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The provision of long-term credit and firm growth

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Abstract

This paper investigates whether a higher level of long-term credit provision affects the growth of small and young firms. Firm-level data from more than 20,000 firms in 62 countries are combined with a new hand-collected database on short-term and long-term credit provided to the private sector. Using a difference-in-difference framework, our results indicate that, contrary to short-term credit, long-term credit does not stimulate growth of small and young firms. This finding is, at least partially, explained by the differential impact of short-term and long-term credit provision on small and young firms' access to credit. While the provision of short-term credit alleviates credit constraints faced by small and young firms, a larger provision of long-term bank loans has an opposite impact. Our findings are in line with the hypothesis that an increase of long-term credit provision reflects a lender's choice to provide more financing to existing clients (intensive margin) to the detriment of firms without previous access to finance (extensive margin).

Keywords: Long-term finance; firm growth; financial development; credit constraints
JEL classification: G21; L25; O16

1 Introduction

In recent years, there has been increasing interest in long-term finance in academic and policy circles.[1] Extending the maturity structure of finance is often considered to be at the core of inclusive financial development and questions tend to be focused more on how to promote long-term finance than on analyzing its effects (Anderson et al., 2017; Tasić and Valev, 2010; World Bank, 2016). This lack of interest in the impact of long-term finance may be due to a consensus that it benefits firms. Yet surprisingly, little is known about the impact of long-term finance on the performance of small and young enterprises, which has profound policy implications because these firms play a prominent role in job creation (Ayyagari et al., 2014; Haltiwanger et al., 2013) and because credit constraint is one of the greatest barriers to growth of firms (Ayyagari et al., 2008; Beck et al., 2005; Beck and Demirgüç-Kunt, 2006).

This paper empirically examines whether a higher level of long-term credit provision affects the growth of small and young firms. An increase of the provision of long-term credit could be viewed unanimously as a positive news for firms. Better access to long-term loans allows firms to invest in and adopt technologies with delayed but potentially high returns. However, theory provides arguments that challenge this common view, especially for new and young firms. First, at a micro-level, agency theory models shed light on the undesirable effects of long-term debt (e.g. for disciplining managers). Second, small and young firms may need short-term funds more than long-term loans if they are to finance working capital needs. In addition, better provision of short-term formal loans may help such firms to substitute informal loans (from moneylenders, friends, etc.) with formal credit to some advantages (larger amount, lower costs). Finally, long-term loans may be exclusively oriented toward transparent borrowers (large, well-established firms and/or wealthier households) and thus not benefit small and young firms. An increase of long-term credit provision may therefore reflect the lender's decision to extend loans to already financed borrowers (intensive margin) to the detriment of borrowers without a credit history (extensive margin).

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[1]For instance, the third and latest version of the Global Financial Development Report was dedicated to this issue (World Bank, 2016). The first two reports were dedicated to the role of State in finance and to financial inclusion.

Thus, the question of whether a better provision of long-term loans affects the growth of small and young firms is ultimately an empirical one, precisely the one we address in this study. To do so, we combine firm-level data from the World Bank Enterprise Surveys (ES henceforth) with data on short-term and long-term credit at the country level extracted from the Credit Structure Database (CSD henceforth). The CSD is a new database that reports short-term and long-term credit to the private sector relative to GDP for 85 countries over the period 1995-2014 (Léon, 2018b). Short-term credit was defined as credit with a maturity of one year or less and long-term credit as with a maturity exceeding one year. To avoid endogenity issues, a difference-in-difference approach initially proposed by Rajan and Zingales (1998) and extended to firm-level data by Fafchamps and Schündeln (2013) is adopted. More specifically, we adjust the Fafchamps and Schündeln (2013)'s approach to a multi-country context.

Econometric results indicate that short-term credit is beneficial for the growth of small and young firms, while long-term credit has no impact on firms' growth. These findings are robust to different measures of growth (employment and sales) and pass several sensitivity tests, an including alternative definition of small and young firms, the use of external financial dependence instead of growth opportunity, alternative econometric specification, alternative samples, and inclusion of alternative control variables. In a final section, we try to explain why long-term credit provision has no impact on the growth of small and young firms. We show that credit availability is positively correlated with short-term credit provision. In contrast, firms' access to credit is reduced for small and young firms in countries with a higher level of long-term credit over GDP. These findings are in line with hypothesis arguing that an increase in long-term credit provision reflects lender's choice to grant more to existing clients (intensive margin) rather than widening the client base (extensive margin).

This paper is directly linked to the extensive literature on the importance of banking development on firm growth. There is some evidence that banking development exerts a disproportionate impact on small firms (Aghion et al., 2007; Beck et al., 2008a; Fafchamps and Schündeln, 2013). On the other side, several papers have documented that opaque borrowers may overcome their lack of access of formal loans by relying on alternative sources of funds such as trade credit (Fisman and Love, 2003) or informal finance (Allen

et al., 2005; Beck et al., 2008b).[2] In this work, we try to bridge both strands of papers. Our findings suggest that only short-term credit expansion is beneficial for opaque borrowers. One explanation advanced here is that credit-rationed firms, relying on informal finance, can take advantage of an expansion of short-term credit because they are qualified to apply for it. However, if banking development is mainly driven by an increase of long-term bank loans, it is likely that the financialization process is oriented toward firms (with previous credit history) or toward households (through mortgage loans). Put differently, our findings indicate that banking development can spur growth in small and young firms but only under certain conditions. In particular, an increase in a bank's provision of credit should reflect a widening of a bank's client base (extensive margin) rather than more credit for existing borrowers (intensive margin).

This work is also directly linked to the body of literature focusing on long-term finance and its effect on firm performance at the micro- and macro-levels. Several case studies have scrutinized the impact of long-term finance on firm growth with mixed results (see below). Using individual data for the largest publicly traded firms in 30 countries, Demirgüç-Kunt and Maksimovic (1998) document that firms with higher long-term debt ratios grow faster than they would if they relied solely on internal or short-term resources. Additional papers based on growth regression show that long-term credit is positively related to economic growth (e.g., Valev and Tasic, 2008). In a related work, Léon (2019) shows that short-term credit, contrary to long-term credit, stimulates entrepreneurship. To our knowledge, our paper is the first that focuses explicitly on small and young firms operating in both developing and developed countries (existing studies often concentrate on large or traded firms in developed countries). In addition, our results are somewhat surprising but largely understandable. We document that short-term credit is not only effective in spurring firm entry as documented by Léon (2019), but also stimulates post-entry growth of small and young firms. In addition, we show that long-term credit does not benefit opaque firms and provide an explanation of this finding.

The remainder of this paper is organized as follows. Section 2 discusses existing

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[2]Allen et al. (2005) point out that informal finance is crucial for growth of Chinese firms. This paper's finding has been challenged by subsequent papers indicating the importance of formal financing (Ayyagari et al., 2010) or the complementary between informal and formal lending (Beck et al., 2015; Degryse et al., 2016) in China.

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literature on long-term finance and firm performance. Section 3 and Section 4 display the methodology and data. Section 5 presents our main econometric results as well as robustness checks. Section 6 provides a possible explanation based on credit access. The final section concludes.

2 Literature Review

2.1 Theoretical literature

Long-term finance is expected to have positive effects on firm performance by stimulating investment. Hart and Moore (1995) document that an optimal financing strategy consists in matching maturity of assets and liabilities. Put differently, firms use long-term credit to purchase fixed assets and equipment and short-term credit to finance working capital. In the absence of long-term finance, a firm tends to favor investment in technologies with immediate payoff rather than adopting more productive technologies with delayed returns, due to fear of liquidation. Firms face a risk of a lack of liquidity when they finance long-term investment with short-term debt because creditors may refuse to roll over their credits (Diamond, 1991). This shortening of the investment horizon may have negative consequences on overall performance, especially for small and young firms, which are credit rationed for long term debt due to their inability to produce hard information (adequate records and accounts) and their limited relationship with banks (Demirgüç-Kunt and Maksimovic, 1999; World Bank, 2016). Facilitating access to long term credit may help them to invest in tangible assets and to adopt technologies with better returns.

Several arguments, however, challenge this view at both the micro- and macro-level. First, agency theory posits that short maturity debt can be valuable for firm performance. Short-term finance may discipline managers by imposing frequent renegotiation (Jensen, 1986). In addition, Rajan (1992) argues that long-term loans may induce managers to reduce efforts to avoid losses because losses are shared between the lender and the borrower. The threat of liquidation may therefore avoid wasteful investments and activities. Moreover Rajan and Winton (1995) suggest that short-term debt allows lenders to monitor borrowers with minimal effort.

Second, better access to short-term loans can be more important for opaque firms than facilitating access to long-term finance. Small and young firms often use informal (in place of formal) loans or trade credit in countries with a weak level of banking development (Allen et al., 2005; Beck et al., 2008b; Fisman and Love, 2003). Increasing access to short-term loans may therefore relax financial constraints (lower prices, larger amounts) with positive impact on firm entry and growth. While better access to long-term finance allows firms to invest in immobile assets, it could be more important for many of them to get access to short-term formal funds to finance their working capital needs that are crucial for their day-to-day operations.

Finally, at a macro-level, an increase in the ratio of long-term credit can merely reflect a switch towards transparent firms. Previous arguments are based on the assumption that opaque firms get better access to long-term loans. But lenders can be particularly reluctant to provide long-term loans to opaque firms due to asymmetric information. This issue is more prominent in developing countries due to deficiencies in property rights, contractual enforcement, judicial procedures, a lack of mechanisms to gather information and the absence of alternative lenders or lending technologies. Long-term loans are therefore only available for transparent firms (large/old firms) or those having a previous long-term relationship with a lender. A higher level of long-term credit may therefore signal an increase of credit driven by intensive margin (more for existing clients) rather than extensive margin (widening the client base). Custódio et al. (2013) provide support for this view to explain changes in the use of short-term credit in the U.S. At the extreme, an increase in the ratio of long-term credit can come hand-in-hand with lesser credit access for small firms. In addition, long-term loans can have indirect negative effects for new firms by favoring incumbent borrowers. It should be noted that improving transparent firms' access to long-term loans can also have a positive indirect effect on opaque firms due to spillover effects. For instance, a firm may benefit from better products or services, lower prices or a wider distribution network allowed by investment undertaken by another firm.

2.2 Empirical literature

Overall, the theoretical literature is inconclusive on how long-term finance affects firm performance. Some empirical papers have investigated the impact of debt maturity on performance at the firm-level. The length of debt maturity is often positively related to a firm's subsequent performance in terms of profitability and growth both in developed countries (Schiantarelli and Sembenelli, 1997) and in developing countries (Schiantarelli and Srivastava, 1997; Jaramillo and Schiantarelli, 2002). However, these findings are not uniform worldwide. While we expect long-term debt to affect performance through investment, empirical works fail to find a positive relationship between long-term debt and investment (Schiantarelli and Sembenelli, 1997; Jaramillo and Schiantarelli, 2002). Surprisingly, Li et al. (2009) find a positive relationship between long-term debt and investment, but no relationship with performance. All of these works suffer from identification issues due to a possible omitted variable (e.g. connection or talent of manager) or reverse causality.[3] Even if authors take great care to control for a range of observable third factor or to minimize the risk of reverse causality, there is a great concern about identification.

Recent papers exploit the decline in credit availability during the recent financial crisis to assess the causal effect of long-term credit on firm investment. Empirical papers point out that long-term debt may protect firms from refinancing risks and allow them to maintain investment (Duchin et al., 2010; Vermoesen et al., 2013). Demirgüç-Kunt et al. (2017) find that firms in industries with a stronger preference to use of long-term finance experience lower growth volatility in countries with better-developed financial systems. These findings are in line with a positive impact of long-term debt on firm performance.

Only a handful of papers have employed a cross-country analysis to assess whether long-term loans stimulate firm performance. Using firm-level data from 30 countries, Demirgüç-Kunt and Maksimovic (1998) show that firms with higher long-term debt ratios

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[3]Performance may affect a firm's financing choice. On the one hand, more efficient firms may have more long-term debt because banks are less reluctant to finance these enterprises. On the other hand, Diamond (1991) argues that firms with better growth opportunities are less likely to rely on long-term debt because short-term loans allow banks to be repriced to incorporate new information. Empirical papers do not help us to answer this latter question insofar as empirical articles support the former view (Schiantarelli and Sembenelli, 1997) the latter view (Barclay and Smith, 1995; Stohs and Mauer, 1996) or none of them (Jaramillo and Schiantarelli, 2002).

grow faster than they would if they relied solely on internal or short-term resources. In addition, they document that an active stock market and a well-developed legal system are important in facilitating firm growth. Valev and Tasic (2008) adopt another approach by using country-level, rather than firm-level, data to investigate the macroeconomic impact of long-term finance. Using a growth regression on a sample of 74 countries, they point out that growth is faster in countries where the banking system extends more long-term credits.

In a related work, Léon (2019) investigates whether short-term and long-term credit affect entrepreneurship. His results indicate that long-term credit does not stimulate the firm entry. On the contrary, short-term credit exerts a positive impact at each stage of firm entry from business creation to firm registration. In the present paper, we extend this analysis by scrutinizing whether the provision of long-term bank credit stimulates growth in small and young firms (in spite of its lack of impact on firm entry).

