Which Firms Benefit More from Financial Development?

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Abstract

We exploit the substantial diversity in financial development of the 'single-market' EU-15 economies to test whether more developed financial systems are better at tackling asymmetric information proxied by firm age and size. To do so, we apply the Rajan and Zingales (1998) identification strategy within industries: at firm level. Comparing the growth effect of financial development across firms of different type, we find that financial development disproportionately fosters the growth of young—but not the youngest—companies, while there is relatively little evidence of differences in the effect across firms of different size.

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1. Introduction

It has long been recognized that there is a pervasive positive cross-country correlation between the level of a country's financial development and its level of economic activity (e.g., Goldsmith, 1969, or King and Levine, 1993), with causality possibly running both ways. Financial development can foster corporate growth because financial intermediaries play a key role in overcoming market frictions due to moral hazard and asymmetric information. These frictions represent a fundamental source of external finance costs, which ought to be lowered through financial development. Efficient financial institutions provide external finance even to informationally opaque businesses, that is to firms with little information available on their economic and financial status.

Small and young firms are prime victims of information asymmetries.[1] Hence, they are likely to benefit disproportionately from the development of financial institutions and markets. Yet, so far there is relatively little research asking whether this is the case. In this study, we measure the extent to which the development of national financial systems boosts the growth rate of small and young firms more than that of large and old firms.

We follow much of the recent finance-and-growth research and apply (a variant of) the Rajan and Zingales (1998) identification strategy. This strategy was developed to avoid the fundamental identification problem of measuring the effect of finance on growth, which would call for isolating the part of the variation in financial development that is unrelated to unobservable current and future growth opportunities. Rajan and Zingales assume that different industries have a different, technologically determined need for external finance. They form a proxy for this need based on several strong assumptions and regress industry growth from a sample of countries on country and industry fixed effects as well as on the *interaction* between a measure of industry external finance dependence and a proxy for country financial development. Their regressions suggest that

[1] We discuss the survey evidence on small and young firms' access to external finance in Section 5. See Levine (1997) for an overview of the theoretical consequences of information asymmetries and costs of external finance for growth.

industries predicted to be in more need of external finance grow faster in countries with more developed financial markets, conditional on all (potentially unobservable) country- and industry-specific factors driving growth.

Clearly, this strategy can also be applied to compare the impact of financial development on firms facing a differential degree of informational opaqueness, such as firms of different size or age.[2] In particular, one can study the growth effect of the interaction between a firm's age (size) and a country's financial development. Applying this strategy, it remains impossible to identify the overall impact of financial development on growth, but this type of evidence uncovers the mechanism of the finance-growth effect. In the Rajan-Zingales framework, the mechanism corresponds to lowering the costs of external finance, which benefits disproportionately those firms that face a high need of external finance for industry-specific technological reasons. In our study, the mechanism consists of lowering costs of external finance for businesses that are informationally opaque because of their own size or age.

Ours is not the first study to focus on the differences in growth effect of financial development by firm size. Beck et al. (2004) aim to measure this growth difference, but, due to lack of firm-level data, they measure it at industry level. They use cross-industry, cross-country data from 44 countries and 36 manufacturing industries and focus on the interaction between financial development indicators and an industry's share of employment by firms with less than 20 employees. They show that industries that are 'naturally' composed of smaller firms grow relatively faster when served by more developed financial systems.

A potential problem with the Beck et al. (2004) approach is that it is not clear that countries at widely different levels of economic development, such as those included in their sample of 44 economies, will share similar size structure of their industries in absence of differences in financial

[2] To ask about differences in the effect of financial development across firm types, one does not need to attempt an overt quantification of the firm-specific extent of financial constraints. Instead, one assumes that, due to information asymmetries, small and young firms are on average more constrained than large and old companies.

development—an assumption invoked in their approach.[3] Equally importantly, there is much variation in firm size within industries, i.e., identifying variation, which is not used in their empirical exercise. They rely on industry averages of a binary firm size indicator (distinguishing firms with less and more than 20 employees), while one can work with continuous firm-level size information. A strategy, which uses an industry indicator for firm size implies size miss-classification for a large share of firms, which ultimately underlie industry-level growth rates.

In this paper, we therefore apply the Rajan-Zingales strategy *at firm level*. This allows us to measure size precisely and tap additional sources of variation. In addition, we can ask whether within- and across-industry size interactions with financial development are similar. Furthermore, we not only offer findings on the size-related differences in the financial-development growth effect, which are complementary to those of Beck et al. (2004), but we also extend the existing literature by offering evidence on the age-related differences.

A final significant difference vis-à-vis the Beck et al. (2004) study is that we compare the growth experience of firms across a set of highly comparable economies. We analyze EU-15 economies, which form a 'single market' with harmonized product regulation, in which firms face similar growth opportunities and are technologically similar. Fortunately for our empirical exercise, significant differences persisted in financial system development across the EU-15 economies at the time of the start of the 'single market', despite extensive product market integration, as documented by, e.g., Guiso et al. (2004a) or Allen et al. (2006).

Relying on an extensive firm-level data set covering EU-15 firms during 1995 to 2003, the Amadeus database, we therefore regress firms' average value-added growth rates on an interaction of firms' (initial) size or age with several dimensions of country-level financial infrastructure. More specifically, we hesitate to use a linear interaction of financial development indicators with firm size and age because it is not clear that information asymmetry decreases proportionately with firms' age

[3]The evidence on similarity of firm-size distributions across countries is mainly based on the most developed economies (e.g., Kumar et al., 1999).

or size and because we wish to impose few functional form restrictions. Hence, we interact financial development with indicators of a firms' position in quintiles of the firm size or age distribution.[4] Our regressions further condition on a set of firm-level pre-determined controls and a full set of country and industry dummies. We therefore ask whether, for example, Greek financial institutions differ significantly from those of the UK in their ability to identify profitable projects of young and/or small companies and thus overcome information asymmetry.

Focusing on firms with more than 100 employees or more than 20 million Euro of total assets,[5] we find little significant difference in the effect of financial development across firms of different size. On the other hand, using the oldest companies as the benchmark group, there is strong evidence of a disproportionate positive effect of financial development on all but the youngest firms, consistent with little access to external finance by the youngest companies. Specifically, we recover an inverted-U shape of the interaction between age and financial development, such that firms of approximately median age benefit the most from financial development. It therefore appears that financial development fosters growth of young (but not the youngest) companies even within a set of some of the most developed countries of the world.

The structure of the paper is as follows: In the next section we present our methodology. Section 3 contains a description of our data and summary statistics, while section 4 presents the basic results together with some robustness checks and with a comparison of our findings to those based on the Beck et al. (2004) industry-level approach. Section 5 further discussed the relationship of our findings to those from the existing literature; Section 6 summarizes the findings.

[4] Similar to the approach of Beck et al. (2004) or Rajan and Zingales (1998), ours is therefore also a group-level interaction approach. However, our groups are formed based on firm-level information (firm size or age), whilst the previous literature relied on interactions based on group-level (typically industry) characteristics.

[5] See Section 3 for detailed sample inclusion criteria. We justify this sample choice in Section 5.

2. Methodology

Our goal is to investigate differences in the effect of financial development on corporate growth across firms of different age or size. Applying the Rajan and Zingales (1998) framework, we ask about these differences using linear regressions of average firm value-added growth rates on (i) a set of firm-level control variables (X), (ii) country and industry fixed effects, and (iii) an interaction of a country's level of financial development (FD) with selected firm-level characteristics: age or size. Hence, we fully control for all observable as well as unobservable industry- and country-level determinants of growth.

We view the establishment of the EU 'single market', which harmonized product market regulation, as an opportunity to compare the growth performance of firms that increasingly face new and similar growth opportunities of the harmonized EU-15-wide market. Investment that would allow firms to benefit from these opportunities is likely to take place in early stages of the 'single market' formation. Hence, our indicators of financial development are measured as of the beginning of the 'single market' in 1993.[6] Similarly, our firm controls are measured as close to this benchmark as possible—as of the beginning of the firm data. We simply wish to control for the differences in the starting position of firms and measure the difference that initial financial development makes.

Hence, our initial regression specification, asking whether firms of different age or size grow at a different rate across financial systems of differential depth, could be of the following form:

$$G_{ijk} = \alpha + \beta \left(FD_i * Z_{ijk} \right) + Z_{ijk}\eta + \gamma_i + \delta_j + X'_{ijk}\zeta + \epsilon_{ijk}, \tag{1}$$

where G_{ijk} denotes the average growth rate of the real value added of firm k in industry j in country i, and where FD_i corresponds to a measure of country financial development. The variable Z_{ijk} represents firm size (age) and it is entered in both the base effect and in the financial-development interaction. Country and industry dummies are denoted as γ_i and δ_j, respectively, and we also con-

[6] See Bena and Jurajda (2007) for an explicit investigation of the corporate growth effects of EU financial integration since the start of the 'single market'.

dition on a set of firm-specific initial-period characteristics X_{ijk} including firm age (size), leverage, tangibility and collateralization, as well as an indicator for quoted companies and a set of indicators for company concentration of ownership and legal form.

However, Equation (1) implicitly assumes that the degree of information asymmetry varies proportionately with firms' age or size, which might be a restrictive assumption. In order to impose as little structure as possible on the key interaction relationship of our regressions, we therefore base our estimation on a non-parametric interaction between a firm's age or size and a country's level of financial development. More specifically, we interact FD_i with a set of indicators for the firm's position in one of the quintiles or deciles of the age or size distribution, measured again as of the beginning of our data:

$$G_{ijk} = \alpha + \sum_{v=1}^{V} \beta_v \left(FD_i * I_{ijkv} \right) + \eta_v + \gamma_i + \delta_j + X_{ijk}^{'} \zeta + \epsilon_{ijk}, \tag{2}$$

where the set of binary indicator variables I_{ijkv} denotes the position of a firm in one of the quintiles (deciles) of the firms' age or size distribution, depending on the question we ask, while the fixed effects η_v capture the average growth rate of firms of the corresponding size or age group.[7]

Our main specification (in Equation (2)) is based on absolute measures of age and size (namely years since incorporation and total assets expressed in a common currency) and thus employs both within- and across-industry differences in firm size or age. The implicit assumption is that the degree of information asymmetry varies with size and age to the same (potentially non-linear) degree in different industries. However, if financial intermediaries use a different technology to evaluate projects of firms in different industries (i.e., different screening techniques), it is possible that the size (age) benchmark against which one measures the degree of informational symmetry differs across industries. Therefore, we alternatively evaluate the interaction effects in Equation (2) using

[7] We note that the bedrock assumption of our identification approach is that in the absence of differences in financial development, growth synchronization of firms in the same industry and age or size category within the EU-15 'single market' would be near perfect. In Bena and Jurajda (2007) we test for the degree of growth 'synchronization' and allow for violation of this assumption in some industries; there is little sensitivity in the estimated firm growth regressions.

a relative measure of size and age, where each firm's size or age is expressed as percentage deviation from the industry median size or age. Using this alternative specification, we explicitly focus on only within-industry comparisons and we assume that what matters for information asymmetry is the deviation of a given firm from the typical industry-specific size or age.[8]

Finally, one can ask about the effects of within- and across-industry effects of age and size simultaneously by controlling for both the relative size and age measures (deviations from industry median size or age) and the industry medians of size and age. The latter type of variation was used by Beck et al. (2004) in their cross-industry analysis.

3. Data

We work with data from a set of countries where industries face highly synchronized shocks[9] and share a highly similar technology content of industrial classification—the countries of the EU's 'single market'—during the 1995-2003 period, which covers the first years of the market's operation before its extension to post-communist countries. Firm-level financial statements and descriptive data, which allow us to compare the growth experience of highly similar firms residing in different countries, come from the Amadeus database. Country-level measures of financial development come primarily from the World Bank. We introduce these data sources in this section and complement the description with detailed tables in the Data Appendix.

3.1. Firm-Level Data

We use firm-level data from the Amadeus (Analyse MAjor Databases from EUropean Sources) database, created by Bureau Van Dijk from standardized commercial data collected by about 50 vendors across Europe. Among the key advantages of the data from our perspective is that they

[8] See Kumar et al. (1999) for evidence on differences in industry-specific typical firm size.

[9] For recent evidence on EU business cycle synchronization see Camacho, et al. (2005). In Bena and Jurajda (2007), we confirm the presence of 'synchronized' EU-15 growth patterns at industry level.

cover both listed and unlisted firms of wide variety of size and age categories and that they provide corporate descriptive statistics including growth together with a detailed source-of-finance accounts. In principle, the database should cover most public and private limited companies,[10] although coverage varies by country and generally improves over time. The firm and industry coverage of these data is an order of magnitude better compared to other existing firm samples as argued in Gomez-Salvador et al. (2004).

These data have been tapped in the finance-growth literature only recently, by Guiso et al. (2004a) to estimate Rajan-Zingales type regressions, and by Klapper et al. (2006) to study firm entry. Our selection of the analysis-ready sample follows the choices made by these two studies. Similar to Guiso et al. (2004a), we use the 'TOP 250 thousand' module of the Amadeus data,[11] which we downloaded in December 2006. Following Klapper et al. (2006) we use only unconsolidated statements to avoid double counting, and we also exclude all legal forms other than the equivalent of public and private limited liability corporations due to the uneven coverage of partnerships, proprietorships and other minor legal forms. (Definitions of key variables and a listing of the included legal forms of firms by country are provided in the Data Appendix, in Tables DA.1 and DA.2, respectively.)

The dataset is drawn from EU-15 countries that were part of the European Internal Market launched in 1993: Austria, Belgium, Denmark, Finland, France, Germany, Greece, Ireland, Italy, Netherlands, Portugal, Spain, Sweden and United Kingdom. As did Guiso et al. (2004) we exclude Luxembourg, because its financial sector is statistically anomalous, and we lose Ireland due to

[10] There are exceptions to the rule. For example, small and medium size German firms are not legally forced to disclose (Desai et al., 2003).

[11] Firms selected as TOP 250,000 had to meet at least one of the following inclusion criteria: For UK, Germany, France, and Italy operating revenue at least 15 million euros, total assets at least 30 million euros, or the number of employees at least 150. For all other countries operating revenue at least 10 million euros, total assets at least 20 million euros, or the number of employees at least 100. See section 5 for a discussion of the choice of the TOP250 module of Amadeus data.

missing firm-level information. Firm coverage in the Amadeus data is incomplete before 1995 and after 2003 so we use only observations from 1995-2003.[12]

Following Rajan and Zingales (1998) and Guiso et al. (2004), we focus on manufacturing industries (NACE 15 to 37). We exclude firms with missing total assets as well as non-active firms. We also omit from analysis growth observations falling outside of the 5-to-95 percentile range of firms' value added growth rate and firms with significant state ownership.[13] Since Greek firms do not report value added, we used sales as a surrogate for them.[14]

Table 1 shows the final number of firm average value-added growth observations used in the study for each country, together with simple firm-level descriptive statistics corresponding to these observations.[15] Next, Figures 1 and 2 present the EU-15-wide as well as the country-specific distribution of firm age and size, respectively. It is clear that the firm size distribution is skewed, as expected, and that coverage varies across countries; specifically, firm size in Germany is affected by non-reporting of small firms. Nevertheless, the data provide extensive coverage of most of the EU-15 economies and represent the best firm-level EU data source available to date.

3.2. Financial Development Indicators

Data on financial development are drawn from the World Bank's Financial Structure and Economic Development Database (March 2005 version) described in detail in Beck et al. (2000). To make our results comparable with those in the literature we use a number of measures of finance activity to

[12] Some firms are not present in the data for the whole period. In order to avoid potential biases from the combination of differential improvements in firm coverage across countries with time-changing aggregate growth rates, we form the firm-level average growth rate using residuals from a regression of all observed firm-level annual growth rates on year dummies. Further, in order to lower noise in the average growth rates, we rely only on companies that report value added for at least 5 years.

