

Big Leaps in Financial Market Development And Small Size Enterprises

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Abstract

This paper investigates the role of small and medium size enterprises (SMEs) in financial market development (FMD). We argue that enabling the access of SMEs to the financial sector may lead to large improvements in the indicators of FMD. Whether such improvements are also growth inducing or not, depends on how prudently this access, which may suffer from adverse selection and moral hazard problems, is managed. This paper exposes the significant linkage between the size of SMEs and the FMD indicators around the world. Given the well established linkage between growth and FMD, this study highlights the importance of the SME sector as a potentially growth-inducing factor.

JEL Classifications: O11, O16

Key Terms: Small and Medium Size Enterprises; Financial Sector Development

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1. Introduction

The positive linkage between financial market development and macroeconomic performance has been supported in numerous studies since Schumpeter's seminal work in 1912 (see, for example, McKinnon, 1973 and King and Levine, 1993). The positive effect of financial market development on growth has also been vastly analyzed and reported (see, for example, Levine, 1997, and Levine et al., 2000). The literature has also provided discussions on the endogeneity of financial market development to the level of economic development and investment environment. Various policy variables as well as structural and institutional elements, such as openness, political stability and regulatory and supervisory frameworks that help to eliminate adverse selection and moral hazard in the financial sector can be listed among the factors to facilitate the development of financial markets.

This study provides a complementary view of the development of financial markets: we hypothesize that countries whose economies largely depend on small size enterprises (or, more generally speaking, small and medium size enterprises, called SMEs) are likely to experience large leaps in financial market development (FMD). It is indeed reasonable to argue that the establishment of institutional mechanisms that enable a large "reserve" of small size enterprises access to the financial system would significantly increase the size of financial intermediation in terms of credit volume and such.³ Although such observed jumps in financial intermediation need not always be true measures of development in the financial markets, since they may merely be reflecting quantity effects rather than improved quality of financial intermediation, empirical studies often treat such changes as improvements in FMD. If such a transition process is prudently managed by the financial markets, improvements in the FMD

³ Clarke et al. (2006) demonstrate that foreign bank presence improves SME access to the financial sector.

indicators would be followed by a period of fast growth rate, until a higher steady state level of income is reached.

To our best knowledge, this paper is the first to provide an empirical investigation of the linkage between the share of SMEs in an economy and shift-like moves, or leaps, in the FMD indicators. While this is an issue that has not been addressed or explored in the literature, investigation of this linkage is of particular importance both for deriving policy conclusions, especially for less developed countries whose economies are mostly characterized by a large share of SMEs, and for interpreting the empirical findings on the growth-FMD relationship. Demircuc-Kunt et. al. (2003) observe that there is a positive linkage between the share of SMEs in an economy and the rate of growth, even though they also state that no causality between the two variables could be established. In this respect, the current study can be considered as a step further in building a linkage between growth and the importance of the SME sector in an economy: we argue that SMEs may have a second derivative impact on the level of financial market development that is in the form of a possibly temporary increase in the rate of growth of FMD, which in turn leads to growth.

In view of the earlier studies, which establish the positive effect of FMD on growth, the main policy implication of this study is the importance of prudently managing the SME access to the financial system. This policy advice certainly requires several preconditions to be met for its effective implementation. Among those preconditions are the established systems of effective regulatory and supervisory institutions in the financial sector so that financial market access to SMEs does not lead to adverse selection and moral hazard problems.⁴ Accordingly, we suggest that empirical growth regressions may be further modified as follows:

⁴ Neyapti and Dincer (2005) empirically demonstrate that the quality of bank regulation and supervision significantly affects growth in transition economies. They also show that the

$$\text{Growth} = f [\text{FMD} ; \Delta(\text{FMD}) ; X]$$

where, in addition to the usual conditioning terms summarized by X, the second term, which is the change in FMD, must be instrumented by the SME size, as well as measures of the quality of financial market institutions such as bank regulation and supervision that are hypothesized to help an economy reap the benefits of SME access to the financial sector. This approach may help explain some of the non-linearity observed in the FMD-growth relationship (see Rioja and Valev, 2004).

The rest of the paper is organized as follows. Section 2 lays out the data and methodology. Section 3 summarizes the main findings and Section 4 concludes.