3 Methodology

To identify whether small and young enterprises perform better in countries with a higher level of long-term credit relative to GDP, we employ firm-level data from the World bank Group's Enterprises Surveys. A simple approach would consist of regressing firm growth to long-term credit. However, unbiased identification requires that we are able to identify, observe and control for all variables impacting firms' growth and long-term credit provision. This issue is particularly problematic because the provision of long-term finance is higher in developed countries but firm growth is also more moderated in more mature markets. As a result, by just regressing firm growth on long-term bank loan, we could obtain biased results due to possible omitted variables.[4] An alternative would be to employ an instrumental approach. However, finding relevant instruments is challenging in our case because instruments (i) must affect short-term and long-term

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[4]Simple descriptive statistics indicate a negative correlation between credit (total, short-term, and long-term credit) and firm growth. Nonetheless, we run multiple regressions with alternative set of country-level control variables (GDP per capita, the share of household credit to GDP, inflation, institutional quality, level of banking competition, creditors rights, an index for depth of information sharing mechanisms, etc.), different set of dummies (time, sector, time-sector), and different ways to correct standard errors in an unreported analysis. Coefficients associated with total credit, short-term credit and long-term credit are often negative but rarely statistically significant at the usual thresholds.

credit in different ways; and (ii) must respect the exclusion restriction (no direct impact on firm performance). The usual instruments employed in the finance-growth literature (based on institutions, cultural traits or political shocks) do not respect both criteria.

To avoid this, we employ a difference-in-difference approach which is similar in spirit to the one created by Rajan and Zingales (1998)[5] and extended by Fafchamps and Schündeln (2013) for firm-level data. This approach has the advantage of comparing firms operating in the same country but facing different credit needs and allows researchers to control for all (observable and unobservable) time-invariant country and sector characteristics. The Fafchamps and Schündeln (2013)'s specification takes the following form:

$$sg_{isc} = \beta \left(G_s \times F_c \right) + \alpha_s + \alpha_c + \varepsilon_{isc} \tag{1}$$

where subscripts i, c and s refer to firm i, in location c (municipality in their study), in sector s. F_c an index of local financial development in municipality c. The vector of sector dummies (α_s) and location dummies (α_c) control for unobserved time-invariant characteristics affecting firms in location c and sector s. In line with Fisman and Love (2007), they refer to growth opportunity in sector s (G_s) rather than external financial dependence.[6] A key challenge consists in identifying the benchmark to assess growth opportunity. Rather than using the U.S. data, Fafchamps and Schündeln (2013) propose to compute growth opportunities by considering large firms operating in the country. The key assumption is that large firms are less likely to be financially constrained, and therefore are more able to take advantage of growth opportunities in their sector. As a

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[5]In their seminal paper, Rajan and Zingales (1998) argue that industries that are more dependent on external funds should grow relatively faster in countries with better functioning banking systems. They employ a difference-in-difference approach to test this intuition. Data from the U.S. are employed as the benchmark to compute external financial dependance by sector. The intuition is the fact that the U.S. market is the less constrained market. This method has often been employed in subsequent works for treating alternative questions by substituting external dependence with other proxies and/or by replacing financial development by other countries' characteristics (see Table 1 in Ciccone and Papaioannou, 2016).

[6]Fisman and Love (2007) document that the test provided by Rajan and Zingales (1998) is implicitly a test about whether financial development can reallocate resources from industries without growth opportunities to those with better opportunities. In their seminal paper, Rajan and Zingales (1998) employ external financial dependance to capture this reallocation process due to the difficulty in capturing growth opportunities. If there are opportunities for growth, firms need capital to seize these opportunities. According to the authors, access to capital is most critical for firms/industries that need more capital (external financial dependence). Fisman and Love (2007) argue that a better strategy consists in using growth opportunities directly.

result, the observed growth of large firms is a reasonable proxy for growth opportunity of small and medium firms in the same sector. The net effect of financial development is given by β (a positive coefficient reflects a positive effect of local financial development).

Our paper extends Fafchamps and Schündeln (2013)'s approach to a multi-country framework in two ways. First, while they consider different municipalities within one country, we consider different countries. Second, we adopt a different, albeit closely related, method to compute growth opportunities. Contrary to Fafchamps and Schündeln (2013) who compute a unique index for each sector, we prefer to get a specific measure for each sector-country couple. Using a unique index for each sector implies that all firms in the same sector worldwide face a similar opportunity for growth. This is a bold assumption when the sample includes countries from different levels of development and firms operating in non-tradable sectors. For instance, it is unlikely that growth opportunity in the retail sector in Malawi reflects opportunity in the same sector in Chile or in Vietnam.[7] We therefore compute an indicator of growth opportunity that is country-sector-year specific (G_{sct}).

We follow Fafchamps and Schündeln (2013) to compute the index of growth opportunity by considering the average rate of growth of a reference group of less constrained firms. To define the reference group, we consider two firm characteristics: size (number of employees) and age. In the footsteps of Fafchamps and Schündeln (2013), we firstly consider large firms as unconstrained firms. Second, we use an alternative definition of unconstrained firms by considering old firms. Hyytinen and Pajarinen (2008) show that firm size, contrary to firm age, is not as closely related to informational opacity. As a consequence, older firms can more easily get access to bank loans than their younger counterparts, irrespective of their size.

Our baseline econometric model takes the following form:

$$g_{isct} = \beta \left(G_{sct} \times F_{ct} \right) + \delta G_{sct} + \alpha_{st} + \alpha_{ct} + \varepsilon_{isct} \tag{2}$$

where i, s, c, and t refer to firm, sector, country, and year respectively; g_{isct} is the annual rate of growth of firm i, in sector s, in country c in year t. F_{ct} is a measure of banking

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[7]Fafchamps and Schündeln (2013) focus on one country and do not face this problem.

development in country c in year t. We add a vector of sector-year dummies (α_{st}) and of country-year dummies (α_{st}) to control for unobserved sectoral and country factors. Insofar as we cannot include sector-country-year dummies, we add the index of growth opportunity (G_{sct}) in the regression. In doing so, we assume that all shocks affecting sector s in country c in year t are captured by the measure of growth opportunity. In this way, the specification employed here differs from a pure difference-in-difference framework represented in Eq. (1). We will discuss this issue in the robustness section.

We firstly consider the ratio of private credit to GDP, defined as the sum of short-term and long-term loans ($F_{ct} = F_{ct}^{ST} + F_{ct}^{LT}$), as a measure of overall banking development. In line with recent evidence, we expect a positive impact of financial development on firm performance. Put differently, β should be positive, implying that the relative difference between a firm in a high-growth and a firm in a low growth sector located in a country with a developed banking system is larger than the difference between firms that are also in these same sectors but in a country with a less financially developed banking system.

We then break down the total credit to private sector into short-term loans (maturity below or equal to one year) and long-term credit (maturity above one year). We therefore extend Eq (2) as follows:

$$g_{isct} = \beta_{ST} \left(G_{sct} \times F_{ct}^{ST} \right) + \beta_{LT} \left(G_{sct} \times F_{ct}^{LT} \right) + \delta G_{sct} + \alpha_{st} + \alpha_{ct} + \varepsilon_{isct} \qquad (3)$$

where F_{ct}^{ST} is the ratio of short-term credit to GDP in country-year c in year t and F_{ct}^{LT} is the ratio of long-term credit to GDP in country c in year t. Greater availability of short-term credit (resp. long-term credit) is beneficial for firm growth if $\beta_{ST} > 0$ (resp. $\beta_{LT} > 0$).

We add a set of firm- and country-level variables. The firm-level variables control for observable firm-level heterogeneity and are displayed in the Appendix (Table A2). While country fixed effects control for all unobserved country characteristics, the interaction between financial development and growth opportunity may capture the effect of alternative variables (Rajan and Zingales, 1998; Beck et al., 2008a). In particular, we consider two possible confounding factors. First, a positive coefficient associated with the interaction between credit and growth opportunity may reflect that firms perform less in the

least developed countries. Figure 1 documents that the level of GDP per capita is highly correlated with the provision of long-term credit. To limit this risk of omitted variable, we add an interaction between the level of GDP per capita and growth opportunity.

Figure 1: Relationship between long-term credit provision and level of income
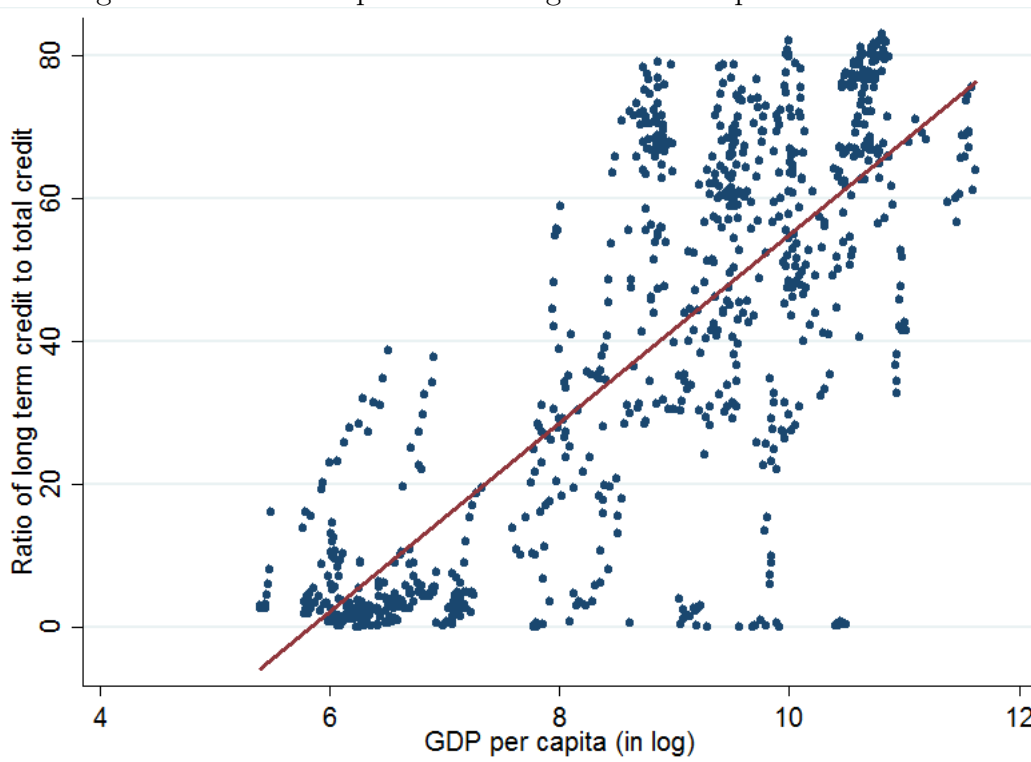
Second, the effect of long-term credit on firms can be under-estimated if household credit is not controlled for. Recent works have documented that household credit has a detrimental effect on real activity, even in developing countries (Beck et al., 2012). Meanwhile, household credit is often mortgage credit and a part of long-term credit expansion could be explained by an increase in household credit. To investigate whether evolution in credit maturity is related to credit structure, we employ data reported in the Credit Structure Database (Léon, 2018b).[8] Figure 2 indicates that evolution of long-term credit is closely related to that of household credit, while short-term credit and firm credit seem to evolve in the same direction. This suggests a convergence of credit by maturity as already observed for credit by type of borrowers (Léon, 2018a). This indirect evidence

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[8]Unfortunately the CDS does not provide credit by borrowers and by maturity due to the lack of information. The CDS does not provide data on credit by borrowers for the 9 countries for which we have data on maturity: Algeria, Burundi, Dem. Rep. of Congo, Jordan, Mauritania, Nigeria, Rwanda, Taiwan, and Yemen.

tends to document that some changes in long-term credit can be due to households' better access to credit. Simple pairwise correlations provide a similar picture. We therefore add an interaction between growth opportunity and household credit to limit this issue.

