FINANCIAL DEVELOPMENT AND ROMANIAN SMES

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Abstract

Research has shown that financial development accelerates economic growth but little has been discussed about the disproportionate effect a country's financial development has on the growth of its small firms. With this in mind we propose a panel data analysis of the Romanian SMEs over the period 2002-2008. The results show that financial development exerts a positive effect on small firms relative to large ones. The analysis is based on data regarding: (a) the relative size of Romanian small and medium size enterprises (SMEs) in sectors like: industry, trade and services (calculated as the share of value added by different size class SMEs in total country's value added); (b) each sector's employment share and (c) Romania's level of financial development.

Keywords: *financial development, SMEs, firm size*

Introduction

Financial development is defined *"as the factors, policies, and institutions that lead to effective financial intermediation and markets, and deep and broad access to capital and financial services"*[1]. Following this statement local financial development can be regarded as a tool in assessing a country's economic performance in terms of local market's capacity to offer a stable source of financing for the private and public sector.

The following paper aims to empirically investigate the extent to which the local level of financial development favors small and medium sized enterprises (henceforth SMEs) over large ones and in which sectors. By analyzing the impact of financial development on the distribution of Romanian SMEs by sector of activity and by size class we try to answer a simple question: which are the most favored SMEs by the Romanian financial system?

The study is important for at least two reasons:

a) Knowing which sectors are mostly sought by financial intermediaries offers a broad perspective on the allocation of financial resources on the market. In addition by examining the size class distribution we are able to identify which enterprises are more likely to benefit from financial intermediary development

b) Romanian SMEs play a less prominent role in the local economy than their counterparts do, on an average in other EU Member States. This holds true for their contribution to employment (63.6 % vs. 67.4 % in the EU) but especially for their contribution to value added (42.2 %) which is significantly below the European average (57.9 %)[2]. One of the reasons why such situation is present is the fact that Romania's financial system still lags behind in supporting SMEs growth in spite of the tremendous changes it faced during the last couple of years when considerable progress had been made in restructuring and consolidating the banking sector, liberalizing the markets and opening-up to foreign ownership[3].

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[1] World Economic Forum. "The Financial Development Report 2010."USA, third edition, (2010): 3. http://www3.weforum.org/docs/WEF_FinancialDevelopmentReport_2010.pdf

[2] European Commission, Enterprise and Industry. "Small and medium-sized enterprises (SMEs): SME Performance Review; SBA Fact Sheet Romania '09", last modified 07.01.2011: 1, http://ec.europa.eu/enterprise/policies/sme/facts-figures-analysis/performance-review/pdf/final/sba_fact_sheet_romania_en.pdf

[3] Ionescu, George. "The Enlargement of European Union and the Romanian Capital Market." *Romanian Economic and Business Review*, vol. 1, (2006): 26, http://www rebe rau ro/RePEc/rau/journl/SP06/REBE-SP06-A3.pdf

To study the impact of Romania's financial development on SMEs growth by sector of activity and size class we proposed an empirical analysis which integrates data regarding SMEs value added and employment for 38 sectors during 2002 and 2008.

Based on Beck, Demirgüc-Kunt, Laeven, and Levine (2008)[4] research this paper focuses on a specific country by examining a broad cross section of economic sectors in which SMEs are present and testing whether overall financial development influences a specific size class SMEs more than the others.

The remainder of the paper is organized as follows. Section 2 presents a brief review of the literature on the issue concerning the effects of financial development on economic and firm's growth. Section 3 provides a short overview on Romanian SMEs and the local financial development. Section 4 describes the data and methodology used. Section 5 illustrates the main results and tests performed, and section 6 gives the concluding remarks.

Literature review

In the last few years several influential papers have examined the relationship between finance and growth at industry-level and firm-level in an attempt to document in greater detail the mechanisms, through which finance influences economic growth. Rajan and Zingales (1998)[5] managed to empirically prove that industrial sectors that are relatively more in need of external finance develop disproportionately faster in countries with more developed financial markets. They concluded that the level of financial development can also be seen as a factor in determining the size composition of an industry as well as its concentration.

