WHERE DOES THE MARKET MATTER?

STOCK PRICES AND INVESTMENT AROUND THE WORLD*

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Abstract

We study the relationship between stock market prices and investment across a large number of countries both in the time series and a cross-section of industries, distinguishing between the corporate sector and the entire economy. Our main finding is that the sensitivity of investment to stock prices is present in all samples and, consistent with most theories for why investment and stock prices are related, that it increases with stock market development. Not supporting the active informant view we show that although fundamentals and stock prices are less related in less developed markets, fundamentals are similarly linked to investment across countries. We also find that the cross-sectional corporate-sector investment of industries that are more dependent on equity finance and where investors are strongest relative to managers exhibit more sensitivity to the stock market. This evidence lends support to the equity financing and the market pressure views.

November, 2005

*We wish to thank seminar participants at The World Bank for very useful comments and suggestions.

1. Introduction

It is, by now, a well known fact that investment and the stock market are positively correlated[1]. In particular, changes in stock prices and returns are able to predict investment with a one-year lag, both in the cross-section and time series U.S. data. The reasons for this association are, however, not well understood.

The traditional *active informant* story would emphasize the role of uncertainty in the investment decision. Changes in stock prices would be associated to investment because -following Tobin's Q framework- they would reflect changes in the marginal product of capital. Since future fundamentals are not known at the moment the investment decision is made, managers use the stock market prices as signals. Of course, it is also possible that the stock market is unable to produce information relevant for the investment decision that is not already known by the manager. In this case, the stock market would simply be a *sideshow*, and the relation between investment and prices non-causal but just the outcome of misspecification.

One can alternatively emphasize the role of *financing* in the investment decision. Here stock prices would be related to the cost and availability of external finance (equity finance, in particular), and therefore to investment for financially constrained firms. Finally, it has been proposed that investors use stock prices to influence the investment decisions managers make. High stock prices would put *market pressure* on managers who fearing being fired or taken over would react by increasing investment.

The evidence that has been brought to bear on these issues relates almost exclusively to the U.S. stock market[2]. Extending the evidence to other countries and to countries with less developed stock markets, in particular, can prove enlightening. We are interested in answering the two following questions: Does the relationship between investment and the stock market observed in developed markets carry over to less-developed ones? Can we use the cross-country variation to learn something about the reason for this association?

In order to address these questions we generate a rich set of data not available before. In particular, we assemble yearly data on investment, stock returns, and fundamentals in 33 countries for (roughly) the last 20 years. We produce these data both at the country-level and for each of 27 different manufacturing industries. In each case, we also distinguish between total and corporate magnitudes. The cross-section of countries not only allows us to see whether the relationships documented in a few developed countries carry over to other places. It also let us

[1] See Bosworth (1975), Fama (1981), Fischer and Merton (1984), Barro (1990), Blanchard, Rhee, and Summers (1993), and Morck, Shleifer, and Vishny (1990), among others.
[2] Although Chirinko and Schaller (2001) explore the case of Japan.

explore how these links change with the degree of stock market development, and exploit this variation to learn something about the relative merits of the different theories. Furthermore, we consider the behavior and relations between these variables separately in the time-series and the cross-section, as well as in the corporate sector and the economy as a whole since the relevance of each story varies along these dimensions. These distinctions also generally provide a good control group for the tests we run.

A number of results are obtained from the analysis of these data. First, investment is positively and strongly correlated to lagged-stock market returns not only in the U.S. but in virtually every country in our sample. This link is present in both the time series and the cross-section although the sensitivity is much larger in the former. The elasticity is about two to three times larger for the corporate sector than for the economy as a whole. Second, the link between investment and stock returns is significantly weaker in less developed equity markets. Moving from the 25^{th} to the 75^{th} percentile in the index of stock market capitalization to GDP (the difference between Mexico and Canada) would increase the elasticity by about 50%. Third, the relation between the stock market and fundamentals is also very strong everywhere but significantly weaker in less developed markets. Although they importantly complement the previous literature, under ancillary assumptions these first three results are generally consistent with all the theories that have been advanced to explain the positive relation between investment and stock returns (mainly) in the U.S. They do suggest, however, that if managers are actually following stock market signals they are not fooled by uninformative changes in stock market prices but rather recognize that the signals are of different quality across countries.

Fourth, and contrary to what the active informant story would predict, a stronger connection between investment and stock returns (arguably motivated by a better capacity to predict fundamentals) is not associated to a stronger correlation between investment and fundamentals. The link between fundamentals and investment is everywhere very strong but does not vary significantly and robustly with the level of equity market development. Furthermore, the existence of an equity market or a sector having representation in the market has no material impact on the strength of the investment-fundamentals relationship.

Fifth, with respect to the financing channel we find that the investment of those industries that are more dependent on equity finance (as measured in the U.S. and for each country-industry pair) is more sensitive to stock prices, and particularly so in countries with more developed markets. Consistent with the theory, this is true only for corporate investment and not for total investment. Sixth, the sensitivity of investment to stock prices is increasing in the degree of power minority shareholders have vis-à-vis the management across industries, and particularly so

in more developed markets. This effect, which is consistent with the market pressure story, is only present in the corporate data and is independent of the equity dependency result.

Many of these facts supportive of the active informant hypothesis, except for the most critical one: the efficiency of investment. In the time series the link between stock returns and investment can be associated to a large extent to the sideshow view. In the cross-sectional corporate data, however, a number of pieces of evidence are consistent with the financing and the market pressure channels.

