CENTRO STUDI IN ECONOMIA E FINANZA

CENTRE FOR STUDIES IN ECONOMICS AND FINANCE

WORKING PAPER NO. 119

Do Market Regulation and Financial Imperfections Affect Firm Size? New Empirical Evidence

Raquel Fonseca and Natalia Utrero

May 2004

DIPARTIMENTO DI SCIENZE ECONOMICHE - UNIVERSITÀ DEGLI STUDI DI SALERNO
Via Ponte Don Melillo - 84084 FISCIANO (SA)
Tel. 089-96 3167/3168 - Fax 089-96 3169 – e-mail: csef@unisa.it

CSEF WORKING PAPER NO. 119

Do Market Regulation and Financial Imperfections Affect Firm Size? New Empirical Evidence

Raquel Fonseca and Natalia Utrero*

Abstract

This paper investigates the importance that market regulation and financial imperfections have in firm size. We analyse institutions affecting labour market as Employment Protection Laws (EPL) and Product Market Regulation (PMR). Moreover, we study the effects of these institutions on firm growth. We use data from 29 industrial sectors across 15 developed countries. We find that market regulations related to financial imperfections help to explain differences in firm structure across countries.

JEL Classification: G2, G32, J32, L10

Keywords: Financial development, labour market institutions, firm structure

Acknowledgements: Raquel Fonseca acknowledges the financial support provided through the European Community's Human Potential Programme under contract MERG-CT-2004-510542. Natalia Utrero acknowledges the financial support provided through the European Community's Human Potential Programme under contract HPRN-CT-2000-00064 [UFA].

We thank Dimitris Christelis, Tullio Jappelli, Mario Padula and Seminar participants at CSEF for helpful suggestions.

* Raquel Fonseca is from CSEF and University of Salerno and Natalia Utrero is from Universidad Autonoma de Barcelona.

Contents

1. Introduction

Firm size is an important economic issue because it relates to job creation and growth (Rajan and Zingales, 1998). Furthermore, there is a large disparity of firm size across countries and industries. US firms are for instance on aggregate larger than their Spanish and Italian counterparts. Moreover, the US economy seems to adapt better to economic cycles than the European one. Recently there have been different attempts to explain the nature of these differences, although few studies have included institutional factors. This paper contributes to this line of research through the inclusion of institutional effects on firm size. Labour market institutions and product market regulations may play an important role in determining firm size, since they create indirect costs to firms that may discourage or limit firm activity. In particular, we empirically analyze the role of labour market institutions like Employment Protection Legislation (EPL) and Product Market Regulation (PMR) on firm size via entry. We argue that these regulations create costs to firms and that those firms subject to finance scarcity will be more affected by these regulations.

On the one hand, interactions between labour markets and product markets have received considerable attention in recent years. EPL is generally thought to affect firm cost structure; it leads to higher direct costs and thus lower employment (Blanchard and Tirole, 2003). At the same time, barriers to product markets are considered opportunity costs for the firm. Thus both EPL and entry regulation impact firm entry and job creation (Pissarides, 2001). Both EPL and PMR are costs that firms have to face and then discourage entrepreneurship.

On the other hand, the financial literature extensively analyzes finance market imperfections and their effects on firm decision making. Moral hazard, adverse selection, and search externalities in credit markets are relevant not only for corporate finance but also for labour economics. The argument is that firms are not able to finance all their investment projects by themselves, and hence they need to raise external capital. However capital markets are not perfect and firms may experience difficulties in obtaining external finance. The higher financial development, the easier the access of firms to external finance. If they faced high costs associated with EPL and PMR, it would create an underinvestment problem: investment projects may not be undertaken as fund availability reduces. Therefore strict EPL and PMR might have a negative effect on firm structure (and indirectly on growth), in particular in less developed financial markets. In the same spirit, Blanchard and Tirole (2003) claim that high costs associated with unemployment costs may potentially make things more difficult to firms, imposing a high utility cost on the small entrepreneur, or preventing the larger firm to invest the funds for better purposes. Therefore the analysis of the interactions of

product, labour and financial markets seem crucial to understand the differences observed in the OECD countries.

Our work is related to several strands of the literature. The first one is the finance literature. There are several papers that have established an empirical link between financial development and firm behaviour. In particular, well-developed financial markets have seen shown to make it easier for firms to attract external financing for their investment needs (Rajan and Zingales (1998), Demirguç-Kunt and Maksimovic (1998). Therefore, firm debt structure differs across institutional frameworks and financial market imperfections affect firm financing and investment decisions (Rajan and Zingales (1998), Demirguç-Kunt and Maksimovic (1999), Booth *et al.* (2000)).

The second strand we draw on is the labour market literature (Fonseca *et al.* (2001), Pissarides (2001), and La Porta *et al.* (2003)). This literature studies the impact of labour market regulation on employment. Specifically, start-up costs (SU) and EPL are shown to affect job creation and entrepreneurship. Boeri et al. (2000) explain that EPL regulations may affect the equilibrium level of employment and its dynamics over the business cycle. Wasmer and Weil (2002) further establish a relationship between labour and finance market imperfections. Empirical evidence of EPL impact is mixed. Nickell et al. (2003) show how important EPL changes are on employment across OECD countries. Scarpetta and Tressel (2002) find that anti-competitive product market regulations are negatively associated with productivity performance. Furthermore, tight employment protection legislation has a negative impact on productivity.

The third strand of literature is related to growth, King and Levine (1993) and Levine (1997) show that finance matters for growth. Furthermore, La Porta *et al.* (1996), Levine (2003) claim that financial markets are better developed in countries with strong legal frameworks. Also related is the paper by Nicolleti et al. (1999) who argue that labour institutions and firm structure matter to growth. Koeniger (2002) finds that EPL decreases incentives to innovate and thus productivity growth depends on the degree of labour market competition.

Another set of interesting results comes from the industrial organisation literature. Industry distribution of employment differs sharply across countries, even among countries with similar levels of economic development. The theory of industrial organisation tries to determine which factors create these differences. Papers on international trade stress relative factor endowments and scale economies as major forces behind observed national differences in the industrial distribution of employment. However these differences extend to sectors that do not produce traded good and services. In addition differences in the

organisation of business activity between countries with similar factor endowments also present a puzzle. Presumably, these countries have access to the same technologies for producing good and services. But firm and establishment size differ markedly across countries. A large body of previous studies find strong, systematic relationships between business size and other business characteristics such as financial structure, investment, job creation and job destruction (see Brown, Hamilton and Medoff (1990), Acs and Audretsch (1988,1990), Davis and Haltiwanger (1991,1996)).

Related to this literature and closer to our analyses, Kumar et al. (2001) investigate firm size in European countries to find factors correlated with firm size. They conclude that institutional factors like judicial efficiency and patent protection increase the difference in size between firms in capital intensive industries in comparison to firms in labour intensive ones.

