

Comparing the Impact of Credit Constraints on the Growth of SMEs in a Transition Country with an Established Market Economy

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Abstract. In this paper we compare the role of internal finance on the growth of firms between a leading transition country, Slovenia and an established market economy, Belgium. We find that firms in Slovenia are more sensitive to internal financing constraints than their Belgian counterparts. Furthermore, we find that *de novo* firms and firms with long term debt are most constrained and that micro and SMES can face great difficulties in accessing external sources of finance. Foreign firms, however, are able to raise external finance and consequently their growth is less reliant on the availability of internal finance. Our findings appear to indicate that although Slovenian firms are no longer recipients of soft budget constraints, the financial environment is not yet fully functional.

KEYWORDS: financial constraints, manufacturing, transition economics

JEL CLASSIFICATION: G33, P2, L6

1. Introduction

At the start of the transition period in Central and Eastern Europe (CEE) firms tended to be large, inefficient and vertically integrated where there was a clear absence of small and medium sized enterprises (Roland, 2000). The subsequent privatisation and restructuring of state owned enterprises combined with the introduction of market forces resulted in the emergence of new small firms and a decline of old inefficient

ones. Moreover, a key objective for both politicians in transition countries and providers of external aid was the development of the small and medium size enterprise (SME) sector. In October 2003 the European Investment Bank (EIB) launched a global loan of 100 million euros to support SMEs in Hungary, Romania and Slovenia. On signing the loan in Venice the EIB president stated that “The development of small and medium-sized enterprises is important first of all in countries where the SME sector is not yet a deeply-rooted part of the European scene.... ([it is also a] sector that encourages entrepreneurship and represents an important source of job creation”). Furthermore, this policy of actively encouraging the development of the SME sector in CEE mirrors policies adopted by the European Council in Lisbon in March 2000 where SMEs were placed at the heart of Europe’s future economic prosperity: “commit Member States to focus... on small companies as the main engines for job-creation in Europe and to respond specifically to their needs” (Lisbon European Council, 2000).

Although the emergence of the SME sector in CEE has certainly been one of the good news stories of the transition process, it is a sector that remains underdeveloped. One reason put forward for the SME sector being smaller in CEE is that firms that are unable to raise external finance are forced to rely solely on internal finance thus constraining their growth.¹ This problem would be further exacerbated if financial systems are not functioning properly and studies would indicate that this appears to be the case in CEE (Anderson and Kegels, 1997; Budina et al., 2000; Gros and Suhrcke, 2000; Konings

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et al., 2003). Slovenia may be such an example, despite substantial progress in key areas, it lags behind some of the most advanced transition countries when it comes to implementing some specific reforms, namely financial sector development. The EBRD in its 2004 report recommended that not only must access to finance for SMEs be improved, but there must also be greater diversification in the range of financial products available to SMEs. Moreover, a study by the Slovene Entrepreneurship Observatory in 2000 found that SMEs find access to financing as their main obstacle to their business development and growth (Slovene Entrepreneurship Observatory, 2000; EBRD, 2004).

Accessing external finance, however, is not necessarily a problem that is exclusive to SMEs in CEE. A report by the DG Enterprise in the European Commission found that SMEs in the EU require external finance for business expansion with 20% of SMEs considering access to finance as a barrier to growth. Furthermore, this ability to access finance differs across EU countries. For instance, only 6% of SMEs in Belgium report finance as a major restriction for firm growth as opposed to approximately 19% of SMEs in the UK and Denmark [European Commission (2000, 2002)]. Similarly, the Community Innovation Survey (CIS) finds that 13% of Belgian firms report a lack of appropriate sources of finance as a hindrance to innovation with this figure only being lower in the Netherlands and Finland. Therefore comparing the role of internal finance on the growth of firms between a leading accession country and an EU country where access to finance is deemed relatively easy makes for an interesting comparison.