Figure 2: Evolution of credit by maturity and by borrowers (base 100 = 2000)
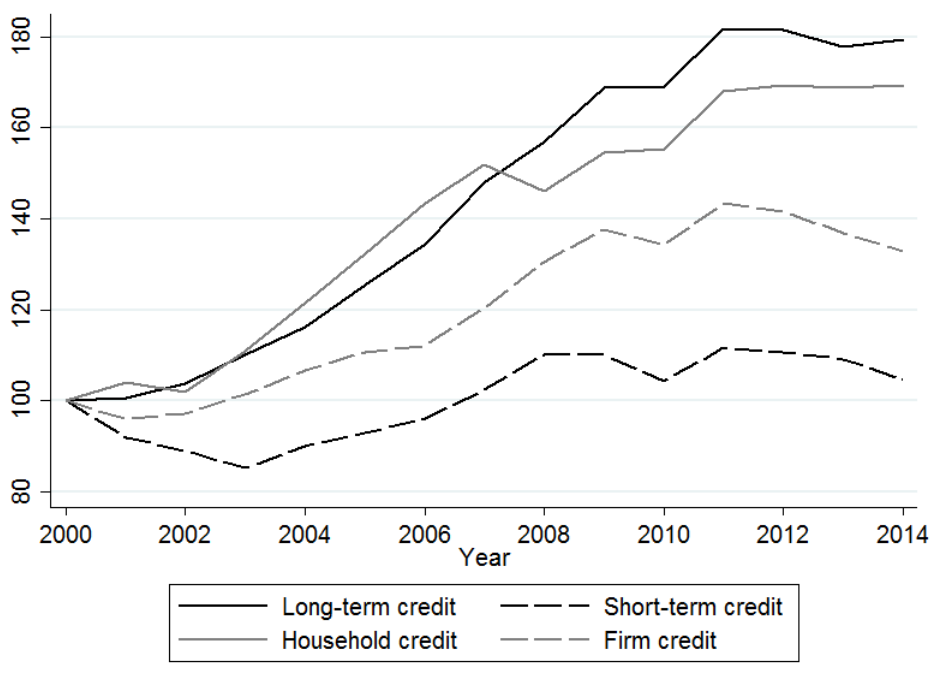
The complete specifications, including firm-level control variables and alternative interactions, are as follows:

$$g_{isct} = \beta \left(G_{sct} \times F_{ct} \right) + \eta \left(G_{sct} \times \mathbf{Z}_{ct} \right) + \Gamma \mathbf{X}_{isct} + \delta G_{sct} + \alpha_{st} + \alpha_{ct} + \varepsilon_{isct} \qquad (4)$$

$$g_{isct} = \beta_{ST} \left(G_{sct} \times F_{ct}^{ST} \right) + \beta_{LT} \left(G_{sct} \times F_{ct}^{LT} \right)$$
$$+ \eta \left(G_{sct} \times \mathbf{Z}_{ct} \right) + \Gamma \mathbf{X}_{isct} + \delta G_{sct} + \alpha_{st} + \alpha_{ct} + \varepsilon_{isct} \qquad (5)$$

where $\mathbf{X}_{isct}$ is a list of firm-level control variables, $\mathbf{Z}_{ct}$ includes the ratio of household credit to GDP and the level of GDP per capita (in log) in country c in year t (the remaining variables have been described above). In all specifications, standard errors are clustered at the country-year (survey) level.[9] All country-level variables (F_{ct}, F_{ct}^{ST}, F_{ct}^{LT}, and $\mathbf{Z}_{ct}$)

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[9]Baseline results are not affected by the ways retained to correct standard errors. In alternative regressions (unreported but available upon request), we considered two alternative ways to correct stan-

are measured as an annual average over the three-year period before the survey and the year prior to the survey.[10]

4 Data

4.1 Firm-level variables

4.1.1 Dependent variables

Firm-level data were retrieved from the World Bank Enterprise Surveys (ES). ES contain surveys which include a variety of firm-level information, such as number of employees, total sales, ownership structure, industry, and age of the firm, among other information. An advantage of ES is its coverage of firms of all sizes in many developing countries, unlike other databases.[11]

Firm-level data are primarily employed to build dependent variables capturing firm performance; namely employment growth and total sales growth.[12] We used data on total sales and the number of employees in the previous year and three-years before the surveys. The number of employees refers to permanent and full-time workers (Questions l1 and l2 in the ES). Total annual sales refer to a firm's declaration regarding its activity in the previous year (Question d2) and three year before (Question n3). Sales values have been deflated using the same base year (100 = 2009) and each country's GDP deflators from the World Development Indicators (WDI). Table 1 indicates that employment growth is around 4 percent per year, exceeding sales growth (below one percent). To avoid the regression-to-the-mean effect (Haltiwanger et al., 2013), growth of each vari-

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dard errors. First we cluster errors at the sector-country-year level (the level of analysis of the growth opportunity). Second, we run models weighted by the number of firms in the country-year survey because the number of observations differ across countries. Results are unchanged in terms of statistical and economic significance.

[10]We run models using macroeconomic variables using data for the initial period (three prior to the surveys). Our results are unchanged but the number of observations is reduced.

[11]For instance, ORBIS, an alternative database, is skewed toward higher-income countries and data do not necessarily represent all firms in each country. On the contrary, the ES have been constructed to be representative of all firms and cover a large range of countries.

[12]We also tested the effect of short-term and long-term loan provisions on the growth of labor productivity. Labor productivity in year t was defined as the ratio of total sales in constant \$US divided by the number of employees in year t. Econometric results point out that neither total credit nor short-term or long-term credit affect the growth of productivity.

able (employment and sales) refers to the change of the variable during the period t and three years before, divided by the firm's simple average of each variable during the same period (instead of using the initial value).

4.1.2   Growth opportunity

We follow Fafchamps and Schündeln (2013) to compute the index of growth opportunity by considering the average rate of growth of a reference group of less constrained firms. To define the reference group, we consider two firm characteristics: size (number of employees) and age.

In the footsteps of Fafchamps and Schündeln (2013), we firstly consider large firms as unconstrained firms. A crucial step consists in defining what constitutes a large firm. In the baseline model, we consider 50 employees because in some countries/sectors, only a handful of firms have more than 100 employees (see Table A1 in the Appendix A).

Second, we use an alternative definition of unconstrained firms by considering old firms. Hyytinen and Pajarinen (2008) show that firm size is not as closely related to informational opacity. At the contrary, older firms can more easily get access to bank loans than their younger counterparts, irrespective of their size. An alternative reference group is therefore a group of old firms defined as those being in business for more than 20 years. In robustness checks, we consider an alternative threshold (25 years).

It should be noted that growth opportunity refers to the employment growth of the reference group when we investigate the determinants of employment growth and the sales growth of the reference group when we focus on the determinants of sales growth.

4.1.3   Firm-level control variables

The firm-level variables control for observable firm-level heterogeneity and are extracted from the ES. To select them, we follow previous studies (e.g. Beck et al., 2005) and include the size and age of the firm, and the top manager's years of experience in the firm's sector. We also consider dummy variables capturing whether the firm is an exporter, foreign-owned, or government-owned and if the firm belongs to a larger firm, is privately held or is listed. Details about variable definitions are provided in Appendix A (Table A2) and descriptive statistics are reported in Table 1. Table 1 indicates that firms have

on average 11 employees and are 15-years old. Almost one fifth of firms are exporters (17%), 14% belong to a larger firm and 7% are foreign-owned. The majority of firms are privately-held.

Table 1: Summary Statistics

Variable	Obs.	Mean	Std. Dev.	Min	Max
Dependent variables					
Growth of employment	23,919	4.4306	11.459	-32.951	47.154
Growth of total sales	18,769	0.8288	20.006	-55.594	65.359
Independent variables					
Firm-level variables					
Size (in log)	24,302	2.4107	0.7925	0	3.8918
Age	24,302	15.177	11.149	0	100
Export	24,302	0.1757	0.3806	0	1
Subsidiary	24,302	0.1441	0.3512	0	1
Manag Exp	24,302	16.636	10.138	0	50
Foreign-owned	24,302	0.0669	0.2499	0	1
State-owned	24,302	0.0037	0.0611	0	1
Privately-held	24,302	0.5627	0.4961	0	1
Listed	24,302	0.3446	0.4602	0	1
Country-level variables					
F (total credit over GDP)	103	36.803	27.591	0.7295	122.46
F^{ST} (short-term credit over GDP)	103	11.812	8.620	0.701	51.761
F^{LT} (long-term credit over GDP)	103	25.342	23.055	0.028	92.047
GDP per capita (in log)	103	8.050	1.347	5.367	10.860
Household credit	80	16.689	15.930	0.17	71.33

4.2 Country-level variables

4.2.1 Short-term and long-term credit

We complement firm-level data with country-level data on the maturity structure of bank credit. Data were retrieved from the Credit Structure Database (Léon, 2018b).[13] The CSD considers only credit provided by commercial banks. In our study, this rule does not raise too much concern because small and young firms almost exclusively rely on bank credit among formal providers to finance their activity.[14] Short-term credit is defined as credit with a maturity of one year or less and long-term credit as that with maturity

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[13]Data are available at https://sites.google.com/site/florianleon.

[14]It should be noted that non-banking finance tools with long-term maturity exist such as leasing and capital venture. However, in many countries, opaque firms cannot get access to them.

exceeding one year. The initial database considers 85 countries over the period 1995-2014.[15] More details regarding the construction of the Credit Structure Database can be found in Léon (2018b).

Table 2: Database on credit maturity, by group of countries

	Credit over GDP			Perc. of	Sample	
	Total	Short-t.	Long-t.	Long-t.[a]	Obs	Country
All countries	47.9	14.7	33.8	60	1,211	85
By income level						
Low income	11.6	7.2	4.3	33.5	196	14
Lower middle income	22.7	10.5	12.3	47.0	171	14
Upper middle income	43.8	11.9	31.9	66.3	300	20
High income	71.2	20.2	52.2	70.2	544	37
By quartile of initial financial development[b]						
1st quartile	14.0	5.9	8.0	42.9	305	21
2nd quartile	25.6	11.9	14.9	53.2	288	21
3rd quartile	54.8	16.6	38.3	67.4	307	21
4th quartile	95.9	23.9	72.1	75.7	311	22

Figures are obtained using the complete dataset (85 countries, period 2000-2014)

[a] Percentage of long-term credit over total credit

[b] Countries are classified according to their initial level of total credit over GDP. The first quartile includes countries with a ratio of total credit over GDP below 10% in the first year, the second quartile countries with a ratio between 10% and 25%, the third quartile with a ratio between 25% and 62 % and the fourth quartile those with a ratio above 62%.

Basic descriptive statistics, displayed in Table 2 and based on all countries available in the database, indicate that total credit represents on average 48% of GDP and three-fifths of loans have maturity above one year. Average values, however, hide large variation across countries. The level and share of long-term credit increase with the level of income. For instance, long term bank loans represent less than 5% of GDP and one-third of total bank loans in low-income countries but exceeds 50% of GDP and two thirds of loans in high-income countries. At the bottom of the table, we report decomposition by level of the initial degree of banking development. We observe a similar pattern: the ratio of long-term bank credit to total credit is higher for more financially developed countries.

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[15]Twenty-three countries, mainly from the developed world, are excluded due to the lack of firm-level data in the ES. The list of excluded countries is: Algeria, Austria, Belgium, Comoros, Denmark, Equatorial Guinea, Finland, France, Germany, Greece, Guatemala, Ireland, Italy, Luxembourg, Macao, Malta, the Netherlands, New Zealand, Oman, Portugal, Saudi Arabia, Singapore, and Taiwan.

4.2.2   Country-level control variables

Alternative macroeconomic variables are extracted from diverse sources. In particular, we control for two important country-level variables that could affect both firm performance and the provisions of long-term bank loans: GDP per capita and the ratio of household credit over GDP. GDP per capita is extracted from the World Development Indicators and data on household credit are obtained from the Credit Structure Database, which produces the ratio of household credit (and firm credit) for 143 countries over the period 1995-2014. Other country-level variables employed in Sections 5 and 6 are extracted from diverse sources including WDI, Worldwide Governance indicators, ICRG and Doing Business.

4.3   Sample

We only kept countries for which the ES provide data on firms and data on bank loan maturity are available. In all specifications, firms that are used as a reference group to calculate G_{sct} are excluded. We then dropped firms when information about the number of employees was not available and for which at least one of the firm-level control variables was not available. As is commonly done in the literature, the one percent of firms with extreme growth rates have been dropped. We also excluded observations when the interviewer did not believe that the responses were reliable (Questions a16 and a17 in the ES). The final sample is composed of 28,961 firms[16] from 62 countries (because several ES are available for some countries we have 104 country-year couples) over the period 2006-2016. The sample of countries, years, and firms is presented in the Appendix (Table A1). Variables are defined in the Appendix (Table A2).

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[16]Between 5,000 and 7,000 are employed to build the growth opportunity index and are not used in regressions.

5 Baseline results

5.1 Total credit

The main results regarding the effect of total credit on firm performance are given in Tables 3 and 4. Each table is divided into two parts. The first five columns report findings for small firms (i.e. firms with less than 50 employees) and the last five columns consider young firms (under 20 years). We firstly report models without control variables. We then add firm-level control variables and additional interactions between growth opportunity and household credit[17] and between growth opportunity and the logarithm of GDP per capita. In all specifications, country-year dummies and sector-year dummies are included (but unreported). Results regarding the determinants of employment growth are reported in Table 3. The coefficient of interest β is the coefficient of the $G_{sct} \times F_{ct}$ interaction term. A positive coefficient implies that small/young firms in fast growing sectors grow more quickly, relative to their counterparts in sectors with less growth, if they are located in countries with a higher level of credit (over GDP). Results indicate that total credit does not spur employment growth of small firms. Coefficients associated with interaction between total credit and growth opportunity are positive but not statistically significant at the usual thresholds. Considering young firms provides a more positive conclusion (columns (6-10)). Coefficients associated with the interaction between growth opportunity and total credit are not statistically significant when we do not control for interaction with household credit (columns (6-8)). Coefficients associated with $G_{sct} \times F_{ct}$ turn to be positive and statistically significant, when we control for household credit (columns (9-10)). The effect of total credit is not only statistically significant but also economically significant. Let's consider a move from the country at the 50th percentile of total credit to private sector (e.g., Albania) to the country at the 75th percentile (e.g., Hungary). According to estimations in column (10), this move would increase the gap in growth rates between the industries at the 50th (e.g., food) and 75th (e.g., leather) percentiles of growth by almost 3.8 percent (mean of employment growth equals 4.43 percent).