Despite the relation between firm size, job creation and economic growth, these various branches of the literature have not been combined in investigating empirically the effects of financial and labour imperfections on firm size and consequently on growth.

For our empirical tests, we use the set up developed by RZ (1998) and adapted by Kumar et al (2001) to examine firm size determinants and to assess the relationship between financial development, labour and product market regulation and firm size. Both papers overcome identification problems encountered in standard cross-country growth regression by interacting a country feature (financial development) with an industry characteristic (external financial dependence of a particular industry). This approach is less subject to criticism regarding an omitted variable bias or model specification than traditional approaches and allow them to isolate the desired effect (Claessens and Laeven, 2003).

We use industry-specific and country-specific data from a variety of sources. Industry data come from the UNIDO data base prepared by the OECD. We include data from 29 industrial sectors in 15 developed countries. Correlations in international comparisons may be biased by the degree of economic development. In particular, it has been generally accepted that the link between financial development and growth is influenced by the degree of development of the national economy. Actually, a certain degree of industrialisation is needed for the financial system to emerge (Becsi, Wang and Wynne, 1998). In other words, the demand for financial services is a prime driver of financial development (RZ, 2001). Therefore, despite the sample reduction, we consider interesting to analyse economies with a similar degree of development to obtain consistent results. Data for labour and product market regulation have been used in other cross-country studies. In

particular, we use data from Fonseca et al (2001), La Porta et al. (2003) and Nickell et al. (2003) and Nicoletti *et al.* (1999)

We find that tight labour regulation and anti-competitive laws have a detrimental effect on firm size, in particular to those firms which operate in less financially developed countries and therefore can be subject to higher financial constraints. These results are robust to different specifications and alternative measures of regulation. Moreover, we investigate the effects of these regulations on economic growth. In this case, the effect of EPL laws is weaker. However, product market legislation that delays firm establishment hinders growth significantly. These results may have policy implications since it is not only important to develop financial markets but also to pass the adequate labour norms and product market regulations such that there are no discouraging effects on firm size and entrepreneurship and therefore on growth.

The paper is structured as follows. Section 2 reviews the related literature. Section 3 presents the data used in our empirical application. Sections 4 and 5 present the model specification and main results respectively and Section 6 concludes.

2. Related literature and Hypothesis

Following Kumar et al. (2000) there are three conflicting strands of literature that try to explain the determinants of firm size. These are the technological, organizational and institutional explanations. The first hypothesis claims that the size of the market is a determinant of the extent of specialization and therefore, though indirectly, of the size of the firm. The second branch focuses on the variety of non-contractual mechanisms that can influence investment decisions, making them more efficient and hence fostering firm size. The third explanation relies on institutional factors that affect firm size. One of the channels through which institutions can affect firm size is finance. In particular, if the availability of external funds is important for firms to grow, firm size should be positively correlated with financial development and more generally with factors promoting the development of financial markets. Kumar et al. (2001) in a companion paper analyse the empirical validity of the three different hypothesis. However, they do not include market regulations or labour market institutions in their study and as we show next, these regulations can have an effect on implications for the size of the firms at level of industry. This is the gap we try to fill in this paper.

Employment protection encompasses any set of regulations, either legislated or written in labour contracts. Therefore, EPL have an effect on cost structure. Furthermore, changes in labour market institutions are said to explain around 55 per cent of the rise in European unemployment

from the 1960s to the first half of the 1990s, Nickell et al. (2003). Pissarides (2001) using a Pissarides-Mortensen model shows that employment protection is part of private contracts and when macroeconomic shocks take place this protection package should be changed along with wages and other features of the contract. Without this flexibility, the employment protection measures may alter the relative bargaining powers of established workers and employers, and alter wages and job creation. Second, there is a recent literature that studies the importance of start-up cost and barriers to entry in employment performance (see Fonseca et al. (2001)). Start-up costs discourage entrepreneurs, job creation decreases and employment has a lower level. These factors are important to explain differences in labour market performance across the OECD.

Therefore, product and labour regulations have an influence on job creation and employment levels, the more detrimental the stricter the regulations. Strict labour protection affects negatively firm size, since entrepreneurs will be reluctant to increase the number of employees. However, the effect that relaxed market regulations may have on firm average size is an empirical matter. On the one hand, less barriers to entry and administrative burdens can enhance the entrance of new firms, reducing the average size of firms. On the other hand, incumbent firms may also increase in size due to decreasing starp-up costs and bureaucracy.

In addition, RZ (1998, 2001) study the importance of financial institutions and financial markets economic activity. Financial development reduces the cost of external finance to firms and therefore eases firm access to external finance. But, under financial market imperfections, firms may experience difficulties in accessing external finance, and therefore may not be able to pay their obligations (included those derived from employment protection). Wasmer and Weil (2002) develop a matching model and introduce labour market institutions and financial markets imperfections and they conclude that financial restrictions are important in explaining employment and growth. Blanchflower and Oswald (1998) show for a UK sample that difficulties to access external finance discourage entrepreneurship and employment. Furthermore, there are papers that relate financial constraints to the duration of employment contracts. Rendon (2000) shows that liquidity constraints restrict job creation even when the labour market is flexible. He builds a dynamic model of labour demand with imperfect capital and labour markets where firms prefer temporary contracts to relax financial constraints. Hence the higher the difficulties to access external finance the more negative effect EPL and PMR have on job creation and firm size.

In this paper we analyse empirically these institutional effects on average firm size and growth. We are conscious that firm size is also affected by other factors previously underlined, but due to the nature of our data and we focus the study on the control for the other factors including sector and country fixed effects, and other control variables.

3. Data

3.1 Data Set

This study uses a data set that combines industry level information on firm size, number of firms, number of employees, investment and access to external finance with country-level institutional variables, namely data on labour market. Industry data come from the Unido data base. We include data from 15 developed countries. Table 1 presents an overview of the variables used in the empirical analysis and their sources. Most of the variables are self-explanatory and have been used in previous studies of firm financing and firm structure. Together with this data, we have included information on external financial needs collected by RZ (1998). The period considered is 1981-1998, although the country coverage is not uniform.