The rest of the paper proceeds as follows. In the next section we present a brief description of the theories that have been advanced to explain the relationship between stock market returns and investment. We focus, in particular, on the implications each story has for different levels of stock market development, when comparing the time-series results to the cross-sectional ones, and with respect to the difference between total and corporate investment. In section 3 the basic methodology and the data to be used are described. Section 4 contains the empirical results. In section 5 we conclude.

2. The Hypotheses and their International Implications

The Sideshow the Active Informant Hypotheses

The active informant hypothesis says that stock prices predict investment because they convey to managers information that is useful in making investment decisions. By aggregating the agents' opinions the market produces the best assessment of what future fundamentals will look like. Individual managers cannot even hope to directly gather and analyze all the relevant information in the market and come up with a better prediction. They are at an informational disadvantage with respect to the market aggregate.

When we look at different countries, it is plausible that the ability of the stock prices to predict fundamentals is positively correlated with the degree of development of the market. In more developed stock markets, relative prices seem to vary much more (Morck et al (2000)), while the asymmetry of information between managers and outside investors is probably smaller (La Porta et al (1998)). We show that it is indeed the case that fundamentals are more correlated with (lagged) stock market returns in more developed places. This variation in the information content of prices allows us to extract an additional implication of the active informant theory: that the link between fundamentals and investment –the efficiency of investment- should be stronger in more developed markets. This prediction admits, in turn, two different views about the awareness of managers of this variation and therefore with the reason why we should expect the efficiency of investment to increase with market development.

The first possibility is that managers do not realize that the information content of stock prices varies and actively follow the market everywhere. If this were the case, we would expect investment to be equally and strongly sensitive to the stock market in every country. The link between investment and fundamentals, however, should be weaker in less developed markets simply because managers follow signals that err more frequently. The second possibility is that managers do realize that their market might not be providing accurate signals about future fundamentals and decide to base their decisions less on stock prices and more on other sources of information. The responsiveness of investment to the stock prices here should be decreasing in the level of the equity market development. The prediction that the efficiency of investment is increasing in stock market development here arises from the fact that managers in poorly developed markets do not have access to these useful signals and have to do with second-best substitutes.

Alternatively, the sideshow hypothesis contends that firms' managers learn little from stock market prices that is useful for their investment decisions. The correlation between investment and stock prices appears simply because managers decide investment based on the future state of fundamentals and the stock market is, to some extent, able to predict these fundamentals. In this story it is the manager who is at an advantaged informational position relative to the market. If we were able to control for the manager's predictions made with independence of market prices, investment would no longer be correlated to the stock market. Of course this is quite hard to do. The basic prediction of this story in an international setting is that the efficiency of investment will not be affected by the differing fundamentals-predictive power of stock market prices. Since the investment-market correlation under this view is driven by the correlation between investment and fundamentals, the less predictive the market is the weaker the link between investment and the market should be.

Another strategy one can rely on in trying to distinguish the theories is to look not at the signal value of stock prices, which may be very crudely measured, but rather at whether signals exist at all or not. Under the active informant theory the existence of a stock market should be positive for the efficiency of investment, as long as the signals are not plainly wrong. The passive informant story predicts no effect on the link between investment and fundamentals.

The active informant story seems more plausible when considering country-level prediction of fundamentals as opposed to within-country, cross-sector one. It is with regards to the aggregate where the stock market is more likely to be able to efficiently piece together information coming from many sources to produce the best estimate of the overall state of fundamentals in the future. Also, managers are more likely to have information that outside

investors do not the more industry or firm-specific this information is. The investment-stock market sensitivity should, therefore, be higher in the time-series than in the cross-section in this story.

As we said, in more developed equity markets both the information gap between outsiders and insiders is likely to be smaller and the prices are probably more informative about the relative prospects across sectors as opposed to the whole economy's. In addition to that, a larger number of listed firms in each sector would allow managers to filter-out more effectively the firm-specific information enhancing their ability to extract signals that are relevant to entire sectors. Since the ability to filter-out firm-specific information increases at a decreasing rate with the number of firms listed the usefulness of market prices increases faster in the cross-section than in the time series aggregate. This implies that the slope of the investment-fundamentals sensitivity with equity market development should be steeper in the cross-section than in the time-series variation. The way the investment-stock market sensitivity changes with development will depend on the view one has over whether managers realize how the quality of the aggregate signals vis-à-vis the cross-sectional ones changes.

Under the sideshow view, in contrast, the efficiency of investment hinges on the ability to predict fundamentals which is unrelated to the information content of the stock market. We do not have a strong position over whether it is harder to predict the time series or the cross-section. In any case, both the time series and cross-sectional efficiency should be equally unaltered by stock market development.

The implications of each story for the behavior total vs. corporate investment also differ. Market participants are likely to be particularly disadvantaged relative to managers with respect to non-listed firms that are not required to do disclosure and that together explain the bulk of total investment. Also, stock prices are probably more relevant for the corporate investment decision since they supposedly reflect the investment opportunities of the listed firms alone. Under the active informant view it should be the case, then, that corporate investment is more tightly linked to the stock market than total investment is. The prediction of the sideshow view is again unclear since it depends on the difficulty of predicting corporate vs. total investment; something about we have little to say a-priori.