Using Rajan and Zingales methodology, Cetorelli and Gambera (1999)[6] examined the role played by banking sector concentration on firm access to capital, showing that bank concentration promotes the growth of industries that are naturally heavy users of external finance by facilitating credit access to younger firms. In a different study Beck, Demirgüc-Kunt, and Maksimovic (2004)[7] find that small firms use less external finance than large firms (especially in terms of banks and equity finance) but benefit the most from better protection of property rights and financial intermediary development.

Guiso, Sapienza, and Zingales (2004)[8] studied the effects of differences in local financial development for Italian firms. They find that financial development enhances the probability of an individual to start his own business, favoring new firms entry, increasing competition, and promoting growth. Their results suggest that local financial development is an important determinant of the economic success of an area even in an environment where there are no frictions to capital movements.

The relationship between firm size and financial and institutional development was further investigated by Beck, Thorsten, Asli Demirgüç-Kunt, and Vojislav Maksimovic (2006)[9] who

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[4] Beck ,Thorsten, Asli Demirgüc-Kunt, Luc Laeven and Ross Levine. "Finance, Firm Size, and Growth." *Journal of Money, Credit, and Banking* vol. 40(2008): 1379-1405

[5] Rajan, Raghuram G. and Luigi Zingales. "Financial Dependence and Growth." *American Economic Review,* no. 88 *(*1998): 559

[6] Cetorelli, Nicola and Michele Gambera. "Banking Structure, Financial Dependence and Growth: International Evidence from Industry Data", *Federal Reserve Bank of Chicago, Working Paper Series*, (1999): 1, 30-31, http://www.chicagofed.org/digital_assets/publications/working_papers/1999/wp99_08.pdf

[7] Beck, Thorsten, Asli Demirgüç-Kunt and Vojislav Maksimovic. "Financing Patterns around the World: Are Small Firms Different?" *World Bank Policy Research Working Paper* (2004): 22, http://siteresources.worldbank.org/DEC/Resources/84797-1114437274304/FinancingPatterns_Aug2004-revisions.pdf

[8] Guiso, Luigi, Paola Sapienza, and Luigi Zingales. "Does Local Financial Development Matter?" *Quarterly Journal of Economics,* no. 119 (2004): 929

[9] Beck, Thorsten, Asli Demirgüç-Kunt, and Vojislav Maksimovic. "The Influence of Financial and Legal Institutions on Firm Size." *Journal of Banking and Finance,* no. 30 (2006): 2995

presented empirically, by analyzing data across 44 countries, that firm size is positively related to financial intermediary development, the efficiency of the legal system and property rights protection.

Extending Rajan and Zingales approach, in a 2008 study, Beck, Demirgüc-Kunt, Laeven, and Levine[10] highlighted another channel through which finance could be linked to growth: removing impediments for small firms. Using cross-industry, cross-country data, they showed that industries which are naturally composed of small firms grow faster in financially developed economies[11]. Their results indicate that improvements in the operation of the financial system can have cross-firm distributional effects, helping small-firms more than large ones. In the light of their findings it can be said that a country's level of financial development exerts a different effect on small firms vs. large ones by removing the growth constraints on small firm industries and accelerating disproportionately the growth of industries that for technological reasons are composed of small firms[12].

Inspired by the literature approaches so far illustrated, the present paper aims to empirically investigate the extent to which the local level of financial development favors small and medium sized enterprises over large ones and in which sectors. The entire analysis is conducted taking into account the SMEs definition presented by the European Commission's in its Recommendation no. 361 from 2003. According to article 2 from the cited Recommendation, "the category of micro, small and medium-sized enterprises (SMEs) is made up of enterprises which employ fewer than 250 persons and which have an annual turnover not exceeding EUR 50 million, and/or an annual balance sheet total not exceeding EUR 43 million. The following table presents the headcount ceiling, the turnover ceiling and the balance sheet ceiling which delineate SMEs by size class[13] :

Table 1: Ceilings for differentiating SMEs by size class

Enterprise category	Headcount	Turnover or Balance sheet total
medium-sized	< 250	≤ € 50 million ≤ € 43 million
small	< 50	≤ € 10 million ≤ € 10 million
micro	< 10	≤ € 2 million ≤ € 2 million

Source: European Commission, Enterprise and Industry

Besides the staff headcount ceiling, an enterprise can be included in the SMEs category if it meets either the turnover ceiling or the balance sheet ceiling, but not necessarily both.

