536***			-0.00334**
(low values)			(0.00188)			(0.00166)
2010 HighLTD	-0.409*		-0.912***	-0.407***		-0.770***
	(0.213)		(0.217)	(0.142)		(0.173)
Linear LTD		-0.00414			-0.00582*	
		(0.00384)			(0.00311)	
Linear LTD			-0.00521***			-0.00376**
(low values)			(0.00178)			(0.00169)
2011 HighLTD	-0.395**		-0.866***	-0.434***		-0.770***
	(0.192)		(0.229)	(0.134)		(0.170)
Linear LTD		-0.00453			-0.00685**	
		(0.00348)			(0.00292)	
Linear LTD			-0.00488**			-0.00347**
(low values)			(0.00201)			(0.00174)
2012 HighLTD	-0.469**		-0.950***	-0.490***		-0.856***
	(0.186)		(0.207)	(0.140)		(0.169)
Linear LTD		-0.00591			-0.00799**	
		(0.00371)			(0.00324)	
Linear LTD			-0.00498***			-0.00379**
(low values)			(0.00186)			(0.00170)
2013 HighLTD	-0.446**		-0.875***	-0.483***		-0.762***
	(0.172)		(0.196)	(0.121)		(0.160)
Linear LTD		-0.00634*			-0.00904***	
		(0.00336)			(0.00281)	
Linear LTD			-0.00443**			-0.00288*
(low values)			(0.00173)			(0.00158)
Observations:						
	4,198	4,138	4,198	3,548	3,492	3,548
	7,412	7,309	647,412	6,259	6,164	6,259
	9,545	9,410	9,545	8,062	7,938	8,062
	11,458	11,294	11,458	9,663	9,513	9,663
	13,157	12,967	13,157	11,099	10,926	11,099
	14,712	14,497	14,712	12,416	12,221	12,416

(continues on next page)

F-statistics:						
	7.104	2.085	5.387	10.51	2.029	5.953
	2.903	0.690	7.637	5.880	1.291	7.482
	3.674	1.163	9.395	8.226	3.496	10.58
	4.219	1.697	7.161	10.45	5.509	12.02
	6.354	2.530	10.51	12.17	6.090	14.40
	6.756	3.556	9.933	15.92	10.32	14.21
Stock-Wright LM-S p-values:						
	0.113	0.0724	0.282	0.126	0.0982	0.287
	0.0814	0.0127	0.179	0.0508	0.0196	0.0970
	0.0775	0.0152	0.182	0.0681	0.0249	0.139
	0.0452	0.0125	0.120	0.0435	0.0175	0.0836
	0.0534	0.0198	0.144	0.0567	0.0277	0.132
	0.0582	0.0179	0.158	0.0513	0.0270	0.131

Table A-16: First stage results for the instrumental variable models for firm closure in Appendix Table A-15: Column 1 is the first stage of column 1 in Appendix Table A-15, column 2 is the first stage of column 2 in Appendix Table A-15, column 3 is the first stage of columns 3 and 4 in Appendix Table A-15, column 4 is the first stage of column 5 in for Appendix Table A-15, column 5 is the first stage of column 6 in Appendix Table A-15, and column 6 is the first stage of columns 7-8 in Appendix Table A-15. All instrument variables are interacted with the post-2008 dummy. All regressions include firm age $\times$ year fixed effects, industry $\times$ year fixed effects, and municipality fixed effects. Standard errors are clustered at the primary bank level. $p < 0.01$, ** $p < 0.05$, *$p < 0.1$.