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[17]Insofar as household credit is not available for all countries (see Table 1), we display findings from sample without household credit (columns (2/7)) and for the restricted sample of countries with information on household credit (columns(3/8)).

Table 3: Total credit and employment growth

	Benchmark: Large firms (Empl>50)					Benchmark: Old firms (Age>20)				
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
$G_{sct} \times F_{ct}$	-0.000254	0.000471	0.00105	0.00396	0.00420	0.000360	0.000727	0.000645	0.00544**	0.00466*
	(-0.27)	(0.47)	(0.87)	(1.30)	(1.39)	(0.35)	(0.67)	(0.52)	(2.05)	(1.68)
$G_{sct} \times HC_{ct}$				-0.00593	-0.00524				-0.00902**	-0.00921*
				(-1.15)	(-1.00)				(-2.01)	(-1.98)
$G_{sct} \times GDPpc_{ct}$					-0.0167					0.0308
					(-0.60)					(1.13)
G_{sct}	0.0686*	0.0367	0.00513	-0.0200	0.0976	0.0459	0.0205	0.0339	-0.0167	-0.243
	(1.72)	(0.87)	(0.10)	(-0.33)	(0.47)	(1.07)	(0.50)	(0.64)	(-0.30)	(-1.18)
$Size_{isct}$		-4.303***	-3.967***	-3.968***	-3.967***		-2.281***	-2.073***	-2.075***	-2.077***
		(-11.09)	(-8.30)	(-8.30)	(-8.30)		(-9.62)	(-7.57)	(-7.58)	(-7.59)
Age_{isct}		-0.0890***	-0.0968***	-0.0968***	-0.0969***		-0.269***	-0.300***	-0.301***	-0.301***
		(-7.26)	(-7.45)	(-7.46)	(-7.47)		(-7.90)	(-8.79)	(-8.80)	(-8.80)
$Export_{isct}$		1.948***	2.041***	2.039***	2.039***		1.766***	1.860***	1.861***	1.862***
		(6.47)	(7.38)	(7.40)	(7.40)		(7.43)	(7.39)	(7.39)	(7.40)
$Subsidiary_{isct}$		0.971***	1.190**	1.194***	1.194***		0.936***	1.064***	1.067***	1.066***
		(2.76)	(2.63)	(2.64)	(2.64)		(2.86)	(2.74)	(2.75)	(2.74)
$Manag\ exp_{isct}$		-0.0581***	-0.0689***	-0.0688***	-0.0688***		-0.0413***	-0.0490***	-0.0488***	-0.0488***
		(-6.59)	(-7.01)	(-7.00)	(-7.00)		(-4.51)	(-5.45)	(-5.43)	(-5.43)
$Foreign\text{-}owned_{isct}$		0.461	0.298	0.296	0.297		1.412***	1.229***	1.232***	1.226***
		(1.48)	(0.81)	(0.80)	(0.81)		(4.48)	(3.39)	(3.40)	(3.40)
$State\text{-}owned_{isct}$		-0.107	-1.277	-1.294	-1.290		-0.391	-2.287**	-2.300**	-2.296**
		(-0.07)	(-0.85)	(-0.86)	(-0.86)		(-0.28)	(-2.55)	(-2.57)	(-2.57)
$Privately\text{-}held_{isct}$		0.648**	0.651*	0.655*	0.654*		0.593**	0.573*	0.576*	0.572*
		(2.18)	(1.88)	(1.89)	(1.88)		(2.32)	(1.85)	(1.86)	(1.84)
$Listed_{isct}$		-1.246***	-0.947**	-0.947**	-0.947**		-0.889***	-0.886**	-0.883**	-0.886**
		(-3.71)	(-2.27)	(-2.27)	(-2.27)		(-2.81)	(-2.14)	(-2.13)	(-2.14)
Dummies										
- Country#year (α_{ct})	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
- Sector#year (α_{st})	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Obs.	23700	23700	18558	18558	18558	23895	23895	19004	19004	19004
R^2	0.004	0.102	0.099	0.099	0.099	0.004	0.079	0.080	0.080	0.080

The dependent variable is employment growth. Country-year and sector-year dummies are inserted but not reported. Standard errors are adjusted for clustering at the survey-level. *, **, and *** indicate significance at 10%, 5% and 1% level, respectively.

Table 4: Total credit and total sales growth

	Benchmark: Large firms (Empl>50)					Benchmark: Old firms (Age>20)				
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
$G_{sct} \times F_{ct}$	0.000731	0.000964	0.000630	-0.000684	-0.000173	-0.000766	-0.000162	-0.000429	0.000439	0.000228
	(0.69)	(0.92)	(0.48)	(-0.25)	(-0.06)	(-0.92)	(-0.21)	(-0.53)	(0.17)	(0.08)
$G_{sct} \times HC_{ct}$				0.00259	0.00330				-0.00173	-0.00169
				(0.47)	(0.58)				(-0.37)	(-0.36)
$G_{sct} \times GDPpc_{ct}$					-0.0207					0.00507
					(-0.69)					(0.19)
G_{sct}	0.0321	0.0243	0.0310	0.0473	0.185	0.0357	0.0158	0.0177	0.00821	-0.0257
	(1.28)	(0.98)	(0.85)	(1.08)	(0.94)	(1.18)	(0.49)	(0.42)	(0.17)	(-0.14)
$Size_{isct}$		-2.100***	-2.054***	-2.053***	-2.052***		-1.285***	-1.245***	-1.246***	-1.247***
		(-5.05)	(-3.91)	(-3.91)	(-3.91)		(-5.34)	(-4.63)	(-4.63)	(-4.63)
Age_{isct}		-0.128***	-0.133***	-0.133***	-0.133***		-0.458***	-0.499***	-0.499***	-0.499***
		(-7.07)	(-6.32)	(-6.32)	(-6.32)		(-7.25)	(-7.09)	(-7.08)	(-7.08)
$Export_{isct}$		1.865***	2.389***	2.387***	2.385***		1.687***	2.201***	2.199***	2.200***
		(3.09)	(3.88)	(3.87)	(3.87)		(3.78)	(4.55)	(4.54)	(4.54)
$Subsidiary_{isct}$		1.527**	1.222*	1.221*	1.220*		1.098**	0.893	0.894	0.894
		(2.46)	(1.72)	(1.72)	(1.72)		(2.16)	(1.57)	(1.57)	(1.57)
$Manag exp_{isct}$		-0.0613***	-0.0643***	-0.0644***	-0.0644***		-0.0260	-0.0317	-0.0317	-0.0317
		(-3.49)	(-3.31)	(-3.32)	(-3.32)		(-1.23)	(-1.34)	(-1.34)	(-1.34)
$Foreign\text{-}owned_{isct}$		0.0480	0.00354	0.00272	0.0105		0.486	0.602	0.603	0.604
		(0.08)	(0.01)	(0.00)	(0.02)		(0.77)	(0.84)	(0.84)	(0.84)
$State\text{-}owned_{isct}$		1.033	3.909	3.922	3.930		0.669	2.253	2.239	2.242
		(0.36)	(1.56)	(1.57)	(1.57)		(0.31)	(1.05)	(1.04)	(1.04)
$Privately\text{-}held_{isct}$		0.0415	-0.112	-0.112	-0.108		0.729	0.656	0.657	0.655
		(0.07)	(-0.16)	(-0.16)	(-0.15)		(1.16)	(0.91)	(0.91)	(0.91)
$Listed_{isct}$		-1.740**	-1.302	-1.296	-1.294		-1.171	-0.681	-0.681	-0.682
		(-2.31)	(-1.60)	(-1.59)	(-1.59)		(-1.50)	(-0.70)	(-0.70)	(-0.70)
Dummies										
- Country#year (α_{ct})	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
- Sector#year (α_{st})	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Obs.	18021	17998	14107	14107	14107	18569	18155	14226	14226	14226
R^2	0.005	0.022	0.024	0.024	0.024	0.002	0.023	0.027	0.027	0.027

The dependent variable is total sales growth (in constant US$). Country-year and sector-year dummies are inserted but not reported. Standard errors are adjusted for clustering at the survey-level. *, **, and *** indicate significance at 10%, 5% and 1% level, respectively.

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Table 4 investigates the determinants of total sales growth. The level of growth opportunity is computed by averaging the growth rate of total sales of large firms (with more than 50 employees) or old firms (age over 20 years). Surprisingly, we fail to provide support for the positive effect of total credit on firm sales in all specifications. While the coefficient associated with interaction is positive, it is not statistically different from zero. Firm-level control variables are in line with expectations and consistent in different specifications. First, small and young firms tend to grow faster than their counterparts. These results are in line with well established evidence documenting a negative effect of size and/or age on growth. Exporters and firms belonging to a larger firm grow faster than their counterparts. The relationship between legal status (privately-held and listed firms) is positive, albeit not always statistically significant. Only the coefficient associated with the experience of the manager is surprising. While one could expect a positive impact of manager experience, results indicate a negative effect. Findings also document that household credit is negatively related to development of young firms in line with recent macroeconomic evidence (Beck et al., 2012). This indicates that young firms are less able to seize opportunities in countries with high levels of household credit. This could be explained by a crowding-out effect if banks may prefer to finance rich households over opaque firms.

5.2 Short-term vs. long-term credit

In the following, we scrutinize whether short-term and long-term credit have a differential impact on performance of small/young firms. To do so, we split the ratio of total private credit to GDP between the ratio of short-term private credit to GDP (maturity below one year) and the ratio of long-term private credit to GDP (maturity above one year). We estimate Eq. (3) and its extensions (Eqs. (4) and (5)). Table 5 indicates that availability of short-term loans helps firms to grow in terms of number of employees, while long-term finance seems to have no impact.[18] Specifically, coefficients associated with the interaction between growth opportunity and short-term credit are positive and statistically significant

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[18]In an unreported analysis (available upon request), short-term credit and long-tern credit enter sequentially. Our findings are unchanged. Even when long-term credit is not included, short-term credit has a positive impact on firm growth (and long-term credit has no impact, even if short-term credit is not included).

in all specifications when we control for household credit, irrespective of the sample considered (small or young firms). The impact of short-term credit is also economically non-negligible. To get a sense of the magnitude, let's consider the same example as previously. The estimated coefficient in different specifications ($\hat{\beta}_{ST} = 0.01$) implies that a difference in growth rate between a firm in the food industry (50th percentile) and one in the leather industry (75th) would increase by almost 2 percent if firms moved from Albania (50th percentile) to Hungary (75th).[19] However, the coefficients associated with the interaction between growth opportunity and long-term credit are often positive but never statistically different from zero (and their magnitude is largely reduced if we ignore statistical significance).

In Table 6, we employ the same specification to investigate the determinants of sales growth and obtain very similar findings. First, short-term loans tend to favor firms' growth.[20] Second, the ratio of long-term credit to GDP does not seem to affect firms' performance. Coefficients associated with the interaction term are negative, albeit not always statistically significant.

These results indicate that short-term credit is beneficial for growth of small and young firms, contrary to the provision of long-term bank loans. This finding can be explained by the fact that long-term finance is captured by transparent firms (large and old firms) and opaque firms do not benefit from an increase in the ratio of long-term credit to GDP. On the contrary, an expansion of short-term credit allows opaque firms to substitute informal loans for formal loans, helping them to increase their size, as defined by either employment or sales.

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[19]The difference in the ratio of short-term private credit over GDP is 4 between Albania and Hungary.

[20]Coefficients are positive in all specifications but are not statistically significant at the usual thresholds when small firm samples are considered but they are significant at the 15% level.