2. Data and Methodology

2.1 Data on SMEs:

Our analysis utilizes the cross country data on SMEs provided by Ayyagari et.al. (2003).⁵ Data is available for manufacturing sector firms that employ either less than 250 or less than 500 workers, as two alternative measures of SMEs. The two variables, referred to as SME250 and SME500, show the percentage of the respective SME employment in total manufacturing sector employment. Amongst different measures of the SME size, our empirical analysis utilizes employment in the SMEs since this series contain the largest collection of the cross sectional data.⁶ According to the data reported in Appendix Table 1, 69% of the employment in (14) developed countries was, on average, in the SMEs (SME250) in 1996. Due to the inheritance of large scale

quality of bank regulation and supervision is in turn endogenous to investment environment, accounted for by such indicators as FMD, former financial crises, FDI flows and EU membership (see Dincer and Neyapti, 2005).

⁵ To the best of the authors' knowledge, this is the most comprehensive data set on the SMEs around the world, providing consistent set of statistics on the SME sector.

⁶ The other two measures of the magnitude of SMEs are the share of SME production in GDP and the share of SMEs in the total number of enterprises; data on both of these measures are much less available to conduct an empirical analysis than the currently selected series.

enterprises from the period of central planning, however, the employment share of SMEs for transition economies was only 39% in the same year, though the share has likely to have grown significantly in the pursuant periods.⁷ Though the employment share of SME for less developed countries (LDCs) would be predicted to be much larger in general, unfortunately the data on LDCs is very limited to constitute a separate group to analyze.⁸

The hypothesis of this paper is that major changes in the financial sector indicators may result from SMEs. Hence, among the countries that are similar in terms of income levels and economic structures, those whose economic structures are composed of a greater proportion of SMEs are predicted to be associated with greater/faster advancement in financial markets. While sustainability of such advancement and its growth-implications are important, their analyses require longitudinal data on the SMEs, as well as information on SMEs' access to the financial market, and thus are beyond the scope of the current study.

2.2 Data on FMD

As common to the empirical studies, we measure FMD by: (i) the share of bank credit in GDP (BCR/GDP); (ii) the share of domestic credit to private sector in GDP (CRpr/GDP); (iii) financial deepening (M2 to GDP ratio, M2/GDP); (iv) interest rate spread (SPREAD); and (v) risk premium (PREM), where, in addition to the first three that are commonly used in the literature as the FMD indicators, the latter two indicators are taken as the measures of risk in lending. The source of data for all these is the World Bank, World Development Indicators.

⁷ The average is based on 15 transition economies where the data belongs to 1995 for Bulgaria, 1997 for Hungary and 1999 for Serbia.

⁸ Data on the employment share of SMEs (SME250) are only available for Mexico and Brazil.

Table 2 reports the ranking of countries in the sample according to the differences in one- or two-decade averages of each of these indicators. Based on the table, Denmark has had a remarkable improvement based on the credit measures of FMD. A possible explanation for this is in support of the hypothesis of this paper: while the SME250 data (reported in Table 1) does not cover Denmark, the SME500 data (see Table 1) indicate that Denmark has an average employment in SMEs (78%) that is 10% above the developed country average. Other countries that follow Denmark with respect to across-decade changes in the credit measures are Ireland, Netherlands, Portugal and the US. Of these, Portugal and Ireland also have larger shares of SME250 employment than the average of developed countries. Finland, on the other hand, provides an example for the deterioration in FMD, accompanied by a lower than average employment in SME250s.

In the non-developed countries sample, both Azerbaijan and Belarus indicate deterioration with respect to the first two FMD indicators, and they are also associated with the lowest employment in the SME250s in the sample. Though Ukraine also has a very low employment share of SME250s, its successful currency board mechanism besides high degree of openness may have contributed to its high FMD growth. Estonia, on the other hand, is a good example to the case of high share of employment in SME250s, coupled with large leaps in the credit measures of FMD.

With respect to PREM and SPREAD measures of FMD, it is notable that the worst performers, Azerbaijan and Albania, also had the smallest employment shares in SME500s.⁹ Among the best performers with respect to these indicators, Brazil, Croatia and Poland, on the other hand, all have high employment share in SME250s and SME500s.

⁹ SME250 data for these countries were not available

2.3 Methodology

In order to test the hypothesis that the importance of SME in a given economy impacts on the leaps in FMD, we empirically investigate the relationship between the size of SMEs and the changes in the FMD indicators. Changes in FMD are measured in averages of each of the FMD indicators over one and two decades as two alternative indicators of the leaps in FMD. While data on SME is available mainly for the late 1990s (see Table 1), supposing that their magnitude in an economy would change only slowly over time, FMD indicators are formed in averages over both 1980s and 2000s, and 1990s and 2000s, where they are available.