In caring out our empirical analysis we use the headcount ceiling to differentiate SMEs by size class.

1. Overview of Romanian SMEs and financial sector development

The transition to a market economy triggered by the late 1989 events lead to a steady and continuous transformation of Romania's ownership structure from a predominantly state owned to a predominantly private owned.

Private entities, organized mainly as limited liability companies or joint family associations were among the first to register a constant year on year growth. During 2002-2008 the number of

[10] Beck,Thorsten, Asli Demirgüc-Kunt, Luc Laeven and Ross Levine. "Finance, Firm Size, and Growth." *Journal of Money, Credit, and Banking* vol. 40(2008): 1379-1405

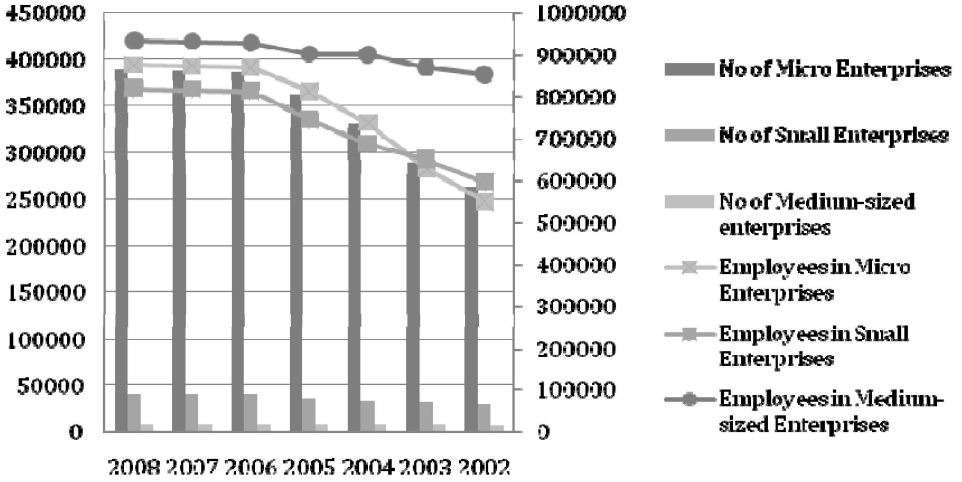
[11] Levine, Ross. "Finance and Growth: Theory and Evidence." *NBER Working Paper Series*, Working Paper 10766, (2004): 74, http://www nber.org/papers/w10766.pdf

[12] IRIS Center, University of Maryland "Micro and Small Enterprises, Dynamic Economic Growth, and Poverty Reduction: A Review of the Conceptual and Empirical Effects of MSES on Development**."** *United States Agency for International Development*, Microreport no 62, (2006): 18. http://www microlinks.org/ev_ en.php?ID=12577_201&ID2=DO_TOPIC

[13] "Small and medium-sized enterprises (SMEs): SME Definition", European Commission, Enterprise and Industry, last modified 31.10 2010, http://ec.europa.eu/enterprise/policies/sme/facts-figures-analysis/sme-definition/index_en htm

active SMEs by size class increased at a fast pace contributing to the country's employment growth rate.