TABLE 1: Definition and Source of the Variables

Variable Name	Description
Market size	Logarithm of total employment in that NACE three-digit industry in a country. Source: UNIDO Database on Industrial Statistics.
Accounting	Accounting standards in 1983 (on a scale from 0 to 90). Higher scores indicate more disclosure. Source: Center for international Financial Analysis and Research and RZ (1998).
Market cap	Stock market capitalization divided by GDP in 1980. Source RZ (1998)
Domestic credit	Domestic credit divided by GDP in 1980. Source International Financial Statistics of the International Monetary Fund.
Fin Dependence	External financial dependence of U.S. sectors averaged over 1980 - 1989. Source RZ (1998).
EPL	Employment Protection Law data. This index captures the strictness of employment protection laws. Sources: OECD, Blanchard and Wolfers (2000)and Nickell et al. (2003)
PMR	Product Market Regulation data. This varible measures administrative burdens on the creation of corporate and sole proprietor businesses. Source: LOGOTECH, S.A. (1997)
Procedures	Number of procedures to set a firm. Source: LOGOTECH, S.A. (1997)
Weeks	Number of weeks to set a firm. Source: LOGOTECH, S.A. (1997)
Index	The index is defined as (no. of weeks + no. of procedures/average procedures per week)/2 Source: Fonseca et al. (2001)
start-up costs	Administrative burdens on startups Source: LOGOTECH, S.A. (1997)
Regulation	Regulatory and administrative opacicy.Source: LOGOTECH S.A. (1997)
Barriers	Barriers to competition. Source: LOGOTECH, S.A. (1997) and Nicoletti.et at. (1999).
Growth in avg size	Average growth in average size by ISIC sector over the period 1981 to 1998. Source: UNIDO Database on Industrial Statistics.
Growth in number	Average growth in number of establishment by ISIC sector over the period 1981 to 1998. Source: UNIDO Database on Industrial Statistics.

Growth in value added	Average annual real growth rate of value added in a particular sector by ISIC in a particular country over the period 1981 – 1998. Source: UNIDO Database on Industrial Statistics.
Legal origin	Identifies the legal origin of the Company Law or Commercial Code of each country. Origins are: (1) English, (2) French, (3) German and (4) Scandinavian. Source: La Porta et al. (1999).
Corruption	Source: La Porta et al. (1999).

3.1.1 Industry-level data

Traditionally, firm size has been measured in terms of value added, output or the number of employees. Value added is clearly preferable to output, because the complexity of the organization has to do with the value of its contribution not with the value of the output sold. However, as pointed out by Kuman, Rajan and Zingales (2001), when considering measures based on value added, coordination costs are not included, since they refer to the number of employees and not firm productivity. Furthermore, it is also argued that for some countries, particularly in Europe, value added per employee is fairly stable across different size classes. This implies that the measure of firm size based on the number of employees is likely to be very similar to one based on value added. This reasoning leads us to use a size measure in terms of the number of employees. We compute sector size by dividing total employment in the country-sector cell by the total number of firms in that combination. For the remainder of the paper, we refer to industry size as average size.

RZ (1998) use three different definitions of economic growth: average growth in average size, average growth of value added, and growth in the number of establishments. Our model of growth examines the effect of EPL and PMR on financial dependent sectors. Most of the norms included in these variables are closely connected to the setting up of new firms. Therefore, we decide to use the average annual growth in number of establishments in a particular sector in a particular country over the period 1980 to 1989 as the benchmark case. However, we use the alternative measures as well. firms.

RZ (1998) use the external financing needs of US companies to proxy for the demand of external funds in other countries. US capital markets are considered to be one of the most developed in the world economy, therefore, firm external capital raised can be a good proxy of their external financial demand. Kumar et al. (2001) correct the Rajan and Zingales measure of external dependence by the investment per worker in an industry; so they get the "per worker external financial needs" as a proxy of per capita external financial needs in other countries. The underlying assumption is that there are technological features that carry over countries, that is there are certain industries that depend more on external finance than others. Sectors more dependent on external finance behave better when capital markets are developed.

Therefore, we introduce our proxy of external financial dependence interacted with the financial development.

3.1.2. Country-level data

Together with the industry data, we introduce institutional data to account for the nature of capital and labour markets. It is very hard to classify legal institutions and compress their description into indicators that are the essential input to statistical analysis (Giannetti et al., 2002). This difficulty is even greater in the case of the labour market because of its dynamics and complexity. However, different papers have recently introduced such measures successfully. We will focus on two different types of regulation: employment protection (EPL) and product market regulation (PMR), since the interaction of which with financial imperfections has not yet been empirically analysed.

3.1.3. Financial Development

Ideally, financial development should measure the ease with which borrowers and savers can be brought together (Rajan and Zingales (1998)). Therefore, financial development should be related to the variety of intermediaries and markets available. We use three different measures of financial development: stock capitalization, domestic credit and accounting standards. All of them have been widely used in the financial literature.

3.1.4. Employment Protection Index

This index captures the strictness of employment protection laws. The OECD collects information on employment protection. Blanchard and Wolfers (2000) using the OECD information together with data from Lazear (1990) and that reported in OECD Employment Outlook (1999) construct the initial index. This index is then enlarged and used by Nickell and Nunziata (2001) and Nickell *et al.* (2001) among others, providing an employment protection time varying variable (EPL) from 1960 to 1995.[1]

3.1.5. Regulation of entry

The data of product market regulation are taken by LOGOTECH, S.A. (1997). These data provide information about administrative burdens on the creation of corporate and sole proprietor businesses, and they were drawn from a study prepared for the European Commission. They represent the barriers to entrepreneurial activity (including administrative procedures) and they are divided in: (i) administrative burdens on start-

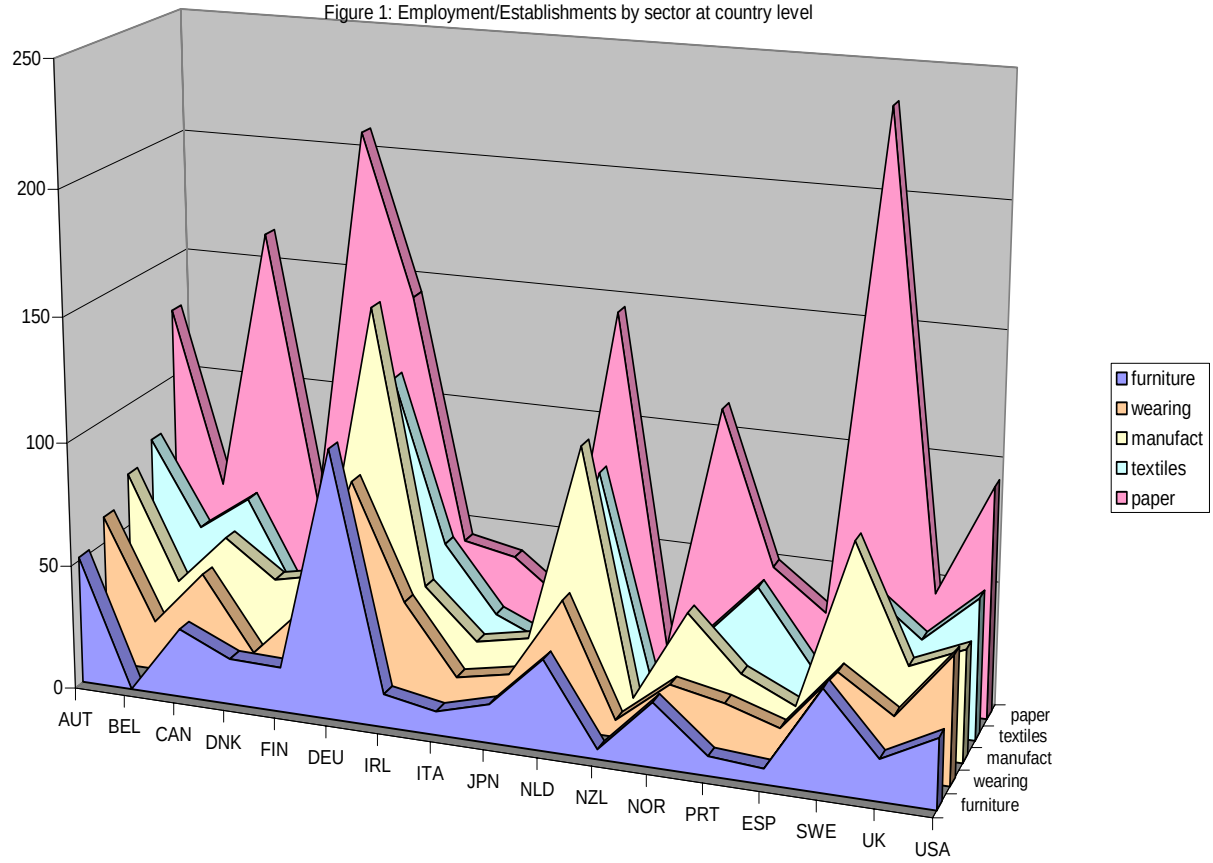
[1] Data are available by Luca Nunziata.