As the hypothesis suggests, the leap in FMD should be linked with the SME size in case the access is provided under prudent standards. To account for the existence of prudent standards, we utilize the indices of legal bank regulation and supervision quality (RS) provided by Neyapti and Dincer (2005) and Dincer and Neyapti (2005).¹⁰ For the sample of countries used in the current study, RS is reported, where available, in Table 1, where the numbers are indexed between 0 and 1 and higher numbers indicate better bank regulation and supervision in legal terms. Given data characteristics described above, the current study relies mainly on a descriptive and graphical analysis, the interpretation of which also takes into account the variables that are likely to be related to the possible leaps in FMD indicators, such as the network of domestic institutions, openness and inflation.

3. Main Findings

Limited by data restrictions, our empirical investigation rests mainly on the graphical analysis and descriptive statistics that nevertheless yield rather strongly

¹⁰ The availability of the RS data, however, coincides with only a subset of countries in the current sample.

suggestive conclusions. We test the hypothesis of the existence of a positive linkage between the leaps in FMD and the size of SMEs by testing correlations between the two. Figures 1 to 5 show the scatter plots of the SME and FMD variables, where the vertical axis stands for the change in each of these alternative measures of FMD and the horizontal axis measures the size of either SME250 or SME500 at a time, in terms of their employment shares in the economy. In order to control for different levels of economic development and structures, the graphs also present the relationship between changes in FMD and SME-size separately for the samples of developed countries and transition economies. Since data on transition economies have become available in the 1990s, however, only the one-decade measure of the FMD change (i.e., between 1990s and 2000s) is relevant for this set. The graphs also provide information on the position of the individual countries in the sample with regards to the two sets of information, namely the changes in FMD and the size of SME.

The inspection of Figures 1 to 4 provides strong evidence in favor of our hypothesis. The changes in BCR/GDP, CRpr/GDP and M2/GDP, over both one-decade and two decades, all exhibit positive relationships with both of the measures of SMEs (SME250 and SME500). In cases of SPREAD and PREM, however, the relationship is negative as expected: both the decline in SPREAD, possibly reflecting a shift in the supply curve due to the increased credit lines available for SMEs, and the diminishing risk premium in lending during the past two decades have been associated with larger sizes of SMEs. The only exception for a notable relationship is in case of the plot of SPREAD against the SME250 for two decade difference. However, the one decade difference for the same pair, for which a larger set of observations is available, reveals a notable negative relationship. These observations are made both for the developed countries alone and for the whole set of countries composed of developed and transition economies combined, with the addition of Mexico and Brazil. It needs to be noted,

however, in case of BCR/GDP, the last decade does not seem to indicate an improvement for a bunch of transition economies. The fitted line therefore excludes these countries since they are in the very early stages of transition that are characterized by the legacy of large state enterprises and wide-ranging financial problems.¹¹

Rank correlation tests (see Table 3) also provide some support for the observed relationships. Both Spearman and Pairwise rank correlation test indicate that the credit measures of FMD are significantly (statistically significant figures are shown in bold) correlated with both the shares of both SME250 and SME500 in manufacturing employment (for the latter, the significance is observed in the past decade's differences only). The weakness of the rest of the results may partially be attributed to small sample sizes.

Next, we observe at least a few cases where the role of bank regulation and supervision become noteworthy in examining the relationship between the size of SMEs and changes in FMD. The big FMD leap of Portugal, which is consistently observed in the graphs, bodes well not only with its larger share of SMEs in employment but also with its high ranking index value for the bank regulation and supervision quality (RS) reported in Neyapti and Dincer (2005) (see Table 1). Similarly, Poland's improvement with regards to the FMD measures is consistent with not only its large SME share but also with its high RS. On the contrary, Bulgaria's failure to achieve improvements in FMD despite its large share of SMEs can also be attributed to its low RS.

Though we also conducted a supplementary regression analysis, data limitations restricts it to be very simple, excluding the variables that would ideally be controlled for.

¹¹ Consistently, McNulty et al. (2007) note that financial intermediation in transition economies was significantly lower than other developing countries, and former Republics of the Soviet Union were worse than the rest of the transition economies.