In this paper we provide new evidence on how SMEs use internal cash flow to fund their growth across the entire manufacturing sector of a leading transition country, Slovenia and compare it to an established market economy Belgium. This differs from the literature on transition countries that focuses on traditional firm growth analysis attempting to unravel the relationship between firm size, age and growth (e.g. Konings and Xavier, 2002). We use panel data estimation techniques, namely a first differences GMM estimation where we are also able to control for firm-specific and sector-

specific unobserved heterogeneity. This unobserved heterogeneity may indeed be important in transition economies where firm management and product quality are prevalent in firms and fixed over time (e.g. DAS). In addition to investigating how the growth of firms are dependent on internal finance for firms of different sizes, we also look at the role of external debt, *de novo* firms and foreign ownership on firm growth. The outline of this paper is as follows. In Section 1 we outline the theoretical framework while in Section 2 we discuss the data. We present the results in Section 4 and conclude in Section 5.

2. Theoretical framework

Although there has been a growing literature investigating the role of financial constraints on firm performance, there has only been a couple of empirical studies to date that quantitatively look at the effect of internal finance as measured by cash flow on the growth of firms (Carpenter and Petersen, 2002; Wagenvoort, 2003). These studies follow on from the work of Fazzari et al. (1988a) where they investigate the effect of cash flow on investment. Fazzari et al. find that the investment rate of a firm depends on the cash flow that is available to the firm.^{2, 3} Carpenter and Petersen (2002) develop a model of firm growth whereby the firm's growth of total assets is subject to financing constraints for *small* firms in the United States.⁴ However, by small firms the author means small firms in the US context. Hence, applying this model to European firms raises some issues regarding the industrial structure that is present in Europe where micro firms (< 10 employees) form a significant portion of the industrial make-up.⁵ As a result it is important to take into account the different sub groups within the SME size group when investigating the role that cash flow plays on firm growth. For example, one might *a priori* expect that a micro firm with 5 employees finds it more difficult to raise external finance than a firm with 200 employees. Therefore, in our study we look at the effect of cash flow on the growth of SMEs taking into account the different size groups. In addition, we are interested at looking at those firms that are not entirely reliant on internal fi-

nance and have access to external finance in the form of debt finance. This will allow us to investigate the relationship between growth and internal finance for those firms with positive debt levels.⁶ Furthermore, we are also interested in investigating the role of *de novo* firms. Although we don't have access to the actual age of firms present in the first year of our sample, we are able to determine entry and exit of firms in our data set. As a result, we categorise firms that enter our sample from 1995 onwards as *de novo* firms. Previous studies show that *de novo* firms have outperformed privatised and state owned firms (Bilsen and Konings, 1998). Furthermore, one of the major institutional changes in CEE countries was the opening up of markets to outside competition and the arrival of foreign firms on the domestic market. It appears plausible that foreign firms, faced with difficulties in obtaining external finance within Slovenia, could attain funds from abroad. Therefore, what we want to investigate is whether the growth of foreign firms are less sensitive to internal cash flow than their domestically owned counterparts. In part we start by estimating the following general specification capturing firm growth as proposed by Carpenter and Petersen (2002):

$$glta_{it} = \beta_0 + \beta_1(cf/k)_{it} + \beta_2(dturnover/k)_{it} + \gamma_k + \lambda_t + \gamma_k\lambda_t + \alpha_i + \varepsilon_{it} \quad (1)$$

where, $glta_{it}$ stands for the growth rate of firm i at time t defined as the log change in total assets, $dturnover$ is the growth of real turnover (where turnover stands for operating revenue), cf is the real cash flow (i.e. net operating income plus depreciation). These definitions are standard accounting definitions of the firm, k is the level of capital stock (proxied by total tangible fixed assets), α_i is the firm specific unobserved heterogeneity, λ_t are time dummies, γ_k represents unobserved sector heterogeneity, $\gamma_k\lambda_t$ are the year-sector specific dummies that control for shocks and changes over time and within sectors and ε_{it} is a white noise error term. Although this regression looks similar to the model by Fazzari et al. (1988a or b) and studies that transcended from it, this approach differs in several important ways. Firstly, instead of looking at how