[13] Specifically, we drop firms in which the state is as an ultimate owner of at least 10 percent of shares or a direct owner at least 10 percent of shares. There is virtually no sensitivity to the choice of the percentage threshold.

[14] See Guiso et al. (2004) for the use of sales instead of value added.

[15] We use IMF-IFS annual average exchange rates to convert all accounting data into millions of US dollars.

proxy financial development. We start with the traditional measures of activity in the credit and stock markets, namely the ratio of private credit to GDP (PCDMBANKOFINSTGDP) and the ratio of stock market capitalization and stock market total value traded to GDP (STMCAPGDP and STMTVTGDP, respectively). We also rely on a measure of total country-level finance activity equal to the sum of (i) stock market capitalization, (ii) bank credit to the private sector and (iii) domestic debt securities issued by the private sector. This summary measure (Total Capitalization) is taken from Hartmann et al. (2006) and is expressed, again, as a fraction of country-level GDP. All proxies for financial development are averaged over the years 1990-1994, that is, mainly before the establishment of the 'single market'. We rely on time averages to avoid year-to-year fluctuations and use pre-firm-sample measures to alleviate reverse causality problems.

In addition to volume-of-finance-activity measures of financial development, we also use a proxy for the institutional quality of financial markets. Specifically, we use an indicator of the 'quality of accounting standards' (ACCOUNT), produced by International Accounting and Auditing Trends (Center for International Financial Analysis & Research, Inc.). This indicator rates companies' 1990 annual reports on the basis of their inclusion or omission of 90 items in the balance sheets and income statements and ranges from 0 to 90.

All five indicators of financial development are summarized across our EU countries in Table 2.[16] It is clear that despite the extensive integration of EU-15 national product markets up to 1994, there is still substantial diversity in the degree of financial development across the EU-15. The coefficient of variation is particularly high for our measures of stock-market activity. The bottom panel of Table 2 presents correlations (with statistical significance levels) among our different measures of financial development. The correlations suggest that these measures are substantially different.

[16] A detailed definition of each measure is provided in the Data Appendix Table DA.1.

4. Results

Our analysis of average firm-level value-added growth rates covering 1995-2003 asks about differences related to firms' (initial) size or age in the effect of financial development on corporate growth following the introduction of the EU-15 'single market'. We initially use a linear specification for the interaction between financial development and firm size or age, but most of our estimation employs an alternative interaction specification based on a step function in size or age (see Equations (1) and (2) in Section 2), where we define the base (comparison) group as consisting of companies in the top 20% of the size or age distribution.[17] We expect the growth rates of smaller and younger firms to be more sensitive to financial development because of information asymmetries.[18]

4.1. Basic Estimates

Table 3 presents a set of estimated linear interaction coefficients. The two main panels of the table correspond to the focus on either size or age interactions. Within each panel, we present results based on our absolute or our within-industry relative measure of size or age.[19] Each sub-panel lists both the base effect of age or size and the interaction of the age or size growth gradient with national financial development indicators. Each column corresponds to the choice of a particular indicator. The control variables are industry dummies based on the 3-digit ISIC classification, firm-level controls, and country fixed effects. The firm-level controls are age or size, leverage, tangibility,

[17] Recall that size is measured using total assets while age corresponds to years since incorporation.

[18] Further, one may expect very large and/or old firms to have access to international sources of finance and thus be less sensitive to differences in the development of national financial markets, which provides additional motivation for the use of the interaction of financial development with a step function in size or age.

[19] Clearly, the absolute/relative choice of a measure of size (age) will have only a minor impact on the estimation of the size (age) effect as the inclusion of industry dummies transforms the data into deviation from industry averages. Recall that our relative measure of size (age) is based on the percentage deviation from the industry median size (age). On the other hand, this choice will become more important when assigning firms to deciles or quintiles of the firm distribution of either absolute or relative size (age). A firm which is large in absolute terms could still be small within its industry.

collateralization and indicators of being quoted, legal form type and ownership concentration;[20] these controls are measured as of the first year a firm enters the sample. We drop firm observations falling outside of the 5-to-95 percentile range of value-added growth.

The coefficient estimates in the top panel of Table 3 suggest that larger firms, in terms of total assets, benefit less from financial development compared to smaller companies, in accord with our expectation. The interaction effects are statistically significant when based on the relative size measure. However, we cannot precisely estimate an underlying base effect of company size on its growth in most of the estimated specifications, which, combined with the well-established universal presence of a negative relationship between a firm's size and its rate of growth, suggests that our interaction effects may be misspecified. In particular, it may, in part, be capturing the negative base effect of size.

The situation is even less clear in the case of the age interaction coefficients in the bottom panel of Table 3 as these are mostly negative for the relative (within-industry) age measure but positive for the absolute age comparisons. This time, however, financial-development interaction effects are estimated together with an expected statistically significant negative base effect of age. The results based on the absolute age measure suggest that older firms benefit disproportionately from financial development, which contradicts our expectations as well as much of survey evidence discussed in Section 5. Yet, such finding could be explained by the presence of large fixed costs of access to the financial system, which does not decline with financial development. More importantly, the combination of positive and negative interaction signs is puzzling.

To shed more light on the forces underlying these linear interactions and to allow for a non-proportional relationship between information asymmetry and firm size or age, we re-estimate our interactions using the step-function specification. The results for size and age are presented in Tables 4 and 5, respectively. The base size effect (in Table 4), which consists of 4 size quintile

[20] Ownership concentration (company independence with regard to its shareholders) is divided into low, medium and high based on the presence of shareholders with an ownership share over 25% or 50%.

steps, is now precisely estimated, in contrast to the linear base size effect in Table 3. The estimated base size effect suggests, as expected, that smaller firms on average grow substantially faster than larger companies. The size-growth gradient appears to be somewhat convex—the group of smallest companies grows particularly fast. In further contrast to the results presented in Table 3, the interaction of size (groups) with country financial development indicators is never significant in Table 4, irrespective of the type of size comparison we use. The data is not able to support precise estimation of both the base and the interacted step function. We conclude that when analyzing firms that employ over 100 workers or hold assets in the excess of 20 million euros, we detect no size-related differences in the growth effect of financial development.[21]

Next, Table 5 lists specifications using a quintile step function in age. The shape of the estimated base age effect step functions is consistent with the negative linear age coefficient of Table 3 as younger firms grow on average faster than older companies. However, we now recover a decidedly non-linear functional form of the age-financial development interaction using both the absolute and relative measure of age: The youngest companies in our data do not benefit from the development of financial systems more than the oldest companies. On the other hand, companies located towards the center of the age distribution benefit disproportionately more. Such finding is in accord with our initial guess about the interpretation of the positive linear (absolute) age interaction as corresponding to no access to financial markets for the youngest companies.

The age interaction coefficients imply substantial differences in growth effects of financial development across firms of different age. Specifically, the coefficients of Table 5 imply that moving from the minimum to the maximum value of our volume-of-finance-activity measures increases the growth rate of a firm of median age (corresponding to the third quintile of the age distribution) compared to an otherwise comparable firm of age above the 80th age percentile by about 3 to 4 percentage points. For example, when considering the private-bank-credit interaction coefficient,

[21] Given the recent evidence surveyed in Section 5, it is likely that firm entry is affected by financial development. We discuss the implications of the entry effect for our estimation in Section 5.

the almost 4-percentage-points effect corresponds to comparing a 20 year old firm to a 40 year old company across Netherlands and Greece. The estimated difference in growth effects is almost twice as large when we replace volume-of-finance-activity measures with our proxy for institutional development—the accounting standards index.

Figure 3 visually presents both size- and age-financial development interactions, as well as the base size and age effects. The top (bottom) four graphs show estimates based on assigning firms to *deciles* of the size (age) distribution. The right column of graphs then presents the base effects while the left column plots the interactions with financial development indicators. The age decile interactions underscore the presence of an inverted-U age-financial interaction. Similarly, the decile specifications confirm the earlier finding of little evidence for the presence of a differential growth effect of finance across firms of different size, ceteris paribus.

4.2. Checking the Interpretation

Given the obvious correlation between size and age, an interesting question arises as to what extent our size interaction is merely a proxy for the age interaction and vice versa. To check for such omitted-variable problem, we introduce both age and size interactions at the same time in Table 6. As before, the first part of the table (Table 6-A) presents results based on comparisons of absolute size and age while the second part uses within-industry relative comparisons. It turns out that we are able to essentially replicate the results from Tables 4 and 5 in the bivariate interaction specification.

A natural extension of our basic approach is to ask about the importance of the combination of small size and young age for the interplay of information asymmetries and financial development. Hence, we estimate a size-age-financial development interaction in Table 7. We use a relatively parsimonious specification of this 'triple' interaction in that we allow the quintile (absolute) age-financial development interaction to be different for companies of below-median and above-median size. As before, the base comparison group consists of the oldest companies. The estimates in

Table 7 strongly suggest that the inverted-U age-financial development interaction is present for small companies, while there are almost no age-related differences in the growth effect of financial development among large companies. This is an intuitive finding as information asymmetries are likely to be particularly strong for small young companies. Furthermore, the estimated age-related growth-effect differences for small companies are substantially larger than those estimated using the whole sample in Table 5. There are now positive statistically significant interaction coefficients present even for the youngest companies in the majority of the estimated specifications. The volume-of-finance-activity growth-effect difference between a company of median age and the oldest company in our data is now about 50% larger compared to that we derived from coefficients of Table 5.[22]

An important concern with the interpretation of our size- or age-financial development interaction estimates as corresponding to information asymmetries is motivated by the potentially heavy reliance of young or small firms on intangible assets. If financial development reduces the need for collateral or tangible assets, this may disproportionately improve access to external finance for younger firms because of their heavy use of intangibles. Such hypothetical effect is consistent with our estimates thus far, but does not correspond to a reduction in the importance of information asymmetries with financial development. To check to what extent young age proxies for more than high asset intangibility, we therefore estimate the (absolute) age-financial development interaction jointly with an interaction of financial development with an asset tangibility measure and present the estimated parameters in Table 8-A.[23] We recover the familiar inverted-U age interaction function even after allowing for an interaction of financial development with the firm's reliance on intangible assets.[24] Table 8-B then replicates this exercise for the (absolute) size interactions; again, most of

[22] There is little change in the economic magnitude of the accounting-index effect when comparing Tables 5 and 7.

[23] See Beck et al. (2004) for a similar probe in the case of size-related differences in the financial development effect.

[24] The tangibility-financial development interactions suggest that firms in the highest quintile of the firm tangibility distribution benefit less from financial development than all other companies.

the estimated size interactions are statistically insignificant. Further, we also detect no sensitivity to additionally including the intangible-assets interaction in specifications based on the relative measures of age and size.[25]

4.3. Comparing Within- and Across-Industry Variation

One advantage of our approach based on firm-level data is that we can ask whether within-industry and across-industry size or age comparisons lead to the same finance-size or finance-age interaction effects. (See the introductory section for a discussion of the advantages and disadvantages of each strategy.) In Table 9, we therefore present a set of basic linear-interaction coefficients based on the industry median size or age defined at an ISIC 3-digit industry level. The across-industry size interactions are similar in spirit to those used by Beck et al. (2004).[26]

The first set of coefficients comes from regressions with no firm-level controls, while the second set of regressions captures the effects of company variables including size and age. We obtain a set of statistically insignificant negative industry-size interaction coefficients, which are little affected by the introduction of firm-level controls. In the third set of specifications, we allow for a separate interaction based on the across-industry median size and on the within-industry size variation. Similar to results in Table 3, we are not able to estimate both the firm-level size interaction and the base firm size effect. Again, the industry-size negative effects remain unaffected.

The age interaction estimates in the bottom panel of Table 9 suggest that across-industry age variation leads to positive age-financial development interactions, albeit statistically insignificant ones, while the firm-level within-industry age variation identifies a negative relationship. This contrasts with the positive sign of the absolute age linear interactions in Table 3.

[25] These results are available upon request.

[26] However, the two exercises are not directly comparable as our specification focuses on industry size differences among firms employing more than 100 employees while Beck et al. (2004) work with the share of firms with less than 20 employees in an industry.

4.4. Robustness Checks

We perform a number of robustness checks in which we test for sensitivity of our main estimates to changes in the set of control variables, measures of financial development, the degree of sample selection through firm exit, or estimation techniques.

First, our maintained identification assumption thus far has been that in absence of differences in financial development, growth synchronization of firms in the same industry and age or size category within the EU-15 'single market' would be near perfect. This assumption corresponds to the use of industry dummies in all of our specifications. In Table 10 we alternatively allow for the presence of industry-country dummies, which corresponds to the presence of differences in industry-specific comparative advantage of each country. The estimated parameters show no material difference vis-à-vis those of Table 6.

Second, we use an alternative version of indicators of financial development. Our main set of results is based on pre-determined financial-development differences (measured during 1990-1994), but there has been significant progress on the financial integration front within the EU-15.[27] We therefore compare our main specifications to those based on an average measure of financial development taken over the 1995 to 1998 period, i.e., over the years before the introduction of the common currency in most of the EU-15 economies. We obtain interaction coefficients that are fully consistent with those based on the earlier measure of financial development, albeit somewhat smaller. These robustness checks are presented in the Appendix Table A.1.

Third, we assess the sensitivity of our estimates to excluding one country from the sample. We do so for each country in turn, with the aim of discerning which countries may be driving our results. Given the general lack of sensitivity, we present the results after excluding the UK (Table A.2) together with an alternative set of estimates based on excluding Greece (Table A.3)—the most

[27] Baele et al. (2004) show that after at the end of the 1990s full or near-full integration has been achieved for the overnight loan and government debt markets, while the corporate bond market and, especially, the bank loan and stock markets are still segmented.

and the least financially developed country in our data, respectively. While omitting Greece has no material influence on the estimated interactions, omitting the UK introduced some noise. Yet, the qualitative finding of typically largest interaction effects for approximately median aged firms remains.

Finally, we check for the sensitivity to the definition of our dependent variable. Up to now, we estimated regressions explaining the variation in a simple time average of annual real value-added growth rates of the sampled companies.[28] In Table A.4 we present an alternative set of estimates based on the median company growth rate, which is highly similar to that presented earlier in Table 6.[29]

In the near future, we will also apply a different estimation technique. Up to now, we have avoided the influence of value-added growth outliers, present in any company-level financial data, by symmetrically excluding extreme values of growth rates from our linear 'mean' regressions. In our last robustness check, we alternatively apply median regressions, which are robust to outliers by design and allow us to use all available growth rate data (that is, even observations of average growth rates falling outside the 5-to-95 percentile range). The results are shown in Table to-be-provided. The clustered standard errors we report are bootstrapped.

[28] The presence of negative value-added growth rates complicates taking a compounded average. In an earlier version of this paper, we have also directly used annual growth rates and conditioned on industry-time dummies. The results we obtained were similar to those presented here.

[29] We also obtain a fully consistent set of estimates when using a growth rate implied by the difference between the last and first observed value of company value added.

5. Relationship to the Existing Literature

5.1. Consequences of Information Asymmetry

In firm surveys, small and young companies in both the developed and developing world report to have less access to external finance than larger and older companies.[30] Survey responses are also used to ask about the effect of financing obstacles on firm growth. For example, Beck et al. (2005) suggest that the effect that the difference in financial development across a wide set of both developed and developing countries has on a firms' growth is strongest for the smallest companies. It is widely held that the main reason why small and young firms report lower access to external financing and benefit disproportionately from financial development is their information opaqueness. Firm survey evidence is thus consistent with the notion that financial development reduces the negative effects of information asymmetry and offers an effective way of promoting small firm growth—an important conclusion from a policy standpoint.[31]

Yet, it is imperative that these conclusions based on firms' subjective assessments are compared to those reached with non-subjective data. For example, it is not clear that firms of different size and age compare their unsatisfied need for external finance against the same benchmark; it could be that such firms differ in their ability to evaluate the potential gains from using additional external finance. Similarly, the estimation of growth consequences of self-assessed financial constraints is plagued by potential reverse causality problems if firms that fail to grow because of internal problems tend to blame financial intermediaries for failing to provide external finance.