The way the behavior of total vis-à-vis corporate investment changes with the level of equity market development is more ambiguous in the active informant hypothesis. On one hand, as the equity market develops the fraction of corporate in total investment increases, and listed firms become more similar to unlisted ones. The distinction between both kinds of investment becomes more blurred and the relevance of the signals for the non-corporate sector increases so

that it is the link between *total* investment and the stock market (and therefore its efficiency) that should be particularly sensitive to development. On the other hand, the quality and amount of information regarding public firms that is available to market participants increases with stock market development, while that regarding unlisted firms is unlikely to vary very much. If this is so, it is the sensitivity of *corporate* investment to stock prices and fundamentals that should vary the most with stock market development. Now, even in the most developed markets, the fraction of the corporate sector in the total is very small and the typical listed firm is quite different from the unlisted one. In this sense, the listed-firm-information-quality effect might dominate and induce a more positive slope of the sensitivities to market development. Neither kind of investment is predicted to change with stock market development under the sideshow view.

Non-informational links between Investment and the Stock Market

Stock prices not only convey information, and investment is not just determined by investment opportunities or the uncertainty surrounding them. Investment might be related to the stock market because of reasons that have nothing to do these. Two of these have been advanced before: the equity financing and the market-pressure channels.

The financing channel holds that, given that the cost of equity financing for a given listed firm is positively linked to the price of its stock, financing possibilities should be positively correlated to stock market prices. For firms that are financially constrained the increased availability of funds that comes with high stock prices will map into increased investment, and therefore investment will be positively correlated to stock market prices. This correlation will manifest itself with a lag because once a given expenditure has been decided and financed it takes time to materialize. The story implies that the more dependent a firm or sector is on equity to finance marginal investments, the stronger the link should be. Baker et al (2003) test this in a cross-section of firms listed in the U.S. market with positive results.

The argument applies only to corporate investment since it is only listed firms and firms likely to become listed that have access to equity financing. We should then find that the sensitivity to the stock market varies with equity finance dependency only (or at least more strongly) for corporate investment to rule out omitted variable bias. Also, the ability to obtain financing in the stock market is strongly linked to the value of the market as a whole. During downturns the entire market seems to dry out and everyone appears to be unable or unwilling to issue, including the firms or sectors with high *relative* values. For this reason, we think that this theory implies that the corporate investment-stock market link should be particularly strong in the time-series. The financing story is mute about how fundamentals are related to the stock market

and to investment and how these relationships vary with the level of stock market development. This mechanism and the next should work independently of the prices-as-signals channel.

Even if prices do not convey any useful information nor affect financing possibilities, they can still have an effect on investment by exerting pressure on managers. Managers care about the price of the stock, particularly if the hiring and firing decision or their pay is tied to its performance. Investors, on their side, can try to guide the manager's decisions –the investment decision, in particular- voting with their feet by buying or selling the stock. If a low price is taken to mean that the manager should disinvest and a high price that he should invest more, investment will respond positively to changes in stock prices. Of course, this is not the only possibility for a low price may also be a way to limit overinvestment. This theory should be particularly relevant when looking at the investment of individual firms if investors use the average performance of the industry to benchmark individual stocks. We do not analyze individual-firm data in this paper. However, and in this vein, one could argue that the story may not apply as well in the time series aggregate as in the cross-section of industries.

As in the other hypotheses, this story also predicts that investment should be less sensitive to changes in stock prices in less developed markets. This both because minority shareholders have limited political powers or these are not efficiently enforced there (La Porta et al (1998)), and because even if they were protected they would still have little saying given the high degrees of ownership concentration. It does have, however, a novel cross-sectional prediction: the investment of firms or industries where investors have greater power over the management should be more responsive to stock market prices. For the same reasons above, though, we would expect the response of the different industries to be more similar in less developed markets.

In what follows we summarize the theoretical predictions that we are able to test in section 4.

- Sensitivity of Investment to the Stock Market. Positive and significant under all stories. Stronger for external finance dependent sectors under the financing hypothesis and stronger for sectors where shareholders have more power in the market pressure theory. Increasing with stock market development in the sideshow and active informant-aware manager theories if the link between stock prices and fundamentals increase with development as well. Constant across financial development in the active informant story if managers do not realize the link between fundamentals and the stock market varies with development. Increasing with market development under the financing view, particularly so for more dependent agents. Increasing with market development under the market pressure story, particularly so for sectors where shareholders have more power.

Stronger in the times-series, and for the corporate sector under both the active informant and the financing views. The sensitivity is likely to grow faster with development for corporate investment than for total investment under the active informant theory. Stronger in the cross-section and for the corporate sector in the market pressure view. The sideshow story has no clear prediction about how the sensitivity changes when comparing the time-series to the cross-section, and total to corporate investment.

- Sensitivity of Fundamentals to the Stock Market. Strong and positive in both the active informant and the sideshow views, not predicted by the financing and pressure theories. The slope of the sensitivity with respect to development matches the one found for investment in the sideshow and active informant-aware manager views. Matches the sensitivity of investment to fundamentals under the unaware manager version.
- Sensitivity of Investment to Fundamentals. Positive and strong in both the sideshow and active informant views. Increasing with development if the fundamentals-stock market sensitivity increases as well under the active informant story. Not related to the fundamentals-stock market sensitivity in the sideshow theory. No predictions made by the financing and market pressure stories.
- Sensitivity of External Financing to the Stock Market. Strong and positive under the financing view. It also explains the investment-stock market sensitivity and its variation. The other theories make no prediction here.

