Country-specific growth opportunities, within-country heterogeneity, and the role of financial globalization

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January 28, 2016

Abstract

Using data for 53,365 firms from 40 countries over the period of 1991-2012, we examine the extent to which a firm's growth opportunities are country-specific, with particular focus on its cross-firm difference within a country. We find that country-specific growth opportunities (*CSGOs*) are much more pronounced in small companies than in large firms. We also find that the *CSGOs* -- especially those for small firms -- decrease as the country becomes more open financially. The exact opposite pattern exists in the industry-specific components in corporate growth options, as they increase with the country's financial openness, especially for small firms. The results indicate that financial globalization helps corporate growth opportunities to be priced globally than locally and reduces the within-country heterogeneity.

Keywords: Country; Growth opportunities; Heterogeneity; Financial globalization; Firm size
JEL classification: F30; F65; G30

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1. Introduction

A firm's growth opportunities are a function of many factors and some of them are certainly country-specific, such as the legal and regulatory environments in a country. One would, therefore, expect to find corporate growth opportunities to be country-specific to some extent. It is, however, unclear whether companies in a given country have similar degrees of country-specific growth opportunities (*CSGOs*) or there is any non-negligible heterogeneity in *CSGOs* within the country. It also remains to be seen how financial globalization—which would weaken the overall *CSGOs* almost by tautology—affects the cross-firm difference in *CSGOs*. In this paper, we address those questions.

We deem those questions worth an investigation, because county-specific factors affecting growth opportunities are, in effect, a constraint or a privilege. Just imagine some local companies that have limited access to global capital markets or those that enjoy a preferential treatment by the local government. In both cases, a commonality will arise in the firms' growth options even if they share few economic fundamentals. It seems quite natural to conjecture that such constraints and privileges will vary from one company to another, thereby leading to a cross-firm difference in *CSGOs* within a country. It should also be interesting to see how the opening of a country to the rest of the world affects those constraints and privileges. Put differently, would financial globalization level the playing field by weakening the privileges, or make it more lopsided by aggravating the constraints? While the overall *CSGOs* may well decrease as the country is financially open and funds are directed to (from) good (bad) investment opportunities across countries, it is uncertain how the heterogeneity in *CSGOs* will change.

To answer those questions, we do two things in this paper. We first quantify the extent of *CSGOs*, both for the country as a whole and for subsets of local companies. Second, we associate the estimated *CSGOs* and their within-country heterogeneity with the country's

financial openness, both cross-sectionally and over time. Our specific interests are in seeing: (1) whether there is any meaningful cross-firm difference in *CSGOs* and (2) how financial globalization affects *CSGOs* in general and their cross-firm difference in particular.

To measure *CSGOs*, we use the method of Heston and Rouwenhorst (1994). Specifically, each year we estimate a cross-sectional regression of firm-level Tobin's q-ratios on a set of country and industry dummy variables, while restricting the sum of the country-dummy coefficients and the one for the industry dummies to be equal to zero, respectively. The coefficient on each of the country dummies, in absolute terms, then represents the country's average deviation from the global average, with the industry effects taken into account. That is, it quantifies the country-specific *and* industry-neutral pricing of corporate growth options.

For the dimension of within-country heterogeneity, we employ firm size. While it is generally unclear exactly what firm attributes this variable is proxying for, this ambiguity is well-suited for our purpose, as the within-country heterogeneity in *CSGOs* is likely to be multi-dimensional. For example, a group of politically well-connected firms and the rest can constitute a dimension along which to examine heterogeneity. Alternatively, firms with overseas subsidiaries against others may also show a meaningful difference in *CSGOs*. And the list can go on and on. The point is that within-country heterogeneity cannot really be reduced to one particular scenario and firm size can serve as a "catch-all" proxy for many firm characteristics that can affect the degree of *CSGOs*.

Using data for 53,365 firms from 40 countries over the period of 1991-2012, we first find that a firm's growth opportunities generally contain more country-specific components than industry-specific ones. We then examine small and large firms separately to detect any within-country heterogeneity and find that smaller companies have much greater *CSGOs* than larger firms in the same country. Focusing on this differential in *CSGOs* between small and large firms, we examine the role of financial openness, which we measure with the sum of

the country's foreign assets and liabilities, divided by its GDP. In cross-section, a country's overall *CSGOs*, as well as those of small and large firms, are negatively related to the degree of the country's financial openness. That is, companies in financially more open countries have fewer *CSGOs* than do (similar-sized) firms in relatively closed countries. However, the economic magnitude is much greater in the small-firm case and, as a result, the difference in *CSGOs* between small and large firms is negatively related to financial openness.

Turning to the within-country analysis, we associate changes in financial openness with changes in the *CSGOs* differential, and continue to find a negative relation between the two. This time, the interpretation is that as a country becomes more open financially, the difference in *CSGOs* between small and large firms in the country shrinks. It is noteworthy that this result is driven exclusively by small firms, because only their *CSGOs* and not those of large companies decrease in financial openness. As we examine changes in variables within a country, the results suggest that financial globalization helps narrow the cross-firm gap in corporate growth opportunities in the country.

At least three issues need addressing. One is, of course, endogeneity and the second concern is whether Tobin's q-ratio is an appropriate proxy for corporate growth opportunities. Finally, it is necessary to delve into the exact meaning of the weaker *CSGOs*. Starting with the last, we examine whether the weaker *CSGOs* are indicative of more correlated growth options across countries. Specifically, we do so by turning our attention to industry-specific components in growth opportunities. The idea is that, if the results on *CSGOs* are stemming from financial globalization rendering corporate growth options be priced more similarly across countries regardless of the difference in their economic fundamentals, then we would see no change—or even a decrease—in the role of industry components. We thus repeat our analysis with the industry-specific growth opportunities (*ISGOs*), and find that the *ISGOs* become more important as the country experiences greater financial openness. Moreover, and

consistent with the earlier results on *CSGOs*, the increased *ISGOs* are found more strongly in small firms. As a result, the difference in *ISGOs* between small and large firms decreases in financial globalization. In sum, the weaker *CSGOs* of small firms associated with financial openness are due to the similar pricing of growth options across countries *within an industry*.

One may ask whether such global pricing of corporate growth options is desirable. To the extent that the industry-specific components we measure are justified by economic fundamentals, the observed alignment of growth options by the global industry standards should be beneficial. If, however, the industry components are contaminated by non-fundamental factors, then the conclusion needs to be qualified. Indeed, this concern corresponds to the earlier-raised issue of whether the q-ratio is a proper proxy for growth options. As a measure based on the market value of corporate assets (mostly equity prices), the q-ratio could contain mispricing and the strong *ISGOs* we report above may be attributable to the growing presence of industry-wide misevaluation (or price co-movement) across countries. This scenario, however, does not seem to go that far, since our findings are limited to small firms. That is, it is unclear why the industry-wide mispricing across countries—if any—appears only in small companies, which are typically ignored by international investors (Kang and Stulz 1997; Bartram, Griffin, Ng, and Lim 2016).[1]

Finally, we discuss endogeneity. Of its several versions, we first clarify that small and large firms are defined by the median total assets in a country and not by the market capitalization. Thus, any changes in their growth options (i.e., changes in q-ratio) do not affect, nor are affected by, the groups of small and large firms.

Moving on the reverse causality, we note that his hypothesis amounts to saying that a narrow gap in *CSGOs* between small and large firms *triggers* capital movements across

[1] In Section 4.2, we provide direct evidence that the global factor as measured by changes in the VIX index affects large firms disproportionately more than small ones. Hence, it *widens* the valuation gap between the two groups of companies.

countries, or conversely, a wide gap in *CSGOs* between the two groups of companies *discourages* cross-border capital inflows and outflows. We deem this scenario to be highly implausible, unless the *CSGOs*-gap is related to certain country-specific institutions that work against foreign capitals. For example, it could be that some regulations, which put foreign investors at a disadvantage and thus discourage cross-border capital flows, also favor large local companies over smaller ones, thereby contributing to a wider *CSGOs*-gap. This scenario is, indeed, the omitted-variable version of endogeneity, namely, that both cross-border capital flows and within-country heterogeneity in *CSGOs* are driven by a factor that is more fundamental than the two.

We are in complete agreement with this omitted-variable interpretation. After all, cross-border capital flows in our analysis are simply an empirical proxy for financial openness and, thus, we are *not* arguing that those flows *per se* create the results. Put differently, a country's financial openness can have other aspects besides cross-border capital flows, such as the facilitation of information diffusion across countries. Note also that, as our empirical specification explicitly controls for other related country attributes, such as the trade openness, the national wealth, the economic growth, and the status of domestic financial markets, our measure based on capital flows proxies for the degree of the country's financial openness.

Our paper is related to several lines of research. Closely related to our paper, Bekaert et al. (2007) show that corporate growth options are globally created and exploited as the country's financial sector is open to foreigners. Similarly, Fisman and Love (2004) show that the economic and financial developments cause countries to grow similarly, which implies that the *CSGOs* weaken accordingly. To these studies, our paper adds a new finding, namely, that financial globalization helps reduce the within-country difference in growth

opportunities by making the growth options—especially those of small firms—priced globally than locally.

A handful of studies focus their attention on the differing effects of financial globalization on domestic companies. They include Beck, Demirguc-Kunt, and Maksimovic (2005), Christoffersen, Chung, and Errunza (2006), Gozzi, Levine, and Schmukler (2008), and Beck, Demirguc-Kunt, Laeven, and Levine (2008). All those studies agree that theories are of little help and the question here is more of an empirical one. Christoffersen et al. (2006) find that stock-market opening benefits large firms more than small firms. Similarly, Gozzi et al. (2008) find that easier access to international capital markets are enjoyed mostly by large firms. However, Beck et al. (2005), based on a survey, note that small firms are particularly more constrained by domestic institutions and, thus, the improvement in institutions will benefit small firms more than large firms. Using the same survey data, Beck et al. (2008) find that financial development – which tends to occur simultaneously with financial globalization – helps small firm-dominant industries grow faster than large firm-dominant industries. Our paper contributes to this literature by reporting that financial globalization affects domestic companies differently in a way that small companies have fewer country-specific components and more industry-specific components in their growth options.