ups[2], (ii) regulatory and administrative opacity, and (iii) barriers to competition. These data are used by Fonseca et al (2001) and Nicoletti.et at. (1999) Djankov, S. et al. (2001) who use another data base on entry regulation for 1999. Given that our period of study finishes at 1998 and in order to avoid spurious correlation, we decided to use the Logotech data base.

3.2. Summary Statistics

The differences between average size are quite large across countries. For example in the manufacturing, textile and paper sectors present small firm size in countries like Spain and Italy. Meanwhile, Germany and Sweden have large firm size. Therefore, it is very interesting to examine the sources of these disparities. Our aim is to analyse the institutional and regulation contribution in explaining this evidence (see Figure 1). In Table 2 we report the average of employment over establishment with some statistics for some countries of the sample.

Figure 1: Employment/Establishments by sector at country level



[2] We have also analysed separately by number of procedures and number of weeks to open an establishment as well as the index analysed in Fonseca et al. (2001). The index brings both components together. It averages the number of weeks that a new company on average need to start up with an approximate value for the number of weeks needed to complete the necessary number of procedures.

Table 2 Summary statistics average size. Unido 1981-98, 29 sectors				
	Mean	Stand. dev.	Min	max
Austria	109,74	85,39	1,049	1030,84
Belgium	62,96	77,14	4,94	378,91
Canada	86,38	75,99	14,92	375
Denmark	53,38	44,00	2,76	210,20
Finland	115,73	189,20	2,41	1450
Ireland	51,20	40,04	9,09	244,44
Germany	188,06	151,02	39,08	884,45
Italy	104,36	126,20	1,96	862,31
Japan	40,90	50,27	9,67	361,70
New Zealand	26,26	37,42	1,39	290
Netherlands	185,29	332,25	27,17	4944
Norway	73,97	79,97	8,79	400
Portugal	105,92	378,43	1	3727
Spain	60,68	145,86	3,05	1000
UK	72,94	121,79	6,5	1111,11
Sweden	111,59	93,85	25,35	562,06

4. Model Specifications

4.1. Size model

Our hypothesis is that labour and product market regulation can affect industry performance. The first model explores the effect of labour and market institutions on firm size, especially on external finance dependent industries. Therefore, the dependent variable is firm size at sector level. We include the size of the market[3] where the sector operates and two interaction terms. The first one interacts financial development in country k and external financial needs of sector j. The US external financial needs is used as a valid proxy following Rajan and Zingales (1998)[4]. The second interaction term adds the labour and market regulation measures in country k. We expect to find a positive and significant coefficient for the former and a negative one for the latter, indicating that more developed financial systems have a positive effect on size of those industries more dependent on external finance but this positive effect is hindered by tight labour and market regulation. Then the question we want to examine is whether financial market

[3] The market size may be endogenous, therefore we instrument it. In the next section, we will explain the details.

[4] This approach has two main advantages. First, there is a technological reason why some industries depend more on external finance than others. Second, data on external financing is scarce, but in a perfect capital market the supply of funds to firms is perfectly elastic at the proper risk-adjusted rate, that is, in such a market the actual amount of external funds raised by a firm equals the desired amount. Since, it is the supply of funds the variable of interest, the identification problem disappears.

imperfections and the interaction with the product market regulation and employment protection laws negatively affect firm size:

$$Size_{j,k,t} = \alpha + \psi_0 Size_{j,k,t-1} + \psi_1 * Market\ size_{j,k,t} + \quad (1)$$

$$+\psi_2 * (external\ dependence_{US,j,t} * financial\ development_{k,t}) +$$

$$+\psi_3 * (external\ dependence_{US,j,t} * financial\ development_{k,t} *$$

$$* labour\ regulation_{k,t}) +$$

$$+\varepsilon_{j,k,t}$$

4.2. Growth model

In the second model we test whether industrial sectors that typically present larger size grow faster (slower) in countries with more (less) flexible product and labour market regulations. The idea is inspired by Claessens and Laeven (2003) who extend the Rajan and Zingales approach by introducing property right protection. Specifically, they test whether industrial sectors that typically use many intangible assets grow faster (slower) in countries with more (less) secure property rights. In line with Rajan and Zingales (1998) and Claessens and Laeven (2003), we use US industry data to construct proxies for the average size for a particular industry. The presumption here is that the well developed financial markets and the flexible labour and product markets in the US should allow US firms to achieve the desired financial and size structure. The underlying hypothesis is that US labour markets adapt better to the business cycles than other economy.

Therefore, the dependent variable is the average annual growth in number of establishments in a particular sector in a particular country, with one observation per sector in each country. The specification for the first set of regression is as follows:

$$Growth_{j,k} = \alpha + \psi_1 * industry\ dummies_j + \quad (2)$$

$$+\psi_2 * country\ dummies_k$$

$$+\psi_3 * (external\ dependence_{US,j} * financial\ development_k)$$

$$+\psi_4 * (average\ size_{US,j} * product\ and\ labour\ regulation_k)$$

$$+\varepsilon_{j,k}$$

To avoid possible biases caused by any omitted country-specific regressors, we have included country dummies to capture any institutional or other differences affecting growth, such as comparative advantage or general level of development. Since we are less interested in the importance of general country differences, we use this approach rather than a vector of specific country control variables. Still, as pointed out by Claessens and Laeven (2003), the use of country dummies could introduce a misspecification to the extent that any omitted institutional differences important for growth are correlated with our interaction variables. Industry dummies (not reported) are also included in all regressions. In line with Rajan and Zingales (1998), we include the industry's market share in total manufacturing in a specific country, which has a negative sign in all regressions.