3. Methodology and data

Our data consist of four different sets of series: time-series for both the corporate sector and the entire economy, and cross-industry series for each of the two groups. The time series data for the entire economy (GDP growth and Investment) were obtained from The World Bank's World Development Indicators. The industry data come from UNIDO's Indstat dataset, which compiles yearly data on value added and investment for 28 different manufacturing industries across countries. All data for the entire economy is expressed in real local currency terms. All the corporate sector data and stock market prices (both in time series and cross-section) are aggregated from firm-level data compiled in Thomson Financial's Worldscope dataset. From this dataset we extract the growth rate of capital expenditures and net revenues. We also compute market-to-book assets ratios dividing the value of the value of book assets minus book value of equity plus market value of equity by book assets. The growth rate of these figures proxy for stock returns. The corporate sector data is expressed in real dollar terms by deflating nominal

dollar figures using the GDP deflator for the U.S. We use dollar figures instead of local currency here to avoid mismatches between the date statements and stock prices are recorded and the date local price indices are constructed. These mismatches have the potential of introducing noise in countries with high rates of inflation. All the data are truncated at the 1% level to avoid outliers driving the results.

We checked that our main results were not affected by measuring stock returns differently. We considered, among others, the growth in stock prices, capital-adjusted growth in prices, and nominal and real dollar growth rates and changes in the market-to-book ratio.

In order to make sure we could make sensible comparisons along our four dimensions (time-series, cross-section, corporate sector, and entire economy) we restricted our sample to the set of countries that we were able to gather data on all four dimensions. Industry-level investment data for the entire economy and data for the corporate sector were the most demanding in this respect. For the same reason we looked only at corporate data for manufacturing industries, and restricted the time range to the 1982-2003 period. For some of the countries, however, the time span was somewhat shorter. We checked that this was not driving the main results. We ended up with 33 countries, about half of which have by most measures well developed stock markets and the other half do not. Table 1 gives some details on the sample.

Our specification follows Barro (1990) in that real investment growth rates are explained by basically two variables: lagged investment growth rates and the lagged growth rate of the market to book assets ratio. For time series we estimate the following regression, that includes both country and year fixed effects in order to focus on deviations from average investment in each country after taking into account world movements:

$$DInv_{c,t} = \alpha \cdot DInv_{c,t-1} + \beta \cdot DQ_{c,t-1} + F_c + F_t + \varepsilon_{c,t} \qquad (1)$$

We allow for heteroskedasticity and unspecified correlation between all the observations for a given year. This turns out to be the most conservative assumption for the errors.

For the cross-sectional data our specification includes year and time-varying country fixed effects. This allows us to focus on explaining the deviation of industry investment from the average for each country at each moment. We make the same assumptions regarding the error term.

$$DInv_{c,i,t} = \alpha \cdot DInv_{c,i,t-1} + \beta \cdot DQ_{c,i,t-1} + F_c + F_t + F_c \cdot F_t + \varepsilon_{c,i,t} \qquad (2)$$

To these basic specifications we add interaction variables between stock returns and stock market development to ask whether the sensitivity of investment to stock prices (β) changes across countries along this dimension.

In terms of our dependent variable, we also experimented with investment to assets and investment to sales and the results were not very different. When looking at the relationship between fundamentals and the stock market, the growth rate of fundamentals replaces that of investment in (1) and (2). When considering the link between investment and fundamentals we replace the lagged stock returns with the contemporaneous growth rate of fundamentals. The rest of the specification remains unaltered.

4. Results

Stock Prices and Investment around the World

The first two columns of Table 2a present the results for the relationship between investment and stock prices for the entire economy in the time-series for the U.S. and the whole sample, respectively. Consistent with past results, investment is indeed significantly related to past stock returns not only in the U.S. but also for the average country in our sample. The sensitivity is, however, much larger in the U.S. A 10% increase in the market to book ratio translates into an increase of about 8% in next year's investment in the U.S. but only of 2% in the typical country. This is, in general, the case also for the time series of corporate investment (see columns (7) and (9) in Table 2a) and the cross-industry data (columns (1), (2), (7), and (8) in Table 2b). The coefficient for lagged stock returns is always positive and in most cases highly significant and much larger when we restrict the sample to the U.S. only.

While the additional explanatory power of stock prices is about the same, investment appears to be at least twice as sensitive to stock prices in the time series as in the cross section. It is also the case that, for the average country in our sample, corporate investment is about three times more sensitive to stock returns than the investment for the entire economy is. The additional explanatory power of stock prices is, however, much larger in the entire economy data, where R-squares increase by around a third as opposed to just 5% in the corporate series.

When we add to the specification the interaction between the level of stock market development (measured as the stock market capitalization and value traded to GDP, and as the number of firms to population, all of them in logs to accommodate the strong non-linearity) and lagged stock returns, the coefficient is in general positive and significant. This means that as the stock market develops, investment becomes more sensitive to stock prices. Although for different reasons, this is consistent with all the theories. The effect is statistically significant in all our samples except for the cross-section for the entire economy. The economic magnitude is quite large: moving from the first to the fourth quartile of stock market capitalization (roughly the difference between Mexico and Canada) implies that investment becomes around 40% more

sensitive to the stock market. The impact of stock market development on the elasticity is larger in the entire economy series and the cross-sectional estimations.

We also explored how the sensitivity of investment to the stock market changes high the synchronicity of stock returns. Following Morck et al. (2000) we measured in our data the fraction of the total variation in industry returns that can be explained simply with the local market return and the return of the U.S. market. This measure, which is intended to quantify the (inverse of the) ability of a market to reflect industry-specific information, varies across countries in a similar way as the other proxies for stock market development we use. The measure has also been shown to be correlated with the strength of public investor property rights (Morck et al. (2000)), and with the use of external financing and the precision of capital allocation by firms (Durnev et al. (2001)). The active informant story implies that the sensitivity of investment decreases with synchronicity.