Certainly, studies on the relative importance between country- and industry-specific components in stock returns are related to our paper. Earlier studies have established that country effects are more important than industry effects (e.g., Heston and Rouwenhorst 1994; Griffin and Karolyi 1998; Brook and Del Negro 2004). However, the industry effects are not to be ignored and at times appear to be the dominant factor in stock returns (e.g., Cavaglia et al. 2000; Ferreira and Gama 2005; Carrieri, Errunza, and Hogan 2007; Carrieri, Errunza, and Sarkissian 2008). While not examining stock returns, our study confirms the greater importance of country-specific components in corporate valuation. Recall, however, that our

focus is not to test between the country and the industry effects; we are interested solely in the cross-firm difference in country effects and how this heterogeneity in a country is related to the degree of the country's financial openness. The two features—i.e., the within-country heterogeneity and its relation to financial globalization—also distinguish our study from An, Bhojraj, and Ng (2010) who study the relative importance between country and industry effects in corporate valuation ratios (book-to-market equity ratio and earnings-to-market ratio) in terms of the stock-return predictability.[2]

This paper proceeds as follows. Section 2 explains the sample and data, and Section 3 reports the main empirical results. Section 4 provides additional robustness checks and Section 5 concludes the paper.

2. Sample and data

To construct the sample, we begin with all Worldscope companies for non-U.S. countries and all Compustat firms for the U.S. over the period from 1991 to 2012. We require both the country and the industry codes to be available, and also the total assets, book value of equity, and market value of equity to be positive. Finally, we require total assets to be greater than or equal to book value of equity. The q-ratio—our proxy for corporate growth opportunities—is then computed as the market value of asset (book value of assets minus book value of equity plus market value of equity) divided by the book value of assets. We treat the q-ratio as missing if it is greater than 100. To further alleviate the extreme value problem, we use the natural log of q-ratio in all our analysis.

We assign sample companies into one of the Fama-French 48 industries. Those companies that do not belong to any of those industries are dropped from the sample.

[2] Using data from 1990 to 2006, An et al. (2010) find that the return predictability stems mostly from the idiosyncratic components in stock returns, neither the country-specific nor industry-specific components.

Separately, we define each year small (large) firms as those companies whose total assets are below (above) the sample median value within a country. We then require, each year during our sample period, a country to have at least one small firm and one large firm. This is a binding constraint, since some countries may not have data for certain years, in which case those countries do not make our final sample. We also require a given industry across countries to have at least one small and one large company each year.

We do not include Hong Kong and Taiwan in the sample, because their country-level variables are not available from the data sources we use, such as the International Monetary Fund. We also ensure that the country code and country name in the Worldscope database are correctly matched (e.g., code 826 for United Kingdom and not, say, Cayman Islands). As a result, we have 40 countries and 47 industries. As many as 53,365 firms enter our sample at least once and the average number of sample firms in a given year is 22,402.[3]

Table 1 reports some information about our final sample. Panel A in particular shows the list of 40 countries along with the average number of companies in each country. Slightly more than a quarter of the sample firms are from the U.S., followed by Japan that accounts for approximately 14% of the sample. As such, the sample is uneven but it is reasonable as the U.S. companies are considered to set the global standards. The table also provides the size and q-ratio information for the sample firms, as well as for small and large companies separately, in a given country. The average size (total assets in million US dollars) between small and large firms suggests the existence of a few disproportionately large companies in each country (Gabaix 2011). Tobin's q-ratio is generally higher for small firms than for large companies. In Panel B, we report the summary statistics of q-ratios across sample firms and

[3] We intentionally drop one Turkish company from the sample (Worldscope company code 27743TD), as its total assets change dramatically, from 610,175,184.58 in 1991 to 561.72 in 1992 and then to 516,504,061.49 in 1993. This is an obvious error but, instead of artificially correcting the numbers, we exclude the company from the sample.

sample years (for all firms and then for small and large firms separately). As we truncate the sample at the q-ratio of 100, the maximum sample q-ratio is 99.27 while the minimum is near-zero. Small firms have a wider range of q-ratio than large firms, both below and above the median. Consequently, the higher q-ratio of small firms is not as pronounced in terms of the median as through the mean. Still, the q-ratio is typically higher in small firms than in large firms.

3. Empirical results

3.1. CSGOs and within-country heterogeneity

We now estimate the following year-by-year cross-sectional regression to quantify the country-specific components in corporate growth opportunities while controlling for industry-specific components:

$$\ln q_k = \alpha + \sum_c \beta_c * CNTRY_c + \sum_i \gamma_i * INDST_i + \varepsilon_k , \qquad (1)$$

$$s.t. \ \sum_c \beta_c = 0 \text{ and } \sum_i \gamma_i = 0 ,$$

where ln q_k is the natural log of firm k's q-ratio, $CNTRY_c$ is the 0/1 dummy variable for country c, and $INDST_i$ is the 0/1 dummy variable for industry i.[4] To gauge the cross-firm difference in *CSGOs*, we re-estimate Eq. (1) separately for small and large firms.

To obtain a summary measure for the overall *CSGOs* and their within-country heterogeneity, we sum the absolute values of the estimated β_c's across countries; that way, we

[4] Note that the two constraints do not use any weighting scheme. Compared to the case where those coefficients are weighted by the number of firms in the corresponding country or industry, our approach allows a larger coefficient for the country or industry with more firms. Specifically, if the constraint were $\sum n_c * \beta_c = 0$, where n_c is the number of firms in country c, the resulting estimate for β_c would be smaller than ours by the order of $1/n_c$. We use this non-weighted constraint so that the coefficient is affected more by the countries and industries with more firms.

have one number for each year. Similarly, we separately sum the absolute values of the β_c's that are estimated only with small firms and those with large firms; consequently, we obtain one annual measure of small firms' *CSGOs* and the one for large firms. We plot those three annual time-series, namely, all-firm *CSGOs*, small-firm *CSGOs*, and large-firm *CSGOs*, in Figure 1 (top panel).

The figure shows a huge difference in *CSGOs* between small and large firms in a given country. The economic magnitude of this within-country heterogeneity can be computed as follows. The small-firm *CSGOs* in the figure, when averaged across time, are 7.95. Since it is an aggregate number that is summed across 40 countries, the cross-country average is 7.95/40 or 0.199. This is a measure of volatility—i.e., how much the q-ratios of small firms deviate from the global average (after controlling for their different industry memberships). The comparable number for large firms is 0.128 (the average of the large-firm *CSGOs* in the figure, 5.13, divided by 40). Thus, *CSGOs* of small firms is approximately 55% greater than those of large firms.

Another way of putting the estimated *CSGOs* into perspective is to compare them with industry-specific growth opportunities (*ISGOs*). To this end, we repeat the analysis using the estimated γ's (for all firms, small firms only, or large firms only). The bottom panel of Figure 1 shows virtually no difference between small and large firms. While large companies have somewhat more industry-specific components in their growth opportunities than do small companies, industry-specific components in small firms' growth options are only 2% smaller than those of large firms. The lack of difference, however, is not due to the limited role of industry in corporate growth opportunities. As evident in the figure, the "industry effects" are just only slightly smaller than the "country effects", although such comparison is not the goal of this paper.

One potential issue with the results in Figure 1 is that Eq. (1) is estimated separately for small and large firms. That is, their *CSGOs* and *ISGOs* are measured against different benchmarks (i.e., the intercepts of each regression). While the two intercepts turn out to be quite close to each other (not reported), we attempt to ensure the robustness of the results by estimating an alternative equation that imposes one common intercept. Specifically, we estimate:

$$\begin{aligned} \ln q_k = \alpha & \\ & + \sum_c \beta_{c,small} * CNTRY_c * SM_c + \sum_c \beta_{c,large} * CNTRY_c * LG_c \quad , \\ & + \sum_i \gamma_{i,small} * INDST_i * SM_c + \sum_i \gamma_{i,large} * INDST_i * LG_c + \varepsilon_k \end{aligned} \tag{2}$$

$$s.t. \sum_c \beta_{c,small} + \sum_c \beta_{c,large} = 0 ,$$

$$\sum_i \gamma_{i,small} + \sum_i \gamma_{i,large} = 0 ,$$

$$\sum_c \beta_{c,small} + \sum_i \gamma_{i,large} = 0 , \text{ and}$$

$$\sum_i \gamma_{i,small} + \sum_c \beta_{c,large} = 0 .$$

where SM_c (LG_c) is a 0/1 dummy variable for small (large) companies in country c. Other variables are already defined in Eq. (1). In essence, Eq. (2) additionally includes a dummy for small firms and another one for large companies, and have them interact with the country and the industry dummy variables. Note the changes in the constraints. The set of four constraints are imposing the zero-sum condition on any combinations between small and large companies. Otherwise, the intercept – the benchmark – would be biased between the two groups of companies and cannot remain neutral.

Figure 2 shows that this alternative specification makes virtually no change to the earlier results. We continue to observe a large difference in *CSGOs* between small and large companies (top panel), whereas the *ISGOs* show negligible difference (bottom panel). In words, the results in Figure 2 confirm that the previously observed difference in *CSGOs* between small and large firms and the absence of such a difference in *ISGOs* are not attributable to different benchmarks. In the following analysis that associates *CSGOs* with financial globalization, we employ the estimates from this one-regression specification (i.e., Eq. (2)).[5]

3.2. CSGOs, within-country heterogeneity, and financial globalization – Cross-country analysis

Basic setup

We now associate a country's *CSGOs* with the degree of its financial openness. In particular, we examine how the difference in *CSGOs* between small and large companies is related to financial openness. Specifically, we estimate the following regression:

$$Depvar_{c,t} = a + b * FinOpen_{c,t} + \sum_k c_k * Control_{c,k,t} + y_t + e_{c,t}, \quad (3)$$

where $Depvar_{c,t}$ is one of the following: the *CSGOs* of country *c* in year *t* (i.e., β_c estimate in absolute terms from Eq. (1)), the *CSGOs* of country *c*'s small firms in year *t* (i.e., $\beta_{c,small}$ estimate in absolute terms from Eq. (2)), the *CSGOs* of country *c*'s large firms in year *t* (i.e., $\beta_{c,large}$ estimate in absolute terms from Eq. (2)), and the difference in *CSGOs* between small and large firms in country *c* in year *t* (i.e., the absolute value of the difference between $\beta_{c,small}$

[5] To further ensure the robustness of our results, we used the raw q-ratio (i.e., not in log) as the dependent variable and found a very similar result to Figures 1 and 2. We also used the log q-ratio that is truncated at the 1 and 99 percentiles and found that the patterns in the figures are robust to using this alternative dependent variable. The results are available upon request.

and $\beta_{c,large}$). Hereafter, those estimates are denoted by, respectively, $CSGOs_{\text{all}}$, $CSGOs_{\text{small}}$, $CSGOs_{\text{large}}$, and $CSGOs_{\text{diff}}$. It is a panel regression and, in order to examine the cross-section at the country level, we use the year fixed-effects (y_t).