Chart 1: Romanian SMEs by size class (in number of units and number of employees)

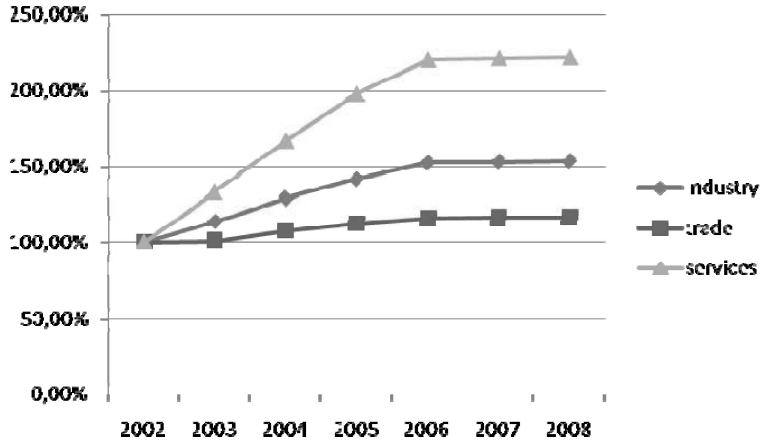


Source: data processed from European Commission, Enterprise and Industry. "Small and medium-sized enterprises (SMEs): SME Performance Review", last modified 07.01.2011, http://ec.europa.eu/enterprise/policies/sme/facts-figures-analysis/performance-review/index_en htm

By structure size Romanian SMEs are dominated by Micro Enterprises which in 2008 represented 88.48% of all SMEs in terms of number of units, a 1.09% increase from 2002. Looking at the number of persons employed it can be noticed that Medium-Sized Enterprises are the prime providers of employment, followed very closely by Micro Enterprises.

By sectors of activity, the evolution of SMEs is highlighted in the chart below.

Chart 2: Romanian SMEs sector growth index
(2002=100)



Source: data processed from European Commission, Enterprise and Industry. "Small and medium-sized enterprises (SMEs): SME Performance Review", last modified 07.01.2011, http://ec.europa.eu/enterprise/policies/sme/facts-figures-analysis/performance-review/index_en htm

The most dynamic SMEs in terms of unit growth have been those active in the service sector which registered a huge increase from 2002 to 2008 (122.20%). This is due to the fact that most service related activities require neither high investment in fixed assets nor expensive labor cost. Thus, it can be said that, overall, the entry barriers are quite low.

Regarding the evolution of industry and trade related SMEs, as can be seen; these have registered a constant growth over the analyzed period. Although their number increased in absolute terms they were heavily influenced by the structural changes that took place on the market: the decline in the share of firms active in trade and industry, in favor of companies that provide different types of services to citizens and businesses.

The high growth trend was constant for all sectors especially between 2002 and 2006. Once Romania entered European Union in 2007, SMEs growth rate in terms of units slowed down due to market openness.

Now looking at Romania's level of financial development during the studied period 2002-2008 it can be said that our country trailed behind other EU member States in the region despite the fact that during 2003-2007 the shares of credit institutions and insurance companies in total financial assets diminished, while those of leasing companies and other non-bank financial institutions widened due to looser prudential regime. This was highlighted in the Financial Stability Report conducted by the National Bank of Romania in 2007.

In 2010 our country was included for the first time in the World Economic Forum's Financial Development Report ranking 44 in the chart of the 57 most developed financial markets worldwide, with an overall score of 3.05 on a one-to-seven scale. By structure, Romania's financial development index presented itself as follows:

Table 2: Romania Financial Development Index 2010

Overall index: 3.05, rank 44			
Categories	**Pillars**	**Score**	**Rank**
Factors, policies and institutions	Institutional environment	4.47	26
	Business environment	4.74	26
	Financial stability	3.77	50
Financial intermediation	Banking financial services	2.11	56
	Non-banking financial services	1.44	53
	Financial markets	1.85	40
Financial access	Financial access	3.01	40

Source: World Economic Forum. "The Financial Development Report 2010." USA, third edition, 2010: 12-13. http://www3.weforum.org/docs/WEF_FinancialDevelopmentReport_2010.pdf

Romania received a relatively high score for the overall laws and regulations that govern the financial sector (1th pillar institutional environment) and the availability of human capital, the state of physical and technological infrastructure and costs of doing business for financial intermediaries (2 pillar: business environment). Poor results have been registered in the 3th, 4th and 5th pillar capturing some of Romania's biggest problems: financial instability, poor credit allocation and the lack of non-bank financial intermediaries—such as broker, dealers, traditional asset managers, alternative asset managers and insurance companies.