When we include the degree of market synchronicity interacted with lagged returns the coefficient turns out to be negative in all cases, but only significantly for the corporate sector series. The size of the effect is of a similar magnitude than before. It seems to be the case that, although with different precision, all the stock market development variables are picking up essentially the same cross-country variation. This variation is related to the degree of economic development of the countries but this does not seem to entirely drive the results: log(per capita GDP) when interacted with stock returns enters significantly in only one of our four samples, and does not generally overturn the stock market development variables.

To summarize, up to this point we have found that investment is related to the stock market not only in the U.S. or other developed markets but also in the average country. Investment appears more sensitive to stock prices in the time series, and in corporate data. The sensitivity increases markedly with stock market development whatever measured.

Figure 1 depicts these results graphically. We produce these figures by computing the sensitivity of investment to stock prices (controlling for lagged investment) in each country using data from each one of our samples. For the cross-section figures we compute the sensitivity industry by industry and then average out to get the country figure. The measure we use for stock market development is stock market capitalization to GDP. Both the dependent and independent variables are expressed as deviations from the mean value in the sample. The general picture is essentially the same that we got from the regressions above. It is apparent that the results are not being driven by a few outliers. There are two main differences between these estimations (that are reported at the bottom of each figure) and the ones in the table discussed above. First, that here all markets have the exact same weight in the estimation, and second that the autoregressive

coefficient is country or industry-specific depending on the sample. In this sense, they provide an additional robustness check since they prove that the results in the tables are not driven by the differing number of observations available across countries or differences in the degree of inertia of investment. Of course, they do not use the cross-sectional data in the most efficient way.

The higher sensitivity in the time series is consistent with thinking that the stock market's greatest strength lies in being able to aggregate small pieces of information that participants have to generate a good estimate of aggregate fundamentals. It is also consistent with the financing view given that the availability of equity finance varies strongly with market prices in the time series. It implies, however, that the scope for the market pressure theory to explain the data is more limited. All the theories would generally imply the result that the sensitivity is larger in the corporate sector on relevance grounds. Finally, either because of differences in the degree of informativeness of prices, the availability of equity finance, or the power of investors, all theories can easily accommodate the fact that the sensitivity increases with stock market development.

Evidence on the Sideshow and the Active Informant Hypotheses

Table 3 relates fundamentals to lagged stock returns. The *Sales* variable is defined as the rate of growth of GDP in the entire economy time series, of value added in the cross-industry data for the entire economy, and of net revenue in the corporate samples. We seek to explain the growth rate of sales with the change in the market to book value of assets. We focus on sales because among all the fundamentals variables that have been used before in trying to explain investment, sales turns out to be by far the most relevant. We experimented with other variables intended to measure fundamentals (such as corporate sector profitability, industry price markups, and cash flows) but none was as consistently and strongly related to investment across our samples as sales. As we will see below, our conclusions are not likely to be affected by this choice.

Column (1) and (2), and (7) and (8) in panel A present the results for the U.S. and the whole sample for the time series data, while the same columns in panel B show them for the cross-industry series. Except for the case of the corporate sector time series estimate in the whole sample, we see a strong and very significant correlation between returns and future fundamentals both in the U.S. and the whole sample. The stock market (together with the lagged growth of sales and the fixed effects) is able to predict around 30-45% of the variation in future fundamentals. The marginal R-squared attributed to the stock market is an order of magnitude larger in the time series.

As in the investment equations the coefficient for the stock market is between three and five times smaller in the average country when compared to the one in the U.S. The marginal contribution of the stock market to the explanation of future fundamentals is also much larger in the U.S. These differences are indeed related to the degree of development of stock markets as can be seen in columns (3) through (6) and (9) through (12) in each panel. The inter-quartile comparison reveals that in a country like Canada future fundamentals would be between two and three times more sensitive to the stock market than in a place like Mexico. Figure 2 shows how the sensitivity increases robustly and significantly with stock market development in the cross-section of countries.

The information content of stock prices appears to decline significantly as we move from well developed to less developed markets. This is independent evidence that complements previous findings by Morck et al. (2000). It also provides the first potential explanation for why the relation between investment and stock prices becomes more tenuous as we decrease the level of stock market development. Under the active informant view it is the ability of the stock prices to predict future fundamentals that explains the link between investment and the stock market. Given that this ability increases with market development, if agents realize this, the theory implies that the sensitivity of investment to stock prices should follow the same pattern. It does not seem that agents in poorly developed markets do not realize that the market is less informative. If this was the case, the sensitivity of investment would not follow the same pattern as the sensitivity of fundamentals does but would rather be constant along the market development dimension. We can, therefore discard the unaware-managers version of the active informant view.

Now, if the aware-managers version of the active informant view is correct we should expect the efficiency of investment to be greater in more developed markets. Indeed, being able to follow more informative prices would allow investing in grater accordance to fundamentals. We look at the relation between investment and fundamentals in Table 4. The first thing to notice is that sales are a mayor determinant of investment everywhere. Sales and lagged investment alone explain more than two thirds of the variation of investment in the entire economy time series, and about one third of the total variation in the other samples. As opposed to what we found with respect to the sensitivity to stock prices, neither the sensitivity of investment to fundamentals nor the explanatory power of them increases with stock market development in a robust way. The coefficients for the interactions are not always positive and even sometimes negative. The only case in which we find positive and significant coefficients is for the cross-sectional entire economy sample, the place we would least expect them under the active

informant theory. Looking at Figure 3 it would be quite difficult to make the case that the sensitivity of investment to fundamentals increases with market development: half the time the coefficients are of the wrong sign and they are never significant.