5. Methodology and Results

5.1 Size Model

For the estimation of equation (1), we have selected an estimation method to avoid unobservable heterogeneity and endogeneity. Himmelberg, Hubbard and Palia (1999) describe how unobservable characteristics of the contracting environment may influence firm performance. In general, because firms are heterogeneous there are always characteristics influencing firm value that are difficult to measure or hard to obtain and which do not enter in our models (de Miguel et al. 2002). Therefore, if we do not control for this heterogeneity, we risk obtaining biased results. Unlike cross-sectional analysis, panel data has a great advantage since allow us to control for unobservable heterogeneity through an individual effect. We also included a time variable to measure the temporal effect, so that we could control the effect of macroeconomic variables on firm size.

Furthermore, the potential endogeneity of financial development may seriously affect the results. If we ignore the endogeneity issue we will obtain a spurious correlation. We estimate a dynamic model by using the generalized method of moments (GMM), which allows us to control for problems of endogeneity by using instruments. We apply first differences in order to eliminate the individual effects. A problem with the original Arellano-Bond estimator is that lagged levels are often poor instruments for first differences, especially for variables that are close to a random walk. Arellano and Bover (1995) described how, if the original equations in levels were added to the system, additional moment conditions could be brought to bear to increase efficiency. Therefore, we use the so-called system GMM estimator that combines the moment conditions for the model in first-differences with those for the model in

levels. The main advantage of this estimator is that the extra moments condition remain valid when the coefficient of the lagged dependent variable is equal to one, even though the process is clearly not mean-stationary[5] (Bond et al. (2002)).

If the residuals are heteroscedastic, then the two-step GMM estimator is more efficient (White, 1982). However, simulation exercises have shown that the asymptotic standard errors for the two-step estimation are not reliable because they are affected by a downward finite sample bias with the one-step procedure being more robust in this case. Windmeijer (2000) develops a finite-sample correction to the two-step covariance. This can make the two-step robust procedure more efficient than the one-step robust procedure, one especially for system GMM. Therefore, we apply the two-step procedure

The consistency of our estimates relies upon the hypothesis of absence of serial correlation in the error terms in the level equation. If the error terms are not serially correlated there should be evidence of significant negative first-order correlation but absence of second order correlation in the differenced residuals. The tests AR(1) and AR(2) reported in the table are consistent with the hypothesis of absence of second-order serial correlation and significant first order correlation.

In Table 3 we report the results of regressions based on equation (1). Panel A, B and C present the results obtained when we proxy financial development with the stock market capitalization, credit market variable and accounting standards respectively. We add one interaction variable at a time. In all specifications the hypothesis of second-order serial correlation is always rejected (AR(2)). However, there is no lack of first-order serial correlation AR(1) in the differenced residuals, although the errors in the model in levels are not serially correlated. Another specification test used is Hansen's statistic of over-identifying restrictions, which tests for the absence of correlation between the instruments and the error term.

Since Adam Smith (1776), economists have analysed the size of the market as a determinant of the extent of specialization, and indirectly the size of the firm. However, predictions have been conflicting, Kumar et al. (2001). Therefore, we consider interesting to include the size of the market in the analysis. One standard proxy for market size is total industry employment, but as pointed out by (Kumar et al. (2001)), theories refer clearly to the potential market. Furthermore, there may be spurious correlation between our dependent variable "average sector size" and our measure of market size. To correct for this, we instrument our measure of market size. As instruments we use legal origin Since we use US data to

[5] This is no longer true if there are individual specific drifts.

identify external dependence, we drop the United States in all regressions.

The market size coefficient is negative and significant in all realisations. This confirms the theoretical scenario depicted by Becker and Murphy (1992) who question the conventional wisdom that specialization is limited by the size of the market and argue that coordination costs pose greater limits (this should be especially relevant in markets with asymmetric information). Kumar et al. (2001) obtain the opposite for the year 1992. Model 1, our benchmark specification, shows also that the interaction between external financial needs and financial development is positive and significant. Industrial sectors that are in need of external finance are larger in countries with more developed financial markets. Therefore, the positive effect on average size of incumbent firms (that are able to grow faster with financial development) offsets the "new entrant effect" that reduces average size.

Model 2 introduces the EPL regulation. As can be observed, the positive effect of financial development is confirmed. Furthermore, the coefficient of the new interaction term is negative and significant. Therefore, tight employment protection regulations offset part of the positive effects that financial development has on average size of more financially dependent sectors. When regulations are very strict, externally dependent sectors show more cautious about adjusting their workforce (Bertola, 1992). In addition, if hiring costs are not translated into lower wages, total labour costs for the firms increase and this may lead to a lower level of unemployment (Boeri et al., 2000). In our case, this effect is shown to be especially harmful for externally financied sectors with high external financing needs, therefore showing up the interaction between financial and labour markets suggested among others by Wasmer and Weill (2002). Moreover, the negative coefficient is in line with Scarpetta (1996) and Nickell and Layard (1998) who document a detrimental effect of strict EPL. The rest of columns introduce market regulation interactions, one at a time. In general terms, barriers to entrepreneurship, bureaucratic procedures and delays hinder the promoting effect on average size. Namely, the number of weeks to set up a new establishment, the number of administrative procedures required and the administrative burdens to start ups affect negatively firm size of externally dependent sectors. However, the regulatory and administrative opacity does not seem to affect it. These results are coherent with the new theoretical results in the labour literature that claim that measures that impede entry of new establishments have a negative influence on the employment level.

5.2. Growth results

So far, we have shown a significant effect of EPL and product market regulation on size. Next, we turn to growth. In particular we are interested in those sectors that are more labour intensive. This is an important issue, since international firms are reallocating their plants according to labour market flexibility factors. To do that, we rely on the set up first proposed by Rajan and Zingales (1998). In this seminal paper, growth in real value added is related to a number of country and industry-specific variables. In particular, they focus on the relevance that a developed financial market can have on financially dependent firms. They claim that financially dependent firms can be expected to grow more in countries with a higher level of financial development. The degree of financial dependency is computed using the US industry sectors. That is, they compute the "typical" sector external financial demand provided financial imperfections are not important. Claessens and Laeven (2003) introduce the "typical" ratio of intangible-to-fixed assets for each industrial sector together with an index of the strength of countries' property rights. They then test whether industrial sectors that typically use many intangible assets grow faster (slower) in countries with more (less) secure property rights. Both Rajan and Zingales (1998) and Claessens and Laeven (2003) use US data to construct proxies at the industry level for the typical ratio of intangible assets. The assumption here is that there are technological and economic reasons why some industries depend more on external finance and intangible assets than others do, and that these differences, to a large extent, prevail across countries.