Absent of firms' own indication of inadequate access to external finance, it is fundamentally

[30] Age and size explain a large share of the variation in firms' self-reported financing obstacles in the World Business Environment Survey, which covers much of the developing world (Beck et al., 2006). Similarly, the presence of financial constraints is negatively related to firm age in the survey of Italian firms studied by Angelini and Generale (2005).

[31] See also Bergell and Udell (1998) for an early discussion of small-firm finance and Beck and Demirguc-Kunt (2006) for a recent survey of this topic.

difficult to form a firm-level indicator of financial constraints.[32] On the other hand, it is still possible to ask about differences in the growth impact of financial development across firm types—differences that likely correspond to degrees of information asymmetry. Applying the Rajan-Zingales approach, described in the Introduction, such comparison is possible even without solving the identification problem of finance-growth research, that is without isolating the part of the variation in financial development that is unrelated to current and future growth opportunities, which are inherently unobservable.[33]

While the original study of Rajan and Zingales (1998) compared the growth effect of financial development across industries that are predicted to be in different need of external finance, Beck et al. (2004) apply the strategy across industries that are 'naturally' composed of different shares of small companies and find that industries that typically have a large share of small firms tend to grow faster than industries that typically have a large share of large firms in countries with a higher level of financial development.[34] In this paper, we offer a complementary set of findings on finance-growth effects across firm size categories. Unlike Beck et al. (2004), we also rely on within-industry firm-specific size differences. Unlike previous studies, e.g., Beck et al. (2004) or Beck et al. (2005),

[32] For example, investment-cash flow sensitivities could be higher for smaller and/or younger firms in comparison to larger and more mature firms because (i) financial constraints are more binding for small and young firms or (ii) such firms learn from their cash flow about their uncertain growth prospect. In general, financial constraints are difficult to measure because they arise from the interaction of the quality of a financial system, a firm's inherently unobservable growth opportunity, and endogenous financing-related firm-level indicators.

[33] Few studies are able to solve this identification problem. Finding valid instrument for country-level financial development is difficult, as is securing large enough samples in order to avoid small-sample biases of instrumental variable estimators. Guiso et al. (2004b) solve the identification problem by looking within a country and focusing on historically predetermined variation in local financial development. They suggest that small firms grow faster in regions of Italy that feature more developed credit markets, which is consistent with small firms being more constrained than large firms in their operation and growth through access to external finance. Theirs is an important finding, but it addresses only within-country differences in financial development.

[34] The main exception to this finding is that the development of stock markets appears to have little effect on small firms.

we analyze the experience of firms in a set of highly developed comparable economies. Unlike all of the existing literature, we also explicitly focus on age and differentiate growth differences related to size from those related to age.

Using firm-country comparisons is a natural extension of the Rajan and Zingales (1998) strategy, which itself shifted the focus of the finance-growth literature from cross-country comparisons to country-industry comparisons. However, it raises an important concern. Many of firm-level characteristics are likely to be endogenous, i.e., related to unobservable firm quality, which itself affects access to external finance. Furthermore, firms that need external finance may be likely to adjust some of their financial characteristics in order to increase chances of obtaining outside finance. Fortunately, firm age and to a lesser extent its size, measured by total assets, are difficult to adjust and arguably represent some of the more exogenous firm characteristics.

To a significant degree, our results confirm a typical interpretation of the findings of survey-based studies, namely that financial market development benefits young firms disproportionately. However, we find that as firms age, their benefit from financial development first rises, possibly thanks to improved access to the financial system. On the other hand, we do not confirm the survey-based evidence on size-related differences in growth effects of financial development. This could be either the result of our focus on only comparable highly-developed economies or it could be the consequence of measuring growth effects for firms above a minimum size threshold (see the next sub-section), which is higher than that used in, e.g., Beck et al. (2004). We discuss existing EU evidence on firm entry and growth of very small firms below. Finally, we note that our use of volume-of-finance indicators of financial development implies that our findings are consistent with the notion that *deeper* financial markets are more *efficient* in overcoming information asymmetry.[35]

[35] Wurgler (2000) and Braun (2006) imply that deeper financial systems display better allocative efficiency.

5.2. Firm Entry and Exit

A poor financial system may prevent firms from reaching their optimal size and the measurement of such corporate growth effect is the object of our analysis. However, a poor financial system may also prevent entry of profitable companies. Our analysis of firm growth is therefore complementary to that of Klapper et al. (2006), who study the effect that a country's business environment and institutions have on entry of new firms.[36] Applying the Rajan-Zingales identification strategy at industry level, they find, among other results, that firm entry is higher in industries predicted to be in more need of external finance (using the measure of external finance need proposed by Rajan and Zingales, 1998) in countries that have a higher level of financial development.[37] Klapper et al. (2006) also suggest, similar to other existing studies, that entrants are on average larger in countries with a lower level of financial development.[38]

Our study focuses on (the differences in) the effects of financial institutions *conditional on entry.* It is therefore important that we consider the implications for our estimation of the potentially different (unobservable) growth potential of firms entering in countries that differ in their degree of financial development. The different firm entry process in different countries could induce differences in (unobservable) entrant quality in our sample. As a hypothetical example, if entering companies in the highly financially developed UK environment are on average of lower growth potential than entrants in less financially developed Greece, than the higher effect of financial development on growth of young companies may be obscured by this sample selection on unobservable growth potential.

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[36] Their study is based on the same data we use, the Amadeus database. They effectively assume that entry of a firm into the database corresponds to (a random sample of) entry in the population of firms.

[37] They also find a similar result when looking across industries that have a different level of 'dependence' on trade credit.

[38] Among recent studies, see Alfaro and Charlton (2006) and Aghion et al. (2006) for similar evidence. Beck and Demirguc-Kunt (2006) survey the literature on the interplay between financial systems and firm size distribution.

Our estimation controls for the different growth potential of firms of different sizes; hence, to the extent that growth potential at entry is proxied by size at entry (as in Beck and Demirguc-Kunt, 2006), our estimation is likely to be unaffected by the higher fraction of larger entrants in less financially developed countries. On the other hand, if the lack of external finance in some countries leads to a higher growth potential of entrants compared to entrants *of identical size* in more financially developed systems, then such sample selection on unobservable quality may lead us to under-estimate the difference in the financial-development effect for these firms compared to mature companies. [39]

In light of these considerations, it is important to recall that we use the 'TOP 250 thousand' module of the Amadeus data, which means that we do not study the growth of very small companies. More specifically, our data cover firms with an operating revenue of at least 10 million Euro or total assets above 20 million Euro or more than 100 employees (or any combination of these conditions).[40] Hence, we analyze post-entry growth of firms of a certain minimum size with the purpose of minimizing selection effects. We believe that at this stage of a company's existence, unobservable quality (growth potential) differences stemming from selection through entry (as well as exit shortly after entry) are likely to be low. In other words, our assumption here is that recent entrants of such minimum size are of similar growth potential in countries with a different level of financial development.

Nevertheless, it is still possible that a selective exit of companies from our sample related to the level of financial development may affect our estimation.[41] For example, it could be that high-

[39] Our presentation of the argument about selectivity is based on the unobservable quality of projects (growth potential). A similar line of argument could be built around the degree of information opaqueness, such that a Greek entrant may be expected to feature a lower level of opaqueness compared to the average entering UK company.

[40] The sample inclusion criteria are somewhat different for the UK, Germany, France and Italy, where they require an operating revenue of at least 15 million, total assets of at least 30 million or employment of at least 150 workers.

[41] Cabral and Mata (2003) show that in Portugal—an EU-15 country with a relatively under-developed financial system—selection of firms through exit has little effect on the firm size distribution. They also illustrate how the use

growth companies in low-financial development countries are often acquired by their competitors from countries featuring a highly developed financial system and hence disappear from our data. Alternatively, a highly developed financial system may "weed out," through competitive pressure, companies that would survive in a less financially developed environment.[42] Here, we note that our estimation is based on average (or median) growth rates during our sample period. As a result, companies that disappear from our data towards the end of the sample frame are still represented in the data. We obtain similar results when using average and median growth rates to summarize company performance. As a final check, we have also re-estimated our main specifications based on a sub-sample where we omitted all companies that disappear from the Amadeus database. Such *additional* sample selection ought to magnify any sample selection bias, but we obtain results (available upon request), which are fully consistent with those based on our main sample.

6. Conclusion

The establishment of the EU 'single market', which harmonized product market regulation, provides an opportunity to compare the growth performance of firms operating in a similar product-market environment in countries at a similar level of economic development, but facing national financial systems that differ significantly in their depth and institutional quality. We measure the ability of these financial systems to foster corporate growth by tackling information asymmetry as proxied by firm size and age. We study the effects of financial development on firm growth conditional on entry and conditional on firms having reached a certain minimum size (having at least 100 employees), such that we capture these effects after the initial selection of projects at entry has taken place. We

of firm data based on publicly available accounting records may be misleading when studying the share of very small firms.

[42] Indeed, our preliminary analysis suggests that a firm is more likely to exit from Amadeus databases during 1997 to 2003 if it operates in a more financially developed environment and that this exit 'gap' is larger across countries for younger and smaller companies. However, given that there is little information on the reason for exit from the database (e.g., bankruptcy, merger, non-reporting), we hesitate to draw conclusions.

apply the Rajan and Zingales (1998) approach at firm level and ask about differences in the growth effect of financial development across firms of different age and size. We do so after controlling for the common industry structure of 'single market' growth opportunities.

We find little evidence of a differential effect of financial development on firms of different size, conditional on firms being of a certain minimum size.[43] This does not rule out the possibility that financial market development benefits very small firms disproportionately, as suggested recently by the study of firm entry by Klapper et al. (2006). On the other hand, we find that firms of approximately median age benefit more from financial development in comparison to old firms. In fact, we estimate an inverted-U shape for the age-financial development interaction, which is consistent with very young firms having relatively little access to the financial systems of EU-15 economies. Using volume-of-finance-activity measures, we find that moving from the least to the most developed financial system within the EU-15 results in a value-added growth rate advantage of a median-aged firm over a firm positioned in the top quintile of the age distribution of about 3 to 4 percentage points. The age-related difference in the effects of institutional quality, proxied here by a measure of accounting standards, is at least as large.

Financial development therefore appears to offer an effective way of promoting young firms' growth even within a set of comparable highly developed economies. Our results are consistent with the notion that financial development successfully tackles information asymmetry and has real consequences for corporate growth.

[43] Hence, our qualitative conclusions are different from those of Beck et al. (2004) who study a wide set of countries and rely on cross-industry variation in typical industry size.

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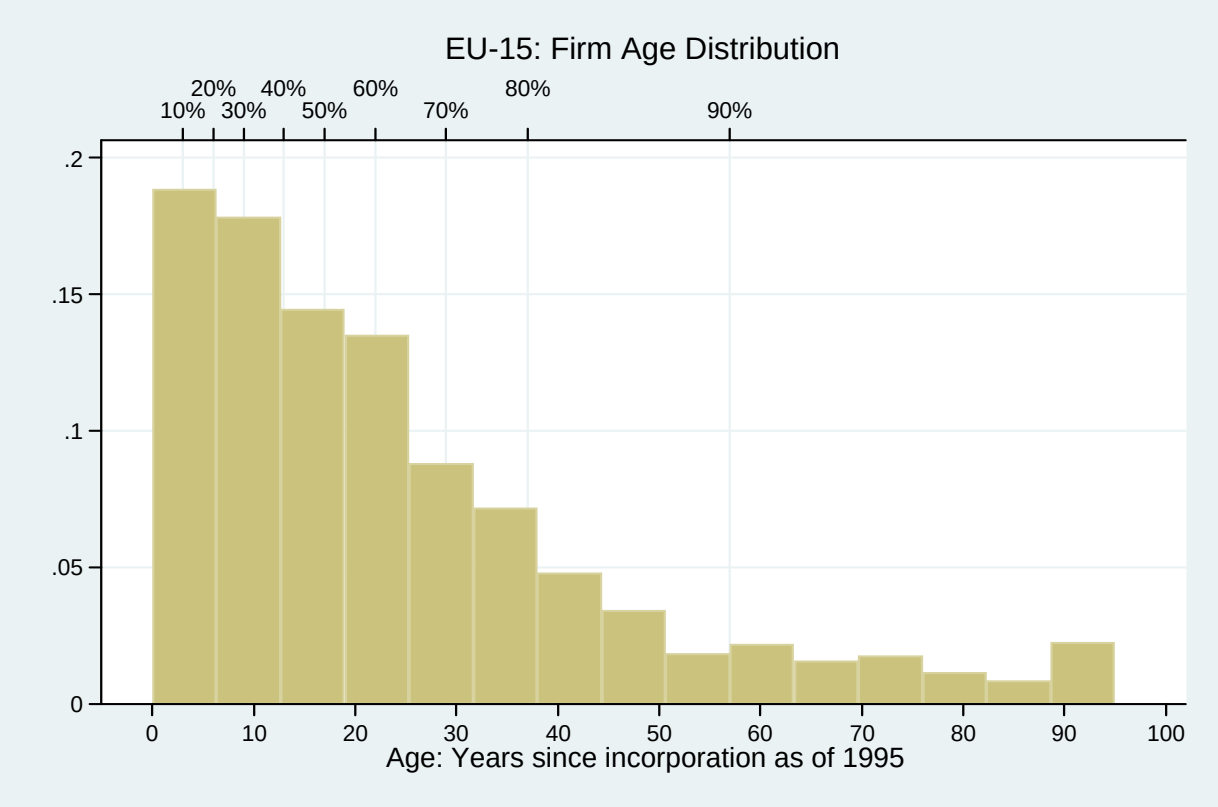
Table 1

Corporate Descriptive Statistics by Country: Firm Data over 1995-2003

	Size		Age		Growth		Tangibility		N
	Mean	Median	Mean	Median	Mean	Median	Mean	Median	
Austria	120.4	45.8	19.3	10.0	0.019	0.013	0.34	0.33	122
Belgium	71.4	15.3	22.4	17.0	0.011	0.001	0.26	0.22	1,367
Finland	57.2	15.0	20.5	10.0	0.050	0.036	0.34	0.33	499
France	109.1	19.5	29.3	23.0	0.026	0.015	0.18	0.15	1,488
Germany	381.0	78.1	33.2	19.0	0.006	-0.005	0.30	0.27	473
Greece	23.5	9.0	16.3	14.0	0.064	0.051	0.28	0.25	658
Italy	49.3	17.8	20.1	16.0	0.031	0.020	0.22	0.19	4,599
Netherlands	204.8	28.5	35.7	30.0	0.000	-0.013	0.32	0.30	174
Portugal	54.7	17.6	27.5	22.0	0.007	-0.010	0.38	0.37	211
Spain	46.0	15.5	21.6	18.0	0.054	0.048	0.27	0.24	2,375
Sweden	70.2	11.9	33.3	28.0	0.048	0.040	0.31	0.30	983
UK	89.4	18.8	28.7	22.0	0.061	0.054	0.32	0.31	2,230

Note: The number of firm observations in the sample, N, corresponds to observations with non-missing average value-added growth rate. Size (total assets) is in millions of US dollars. Age is the number of years since firm incorporation. Growth is the average real value-added growth rate over 1995-2003. Tangibility is measured as fixed assets divided by total assets. Size and Tangibility are measured as of the first year a firm enters the sample while Age is as of 1995. Before computing these statistics we remove growth outliers (we use only the 5-to-95 percentile range of average firm value-added growth rate) and firms with less than 5 years of value-added data available. See the Data Appendix for complete definitions and sources of variables.