Table 5: Short-term credit, long-term credit and employment growth

	Benchmark: Large firms (Empl>50)					Benchmark: Old firms (Age>20)				
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
$G_{sct} \times F_{ct}^{ST}$	0.00636*	0.00604†	0.0103**	0.0106**	0.0105**	0.00342	0.00187	0.00687	0.00971**	0.0108**
	(1.75)	(1.51)	(2.29)	(2.37)	(2.33)	(0.68)	(0.39)	(1.31)	(2.21)	(2.37)
$G_{sct} \times F_{ct}^{LT}$	-0.00159*	-0.000646	-0.000330	0.00101	0.00110	-0.000179	0.000572	-0.000206	0.00481†	0.00297
	(-1.77)	(-0.59)	(-0.26)	(0.31)	(0.33)	(-0.14)	(0.40)	(-0.11)	(1.49)	(0.78)
$G_{sct} \times HC_{ct}$				-0.00244	-0.00237				-0.00889*	-0.00851*
				(-0.48)	(-0.46)				(-1.96)	(-1.82)
$G_{sct} \times GDPpc_{ct}$					-0.00302					0.0440
					(-0.10)					(1.44)
G_{sct}	0.0334	0.00687	-0.0514	-0.0563	-0.0347	0.0281	0.0127	-0.00474	-0.0440	-0.378†
	(0.71)	(0.14)	(-0.84)	(-0.90)	(-0.15)	(0.53)	(0.26)	(-0.08)	(-0.77)	(-1.57)
$Size_{isct}$		-4.302***	-3.968***	-3.968***	-3.968***		-2.281***	-2.071***	-2.074***	-2.075***
		(-11.09)	(-8.31)	(-8.31)	(-8.31)		(-9.62)	(-7.55)	(-7.57)	(-7.58)
Age_{isct}		-0.0889***	-0.0967***	-0.0967***	-0.0967***		-0.269***	-0.300***	-0.301***	-0.301***
		(-7.24)	(-7.44)	(-7.44)	(-7.44)		(-7.90)	(-8.79)	(-8.80)	(-8.81)
$Export_{isct}$		1.949***	2.043***	2.043***	2.043***		1.767***	1.860***	1.863***	1.864***
		(6.49)	(7.41)	(7.42)	(7.42)		(7.43)	(7.39)	(7.41)	(7.41)
$Subsidiary_{isct}$		0.970***	1.197***	1.198***	1.198***		0.936***	1.063***	1.066***	1.065***
		(2.75)	(2.65)	(2.65)	(2.65)		(2.86)	(2.74)	(2.74)	(2.74)
$Manag\ exp_{isct}$		-0.0582***	-0.0692***	-0.0691***	-0.0691***		-0.0413***	-0.0488***	-0.0486***	-0.0486***
		(-6.59)	(-7.04)	(-7.03)	(-7.03)		(-4.51)	(-5.42)	(-5.39)	(-5.39)
$Foreign\text{-}owned_{isct}$		0.458†	0.293	0.293	0.294		1.413***	1.236***	1.237***	1.231***
		(1.47)	(0.80)	(0.80)	(0.80)		(4.51)	(3.42)	(3.42)	(3.41)
$State\text{-}owned_{isct}$		-0.0875	-1.237	-1.247	-1.247		-0.391	-2.283**	-2.294**	-2.287**
		(-0.06)	(-0.83)	(-0.83)	(-0.83)		(-0.29)	(-2.56)	(-2.57)	(-2.56)
$Privately\text{-}held_{isct}$		0.648**	0.656*	0.657*	0.657*		0.595**	0.582*	0.585*	0.582*
		(2.18)	(1.89)	(1.89)	(1.89)		(2.33)	(1.88)	(1.88)	(1.88)
$Listed_{isct}$		-1.251***	-0.951**	-0.950**	-0.950**		-0.889***	-0.882**	-0.879**	-0.881**
		(-3.73)	(-2.28)	(-2.27)	(-2.27)		(-2.81)	(-2.13)	(-2.12)	(-2.12)
Dummies										
- Country#year (α_{ct})	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
- Sector#year (α_{st})	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Obs.	23700	23700	18558	18558	18558	23895	23895	19004	19004	19004
R^2	0.004	0.102	0.100	0.100	0.100	0.004	0.078	0.080	0.080	0.080

The dependent variable is employment growth. Country-year and sector-year dummies are inserted but not reported. Standard errors are adjusted for clustering at the survey-level. †, *, **, and *** indicate significance at 15%, 10%, 5% and 1% level, respectively.

Table 6: Short-term credit, long-term credit and sales growth

	Benchmark: Large firms (Empl>50)					Benchmark: Old firms (Age>20)				
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
$G_{sct} \times F^{ST}_{ct}$	0.00584†	0.00693*	0.00841†	0.00869†	0.00942†	0.00816*	0.0100**	0.00919**	0.00887*	0.00855*
	(1.62)	(1.93)	(1.48)	(1.60)	(1.58)	(1.94)	(2.42)	(2.06)	(1.89)	(1.81)
$G_{sct} \times F^{LT}_{ct}$	-0.000558	-0.000538	-0.000729	-0.00545*	-0.00631†	-0.00149**	-0.00102*	-0.000943	-0.00229	-0.00324
	(-0.39)	(-0.37)	(-0.47)	(-1.78)	(-1.63)	(-2.46)	(-1.79)	(-1.34)	(-1.11)	(-1.27)
$G_{sct} \times HC_{ct}$				0.00784†	0.00799†				0.00258	0.00295
				(1.65)	(1.66)				(0.62)	(0.69)
$G_{sct} \times GDPpc_{ct}$					0.0130					0.0188
					(0.39)					(0.65)
G_{sct}	0.00459	-0.00786	-0.0240	-0.00443	-0.0966	-0.0188	-0.0455	-0.0497	-0.0423	-0.171
	(0.16)	(-0.28)	(-0.45)	(-0.09)	(-0.40)	(-0.51)	(-1.18)	(-0.96)	(-0.77)	(-0.86)
$Size_{isct}$		-2.099***	-2.054***	-2.049***	-2.049***		-1.288***	-1.251***	-1.249***	-1.250***
		(-5.05)	(-3.91)	(-3.90)	(-3.90)		(-5.35)	(-4.65)	(-4.64)	(-4.64)
Age_{isct}		-0.128***	-0.134***	-0.134***	-0.133***		-0.458***	-0.500***	-0.500***	-0.500***
		(-7.07)	(-6.33)	(-6.34)	(-6.33)		(-7.26)	(-7.10)	(-7.10)	(-7.10)
$Export_{isct}$		1.869***	2.394***	2.387***	2.387***		1.686***	2.197***	2.199***	2.199***
		(3.10)	(3.88)	(3.87)	(3.87)		(3.77)	(4.53)	(4.53)	(4.53)
$Subsidiary_{isct}$		1.512**	1.218*	1.213*	1.213*		1.105**	0.909†	0.908†	0.908†
		(2.43)	(1.71)	(1.71)	(1.71)		(2.18)	(1.60)	(1.60)	(1.60)
$Manag\ exp_{isct}$		-0.0615***	-0.0646***	-0.0649***	-0.0650***		-0.0268	-0.0321	-0.0322	-0.0323
		(-3.49)	(-3.33)	(-3.36)	(-3.35)		(-1.26)	(-1.35)	(-1.35)	(-1.36)
$Foreign\text{-}owned_{isct}$		0.0466	0.0105	0.0111	0.00714		0.484	0.608	0.607	0.610
		(0.08)	(0.02)	(0.02)	(0.01)		(0.77)	(0.85)	(0.85)	(0.85)
$State\text{-}owned_{isct}$		1.075	3.999†	4.087†	4.101†		0.607	2.203	2.218	2.225
		(0.37)	(1.59)	(1.62)	(1.62)		(0.28)	(1.03)	(1.03)	(1.04)
$Privately\text{-}held_{isct}$		0.0442	-0.105	-0.103	-0.105		0.757	0.694	0.695	0.691
		(0.07)	(-0.15)	(-0.14)	(-0.15)		(1.21)	(0.96)	(0.97)	(0.96)
$Listed_{isct}$		-1.745**	-1.301†	-1.284†	-1.285†		-1.158†	-0.659	-0.657	-0.660
		(-2.32)	(-1.60)	(-1.58)	(-1.58)		(-1.48)	(-0.68)	(-0.68)	(-0.68)
Dummies										
- Country#year (α_{ct})	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
- Sector#year (α_{st})	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Obs.	17777	17777	13978	13978	13978	18002	18002	14106	14106	14106
R^2	0.001	0.008	0.008	0.008	0.008	-0.000	0.005	0.005	0.005	0.005

The dependent variable is total sales growth (in constant US$). Country-year and sector-year dummies are inserted but not reported. Standard errors are adjusted for clustering at the survey-level. †, *, **, and *** indicate significance at 15%, 10%, 5% and 1% level, respectively.

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5.3 Robustness checks

The baseline models consider different specifications by analyzing two measures of performance (employment and sales growth) and considering two reference groups (small and young firms). In the following, we run additional robustness checks along several dimensions. All tables are presented in Appendix B.

5.3.1 Alternative definition of young and small firms

First, we consider an alternative definition of a small and young firm. A firm is considered large if its initial size exceeds 100 employees and young if its age is below 25 years. Results, reported in Table A3, confirm our main findings. On the one hand, short-term credit is beneficial for the performance of small firms. On the other hand, long-term loans are not related to a firm's size expansion.

5.3.2 External financial dependence

Second, we employ external financial dependence instead of growth opportunity. In line with Fisman and Love (2007) and Fafchamps and Schündeln (2013), we employ growth opportunity in our baseline specification. We test whether results are sensitive to this choice by employing external financial dependence (EFD_{sct}) instead of growth opportunity (G_{sct}). Contrary to Rajan and Zingales (1998), we cannot employ financial structure to define external financial dependence due to the lack of data. However, the ES allow us to compute an alternative indicator of financial dependence. The external financial dependence is captured through the share of large/old firms having a loan for each sector-country pair. We assume that external financial dependence is stronger in sectors where the most transparent firms use more bank loans (only a limited share of firms rely on financial markets). Econometric results are displayed in Table A4. Coefficients associated with interactions are positive as expected but never statistically significant when the sample of small firms is considered (columns (1-3)). Results from the sample of young firms is more in line with previous findings (columns (4-6)). Short-term credit availability has a positive effect on firm employment growth (Panel A) and firm sales growth (Panel B). However, long-term credit provision has no impact on sales growth, and even a negative

effect on employment growth of young firms.

5.3.3 Change in econometric specification

Third, we employ a "pure" difference-in-difference model. As explained in the methodology section (Section 3), we do not employ the canonical model. G_{sct} is added in the regression and we assume that all unobserved factors affecting firms in each sector-country are captured by this variable. In the following, we consider a model more in line with the canonical model. In doing so, we compute an index of growth opportunity that is fixed across different locations. A simple method consists in employing a benchmark country, as usually done with the U.S. Using data from a benchmark country implies that growth opportunity in country c for sector s in year t can be assessed by growth opportunity in the benchmark country. While this assumption is reasonable when we compare similar countries and manufacturing sectors, it tends to be a very strong assumption in a sample including firms in countries from different continents and levels of development and non-tradable goods and services.[21] In the baseline model, we compute growth opportunity at the country-sector level to overcome this issue. In the robustness check, a mixed approach is employed by building growth opportunity at the continent-sector level (G_{sjt}). This approach allows us to include a set of continent-sector-year dummies (α_{sjt}) controlling for all unobserved shocks and to provide a framework in line with those employed by previous works (Rajan and Zingales, 1998; Fafchamps and Schündeln, 2013).[22] We therefore estimate the following model:

$$g_{iscjt} = \beta \left(G_{sjt} \times F_{ct} \right) + \alpha_{sjt} + \alpha_{ct} + \varepsilon_{iscjt} \qquad (6)$$

where i, s, c, t, and j refer to firm, sector, country, year, and continent, respectively. G_{sjt} is growth opportunity of sector s in continent j in year t and α_{sjt} and α_{ct} are sets

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[21]Ciccone and Papaioannou (2016) show that using the same benchmark for all countries induces bias because technology may differ between the U.S and the rest of the world.

[22]We also considered an alternative way to compute growth opportunity by considering the level of income instead of continent. In doing so, we used the World Bank's classification to determine the level of income (low-income, lower-middle-income, upper-middle income, high-income except OECD, OECD). We estimate the following equation: $g_{isckt} = \beta \left(G_{skt} \times F_{ct} \right) + \alpha_{skt} + \alpha_{ct} + \varepsilon_{isckt}$, where k denotes the category of income level. Econometric results, unreported but available upon request, are very close to those reported in Table A5.

of continent-sector-year and country-year dummies, respectively. Results, displayed in Table A5, are in line with baseline results. In columns (1-3), the reference group includes firms with more than 50 employees. Coefficients associated with the interaction between short-term credit and growth opportunity are positive and statistically significant when the dependent variable is employment growth (Panel A). However, long-term credit also seems positive, albeit not statistically significant, when the dependent variable is sales growth (Panel B). In columns (4-6), we focus on young firms. In line with previous findings, short-term credit is positively related to firm growth, while long-term credit is detrimental for the business of young firms. These results are statistically different from zero when the dependent variable is the total sales growth (Panel B) but not when we focus on employment growth (Panel A). In a nutshell, even if results are less clear-cut than in the baseline model, changing econometric methods do not alter the paper's conclusion. Short-term credit seems particularly beneficial for small and young firms, while long-term loans have no impact on average.

5.3.4 Sample

We then test whether our findings are sensitive to the sample considered in Table A6. We begin by dropping high-income countries in columns (1-2). In developed countries, dynamic firms may find alternative ways to finance long-term investment and rely less on long-term bank loans. The absence of impact of long-term loan provision might be explained by the inclusion of these countries. However, results are very similar when only developing countries are considered (especially when we consider young firms in column (2)). We then remove small countries, defined as those having less than 1 million inhabitants insofar as the sample includes many small (island) countries. Results reported in columns (3)-(4) confirm the baseline results. Third, we only keep domestic-owned firms in columns (5) and (6). Indeed, the absence of impact of long term finance could be explained by the presence of foreign-owned firms. These firms have better access to long-term finance and are less sensitive to local provisions of long-term bank loans. However, econometric results are very similar to the baseline when we consider only domestic firms. Finally, we exclude country-sector-year with less than 25 observations. Indeed, econometric results can be driven by sectors having few observations. However,

results reported in columns (7) and (8) show that our conclusions are unchanged.