When it comes to "Financial access", Romania lags behind most countries in terms of financial market sophistication, venture capital availability, financing through local equity market and ease of access to loans. The 3.01 is an important barometer in assessing the availability of financing for enterprises in general and SMEs in particular. Research shows that SMEs are more affected by financing and other institutional obstacles than are large enterprises. From this perspective assessing the extent to which the development of Romania's financial systems has contributed to the development of SMEs by sector will help identify the flows in the allocation of financial resources on the market.

The methodology and data employed are presented below.

1. 2. Methodology and Data

In this paper we study the impact of Romania's financial development on SMEs growth by sector of activity and size class. To asses the extent to which financial development boosts the level of output accounted by small firms active in different sectors we used the following estimation equation:

$$Growth_{i,k} = \sum_{i} \alpha\, Size\ class_i + \sum_{k} \beta Sector_k + \gamma Sector\ Share_{i,k} + \delta(SMEs\ Share_{ik} \times FD_i) + \varepsilon_{i,k}$$

where:

a) $Growth_{i,k}$ is the average annual growth rate of value added, in industry k and firm size i, over the period 2002-2008 and was calculated as $[(\ln y_{ik}^{2008} - \ln y_{ik}^{2002})^{1/6} - 1]$. The data were collected from the database used by the European Commission, DG Enterprise and Industry in producing the findings of the Annual Report on European SMEs in 2009[14].

b) $Size\ class_i$ and $Sector_k$ represent size class SMEs and sector dummies, respectively

c) $Sector\ share_{i,k}$ is the value added of firms by size class and sector in total value added of the country in 2002 and is calculated as $[(\ln y_{ik}^{2002})/(\ln y^{2002})]$. The data are collected from the database used by the European Commission, DG Enterprise and Industry in producing the findings of the Annual Report on European SMEs in 2009. With this variable, we test whether Romania's level of financial development shapes the cross-sectional distribution of sectors and helps increasing the proportion of value added accounted for by different size class enterprises. While we examine *Sector* $Share_{i,k}$, we keep focusing on $Growth_{i,k}$ as, many theoretical models (Levine (2006)) predict that a higher level of financial development will induce a faster rate of economic growth, exerting a disproportionately positive effect on the growth rate of particular types of sectors (such as sectors naturally composed of small firms facing high informational asymmetries). The summary statistics are reported in table 3.

Table 3: Summary Statistics Sector $Share_{i,k}$

NACE division	Sector Name	Mean	Std. Dev.	Freq.
ca10	mining of coal and lignite; extraction of peat	0.142	0.165	3
ca11	extraction of crude petroleum and natural gas	0.103	0.129	3
cb14	other mining and quarrying	0.161	0.124	3
da15	manufacture of food products and beverages	0.453	0.138	3
db17	manufacture of textiles	0.351	0.103	3

[14] "Small and medium-sized enterprises (SMEs): SME Performance Review", European Commission, Enterprise and Industry., last modified 07.01.2011, http://ec.europa.eu/enterprise/policies/sme/facts-figures-analysis/performance-review/index_en htm