financial constraints could affect investment as in the Fazzari et al. approach, Carpenter and Petersen look at how total asset growth is affected by financial constraints. They argue that investment in fixed assets is only one part of what a firm might use its funds for. As a result of the various additional factors that a firm might spend its funds on, Carpenter and Petersen investigate the sensitivities of a firms' growth rate to its cash flow, where the growth rate is measured as the growth of total assets. Secondly, the Carpenter and Petersen approach allows for a quantitative prediction about the relationship between growth and internal finance which is not the case with the standard investment – cash – flow accelerator model. In addition, previous models used highly aggregated industry-time dummies whereas in this model we use disaggregated industry-time dummies defined at the 3 digit nace level. The variable $dturnover$ in equation (1) controls for demand at the firm level. In other words firms that have a high demand for their product are more likely to grow than firms with low demand for their products. In addition, we normalise $dturnover$ by the beginning of the period capital stock value to control for size effects as is commonly done in the literature (Konings et al., 2003).⁷ We also deflate nominal values of turnover and cash flow by PPI at the 3 digit nace level.

Coefficient β_1 captures the sensitivity of firm level growth to the level of internal cash flow of the firm and is the coefficient that we are most interested in. The theory of Carpenter and Petersen suggests that the magnitude of β_1 should be about 1 reflecting that an additional dollar of internal finance allows for approximately one extra dollar of asset expansion. We believe that firms in Slovenia, with less access to external finance and therefore mostly relying on their internal cash flow, should exhibit coefficients that are in excess of one. In other words, firms forced to rely on internal finance have higher β_1 coefficients indicating that their growth is financed via internal cash flow and not from external sources. If an external source of finance were to be made available, then the magnitude on the cash flow coefficient would reduce as the growth of the firm would no longer be entirely dependent on internal cash flow. Although we

don't make a precise point estimate prediction we hypothesise that each additional unit of cash flow should have a greater effect on the growth of firms in Slovenia than in countries where external finance is more easily available as for example in Belgium. Furthermore, we would expect foreign, larger and older firms to be less reliant on internal cash flows and this to be reflected in smaller magnitudes on their coefficients. Conversely, for Belgium we would a priori expect the magnitude of the cash flow coefficient to be considerably lower than that of Slovenia given that, as shown in previous studies, Belgian firms have easier access to external finance. Therefore in terms of our specification an additional unit of cash flow should have a smaller impact on the growth of firms in Belgium.

To control for the unobserved firm level fixed effect we will estimate equation (1) in first differences or

$$\Delta g l t a_{it} = \varphi + \beta_1 \Delta(c f_{it} / k_{it-1}) + \beta_2 \Delta(d t u r n o v e r_{it} / k_{it-1}) + \gamma_k \phi_t + \Delta \varepsilon_{it}.$$

where $\phi_t = \lambda_t - \lambda_{t-1}$

It is also possible that cash flow is endogenous as it is a credible proposition that increasing growth of total assets leads to higher changes in cash flow, in addition, there may also be measurement error.⁸

Therefore, we estimate equation (2) in the standard first differences applying a Generalised Method of Moments (GMM) estimation. We use lags of real cash flow as instruments choosing lag dates at $t - 1$ and at earlier dates that are not correlated with the differenced error term in the regression. As the panel progresses, the number of instruments that can be used increases thus increasing the efficiency of the estimates. We must thus compute a Sargan test of over identifying restrictions to test the validity of the instruments used. We also calculate a second order serial correlation test which is asymptotically $N(0,1)$ distributed. The absence of second order serial correlation is consistent with the absence of first order serial correlation in the level equation (1). Therefore, given that we are using lagged values of the endogenous explanatory variables as instruments it is important to verify this.