We need to detail how we measure the degree of a country's financial openness. For the cross-country analysis here, we use the sum of a country's foreign assets and foreign liabilities, divided by its GDP. The resulting variable is effectively the cumulative gross capital flows over time. That is, our measure presumes that countries with more cross-border capital flows—not just during the current period but also in the past, and both inflows and outflows—are be more open financially.[6] Again, we stress that this measure is only a proxy and we are well aware that a country's financial openness is indeed a multi-dimensional characteristic that affects and is affected by many other aspects of the country. Thus, our results below should not be interpreted as capital flows *per se* affecting the *CSGOs*. Instead, it should be a country's financial openness that is causing a certain pattern in *CSGOs*.

In order to establish a relation between *CSGOs* and financial openness, we need to control for other country characteristics that are not directly related to financial openness. We thus include in the regression: credit market size, stock market size, stock market turnover, log GDP per capita, GDP per capita growth, and trade openness. In addition, we control for: the median firm size (total assets) of a country, the number of firms in a country, the median q-ratio of a country, and the cross-sectional standard deviation of q-ratios within a country. (All variables are in log.) Controlling for those variables are important because otherwise the results could be spurious. When the $CSGOs_{\text{small}}$ or the $CSGOs_{\text{large}}$ are used as the dependent variable, the control variables are computed only with small or large firms in the country. With the $CSGOs_{\text{diff}}$ as the dependent variable, we use the log difference in a given variable

[6] Luxemburg is excluded from the regression analysis, since its foreign assets and liabilities are more than 100 times of the country's GDP. Not using Luxemburg is common in the international finance and economic literature. See, e.g., Feldstein and Horioka (1980) and Tesar (1991).

between small and large firms, except that the number of firms is the total number of firms in a country.

Table 2 reports the summary statistics of the regression variables. The first four rows are the dependent variables (i.e., $CSGOs_{all}$, $CSGOs_{small}$, $CSGOs_{large}$, and $CSGOs_{diff}$) and they are followed by the measure of financial openness and the control variables. The average *CSGOs* in a given country ($CSGOs_{all}$) is 0.140 and this estimate is slightly lower than our earlier result in Section 3.1 (0.151, which is the average of the "all-firm" line in the top panel of Figure 1). The difference stems from the fact that we now require data for financial openness (i.e., foreign assets and liabilities). Considering that such data are available only after the country is financially open to some extent, a lower estimate of *CSGOs* in this section (i.e., a higher value for *CSGOs* in the unscreened sample in Section 3.1) is not surprising.[7] The table confirms, again, the more pronounced *CSGOs* of small firms compared to large companies (0.188 vs. 0.120, on average).[8] As in Section 3.1, the estimates correspond to a difference of approximately 55%.

What needs explaining is the difference estimate ($CSGOs_{diff}$). For this estimate, we first compute the difference between $\beta_{c,small}$ and $\beta_{c,large}$ each year for each country, and then take the absolute value of the difference. While not directly corresponding to $CSGOs_{small}$ *minus* $CSGOs_{large}$, the $CSGOs_{diff}$ correctly gauges how far the growth options of small and large firms are apart and then makes the deviation non-directional by taking the absolute value of it. Put differently, the $CSGOs_{diff}$ is the log difference in q between small and large firms (in absolute terms).

The variable of interest is *FinOpen*, our proxy for a country's financial openness. As explained above, it is the ratio of foreign assets and liabilities to GDP. The average value is

[7] We do *not* treat the missing foreign assets and liabilities as zero.
[8] In Section 3.1, the estimates are, respectively, 0.199 and 0.128. Again, the *CSGOs* estimates are unsurprisingly lower in this screened sample than in the earlier unscreened sample.

1.805 but the median is 1.023, with the maximum of 28.971. As such, the variable is heavily right-skewed. To mitigate the extreme-value problem, we employ several dummy variables, as well as the original continuous one, in the regression. In the later within-country analysis, we use the 1st difference of this variable, since it is likely to be non-stationary. Other control variables are also reported in Table 2 and do not seem to raise any outlier issue.

Regression results

Table 3, Panel A, reports the panel regression results. As shown in the first two rows of the table, a country's financial openness is significantly and negatively associated with each of the four *CSGOs* estimates. Since the regressions include year fixed-effects, the results translate into a cross-country pattern. That is, the negative coefficients on *FinOpen* indicate that corporate growth options are less country-specific in countries that are financially more open than in other, relatively more closed countries. More interestingly, the significant and negative relations of *FinOpen* to $CSGOs_{small}$ and $CSGOs_{diff}$, respectively, suggest that the weaker *CSGOs* associated with financial openness is more pronounced in small firms of financially open countries and that the gap in *CSGOs* between small and large firms is narrower in those countries.

To better understand the results' economic magnitude, we replace the original, continuous *FinOpen* with a 0/1 dummy variable representing the above-median countries (Panel B) or with two 0/1 dummy variables each corresponding to the above-q3 and to the below-q1 countries (Panel C). These alternative specifications also mitigate the effect of any extreme *FinOpen* values on the results. The estimated coefficients on the above-median dummy with $CSGOs_{diff}$ (Panel B) is -0.045 and it is corresponds to the mean difference in $CSGOs_{diff}$ between the above- and below-median countries. The coefficient in Panel C for the above-q3 countries is even bigger in magnitude at -0.069. Given that the average $CSGOs_{diff}$ is

0.155 and the dummy for the below-q1 does not enter the regression significantly, we can infer that the $CSGOs_{diff}$ of the above-q3 countries is, on average, 0.10325. That is, the difference in q between small and large firms in those countries is approximately 1.1 (from $e^{0.10325}$), whereas the average $CSGOs_{diff}$ in the rest of the countries is 1.2 (from $e^{0.17225}$).

Endogeneity

Focusing on $CSGOs_{diff}$ is useful in addressing the endogeneity issue, since the reverse causality would mean—rather strangely—that, as small and large firms become more similar to each other in terms of their growth options, this similarity *causes* their country to become more open financially. We find such a causal relation quite difficult to rationalize: why would the similarity in growth options between small and large firms *cause* financial openness or, as an empirical matter, cross-border capital flows? Perhaps one can consider an omitted variable that can affect both the *CSGOs* and the cross-border capital flows. For example, a certain regulation that can contribute to a more level playing field for local companies (i.e., a narrower *CSGOs*-gap) may also facilitate cross-border capital flows. As explained in the introduction, we fully embrace this interpretation. The variable we employ here, *FinOpen*, is only an empirical proxy for a country's financial openness and we are not arguing that cross-border capital flows *per se* cause any results. We only rely on the fact that countries that are more financially open have more cross-border capital flows. Unless our proxy picks up other aspects of the country that are not related to financial openness, our results must be indicative of financially open countries having less cross-firm differences in the pricing of growth options than do financially closed countries.

This last point above begs an inspection of the control variables, so that we can be assured that other country characteristics not directly related to financial openness are correctly taken into account. In our regressions, we are controlling for the degree of a

country's financial development and economic development to correctly isolate the effects of financial openness on the results. Reading the results of the control variables in Table 3 (below *FinOpen*), the size of the credit and stock markets (*Credit* and *Stock*) are not reliably associated with *CSGOs*, suggesting that financial development—after its financial-openness aspect is controlled for—does not affect the country-dependency in corporate growth options in any particular direction.[9] It is interesting to see the stock-market turnover (*Tover*) to be differently related to $CSGOs_{small}$ and to $CSGOs_{large}$. However, this variable does not explain the difference in *CSGOs* between small and large firms.

The degree of economic development is controlled via two variables, namely, GDP per capita (*GDP*) and its growth (*GDPgrw*). The wealth of a country (i.e. *GDP*) is significantly and negatively related to each of $CSGOs_{all}$, $CSGOs_{small}$, and $CSGOs_{large}$. However, due to this universal impact on local firms, *GDP* does not explain the cross-firm difference. It is interesting to note that, in Panels B and C where we employ dummy variables for financial openness, *GDP* loses its significance. Our interpretation of this no-result is that the overarching dummy variables capture the effect of economic development as well as that of financial openness. The other variable, *GDPgrw*, suggests that the country-dependency of large firms' growth opportunities, but not that of small firms, is weaker in fast-growing countries. However, the variable has little explanatory power for the difference between the two groups of companies.

The degree of trade openness, denoted by *TrdOpen*, is measured by the ratio of import and export to GDP and it is significantly and positive related to the *CSGOs* of large firms. That is, countries with more international trades tend to have more country-specific components in large firms' growth opportunities. We conjecture that this result obtains as the

[9] This "no-result" of the financial development measures can obtain if well-developed credit markets make local companies dependent on local markets, which would hamper corporate growth options from being priced by the global standards.

international trades of some countries concentrate in their large companies in different industries. Since it is not the variable of our main interest, we do not conduct further investigation.

In addition to the macroeconomic controls above, we employ four additional variables that are constructed with firm-level data in a given country for a given year. They are the median firm size (total assets), the median q-ratio, the cross-sectional standard deviation of q-ratio, and the number of companies. All four variables are computed within a country or in the country's small-firm or large-firm subset. (All variables are first computed and then put in log to enter the regression.) When the dependent variable is the $CSGOs_{diff}$, we replace the median firm size, the median q-ratio, and the standard deviation of q-ratio with their differences between small and large firms; for the number of firms, we use the total number of firms in the country.

It turns out that those four variables all explain the difference in *CSGOs* between small and large firms. Specifically, the estimated coefficients and their signs indicate that the countries with more firms and a smaller difference in size, q, or q-dispersion between small and large firms tend to have a smaller $CSGOs_{diff}$. While these results are to some extent expected, they are not mechanical or tautological by any means. More importantly, *FinOpen* survives all these controls.

In sum, the regression results in this section establish a cross-country pattern, namely, that the countries that are open financially have less pronounced *CSGOs* and also a narrower gap in *CSGOs* between small and large companies than do financially closed countries. Next section turns our attention to the within-country aspect of the data.

3.3. CSGOs, within-country heterogeneity, and financial globalization – within-country analysis

Basic setup

We now turn to the association of *FinOpen* with *CSGOs* within a country. Since the two variables are likely to be non-stationary, we use the 1st difference and also employ the country fixed-effects in the panel regressions. A significant and negative coefficient on *FinOpen* (i.e., Δ*FinOpen*) against *CSGOs* (i.e., Δ*CSGOs*) would indicate that, as a country becomes financially more open, its corporate growth opportunities contain fewer country-specific components. Also, with changes in $CSGOs_{\text{diff}}$ as the dependent variable, a significant coefficient on Δ*FinOpen* would suggest that, as a country becomes more open financially, corporate growth opportunities are priced globally and, as a consequence, the gap between small and large firms narrows.