db18	manufacture of wearing apparel; dressing; dyeing of fur	0.451	0.087	3
dc19	tanning, dressing of leather; manufacture of luggage	0.353	0.108	3
dd20	manufacture of wood and of products of wood and cork, except furniture	0.407	0.065	3
de21	manufacture of pulp, paper and paper products	0.235	0.146	3
de22	publishing, printing, reproduction of recorded media	0.393	0.071	3
dg24	manufacture of chemicals and chemical products	0.347	0.134	3
dh25	manufacture of rubber and plastic products	0.349	0.072	3
di26	manufacture of other non-metallic mineral products	0.321	0.111	3
dj27	manufacture of basic metals	0.225	0.078	3
dj28	manufacture of fabricated metal products, except machinery and equipment	0.428	0.043	3
dk29	manufacture of machinery and equipment n.e.c.	0.324	0.136	3
dl31	manufacture of electrical machinery and apparatus n.e.c.	0.296	0.094	3
dl32	manufacture of radio, television and communication equipment and apparatus	0.116	0.145	3
dl33	manufacture of medical, precision and optical instruments, watches and clocks	0.243	0.079	3
dm34	manufacture of motor vehicles, trailers and semi-trailers	0.115	0.250	3
dm35	manufacture of other transport equipment	0.200	0.150	3
dn36	manufacture of furniture; manufacturing n.e.c.	0.367	0.107	3
dn37	Recycling	0.239	0.095	3
e40	electricity, gas, steam and hot water supply	0.072	0.170	3
e41	collection, purification and distribution of water	0.072	0.170	3
f45	Construction	0.043	0.267	3
g50	sale, maintenance and repair of motor vehicles	0.562	0.073	3
g51	wholesale trade and commission trade, except of motor vehicles and motorcycles	0.623	0.020	3
g52	retail trade, except of motor vehicles, motorcycles; repair of personal and household goods	0.572	0.043	3
h55	hotels and restaurants	0.399	0.031	3
i60	land transport; transport via pipelines	0.447	0.068	3
i62	air transport	0.058	0.158	3
i63	supporting and auxiliary transport activities; activities of travel agencies	0.386	0.026	3
i64	post and telecommunications	0.312	0.079	3
k70	real estate activities	0.414	0.033	3
k71	renting of machinery and equipment without operator and of personal and household goods	0.256	0.215	3
k72	computer and related activities	0.426	0.011	3
k73	research and development	0.231	0.149	3
k74	other business activities	0.533	0.025	3

d) *SMEs Share*$_k$ is the benchmark share of employment in firms with less than 250 employees in sector *k* in UK in 2002 and is calculated as (ln*emp*$_{ik}^{2002}$)/ (ln*emp*^{2002}). We have chosen United Kingdom as benchmark economy for two reasons. Firstly because of data availability. The database used by the European Commission, DG Enterprise and Industry in producing the findings of the Annual Report on European SMEs in 2009 covers a wide variety of economic indicators for all EU countries which are presented by size class and sector. Thus by using the same database we have eliminated the errors regarding data matching in terms of the data collection methodology (sectors and firm size are comparable between countries). The second reason is the fact that United Kingdom

has been used in literature[15] as alternative benchmark in measuring an industry's technological share of small firms. Following Thorsten Beck, Asli Demirgüc-Kunt, Luc Laeven and Ross Levine (2008) methodology we measure sector-specific characteristics using data on the share of employment by size class and sector in the United Kingdom in 2002.

e) FD_i measures Romania's level of financial development. Due to the fact that there is no direct indicator to reflect the degree to which financial intermediaries support SMEs by size class, in constructing FD_i, we used the following methodology. As shown by Beck, Levine and Loayza (2000)[16], Private Credit by deposit money banks and other financial institutions to GDP (henceforth PvC) is a good proxy for financial development as it provides a broader measure of banking sector development by including all financial institutions, not only deposit money banks and excluding the credits issued by central banks. However this indicator alone cannot reflect the amount of credits channeled to SMEs by financial intermediaries. Therefore in constructing the financial development indicator we interacted PvC with the percentage of investments in tangible goods made by SMEs. The assumption was that investments made by different size class SMEs required credit taking and thus, by interacting the two indicators we could render more accurately the impact of Romania's financial system development on SMEs. In this light we can say that a higher level of FD_i indicates higher level of financial services for enterprises belonging to a certain size class category. The source of the private credit data was the World Development Indicators dataset[17]. The percentages of investments made by SMEs were calculated from the database used by the European Commission, DG Enterprise and Industry in producing the findings of the Annual Report on European SMEs in 2009. The indicator was averaged over the period 2002-2008.

f) $\varepsilon_{i,k}$ represents the error term

The regression analysis is focused on the interaction between FD_i and $SMEs\ Share_k$. To be more specific we study the δ sign. If δ enters positive and significant at 5% level of confidence we can say that financial development exerts a disproportionately positive effect on sectors dominated by small firms relative to large ones. This suggests that the level of financial development eases growth constraints on small firms more than on large firms. A negative and significant δ sign indicates the contrary: Romania's level of financial development favors sectors dominated by large firms over those dominated by small ones.