3. Data

We use individual firm level data for the period 1993–2000 for Belgium and 1994–2002 for Slovenia. Our data consist of all manufacturing companies that have to report full company accounts to the national statistical offices or central banks. Therefore we do not have to deal with the empirical issues that arise in official statistics that often apply a standard cut off level, generally only reporting those firms that operate with at least 5–10 employees. This practice results in underestimating the role micro-enterprises play in many countries. For Slovenia we use the company accounts for the manufacturing sector that was available at the Slovenian Central Statistical Office.⁹ The data that we have at our disposal covers micro, small and medium sized enterprises as well as the large ones. Furthermore, the data is based on a standard format of company accounts with the data covering variables from the profit and loss and balance sheet such as assets (fixed and total), liabilities (short and long term), costs (material, wage bill and total), operating revenue and the number of employees. The database used for Belgium is a commercial database collected by “Bureau Van Dijk”, a quoted software and consulting company and sold under the name ‘Belfirst’.¹⁰ The data quality for Belgium is particularly good because in Belgium all companies have to report by law their financial statements (full or abbreviated depending on the size of the company) to the Central Bank. In the data appendix we compare the employment coverage in our data sets with that of the International Labour Organisation (ILO). We restrict our sample to only those firms that are present for a minimum of four consecutive years. This allows us to be able to calculate the lags of cash flow which we then use as instruments. We also control for potential outliers by removing observations that are in the 1% tail for each of the regression variables. This is a standard procedure used in the literature on financing constraints that prevents making repeated judgements about what exactly constitutes an outlier.

In determining firm size we apply the definitions as proposed by the European

TABLE I
Summary statistics of key variables

	Micro Belgium	Micro Slovenia	SME Belgium	SME Slovenia	Large Belgium	Large Slovenia
Employment	3	2	16	3	591	468
Total assets (ths euro)	364	84.5	388	147	443	28975
Real turnover (ths euro)	335	67	1883	122	135868	16658
Fixed assets/total assets	0.34	0.44	0.32	0.47	0.33	0.58
Acid test ratio	0.98	1.02	0.95	1	1	1.03
Long term debt/total assets	0.09	0	0.08	0	0.08	0.04
Number of firms	2131	2117	4784	2761	224	114

Commission.^{11, 12} We determine the size of the firm as its size when it enters the sample.

In Table I we present the summary statistics for some key variables. We report the median values and deflate those variables where necessary using a producer price index at the 3 digit nace level. We see that for all size classes Belgian firms are bigger in size, have more total assets and higher cash flow. It is also interesting to see the fixed assets/ total assets ratio being bigger in Slovenian firms than in Belgian firms and that Belgian firms have long term debt/total assets ratios (ltd/ta) that are larger than in Slovenia. Our findings of the median values of ltd/ta ratios being zero for micro and SMEs in Slovenia are in line with previous studies (e.g. Klappar et al., 2002). We do find, however, that foreign firms for all size classes in Slovenia have ltd/ta ratios greater than zero indicating that foreign firms appear to be able to access external finance.¹³

4. Results

In Tables C1–C5 in Appendix C, we show the results for the first differences and GMM estimations. We see in these tables that for the first differences estimations the cash flow coefficients for micro and SMEs are all in excess of one and statistically significant both in the case of Belgium (1.20 and 1.26) and Slovenia (1.72 and 1.72). Large firms in Belgium appear to present a smaller coefficient estimate that is lower than one 0.90, whereas large firms in Slovenia present a coefficient estimated of 1.48 that is lower than the estimate for micro firms and SMEs. Moreover, coefficient estimates associated with cash

flow for micro and SMEs are higher in the case of Slovenia (1.72). This suggests that indeed micro and SMES are financially constrained in relation to large firms – or that the growth of large firms is less sensitive to internal cash flow – and micro and SMEs in Slovenia are more constrained than their Belgian counterparts.¹⁴