In line with these papers, we use US industry data to construct proxies for the typical average size for a particular industry. The presumption here is that the well developed financial markets and the flexible labour and product market in the US should allow US firms to achieve the desired financial and size structure. We then test whether industrial sectors that typically present larger firm size grow faster (slower) in countries with more (less) flexible product and labour market regulations. This does not mean that we assume that a particular sector in two countries with the same degree of flexibility in product and labour market to have the identical optimal size. We only assume that the rank order of size structure across industries to be similar across countries.

We use the ratio of private credit-to-gdp as a proxy for financial development and we construct benchmark data on size on industry basis, as Rajan and Zingales (1998). We assume that the average size for each industry in the US forms a good benchmark. We measure average size using data on US sectors for the years 1980 to 1990 and compute average size by the ratio of employees to the total employees of the industrial sectors for each sector. Afterwards, we compute the mean of

the period. We are conscious of the limits of this measure; a more accurate proxy could be computed correcting for the number of establishments in each sector. Unfortunately, we have only data on establishment available for three years, so we decided to use the former proxy.

The dependent variable is the average annual growth in number of establishments in a particular sector in a particular country over the period 1980 to 1989, with one observation per sector in each country. We decide to use this proxy for growth because most of the product market regulations included in the analysis affects mainly the entrance of new firms. However, the results when we introduce the growth in average size and value added are qualitatively similar[6]. The first regression includes the traditional financial interaction term alone. The subsequent ones include one labour regulation interaction at a time. Table 4 reports the main results

The industry's market share in total manufacturing presents a negative sign in all regressions, suggesting that there is some industry-specific convergence. In terms of the main hypothesis, we find that industrial sectors that rely more on external finance develop disproportionately faster in countries with better developed financial markets because the coefficient for the interactive variable credit to gdp times external financial dependence is positive and statistically significant (column 1). This result confirms the law and finance view that increased availability of external financing and better legal systems foster firm growth results are different with respect to product and labour interactions. On the one hand, strict EPL regulations do not affect firm growth of more labour intensive sectors (column 2). On the other hand more labour intensive industrial sectors bigger develop slower in countries with a more regulated product market, in particular for the number of weeks and procedures (column 3 and 4 respectively). These results suggest that EPL regulations are not so important for firm growth as some economists have postulated, entry regulation laws, however, are very important. Therefore, much attention should be paid to these restrictive competition regulations that hinder growth. Scarpeta and Tressel (2002) suggest a similar conclusion when analysing productivity and convergence in a panel of OECD countries. Administrative burdens on start-ups and regulatory opacity do not affect firm growth (columns 7 and 8) and barriers to competition seem to affect it positively (column 6). These results may suggest the weakness of the proxy variables and the necessity of finding better proxies to account for market barriers to new establishments.

[6] The standard proxies are growth in value added and sales growth. These results are reported for brevity. Available upon request from the authors.

6. Conclusions

Countries differ in their labour and product market regulations. This paper argues that these regulations affect firm size and firm growth significantly. First, under imperfect capital markets, firm are financially dependent and additional costs due to labour and market regulation may lead to suboptimal investment decisions and therefore hinder job creation and firm size.

We have studied the firm size in a dynamic model. Our estimation results show that the interaction between external financial needs and financial development is positive and significant. Industrial sectors that are in need of external finance are larger in countries with more developed financial markets. Therefore, the positive effect on average size of incumbent firms (that are able to grow faster with financial development) offsets the "new entrant effect" that reduces average size. The following specifications introduce also interactions designed to test whether labour and product market regulations affect the "financial effect", and we conclude that more strict employment protection laws and more barriers to the entrepreneurship affect to the firm size, specially to those sectors more dependent on external funds.

The main insights of our results are that reforms in financial sectors are important to help performance, but also that are reforms in product markets also relevant. Hence, politicians should turn attention to market regulations that impede the normal market mechanism, which hinder growth significantly, especially to those sectors that are more labour intensive. These recommendations can be of interest for European countries, but also for transition economies. There is evidence of the evolution and development of European financial markets in the nineties, which have made the gap with the US financial market smaller.

Difference in product market and labour market regulations across countries seem essential to understand firm size disparities. Given the importance of this issue, we would like to extend our study using different variables more disaggregated information at a firm level on financial structure.

References

Acs, Z.J. and Audrestsch, D.B. (1988), "Innovation in Large and Small Firms: An Empirical Analysis", *American Economic Review* 78(4), 678-690.

Arellano, M. and Bover, O. (1995), "Another Look at the Instrumental Variable Estimation of Error Component Models.", *Journal of Econometrics* 68: 29-51.

Blanchard, O. and Tirole, J., (2003) "The design of optimal labor market institutions, mimeo, MIT.

Blanchard, O. and Wolfers, J. (2000). "The Role of Shocks and Institutions in the Rise of European Unemployment: The Aggregate Evidence", *The Economic Journal*, (Conference Papers), 110, pp. C1-C33.

Blanchflower, D.G. and Oswald, A. (1998). "What makes an Entrepreneur?", *Journal of labour Economics*, vol. 16, 26-60.

Boeri, T. and Jimeno, J.F (2003) "The Effects of Employment Protection: Learning from Variable Enforcement", CEPR Discussion Paper No 3926, June 2003.

Boeri T., G. Nicoletti and S. Scarpetta (2000), "Regulation and Labour Market Performance", in G. Galli and J. Pelkmans (eds.), *Regulatory Reform, Market Functioning and Competitiveness*, Edward Elgar.

Booth, L., A. Demirguc-Kunt and V. Maksimovic, (2000), "Capital Structures in Developing Countries", *The Journal of Finance*, 56: 87-130.

Borgarello A., P. Garibaldi and L. Pacelli (2002), "Employment Protection Legislation and the Size of Firms", Working Paper December

Brown, C., J. Halminton and J. Medoff (1990), *Employers Large and Small*. Cambridge, MA: Harvard University Press.

Claessens S. and Laeven, L., (2001), "Financial Development, Property Rights, and Growth", *The Journal of Finance* 58 (6).

Davis S.J. and Haltiwanger, J. (1991), "Wage Dispersion between and within US. Manufacturing Plants", *Brookings Papers on Economic Activity: Microeconomicsm* pp115-180.

Davis S.J. and Haltiwanger, J. (1996), "Employers Size and the Wage Structure in US. Manufacturing", *Annales d Economie et de Statistique* no 41-42, January-June.

Davis S.J. and Henrekson, M., (1997), "Explaining National Differences in the Size and Industry Distribution of Employment", IUI Working Paper Series no 482, August 1997.