Specifically, we estimate the following regression:

$$\Delta Depvar_{c,t} = a + b * \Delta FinOpen_{c,t} + \sum_{k} c_k * \Delta Control_{c,k,t} + y_t + c_c + e_{c,t}, \qquad (4)$$

where $\Delta Depvar_{c,t}$ is the annual change (from year *t*-1 to year *t*) in one of the four dependent variables for Eq. (3). That is, it is one of $\Delta|\beta_c|$, $\Delta|\beta_{c,small}|$, $\Delta|\beta_{c,large}|$, and $\Delta|\beta_{c,small} - \beta_{c,large}|$. The regressors are the same as those in Eq. (3) except that we now use their annual changes. In order to examine the within-country variation, we use the country fixed-effects (c_c) along with the year fixed-effects (y_t).

Regression results

Table 4, Panel A, shows the regression results. It is evident that changes in a country's financial openness—i.e., Δ*FinOpen*—are significantly and negatively related to changes in the *CSGOs* of all firms ($CSGOs_{\text{all}}$) and of small firms ($CSGOs_{\text{small}}$). However, the variable is insignificant when the changes in large firms' *CSGOs* are used as the dependent variable.

Consequently, Δ*FinOpen* is significantly and negatively related to Δ$CSGOs_{diff}$. Put differently, as a country becomes more open financially, the difference in *CSGOs* between small and large firms shrinks, mostly due to the reduction in the country-dependency of small firms' growth options.

With the country fixed-effects and the 1st difference in variables, the reverse causality—especially for the $CSGOs_{diff}$—is made even more implausible, namely, how could it be the case that a country is made more open financially *by* the growth opportunities of small firms and large firms becoming more similar to each other? It seems only sensible to argue—as we do—that a country's financial openness causes the growth opportunities of small and large firms to be similar by weakening the role of country-specific components.

As an alternative specification, we drop the year fixed-effects from Eq. (4) and allow any particular year(s) to affect our results. As shown in Panel B of Table 4, this modification makes Δ*FinOpen* significant even for the $CSGOs_{large}$, while remaining significant in the other three regressions as before. It appears that the pricing of large firms' growth opportunities are affected dramatically during certain years (by some global shocks). We further investigate this issue in the next section.[10]

4. Additional analysis

4.1. Industry-specific growth opportunities (ISGOs)

Can our results be due to a growing presence of a "global factor" that would make companies similar to each other? By nature, such a factor would be at work across countries and it will also reduce the cross-firm differences within a country. Thus, it could be argued

[10] Among the control variables, the role of GDP growth (Δ*GDPgrw*) is unmistakable across the three panels. It thus follows that a country's *CSGOs* weaken as the country grows faster (i.e., in the within-country context) and also the *CSGOs* are less pronounced in countries that grow faster (i.e., in the cross-country setting).However, this effect is common to both small and large companies and has no explanatory power for the $CSGOs_{diff}$.

that the weakening of *CSGOs* associated with financial globalization is due to a larger role played by some global factors, for which the country's financial openness is a pre-condition.

One way of evaluating this possibility is to gauge the industry-specific growth opportunities (*ISGOs*). Recall that our estimates of *ISGOs* are for a given industry across countries (i.e., γ_i in Eq. (1)), so we need to convert them to country-specific measures. To this end, we employ the following procedure. Each year within a country, we compute the fraction of firms that belong to each of the industries in the country. For example, if a country has 10 firms in automobiles and 20 in electronics (and no other industries), then the auto industry is given a value of 1/3 and the electronics 2/3. We then use those fractions as weights to compute the weighted average *ISGOs* within the country. That is, $|\gamma_{auto}|$* (1/3) + $|\gamma_{electronics}|$ *(2/3), in which γ_i are estimated by Eq. (1).

For the *ISGOs* of small or large firms and their difference, we use the estimates of Eq. (2), namely, $\gamma_{i,small}$ and $\gamma_{i,large}$. Specifically, in each country, we compute the fraction of small or large firms in each industry. Continuing on the earlier example, suppose that the auto industry has 3 large firms and 7 small firms, while there are 12 large and 8 small electronics companies. Then the small-firm *ISGOs* of this country is $|\gamma_{auto,\ small}|$ * (7/15) + $|\gamma_{electronics,\ small}|$ *(8/15). Similarly, the country's large-firm *ISGOs* is $|\gamma_{auto,\ large}|$ * (3/15) + $|\gamma_{electronics,\ large}|$ *(12/15). Finally, the difference in industry effect between small and large firms in our example is $|\gamma_{auto,\ small} - \gamma_{auto,\ large}|$ * (1/3) + $|\gamma_{electronics,\ small} - \gamma_{electronics,\ large}|$ * (2/3).

Table 5 reports the summary statistics of the resulting *ISGOs*, in which we make three observations. First, the magnitude of industry-dependency in growth options is comparable to that of country dependency. We cannot directly compare the numbers in Table 2 and those in Table 5, since the *ISGOs* here are reconstructed to represent the industry-dependency of a given country. Besides, such a comparison is not the goal of this paper. Still, we note that *ISGOs* is far from being negligible. Second, and unlike the *CSGOs*, there are more industry-

specific components in large firms' growth options than in small-firm growth opportunities. Third, the difference in *ISGOs* between small and large firms is extremely limited.

We first examine the cross-country pattern by using Eq. (3). The dependent variable is now $ISGOs_{i}$, in which the firm-group i is "all", "small", "large", or "diff", as in Table 3. Table 6, Panel A, shows that *FinOpen* is significantly and positively related to $ISGOs_{all}$ and $ISGOs_{small}$. Surprisingly, it is significantly and negatively related to $ISGOs_{large}$, although the difference between small and large companies does not show any reliable relationship with *FinOpe*n. Before making any inference from those estimates, we first ensure the robustness of the results by replacing the continuous openness measure with dummy variables. Panels B and C of Table 6 show that the coefficient on *FinOpen* is most reliable when the dependent variable is $ISGOs_{small}$. The interpretation is thus that small companies in financially open counties have more industry-specific components in their growth opportunities than small companies in other, financially closed countries. The results on the $ISGOs_{all}$ are also reliable, although this pattern appears to be driven by the divergence between the most open countries (i.e., above-q3 countries) and the rest. Finally, the insignificant coefficient of *FinOpen* for the $ISGOs_{diff}$ also remains robust.

We now turn to the within-country analysis by utilizing Eq. (4). Table 7, Panel A, shows that changes in *FinOpen* is significantly and positively related to changes in all firms' and small firms' *ISGOs*. This result is consistent with the cross-country result above and further supports the argument that, as a country becomes more financially open, the growth opportunities of its companies—especially small ones—are better aligned with the country-neutral industry fundamentals. Consistent with the cross-country analysis above, $\Delta FinOpen$ is unrelated to $\Delta ISGOs_{large}$. Unlike the cross-sectional analysis, however, the difference in *ISGOs* between small and large firms decreases significantly with financial openness.

Before concluding this section, we modify the regression specification by dropping the year fixed-effects. Panel B shows that, absent the year fixed-effects, changes in *FinOpen* is significantly and positively related to changes in large firms' *ISGOs*, as well as to $\Delta ISGOs_{small}$. This result, as in Panel B of Table 4, suggests that the pricing of large firms' growth options is affected by some global shocks during certain years. This observation begs a closer investigation into the role of global factors in our results, which we do in the next section.

4.2. Role of global factors – An analysis of VIX

To investigate the role of global factors, we include in the regression the VIX index as another control. Prior studies have documented that VIX is closely related to global factors. Specifically, cross-border capital flows have a commonality and it is negatively related to VIX—i.e., capital moves more across countries when VIX is low (e.g., Rey 2015). We thus take a negative value of the average VIX over a year—denoted hereafter by *negVIX*—and use its annual change (i.e., from the last year's average to this year's average) as another control in the within-country regressions without the year fixed effects. Our goal here is to see whether the significant coefficient on $\Delta FinOpen$ against $\Delta CSGOs_{large}$ (or $\Delta ISGOs_{large}$) weakens in the presence of $\Delta negVIX$, or put differently, whether $\Delta negVIX$ takes away the explanatory power of $\Delta FinOpen$ for large firms' growth opportunities. Such a finding would mean that the particular years during which large companies are affected by financial openness are, in fact, the periods when the VIX index changes a lot. (Recall that, once this period-specific effects are controlled, there is no relation between large-firm growth options and financial openness.)

Table 8 reports the six sets of regression results. The first two columns are for the regressions whose dependent variables are, respectively, $\Delta CSGOs_{large}$ and $\Delta ISGOs_{large}$. The

results show that Δ*FinOpen* is no longer significant in the presence of Δ*negVIX* and this new control variable enters the regression significantly. Specifically, Δ*negVIX* is negatively related to the $CSGOs_{large}$ and positively to the $ISGOs_{large}$. Given that a rise in *negVIX* (i.e., a decrease in *VIX*) is a sign of improved environments for cross-border capital flows, the estimated coefficients suggest that large firms have fewer (more) country-specific (industry-specific) components in their growth options when international investors are more actively trading.

For the sake of completeness, we also examine the growth options of small firms (i.e., $\Delta CSGOs_{small}$ and $\Delta ISGOs_{small}$). As shown in the middle two columns, Δ*negVIX* do not affect the country-dependency of small firms' growth opportunities. The last two columns in Table 8 are for the regressions whose dependent variables are, respectively, $\Delta CSGOs_{diff}$ and $\Delta ISGOs_{diff}$. It is indeed telling that Δ*negVIX* has no explanatory power for the difference in *CSGOs* between small and large companies, whereas Δ*FinOpen* continues to be significant and negative (i.e., it reduces the gap between small and large companies). Equally interesting, Δ*negVIX* and Δ*FinOpen* have different signs of coefficients, as the former is positive (i.e., it contributes to a *wider* gap) and the latter is negative (i.e., it helps reduce the gap).

Clearly there will be an interaction between the global factor and the degree of financial openness. After all, the global factor will be irrelevant if the country is completely closed. Still, our results in this section show that the impact of financial globalization on *CSGOs* and their within-country heterogeneity is present regardless of whether the overall environments of cross-border capital flows are good or bad.

5. Conclusions

Using data for 53,365 firms from 40 countries over the period of 1991-2012, we examine the extent to which a firm's growth opportunities are country-specific. In particular,

we focus our attention on two aspects of country-specific growth opportunities (*CSGOs*), namely, the cross-firm difference within a country and the impact of financial globalization on *CSGOs* and their within-country heterogeneity. We find that: (1) small firms in a country have greater country-specific components in their growth options compared to large firms in the same country; (2) the *CSGOs*—especially those for small firms—decrease as the country is financially more open; and (3) the difference in *CSGOs* between small and large firms is reduced by the country's financial openness. In sum, our results show that financial globalization helps corporate growth options to be priced globally than locally and mitigates cross-firm heterogeneity within a country.