When we take into account the possibility that cash flow is endogenous using GMM estimations, a strong positive relationship between internal cash flow and growth that is greater than one remains for micro and SMEs in Slovenia shown by coefficient estimates of 1.20 and 1.22. For example, in Table C4, SMEs in Slovenia present a cash flow coefficient of 1.22 which means that an additional unit of cash flow results in a 1.22 increase in the growth of total assets. This highlights the importance of internal finances to firm growth in Slovenia. The cash flow coefficient estimated for large firms is 1.06, again lower than that of micro and SMEs, suggesting that SMEs are more financially constrained than are large firms. In relation to Belgium (Table C1 and GMM estimations), we find that micro sized enterprises have a coefficient of 0.69 and SMEs a coefficient of 0.68, which means that a one unit increase in cash flow results in a 0.69 or 0.68 increase in the growth of total assets respectively. In other words, the growth of micro sized firms and SMEs in Belgium are less sensitive to internal finance than their Slovenian counterparts.¹⁵

We now look at those firms with access to external debt. In Table C2 we report our findings for Belgium and in the last two columns of C3, C4 and C5 we report our findings for Slovenia.

We find that for Belgian firms cash flow coefficients are similar in sign and magnitude to the estimates in Table C1. This appears to indicate that Belgian firms have a choice when it comes to accessing external finance with firms that require debt being able to access it. For Slovenian firms, however, we see from the first differences and GMM estimations that micro firms and SMEs have high cash flow coefficients (1.72 versus 1.97 and 1.20 versus 1.39 in Table C3 and 1.72 versus 1.97 and 1.22 versus 1.40 in Table C4). This would appear to indicate that firms with positive debt levels are unable to raise the level of debt that they require and as a result they are more sensitive to internal cash flow. We find that when we compare our findings for large firms that, similar to Belgium, the cash flow coefficients are similar for both groups.

We now turn to analysing our findings for *de novo* and foreign owned firms.¹⁶ Table B3 in Appendix B shows that *de novo* SMEs have the second highest median *glt* values and from Tables C3 and C4 we see that these are the firms with the second highest cash flow coefficient in the GMM estimations (1.27 versus 1.20 in Table C3 and 1.29 versus 1.22 in Table C4) indicating that their growth is sensitive to internal finance. Interestingly, in the columns 6 and 7 of Table C3 we find that the magnitude of the cash flow coefficient is lower for foreign owned micro-sized firms in Slovenia (e.g. 1.07 versus 1.72 and 0.93 compared to 1.20 in Table C2) and lower than one in the GMM estimation (0.93). For SMEs (Table C4), the coefficient estimate is smaller than that of the full sample and lower than one in the case of the GMM estimations (0.91). These results perhaps indicate that foreign firms may indeed be less reliant on internal finance when compared to domestic firms.

In both countries micro-sized firms and SMEs have similar cash flow coefficients although they vary across the two countries. Note that the required levels of bank financing appears more available to Belgian firms and that when comparing the differences in magnitude of SMEs, the majority of SMEs in Slovenia are micro sized firms.

We find that the estimated coefficient, β_2 , of the change of real sales is positive in all cases and the magnitude is similar to other studies

that use this approach when controlling for investment opportunities.

5. Conclusion

In this paper we investigate the role of internal finance on the growth of firms in a leading transition country, Slovenia and compare it with an established market economy, Belgium. Using detailed firm level data, we find evidence across all size categories, that the growth of Slovenian firms are more sensitive to internal cash flow than their Belgian counterparts. We also find that the growth of large firms in Slovenia and Belgium are less dependent on internal finance than micro firms and SMEs. Furthermore, foreign owned firms in Slovenia appear to be less reliant on internal cash flow while *de novo* firms and firms with positive debt levels appear to be the most reliant on internal cash flow.