Davis S.J. and Henrekson, M., (2000), "Wage-setting institutions as industrial policy", NBPMR Working Paper

Demirguç-Kunt, A.and Maksimovic, V. (1999) "Institutions, Financial Markets, and Firms Debt Maturity", *Journal of Financial Economics*, 54: 295-336.

Djankov, S., R. La Porta, F. Lopez-de-Silanes and A. Shleifer (2002), "The Regulation of Entry", *Quarterly Journal of Economics*, 117: 1-37.

Dulleck U., P. Frijters and R. Winter-Ebmer (2003), " Reducing Start-Up Costs for New Firms: The Double Dividend on the Labour Market", IZA Discussion Paper N° 923.

Easterly, I. and Stiglitz, J., (2000), "Macroeconomic Volatility: Does Financial Market Development Matter" Working Paper College of Administration and Business.

Fonseca R., P. Lopez-Garcia and C.A. Pissarides (2001), "Entrepreneurship, Start-up Costs and Employment", *European Economic Review*, 45: 692-705.

Hanka, G. (1998), "Debt and the Terms of Employment", *Journal of Finance Economics*, 48: 245-282.

Himmelberg, C., G. Hubbard and D. Palia (1999), "Ownership and Firm Performance", *Journal of Financial Economics*, September

Koeniger, W., (2002), "Employment Protection, Product Market Competition and Growth", IZA Discussion Paper no. 554, August.

Kumar, K.B., R.G. Rajan and L. Zingales (2001). "What determines firm size?" NBER Working Paper n. 7208.

La Porta R., F. Lopez-de-Silanes and A. Shleifer, (1998), "Law and Finance" *Journal of Political Economy*, 106(6), 1113-1155.

Lazear E.P., (1990), "Job Security Provisions and Employment", *Quarterly Journal of Economics*, 105: 699-726.

Lopez-Garcia, P. (2003). "Labour Market Performance and Start-Up Costs: OECD Evidence", CESInfo WP 849.

LOGOTECH, S.A. (1997), Étude comparative internationale des dispositions légales et administratives pour la formation de petites et moyennes entreprises aux pays de l'Union Européenne, les États-Unis et le Japon, Projet EIMS 96/142, April.

S.J. Nickell, L. Nunziata, W. Ochel and G. Quintini (2003), "The Beveridge Curve, Unemployment and Wages in the OECD", in P. Aghion, R. Frydman, J. Stiglitz and M. Woodford (eds.) *Knowledge, Information and Expectations in Modern Macroeconomics: in Honor of Edmund S. Phelps*, Princeton University Press.

S.J. Nickell, L. Nunziata, W. Ochel and G. Quintini (2003), *Unemployment in Europe*, MIT Press, forthcoming;

Nunziata L. (2003), "Labour Market Institutions and the Cyclical Dynamics of Employment", *Labour Economics*, 10(1): 31-53.

Nicoletti, G., S. Scarpetta and O. Boylaud (1999), "Summary Indicators of Product Market Regulation with an Extension to Employment Protection Legislation" OECD Economics Departement, Working Paper 226.

OECD (1999). *Employment Outlook*, OECD: Paris.

Osano, H. (1997): " An Evolutionary Model of Corporate Governance and Employment Contracts", *Journal of Japanese and International Economies*, 11: 403-436.

Pissarides, C. A. (2001) "Company Start-up Costs and Employment", mimeo CEP- London School of Economics.

Pissarides, C. A. (2001) "Employment Protection", *Labour Economics*, 8(2).

Rajan, R.G. and Zingales, L., (1998), "Financial Dependence and Growth", *The American Economic Review*, 88: 559-586.

Rajan R.G. and Zingales, L., (2001), "Finance Systems, Industrial Structure, and Growth", *Oxford Review of Economic Policy*, 17(4).

Rendón, S. (2000). "Job Creation under Liquidity Constraints: The Spanish Case", Working Paper 488, Universitat Pompeu Fabra.

Scarpetta,S., P. Hemmings, T. Tressel, J. Woo (2002), "The role of policy and institutions for productivity and firm dynamics: evidence from micro and industry data", OECD ECO/WP n. 329.

Scarpetta S. and T. Tressel (2002). "Productivity and convergence in a panel of OECD industries: Do regulations and institutions matter?," OECD Economics Department Working Papers 342.

Wasmer, E. and P. Weil (2002). "The Macroeconomics of Labour and Credit Market Imperfections" DP CEPR 3334, 2002.

TABLE 3: Size equations
PANEL A: Financial development is Stock market capitalization

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
L1 Lavempl	**.9077*** [.0148]**	**.9166*** [.0115]**	.9339 [7.854]	**.9334*** [.0107]**	**.9339*** [.0108]**	**.9167*** [.0116]**	**.9170*** [.0118]**	**.9136*** [.0127]**
Market size	**-.0527*** [.0135]**	**-.0347*** [.0103]**	-.0174 [4.894]	-.014 [.0094]	**-.0197*** [.0106]**	**-.036*** [.0095]**	**-.0342*** [.0106]**	**-.0429*** [.0121]**
External depend *Fin develop	**.0272*** [.0061]**	**.0544*** [.0179]**	.0496 [18.150]	**.0618*** [.0184]**	**.0410*** [.0154]**	**.0553*** [.02371]**	**.0393** [.0191]**	.02031 [.0145]
EPL		**-.0399** [.0175]**						
Regulatory, Adm opacity								-.0107 [.0120]
Admin burdens on startups							**-.0231^ [.0195]**	
Barriers to competion						**-.0412* [.0237]**		
Weeks					**-.0296** [.0134]**			
Procedures				**-.4782*** [.0161]**				
Index			.0497 [15.277]					
Constant	.5757*** [.1426]	.4366*** [.1254]	.3062 [65.114]	.3126** [.1246]	.3275** [.1353]	.4587*** [.1142]	.4346*** [.1172]	.5921*** [.1469]
Observations	4196	4196	3478	3478	3478	4196	4196	4196
Hansen test X^2	338.05	339.16	1755.90	268.04	267.23	342.29	338.20	339.03
	(456)	(573)	(536)	(536)	(532)	(622)	(622)	(622)
AR(1)	-8.72***	-8.73***	-0.11	-8.27***	-8.29***	-8.71***	-8.72***	-8.71***
AR(2)	-0.06	-0.03	-0.06	-0.66	-0.64	0.00	-0.01	0.01

Robust standard errors in brackets
* significant at 10%; ** significant at 5%; *** significant at 1%
coefficients for time dummies not shown