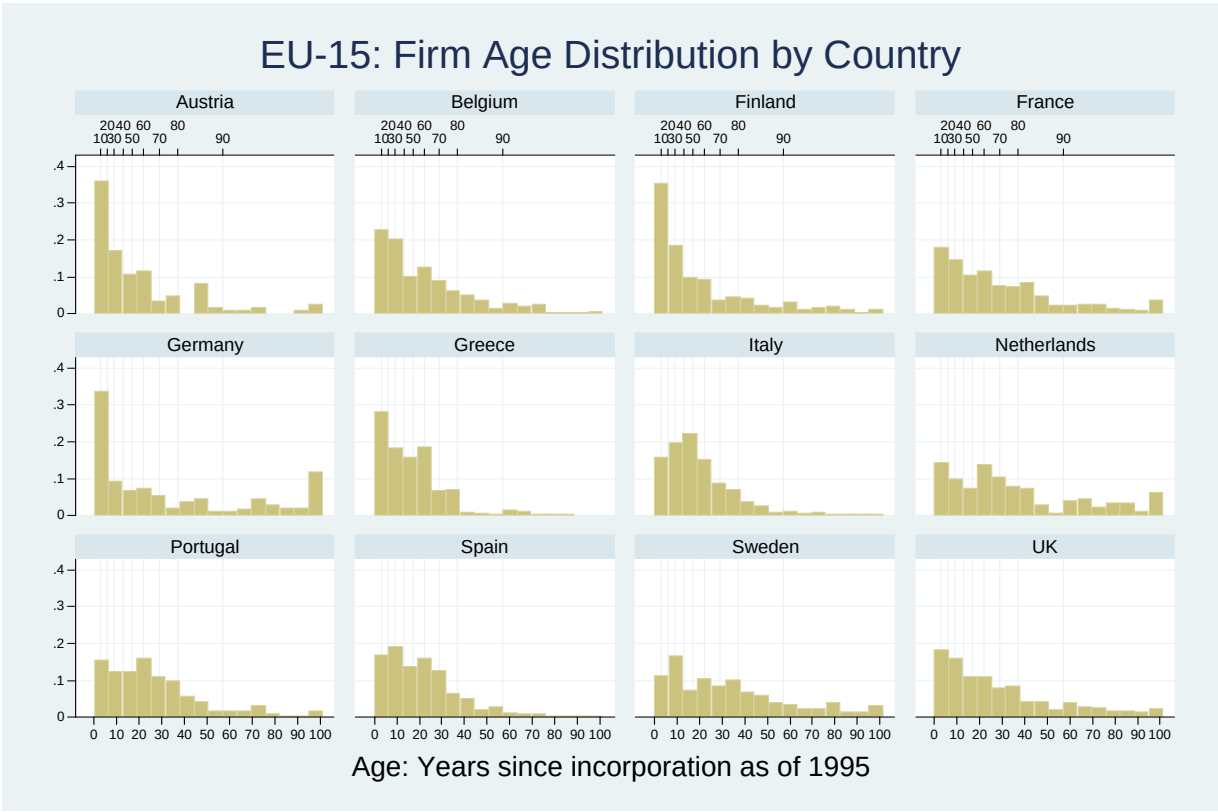
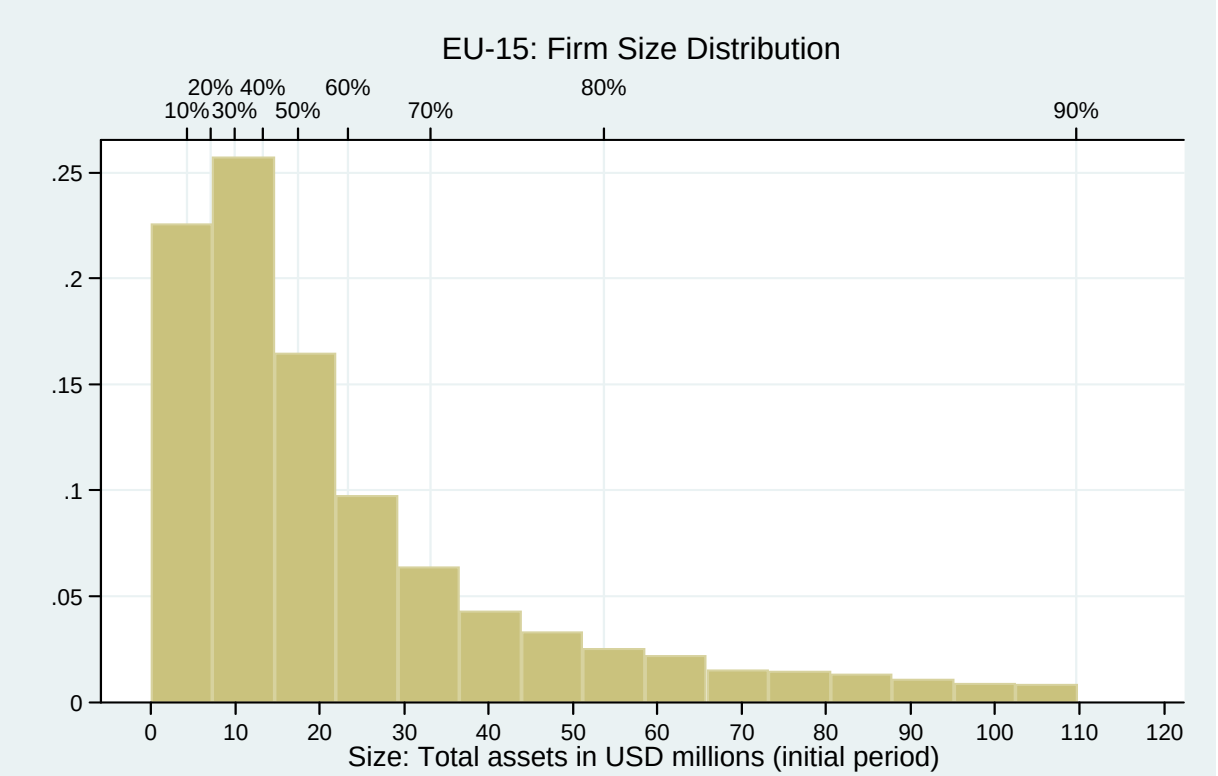


Figure 1

Note: Age (the number of years since firm incorporation as of 1995) is measured along the horizontal axis. The upper horizontal axis of each graph indicates deciles of the EU-15-wide age distribution. Before plotting the histograms we remove growth outliers (we use only the 5-to-95 percentile range of average firm value-added growth rate) and firms with less than 5 years of value-added data available. See the Data Appendix for complete definitions and sources of variables.



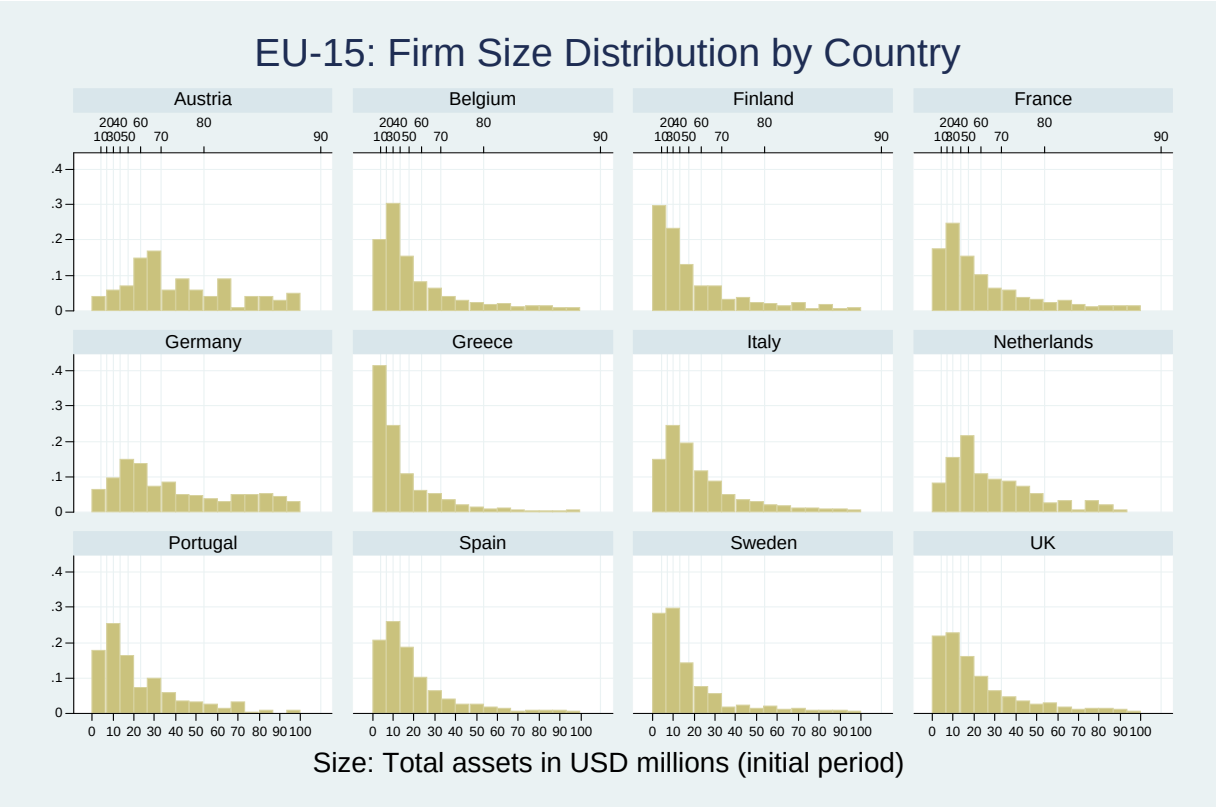


Figure 2

Note: Size (total assets in millions of US dollars as of the first year a firm enters the sample) is measured along the horizontal axis. The upper horizontal axis of each graph indicates deciles of the EU-15-wide size distribution. Before plotting the histograms we remove growth outliers (we use only the 5-to-95 percentile range of average firm value-added growth rate) and firms with less than 5 years of value-added data available. See the Data Appendix for complete definitions and sources of variables.

Table 2
Financial Development: The EU-15 over 1990-1994

	Private Bank Credit	Market Capitalization	Total Capitalization	Market Value Traded	Accounting Standards
		Basic Statistics			
Mean	0.86	0.31	1.35	0.13	0.64
Median	0.89	0.22	1.45	0.07	0.63
S.D. / Mean	0.38	0.80	0.33	0.94	0.20
Min	0.32	0.10	0.51	0.03	0.36
Max	1.41	0.97	2.25	0.45	0.83
Min Country	Greece	Austria	Greece	Greece	Portugal
Max Country	Netherlands	UK	UK	UK	Sweden
N	12	12	12	12	12
		Correlations			
Private Bank Credit	1.00				
Market Capitalization	0.57	1.00			
Total Capitalization	0.71	0.79	1.00		
Market Value Traded	0.64	0.90	0.80	1.00	
Accounting Standards	0.60	0.57	0.67	0.51	1.00

Note: We first compute the country average of each financial development measure in the period 1990-1994 (the exceptions is Accounting Standards, which correspond to 1990). Second, we present the Mean, Median, Coefficient of Variation, Min, and Max of the country averages from the first step across EU-15 countries. Denmark, Ireland, and Luxembourg are not included in this EU-15 comparison as they do not enter our firm-level analysis. The reported country-level financial development variables are used as explanatory variables in our regressions. See the Data Appendix for complete definitions and sources of variables.

Table 3

Financial Development (FD) and Corporate Growth: Linear Specification

	Private Bank Credit	Market Capitalization	Total Capitalization	Market Value Traded	Accounting Standards
	Size: Across- and Within-Industry Comparisons				
FD * Size	0.003	-0.022***	-0.005	-0.025*	-0.041
	(0.012)	(0.006)	(0.006)	(0.014)	(0.025)
Size	-0.006	0.004	0.004	0.001	0.023
	(0.012)	(0.003)	(0.010)	(0.004)	(0.017)
N	15,040	15,040	15,040	15,040	15,040
R^2	0.11	0.11	0.11	0.11	0.11
	Size: Within-Industry Comparisons				
FD * Size	-0.033***	-0.061***	-0.026***	-0.100***	-0.070***
	(0.011)	(0.019)	(0.006)	(0.032)	(0.014)
Size	0.006*	0.003	0.009***	0.002	0.010***
	(0.003)	(0.002)	(0.003)	(0.003)	(0.003)
N	15,040	15,040	15,040	15,040	15,040
R^2	0.11	0.11	0.11	0.11	0.11
	Age: Across- and Within-Industry Comparisons				
FD * Age	0.042***	-0.002	0.019**	0.007	0.015
	(0.013)	(0.011)	(0.008)	(0.023)	(0.038)
Age	-0.104***	-0.065***	-0.095***	-0.067***	-0.077***
	(0.012)	(0.006)	(0.012)	(0.005)	(0.026)
N	15,040	15,040	15,040	15,040	15,040
R^2	0.11	0.11	0.11	0.11	0.11
	Age: Within-Industry Comparisons				
FD * Age	-0.099	-0.410**	-0.134	-0.548	-1.648***
	(0.201)	(0.203)	(0.117)	(0.410)	(0.402)
Age	-0.061***	-0.057***	-0.055***	-0.061***	-0.005
	(0.010)	(0.005)	(0.010)	(0.005)	(0.015)
N	15,040	15,040	15,040	15,040	15,040
R^2	0.11	0.11	0.11	0.11	0.11

Note: The dependent variable is the average of annual firm-level real value-added growth rates of manufacturing firms in the period 1995-2003. All country-level financial development variables are predetermined. Estimates in "Across- and Within-Industry Comparisons" panels are based on absolute measures of age and size: Age (the number of years since a firm's incorporation as of 1995) is scaled down by 100; Size (total assets) is in millions of US dollars. Estimates in "Within-Industry Comparisons" panels are based on relative measures of age and size: Age is the percentage deviation of firm's age from the industry median firm age on a 3-digit ISIC level and is scaled down by 10,000; Size is the percentage deviation of firm's size (total assets) from the industry median firm size on a 3-digit ISIC level and is scaled down by 10,000.

We also include (non-reported here) firm-level control variables: Leverage, measured as long-term debt plus current liabilities divided by total assets; Tangibility, measured as fixed assets divided by total assets; Collateralization, defined as fixed assets plus inventories plus accounts receivables divided by total assets; and Trade credit, measured as accounts payables divided by total assets. Tangibility, Collateral, and Trade Credit are measured as the percentage deviation from the respective industry median on a 3-digit ISIC level and are scaled down by 10,000. Age and Size (as well as all other firm-level control variables) come from the first year a firm enters the sample and remain fixed over time. We also include indicators for ownership concentration, a dummy for quoted firms, and a dummy for firms that have a Private Limited Company legal form.

See the Data Appendix for complete definitions and sources of variables. All specifications are linear regressions with outliers removed (using the 5-to-95 percentile range of the dependent variable). We also remove firms with less than 5 years of value-added data available. We always control for 3-digit-ISIC industry and country dummies, not shown. Robust standard errors are reported in parentheses; *, **, and *** denote significance at the 10%, 5%, and 1% level, respectively.