Not only the variation of efficiency does not change much with stock market development but the variation across countries itself is much smaller. The coefficients of variation of the sensitivity of investment and fundamentals to the stock market are about twice as large as those of the investment-fundamentals sensitivity. In this sense, there is not even much to explain here.

Therefore, the critical implication of the active informant view in light of the varying informativeness of stock markets across countries is not strongly supported by the data. Managers seem to be equally accurate in predicting fundamentals despite the fact that the stock market is not. So, at least with respect to the fundamentals we consider, managers do not behave as if they were predicting them based on market prices.

Table 5 includes both stock returns and fundamentals as regressors altogether. The issue here is whether stock prices have an effect on investment that is independent of their role in predicting fundamentals. Fundamentals enter quite significantly in virtually every regression. In the entire economy panels (columns (1) to (6) in Tables 5a and 5b) the inclusion of fundamentals tends to wipe out the effect of the stock market, particularly so in cross-sectional data. Moreover, the marginal R-squared of fundamentals is an order of magnitude larger than that of the stock market variable. Even if half the times stock returns enter significantly in the entire economy time series (Table 5a, columns (2) to (4)) the coefficients are half as large as the ones we had before. In the corporate data however, the stock market coefficients remain strongly significant and are not very different in magnitude from those we obtained when fundamentals were left out (columns (7) to (12) in Table 2a and 2b).

The higher sensitivity of investment to stock prices in more developed markets is generally driven by the behavior of the fundamentals-stock market sensitivity across markets. This is very clear in the entire economy series, where the coefficient for the stock returns-market development variable is insignificant in seven out of our eight regressions. In the corporate data however, the increasing sensitivity is not entirely driven by fundamentals, especially in the case in the cross-section of industries. The fundamentals-stock returns interaction is significantly positive in only two out of sixteen regressions. This, together with our results in Table 4 imply that neither the total variation of investment nor the part that is unrelated to stock price movements becomes more efficient in the sense of being more correlated to fundamentals as stock markets develop. Said differently, stock price movements that are orthogonal to movements

in fundamentals seem to have no differential effect across countries based on market development. The two cases where the interaction enters positively and significantly occur in the entire economy cross-section of industries. These are precisely the kind of data Wurgler (2000) used to argue that financial development (and the information content of prices, in particular) increased the efficiency of capital allocation. Then, we get the same result but show that the result does not carry over to the time series or corporate data.

Up to now we have been exploiting the fact that, across countries with stock markets, the information content of prices varies. In Table 6 we pursue the issue further by asking more generally whether being able to observe stock prices at all makes a difference for the efficiency of investment. Of course, we can only do this for the entire economy samples. However, we expand our sample countries from 33 to 78. We construct an indicator variable that takes a value of 0 if there aren't any firms listed in the country according to World Development Indicators, and 1 otherwise. We label this M*arket Exists*. We do the same at the industry level according to whether we have any stock data for each country-industry pair in the 1982-2003 period, that is if the particular industry is represented in the country's stock market or not (*Industry Represented*).

Column (1) shows that investment is not significantly more sensitive to GDP growth in countries that have a stock market when compared to countries that don't. The coefficient is positive but insignificant and of a small economic magnitude. We find similar results in the cross-section (column (2)). It has to be said, however, that only around 10% of the countries in our sample do not have stock markets. Moreover, the investment of industries that are represented in the stock market is no more sensitive to fundamentals than that of industries without representation. This is the case both in the 78 countries and in our original 33 markets (columns (3) and (4), respectively) where despite being positive, the coefficients for the interactions are, again, insignificant and very small. If anything can be said is that in the cross-section having representation in the market matter more than just having a market (see column (5)).

As an aside, notice that firms in industries that are represented in the stock market grow significantly slower than firms in non-represented ones. This may be a reflection of the importance of having access to equity finance for growth, and may lead to interesting political-economy explanations for stock market development.

We conclude that the effect of stock returns in the entire economy investment series and the way it changes along stock market development is, for the most part, the outcome of the predictive power stock prices have over future fundamentals. Still, not being able to follow informative signal, or for that matter signals at all, does not seem to affect the efficiency of capital allocation. Stock prices do appear to have an independent role on corporate investment,

particularly in the cross-section. Interestingly, the synchronicity variable enters significantly in both the time series and cross-sectional corporate data. This, together with the null effect of the existence of market signals, suggests that if market prices do indeed have an informational role, this is likely to be more related to the prediction of fundamentals that we do not observe so easily.

Evidence on Non-informational links between Investment and the Stock Market

In this section we look for evidence for to support or reject the equity finance dependence and the market pressure channels. We do this by looking at how the responsiveness of investment to stock market prices changes across industry characteristics and how it reacts differently in developed vs. underdeveloped markets.

We first ask whether investment is more responsive to stock returns in industries that are more dependent on equity finance. We measure equity finance dependence with Rajan and Zingales (1998)'s index. This index computes the share of capital expenditures that firms in the U.S. financed with equity issuances and then aggregates into industries. Using this variable, and based on data similar to our entire-economy industry data, they showed that in countries with less developed equity markets the industries that are most dependent on equity finance grow disproportionably slower than the industries that are less so. Alternatively, we compute a synthetic four-variable version of the Kaplan and Zingales (KZ) index. Using both subjective and objective criteria, Kaplan and Zingales (1997) rank firms in the U.S. based on their likelihood of being financially constrained. Then they explain their index with cash flows, dividends, cash holding, leverage, and the market-to-book assets ratio as a proxy for Tobin's Q. Using their coefficients and accounting data we compute the index for all firms in our sample and then aggregate it into industries. To avoid splitting the effect of stock returns on two variables we exclude the market-to-book assets component from the specification. Using firm-level corporate U.S. data Baker et al. (2003) show that the sensitivity of investment to stock prices is significantly larger for firms that rank higher in this index, i.e. for firms more in need of external equity to finance marginal investments. The main advantage of this measure is that we need not rely on the assumption that some technological reason that carries over from country to country makes some industry more dependent than others everywhere. On the other hand, firms may react to different levels of market development, in which case the index would have an important endogenous component.