Our findings appear to back up claims that the growth of firms in Slovenia is mostly reliant on internal cash flows and echoes the findings of the EBRD report calling for financial markets in Slovenia to improve their access to finance for SMEs.

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Notes

¹ Pissarides (1998) analyses the experience of the European Bank for Reconstruction and Development with SME's in Central and Eastern Europe. While a study by Klapper et al. (2002) investigates financing of SME across 15 CEE countries.

² However, this approach received strong criticisms from Kaplan and Zingales (1997, 2000). Kaplan and Zingales in

both articles put forward the argument that cash flow sensitivities are not informative about potential financial constraints. They argue that since firms are identified as being constrained by using proxies, a monotonic relationship between investment – cash flow sensitivities and those factors that determine why a firm is constrained are needed. They show that this is done by conditioning the production and cost functions. In addition, they show empirically using company statements, that firms that appear to be less financially constrained have significantly greater sensitivities than firms that appear more financially constrained. However, Fazzari et al. (2000) reply to the criticisms stating that there are a wide range of cases where there is a relationship between cash flow sensitivities and the relative financial constraint of the firm. In other words they argue that cash flow sensitivity is indeed a useful indicator for the financing problems of firms.

³ Fazzari et al. study also initiated numerous studies that looked further into how the amount of internal funds effected investment sensitivity for example Gertler and Gilchrist (1994), Van Ees and Garretsen (1994) and Degryse and De Jong (2001). Other studies look at whether the wedge between internal and external funds is attributable to the managerial discretion hypothesis or to the imperfect capital market hypothesis (Hadlock, 1998; Van Cayseele, 2003).

⁴ They require firms to have assets between \$5 and \$100 in the year that they enter the sample.

⁵ Over 90% of firms in the EU are micro sized ('The access of SMEs to public procurement contracts, Final report 2004', Enterprise Directorate General European Commission.)

⁶ We create a subsample containing firms that, over our sample period, experienced changes in their long term debt levels. We argue that these firms have contact with a provider of debt and as a result may not be forced to rely solely on their internal finance. We call this subsample firms with access to external finance.

⁷ We also estimated the equation not including controlling for size effects and although the results were broadly similar the magnitude on the cash flow coefficient was higher. We also estimated without controlling for demand at the firm level and we found a positive and significant coefficient on the cash flow coefficient but the magnitude was significantly higher.

⁸ Although the model we adopt doesn't explicitly incorporate adjustment costs, if however, there are rising mar-

ginal adjustment costs for some assets, then this may have a downward bias on the relationship between growth and internal finance. The size of the adjustment costs depends on the type of assets that a firm invests in with physical investments having higher adjustment costs than investing in inventories. We attempt to control for them in our empirical estimation by adopting the approach of Grilches and Hausman (1986). They show that instrumenting current cash flow with its lags takes into account any potential differences between the short run relationship between growth of assets and internal finance and the long run relationship. In our study we use the lag of cash flow in our GMM estimation in attempting to control for adjustment costs.

⁹ We would like to thank José Damijan and Stefan Bojnec for making the data available for this research. Studies to use this data set include, Konings and Xavier (2002), De Loecker and Konings (2005).

¹⁰ Belfirst data set is a subset of the 'Amadeus' data set. Previous papers that have used Amadeus data set include Konings et al. (2001, 2005) Budd et al. (2005).

¹¹ Micro-firm: emp < 10 & reaturnover < 2 million euors. SME: emp < 250 & reaturnover < 50 million. Large firms: emp ≥ 250 & reaturnover ≥ 50 million.

¹² Given the industrial make up in Slovenia a considerable amount of the SMEs are also able to be categorised as micro firms.

¹³ Table B1 in Appendix B gives more details on the summary statistics for the different subsamples in Slovenia.

¹⁴ We also run fixed effects estimations and have found similar results in terms of sign and significance on estimated coefficients. The magnitude is however slightly higher: e.g. for SMEs in Belgium the fixed-effects coefficient estimate is 0.97(0.02) and for SMEs in Slovenia the fixed-effects coefficient estimate is 1.37(0.83).