Table 4
Financial Development (FD) and Corporate Growth: Size Quintile Groups

	Private Bank Credit	Market Capitalization	Total Capitalization	Market Value Traded	Accounting Standards
			Across- and Within-Industry Comparisons		
FD * Size Q1	-0.023	-0.005	-0.007	0.015	-0.036
	(0.033)	(0.020)	(0.013)	(0.036)	(0.097)
FD * Size Q2	-0.021	-0.008	-0.008	-0.005	-0.061
	(0.023)	(0.013)	(0.009)	(0.022)	(0.061)
FD * Size Q3	-0.020	-0.008	-0.006	-0.014	-0.048
	(0.012)	(0.008)	(0.006)	(0.013)	(0.037)
FD * Size Q4	-0.007	-0.001	-0.002	0.000	-0.020
	(0.007)	(0.003)	(0.003)	(0.006)	(0.021)
Size Q1	0.102***	0.086***	0.094***	0.081***	0.108
	(0.030)	(0.012)	(0.021)	(0.013)	(0.066)
Size Q2	0.056**	0.041***	0.050***	0.039***	0.080*
	(0.020)	(0.008)	(0.015)	(0.008)	(0.042)
Size Q3	0.036***	0.022***	0.029**	0.021***	0.052*
	(0.011)	(0.006)	(0.011)	(0.005)	(0.026)
Size Q4	0.013**	0.007**	0.009*	0.006**	0.020
	(0.006)	(0.003)	(0.005)	(0.002)	(0.014)
N	15,040	15,040	15,040	15,040	15,040
R^2	0.20	0.20	0.20	0.20	0.20
			Within-Industry Comparisons		
FD * Size Q1	-0.029	-0.008	-0.009	0.004	-0.054
	(0.029)	(0.020)	(0.013)	(0.033)	(0.087)
FD * Size Q2	-0.020	-0.008	-0.007	-0.006	-0.048
	(0.019)	(0.012)	(0.008)	(0.020)	(0.057)
FD * Size Q3	-0.018	0.000	-0.005	-0.002	-0.031
	(0.011)	(0.008)	(0.007)	(0.017)	(0.033)
FD * Size Q4	-0.006*	0.003	0.000	0.002	-0.010
	(0.003)	(0.002)	(0.002)	(0.005)	(0.014)
Size Q1	0.105***	0.084***	0.094***	0.081***	0.118*
	(0.026)	(0.011)	(0.019)	(0.011)	(0.059)
Size Q2	0.052**	0.039***	0.047***	0.037***	0.068
	(0.017)	(0.007)	(0.013)	(0.007)	(0.039)
Size Q3	0.035***	0.021***	0.028**	0.021***	0.041*
	(0.009)	(0.006)	(0.011)	(0.005)	(0.022)
Size Q4	0.010***	0.004**	0.005	0.004**	0.012
	(0.002)	(0.002)	(0.003)	(0.002)	(0.010)
N	15,040	15,040	15,040	15,040	15,040
R^2	0.20	0.20	0.20	0.20	0.20

Note: The Table reports estimates obtained by interacting financial development measures with a step function based on a firm's position in quintiles of the firm size distribution. Estimates in the top panel are based on an absolute measure of firm size (total assets in millions of US dollars) while the coefficients in the bottom panel are based on the percentage deviation of firm's size from the industry median firm size on a 3-digit ISIC level. See Table 3 notes for a list of additional control variables and the Data Appendix for definitions of variables. All specifications are linear regressions with outliers removed (using the 5-to-95 percentile range of the dependent variable). We also remove firms with less than 5 years of value-added data available. We always control for 3-digit-ISIC industry and country dummies, not shown. Robust standard errors (clustered at country level) are reported in parentheses; *, **, and *** denote significance at the 10%, 5%, and 1% level, respectively.

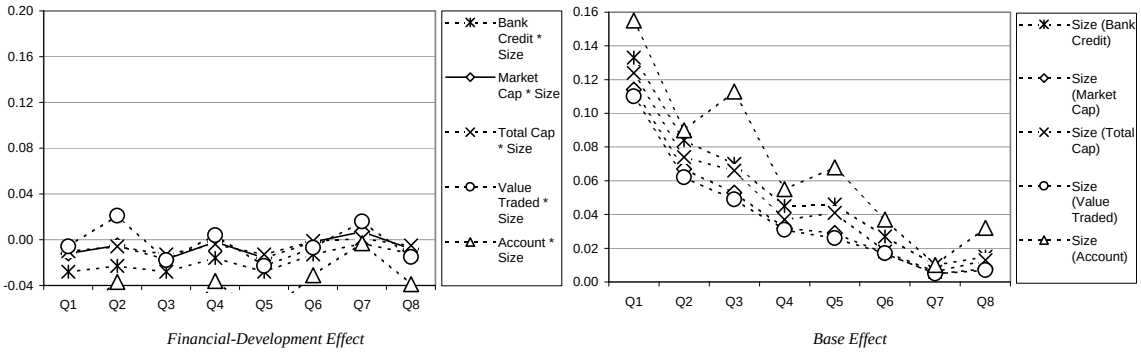
Table 5
Financial Development (FD) and Corporate Growth: Age Quintile Groups

	Private Bank Credit	Market Capitalization	Total Capitalization	Market Value Traded	Accounting Standards
			Across- and Within-Industry Comparisons		
FD * Age Q1	-0.004	0.012*	0.002	0.018	0.021
	(0.012)	(0.006)	(0.006)	(0.015)	(0.039)
FD * Age Q2	0.018	0.023***	0.011*	0.049***	0.064*
	(0.011)	(0.004)	(0.005)	(0.010)	(0.036)
FD * Age Q3	0.036**	0.040***	0.025***	0.077***	0.141***
	(0.013)	(0.004)	(0.003)	(0.009)	(0.041)
FD * Age Q4	0.022***	0.017***	0.013***	0.034***	0.082***
	(0.007)	(0.004)	(0.003)	(0.008)	(0.020)
Age Q1	0.041***	0.034***	0.035***	0.035***	0.024
	(0.009)	(0.005)	(0.008)	(0.004)	(0.026)
Age Q2	0.015	0.022***	0.014*	0.023***	-0.013
	(0.009)	(0.004)	(0.008)	(0.004)	(0.024)
Age Q3	-0.011	0.004	-0.017***	0.006**	-0.077**
	(0.008)	(0.003)	(0.004)	(0.003)	(0.026)
Age Q4	-0.014**	-0.003	-0.015**	-0.002	-0.051***
	(0.006)	(0.003)	(0.006)	(0.003)	(0.014)
N	15,179	15,179	15,179	15,179	15,179
R^2	0.12	0.12	0.12	0.12	0.12
			Within-Industry Comparisons		
FD * Age Q1	-0.003	0.013*	0.002	0.021	0.023
	(0.012)	(0.006)	(0.007)	(0.016)	(0.037)
FD * Age Q2	0.013	0.022***	0.011*	0.044***	0.054
	(0.013)	(0.005)	(0.005)	(0.012)	(0.043)
FD * Age Q3	0.040***	0.041***	0.025***	0.081***	0.141***
	(0.013)	(0.004)	(0.003)	(0.010)	(0.043)
FD * Age Q4	0.027***	0.021***	0.016***	0.043***	0.093***
	(0.007)	(0.004)	(0.003)	(0.009)	(0.022)
Age Q1	0.041***	0.035***	0.036***	0.036***	0.024
	(0.009)	(0.005)	(0.009)	(0.004)	(0.025)
Age Q2	0.020*	0.023***	0.015	0.024***	-0.006
	(0.010)	(0.004)	(0.008)	(0.004)	(0.028)
Age Q3	-0.011	0.006	-0.015**	0.008**	-0.074**
	(0.009)	(0.004)	(0.006)	(0.004)	(0.029)
Age Q4	-0.016**	-0.001	-0.017**	0.000	-0.056***
	(0.006)	(0.003)	(0.005)	(0.003)	(0.015)
N	15,179	15,179	15,179	15,179	15,179
R^2	0.12	0.12	0.12	0.12	0.12

Note: Table reports estimates obtained by interacting financial development measures with a step function based on a firm's position in quintiles of the firm age distribution. Estimates in the top panel are based on the absolute measure of firm age (the number of years since a firm's incorporation as of 1995) scaled down by 100 while the coefficients in the bottom panel are based on the percentage deviation of firm's age from the industry median firm age on a 3-digit ISIC level. See Table 3 notes for a list of additional control variables and the Data Appendix for definitions of variables. All specifications are linear regressions with outliers removed (using the 5-to-95 percentile range of the dependent variable). We also remove firms with less than 5 years of value-added data available. We always control for 3-digit-ISIC industry and country dummies, not shown. Robust standard errors (clustered at country level) are reported in parentheses; *, **, and *** denote significance at the 10%, 5%, and 1% level, respectively.

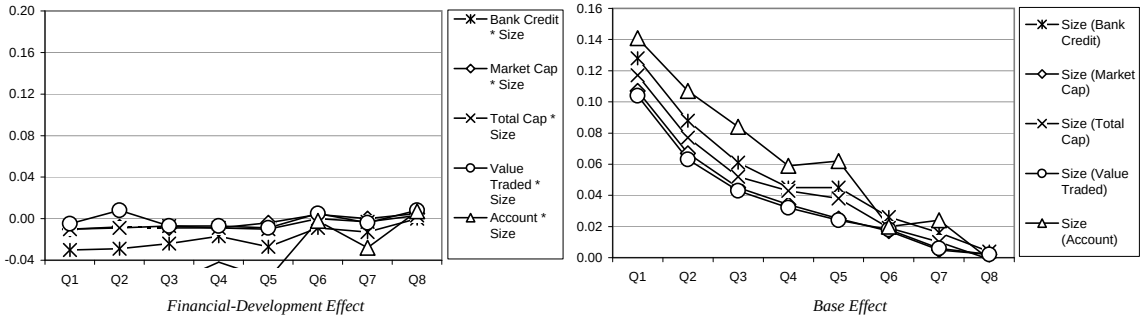
Financial Developemtn and Corporate Growth: Size Decile Groups

Across- and Within-Industry Comparisons



Financial-Development Effect *Base Effect*

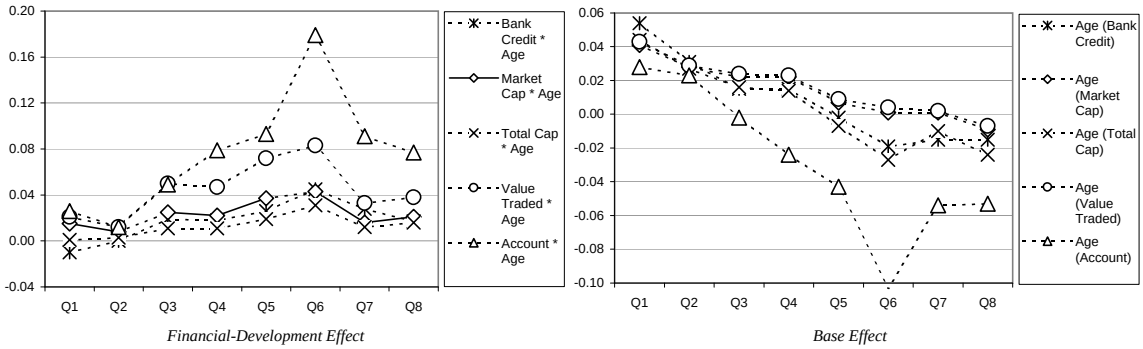
Within-Industry Comparisons



Financial-Development Effect *Base Effect*

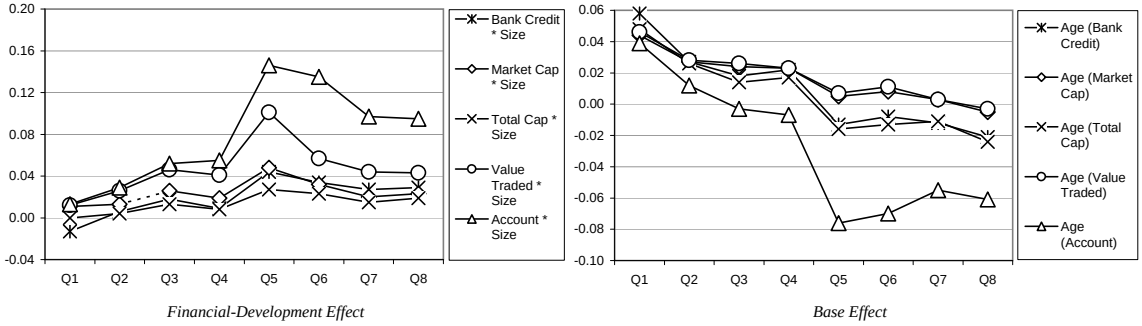
Financial Development and Corporate Growth: Age Decile Groups

Across- and Within-Industry Comparisons



Financial-Development Effect *Base Effect*

Within-Industry Comparisons



Financial-Development Effect *Base Effect*

Figure 3

Note: Data and equation specifications in the first (second) panel are analogous to those used in the first (second) panel of Table 4, except that we now use a decile step function in firms' size instead of a quintile one. The first panel uses the absolute measure of firms' size (total assets in millions of US dollars) and reports coefficients of the interaction of financial development indicators with size decile dummies (left) as well as the corresponding size groups base effect (right). The second panel reports analogous results from specifications based on a relative size measure (the percentage deviation of a firm's size from the industry median firm size).

Data and equation specifications in the third (fourth) panel are analogous to those in the first (second) panel of Table 5, except that we no use a decile step function in firms' age. The third panel employs (absolute) firms' age (the number of years since a firm's incorporation as of 1995) and reports coefficients of the interaction of financial development indicators with age decile dummies (left) as well as the corresponding age groups base effect (right). The last panel reports analogous results from specifications based on a relative age measure (the percentage deviation of a firm's age from the industry median firm age). See Table 3 notes for a list of additional control variables and the Data Appendix for definitions of variables. All specifications are linear regressions with outliers removed (using the 5-to-95 percentile range of the dependent variable). We also remove firms with less than 5 years of value-added data available. We always control for 3-digit-ISIC industry and country dummies.

Table 6-A
Financial Development (FD) and Corporate Growth: Age and Size Quintile Groups

	Private Bank Credit	Market Capitalization	Total Capitalization	Market Value Traded	Accounting Standards
	Across- and Within-Industry Comparisons				
FD * Age Q1	-0.004	0.008**	0.003	0.008	0.007
	(0.007)	(0.003)	(0.003)	(0.008)	(0.022)
FD * Age Q2	0.015**	0.017***	0.009***	0.034***	0.048**
	(0.005)	(0.002)	(0.002)	(0.005)	(0.018)
FD * Age Q3	0.021**	0.024***	0.015***	0.043***	0.090***
	(0.007)	(0.005)	(0.003)	(0.008)	(0.016)
FD * Age Q4	0.010**	0.006	0.006**	0.012*	0.040**
	(0.004)	(0.004)	(0.003)	(0.006)	(0.013)
FD * Size Q1	-0.020	-0.008	-0.007	0.012	-0.036
	(0.032)	(0.020)	(0.012)	(0.035)	(0.093)
FD * Size Q2	-0.020	-0.010	-0.009	-0.007	-0.064
	(0.022)	(0.013)	(0.009)	(0.022)	(0.059)
FD * Size Q3	-0.019	-0.009	-0.007	-0.016	-0.051
	(0.012)	(0.007)	(0.005)	(0.013)	(0.034)
FD * Size Q4	-0.008	-0.002	-0.003	-0.001	-0.024
	(0.007)	(0.003)	(0.003)	(0.006)	(0.021)
Age Q1	0.027***	0.021***	0.019***	0.023***	0.019
	(0.005)	(0.002)	(0.004)	(0.002)	(0.015)
Age Q2	0.005	0.011***	0.004	0.012***	-0.015
	(0.004)	(0.002)	(0.003)	(0.002)	(0.011)
Age Q3	-0.008	0.000	-0.013***	0.002	-0.051***
	(0.005)	(0.002)	(0.004)	(0.002)	(0.011)
Age Q4	-0.007*	-0.002	-0.008*	-0.002	-0.026**
	(0.004)	(0.002)	(0.004)	(0.002)	(0.009)
Size Q1	0.100***	0.086***	0.093***	0.082***	0.108
	(0.029)	(0.012)	(0.019)	(0.013)	(0.064)
Size Q2	0.056**	0.043***	0.052***	0.041***	0.083*
	(0.020)	(0.008)	(0.015)	(0.008)	(0.041)
Size Q3	0.036***	0.024***	0.030**	0.023***	0.055**
	(0.011)	(0.006)	(0.010)	(0.005)	(0.024)
Size Q4	0.014**	0.008***	0.012**	0.007**	0.024
	(0.006)	(0.003)	(0.005)	(0.002)	(0.014)
N	15,179	15,179	15,179	15,179	15,179
R^2	0.21	0.21	0.21	0.21	0.21

Note: The Table reports estimates obtained by interacting financial development measures with two step functions, one based on a firm's position in quintiles of the firm age distribution, the other based on quintiles of the firms' size. Estimates are based on the absolute measure of firm age (the number of years since a firm's incorporation as of 1995) scaled down by 100 and the absolute measure of firm size (total assets in millions of US dollars). See Table 3 notes for a list of additional control variables and the Data Appendix for definitions of variables. All specifications are linear regressions with outliers removed (using the 5-to-95 percentile range of the dependent variable). We also remove firms with less than 5 years of value-added data available. We always control for 3-digit-ISIC industry and country dummies, not shown. Robust standard errors (clustered at country level) are reported in parentheses; *, **, and *** denote significance at the 10%, 5%, and 1% level, respectively.