The dummy variables for sector and firm size control for specific characteristics that might determine SMEs growth patterns by sector.

We included Sector Share to control for convergence effect: sectors with a large share might grow more slowly, suggesting a negative sign on γ. United Kingdom (the benchmark country) was excluded from the regression.

We used Ordinary Least Squares (OLS), which assumes that the error term is uncorrelated across sectors and firm size.

3. Main results and tests performed

The results in figure 1 show that Romania's level of financial development favors the growth of sectors dominated by small firms. The interaction of FD_i with $SMEs\ Share_k$ enters positively and significantly at 5% level. The coefficient on $Sector\ Share_{i,k}$ enters negatively and significantly, suggesting some convergence in the economic sectors composition.

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[15] Beck,Thorsten, Asli Demirgüc-Kunt, Luc Laeven and Ross Levine. "Finance, Firm Size, and Growth." *Journal of Money, Credit, and Banking* vol. 40(2008): 1400-1405

[16] Beck, Thorsten, Ross Levine and Norman Loayza. "Finance and the sources of growth." *Journal of Financial Economics* 58 (2000): 267

[17] "Financial Sector", The World Bank, http://siteresources.worldbank.org/INTRES/Resources/ FinStructure_ 2008_v4 xls

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Fixed-effects (within) regression               Number of obs      =       117
Group variable: SizeClass                       Number of groups   =         3

R-sq:  within  = 0.8517                         Obs per group: min =        39
       between = 0.7687                                        avg =      39.0
       overall = 0.6237                                        max =        39

                                                F(40,74)           =     11.72
corr(u_i, Xb)  = -0.3879                        Prob > F           =    0.0000

                                (Std. Err. adjusted for clustering on SizeClass)
------------------------------------------------------------------------------
             |               Robust
      Growth |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
 SectorShare |  -.9895223   .1479897    -6.69   0.000    -1.284398   -.6946465
SMEsShare*FD |   2.567988   .4641443     5.53   0.000     1.643161    3.492816