The results of the regression analysis are reported in Table 4. The estimated regression equations are:

$$\Delta FMD_i = \text{constant} + \alpha \text{SME250}_i + \varepsilon_i \quad (1)$$

and:

$$\Delta FMD_i = \text{constant} + \beta \text{SME250}_i + \lambda \text{SME250}_i * \text{RS}_i + \varphi \text{RS}_i + \eta_i \quad (2)$$

where i stands for the countries in the sample and ΔFMD stands for magnitude of changes in each of the FMD indicators as indicated above -over both the past decade and past two decades, taken alternatively. Both of the equations (1) and (2) are estimated using OLS technique and robust standard errors. The upper panel of Table 4 reports the regression results for equation (1) and the lower panel for equation (2). The estimation results reported in the upper panel of Table 4 support the observation of the positive relationship between SMEs and the changes in the three measures of FMD, while the results are insignificant for the remainder of the measures. The lower panel of Table 4 supports our hypothesis that significant presence of SMEs is associated with greater improvements in FMD for countries that have better bank regulation and supervision. We observe that interaction of the SME250 variable with RS gives the expected positive significant result for domestic credit, credit to private sector, and M2 as a percent of GDP; and expected negative significant estimate for risk premium.¹² These findings imply that SME entry will lead to large leaps in FMD for those countries that prudentially manage it.

4. Conclusions

This study argues that large jumps that may be observed in the indicators of financial sector development can be related with the access of a large size of SMEs to

¹² Interest rate spread does not yield any robust results.

the financial sector. Comparative data on the extent of access of SMEs to the financial sector is currently not available to allow for a sophisticated empirical analysis of the relationship between SMEs and financial market development. The current paper nevertheless provides suggestive evidence with regards to this relationship, shedding further light on the underlying reasons for the positive relationship between growth and financial market development. The evidence indicates that large leaps in FMD may indeed be positively related to the size of SMEs. Quality of bank regulation and supervision, measured in legal terms, also appears to contribute to this result, leading to the policy suggestion of establishing formal mechanisms of financial discipline to reap the benefits of SME-access to the financial sector. Findings of the current preliminary study intends to pave the way for further empirical analysis when more data becomes available.

Table 1: Share of Employment of SME250 and SME500 and Regulation and Supervision (RS)

	<u>SME250</u>	<u>SME500</u>	<u>time period:</u>	<u>RS</u>	<u>date</u>
<u>Transition and Developing Countries:</u>					
Azerbaijan	3.53	4.78	1996-1997	0.24	1996
Belarus	4.59		1996-1997	0.12	1992
<i>Brazil</i>	<i>59.8</i>	<i>64.35</i>	<i>1994</i>	<i>0.17</i>	<i>1964</i>
Bulgaria	51.71	41.47	1995-1999	0.25	1992
Croatia	62	50.24	1998	0.26	1996
Czech Republic	64.25	61.25	1996	0.26	1992
Estonia	65.34	52.11	1996-1997	0.42	1994
Georgia	7.32		1996-1997	0.22	1996
Hungary	45.9	63.59	1997	0.48	1994
Kazakstan		12.92	1994	0.33	1995
Kyrgyzstan	63.22	26.98	1996-1997	0.2	1991
Latvia		20.63	1994-1995	0.23	1995
<i>Mexico</i>	<i>48.73</i>		<i>1990-1997</i>		
Poland	61.23	73.08	1996-1997	0.68	1997
Romania	37.17	25.44	1996-1999		
Russia	13.04	12.38	1996-1997	0.09	1996
Serbia(Yugoslavia)	44.4		1999		
Slovak Republic	56.88	32.07	1996-2000	0.2	1996
Slovenia		20.27	1994-1995	0.14	1992
Tajikistan		48.88	1994-1995	0.07	1991
Turkey		74.8	1994	0.49	1999
Ukraine	5.38		1996	0.11	1993
(Ukraine)	-53.7		1999		
Average:	39.06	36.41	(Transition Economies Only)		
<u>Developed Countries:</u>					
Australia		43.93	1990-1998		
Austria	66.1	63.38	1996		
Belgium	69.25	65.63	1996-1997	0.31	1993
Canada		59.05	1990-1998		
Denmark		78.4	1991-1992	0.39	1996
Finland	59.15	51.98	1996-1997	0.37	1997
France	67.3	62.67	1996	0.31	1984
Germany	59.5	73.68	1996-1997	0.59	1993
Greece	86.5	74	1996	0.28	1993
Ireland	99.5	99.2	1996		
Italy	79.7	79.9	1996		
Japan		77.4	1991-1997		
Luxembourg	70.9	76.6	1996	0.41	1993
Netherlands	61.22		1994, 1996	0.34	1992
Norway		54	1995		
Portugal	79.95	81.55	1996	0.51	1992
Spain	44.4	71.2	1996	0.28	1988
Sweden	61.3	61.44	1996		
Switzerland		75.25	1991-1996	0.24	1934
United Kingdom	60.6	65.03	1994-2001	0.32	1987
United States		52.84	1990-1998		
Average:	68.95	68.36			

Notes: RS stands for the quality of bank regulation and supervision (Neyapti and Dincer, 1995). For transition economies, see Neyapti and Dincer (1995), for others, see Dincer and Neyapti (2006) If there are more than one enactment, the last of the banking laws have been taken into account in 1990s since the authors report that the revises laws better reflect the country conditions.