Table 6-B
Financial Development (FD) and Corporate Growth: Age and Size Quintile Groups

	Private Bank Credit	Market Capitalization	Total Capitalization	Market Value Traded	Accounting Standards
			Within-Industry Comparisons		
FD * Age Q1	0.003	0.013***	0.006*	0.021**	0.023
	(0.007)	(0.003)	(0.003)	(0.007)	(0.023)
FD * Age Q2	0.011	0.018***	0.010***	0.035***	0.041
	(0.008)	(0.002)	(0.003)	(0.004)	(0.025)
FD * Age Q3	0.030***	0.030***	0.019***	0.057***	0.107***
	(0.008)	(0.006)	(0.003)	(0.010)	(0.024)
FD * Age Q4	0.016***	0.011**	0.010***	0.023**	0.053***
	(0.004)	(0.004)	(0.003)	(0.009)	(0.010)
FD * Size Q1	-0.027	-0.012	-0.010	-0.004	-0.057
	(0.028)	(0.020)	(0.012)	(0.032)	(0.082)
FD * Size Q2	-0.018	-0.011	-0.008	-0.010	-0.051
	(0.018)	(0.011)	(0.007)	(0.018)	(0.053)
FD * Size Q3	-0.018	-0.002	-0.006	-0.006	-0.037
	(0.011)	(0.008)	(0.007)	(0.016)	(0.031)
FD * Size Q4	-0.007**	0.001	-0.001	-0.001	-0.013
	(0.003)	(0.002)	(0.002)	(0.005)	(0.014)
Age Q1	0.022***	0.020***	0.016***	0.022***	0.009
	(0.004)	(0.002)	(0.004)	(0.001)	(0.015)
Age Q2	0.009	0.012***	0.004	0.013***	-0.009
	(0.006)	(0.002)	(0.004)	(0.002)	(0.016)
Age Q3	-0.013**	0.000	-0.015***	0.002	-0.060***
	(0.005)	(0.003)	(0.004)	(0.002)	(0.016)
Age Q4	-0.011**	-0.001	-0.011**	-0.001	-0.033***
	(0.004)	(0.002)	(0.004)	(0.002)	(0.007)
Size Q1	0.104***	0.086***	0.096***	0.082***	0.120*
	(0.025)	(0.011)	(0.018)	(0.011)	(0.057)
Size Q2	0.052***	0.040***	0.048***	0.038***	0.070*
	(0.016)	(0.006)	(0.012)	(0.007)	(0.037)
Size Q3	0.036***	0.022***	0.030**	0.022***	0.046*
	(0.009)	(0.005)	(0.010)	(0.005)	(0.021)
Size Q4	0.012***	0.005**	0.007**	0.005**	0.014
	(0.002)	(0.002)	(0.003)	(0.002)	(0.009)
N	15,179	15,179	15,179	15,179	15,179
R^2	0.21	0.21	0.21	0.21	0.21

Note: The Table reports results analogous to the ones in Table 6-A except that the estimates are based on our relative measures of firm age and firm size: Age/size are measured as the percentage deviation of a firm's age/size from the industry median firm age/size on a 3-digit ISIC level and are scaled down by 10,000. See Table 3 notes for a list of additional control variables and the Data Appendix for definitions of variables. All specifications are linear regressions with outliers removed (using the 5-to-95 percentile range of the dependent variable). We also remove firms with less than 5 years of value-added data available. We always control for 3-digit-ISIC industry and country dummies, not shown. Robust standard errors (clustered at country level) are reported in parentheses; *, **, and *** denote significance at the 10%, 5%, and 1% level, respectively.

Table 7

Financial Development (FD) and Corporate Growth: Age Quintile Groups by Firm Size

	Private Bank Credit	Market Capitalization	Total Capitalization	Market Value Traded	Accounting Standards
FD * Age Q1 * Small	0.023	0.058***	0.021***	0.121***	0.042
	(0.020)	(0.008)	(0.004)	(0.020)	(0.053)
FD * Age Q2 * Small	0.041**	0.061***	0.027***	0.131***	0.082*
	(0.016)	(0.009)	(0.003)	(0.026)	(0.044)
FD * Age Q3 * Small	0.049***	0.065***	0.034***	0.134***	0.129***
	(0.015)	(0.010)	(0.002)	(0.023)	(0.041)
FD * Age Q4 * Small	0.036**	0.042***	0.024***	0.088***	0.083***
	(0.012)	(0.009)	(0.004)	(0.023)	(0.026)
FD * Age Q1 * Big	-0.047**	-0.047*	-0.017**	-0.103**	-0.049
	(0.018)	(0.022)	(0.008)	(0.042)	(0.053)
FD * Age Q2 * Big	-0.014	-0.024	-0.005	-0.046	0.011
	(0.013)	(0.018)	(0.007)	(0.033)	(0.042)
FD * Age Q3 * Big	0.002	-0.008	0.008	-0.023	0.071
	(0.015)	(0.016)	(0.005)	(0.034)	(0.041)
FD * Age Q4 * Big	0.003	-0.006	0.004	-0.014	0.038
	(0.009)	(0.009)	(0.005)	(0.018)	(0.024)
Age Q1	0.045***	0.034***	0.033***	0.035***	0.037
	(0.013)	(0.004)	(0.007)	(0.003)	(0.033)
Age Q2	0.018	0.022***	0.013*	0.023***	-0.003
	(0.011)	(0.004)	(0.006)	(0.004)	(0.028)
Age Q3	-0.004	0.006*	-0.012**	0.008**	-0.050*
	(0.009)	(0.003)	(0.004)	(0.003)	(0.025)
Age Q4	-0.010	-0.002	-0.014*	-0.001	-0.034*
	(0.008)	(0.003)	(0.007)	(0.003)	(0.016)
N	15,179	15,179	15,179	15,179	15,179
R^2	0.16	0.15	0.16	0.14	0.17

Note: The Table reports estimates of a triple-interaction specification, in which we multiply the interaction of financial development measures with a step function based on firms' position in quintiles of the firm age distribution by a dummy variable for 'Small' firms (those with below-median total assets) or by a dummy variable for 'Big' firms (those with above-median total assets). Estimates are based on the absolute measure of firm age (the number of years since a firm's incorporation as of 1995) scaled down by 100. See Table 3 notes for a list of additional control variables and the Data Appendix for definitions of variables. All specifications are linear regressions with outliers removed (using the 5-to-95 percentile range of the dependent variable). We also remove firms with less than 5 years of value-added data available. We always control for 3-digit-ISIC industry and country dummies, not shown. Robust standard errors (clustered at country level) are reported in parentheses; *, **, and *** denote significance at the 10%, 5%, and 1% level, respectively.

Table 8-A
Fin. Development (FD) and Corporate Growth: Age and Tangibility Quintile Groups

	Private Bank Credit	Market Capitalization	Total Capitalization	Market Value Traded	Accounting Standards
	Across- and Within-Industry Comparisons				
FD * Age Q1	-0.000	0.016***	0.006	0.023	0.025
	(0.013)	(0.005)	(0.006)	(0.015)	(0.041)
FD * Age Q2	0.018	0.021***	0.011*	0.043***	0.042
	(0.011)	(0.005)	(0.005)	(0.012)	(0.038)
FD * Age Q3	0.036***	0.035***	0.024***	0.069***	0.108**
	(0.012)	(0.006)	(0.003)	(0.013)	(0.041)
FD * Age Q4	0.025**	0.020***	0.016***	0.040***	0.070**
	(0.009)	(0.005)	(0.004)	(0.010)	(0.025)
FD * Tangibility Q1	0.021*	0.011**	0.014***	0.028**	0.061
	(0.010)	(0.004)	(0.003)	(0.010)	(0.037)
FD * Tangibility Q2	0.025***	0.015*	0.014**	0.025*	0.057***
	(0.008)	(0.007)	(0.005)	(0.013)	(0.018)
FD * Tangibility Q3	0.027*	0.020**	0.016***	0.042***	0.039
	(0.012)	(0.007)	(0.004)	(0.014)	(0.034)
FD * Tangibility Q4	0.025***	0.016**	0.011***	0.033**	0.040
	(0.006)	(0.005)	(0.003)	(0.011)	(0.029)
Age Q1	0.033***	0.028***	0.025**	0.030***	0.016
	(0.010)	(0.005)	(0.009)	(0.004)	(0.028)
Age Q2	0.011	0.019***	0.011	0.019***	-0.002
	(0.009)	(0.005)	(0.009)	(0.005)	(0.026)
Age Q3	-0.014	0.003	-0.019**	0.005	-0.056*
	(0.009)	(0.005)	(0.007)	(0.005)	(0.028)
Age Q4	-0.019**	-0.006	-0.021***	-0.005	-0.045**
	(0.007)	(0.004)	(0.006)	(0.004)	(0.018)
Tangibility Q1	-0.019**	-0.005	-0.020***	-0.006	-0.041
	(0.009)	(0.005)	(0.005)	(0.005)	(0.024)
Tangibility Q2	-0.032***	-0.017**	-0.031***	-0.016**	-0.049***
	(0.009)	(0.006)	(0.008)	(0.006)	(0.014)
Tangibility Q3	-0.033**	-0.018**	-0.034***	-0.017**	-0.037
	(0.011)	(0.006)	(0.009)	(0.006)	(0.024)
Tangibility Q4	-0.029***	-0.014**	-0.025***	-0.014**	-0.035
	(0.007)	(0.005)	(0.007)	(0.005)	(0.021)
N	16,770	16,770	16,768	16,770	16,768
R^2	0.10	0.10	0.10	0.10	0.10

Note: The Table reports estimates obtained by interacting financial development measures with a step function corresponding to firms' position in quintiles of the firm age and with an analogous step function based on firms' tangibility. Estimates are based on the absolute measure of age (the number of years since a firm's incorporation as of 1995) scaled down by 100 and a relative measure of tangibility (the percentage deviation from the industry median on a 3-digit ISIC level scaled down by 10,000). See Table 3 notes for a list of additional control variables and the Data Appendix for definitions of variables. All specifications are linear regressions with outliers removed (using the 5-to-95 percentile range of the dependent variable). We also remove firms with less than 5 years of value-added data available. We always control for 3-digit-ISIC industry and country dummies, not shown. Robust standard errors (clustered at country level) are reported in parentheses; *, **, and *** denote significance at the 10%, 5%, and 1% level, respectively.

Table 8-B
Fin. Development (FD) and Corporate Growth: Size and Tangibility Quintile Groups

	Private Bank Credit	Market Capitalization	Total Capitalization	Market Value Traded	Accounting Standards
	Across- and Within-Industry Comparisons				
FD * Size Q1	0.006	0.004	0.009**	0.011	0.018
	(0.010)	(0.006)	(0.003)	(0.010)	(0.038)
FD * Size Q2	0.009	0.002	0.005	0.003	0.021
	(0.005)	(0.007)	(0.005)	(0.014)	(0.015)
FD * Size Q3	0.011	0.007	0.008**	0.018	0.007
	(0.009)	(0.006)	(0.003)	(0.011)	(0.023)
FD * Size Q4	0.015	0.012**	0.008**	0.030**	0.031
	(0.009)	(0.005)	(0.003)	(0.010)	(0.027)
FD * Tangibility Q1	-0.021	-0.004	-0.006	0.016	-0.032
	(0.033)	(0.020)	(0.013)	(0.035)	(0.095)
FD * Tangibility Q2	-0.021	-0.008	-0.008	-0.005	-0.060
	(0.022)	(0.013)	(0.009)	(0.021)	(0.061)
FD * Tangibility Q3	-0.020	-0.008	-0.006	-0.015	-0.045
	(0.012)	(0.007)	(0.006)	(0.013)	(0.036)
FD * Tangibility Q4	-0.007	-0.000	-0.002	0.000	-0.018
	(0.006)	(0.003)	(0.002)	(0.005)	(0.021)
Size Q1	-0.009	-0.006	-0.016**	-0.006	-0.016
	(0.009)	(0.005)	(0.006)	(0.005)	(0.024)
Size Q2	-0.017**	-0.011**	-0.017**	-0.011**	-0.023*
	(0.006)	(0.005)	(0.007)	(0.004)	(0.011)
Size Q3	-0.020**	-0.013**	-0.022***	-0.014***	-0.015
	(0.008)	(0.005)	(0.006)	(0.004)	(0.017)
Size Q4	-0.020**	-0.012**	-0.020***	-0.013***	-0.029
	(0.008)	(0.004)	(0.006)	(0.004)	(0.019)
Tangibility Q1	0.101***	0.085***	0.092***	0.081***	0.105
	(0.029)	(0.012)	(0.020)	(0.012)	(0.065)
Tangibility Q2	0.056**	0.041***	0.049***	0.039***	0.079*
	(0.019)	(0.008)	(0.015)	(0.008)	(0.041)
Tangibility Q3	0.036***	0.022***	0.028**	0.021***	0.050*
	(0.011)	(0.006)	(0.011)	(0.005)	(0.025)
Tangibility Q4	0.013**	0.007**	0.009*	0.006**	0.019
	(0.005)	(0.002)	(0.005)	(0.002)	(0.014)
N	15040	15040	15040	15040	15040
R^2	0.20	0.20	0.20	0.20	0.20

Note: The Table reports results analogous to those in Table 9-A except that the interactions are based on firms' size (total assets in millions of US dollars) instead of age. See Table 3 notes for a list of additional control variables and the Data Appendix for definitions of variables. All specifications are linear regressions with outliers removed (using the 5-to-95 percentile range of the dependent variable). We also remove firms with less than 5 years of value-added data available. We always control for 3-digit-ISIC industry and country dummies, not shown. Robust standard errors (clustered at country level) are reported in parentheses; *, **, and *** denote significance at the 10%, 5%, and 1% level, respectively.