       _cons |  -1.423381   .2026053    -7.03   0.000    -1.827081   -1.019681
```

Figure 1: Fixed-effects (within regression)
***Regression includes size class and sector dummies, but these are not reported

The data were analyzed using a fixed-effects model which is focused on within-data variation.

The relationship between financial development, a sector's small firm share, and sector growth is not only statistically, but also economically large. To illustrate the effect, we compare the growth of a sector with a relatively large share of small firms and a sector with a relatively low share of small firms across two size class SMEs. The growth difference between sectors at the 25th and 75th percentiles of SMEs share and SMEs at the 25th and 75th percentiles of FD_i is 4.5%. This implies that medium enterprises (which are at 75th percentile of FD_i) operating under NACE division de22: publishing, printing, reproduction of recorded media sector (which is at 75th percentile of SMEs Share) grow 4.5% faster per annum than micro enterprises (25th percentile of FD_i) which operate under NACE division dn37: recycling (25th percentile of SMEs Share).

The panel data were submitted to several test like: heteroskedasticity (modified Wald test), autocorrelation (Wooldridge test), normality (Skewness/Kurtosis tests for residuals) and unit root tests (Im, Pesaran and Shin (2003) and Levin and Lin (1992)).

In order to ensure that statistical inference is valid, we tested our panel data for cross-sectional dependence (Pesaran test). The results rejected the null hypothesis of cross-sectional independence and thus we estimated a robust fixed-effect (within) regression with Driscoll and Kraay standard errors which results "*are well calibrated when the regression residuals are cross-sectionally dependent*"[18].

Table 4 reports the results of the test performed while figure 2 presents the regression with Driscoll-Kraay standard errors.

Table 4: Tests results

Tests	Null Hypothesis	Results
Wooldridge test for autocorrelation in panel data	H0: no first order autocorrelation	F(1, 2) = 4.504 Prob > F = 0.1678
Modified Wald test for groupwise heteroskedasticity	H0: sigma(i)^2 = sigma^2 for all i; heteroskedasticity	chi2 (3) = 2.12 Prob>chi2 = 0.5488
Skewness/Kurtosis tests for	Ho: residuals are normally	Prob>chi2 = 0.3637

[18] Hoechle, Daniel. "Robust Standard Errors for Panel Regressions with Cross-Sectional Dependence.", *The Stata Journal*, Vol. 7, No. 3 (2007): 310

Normality for panel residuals	distributed	
Pesaran's test of cross sectional independence	Ho: cross-sectional independence	Pr = 0.0000
Im, Pesaran and Shin for *Growth*, lags (0)	Ho: all series are non-stationary	-6.688 (P-value= 0.000)
Im, Pesaran and Shin for *Sector Share*, lags (0)	Ho: all series are non-stationary	-5.484 (P-value = 0.000)
Im, Pesaran and Shin for *SMEs Share*FD*, lags(0)	Ho: all series are non-stationary	-4.458 (P-value = 0.000)
Levin and Lin for *Growth*, lags(0)	Ho: unit root	-12.042 (P-value = 0.000)
Levin and Lin for *Sector Share*, lags(0)	Ho: unit root	-9.649 (P-value = 0.0000)
Levin and Lin for *SMEs Share*FD*, lags(0)	Ho: unit root	-7.875 (P-value = 0.0000)

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Regression with Driscoll-Kraay standard errors   Number of obs      =       117
Method: Pooled OLS                               Number of groups   =         3
Group variable (i): SizeClass                    F( 44,     2)      =     29.99
maximum lag: 3                                   Prob > F           =    0.0328
                                                 R-squared          =    0.8549
                                                 Root MSE           =    0.0737

------------------------------------------------------------------------------
             |               Drisc/Kraay
      Growth |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
 SectorShare |  -.9895223   .1018667    -9.71   0.010    -1.427819   -.5512254
SMEsShare*FD |   2.567988   .4704849     5.46   0.032     .5436552    4.592321
             |
       _cons |  -1.345779   .2139934    -6.29   0.024    -2.266518   -.4250394
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Figure 2: Regression with Driscoll-Kraay standard errors

***Regression includes country and sector dummies, but these are not reported

As can be seen the coefficients remain strongly significant at 5% level of confidence.

Several sensitivity tests were performed by replacing either the benchmark country or the FD_i indicator. In all cases the coefficients entered significantly.

Conclusions

Romania's level of financial development has improved significantly over the last couple of years. Nevertheless SMEs continue to suffer from lack of financing due to financial intermediaries' restrictive guarantee requirements and increased commissions charges.

In this context the paper finds that during 2002-2008 Romania's level of financial development exerted a disproportionate effect on SMEs by sector and size class favoring the growth of medium sized enterprises in manufacturing related sectors. The results are consistent with some author's findings which sustain that under-developed financial systems are particularly detrimental to the growth of firms with less than 20 employees[19].

Although the overall results show that Romania's financial system favors the growth of sectors dominated by small firm looking closely we see that micro and small size enterprises (which in terms of units' number dominate the scene in most sectors) remain affected by the lack of local

[19] Beck ,Thorsten, Asli Demirgüc-Kunt, Luc Laeven and Ross Levine. "Finance, Firm Size, and Growth." *Journal of Money, Credit, and Banking* vol. 40(2008): 1379-1405

financial intermediary development. The results sustain the idea that improvements in the operation of the financial system will lead to cross firm distributional effects, helping SMEs grow regardless their size class. In future work we plan to asses the impact of the instruments used by financial intermediaries to support Romanian SMEs growth by size class.

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