PANEL B: Financial development is Domestic credit

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
L1 lavempl	**.9088*** [.0145]**	**.9185*** [.0101]**	**.9343*** [.1189]**	**.9335*** [.0107]**	**.9339*** [.0106]**	**.9191*** [.0114]**	**.9198*** [.0115]**	**.9142*** [.0122]**
Market size	**-.0503*** [.0127]**	**-.0349*** [.0101]**	-.0152 [.2870]	-.0119 [.0085]	**-.0181** [.0105]**	**-.035*** [.0091]**	**-.0323*** [.0101]**	**-.0414*** [.0119]**
External depend * Fin develop	**.0202*** [.0055]**	**.0573*** [.0203]**	.0520 [.7377]	**.0648*** [.0189]**	**.0449*** [.0158]**	**.0638*** [.0249]**	**.04038** [.0192]**	.02101 [.0153]
EPL		**-.0467** [.0195]**						
Regulatory and Adm opacity								-.0138 [.0121]
Admin burdens on startups							**-.0277^ [.0192]**	
Barriers to competion						**-.0518** [.0233]**		
Weeks					**-.0315** [.0133]**			
Procedures				**-.0498*** [.0165]**				
Index			-.038 [.6193]					
Constant	.6154*** [.1444]	.5092*** [.1292]	.2829 [4.2472]	.2899** [.1198]	.3022** [.1382]	.4587*** [.1142]	.4442*** [.1217]	.5963*** [.1463]
Observations	4196	4196	3478	3478	3478	4196	4196	4196
Hansen test X^2	338.82	338.58	268.79	267.23	267.1	340.76	338.45	340.2
	(456)	(573)	(536)	(536)	(532)	(622)	(622)	(622)
AR(1)	-8.70***	-8.75***	-6.27***	-8.27***	-8.29***	-8.71***	-8.72***	-8.7***
AR(2)	-0.03	-0.05	-0.61	-0.66	-0.65	0.00	0.00	0.02

Robust standard errors in brackets
* significant at 10%; ** significant at 5%; *** significant at 1%
coefficients for time dummies not shown

TABLE 3: Size equations
PANEL C: Financial development is accounting standards

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
lavempl								
L1	**.8965*** **	**.9193*** **	**.9305*** **	.9321	**.9281*** **	**.9085*** **	.9105	**.9151*** **
	[.0151]	**[.0122]**	**[.0676]**	[.8467]	**[.0119]**	**[.0131]**	[.6922]	**[.0141]**
Market size	**-.0522*** **	**-.0289** **	-.0184	-.0139	**-.0238** **	**-.036*** **	-.0334	**-.0398*** **
	[.0144]	**[.0123]**	[.8489]	[.2009]	**[.0118]**	**[.0109]**	[1.2262]	[.0135]
External	**.0296*** **	**.0577*** **	.0439	.0497	**.0419*** **	**.0623*** **	.0458	.0183
depen	**[.0059]**	**[.0194]**	[.0823]	[.5782]	**[.0147]**	**[.0248]**	[.9616]	[.0138]
* Fin develop								
EPL		**-.0535*** **						
		[.0164]						
Regulatory and Adm opacity								-.0091 [.0124]
Admin burdens on startups							-.0282 [.4309]	
Barriers to competion						**-.0412* **		
						[.0237]		
Weeks					**-.0304** **			
					[.0134]			
Procedures				-.0432 [4.360]				
Index			-.0347 [.0827]					
Constant	.4581*** [.1252]	.4226*** [.1224]	.3180 [.7812]	.3344** [43.992]	.3275** [.1353]	.3744*** [.1205]	.3534 [22.582]	.5203*** [.1571]
Observations	4196	4196	3478	3478	3478	4196	4196	4196
Hansen test X^2	336.84	344.24	269.48	489.34	272.23	340.71	782.38	339.51
	(456)	(573)	(536)	(536)	(532)	(622)	(622)	(622)
AR(1)	-8.71***	-8.71***	-7.28***	-0.32	-8.28***	-8.71***	-1.40	-8.69***
AR(2)	-0.08	-0.08	-0.64	-0.16	-0.65	-0.02	-0.01	0.02

Robust standard errors in brackets
* significant at 10%; ** significant at 5%; *** significant at 1%
coefficients for time dummies not shown

TABLE 4: GROWTH EQUATIONS
PANEL A: Financial development is Domestic credit

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Fraction of Sector in value added of manufacturing in 1980	**-3.996*** [.9419]**	**-3.996*** [.9420]**	**-2.906*** [.9176]**	**-2.871*** [.9155]**	**-2.921*** [.9206]**	**-4.017*** [.9482]**	**-3.988*** [.9397]**	**-3.989*** [.9406]**
(External dependence* Financial development)	**.0936** [.0408]**	**.0938** [.0408]**	**.166*** [.0511]**	**.173*** [.0518]**	**.162*** [.0501]**	**.0922** [.0406]**	**.0944** [.0412]**	**.093** [.0407]**
EPL		0.0043 [0.0078]						
Regulatory and Adm opacicy								-.0063 [.0045]
Admin burdens on startups							-.0039 [.0069]	
Barriers to competion						**.0189** [.0093]**		
Weeks					**-.0018* [.0009]**			
Procedures				**-.0033** [0.0014]**				
Index			**-.0038*** [0.0014]**					
Constant	0.095*** [.0073]	0.096*** [.0073]	0.088*** [.0079]	0.089*** [.0079]	0.088*** [.0079]	0.095*** [.0072]	0.096*** [.0073]	0.095*** [.0073]
Observations	3740	3740	2920	2920	2920	3740	3740	3740
R-squared	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10

Robust standard errors in brackets
* significant at 10%; ** significant at 5%; *** significant at 1%
Coefficients for time dummies not shown

TABLE 4: GROWTH EQUATIONS
PANEL B: Financial development is Accounting standards

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Fraction of Sector in value added of manufacturing in 1980	.0049 [.0055]	.0049 [.0055]	**.0148** [.0067]**	**.0153** [.0067]**	**.0146** [.0068]**	.0056 [.0059]	.0049 [.0059]	.0055 [.0055]
(External dependence* Financial development)	**.0025*** [.0005]**	**.0025*** [.0005]**	**.0017*** [.0006]**	**.0018*** [.0006]**	**.0017*** [.0006]**	**.0024*** [.0005]**	**.0025*** [.0005]**	**.0025*** [.0005]**
EPL		0.00009 [0.0001]						
Regulatory and Administrative opacicy								**-.0007*** [.00009]**
Adminsitrative burdens on startups							-.0001 [.00009]	
Barriers to competion						**-.0006*** [.00014]**		
Weeks					.0001 [.00005]			
Procedures				**-.0001*** [.0001]**				
Index			-.00004 [.00004]					
Constant	.0058*** [.00024]	.0058*** [.00024]	.0057*** [.00028]	.0057*** [.00028]	.0057*** [.00028]	.0058*** [.00024]	.0058*** [.00024]	.0058*** [.00024]
Observations	3730	3730	2900	2900	2900	3730	3730	3730
R-squared	0.23	0.23	0.22	0.22	0.22	0.23	0.23	0.23

Robust standard errors in brackets
* significant at 10%; ** significant at 5%; *** significant at 1%
coefficients for time dummies not shown