Table 7 presents results using both proxies using cross-sectional data for corporate investment (columns 1 to 7). In the first column, using only U.S. data we confirm that Baker et al. (2003)'s result is not lost in the industry aggregation. In fact, it carries over to other countries as

well (see column 2). The size of the effect is very large: when comparing the industries in the first and the fourth quartiles of equity finance dependence we get that the investment of the most dependent industries is 50% more sensitive to stock prices in the U.S., and 20% in the whole sample. When we split our sample in two depending on the level of stock market capitalization to GDP of the country we see a strong effect in highly developed markets only. In less developed markets, where equity is less of a financing alternative, no significant difference between industries is observed. The particular way in which one measure equity finance dependence seems not to matter much (see columns 5 to 7), although for less developed markets the impact is still insignificant but is now negative.

In columns 8 to 11 we run the same regressions now on cross-sectional data for the entire economy. As expected, since the typical firm in any economy is far from ever being able to raise equity in public markets, we do not see differences in the response of investment to stock prices along the equity dependence dimension in neither of our samples. The fact that we only see an effect for listed firms is reassuring because it makes it less likely that we are just picking other industry characteristic omitted in the specification.

We explored this result a bit further by trying to understand where this higher sensitivity of more dependent firms in highly developed markets is coming from. We do not report these results in the paper because of space considerations and because the number of observations decreased significantly. We found out that equity financing is less dependent on stock markets prices for more dependent industries, but only so in the U.S. and other highly developed markets. More dependent firms seem to focus less on the price at which they can get equity financing, arguably because they have little choice. The link between the availability of equity finance and investment for more dependent industries is somewhat stronger in less developed markets, which would be consistent with firms being disproportionably more financially constrained in these markets. The higher sensitivity of the investment of more dependent industries in developed markets, therefore, does not seem to be coming from a tighter link between financing and investment nor from financing being more responsive to prices, but seems to occur in spite of these relationships.

In looking for evidence to support or reject the market pressure story we constructed an industry index of the strength that investors have vis-à-vis managers. To do this we aggregated Metrick et al. (2003)'s index of governance into industries. The index was originally constructed for 1,500 large U.S.-based publicly-listed firms by adding up a number of provisions thought to restrict shareholder rights. In order to make the reading of tables more straightforward we subtracted the maximum value across industries to the original index so that we measure the

strength of investors as opposed to the strength of management. By using the index constructed with U.S. data for all countries we are assuming that there is something about some industries that makes it either more valuable or less costly to achieve strong investors' rights.

Table 8 shows that the sensitivity of investment to stock prices increases with the strength of investors, both in the U.S. and in the whole sample (columns 1 and 2), but mostly in developed markets. The economic magnitude of the effect is large. When making the inter-quartile comparison we see that industries with stronger investor rights are 40% more responsive to stock returns in the U.S. and around 25% more so in the average country. As expected, the effect is much stronger in the high development sample (see columns 3 and 4). In fact, we see no significant difference in the correlation of investment and prices along this dimension in the low development sample. Finally, when we consider cross-sectional investment in the entire economy in columns 5 to 8 we see no interaction effect at all. This is consistent with the market pressure hypothesis since unlisted firms should not be subject to these pressures.

Do industries where investors are stronger finance differently these investments in highly developed markets? We took a look at how the behavior of cash flow, external financing, and dividends differed across industries and with the level of development of the market (not reported). Cash flows and external financing seems not to differ much: industries with stronger rights to investors do not behave significantly different with respect to the reaction of these variables to stock markets prices, no matter the level of equity market development. Dividends, however, are significantly less sensitive to stock returns in industries with the strongest investors but this is only the case in highly developed markets. Taken together these findings suggest that the stronger the investors are the larger the fraction of new investments that are financed with retained earnings is. We take this as evidence in favor of the market pressure story because it is consistent with investors supporting new investments when the price is high. When the price is low, these firms disinvest more than others but keep the cash supposedly because there is not threat that this is going to end up being invested since investors are strong enough to prevent it.

Table 9 shows that the external finance channel is independent to the market pressure mechanism (columns 1 through 4). Both interactions enter significantly in the regression for the U.S., and in both cases they are stronger and more significant in highly developed markets. *Sales* and its responsiveness to stock prices do not vary significantly across industries in terms of equity dependency or investors' strength (5 through 8). Even after controlling for fundamentals and allowing the effect of these to vary across industries, is still the case that more dependent industries are significantly more responsive to the stock market, and particularly so where these are more developed. The market pressure effect is still positive and of similar magnitude as

before in the U.S. and the high development sample, but it is no longer significant (although only marginally so in the high development sample).

Notice that the own effect of stock prices is no longer significant. This means that the relationship found on average is not really a general feature for all sectors but chiefly explained by these characteristics.