5.3.5 Alternative interactions

Finally, if financial development proxies for other country characteristics, we might draw inappropriate inferences about the independent impact of credit on firm growth (Rajan and Zingales, 1998; Beck et al., 2008a). This issue could be particularly problematic if country traits are positively correlated with long-term finance and negatively with growth of small and young firms. In the baseline model, we control for household credit for this reason. In the robustness checks, we add interactions between growth opportunity and the structure of financial markets.[23] The provision of long-term bank loan can be related to the structure of financial markets and these characteristics could also affect small and young firm performance directly. We consider three characteristics: the development of the stock market, the share of foreign-owned banks and the degree of competition. Stock market development is assessed by the ratio of market capitalization to GDP (SM). Data about foreign bank presence are obtained from the Bank Ownership Database (Claessens and van Horen, 2014).[24] We consider both the share of foreign-owned banks (FOREIGN_NB) and the share of assets managed by foreign-owned banks (FOREIGN_ASSET). Finally, we consider three frequently used indicators of banking competition (Léon, 2014), namely the share of assets managed by the three largest banks (CR3), the Lerner index (LERNER) and the Boone indicator (BOONE). All variables are extracted from the Global Financial Development Database. Results for small firms are displayed in Table A7 and those for young firms in Table A8. In a nutshell, econometric results are often not only confirmed but also reinforced. Short-term credit is positively

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[23]In an unreported analysis (available upon request), we also consider several candidates often included in other papers (Rajan and Zingales, 1998; Beck et al., 2008a): the level of human capital/education, trade openness, the institutional quality, entry regulations, and property registration procedures. The level of education (EDUC) is obtained as the secondary school enrolment, and trade openness (OPEN) is extracted from the World Development Indicators. Three frequently used proxies of institutional quality are considered. The first variable is the indicator provided by the ICRG (ICRG). We also consider the synthetic indicator provided by the Worldwide Governance indicators (WGI). We also control for contract enforcement effectiveness (ENFORC) extracted from Doing Business. Data on entry regulations and property registration procedures are also extracted from Doing Business. Entry regulations is assessed by the number of days required to start a business (ENTRY) and property registration procedures by the number of days to register property (PROPERTY). Econometric results tend to be reinforced when we include additional interactions.

[24]Data are available at in the Global Financial Development Database (variables "gfddoi15" and "gfd-doi16").

correlated with growth of small and young firms, while long term credit has no impact or a negative effect (when we consider sales growth and small firms). One exception is when we add the interaction between the stock market and growth opportunity. In this case, neither the interaction between short-term credit and growth nor that between long-term credit and growth are statistically significant. This fact can be explained by the reduction of the number of observations by two-thirds. In spite of that, coefficients associated with short-term credit are positive in three out of four regressions and those associated with long-term credit are always negative.

6   Discussion

Why does long-term credit not benefit small and young firms? Even though we are not able to provide a comprehensive answer to this question, we provide suggestive evidence that part of the answer might lie to credit constraints. At least two explanations can be advanced to justify this finding (see Section 2). First, long-term finance may not be crucial for the day-to-day operations of small and young firms (because these enterprises need external funds more to finance working capital rather than investing). Second, opaque firms are not able to get access to long-term finance, even if they need it, and only transparent firms are able to take advantage of an extension of long-term credit. The second explanation is certainly the most plausible. Even if existing works provide conflicting results on the relationship between debt maturity and firm performance (see Section 2), one might expect that even small and micro firms could take advantage of longer maturities (Field et al., 2013).[25]

In the following, we investigate whether the lack of impact of long-term finance is explained by the inability for opaque firms to access long-term finance. In doing so, we scrutinize whether short-term and long-term credit provision alleviate financial constraints. The econometric model is inspired by existing studies (e.g., Love and Martínez Pería,

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[25]In an unreported analysis, we tried to investigate whether small/young firms who have accessed long term credit perform better than their counterparts who have accessed short-term credit only. To do so, we employ some ES between 2006 and 2009, for which the duration of the last loan received by the firm is provided. Using different specifications, we were unable to prove that firms with access to long-term loans perform better than firms with short-term loans (we cannot compare with firms without access to external funds). However these results should be treated with much caution because data and methodology suffer from major drawbacks. Further works with less data and methodological shortcomings are welcome.

2014; Léon, 2015) and takes the following form:

$$Access_{isct} = \beta_{ST} F_{ct}^{ST} + \beta_{LT} F_{ct}^{LT} + \Gamma \mathbf{X}_{isct} + \Delta \mathbf{C}_{ct} + \alpha_{sct} + \varepsilon_{isct} \qquad (7)$$

where $Access_{isct}$ is the indicator variable for whether firm i in country c in sector s in year t has a bank loan, F_{ct}^{ST} and F_{ct}^{LT} refer to the provisions of short-term and long-term credit, respectively. $\mathbf{X}_{isct}$ represent firm-level control variables (size, age, export, subsidiary, manager experience, ownership dummies, legal status dummies). Even if our purpose is not to provide a causal analysis, we add country-level control variables ($\mathbf{C}_{ct}$) that can be correlated with long-term credit provisions and access to loans to improve identification. Specifically, we consider the logarithm of GDP per capita, the real GDP per capita growth, the inflation rate, the institutional level assessed by the synthetic indicator from WGI, the measure of creditors' protection, the depth of credit information, and the level of bank competition assessed by the Boone indicator. Due to the inclusion of a large range of dummy variables and the incidental parameter issue, we employ a linear specification.[26] We also report the model including total credit without distinction between short-term and long-term credit.

Results, displayed in Table 7, provide very instructive findings. They document that credit constraints are alleviated in more financially developed countries (columns (1), (3), and (5)). However, Table 7 also points out that only short-term credit is correlated with better access to credit, contrary to long-term credit. In particular, better provision of long-term credit tends to have a detrimental impact on small and young firms' access to loans. This fact can be explained by a crowding out effect.[27] In other words, the absence of impact of long-term credit provision can be, at least partially, explained by the fact that opaque firms cannot get access to long-term loans. A better provision of long-term credit does not alleviate credit constraints faced by small and young firms. On the contrary,

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[26] Results using non-linear models (e.g., probit model), as well as models including short-term and long-term credit sequentially, provide similar findings.

[27] Signs and significance of control variables are, in general, in line with expectations. Large firms, exporters and subsidiaries have a better access to loans. The negative effect for foreign-owned and listed firms can be explained by the use of alternative funds (reduced demand for bank loans). Turning to macroeconomic variables, access to loans is reduced by inflation and increased in countries with better institutions and, better credit information sharing mechanisms and in more competitive markets. One surprising finding is the negative coefficient associated with the level of income.

Table 7: Determinants of access to credit

	All firms		Small firms		Young firms	
	(1)	(2)	(3)	(4)	(5)	(6)
F_{ct}	0.000612***		0.000410		0.000601**	
	(2.84)		(1.61)		(2.28)	
F_{ct}^{ST}		0.00491***		0.00514***		0.00548***
		(9.66)		(8.62)		(8.71)
F_{ct}^{LT}		-0.00167***		-0.00208***		-0.00172***
		(-5.15)		(-5.45)		(-4.56)
$Size_{isct}$	0.0691***	0.0698***	0.0803***	0.0809***	0.0697***	0.0702***
	(26.37)	(26.65)	(17.59)	(17.76)	(22.12)	(22.30)
Age_{isct}	-0.0000422	-0.000244	-0.000270	-0.000513	-0.000155	0.000161
	(-0.17)	(-0.95)	(-0.73)	(-1.38)	(-0.19)	(0.20)
$Export_{isct}$	0.0919***	0.0889***	0.0945***	0.0910***	0.0946***	0.0918***
	(11.73)	(11.33)	(9.73)	(9.36)	(10.03)	(9.72)
$Subsidiary_{isct}$	0.0188**	0.00620	0.0456***	0.0287***	0.0214**	0.00649
	(2.14)	(0.70)	(4.14)	(2.58)	(1.98)	(0.60)
Manag Exp_{isct}	0.000419	0.000177	0.000377	0.0000946	-0.0000183	-0.000425
	(1.32)	(0.56)	(0.96)	(0.24)	(-0.04)	(-1.00)
Foreign-owned$_{isct}$	-0.104***	-0.103***	-0.0908***	-0.0899***	-0.104***	-0.103***
	(-9.12)	(-9.07)	(-5.86)	(-5.78)	(-7.62)	(-7.58)
State-owned$_{isct}$	-0.0639*	-0.0572	-0.0816	-0.0717	-0.0420	-0.0383
	(-1.66)	(-1.49)	(-1.41)	(-1.25)	(-0.80)	(-0.73)
Privately-held$_{isct}$	0.0113	0.0159*	0.00670	0.0116	-0.0000449	0.00809
	(1.23)	(1.73)	(0.58)	(1.00)	(-0.00)	(0.73)
Listed$_{isct}$	-0.0736***	-0.0700***	-0.0683***	-0.0648***	-0.0853***	-0.0800***
	(-6.93)	(-6.58)	(-5.63)	(-5.33)	(-6.77)	(-6.33)
GDPpc$_{ct}$ (in log)	-0.0780***	-0.0654***	-0.0842***	-0.0702***	-0.0828***	-0.0706***
	(-12.87)	(-10.56)	(-12.13)	(-9.86)	(-11.93)	(-9.99)
GROWTH$_{ct}$	0.00127	-0.00143*	0.00218**	-0.000855	0.00143	-0.00103
	(1.63)	(-1.73)	(2.43)	(-0.89)	(1.57)	(-1.09)
INFLATION$_{ct}$	-0.0131***	-0.0128***	-0.0140***	-0.0138***	-0.0125***	-0.0121***
	(-13.63)	(-13.31)	(-12.77)	(-12.61)	(-11.24)	(-10.87)
WGI$_{ct}$	0.0277***	0.0265***	0.0315***	0.0303***	0.0294***	0.0286***
	(13.77)	(13.20)	(13.72)	(13.18)	(12.85)	(12.47)
LEGAL RIGHTS$_{ct}$	-0.00292	-0.000767	-0.0000636	0.00205	0.000614	0.00217
	(-1.59)	(-0.42)	(-0.03)	(0.98)	(0.29)	(1.04)
CREDIT INFO$_{ct}$	0.0216***	0.0235***	0.0241***	0.0259***	0.0208***	0.0233***
	(9.03)	(9.83)	(8.49)	(9.19)	(7.50)	(8.41)
BOONE$_{ct}$	-0.0658***	-0.0989***	-0.0462*	-0.0788***	-0.0182	-0.0550**
	(-2.79)	(-4.23)	(-1.70)	(-2.93)	(-0.69)	(-2.10)
Obs.	22971	22971	17842	17842	17654	17654
R^2	0.193	0.193	0.174	0.174	0.176	0.176

The dependent variable is a dummy variable equals to one if a firm has a loan and 0 otherwise. F_{ct}^{ST} is the ratio of short-term credit relative to the domestic GDP, and F_{ct}^{LT} the ratio of long-term credit relative to the domestic GDP. Dummy variables for sector-country-year are included but not reported. The description of control variables is given in the text. *, **, *** denote an estimate significantly different from 0 at the 10%, 5% or 1% level.

access to loans seems more stringent for these firms in countries with higher levels of long-term loans. This finding is in line with the hypothesis arguing that an increase of long-term credit provision reflects a choice by the lenders to grant more to existing clients (intensive margin) rather than widening the client base (extensive margin).

7   Conclusion

This paper explores whether long-term credit can be beneficial for the growth of small and young firms. Although a large body of literature indicates that financial development spurs growth of small firms, the impact of long-term finance on these firms is less often investigated. The effect of the provision of long-term financing for opaque firms is theoretically ambiguous. On the one hand, entrepreneurs may benefit from long-term finance to invest in high-return technologies. On the other hand, long-term loans might be almost exclusively oriented toward transparent firms. As a result, an expansion of long-term credit cannot help opaque firms to prosper. At the extreme, a larger share of long-term credit to GDP may reflect a switch toward transparent firms by banks to the detriment of opaque borrowers.

We examine whether the provision of short-term and long-term bank loans is correlated with growth of small and young firms. To do so, we combine data on credit maturity at the country-level extracted from the Credit Structure Database (Léon, 2018b) with firm-level data retrieved from the World Bank Enterprises Surveys. To avoid endogenity issues, a difference-in-difference approach initially proposed by Rajan and Zingales (1998) and extended to firm-level data by Fafchamps and Schündeln (2013) is adopted. More specifically, we adjust the Fafchamps and Schündeln (2013)'s approach to a multi-country context.

Econometric results indicate that short-term credit is beneficial for the growth of small and young firms, while long-term credit has no impact on firm growth. These findings are robust to different measures of growth (employment and sales) and pass several sensitivity tests, including alternative definitions of small and young firms, the use of external financial dependence instead of growth opportunity, alternative econometric specification, changes in sample considered, and inclusion of alternative control variables.