¹⁵ It is worth noting that by treating cash flow as being possibly endogenous in our GMM estimation, this may explain differences between the magnitude of the first differences and GMM estimations. It may also be the case that these differences are due to the presence of adjustment costs. Investments in physical capital are more likely to have bigger adjustment costs than other forms of investment.

¹⁶ We did not have sufficient number of observations to perform regressions for de novo and foreign firms for large firms in Slovenia.

Appendix A: Employment coverage

We compare the total number of employees in our data set with the number of paid employees in manufacturing that is reported by ILO.

Table A1
Employment coverage in Belgium

	ILO	Belfirst	% Coverage
1994	649200	521253	80
1995	644800	525418	81
1996	633600	511408	80
1997	620400	520017	83.8
1998	626300	533365	85
1999	620600	537786	87
2000	654000**	552870	85

*No value available from ILO or Belgostat for 1993.

**Figure comes from Belgostat.

Table A2
Employment coverage in Slovenia

	ILO	CSO Slovenia	% Coverage
1994	279000	222889	80
1995	297000	239788	81
1996	283000	212691	75
1997	275000	191046	69
1998	273000	181369	66
1999	260000	211615	81
2000	253000	211154	83
2001	260000	212219	82

*Paid employment for 2002 in Slovenia could not be found.

Appendix B: Additional summary statistics

Table B1
Additional summary statistics for Slovenian firms (Median values)

	Micro de novo	Micro foreign	Micro debt finance	SME de novo	SME foreign	SME debt finance	Large de novo	Large foreign	Large debt finance
Employment	2	6	4	2	22	7	329	526	465
Fixed Assets/Total assets	0.41	0.34	0.5	0.42	0.44	0.52	0.34	0.57	0.59
Acid test ratio	1.06	1.19	0.86	0.9	0.86	0.85	1.59	1.3	0.97
Median ltd/ta	0	0.04	0.1	0	0.03	0.9	0.037	0.08	0.04
Number of firms	237	28	670	303	79	1019	3	13	99

Table B2
Additional summary statistics (Median values)

	Slovenia	Belgium
Glt _a	0.13	0.03
cf/ _k	0.08	0.12
dturnover/ _k	0.07	0.03

Table B3
Summary statistics Slovenia (median values)

	Micro full sample	Micro de novo	Micro foreign	Micro debt finance	SME full sample	SME de novo	SME foreign	SME debt finance	Large firms	Large debt finance
Glt _a	0.14	0.15	0.16	0.15	0.13	0.16	0.14	0.14	0.1	0.08
cf/ _k	0.09	0.09	0.07	0.08	0.08	0.09	0.07	0.07	0.05	0.07
dturnover/ _k	0.08	0.08	0.09	0.08	0.06	0.09	0.09	0.07	0.03	0.03

Table B4
Summary statistics Belgium (median values)

	Micro full sample	Micro access to external debt	SME full sample	SME access to external debt	Large full sample	Large access to external debt
Glt _a	0.02	0.02	0.03	0.03	0.03	0.03
cf _k	0.14	0.14	0.12	0.12	0.10	0.09
dturnover _k	0.03	0.03	0.04	0.04	0.02	0.02

Appendix C: Estimation results

Table C1
Belgian firms

	Micro		SME		Large	
	FD	GMM	FD	GMM	FD	GMM
$\Delta(cf/k)$	1.20 (0.05)	0.69 (0.05)	1.26 (0.03)	0.68 (0.1)	0.90 (0.11)	0.49 (0.20)
$\Delta(dturnover/k)$	0.09 (0.01)	0.14 (0.01)	0.09 (0.006)	0.12 (0.04)	0.14 (0.03)	0.20 (0.10)
Constant	0.03 (0.008)	0.02 (0.008)	0.03 (0.005)	0.09 (0.004)	-0.03 (0.02)	-0.03 (0.02)
No. of firms	2131	2131	4784	4784	224	224
Sargan		Passes		Passes		Passes
2nd order Serr corr		No		No		No