Table 2: Ranking of the Countries in the Sample with respect to Changes in Financial Market Development Indicators

<u>Bank Credit/GDP</u> (BCR/DGP)			<u>Domestic Credit to the Private Sector</u> (CRPR/GDP)			<u>Financial Deepening</u> (M2/GDP)			<u>Interest Spread</u> (SPREAD)			<u>Risk premium on lending (%)</u> (PREM)			
Country	code	Period coverage (*): I II	Country	code	Period coverage (*): I II	Country	code	Period coverage (*): I II	Country	code	Period coverage (*): I II	Country	code	Period coverage (*): I II	
Denmark	DNK	103.97 103.28	Denmark	DNK	106.98 115.83	Korea, Rep.	KOR	38.66 31.39	Albania	ALB		Azerbaijan	AZE		5.06
Portugal	PRT	58.95 62.32	Portugal	PRT	80.33 74.99	Croatia	HRV		Korea, Rep.	KOR	0.94 1.10	Albania	ALB		2.49
US	USA	94.13 57.02	Netherlands	NLD	71.39 60.69	Japan	JPN	38.70 22.14	Australia	AUS	1.55 0.70	France	FRA	2.72	1.49
Ireland	IRL	71.65 54.55	Ireland	IRL	81.50 60.58	Slovenia	SVN		Azerbaijan	AZE		Belgium	BEL	1.91	0.78
Netherlands	NLD	82.53 53.70	US	USA	109.18 58.60	Turkey	TUR	27.58 17.41	Germany	DEU	1.55 0.40	Switzerland	CHE	1.15	0.70
Spain	ESP	32.50 30.46	Spain	ESP	42.08 37.32	Switzerland	CHE	28.05 14.89	Switzerland	CHE	1.93 0.24	Slovenia	SVN		0.64
UK	GBR	84.21 28.80	Greece	GRC	28.37 35.04	Albania	ALB		Canada	CAN	0.08 0.11	Germany	DEU	1.62	0.47
Latvia	LVA		UK	GBR	85.77 31.65	Ukraine	UKR		Belgium	BEL	-1.47 -0.16	Canada	CAN	0.31	0.32
Turkey	TUR	33.65 26.46	Australia	AUS	61.32 26.65	Australia	AUS	33.39 12.52	France	FRA	-1.16 -0.18	Italy	ITA	-0.10	0.10
Estonia	EST		Italy	ITA	31.96 24.22	Estonia	EST		Denmark	DNK	-0.66 -0.36	Poland	POL		-0.03
Australia	AUS	56.20 23.02	Latvia	LVA		Poland	POL	4.31 10.25	Japan	JPN	-1.56 -0.78	Australia	AUS	1.23	-0.12
Germany	DEU	45.62 18.09	Estonia	EST		Kazakhstan	KAZ		Norway	NOR	-4.30 -0.83	Spain	ESP	-0.41	-0.41
Slovenia	SVN		Ukraine	UKR		Canada	CAN	20.87 8.77	Finland	FIN	1.73 -0.88	Czech Rep.	CZE		-0.43
Korea, Rep.	KOR	24.90 15.76	Korea, Rep.	KOR	27.69 15.30	Latvia	LVA		Spain	ESP	-2.02 -0.91	Sweden	SWE	-1.59	-1.01
Greece	GRC	22.69 13.92	Slovenia	SVN		Russian Fed.	RUS		Czech Rep.	CZE		Hungary	HUN	1.60	-1.27