Table 9

Financial Development (FD) and Corporate Growth: Industry versus Firm-Level Analysis

	Private Bank Credit	Market Capitalization	Total Capitalization	Market Value Traded	Accounting Standards
			Industry-Level		
FD * Median Size	-0.674	-0.604	-0.336	-1.393	-2.284
	(0.641)	(0.436)	(0.325)	(0.863)	(1.849)
N	15,179	15,179	15,179	15,179	15,179
R^2	0.06	0.06	0.06	0.06	0.06
			Industry-Level with Firm-Level Controls		
FD * Median Size	-0.468	-0.630	-0.319	-1.362	-2.111
	(0.584)	(0.402)	(0.292)	(0.829)	(1.622)
Size	-0.003*	-0.004*	-0.004*	-0.004*	-0.004*
	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)
N	15,040	15,040	15,040	15,040	15,040
R^2	0.11	0.11	0.11	0.11	0.11
			Industry-Level with Firm-Level Controls and Financial Development Interaction		
FD * Median Size	-0.488	-0.544	-0.313	-1.298	-1.952
	(0.584)	(0.414)	(0.295)	(0.834)	(1.622)
FD * Size	-0.033**	-0.060***	-0.026***	-0.099***	-0.069***
	(0.013)	(0.022)	(0.008)	(0.037)	(0.022)
Size	0.006	0.003	0.009*	0.002	0.010*
	(0.004)	(0.002)	(0.005)	(0.002)	(0.006)
N	15,040	15,040	15,040	15,040	15,040
R^2	0.11	0.11	0.11	0.11	0.11
			Industry-Level		
FD * Median Age	0.041	0.130	0.059	0.134	0.300
	(0.124)	(0.098)	(0.052)	(0.181)	(0.317)
N	15,179	15,179	15,179	15,179	15,179
R^2	0.06	0.06	0.06	0.06	0.06
			Industry-Level with Firm-Level Controls		
FD * Median Age	0.115	0.183	0.094*	0.260	0.410
	(0.129)	(0.111)	(0.054)	(0.206)	(0.308)
Age	-0.066***	-0.066***	-0.066***	-0.066***	-0.066***
	(0.005)	(0.005)	(0.005)	(0.005)	(0.005)
N	15,040	15,040	15,040	15,040	15,040
R^2	0.11	0.11	0.11	0.11	0.11
			Industry-Level with Firm-Level Controls and Financial Development Interaction		
FD * Median Age	0.112	0.173	0.089	0.246	0.273
	(0.132)	(0.112)	(0.056)	(0.208)	(0.315)
FD * Age	-0.061	-0.379*	-0.106	-0.502	-1.595***
	(0.253)	(0.190)	(0.128)	(0.387)	(0.426)
Age	-0.063***	-0.058***	-0.057***	-0.061***	-0.007
	(0.012)	(0.005)	(0.011)	(0.005)	(0.015)
N	15,040	15,040	15,040	15,040	15,040
R^2	0.11	0.11	0.11	0.11	0.11

Note: The first panel of the Table reports estimates from linear specifications, in which we interact financial development variables with industry median firm size (on ISIC 3-digit level). In the second panel, firm-level control variables are added (see Table 3 notes for a list of control variables used and the Data Appendix for definitions of variables). The third panel is analogous to the second panel, except that we add an interaction of financial development indicators with a firm-level measure of size. In all specifications, size is measured using total assets in millions of US dollars as of the first year a firm enters the sample and remains fixed over time. The second half of the table (panels four, five, and six) follows the same structure and reports analogous results for age. The estimates are based on the absolute measure of age (the number of years since a firm's incorporation as of 1995) scaled down by 100.

All specifications are linear regressions with outliers removed (using the 5-to-95 percentile range of the dependent variable). We also remove firms with less than 5 years of value-added data available. We always control for 3-digit-ISIC industry and country dummies, not shown. Robust standard errors (clustered at ISIC 3-digit-level) are reported in parentheses; *, **, and *** denote significance at the 10%, 5%, and 1% level, respectively.

Table 10-A
FD and Corporate Growth: Age and Size Groups with Industry-Country Dummies

	Private Bank Credit	Market Capitalization	Total Capitalization	Market Value Traded	Accounting Standards
	Across- and Within-Industry Comparisons				
FD * Age Q1	-0.002	0.010**	0.004	0.013	0.006
	(0.008)	(0.003)	(0.003)	(0.008)	(0.025)
FD * Age Q2	0.014**	0.017***	0.009**	0.033***	0.048**
	(0.006)	(0.003)	(0.003)	(0.005)	(0.019)
FD * Age Q3	0.022**	0.027***	0.016***	0.048***	0.084***
	(0.008)	(0.004)	(0.003)	(0.006)	(0.019)
FD * Age Q4	0.012**	0.009**	0.007**	0.017**	0.043**
	(0.004)	(0.004)	(0.003)	(0.006)	(0.016)
FD * Size Q1	-0.026	-0.009	-0.008	0.008	-0.056
	(0.031)	(0.021)	(0.013)	(0.035)	(0.095)
FD * Size Q2	-0.026	-0.010	-0.009	-0.008	-0.079
	(0.020)	(0.013)	(0.009)	(0.022)	(0.061)
FD * Size Q3	-0.024*	-0.009	-0.007	-0.014	-0.065
	(0.011)	(0.008)	(0.006)	(0.015)	(0.040)
FD * Size Q4	-0.012**	-0.001	-0.003	-0.000	-0.036
	(0.005)	(0.003)	(0.003)	(0.007)	(0.022)
Age Q1	0.025***	0.020***	0.018***	0.022***	0.020
	(0.005)	(0.002)	(0.005)	(0.002)	(0.016)
Age Q2	0.005	0.011***	0.005	0.012***	-0.015
	(0.005)	(0.002)	(0.004)	(0.002)	(0.012)
Age Q3	-0.009	-0.001	-0.014**	0.001	-0.047***
	(0.006)	(0.002)	(0.005)	(0.002)	(0.013)
Age Q4	-0.009*	-0.003	-0.010*	-0.002	-0.029**
	(0.005)	(0.002)	(0.005)	(0.002)	(0.011)
Size Q1	0.106***	0.088***	0.096***	0.083***	0.122*
	(0.028)	(0.012)	(0.021)	(0.013)	(0.066)
Size Q2	0.062***	0.044***	0.054***	0.042***	0.094**
	(0.018)	(0.009)	(0.016)	(0.009)	(0.042)
Size Q3	0.040***	0.024***	0.031**	0.023***	0.064**
	(0.011)	(0.006)	(0.011)	(0.006)	(0.028)
Size Q4	0.018***	0.008**	0.012**	0.007**	0.032*
	(0.004)	(0.003)	(0.005)	(0.003)	(0.015)
N	15,179	15,179	15,179	15,179	15,179
R^2	0.25	0.25	0.25	0.25	0.25

Note: The Table reports estimates analogous to those in Table 6-A except that we now use 3-digit-ISIC industry dummies interacted with country dummies. See Table 3 notes for a list of additional control variables and the Data Appendix for definitions of variables. All specifications are linear regressions with outliers removed (using the 5-to-95 percentile range of the dependent variable). We also remove firms with less than 5 years of value-added data available. Robust standard errors (clustered at country level) are reported in parentheses; *, **, and *** denote significance at the 10%, 5%, and 1% level, respectively.

Table 10-B
FD and Corporate Growth: Age and Size Groups with Industry-Country Dummies

	Private Bank Credit	Market Capitalization	Total Capitalization	Market Value Traded	Accounting Standards
		Within-Industry Comparisons			
FD * Age Q1	0.002	0.013***	0.005	0.021**	0.013
	(0.008)	(0.004)	(0.004)	(0.008)	(0.025)
FD * Age Q2	0.009	0.017***	0.009**	0.032***	0.034
	(0.009)	(0.002)	(0.003)	(0.005)	(0.025)
FD * Age Q3	0.031***	0.028***	0.017***	0.056***	0.093***
	(0.007)	(0.005)	(0.003)	(0.010)	(0.024)
FD * Age Q4	0.015**	0.012***	0.010***	0.024***	0.047***
	(0.006)	(0.003)	(0.003)	(0.007)	(0.015)
FD * Size Q1	-0.029	-0.011	-0.010	-0.001	-0.058
	(0.028)	(0.021)	(0.013)	(0.034)	(0.086)
FD * Size Q2	-0.017	-0.006	-0.006	-0.003	-0.049
	(0.017)	(0.010)	(0.008)	(0.017)	(0.051)
FD * Size Q3	-0.020	0.001	-0.005	0.000	-0.036
	(0.012)	(0.010)	(0.008)	(0.018)	(0.039)
FD * Size Q4	-0.008*	0.003	-0.000	0.002	-0.012
	(0.004)	(0.003)	(0.002)	(0.007)	(0.018)
Age Q1	0.022***	0.020***	0.017***	0.021***	0.015
	(0.005)	(0.002)	(0.005)	(0.001)	(0.016)
Age Q2	0.010	0.012***	0.005	0.013***	-0.005
	(0.006)	(0.002)	(0.005)	(0.002)	(0.016)
Age Q3	-0.014**	0.001	-0.013**	0.002	-0.051***
	(0.006)	(0.003)	(0.005)	(0.002)	(0.016)
Age Q4	-0.010*	-0.002	-0.012**	-0.002	-0.029**
	(0.005)	(0.002)	(0.004)	(0.002)	(0.010)
Size Q1	0.106***	0.087***	0.096***	0.083***	0.122*
	(0.026)	(0.012)	(0.020)	(0.012)	(0.060)
Size Q2	0.052***	0.040***	0.046***	0.038***	0.071*
	(0.015)	(0.007)	(0.013)	(0.007)	(0.035)
Size Q3	0.038***	0.022***	0.029**	0.022***	0.046
	(0.010)	(0.007)	(0.013)	(0.006)	(0.027)
Size Q4	0.013***	0.005*	0.006	0.005**	0.014
	(0.003)	(0.002)	(0.004)	(0.002)	(0.012)
N	15,179	15,179	15,179	15,179	15,179
R^2	0.25	0.25	0.25	0.25	0.25

Note: The Table reports estimates analogous to those in Table 6-B except that we use 3-digit-ISIC industry dummies interacted with country dummies. See Table 3 notes for a list of additional control variables and the Data Appendix for definitions of variables. All specifications are linear regressions with outliers removed (using the 5-to-95 percentile range of the dependent variable). We also remove firms with less than 5 years of value-added data available. Robust standard errors (clustered at country level) are reported in parentheses; *, **, and *** denote significance at the 10%, 5%, and 1% level, respectively.

Table DA.1
Definition of Variables

	Amadeus Firm-level Variables
VA	Firm-level value-added in current prices deflated by PPI. As PPI we use Eurostat's not seasonally adjusted domestic output price index (in national currency) which covers total industry (excluding construction). Source: Amadeus.
VA_Growth	Annual firm-level growth rate of real value-added based on VA. The formula for VA_Growth we use is $(VA_t - VA_{t-1}) / ABS(½ VA_t + ½ VA_{t-1})$. In our estimations, we use residuals from regression of all observed firm-level annual growth rates (VA_Growth) on year dummies. Source: Amadeus.
VA_ShortPanel	0/1 variable, equal 1 if less than five years of value-added data available for a firm and 0 otherwise. Source: Amadeus.
VA_Negative	0/1 variable, equal 1 if the current or one lag value-added figure used while calculating annual firm growth (VA_Growth) was negative and 0 otherwise. Source: Amadeus.
VA_Avg	Simple average of the annual real firm-level value-added growth rates (VA_Growth) over the years a firm is available in the database for the period 1995-2003. Source: Amadeus.
VA_Med	Median of the annual real firm-level value-added growth rates (VA_Growth) over the years a firm is available in the database for the period 1995-2003. Source: Amadeus.
VA_StartEnd	Average growth of the real firm-level value-added calculated based on the value-added in the first year the firm appears in the database, VA_FirstYear, and the value-added in the last year the firm appears in the database, VA_LastYear, in the period 1995-2003 as follows: [(VA_LastYear – VA_FirstYear) / ABS(½ VA_FirstYear + ½ VA_LastYear)] / (LastYear - FirstYear). Source: Amadeus.
Age_A	The number of years from firm's incorporation (STATDATE - YEARINC) scaled down by 100. It is calculated as of 1995 and remains fixed over time. Source: Amadeus.
Age_R	The percentage deviation of firm's age (Age_A) from the industry median firm age on a 3-digit ISIC level and is scaled down by 10,000. It is calculated as of 1995 and remains fixed over time. Source: Amadeus.
Size_A	Firm's total assets (TOAS) in millions of US dollars. We use IMF-IFS annual average exchange rates to convert total assets into US dollars. It is calculated as of the initial-period (the first year a firm enters the sample) and remains fixed over time. Source: Amadeus.
Size_R	The percentage deviation of firm's total assets (TOAS) from the industry median firm size on 3-digit ISIC level, scaled down by 100. It is calculated as of the initial-period (the first year a firm enters the sample) and remains fixed over time. Source: Amadeus.
Leverage	Measured as a long term debt (LTDB) plus current liabilities (CULI) divided by total assets (TOAS). It is calculated as of the initial-period (the first year a firm enters the sample and remains fixed over time). Source: Amadeus.
Tangibility	Tangibility is defined as fixed assets (FIAS) divided by total assets (TOAS). We use the percentage deviation of firm's tangibility from the industry median firm tangibility on 3-digit ISIC level, scaled down by 100. It is calculated as of the initial-period (the first year a firm enters the sample and remains fixed over time). Source: Amadeus.
Collateralization	Collateralization is defined as fixed assets (FIAS) plus inventories (STOK) plus accounts receivables (DEBT) divided by total assets (TOAS). We use the percentage deviation of firm's collateralization from the industry median firm collateralization on 3-digit ISIC level, scaled down by 100. It is calculated as of the initial-period (the first year a firm enters the sample and remains fixed over time). Source: Amadeus.
Trade Credit	Trade credit is defined as accounts payables (CRED) divided by total assets (TOAS). We use the percentage deviation of firm's trade credit from the industry median firm trade credit on 3-digit ISIC level, scaled down by 100. It is calculated as of the initial-period (the first year a firm enters the sample and remains fixed over time). Source: Amadeus.

Financial Cost	Financial cost is defined as financial expenditures (FIEX) divided by the sum of non-current liabilities (NCLI) and total loans (LOAN). We use the percentage deviation of firm's financial cost from the industry median firm financial cost on 3-digit ISIC level, scaled down by 100. It is calculated as of the initial-period (the first year a firm enters the sample and remains fixed over time). Source: Amadeus.
Quoted	0/1 variable, equal 1 if the firm is publicly listed company and 0 otherwise. Source: Amadeus.
Private Limited Company	0/1 variable, equal 1 if the firm is 'Limited Liability Company' (Company whose capital is divided into shares which cannot be offered to the general public. The liability of its members is limited to the amount of their shares.) and 0 if the firm is 'Limited Company' (Company whose capital is divided into shares which can be offered to the general public and whose members are only liable for its debts to the extent of any amount unpaid on their shares.) Source: Amadeus.
Independence	Set of four 0/1 variables capturing firm's concentration of ownership structure (INDEPIND). INDEPIND_A equal 1 for a firm with no recorded shareholder with an ownership over 24.99% (either direct or total) and 0 otherwise. INDEPIND_B equal 1 for a firm with no recorded shareholder with an ownership percentage (direct or total) over 49.99%, but having one or more shareholders with an ownership percentage over 24.99% and 0 otherwise. INDEPIND_C equal 1 for a firm with a recorded shareholder with an ownership (direct or total) over 49.99% (also equal to 1 when firm indicates that the company has an Ultimate Owner) and 0 otherwise. INDEPIND_U equal 1 for a firm not falling into the categories A, B, or C indicating an unknown degree of independence. Source: Amadeus.
	Financial Development Country-level Variables
PCDMBANKOFINSTGDP	Private credit by deposit money banks and other financial institutions to GDP. Average over the period 1990-1994. Source: The Word Bank Financial Structure and Economic Development Database.
STMCAPGDP	Stock market capitalization to GDP. Average over the period 1990-1994. Source: The Word Bank Financial Structure and Economic Development Database.
STMTVTGDP	Stock market total value traded to GDP. Average over the period 1990-1994. Source: The Word Bank Financial Structure and Economic Development Database.
Total Capitalization	The sum of (i) stock market capitalisation, (ii) bank credit to the private sector and (iii) domestic debt securities issued by the private sector to GDP. Average over the period 1990-1994. Source: Hartmann et al. (2006), Chart 1.
ACCOUNT	Index created by examining and rating companies' 1990 annual reports on their inclusion or omission of 90 items in balance sheets and income statements and published by the Center for International Financial Analysis & Research, Inc. The maximum is 90, the minimum 0 and we scaled it down by 100. Source: The Center for International Financial Analysis & Research, Inc.