Table C2
Belgian firms with debt finance

	Micro		SME		Large	
	FD	GMM	FD	GMM	FD	GMM
$\Delta(cf/k)$	1.27 (0.07)	0.76 (0.23)	1.28 (0.05)	0.63 (0.16)	0.81 (0.21)	0.49 (0.26)
$\Delta(dturnover/k)$	0.09 (0.01)	0.15 (0.12)	0.09 (0.01)	0.27 (0.08)	0.23 (0.06)	0.27 (0.07)
Constant	0.003 (0.01)	-0.0001 (0.01)	0.02 (0.01)	0.02 (0.08)	-0.03 (0.02)	-0.03 (0.03)
No. of firms	1029	1029	2211	2211	94	94
Sargan		Passes		Passes		Passes
2nd order Serr corr		No		No		No

Table C3
Slovenia micro sized firms

	Full sample		De novo		Foreign		Debt finance	
	FD	GMM	FD	GMM	FD	GMM	FD	GMM
$\Delta(cf/k)$	1.72 (0.06)	1.20 (0.49)	1.23 (0.23)	1.27 (0.26)	1.07 (0.5)	0.93 (0.38)	1.97 (0.12)	1.39 (0.14)
$\Delta(dturnover/k)$	0.15 (0.01)	0.44 (0.08)	0.10 (0.05)	0.11 (0.06)	0.19 (0.1)	0.08 (0.04)	0.15 (0.02)	0.16 (0.02)
Constant	-0.04 (0.01)	-0.001 (0.02)	-0.16 (0.07)	-0.15 (0.06)	-0.01 (0.08)	-0.09 (0.13)	-0.03 (0.02)	-0.04 (0.02)
No. of firms	2117	2117	237	237	28	28	670	670
Sargan		Passes		Passes		Passes		Passes
2nd order Serr corr		No		No		No		No

Table C4
Slovenia SMEs

	Full sample		De novo		Foreign		Debt finance	
	FD	GMM	FD	GMM	FD	GMM	FD	GMM
$\Delta(cf/k)$	1.72 (0.05)	1.22 (0.06)	1.69 (0.15)	1.29 (0.23)	1.70 (0.25)	0.91 (0.4)	1.97 (0.11)	1.40 (0.13)
$\Delta(d\text{turnover}/k)$	0.15 (0.01)	0.17 (0.01)	0.16 (0.03)	0.10 (0.05)	0.06 (0.03)	0.14 (0.05)	0.14 (0.02)	0.15 (0.02)
Constant	-0.03 (0.01)	-0.012 (0.01)	0.05 (0.18)	-0.1 (0.06)	0.02 (0.21)	-0.06 (0.05)	-0.03 (0.02)	-0.04 (0.02)
No. of firms	2761	2761	303	303	79	79	1019	1019
Sargan		Passes		Passes		Passes		Passes
2nd order		No		No		No		No
Serr corr								

Table C5
Slovenia large firms

	Full sample		Debt finance	
	FD	GMM	FD	GMM
$\Delta(cf/k)$	1.48 (0.22)	1.06 (0.30)	1.46 (0.23)	1.00 (0.37)
$\Delta(d\text{turnover}/k)$	0.20 (0.05)	0.23 (0.08)	0.25 (0.07)	0.24 (0.13)
Constant	0.005 (0.01)	-0.003 (0.02)	-0.01 (0.02)	-0.01 (0.02)
No. of firms	114	114	99	99
Sargan		Passes		Passes
2nd order Serr corr		No		No

*Large firms are categorised as firms with ≥ 250 employees. Including the turnover criteria results in a sample that is too small to estimate.

**Standard errors in parenthesis.

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