Luxembourg	LUX	6.90 8.38	Croatia	HRV		US	USA	1.71 5.33	Slovak Rep.	SVK		Kyrgyzstan	KGZ		-1.98
Italy	ITA	15.62 7.60	Germany	DEU	34.14 14.02	Georgia	GEO		Italy	ITA	-2.33 -1.60	Greece	GRC	0.69	-2.87
Georgia	GEO		Austria	AUT	27.91 12.29	Sweden	SWE	3.44	Ireland	IRL	-1.28 -2.27	Mexico	MEX		-3.30
Croatia	HRV		Hungary	HUN	-9.56 11.00	Czech Rep.	CZE		Sweden	SWE	-1.42 -2.44	Bulgaria	BGR		-3.34
Brazil	BRA	12.96 6.07	Luxembourg	LUX	14.93 10.90	Slovak Rep.	SVK		Kyrgyzstan	KGZ		Latvia	LVA		-3.88
France	FRA	2.81 4.02	Russian Fed.	RUS		Brazil	BRA	13.47 2.35	Greece	GRC	-0.78 -3.01	Brazil	BRA		-15.30
Canada	CAN	17.84 1.35	Belgium	BEL	46.97 7.72	Kyrgyzstan	KGZ		Mexico	MEX		Russian Fed.	RUS		-66.78
Poland	POL	28.17 1.25	Kazakhstan	KAZ		Mexico	MEX	5.44 1.24	Netherlands	NLD	-4.56 -3.97				
Austria	AUT	21.61 1.18	Poland	POL	23.57 6.12	Tajikistan	TJK		Hungary	HUN	-8.36 -3.99				
Albania	ALB		Albania	ALB		Belarus	BLR		Estonia	EST					
Azerbaijan	AZE		Georgia	GEO		Hungary	HUN	0.14 0.12	Georgia	GEO					
Ukraine	UKR		Canada	CAN	14.68 2.36	Azerbaijan	AZE		Bulgaria	BGR					
Mexico	MEX	-11.43 -1.60	Tajikistan	TJK		Romania	ROM	-18.24 -2.91	Brazil	BRA					
Switzerland	CHE	28.00 -1.85	Belarus	BLR		Norway	NOR	0.83 -3.93	Latvia	LVA					
Kazakhstan	KAZ		Turkey	TUR	12.93 0.45	Bulgaria	BGR		Belarus	BLR					
Tajikistan	TJK		France	FRA	-2.96 0.11	Denmark	DNK	2.52 -5.08	Slovenia	SVN					
Belarus	BLR		Azerbaijan	AZE					Ukraine	UKR					
Finland	FIN	7.61 -4.72	Romania	ROM					Tajikistan	TJK					
Russian Fed.	RUS		Kyrgyzstan	KGZ					Poland	POL	40.95				
Slovak Rep.	SVK		Switzerland	CHE	24.74 -3.33				Russian Fed.	RUS					
Kyrgyzstan	KGZ		Finland	FIN	1.55 -6.90				Croatia	HRV					
Belgium	BEL	49.15 -16.97	Mexico	MEX	2.75 -8.13										
Romania	ROM	-67.29 -17.52	Slovak Rep.	SVK											
Norway	NOR	-18.49 -18.30	Brazil	BRA	-11.18 -11.20										
Czech Rep.	CZE		Sweden	SWE	7.67 -14.23										
Sweden	SWE	-4.39 -21.82	Norway	NOR	-5.03 -17.11										
Hungary	HUN	-41.65 -26.65	Bulgaria	BGR											
Bulgaria	BGR		Czech Rep.	CZE											
Japan	JPN	-55.03 -73.79	Japan	JPN	-13.01 -56.52										