In a final section, we try to explain why long-term credit provision is not crucial for growth of small and young firms. Using Enterprise Surveys, we show that credit availability is positively correlated with short-term credit provision but negatively correlated with long-term credit provision. These findings are in line with the hypothesis arguing that an increase of long-term credit provision reflects a choice by lenders to grant more to existing clients (intensive margin) rather than widening the client base (extensive margin).

From a policy perspective, our findings indicate that facilitating access to short-term finance can be of prime importance for growth of small and new firms. This issue is crucial because small and young firms create more jobs, both in developed countries (Haltiwanger et al., 2013) and in developing countries (Ayyagari et al., 2014). Policies favoring long-term credit may have a detrimental effect if they give banks incentives to grant more loans to existing clients (intensive margin) rather than widening their client base (extensive margin). Programs should be built to avoid a diversion of funds toward existing borrowers.

From a research perspective, this work does not prove that long-term credit is not useful for small and young firms at the micro-level. It merely documents that small and young enterprises cannot take advantage of a better provision of long-term bank loans (at a macro-level). A direct continuation of this work consists in analyzing whether debt maturity matters for small/young firm performance at the firm level (using a relevant identification strategy). In addition, we document in the final section that long-term credit provision is detrimental for small/young firms access to credit. We state that this could be explained by a shift in banks' strategy. However, future works should provide a better understanding of this phenomenon. Finally, this paper offers a framework that allows researchers to implemented a difference-in-difference approach with ES data. This methodology can be extended to investigate other questions such as the effect of taxation or labor regulations on firm performance.

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Appendix

Appendix A Sample and variable definition

Table A1: List of countries

Country	Year	Obs.	Benchmark			
			Size>50	Size>100	Age>20	Age>25
Albania	2007	216	19	7	1	1
Albania	2013	227	31	8	6	0
Antiguaandbarbuda	2010	134	16	5	38	27
Azerbaijan	2009	265	56	30	59	55
Azerbaijan	2013	291	37	16	24	12
Bahamas	2010	130	33	17	64	47
Barbados	2010	132	36	26	52	35
Belarus	2008	222	75	54	38	35
Belarus	2013	294	71	47	68	34
Benin	2009	86	2	2	21	11
Benin	2016	121	27	13	42	23
Bosnia and Herzegovina	2009	269	80	48	73	65
Bosnia and Herzegovina	2013	321	61	31	78	38
Botswana	2006	242	42	21	40	24
Botswana	2010	216	48	24	61	41
Bulgaria	2007	942	273	160	42	33
Bulgaria	2009	238	48	30	13	12
Bulgaria	2013	272	60	35	68	11
BurkinaFaso	2009	283	39	20	45	34
Burundi	2006	211	14	3	24	13
Burundi	2014	131	20	7	34	22
Cameroon	2009	300	78	49	114	71
Centralafricanrepublic	2011	117	15	10	21	15
Chad	2009	123	15	6	31	17
Chile	2004	872	366	239	385	300
Chile	2006	802	278	160	418	318
Chile	2010	913	375	253	569	467
Congo	2009	57	6	3	12	10
Croatia	2013	303	50	29	92	25
Czech Republic	2009	187	64	38	6	5
Czech Republic	2013	227	47	26	91	4
Côte d'Ivoire	2009	258	33	26	37	28
DR Congo	2006	267	17	9	42	26
DR Congo	2010	287	45	28	72	40
DR Congo	2013	372	38	14	57	35
Djibouti	2013	141	4	4	50	35
Dominica	2010	145	14	5	32	25
Estonia	2009	231	89	55	18	10
Estonia	2013	220	34	19	59	4
Fyr Macedonia	2009	293	80	47	44	37
Fyr Macedonia	2013	308	31	15	83	19
Gabon	2009	92	15	9	23	18
Georgia	2008	272	54	25	10	8
Georgia	2013	241	31	12	23	10

Country	Year	Obs.	Benchmark			
			Size>50	Size>100	Age>20	Age>25
Grenada	2010	131	18	9	61	46
Guinea	2006	175	8	4	11	8
Guinea Bissau	2006	121	6	4	14	7
Hungary	2009	268	111	74	18	8
Hungary	2013	250	47	31	57	11
Jordan	2012	382	103	71	129	87
Kazakhstan	2009	405	140	93	10	7
Kazakhstan	2013	475	82	52	42	13
Kosovo	2009	216	21	12	30	16
Kosovo	2013	166	15	6	47	11
Kyrgyz Republic	2009	191	43	21	27	22
Kyrgyz Republic	2013	231	54	26	26	7
Latvia	2009	220	93	59	6	6
Latvia	2013	247	35	20	37	5
Lithuania	2009	229	70	48	12	10
Lithuania	2013	196	44	24	37	6
Madagascar	2005	37	16	8	8	8
Madagascar	2009	360	97	50	116	89
Madagascar	2013	288	63	46	62	41
Malaysia	2015	527	213	143	159	93
Mali	2007	421	11	6	48	27
Mali	2010	236	13	3	25	15
Mali	2016	114	33	11	37	24
Mauritania	2006	197	7	4	22	13
Mauritania	2014	110	26	9	33	20
Mongolia	2009	237	68	44	34	30
Mongolia	2013	319	51	23	39	15
Morocco	2013	292	93	53	113	89
Niger	2009	97	14	3	25	21
Nigeria	2014	1,256	96	44	313	186
Poland	2009	268	74	46	54	33
Poland	2013	394	81	47	157	52
Romania	2009	372	137	84	13	13
Romania	2013	476	99	53	107	12
Russia	2009	793	393	265	117	101
Russia	2012	3,267	618	325	255	114
Rwanda	2006	151	14	9	30	17
Rwanda	2011	193	38	18	30	22
Senegal	2003	37	16	8	11	6
Senegal	2007	410	29	12	70	51
Senegal	2014	440	51	28	101	64
Serbia	2009	308	99	71	81	74
Serbia	2013	297	66	41	105	29
Slovak Republic	2009	194	65	46	8	7
Slovak Republic	2013	232	41	22	58	2
Slovenia	2009	237	85	60	54	47
Slovenia	2013	215	42	28	106	31
St Kitts and N.	2010	129	16	6	48	36
St Lucia	2010	150	27	16	41	31
St Vincent and G.	2010	123	11	4	50	30
Sweden	2014	477	140	61	292	252
Togo	2009	106	22	14	28	16
Togo	2016	120	23	15	28	19
Tunisia	2013	521	193	113	244	165
Ukraine	2008	651	199	133	91	80

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Country	Year	Obs.	Benchmark			
			Size>50	Size>100	Age>20	Age>25
Ukraine	2013	680	140	77	78	24
Uruguay	2006	487	101	55	273	225
Uruguay	2010	506	173	103	284	253
Yemen	2010	302	58	34	94	72
Yemen	2013	283	49	27	131	73

Table A2: Variables description and data source

Variable	Description	Source[a]
Dependent variables		
Growth of employment	Growth of the total number of permanent and full-time employees (annual average)	ES[b]
Sales of total sales	Growth of the total sales, deflated using the GDP deflator (annual average)	ES[b]
Independent variables		
Credit variables		
F_c	Bank credit to the private sector over GDP, sum of short-term and long-term credit	CSD
F_c^{ST}	Short-term bank credit over GDP defined as loans with a maturity below or equal to one year	CSD
F_c^{LT}	Long-term bank credit over GDP defined as loans with a maturity above one year	CSD
Firm-level control variables		
$Size_{isc}$	Number of permanent full-time employees	ES
Age_{isc}	Age of the firms (in years)	ES
$Exporter_{isc}$	Dummy variable equals to 1 if 10% or more of sales are exported	ES
$Foreign\text{-}owned_{isc}$	Dummy variable equals to 1 if 50% or more of the firm is owned by foreign organization	ES
$Government\text{-}owned_{isc}$	Dummy variable equals to 1 if 50% or more of the firm is owned by the government	ES
$Manag\ Exp_{isc}$	Experience in this sector that the top manager has (in years)	ES
$Subsidiary_{isc}$	Dummy variable equals to 1 if the firm is part of larger firm	ES
$Listed_{isc}$	Dummy variable equals to 1 if the firms is a publicly listed company	ES
$Privately\ held_{isc}$	Dummy variable equals to 1 if the firms is a limited liability company	ES
Sector-country level control variables		
G_{sc}	Growth opportunity (growth of large/old firms)	ES[b]
EFD_{sc}	External financial dependence (% of large/old firms having a loan)	ES[b]
Country-level control variables		
HC_c	Bank credit allocated to households over GDP	CSD
GDP_c	GDP per capita (Constant USD)	WDI
SM_c	Stock market capitalization	WDI
FOREIGN_NB	Share of foreign banks among total banks	BOD
FOREIGN_ASSET	Share of foreign bank assets among total bank assets	BOD
CR3	Share of assets managed by the three largest banks	GFDD
LERNER	Lerner index computed by the World Bank's staff	GFDD
BOONE	Boone indicator computed by the World Bank's staff	GFDD
$EDUC_c$	Secondary school enrollment	WDI
$OPEN_c$	Trade openness to GDP	WDI
$ICRG_c$	Indicator of institutional quality	ICRG
WGI_c	Indicator of institutional quality	WGI
$ENFORC_c$	Number of days to enforce a contract	DB
$START_c$	Number of days to start a business	DB
$PROPERTY_c$	Number of days to register property	DB

[a]ES: World Bank Enterprises Surveys; WDI: World Development Indicators; ICRG: International Country Risk Guide; WGI: World Governance Indicators; DB: Doing Business; CSD: Credit Structure Database; GFDD. Global Financial Development Database; BOD: Bank ownership Database

[b]Author's computation, see the text for details

Appendix B Robustness checks

Table A3: Robustness checks, alternative benchmarks

Panel A: Employment growth

	Small firms (Size<100 Empl.)			Young firms (Age<25 years)		
	(1)	(2)	(3)	(4)	(5)	(6)
$G_{sct} \times F_{ct}^{ST}$	0.00526*	0.00520*	0.00519*	0.00565	0.00848**	0.00849**
	(1.73)	(1.70)	(1.72)	(1.21)	(2.11)	(2.08)
$G_{sct} \times F_{ct}^{LT}$	-0.00000	0.00056	0.00040	-0.00128	0.00309	0.00304
	(-0.00)	(0.20)	(0.13)	(-0.75)	(0.98)	(0.78)
G_{sct}	-0.0270	-0.0282	-0.0698	0.0197	-0.0234	-0.0287
	(-0.69)	(-0.71)	(-0.48)	(0.47)	(-0.47)	(-0.14)
$G_{sct} \times HC_{ct}$	No	Yes	Yes	No	Yes	Yes
$G_{sct} \times GDPpc_{ct}$	No	No	Yes	No	No	Yes
Firm-level CV	Yes	Yes	Yes	Yes	Yes	Yes
Obs.	20482	20482	20482	19666	19666	19666
R^2	0.082	0.082	0.082	0.077	0.078	0.078

Panel B: Total sales growth

	Small firms (Size<100 Empl.)			Young firms (Age<25 years)		
	(1)	(2)	(3)	(4)	(5)	(6)
$G_{sct} \times F_{ct}^{ST}$	0.00836*	0.00839*	0.00820*	0.0154***	0.0150***	0.0149***
	(1.99)	(1.98)	(1.82)	(3.43)	(3.15)	(3.11)
$G_{sct} \times F_{ct}^{LT}$	-0.00168	-0.00295	-0.00237	-0.00153	-0.00227	-0.00317
	(-1.05)	(-0.86)	(-0.53)	(-1.39)	(-1.28)	(-1.33)
G_{sct}	-0.0251	-0.0190	0.0284	-0.0975*	-0.0937*	-0.2650
	(-0.62)	(-0.48)	(0.14)	(-1.87)	(-1.72)	(-1.29)
$G_{sct} \times HC_{ct}$	No	Yes	Yes	No	Yes	Yes
$G_{sct} \times GDPpc_{ct}$	No	No	Yes	No	No	Yes
Firm-level CV	Yes	Yes	Yes	Yes	Yes	Yes
Obs.	15711	15711	15711	14789	14789	14789
R^2	0.021	0.021	0.024	0.024	0.024	0.024

The dependent variables are employment growth (Panel A) and total sales growth in constant US$ (Panel B). Firm-level control variables as well as country-year and sector-year dummies are inserted but not reported. Standard errors are adjusted for clustering at the country-level. *, **, and *** indicate significance at 10%, 5% and 1% level, respectively.