	Loan growth				Positive loan growth	Negative loan growth
2008	0.182*	0.438	0.160*	0.188	0.135	-0.129
	(0.101)	(0.387)	(0.0915)	(0.117)	(0.0904)	(0.195)
2008-2009	0.215*	0.521	0.112	0.232	0.131	-0.0487
	(0.126)	(0.406)	(0.0718)	(0.229)	(0.0810)	(0.111)
2008-2010	0.169**	0.313**	0.0786	0.154	0.119*	-0.0587
	(0.0844)	(0.149)	(0.0543)	(0.138)	(0.0671)	(0.112)
2008-2011	0.193**	0.340**	0.113**	0.192	0.147**	-0.0432
	(0.0823)	(0.146)	(0.0538)	(0.126)	(0.0667)	(0.122)
2008-2012	0.159**	0.286**	0.0964*	0.147	0.134**	-0.0357
	(0.0700)	(0.128)	(0.0497)	(0.0906)	(0.0569)	(0.118)
2008-2013	0.167**	0.261***	0.118**	0.164**	0.135**	-0.0331
	(0.0642)	(0.0925)	(0.0522)	(0.0817)	(0.0587)	(0.138)
Observations						
	4,925	4,845	4,925	4,925	4,925	
	7,635	7,516	7,635	7,635	7,635	
	9,435	9,287	9,435	9,435	9,435	
	11,036	10,862	11,036	11,036	11,036	
	12,471	12,274	12,471	12,471	12,471	
	13,788	13,569	13,788	13,788	13,788	

Table A-17: The effect of annual loan growth on annual employment growth for small-young firms similarly to Table 4, but where the present table only includes firms if their loan amount per worker exceeds 35,000 DKK in 2007. Employment growth is defined on the intensive margin as the firm's net employment flow (hires-separations) divided by its lagged employment. All estimation results are from IV estimations, with each row considering different post-periods. In columns 1-3, we use 2SLS, whereas in column 4, we use LIML. In the first column, loan growth is instrumented with a dummy for high LTD interacted with a post-period dummy. In the second column, we instrument using the linear LTD interacted with the post-period dummy. For this regression with linear LTD as instrument, the dataset was trimmed at the top 1% of LTD values to obtain a stronger first stage. In the third and fifth columns, we use the high LTD dummy and linear LTD for LTDs lower than the median. Both variables are interacted with the post-2008 dummy. All regressions include firm age $\times$ year fixed effects, industry $\times$ year fixed effects, municipality fixed effects, and firm fixed effects. Standard errors are clustered at the primary bank level. $p < 0.01$, ** $p < 0.05$, *$p < 0.1$.

	Reduced-form	Total employment effect	Minimum share
2008	-0.0637**	-0.166***	0.384
	(0.0319)	(0.0154)	
2008-2009	-0.0560**	-0.214***	0.262
	(0.0217)	(0.0119)	
2008-2010	-0.0545***	-0.210***	0.260
	(0.0197)	(0.0117)	
2008-2011	-0.0557***	-0.206***	0.270
	(0.0182)	(0.0113)	
2008-2012	-0.0590***	-0.208***	0.284
	(0.0192)	(0.0112)	
2008-2013	-0.0567***	-0.210***	0.270
	(0.0189)	(0.0110)	
2008	5,903	5,903	
2008-2009	9,011	9,011	
2008-2010	11,153	11,153	
2008-2011	13,079	13,079	
2008-2012	14,806	14,806	
2008-2013	16,411	16,411	

Table A-18: The table shows the minimum share of the total employment growth, which is due to tightened credit constraints. We calculate this share by assuming that the loan reductions in high LTD banks arose solely as a consequence of a lower loan demand by the firms. This means that we divide the reduced-form estimate in column 2 with the total employment effect in column 3 in order to calculate the minimum share in column 4. The reduced-form estimates are the estimated effect on employment growth of having a high LTD bank after 2007. The estimates in column 2 are identical to the estimates in column 10 of Appendix Table A-7. We obtain the estimates in column 3 by regression the employment growth on year dummies for 2005-2006 and a dummy for the post period. We include industry $\times$ municipality dummies, and firm fixed effects. Firms are only included if the firms' loan amounts per worker exceed 7,000 DKK in 2007. Only small-young firms (with 5 to 50 employees in 2007 and between 0 and 3 years old in 2007) are included. All estimates are weighted by the firm's number of employees in year t-1 Standard errors are clustered at the primary bank level. *** $p < 0.01$, ** $p < 0.05$, *$p < 0.1$.