Note: I stands for the difference between the 2000s average and the 1980s average
 II stands for the difference between the 2000s average and the 1990s average

Table 3: Rank Correlation Tests between Share of SMEs in Total Manufacturing Employment and Measures of FMD.

<u>SME250</u>				
	<u>Pairwise Correlation</u>		<u>Spearman</u>	
	1980-2000	1990-2000	1980-2000	1990-2000
BCD/GDP	0.59	0.40	0.44	0.43
<i>p-value</i>	0.01	0.02	0.05	0.01
<i>Number of Obs.</i>	20	32	20	32
CRPR/GDP	0.54	0.41	0.44	0.37
<i>p-value</i>	0.02	0.02	0.06	0.04
<i>Number of Obs.</i>	19	32	19	32
M2/GDP	0.80	0.18	0.49	0.35
<i>p-value</i>	0.05	0.49	0.33	0.17
<i>Number of Obs.</i>	6	17	6	17
PREM*	0.05	-0.50	0.17	0.20
<i>p-value</i>	0.91	0.07	0.69	0.45
<i>Number of Obs.</i>	8	14	8	16
SPREAD**	0.28	0.46	0.19	0.27
<i>p-value</i>	0.37	0.03	0.55	0.18
<i>Number of Obs.</i>	12	24	12	27
<u>SME500</u>				
	<u>Pairwise Correlation</u>		<u>Spearman</u>	
	1980-2000	1990-2000	1980-2000	1990-2000
BCD/GDP	0.37	0.27	0.30	0.37
<i>p-value</i>	0.06	0.09	0.13	0.02
<i>Number of Obs.</i>	27	40	27	40
CRPR/GDP	0.20	0.29	0.23	0.32
<i>p-value</i>	0.32	0.07	0.26	0.04
<i>Number of Obs.</i>	26	40	26	40
M2/GDP	0.52	0.21	0.49	0.15
<i>p-value</i>	0.06	0.31	0.08	0.45
<i>Number of Obs.</i>	14	26	14	26
PREM*	-0.12	-0.22	-0.09	-0.05
<i>p-value</i>	0.73	0.36	0.79	0.83
<i>Number of Obs.</i>	11	19	11	19
SPREAD**	-0.02	0.26	-0.09	0.16
<i>p-value</i>	0.93	0.17	0.72	0.41
<i>Number of Obs.</i>	18	29	18	29
Notes:	* Values smaller than -10 are excluded (two outliers for 1990-2000 Average)			
	** Values larger than 40 and smaller than -40 are excluded.			

Table 4: Results of the OLS estimation, with White-heteroskedasticity correction.

	<i>Domestic Credit, % GDP</i>		<i>Credit to Private Sec. % GDP</i>		<i>Interest Rate Spread</i>		<i>M2 (% GDP)</i>		<i>Risk Premium</i>	
	<u>2000s-1980s</u>	<u>2000s-1990s</u>	<u>2000s-1980s</u>	<u>2000s-1990s</u>	<u>2000s-1980s</u>	<u>2000s-1990s</u>	<u>2000s-1980s</u>	<u>2000s-1990s</u>	<u>2000s-1980s</u>	<u>2000s-1990s</u>
SME250	1.4 [0.00]***	0.41 [0.01]**	1.14 [0.00]***	0.4 [0.01]**	-0.05 [0.71]	0.15 [0.37]	0.85 [0.06]*	0.06 [0.44]	0 [0.86]	0.35 [0.37]
Constant	-67.84 [0.05]**	-16.31 [0.05]*	-43.09 [0.10]	-9.04 [0.24]	4.63 [0.69]	-24.35 [0.02]**	-43.19 [0.07]*	3.14 [0.29]	0.49 [0.79]	-24.94 [0.33]
Observations	20	32	19	32	13	27	6	17	8	16
R-squared	0.35	0.16	0.29	0.17	0	0.01	0.65	0.03	0	0.2

	<i>Domestic Credit, % GDP</i>		<i>Credit to Private Sec. % GDP</i>		<i>Interest Rate Spread</i>		<i>M2 (% GDP)</i>		<i>Risk Premium</i>	
	<u>2000s-1980s</u>	<u>2000s-1990s</u>	<u>2000s-1980s</u>	<u>2000s-1990s</u>	<u>2000s-1980s</u>	<u>2000s-1990s</u>	<u>2000s-1980s</u>	<u>2000s-1990s</u>	<u>2000s-1980s</u>	<u>2000s-1990s</u>
SME250	-3.55 [0.05]**	-0.64 [0.13]	-3.61 [0.01]***	-0.74 [0.09]*	-2.03 [0.05]**	0.66 [0.41]	0.68 [.]	-0.22 [0.19]	0.05 [0.78]	1.65 [0.01]***
SME250*RS	11.7 [0.06]*	3.69 [0.08]*	11.83 [0.00]***	4 [0.05]**	7.36 [0.03]**	-3.56 [0.18]	-0.32 [.]	1.43 [0.02]**	-0.08 [0.87]	-6.27 [0.02]**
RS	-730.22 [0.07]*	-169.59 [0.14]	-710.05 [0.00]***	-182.33 [0.08]*	-365.18 [0.04]**	222.54 [0.07]*	0 [.]	-74.55 [0.02]**	7.99 [0.79]	385.2 [0.02]**
Constant	251.49 [0.04]**	25.39 [0.17]	245.33 [0.02]**	35.01 [0.04]**	95.03 [0.07]*	-60.22 [0.03]**	-24.16 [.]	16.44 [0.02]**	-3.06 [0.80]	-104.85 [0.00]***
Observations	13	24	13	24	9	21	3	14	6	13
R-squared	0.23	0.22	0.26	0.25	0.74	0.03	1	0.18	0.21	0.76

Notes:

p values in brackets

* significant at 10%; ** significant at 5%; *** significant at 1%

“2000s-1990s” and “2000s-1980s” refer to the differences in the average value of a given FMD indicator between the past one and two decades, respectively.