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Table 1 Sample characteristics

This table reports the average number of sample firms and their size and q-ratio by country (in Panel A) and th summary statistics of Tobin's q-ratio across sample countries and sample years (in Panel B). The sample period is from 1991 to 2013.

Panel A: Sample countries and characteristics of sample firms

Country	Avg. # of firms	Avg. firm size (in million U$)			Avg. q-ratio		
		all	small	large	all	small	large
ARGENTINA	61	1,283	131	2,409	1.71	2.28	1.16
AUSTRALIA	970	1,891	38	3,753	1.95	2.39	1.51
AUSTRIA	89	5,836	122	11,470	1.41	1.64	1.18
BELGIUM	141	10,459	105	20,758	1.36	1.52	1.21
BRAZIL	94	6,102	366	11,934	1.26	1.37	1.16
CANADA	1,347	2,168	38	4,295	2.20	2.91	1.49
CHILE	147	1,352	90	2,618	1.75	2.15	1.34
CHINA	1,092	1,878	111	3,644	2.16	2.58	1.74
COLOMBIA	33	2,348	222	4,393	1.07	1.06	1.08
DENMARK	225	2,326	54	4,593	1.39	1.36	1.42
FINLAND	126	1,894	77	3,695	1.51	1.65	1.38
FRANCE	711	9,558	61	19,044	1.51	1.74	1.28
GERMANY	689	8,397	54	16,724	1.73	2.02	1.43
GREECE	213	1,616	45	3,216	1.62	1.82	1.43
INDIA	918	719	34	1,403	1.67	1.69	1.66
INDONESIA	244	626	44	1,214	1.35	1.31	1.40
IRELAND	64	6,571	59	12,995	2.22	2.14	2.31
ITALY	243	13,298	242	26,313	1.26	1.34	1.18
JAPAN	3,194	4,655	161	9,150	1.30	1.42	1.17
KOREA(SOUTH)	879	2,182	155	4,203	1.11	1.21	1.01
LUXEMBOURG	34	6,150	179	11,949	1.31	1.32	1.29
MALAYSIA	646	674	50	1,299	1.39	1.53	1.26
MEXICO	107	2,646	309	5,003	1.34	1.27	1.41
NETHERLANDS	163	14,129	127	28,049	1.63	1.77	1.50
NEW ZEALAND	91	594	45	1,139	1.63	1.96	1.30
NORWAY	166	2,230	83	4,366	1.60	1.99	1.22
PAKISTAN	135	282	23	543	1.31	1.31	1.30
PERU	77	577	48	1,098	1.64	1.59	1.68
PHILIPPINES	159	680	40	1,312	1.73	2.16	1.30
PORTUGAL	61	6,154	157	12,013	1.12	1.01	1.23
SINGAPORE	394	1,343	60	2,606	1.36	1.50	1.24
SOUTH AFRICA	301	1,676	57	3,289	1.66	1.81	1.51
SPAIN	156	13,687	237	27,009	1.35	1.39	1.31
SWEDEN	306	3,490	45	6,941	1.89	2.28	1.50
SWITZERLAND	234	12,799	183	25,365	1.48	1.61	1.35
THAILAND	363	854	39	1,665	1.34	1.36	1.32
TURKEY	179	1,333	62	2,604	1.76	1.78	1.75
UK	1,501	5,512	27	11,008	1.93	2.32	1.54
USA	5,830	4,116	75	8,161	2.85	3.15	2.56
VENEZUELA	24	1,706	153	3,190	0.96	1.04	0.87

Table 1 (cont.)

Panel B: Summary statistics of q-ratios (across sample countries and years)			
	q-ratio		
	all	small	large
# of obs.	492,856	246,401	246,455
Mean	1.97	2.26	1.68
Std. dev	3.67	4.45	2.63
Min	0.00	0.00	0.01
P1	0.33	0.25	0.49
Q1	0.91	0.86	0.94
Median	1.13	1.18	1.10
Q3	1.77	2.04	1.57
P99	15.64	19.83	10.92
Max	99.27	99.27	98.55

Table 2 Summary statistics of regression variables

This table reports summary statistics of the variables in the cross-section regression analysis. $\boldsymbol{CSGOs}_{\text{all}}$ is the country-specific growth opportunities (***CSGOs***) for all firms in a country and is measured by the absolute value of β_c in Eq.(1). Similarly, $\boldsymbol{CSGOs}_{\text{small}}$ and $\boldsymbol{CSGOs}_{\text{large}}$ are, respectively, the ***CSGOs*** of small and large firms in a country and are measured by the absolute values of $|\beta_{c,small}|$ and of $|\beta_{c,large}|$ in Eq.(2). $\boldsymbol{CSGOs}_{\text{diff}}$, computed as $|\beta_{c,small} - \beta_{c,large}|$, is a measure of difference in ***CSGOs*** between small and large firms in a country. *FinOpen* is our measure of a country's financial openness and is measured by the sum of the country's foreign assets and foreign liabilities, divided by its GDP. *Credit* is the ratio of domestic credit to private sector over GDP. *Stock* is the ratio of market capitalization of listed companies over GDP. *Tover* is the ratio the total value of shares traded over the average market capitalization. *GDP* is the natural log of GDP per capita. *GDPgrw* is the growth rate of GDP per capita. *TrdOpen* is the sum of imports and exports to GDP. $md\text{SIZE}_{\text{i}}$ is the median total assets (in log) for firm group i. $n\text{FIRMi}$ is the number of firms (in log) for firm group i. $md\text{Qi}$ and $std\text{Qi}$ are, respectively, the median q-ratio and its cross-sectional standard deviation of firm group i (both in log). When the firm group is "diff", it refers to the difference in the corresponding variable between small and large firm groups. All variables are at annual frequencies and for a given country. The sample period is 1991-2012.

Variable	N	Mean	Std Dev	Min	Median	Max
$\boldsymbol{CSGOs}_{\text{all}}$	730	0.140	0.130	0.000	0.109	1.286
$\boldsymbol{CSGOs}_{\text{small}}$	730	0.188	0.183	0.000	0.144	1.635
$\boldsymbol{CSGOs}_{\text{large}}$	730	0.120	0.110	0.000	0.095	0.937
$\boldsymbol{CSGOs}_{\text{diff}}$	730	0.155	0.141	0.000	0.113	1.352
FinOpen	730	1.805	2.674	0.044	1.023	28.971
Credit	713	0.939	0.549	0.088	0.957	2.321
Stock	728	0.706	0.545	0.010	0.558	3.289
Tover	727	0.742	0.610	0.002	0.604	4.974
GDP	730	9.520	1.193	6.018	9.986	11.509
GDPgrw	724	0.019	0.032	-0.117	0.020	0.162
TrdOpen	730	0.725	0.550	0.138	0.585	4.397
$md\text{SIZE}_{\text{all}}$	730	5.240	0.911	2.386	5.211	7.388
$n\text{FIRM}_{\text{all}}$	730	5.522	1.329	0.693	5.313	8.926
$md\text{Q}_{\text{all}}$	730	0.124	0.194	-0.582	0.099	1.513
$std\text{Q}_{\text{all}}$	730	0.199	0.868	-1.795	0.102	2.843
$md\text{SIZE}_{\text{small}}$	730	4.018	0.922	1.152	3.993	6.486
$n\text{FIRM}_{\text{small}}$	730	4.824	1.335	0.000	4.620	8.234
$md\text{Q}_{\text{small}}$	730	0.141	0.280	-0.758	0.117	1.916
$std\text{Q}_{\text{small}}$	729	0.337	0.951	-1.689	0.232	3.026
$md\text{SIZE}_{\text{large}}$	730	6.647	0.959	4.111	6.629	9.119
$n\text{FIRM}_{\text{large}}$	730	4.832	1.323	0.000	4.625	8.232
$md\text{Q}_{\text{large}}$	730	0.110	0.159	-0.444	0.087	1.193
$std\text{Q}_{\text{large}}$	729	-0.391	0.727	-2.441	-0.421	3.171
$md\text{SIZE}_{\text{diff}}$	730	-2.628	0.566	-4.146	-2.677	-0.908
$md\text{Q}_{\text{diff}}$	730	0.031	0.202	-0.735	0.025	1.479
$std\text{Q}_{\text{diff}}$	729	0.728	0.841	-3.190	0.660	4.481

Table 3 Panel regressions of *CSGOs* on financial openness

This table presents the panel regression results of country-specific growth opportunities (***CSGOs***) in a country on the country's financial openness. The variables are defined in Table 2 caption. The subscript i in *md*SIZE$_i$, *n*FIRM$_i$, *md*Q$_i$, and *std*Q$_i$ corresponds to "all", "small", "large", or "diff". The sample period is from 1991 to 2012. Numbers in parentheses are the *p*-values that are adjusted by heteroscedasticity-consistent standard errors.

Panel A

	Dependent variable			
	CSGOs$_{all}$	***CSGOs***$_{small}$	***CSGOs***$_{large}$	***CSGOs***$_{diff}$
FinOpen	-0.004	-0.008	-0.005	-0.009
	(0.042)	(0.005)	(0.034)	(0.000)
Intercept	0.419	0.669	0.228	0.206
	(<.0001)	(<.0001)	(0.000)	(0.003)
Credit	-0.013	0.002	-0.009	0.010
	(0.311)	(0.896)	(0.349)	(0.441)
Stock	-0.013	-0.017	-0.010	-0.005
	(0.217)	(0.259)	(0.241)	(0.652)
Tover	-0.004	-0.039	0.026	-0.015
	(0.708)	(0.000)	(0.006)	(0.226)
GDP	-0.026	-0.027	-0.025	-0.005
	(<.0001)	(0.005)	(<.0001)	(0.381)
GDPgrw	-0.646	-0.358	-0.705	0.298
	(0.047)	(0.450)	(0.002)	(0.332)
TrdOpen	0.011	-0.020	0.041	-0.020
	(0.285)	(0.092)	(<.0001)	(0.045)
*md*SIZE$_i$	-0.002	-0.021	0.011	-0.044
	(0.710)	(0.036)	(0.053)	(0.000)
*n*FIRM$_i$	0.003	-0.010	0.008	-0.010
	(0.634)	(0.176)	(0.112)	(0.045)
*md*Q$_i$	0.222	0.169	0.220	-0.100
	(0.018)	(0.044)	(0.007)	(0.077)
*std*Q$_i$	-0.030	-0.052	0.014	-0.017
	(0.002)	(<.0001)	(0.229)	(0.009)
# of years	22	22	22	22
# of countries	39	39	39	39
R-squared	0.174	0.194	0.198	0.151
Year FE	YES	YES	YES	YES

Table 3 (cont.)