Table A4: Using external financial dependence

Panel A: Employment growth

	Small firms (Size<50 Empl.)			Young firms (Age<20 years)		
	(1)	(2)	(3)	(4)	(5)	(6)
$\text{EFD}_{sct} \times \text{F}_{ct}^{ST}$	0.0014	0.0053	0.0037	0.214**	0.222***	0.243**
	(0.02)	(0.07)	(0.04)	(2.30)	(2.17)	(2.48)
$\text{EFD}_{sct} \times \text{F}_{ct}^{LT}$	0.0219	0.0283	0.0378	-0.0485***	-0.0331	-0.0811*
	(0.89)	(0.55)	(0.61)	(-3.04)	(-0.85)	(-1.81)
EFD_{sct}	0.428	0.364	1.472	-0.401	-0.553	-8.034**
	(0.45)	(0.33)	(0.38)	(-0.39)	(-0.45)	(-2.54)
$\text{EFD}_{sct} \times \text{HC}_{ct}$	No	Yes	Yes	No	Yes	Yes
$\text{EFD}_{sct} \times \text{GDPpc}_{ct}$	No	No	Yes	No	No	Yes
Firm-Level CV	Yes	Yes	Yes	Yes	Yes	Yes
Obs.	19313	19313	19313	18500	18500	18500
R^2	0.102	0.102	0.101	0.082	0.082	0.082

Panel B: Total sales growth

	Small firms (Size<50 Empl.)			Young firms (Age<20 years)		
	(1)	(2)	(3)	(4)	(5)	(6)
$\text{EFD}_{sct} \times \text{F}_{ct}^{ST}$	0.127	0.190	0.224	0.276*	0.299*	0.311*
	(0.84)	(1.09)	(1.30)	(1.68)	(1.82)	(1.92)
$\text{EFD}_{sct} \times \text{F}_{ct}^{LT}$	0.0066	0.127	-0.0677	0.0578	0.125	0.0136
	(0.13)	(1.10)	(-0.47)	(1.31)	(1.14)	(0.10)
EFD_{sct}	-2.473	-3.562	-29.12**	-5.186**	-5.626**	-23.41**
	(-1.07)	(-1.36)	(-2.90)	(-2.04)	(-2.13)	(-2.47)
$\text{EFD}_{sct} \times \text{HC}_{ct}$	No	Yes	Yes	No	Yes	Yes
$\text{EFD}_{sct} \times \text{GDPpc}_{ct}$	No	No	Yes	No	No	Yes
Firm-Level CV	Yes	Yes	Yes	Yes	Yes	Yes
Obs.	14730	14730	14730	13959	13959	13959
R^2	0.023	0.023	0.023	0.029	0.029	0.029

The dependent variables are employment growth (Panel A) and total sales growth in constant US$ (Panel B). Firm-level control variables as well as country-year and sector-year dummies are inserted but not reported. Standard errors are adjusted for clustering at the country-level. *, **, and *** indicate significance at 10%, 5% and 1% level, respectively.

Table A5: Alternative specification (pure DiD model)

Panel A: Employment growth

	Small firms (Size<50 Empl.)			Young firms (Age<20 years)		
	(1)	(2)	(3)	(4)	(5)	(6)
$G_{sjt} \times F_{ct}^{ST}$	0.0203**	0.0231**	0.0337**	0.0004	0.0010	0.0016
	(2.09)	(2.46)	(2.50)	(0.06)	(0.14)	(0.21)
$G_{sjt} \times F_{ct}^{LT}$	0.0044	0.0140	0.0131	-0.0042	-0.0016	-0.0009
	(0.89)	(1.66)	(1.51)	(-1.57)	(-0.36)	(-0.21)
$G_{sjt} \times HC_{ct}$	No	Yes	Yes	No	Yes	Yes
$G_{sjt} \times GDPpc_{ct}$	No	No	Yes	No	No	Yes
Firm-Level CV	Yes	Yes	Yes	Yes	Yes	Yes
Obs.	19185	19185	19185	20242	20242	20242
R^2	0.100	0.100	0.100	0.080	0.080	0.080

Panel B: Total sales growth

	Small firms (Size<50 Empl.)			Young firms (Age<20 years)		
	(1)	(2)	(3)	(4)	(5)	(6)
$G_{sjt} \times F_{ct}^{ST}$	0.0034	0.0049	0.0047	0.0164**	0.0174***	0.0169***
	(0.39)	(0.53)	(0.51)	(2.28)	(2.80)	(2.63)
$G_{sjt} \times F_{ct}^{LT}$	0.0032	0.0095	0.0097	-0.0051**	-0.0111***	-0.0117***
	(0.68)	(1.10)	(1.13)	(-2.12)	(-2.83)	(-2.88)
$G_{sjt} \times HC_{ct}$	No	Yes	Yes	No	Yes	Yes
$G_{sjt} \times GDPpc_{ct}$	No	No	Yes	No	No	Yes
Firm-Level CV	Yes	Yes	Yes	Yes	Yes	Yes
Obs.	14561	14561	14561	15286	15286	15286
R^2	0.022	0.022	0.022	0.027	0.027	0.027

The dependent variables are employment growth (Panel A) and total sales growth in constant US$ (Panel B). Firm-level control variables as well as sector-continent-year and country-year dummies are inserted but not reported. Standard errors are adjusted for clustering at the country-level. *, **, and *** indicate significance at 10%, 5% and 1% level, respectively.

Table A6: Sample sensitivity

Panel A: Employment growth

	High-income		Small countries		Foreign		Sector<25 obs.	
	Small	Young	Small	Young	Small	Young	Small	Young
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
$G_{sct} \times F_{ct}^{ST}$	0.0081	0.0173**	0.0100**	0.0099**	0.0102**	0.0119***	0.0174**	0.0154***
	(0.90)	(2.23)	(2.18)	(2.17)	(2.41)	(2.85)	(2.04)	(3.10)
$G_{sct} \times F_{ct}^{LT}$	0.0024	-0.0057	0.0023	0.0039	0.0006	-0.0001	-0.0053	0.0002
	(0.32)	(-0.73)	(0.67)	(1.06)	(0.17)	(-0.03)	(-0.83)	(0.05)
G_{sct}	0.038	-0.618†	0.0038	-0.318	-0.118	-0.575**	0.202	-0.398
	(0.10)	(-1.64)	(0.02)	(-1.33)	(-0.51)	(-2.32)	(0.46)	(-0.98)
$G_{sct} \times HC_{ct}$	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
$G_{sct} \times GDPpc_{ct}$	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Firm-Level CV	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Obs.	13096	14272	17575	18236	17372	17336	15560	16031
R2	0.105	0.088	0.097	0.079	0.100	0.085	0.104	0.083

Panel B: Total sales growth

	High-income		Small countries		Foreign		Sector<25 obs.	
	Small	Young	Small	Young	Small	Young	Small	Young
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
$G_{sct} \times F_{ct}^{ST}$	0.0109†	0.0186**	0.0096†	0.0087*	0.0103*	0.0077†	0.0170†	0.0159**
	(1.48)	(2.59)	(1.56)	(1.82)	(1.85)	(1.56)	(1.56)	(2.75)
$G_{sct} \times F_{ct}^{LT}$	-0.0070	-0.0144**	-0.0060†	-0.0032	-0.0060*	-0.0033	-0.0073	-0.0031
	(-1.27)	(-2.10)	(-1.50)	(1.24)	(-1.68)	(-1.21)	(-1.10)	(-0.67)
G_{sct}	-0.420†	-0.755***	-0.0961	-0.165	-0.0960	-0.207	-0.168	-0.603
	(-1.59)	(-2.90)	(-0.38)	(-0.83)	(-0.41)	(-1.11)	(-0.43)	(-1.39)
$G_{sct} \times HC_{ct}$	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
$G_{sct} \times GDPpc_{ct}$	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Firm-Level CV	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Obs.	9684	10432	13299	13061	13168	12882	11735	11955
R2	0.019	0.026	0.025	0.027	0.025	0.030	0.022	0.028

The dependent variables are employment growth (Panel A) and total sales growth in constant US$ (Panel B). Small refers to model for small firms (size<50 employees) and young to the sample of young firms (age<20 years). Firm-level control variables as well as country-year and sector-year dummies are inserted but not reported. Standard errors are adjusted for clustering at the country-level. †, *, **, and *** indicate significance at 15%, 10%, 5% and 1% level, respectively.

Table A7: Add alternative interactions (reference group: Size<50 empl.)

Panel A: Employment growth

	(1)	(2)	(3)	(4)	(5)	(6)
$G_{sct} \times F_{ct}^{ST}$	0.0066	0.0158***	0.0208***	0.0092**	0.0109**	0.0113**
	(0.27)	(3.68)	(4.13)	(2.42)	(2.50)	(2.33)
$G_{sct} \times F_{ct}^{LT}$	-0.0090	0.0056*	0.0051	0.0023	0.0004	0.0011
	(-0.67)	(1.91)	(1.19)	(0.65)	(0.11)	(0.25)
$G_{sct} \times SM_{ct}$	0.0007					
	(0.41)					
$G_{sct} \times FOREIGN\_NB_{ct}$		0.0034***				
		(3.99)				
$G_{sct} \times FOREIGN\_ASSET_{ct}$			0.0018			
			(1.44)			
$G_{sct} \times CR3_{ct}$				-0.0022		
				(-1.24)		
$G_{sct} \times LERNER_{ct}$					0.624*	
					(1.68)	
$G_{sct} \times BOONE_{ct}$						-0.0168
						(-0.14)
Obs.	7838	17459	13644	17680	17348	17988
R2	0.065	0.097	0.106	0.097	0.098	0.098

Panel B: Total sales growth

	(1)	(2)	(3)	(4)	(5)	(6)
$G_{sct} \times F_{ct}^{ST}$	-0.0025	0.0132**	0.0155**	0.0109*	0.0137**	0.0116**
	(-0.19)	(2.24)	(2.38)	(1.96)	(2.45)	(2.01)
$G_{sct} \times F_{ct}^{LT}$	-0.0048	-0.0073*	-0.0053	-0.0061	-0.0077*	-0.0064
	(-0.78)	(-1.83)	(-1.08)	(-1.55)	(-1.92)	(-1.57)
$G_{sct} \times SM_{ct}$	-0.0067					
	(-1.62)					
$G_{sct} \times FOREIGN\_NB_{ct}$		0.0002				
		(0.18)				
$G_{sct} \times FOREIGN\_ASSET_{ct}$			-0.0000			
			(-0.05)			
$G_{sct} \times CR3_{ct}$				-0.0001		
				(-0.62)		
$G_{sct} \times LERNER_{ct}$					0.491	
					(1.49)	
$G_{sct} \times BOONE_{ct}$						0.0489
						(0.42)
Obs.	6223	13171	9960	13304	13074	13562
R2	0.025	0.026	0.029	0.025	0.026	0.025

The dependent variables are employment growth (Panel A) and total sales growth in constant US$ (Panel B). Firm-level control variables and interactions between household credit and growth opportunity and between GDP per capita and growth opportunity as well as country-year and sector-year dummies are inserted but not reported. Standard errors are adjusted for clustering at the country-level. *, **, and *** indicate significance at 10%, 5% and 1% level, respectively.

Table A8: Add alternative interactions (reference group: Age<20 years)

Panel A: Employment growth

$G_{sct} \times F_{ct}^{ST}$	0.0142	0.0143***	0.0147***	0.0091**	0.0107***	0.0116***
	(0.61)	(3.46)	(3.02)	(2.34)	(2.65)	(2.71)
$G_{sct} \times F_{ct}^{LT}$	-0.0150	0.0046	0.0062	0.0038	0.0030	0.0033
	(-1.18)	(1.31)	(1.25)	(0.99)	(0.84)	(0.81)
$G_{sct} \times SM_{ct}$	-0.0015					
	(-1.64)					
$G_{sct} \times FOREIGN\_NB_{ct}$		0.0028***				
		(2.99)				
$G_{sct} \times FOREIGN\_ASSET_{ct}$			0.0003			
			(0.33)			
$G_{sct} \times CR3_{ct}$				-0.0014		
				(-0.83)		
$G_{sct} \times LERNER_{ct}$					0.192	
					(0.52)	
$G_{sct} \times BOONE_{ct}$						0.0754
						(0.62)
Obs.	7584	18037	14280	18218	17927	18449
R2	0.052	0.079	0.086	0.079	0.079	0.080

Panel B: Total sales growth

$G_{sct} \times F_{ct}^{ST}$	0.0139	0.0102*	0.0064	0.0075	0.0091*	0.0095*
	(1.08)	(1.68)	(1.05)	(1.27)	(1.64)	(1.69)
$G_{sct} \times F_{ct}^{LT}$	-0.0077	-0.0036	-0.0036	-0.0030	-0.0036	-0.0036
	(-0.79)	(-1.37)	(-0.96)	(-1.02)	(-1.31)	(-1.35)
$G_{sct} \times SM_{ct}$	-0.0026					
	(-0.71)					
$G_{sct} \times FOREIGN\_NB_{ct}$		0.0005				
		(0.36)				
$G_{sct} \times FOREIGN\_ASSET_{ct}$			-0.0012			
			(-1.05)			
$G_{sct} \times CR3_{ct}$				-0.0008		
				(-0.71)		
$G_{sct} \times LERNER_{ct}$					-0.0121	
					(-0.03)	
$G_{sct} \times BOONE_{ct}$						0.0700
						(0.73)
Obs.	5941	13437	10309	13521	13336	13719
R2	0.025	0.029	0.035	0.029	0.029	0.028

The dependent variables are employment growth (Panel A) and total sales growth in constant US$ (Panel B). Firm-level control variables and interactions between household credit and growth opportunity and between GDP per capita and growth opportunity as well as country-year and sector-year dummies are inserted but not reported. Standard errors are adjusted for clustering at the country-level. *, **, and *** indicate significance at 10%, 5% and 1% level, respectively.