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Figure 1: Domestic Credit Provided by Banks (% GDP) --BCR/GDP



Figure 2: Domestic Credit to Private Sector (% GDP) -- CRPR/GDP



Figure 3: M2 (% GDP) -- M2/GDP



Figure 4: Interest Rate Spread -- SPREAD

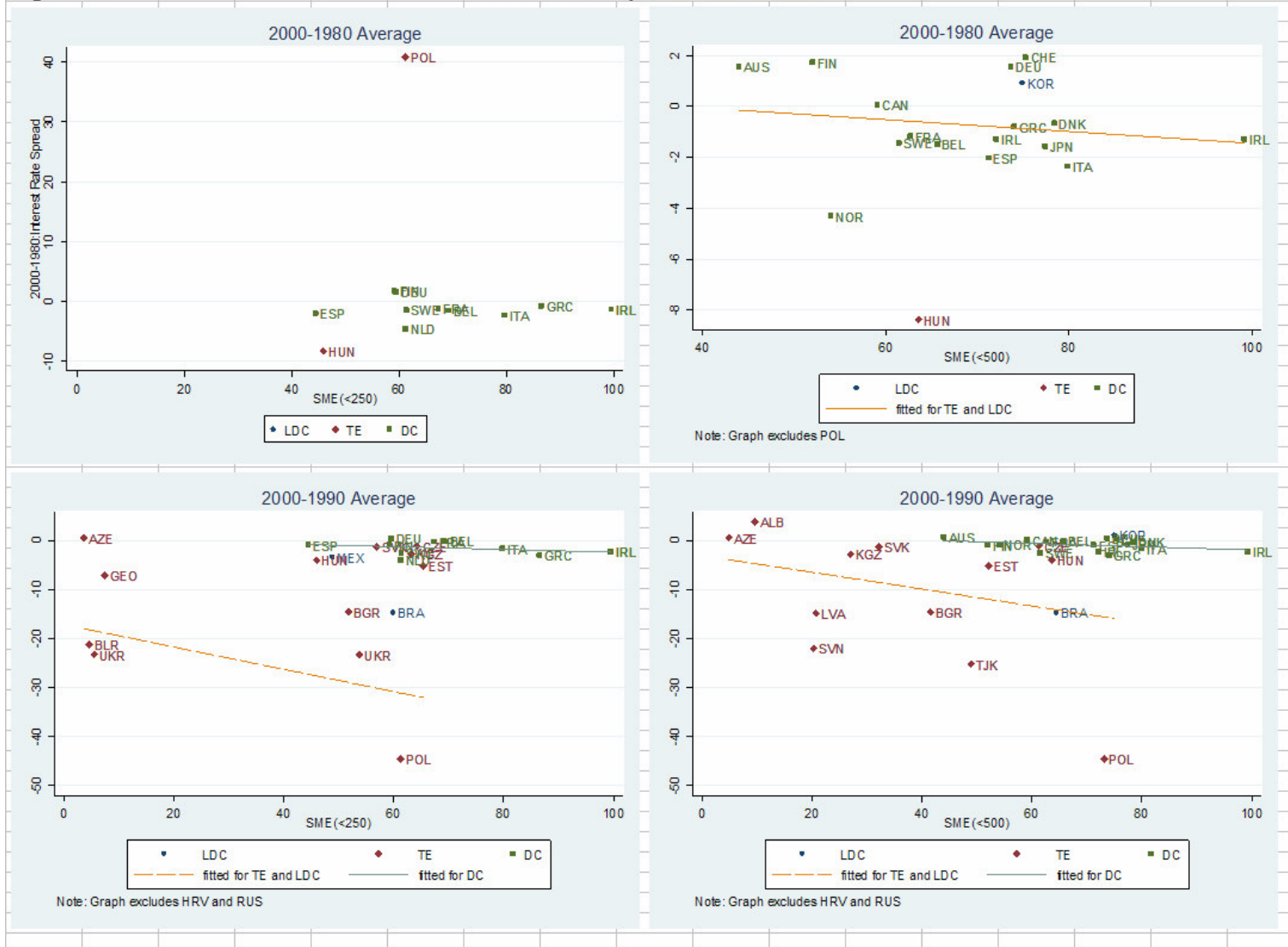


Figure 5: Risk Premium --PREM