Table DA.2
Legal Forms in the EU-15

Country	Limited Companies	Limited Liability Companies
Austria / Germany	Aktiengesellschaft (AG, AG & Co KG)	Gesellschaft mit beschraekter Haftung (GmbH, GmbH & Co KG, Einzelfirma)
Belgium	Naamloze Vennootschap (NV), Société Anonyme (SA)	Besloten Vennootschap, (E)BVBA; Société Privée a Responsabilité Limite, SPRL(U)
Denmark	Limited Company, Company with Limited Liability (A/S)	Private Limited Company (ApS)
Finland	Osakeyhtiö a Julkinen (OYJ)	Osakeyhtiö (OY)
France	Société Anonyme (SA)	Société a Responsabilité Limite (SARL)
Greece	SA	Limited liability company (EPE), Sole shareholder limited liability company
Italy	Societa Per Azioni (SPA)	Societa a Responsabilita Limitata (SRL, SCARL)
Netherlands	Naamloze Vennootschap (NV)	Besloten Vennootschap (BV)
Portugal	Sociedade Anónima (SA)	Sociedade por Quotas Responsibilidada Limitada (LDA)
Spain	Sociedad Anónima (SA)	Sociedad Limitada (SL)
Sweden	AB - Public Limited	AB - Private Limited
United Kingdom / Ireland	Guarantee; Public, A.I.M.; Public, investment trust; Public, not quoted; Public, quoted; Unlimited	Private

Note: In order to ensure comparability of sampled firms across countries, we include only companies from the two broad categories: Limited Companies (companies whose capital is divided into shares which can be offered to the general public and whose members are only liable for its debts to the extent of any amount unpaid on their shares) and Limited Liability Companies (companies whose capital is divided into shares which cannot be offered to the general public. The liability of its members is limited to the amount of their shares). We exclude partnerships (at least one partner is liable for the firm's debts), sole proprietorships (there is only one shareholder) and cooperatives. We follow Bureau van Dijk's grouping of the firms' types. See Klapper et al. (2006) for a similar approach.

Table A.1
Financial Development Measured over 1995-1998

	Private Bank Credit	Market Capitalization	Total Capitalization	Market Value Traded	Accounting Standards
	Across- and Within-Industry Comparisons				
FD * Age Q1	0.000	0.006**	0.003	0.009	0.007
	(0.007)	(0.003)	(0.003)	(0.006)	(0.022)
FD * Age Q2	0.017**	0.013***	0.009***	0.023***	0.048**
	(0.006)	(0.002)	(0.002)	(0.004)	(0.018)
FD * Age Q3	0.020*	0.018***	0.015***	0.022**	0.090***
	(0.009)	(0.003)	(0.003)	(0.009)	(0.016)
FD * Age Q4	0.007**	0.005*	0.006**	0.013***	0.040**
	(0.003)	(0.003)	(0.003)	(0.004)	(0.013)
FD * Size Q1	-0.026	-0.010	-0.007	0.005	-0.036
	(0.028)	(0.018)	(0.012)	(0.034)	(0.093)
FD * Size Q2	-0.017	-0.010	-0.009	0.000	-0.064
	(0.021)	(0.012)	(0.009)	(0.021)	(0.059)
FD * Size Q3	-0.015	-0.009	-0.007	-0.010	-0.051
	(0.012)	(0.007)	(0.005)	(0.011)	(0.034)
FD * Size Q4	-0.005	-0.003	-0.003	0.001	-0.024
	(0.007)	(0.003)	(0.003)	(0.006)	(0.021)
Age Q1	0.024***	0.021***	0.019***	0.021***	0.019
	(0.005)	(0.003)	(0.004)	(0.003)	(0.015)
Age Q2	0.004	0.010***	0.004	0.008***	-0.015
	(0.004)	(0.002)	(0.003)	(0.002)	(0.011)
Age Q3	-0.007	-0.001	-0.013***	-0.000	-0.051***
	(0.006)	(0.003)	(0.004)	(0.003)	(0.011)
Age Q4	-0.005	-0.003	-0.008*	-0.005*	-0.026**
	(0.003)	(0.002)	(0.004)	(0.003)	(0.009)
Size Q1	0.105***	0.090***	0.093***	0.082***	0.108
	(0.022)	(0.013)	(0.019)	(0.019)	(0.064)
Size Q2	0.054**	0.046***	0.052***	0.040***	0.083*
	(0.018)	(0.009)	(0.015)	(0.012)	(0.041)
Size Q3	0.033**	0.026***	0.030**	0.024***	0.055**
	(0.012)	(0.006)	(0.010)	(0.007)	(0.024)
Size Q4	0.012*	0.009***	0.012**	0.007*	0.024
	(0.006)	(0.002)	(0.005)	(0.003)	(0.014)
N	15,179	15,179	15,179	15,179	15,179
R^2	0.21	0.21	0.21	0.21	0.21

Note: The Table reports estimates analogous to the ones in Table 6-A except that we now use financial development measures averaged over the 1995-1998 period. The only exception is Accounting Standards, which corresponds to 1990, and is the same as in Table 6-A. See Table 3 notes for a list of additional control variables and the Data Appendix for definitions of variables. All specifications are linear regressions with outliers removed (using the 5-to-95 percentile range of the dependent variable). We also remove firms with less than 5 years of value-added data available. Robust standard errors (clustered at country level) are reported in parentheses; *, **, and *** denote significance at the 10%, 5%, and 1% level, respectively.

Table A.2
Removing United Kingdom

	Private Bank Credit	Market Capitalization	Total Capitalization	Market Value Traded	Accounting Standards
	Across- and Within-Industry Comparisons				
FD * Age Q1	-0.009	0.005	-0.000	-0.052***	-0.016
	(0.006)	(0.019)	(0.005)	(0.014)	(0.017)
FD * Age Q2	0.010	0.015	0.001	0.042	0.035
	(0.006)	(0.018)	(0.005)	(0.039)	(0.022)
FD * Age Q3	0.012	0.039**	0.013	0.047	0.074***
	(0.007)	(0.017)	(0.007)	(0.048)	(0.020)
FD * Age Q4	0.012*	0.021*	0.011	0.058*	0.057*
	(0.006)	(0.010)	(0.006)	(0.029)	(0.026)
FD * Size Q1	-0.030	-0.174***	-0.032	-0.103	-0.072
	(0.029)	(0.041)	(0.023)	(0.171)	(0.095)
FD * Size Q2	-0.022	-0.091**	-0.021	-0.053	-0.077
	(0.023)	(0.040)	(0.017)	(0.116)	(0.067)
FD * Size Q3	-0.017	-0.042	-0.009	-0.043	-0.051
	(0.011)	(0.026)	(0.011)	(0.043)	(0.035)
FD * Size Q4	0.004	0.016	0.004	0.078***	0.002
	(0.007)	(0.017)	(0.007)	(0.022)	(0.026)
Age Q1	0.028***	0.020***	0.021***	0.025***	0.031**
	(0.005)	(0.005)	(0.006)	(0.002)	(0.012)
Age Q2	0.008*	0.012***	0.014**	0.012***	-0.007
	(0.004)	(0.004)	(0.005)	(0.003)	(0.014)
Age Q3	-0.003	-0.002	-0.009	0.002	-0.042***
	(0.005)	(0.003)	(0.008)	(0.003)	(0.012)
Age Q4	-0.010*	-0.005	-0.014	-0.005	-0.037*
	(0.005)	(0.003)	(0.008)	(0.003)	(0.017)
Size Q1	0.101***	0.120***	0.118***	0.087***	0.125*
	(0.027)	(0.008)	(0.028)	(0.020)	(0.065)
Size Q2	0.055**	0.060***	0.065**	0.043***	0.089*
	(0.020)	(0.010)	(0.022)	(0.013)	(0.045)
Size Q3	0.033***	0.031***	0.032*	0.024***	0.054**
	(0.010)	(0.007)	(0.015)	(0.006)	(0.023)
Size Q4	0.005	0.005	0.004	0.002	0.007
	(0.005)	(0.004)	(0.008)	(0.003)	(0.016)
N	12,837	12,837	12,837	12,837	12,837
R^2	0.20	0.20	0.20	0.20	0.20

Note: The Table reports estimates analogous to those in Table 6-A except that we now remove the United Kingdom from our sample. See Table 3 notes for a list of additional control variables and the Data Appendix for definitions of variables. All specifications are linear regressions with outliers removed (using the 5-to-95 percentile range of the dependent variable). We also remove firms with less than 5 years of value-added data available. Robust standard errors (clustered at country level) are reported in parentheses; *, **, and *** denote significance at the 10%, 5%, and 1% level, respectively.

Table A.3
Removing Greece

	Private Bank Credit	Market Capitalization	Total Capitalization	Market Value Traded	Accounting Standards
	Across- and Within-Industry Comparisons				
FD * Age Q1	-0.009	0.009**	0.003	0.010	0.002
	(0.008)	(0.003)	(0.003)	(0.008)	(0.026)
FD * Age Q2	0.018***	0.019***	0.011***	0.038***	0.055**
	(0.005)	(0.003)	(0.002)	(0.005)	(0.020)
FD * Age Q3	0.020**	0.022***	0.017***	0.040***	0.084***
	(0.007)	(0.005)	(0.003)	(0.009)	(0.018)
FD * Age Q4	0.010***	0.008**	0.007***	0.016**	0.040***
	(0.002)	(0.003)	(0.002)	(0.006)	(0.007)
FD * Size Q1	-0.021	-0.008	-0.008	0.012	-0.034
	(0.041)	(0.022)	(0.016)	(0.040)	(0.105)
FD * Size Q2	-0.024	-0.011	-0.011	-0.012	-0.065
	(0.021)	(0.012)	(0.009)	(0.020)	(0.059)
FD * Size Q3	-0.020	-0.007	-0.007	-0.009	-0.044
	(0.013)	(0.008)	(0.006)	(0.014)	(0.039)
FD * Size Q4	-0.008	-0.003	-0.003	-0.003	-0.022
	(0.007)	(0.003)	(0.002)	(0.006)	(0.019)
Age Q1	0.031***	0.020***	0.020***	0.022***	0.022
	(0.005)	(0.003)	(0.004)	(0.002)	(0.017)
Age Q2	0.003	0.010***	0.001	0.011***	-0.020
	(0.003)	(0.002)	(0.003)	(0.002)	(0.012)
Age Q3	-0.010*	-0.001	-0.017***	0.000	-0.050***
	(0.005)	(0.003)	(0.004)	(0.002)	(0.012)
Age Q4	-0.009***	-0.004*	-0.010***	-0.003*	-0.027***
	(0.002)	(0.002)	(0.003)	(0.001)	(0.005)
Size Q1	0.101**	0.086***	0.095***	0.082***	0.106
	(0.039)	(0.014)	(0.026)	(0.015)	(0.074)
Size Q2	0.059**	0.043***	0.056***	0.041***	0.083*
	(0.019)	(0.008)	(0.015)	(0.008)	(0.041)
Size Q3	0.038***	0.024***	0.032**	0.023***	0.052*
	(0.012)	(0.006)	(0.011)	(0.006)	(0.027)
Size Q4	0.014*	0.008**	0.012**	0.008**	0.022
	(0.007)	(0.003)	(0.005)	(0.003)	(0.013)
N	14540	14540	14540	14540	14540
R^2	0.20	0.20	0.20	0.20	0.20

Note: The Table reports estimates analogous to those in Table 6-A except that we now remove Greece from our sample. See Table 3 notes for a list of additional control variables and the Data Appendix for definitions of variables. All specifications are linear regressions with outliers removed (using the 5-to-95 percentile range of the dependent variable). We also remove firms with less than 5 years of value-added data available. Robust standard errors (clustered at country level) are reported in parentheses; *, **, and *** denote significance at the 10%, 5%, and 1% level, respectively.

Table A.4
Median Growth as Dependent Variable

	Private Bank Credit	Market Capitalization	Total Capitalization	Market Value Traded	Accounting Standards
	Across- and Within-Industry Comparisons				
FD * Age Q1	-0.009	0.006	-0.000	0.006	-0.019
	(0.007)	(0.005)	(0.005)	(0.011)	(0.026)
FD * Age Q2	0.005	0.016***	0.007	0.030***	0.019
	(0.008)	(0.004)	(0.005)	(0.009)	(0.029)
FD * Age Q3	0.015	0.026***	0.016***	0.049***	0.059
	(0.015)	(0.004)	(0.004)	(0.008)	(0.043)
FD * Age Q4	0.005	0.010***	0.008**	0.018**	0.033
	(0.007)	(0.003)	(0.003)	(0.006)	(0.021)
FD * Size Q1	-0.019	-0.009	-0.008	0.002	-0.029
	(0.025)	(0.015)	(0.009)	(0.027)	(0.073)
FD * Size Q2	-0.005	0.002	-0.002	0.013	-0.001
	(0.017)	(0.009)	(0.008)	(0.016)	(0.044)
FD * Size Q3	-0.010	-0.002	-0.003	-0.003	-0.016
	(0.011)	(0.006)	(0.005)	(0.012)	(0.032)
FD * Size Q4	-0.001	0.003	0.001	0.005	0.017
	(0.005)	(0.002)	(0.002)	(0.005)	(0.011)
Age Q1	0.027***	0.018***	0.020**	0.019***	0.032*
	(0.005)	(0.004)	(0.007)	(0.003)	(0.017)
Age Q2	0.011*	0.009**	0.005	0.010***	0.002
	(0.006)	(0.003)	(0.007)	(0.002)	(0.019)
Age Q3	-0.004	-0.001	-0.015*	0.000	-0.031
	(0.010)	(0.003)	(0.007)	(0.003)	(0.027)
Age Q4	-0.003	-0.003	-0.011	-0.002	-0.021
	(0.006)	(0.003)	(0.006)	(0.003)	(0.014)
Size Q1	0.086***	0.073***	0.081***	0.070***	0.090*
	(0.022)	(0.008)	(0.014)	(0.009)	(0.050)
Size Q2	0.039**	0.035***	0.038**	0.033***	0.036
	(0.015)	(0.006)	(0.012)	(0.006)	(0.030)
Size Q3	0.026**	0.018***	0.022**	0.018***	0.028
	(0.010)	(0.005)	(0.009)	(0.005)	(0.022)
Size Q4	0.008*	0.006**	0.006	0.007***	-0.004
	(0.004)	(0.002)	(0.004)	(0.002)	(0.008)
N	15,263	15,263	15,263	15,263	15,263
R^2	0.17	0.17	0.17	0.17	0.17

Note: The Table reports estimates analogous to those in Table 6-A except that we now use the median of annual firm-level real value-added growth rates of manufacturing firms in the period 1995-2003 as the dependent variable. See Table 3 notes for a list of additional control variables and the Data Appendix for definitions of variables. All specifications are linear regressions with outliers removed (using the 5-to-95 percentile range of the dependent variable). We also remove firms with less than 5 years of value-added data available. Robust standard errors (clustered at country level) are reported in parentheses; *, **, and *** denote significance at the 10%, 5%, and 1% level, respectively.