Panel B

	Dependent variable			
	CSGOs$_{all}$	***CSGOs***$_{small}$	***CSGOs***$_{large}$	***CSGOs***$_{diff}$
FinOpen (dummy	-0.102	-0.126	-0.089	-0.045
for above median)	(<.0001)	(<.0001)	(<.0001)	(0.004)
Intercept	0.287	0.502	0.088	0.145
	(<.0001)	(<.0001)	(0.154)	(0.042)
Credit	-0.017	-0.007	-0.016	-0.003
	(0.168)	(0.702)	(0.086)	(0.803)
Stock	-0.006	-0.008	-0.002	-0.001
	(0.532)	(0.568)	(0.774)	(0.903)
Tover	0.004	-0.030	0.032	-0.013
	(0.684)	(0.004)	(0.000)	(0.329)
GDP	0.001	0.004	-0.001	0.002
	(0.851)	(0.720)	(0.816)	(0.751)
GDPgrw	-0.700	-0.426	-0.743	0.273
	(0.025)	(0.359)	(0.001)	(0.373)
TrdOpen	0.014	-0.019	0.043	-0.030
	(0.122)	(0.086)	(<.0001)	(0.002)
*md*SIZE$_i$	-0.012	-0.032	0.006	-0.043
	(0.073)	(0.002)	(0.252)	(<.0001)
*n*FIRM$_i$	-0.006	-0.018	0.002	-0.008
	(0.294)	(0.014)	(0.680)	(0.110)
*md*Q$_i$	0.242	0.196	0.225	-0.085
	(0.005)	(0.015)	(0.002)	(0.144)
*std*Q$_i$	-0.031	-0.057	0.014	-0.018
	(0.001)	(<.0001)	(0.168)	(0.007)
# of years	22	22	22	22
# of countries	39	39	39	39
R-squared	0.239	0.242	0.266	0.149
Year FE	YES	YES	YES	YES

Table 3 (cont.)

Panel C

	Dependent variable			
	CSGOs$_{all}$	***CSGOs***$_{small}$	***CSGOs***$_{large}$	***CSGOs***$_{diff}$
FinOpen (dummy	-0.065	-0.077	-0.072	-0.069
for above q3)	(<.0001)	(<.0001)	(<.0001)	(<.0001)
FinOpen (dummy	0.040	0.057	0.027	0.025
for below q1)	(0.056)	(0.058)	(0.068)	(0.209)
Intercept	0.252	0.447	0.066	0.069
	(0.002)	(<.0001)	(0.380)	(0.412)
Credit	-0.026	-0.017	-0.026	-0.012
	(0.042)	(0.336)	(0.009)	(0.339)
Stock	0.009	0.011	0.013	0.015
	(0.440)	(0.537)	(0.107)	(0.236)
Tover	-0.002	-0.038	0.029	-0.013
	(0.846)	(0.000)	(0.001)	(0.303)
GDP	-0.008	-0.005	-0.009	0.007
	(0.309)	(0.656)	(0.141)	(0.353)
GDPgrw	-0.722	-0.463	-0.769	0.226
	(0.031)	(0.350)	(0.001)	(0.472)
TrdOpen	0.020	-0.012	0.051	-0.017
	(0.044)	(0.328)	(<.0001)	(0.073)
*md*SIZE$_i$	-0.005	-0.024	0.011	-0.046
	(0.443)	(0.017)	(0.045)	(<.0001)
*n*FIRM$_i$	0.001	-0.010	0.007	-0.009
	(0.916)	(0.144)	(0.151)	(0.070)
*md*Q$_i$	0.221	0.173	0.215	-0.092
	(0.013)	(0.033)	(0.004)	(0.105)
*std*Q$_i$	-0.031	-0.056	0.013	-0.018
	(0.001)	(<.0001)	(0.244)	(0.007)
# of years	22	22	22	22
# of countries	39	39	39	39
R-squared	0.204	0.216	0.242	0.168
Year FE	YES	YES	YES	YES

Table 4 Panel regressions of changes in *CSGOs* on changes in financial openness

This table presents the panel regression results of changes in country-specific growth opportunities (***CSGOs***) in a country on changes in the country's financial openness. Unlike Table 3, this regression analysis employs the country fixed-effects, with or without the year fixed-effects (Panels A and B, respectively). The variables are defined in Table 2 caption and their first differences at annual frequencies are used. The subscript i in $md\text{SIZE}_i$, $n\text{FIRM}_i$, $md\text{Q}_i$, and $std\text{Q}_i$ corresponds to "all", "small", "large", or "diff". The sample period is from 1991 to 2012. Numbers in parentheses are the *p*-values that are adjusted by heteroscedasticity-consistent standard errors.

Panel A

	Dependent variable			
	$\Delta CSGOs_{all}$	$\Delta CSGOs_{small}$	$\Delta CSGOs_{large}$	$\Delta CSGOs_{diff}$
$\Delta FinOpen$	-0.028	-0.042	-0.013	-0.020
	(0.004)	(0.002)	(0.188)	(0.017)
$\Delta Credit$	0.015	-0.007	0.004	-0.039
	(0.646)	(0.892)	(0.927)	(0.349)
$\Delta Stock$	0.001	0.049	0.006	0.044
	(0.957)	(0.098)	(0.777)	(0.045)
$\Delta Tover$	0.001	0.021	0.006	0.039
	(0.938)	(0.298)	(0.619)	(0.017)
ΔGDP	0.107	0.108	0.134	-0.053
	(0.159)	(0.234)	(0.015)	(0.404)
$\Delta GDPgrw$	-0.576	-0.427	-0.464	-0.144
	(0.001)	(0.040)	(0.001)	(0.366)
$\Delta TrdOpen$	0.126	0.145	0.134	-0.037
	(0.127)	(0.224)	(0.028)	(0.736)
$\Delta md\text{SIZE}_i$	-0.016	-0.079	-0.070	-0.057
	(0.651)	(0.071)	(0.066)	(0.018)
$\Delta n\text{FIRM}_i$	0.007	-0.066	-0.034	0.065
	(0.908)	(0.496)	(0.427)	(0.205)
$\Delta md\text{Q}_i$	0.504	0.369	0.365	0.045
	(<.0001)	(0.000)	(<.0001)	(0.508)
$\Delta std\text{Q}_i$	-0.010	-0.034	0.033	-0.017
	(0.285)	(0.007)	(0.083)	(0.094)
# of years	21	21	21	21
# of countries	39	39	39	39
R-squared	0.365	0.267	0.306	0.102
Year FE	YES	YES	YES	YES
Country FE	YES	YES	YES	YES

Table 4 (cont.)

Panel B

	Dependent variable			
	$\Delta CSGOs_{all}$	$\Delta CSGOs_{small}$	$\Delta CSGOs_{large}$	$\Delta CSGOs_{diff}$
Δ*FinOpen*	-0.034	-0.040	-0.021	-0.018
	(0.006)	(0.011)	(0.041)	(0.016)
Intercept	0.012	0.021	0.000	0.012
	(0.825)	(0.696)	(0.999)	(0.764)
Δ*Credit*	0.019	-0.010	0.009	-0.043
	(0.534)	(0.835)	(0.800)	(0.248)
Δ*Stock*	-0.007	0.066	-0.018	0.055
	(0.740)	(0.016)	(0.440)	(0.002)
Δ*Tover*	-0.002	0.016	0.004	0.035
	(0.859)	(0.409)	(0.736)	(0.016)
Δ*GDP*	0.028	0.054	0.049	-0.046
	(0.615)	(0.445)	(0.304)	(0.230)
Δ*GDPgrw*	-0.566	-0.518	-0.438	-0.166
	(<.0001)	(0.006)	(0.001)	(0.218)
Δ*TrdOpen*	0.077	0.043	0.090	-0.069
	(0.193)	(0.598)	(0.074)	(0.323)
Δ*md*SIZE$_i$	-0.019	-0.075	-0.060	-0.057
	(0.544)	(0.053)	(0.117)	(0.012)
Δ*n*FIRM$_i$	-0.004	-0.035	-0.041	0.061
	(0.945)	(0.697)	(0.350)	(0.168)
Δ*md*Q$_i$	0.428	0.335	0.297	0.047
	(<.0001)	(0.001)	(0.001)	(0.496)
Δ*std*Q$_i$	-0.003	-0.024	0.038	-0.015
	(0.784)	(0.067)	(0.033)	(0.133)
# of years	21	21	21	21
# of countries	39	39	39	39
R-squared	0.295	0.225	0.236	0.089
Year FE	NO	NO	NO	NO
Country FE	YES	YES	YES	YES

Table 5 Summary statistics of industry-specific growth opportunities (*ISGOs*)

This table reports summary statistics of the industry-specific growth opportunities (***ISGOs***) that are re-computed for each country. To compute $\boldsymbol{ISGOs_{all}}$ for a country, in each year within a country, we first compute the fraction of its firms that belong to each of the industries in the country and then use those fractions as weights to compute the weighted average ***ISGOs*** (the γi estimates from Eq. (1)) within the country. For the ***ISGOs*** of small (i.e., $\boldsymbol{ISGOs_{small}}$) and large firms (i.e., $\boldsymbol{ISGOs_{large}}$) and their difference (i.e., $\boldsymbol{ISGOs_{diff}}$), we use the estimates of Eq. (2), namely, $\gamma_{i,small}$ and $\gamma_{i,large}$, and use as weights the fraction of small or large firms in each industry; we then take the weighted average of ***ISGOs***. See Section 4.1 for details. The sample period is 1991-2012.

Variable	N	Mean	Std Dev	Min	Median	Max
$\boldsymbol{ISGOs}_{\text{all}}$	730	0.154	0.042	0.067	0.149	0.387
$\boldsymbol{ISGOs}_{\text{small}}$	730	0.151	0.050	0.047	0.142	0.490
$\boldsymbol{ISGOs}_{\text{large}}$	730	0.174	0.041	0.081	0.168	0.356
$\boldsymbol{ISGOs}_{\text{diff}}$	730	0.080	0.017	0.035	0.080	0.139

Table 6 Panel regressions of *ISGOs* on financial openness

This table presents the panel regression results of industry-specific growth opportunities (***ISGOs***) in a country on the country's financial openness. $\boldsymbol{ISGOS}_{\text{all}}$, $\boldsymbol{ISGOS}_{\text{small}}$, $\boldsymbol{ISGOS}_{\text{large}}$, and $\boldsymbol{ISGOS}_{\text{diff}}$ are defined as in the caption of Table 5 and in Section 4.1. The subscript i in $md\text{SIZE}_i$, $n\text{FIRM}_i$, $md\text{Q}_i$, and $std\text{Q}_i$ corresponds to "all", "small", "large", or "diff". The independent variables are defined in the caption of Table 2. The sample period is fro m1991 to 2012. Numbers in parentheses are the *p*-values that are adjusted by heteroscedasticity-consistent standard errors.

Panel A

	Dependent variable			
	$\boldsymbol{ISGOs}_{\text{all}}$	$\boldsymbol{ISGOs}_{\text{small}}$	$\boldsymbol{ISGOs}_{\text{large}}$	$\boldsymbol{ISGOs}_{\text{diff}}$
FinOpen	0.001	0.002	-0.001	0.000
	(0.027)	(0.010)	(0.000)	(0.132)
Intercept	0.112	0.078	0.129	0.057
	(<.0001)	(<.0001)	(<.0001)	(<.0001)
Credit	-0.007	-0.011	-0.004	-0.003
	(0.003)	(0.000)	(0.249)	(0.008)
Stock	0.008	0.009	0.006	0.002
	(<.0001)	(0.001)	(0.004)	(0.035)
Tover	0.003	0.006	0.001	0.000
	(0.047)	(0.001)	(0.543)	(0.667)
GDP	0.004	0.004	-0.001	0.001
	(0.000)	(0.006)	(0.375)	(0.016)
GDPgrw	0.019	0.038	-0.030	0.061
	(0.603)	(0.446)	(0.618)	(0.005)
TrdOpen	-0.013	-0.011	-0.010	-0.006
	(<.0001)	(<.0001)	(<.0001)	(<.0001)
$md\text{SIZE}_i$	-0.004	-0.004	0.011	-0.004
	(0.011)	(0.002)	(<.0001)	(0.001)
$n\text{FIRM}_i$	0.000	0.006	-0.005	0.001
	(0.845)	(<.0001)	(0.001)	(0.280)
$md\text{Q}_i$	-0.009	0.009	-0.045	-0.011
	(0.271)	(0.315)	(<.0001)	(0.001)
$std\text{Q}_i$	0.004	0.003	0.014	0.001
	(0.012)	(0.164)	(<.0001)	(0.025)
# of years	22	22	22	22
# of countries	39	39	39	39
R-squared	0.713	0.640	0.574	0.424
Year FE	YES	YES	YES	YES

Table 6 (cont.)

Panel B

	Dependent variable			
	ISGOs$_{all}$	***ISGOs***$_{small}$	***ISGOs***$_{large}$	***ISGOs***$_{diff}$
FinOpen (dummy for above median)	0.007 (0.005)	0.014 (0.001)	-0.001 (0.836)	0.001 (0.340)
Intercept	0.121 (<.0001)	0.097 (<.0001)	0.130 (<.0001)	0.060 (<.0001)
Credit	-0.005 (0.029)	-0.007 (0.014)	-0.006 (0.049)	-0.004 (0.002)
Stock	0.008 (<.0001)	0.008 (0.005)	0.007 (0.001)	0.002 (0.041)
Tover	0.002 (0.110)	0.005 (0.006)	0.002 (0.398)	0.000 (0.749)
GDP	0.002 (0.066)	0.001 (0.565)	-0.002 (0.277)	0.001 (0.114)
GDPgrw	0.017 (0.621)	0.042 (0.398)	-0.023 (0.708)	0.062 (0.005)
TrdOpen	-0.012 (<.0001)	-0.009 (<.0001)	-0.013 (<.0001)	-0.007 (<.0001)
*md*SIZE$_i$	-0.003 (0.033)	-0.004 (0.011)	0.011 (<.0001)	-0.003 (0.006)
*n*FIRM$_i$	0.000 (0.939)	0.005 (<.0001)	-0.004 (0.008)	0.001 (0.110)
*md*Q$_i$	-0.010 (0.222)	0.007 (0.454)	-0.047 (<.0001)	-0.012 (0.000)
*std*Q$_i$	0.005 (0.002)	0.004 (0.044)	0.013 (<.0001)	0.001 (0.020)
# of years	22	22	22	22
# of countries	39	39	39	39
R-squared	0.712	0.641	0.569	0.424
Year FE	YES	YES	YES	YES

Table 6 (cont.)

Panel C

	Dependent variable			
	ISGOs$_{all}$	***ISGOs***$_{small}$	***ISGOs***$_{large}$	***ISGOs***$_{diff}$
FinOpen (dummy	0.007	0.017	-0.003	-0.002
for above q3)	(0.003)	<.0001	(0.198)	(0.135)
FinOpen (dummy	0.003	-0.008	0.018	0.002
for below q1)	(0.288)	(0.042)	(<.0001)	(0.339)
Intercept	0.113	0.117	0.085	0.050
	(<.0001)	(<.0001)	(<.0001)	(<.0001)
Credit	-0.004	-0.005	-0.006	-0.004
	(0.127)	(0.087)	(0.067)	(0.001)
Stock	0.007	0.004	0.010	0.003
	(0.000)	(0.185)	(<.0001)	(0.006)
Tover	0.002	0.005	0.001	0.000
	(0.107)	(0.003)	(0.649)	(0.630)
GDP	0.004	0.000	0.003	0.002
	(0.003)	(0.954)	(0.099)	(0.005)
GDPgrw	0.016	0.054	-0.043	0.058
	(0.665)	(0.287)	(0.505)	(0.008)
TrdOpen	-0.013	-0.012	-0.011	-0.006
	(<.0001)	(<.0001)	(<.0001)	(<.0001)
*md*SIZE$_i$	-0.004	-0.004	0.010	-0.004
	(0.012)	(0.003)	(<.0001)	(0.001)
*n*FIRM$_i$	-0.001	0.005	-0.004	0.001
	(0.570)	(<.0001)	(0.001)	(0.258)
*md*Q$_i$	-0.009	0.009	-0.051	-0.010
	(0.271)	(0.328)	(<.0001)	(0.001)
*std*Q$_i$	0.005	0.004	0.014	0.001
	(0.003)	(0.054)	(<.0001)	(0.030)
# of years	22	22	22	22
# of countries	39	39	39	39
R-squared	0.713	0.647	0.587	0.426
Year FE	YES	YES	YES	YES

Table 7 Panel regressions of changes in *ISGOs* on changes in financial openness

This table presents the panel regression results of changes in industry-specific growth opportunities (***ISGOs***) in a country on changes in the country's financial openness. Unlike Table 6, this regression analysis employs the country fixed-effects, with or without the year fixed-effects (Panels A and B, respectively). $\boldsymbol{ISGOS}_{\text{all}}$, $\boldsymbol{ISGOS}_{\text{small}}$, $\boldsymbol{ISGOS}_{\text{large}}$, and $\boldsymbol{ISGOS}_{\text{diff}}$ are defined as in the caption of Table 5 and in Section 4.1. The independent variables are defined in the caption of Table 2. The sample period is from 1991 to 2012. Numbers in parentheses are p-values adjusted by heteroscedasticity-consistent standard errors.

Panel A

	Dependent variable			
	$\Delta\boldsymbol{ISGOs}_{\text{all}}$	$\Delta\boldsymbol{ISGOs}_{\text{small}}$	$\Delta\boldsymbol{ISGOs}_{\text{large}}$	$\Delta\boldsymbol{ISGOs}_{\text{diff}}$
$\Delta FinOpen$	0.004	0.006	-0.001	-0.003
	(0.037)	(0.014)	(0.819)	(0.051)
$\Delta Credit$	0.008	0.004	0.009	0.001
	(0.396)	(0.793)	(0.358)	(0.845)
$\Delta Stock$	0.004	0.006	0.001	0.002
	(0.529)	(0.335)	(0.767)	(0.422)
$\Delta Tover$	-0.003	-0.005	-0.001	0.003
	(0.097)	(0.143)	(0.585)	(0.123)
ΔGDP	-0.003	0.004	-0.014	-0.009
	(0.788)	(0.792)	(0.137)	(0.189)
$\Delta GDPgrw$	-0.015	-0.033	-0.003	0.015
	(0.515)	(0.377)	(0.905)	(0.452)
$\Delta TrdOpen$	0.013	0.020	0.014	0.004
	(0.466)	(0.330)	(0.212)	(0.647)
$\Delta md\text{SIZE}_{\text{i}}$	0.006	0.004	0.014	-0.006
	(0.248)	(0.479)	(0.001)	(0.047)
$\Delta n\text{FIRM}_{\text{i}}$	0.016	0.026	0.015	0.004
	(0.166)	(0.180)	(0.100)	(0.540)
$\Delta md\text{Q}_{\text{i}}$	0.000	0.012	-0.012	-0.001
	(0.960)	(0.220)	(0.158)	(0.882)
$\Delta std\text{Q}_{\text{i}}$	0.003	0.002	0.005	-0.001
	(0.008)	(0.278)	(0.002)	(0.090)
# of years	21	21	21	21
# of countries	39	39	39	39
R-squared	0.851	0.717	0.821	0.424
Year FE	YES	YES	YES	YES
Country FE	YES	YES	YES	YES

Table 7 (cont.)

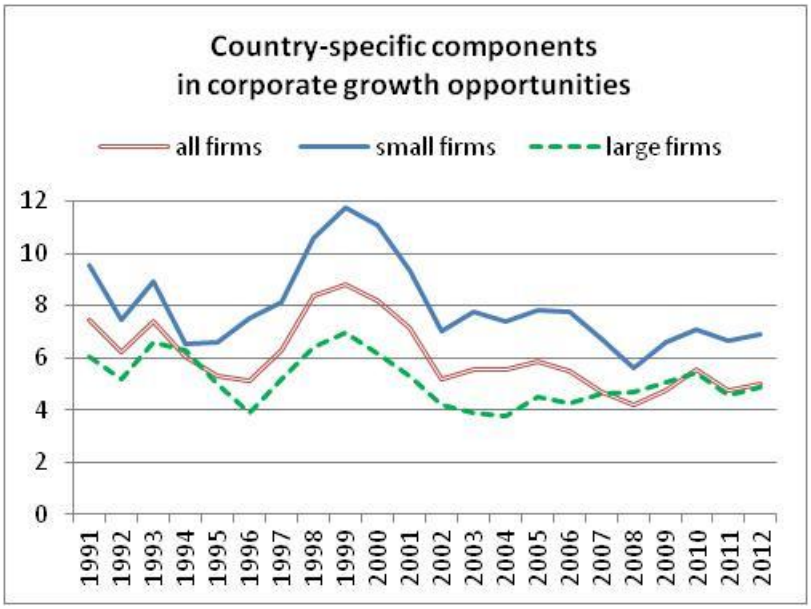
Panel B

	Dependent variable			
	$\Delta ISGOs_{all}$	$\Delta ISGOs_{small}$	$\Delta ISGOs_{large}$	$\Delta ISGOs_{diff}$
Δ*FinOpen*	0.010	0.009	0.005	-0.001
	(0.003)	(0.016)	(0.037)	(0.157)
Intercept	0.001	-0.007	0.010	0.002
	(0.939)	(0.539)	(0.261)	(0.667)
Δ*Credit*	-0.008	-0.015	0.006	0.002
	(0.668)	(0.591)	(0.614)	(0.704)
Δ*Stock*	0.046	0.043	0.034	0.007
	(<.0001)	(<.0001)	(<.0001)	(0.001)
Δ*Tover*	-0.016	-0.020	-0.009	0.001
	(0.000)	(0.000)	(0.009)	(0.468)
Δ*GDP*	0.065	0.047	0.028	-0.017
	<.0001	(0.003)	(0.008)	(0.000)
Δ*GDPgrw*	0.039	0.019	0.062	0.057
	(0.304)	(0.690)	(0.042)	(0.001)
Δ*TrdOpen*	-0.004	-0.023	0.027	0.000
	(0.846)	(0.353)	(0.060)	(0.942)
Δ*md*SIZE$_i$	-0.008	0.003	0.010	-0.005
	(0.289)	(0.694)	(0.125)	(0.118)
Δ*n*FIRM$_i$	0.006	0.019	0.026	0.006
	(0.719)	(0.395)	(0.077)	(0.206)
Δ*md*Q$_i$	0.027	0.020	0.025	-0.002
	(0.011)	(0.050)	(0.038)	(0.726)
Δ*std*Q$_i$	0.014	0.012	0.017	-0.001
	(<.0001)	(<.0001)	(0.000)	(0.125)
# of years	21	21	21	21
# of countries	39	39	39	39
R-squared	0.369	0.279	0.400	0.088
Year FE	NO	NO	NO	NO
Country FE	YES	YES	YES	YES

Table 8 Panel regressions of changes in *CSGOs (ISGOs*) on changes in VIX

This table presents the panel regression results of changes in industry-specific growth opportunities (***ISGOs***) in a country on changes in VIX index along with other regressors including the changes in the country's financial openness. This regression analysis employs the country fixed-effects only without the year fixed-effects. All variables are the same as those in Table 7, except *negVIX*, which is the negative value of the average VIX during a year. Its annual change is denoted by Δ*negVIX* in the table. The sample period is from 1991 to 2012. Numbers in parentheses are the *p*-values that are adjusted by heteroscedasticity-consistent standard errors.

	$\Delta CSGOs_{large}$	$\Delta ISGOs_{large}$	$\Delta CSGOs_{small}$	$\Delta ISGOs_{small}$	$\Delta CSGOs_{diff}$	$\Delta ISGOs_{diff}$
Δ*FinOpen*	-0.017	0.002	-0.039	0.006	-0.019	-0.002
	(0.088)	(0.329)	(0.011)	(0.115)	(0.012)	(0.029)
Δ*negVIX*	-0.297	0.219	-0.129	0.213	0.055	0.040
	(0.001)	<.0001	(0.343)	<.0001	(0.495)	(0.000)
Intercept	0.003	0.008	0.022	-0.008	0.012	0.002
	(0.964)	(0.365)	(0.684)	(0.420)	(0.774)	(0.705)
Δ*Credit*	-0.001	0.013	-0.014	-0.008	-0.041	0.003
	(0.983)	(0.305)	(0.773)	(0.776)	(0.264)	(0.575)
Δ*Stock*	-0.005	0.025	0.072	0.033	0.051	0.005
	(0.816)	<.0001	(0.009)	(0.000)	(0.006)	(0.027)
Δ*Tover*	-0.004	-0.003	0.012	-0.014	0.036	0.002
	(0.760)	(0.335)	(0.495)	(0.005)	(0.013)	(0.148)
Δ*GDP*	0.067	0.014	0.060	0.037	-0.048	-0.018
	(0.152)	(0.160)	(0.396)	(0.014)	(0.208)	<.0001
Δ*GDPgrw*	-0.351	-0.002	-0.476	-0.050	-0.185	0.043
	(0.005)	(0.950)	(0.010)	(0.271)	(0.186)	(0.013)
Δ*TrdOpen*	0.107	0.014	0.050	-0.034	-0.072	-0.002
	(0.039)	(0.306)	(0.545)	(0.158)	(0.304)	(0.682)
$\Delta md\text{SIZE}_i$	-0.064	0.013	-0.075	0.003	-0.057	-0.005
	(0.102)	(0.058)	(0.053)	(0.693)	(0.012)	(0.090)
$\Delta n\text{FIRM}_i$	-0.059	0.039	-0.042	0.030	0.064	0.008
	(0.182)	(0.005)	(0.646)	(0.186)	(0.155)	(0.092)
$\Delta md\text{Q}_i$	0.324	0.005	0.342	0.009	0.046	-0.002
	(0.000)	(0.622)	(0.001)	(0.337)	(0.508)	(0.620)
$\Delta std\text{Q}_i$	0.038	0.017	-0.024	0.012	-0.015	-0.001
	(0.027)	<.0001	(0.067)	<.0001	(0.134)	(0.110)
# of years	21	21	21	21	21	21
# of countries	39	39	39	39	39	39
R-squared	0.254	0.490	0.227	0.325	0.089	0.107
Year FE	NO	NO	NO	NO	NO	NO
Country FE	YES	YES	YES	YES	YES	YES



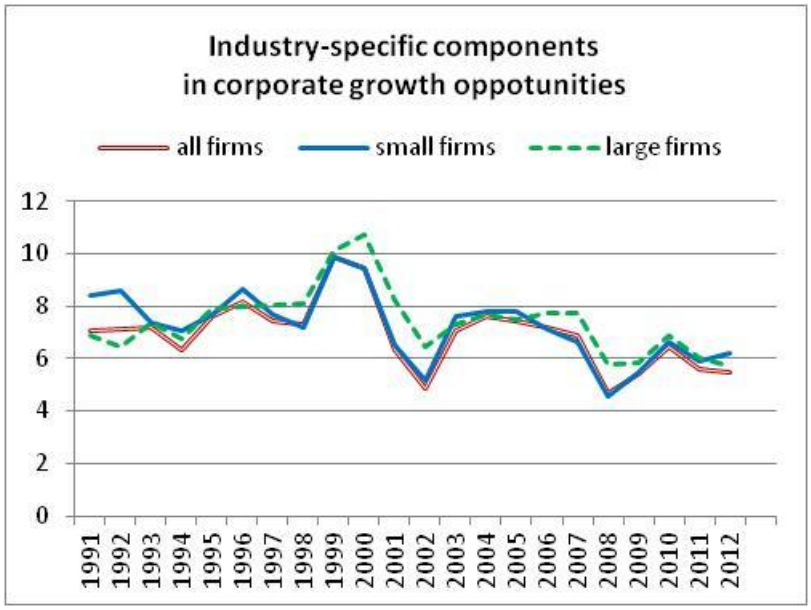
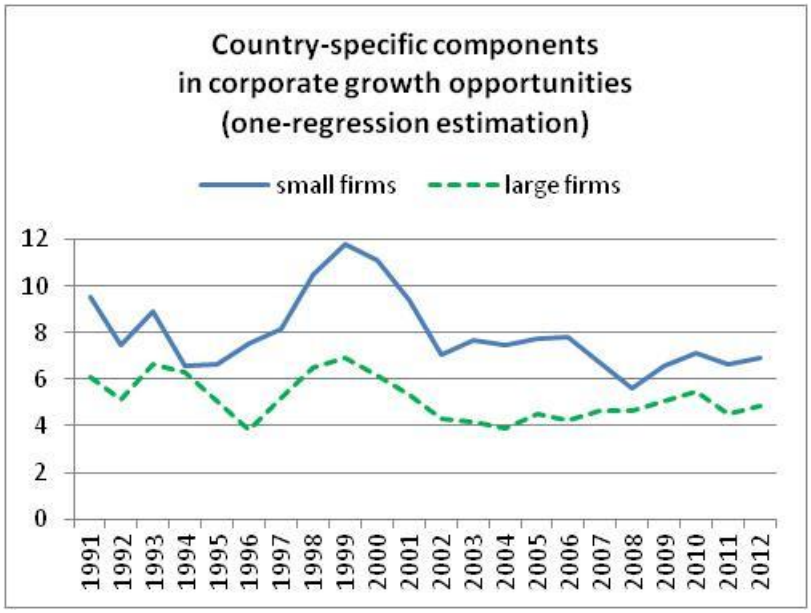


Figure 1. Country- and industry-specific components in corporate growth opportunities

Small and large firms are defined each year within a country by the median asset size. The country-specific growth opportunities (top panel) are the sum across 40 sample countries, while the industry-specific growth opportunities (bottom panel) are the sum across 47 sample industries. The sample period is from 1991 to 2012.



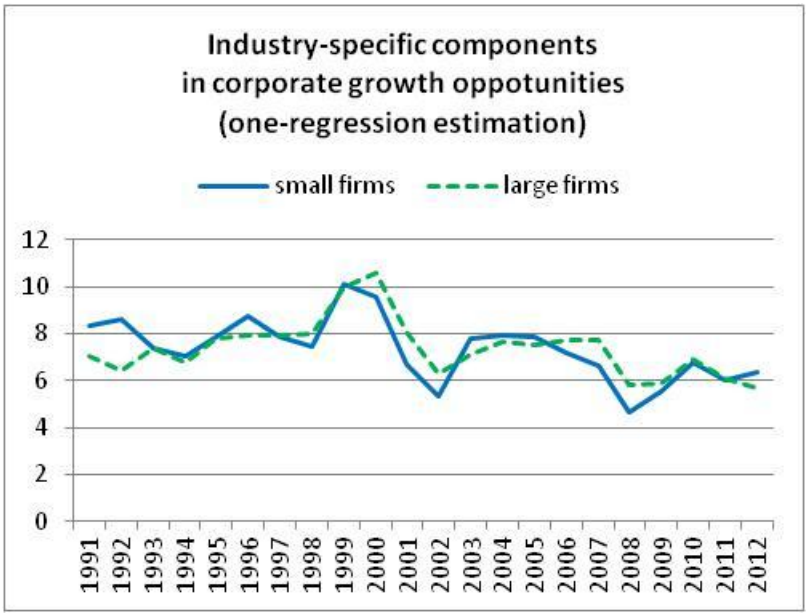


Figure 2. Country- and industry-specific components in corporate growth opportunities: Estimated by one regression

Small and large firms are defined each year within a country by the median asset size. The country-specific growth opportunities (top panel) are the sum across 40 sample countries, while the industry-specific growth opportunities (bottom panel) are the sum across 47 sample industries. The sample period is from 1991 to 2012.