5. Conclusion

We studied the relationship between stock market prices and investment across a large number of countries both in the time series and a cross-section of industries, distinguishing between the corporate sector and the entire economy. A number of new facts were documented, prime among them that the sensitivity of investment to stock prices, although present everywhere, increases with stock market development. The active informant role of the market was not found to be particularly consistent with this. Although fundamentals and stock prices are less related in less developed markets and this explains most of the changing sensitivity of investment to prices, fundamentals are similarly linked to investment across countries.

With respect to non-informational links between investment and stock prices, we show that the cross-sectional investment of industries that are more dependent on equity finance and where investors are strongest relative to managers exhibit more sensitivity to the stock market. This evidence lends support to the equity financing and the market pressure views. Both effects appear more strongly in the high equity market development countries. For the most part these two effects are independent to each other and robust to controlling for fundamentals, particularly in the case of the financing link.

We finish with a few words about the efficiency of investment. There is evidence (provided both here and elsewhere) that less developed stock markets are less informative in the sense that they are less able to predict future fundamentals. This is not to be taken lightly for if one believes agents use the information to make investment decisions, them not realizing that the infomativeness of stock prices varies would imply that they could be fooled by wrong signals. In this sense, just not having a stock market could be preferable to having a poorly developed one. We can, however, discard this possibility. Agents either seem to be aware that the information content of stock prices varies and follow the market less when the signals are of worse quality, or just do not follow the market at all. In any case the information contained in stock prices does not induce misallocation of resources in time or across sectors.

Similarly, we provided evidence that the investment of listed firms appears to be more sensitive to stock prices if firms are financially constrained or subject to strong investor rights.

But this is only true in well developed countries. If it is indeed the case that stock prices are (relatively) meaningless in less developed markets, these prices at least do not induce misallocation of corporate investment along these dimensions. Again, having an underdeveloped market is no worse than not having a market at all.

Does this mean that the more developed the market the less efficient corporate investment is because of the equity dependence and market pressure effect? Not necessarily. A high stock price indeed reflects a lower cost of investment and is, therefore, part of the fundamentals financially constrained firms should take into account. If prices reflect relatively well the true cost of investing in these markets (as it seems to be the case with future growth opportunities), there is no inefficiency. Of course, that investment depends on the degree of financial constraints faced by firms is problematic, but that this link changes with stock prices is another story. By the same token, that the investment of "better governed" firms is more responsive to stock prices is not necessarily bad is prices are meaningful.

A final caveat regarding interpretation is of the order. We work under the assumption that the fundamentals we measure are indeed what should matter and all that should matter for investment. Although, these explain a large part of actual investment, we can never hope to measure all that matters. This is likely to bias the results against the active informant theory because the stock market might be particularly important in predicting fundamentals that are both hard to observe and predict; fundamentals that also happen to be hard to measure.

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TABLE 1. Characteristics of the Samples

	Time Series						Cross-Section					
	Entire Economy			Corporate Sector			Entire Economy			Corporate Sector		
Country	# Obs.	Time Range		# Obs.	Time Range		# Obs.	Time Range		# Obs.	Time Range	
Australia	21	1982	2002	154	1982	2002	21	1982	2002	371	1982	2002
Austria	22	1982	2003	210	1982	2001	21	1982	2002	238	1982	2002
Belgium	22	1982	2003	120	1982	1998	21	1982	2002	230	1982	2002
Canada	21	1982	2002	188	1982	1991	21	1982	2002	441	1982	2002
Chile	12	1991	2002	84	1991	1999	14	1989	2002	143	1989	2002
Colombia	7	1989	1998	43	1989	2001	11	1989	2002	56	1989	2002
Denmark	22	1982	2003	127	1982	1992	21	1982	2002	316	1982	2002
Finland	22	1982	2003	232	1982	2001	21	1982	2002	252	1982	2002
France	21	1982	2002	348	1982	2001	19	1982	2002	459	1982	2002
Germany	12	1992	2003	46	2000	2001	11	1992	2002	266	1992	2002
Greece	17	1987	2003	144	1987	1999	12	1987	2002	31	1989	2002
Hong Kong	21	1982	2003	201	1982	2003	21	1982	2002	216	1982	2002
Hungary	6	1995	2002	14	1995	2001	5	1998	2002	42	1995	2002
India	12	1991	2003	225	1991	2002	9	1991	2002	204	1991	2002
Indonesia	8	1993	2002	121	1992	2002	7	1993	2002	158	1992	2002
Italy	22	1982	2003	297	1982	2001	21	1982	2002	295	1982	2002
Japan	22	1982	2003	509	1982	2001	21	1982	2002	489	1982	2002
Korea	5	1997	2002	296	1982	2002	18	1982	2002	263	1982	2002
Malaysia	19	1982	2002	232	1987	2002	19	1982	2002	321	1982	2002
Mexico	16	1985	2002	165	1982	2001	15	1987	2002	182	1983	2002
Netherlands	21	1982	2002	221	1982	1994	21	1982	2002	385	1982	2002
New Zealand	21	1982	2002	32	1982	1991	20	1982	2002	110	1982	2002
Norway	22	1982	2003	215	1982	2002	21	1982	2002	220	1982	2002
Philippines	8	1990	1997	13	1993	1996	8	1990	1997	17	1993	1997
Poland	8	1996	2003	55	1996	2001	7	1996	2002	65	1996	2002
Portugal	16	1987	2002	138	1987	2001	14	1987	2002	103	1989	2002
Singapore	19	1982	2003	230	1982	2003	21	1982	2002	205	1982	2002
Spain	22	1982	2003	264	1982	2001	21	1982	2002	228	1982	2002
Sweden	22	1982	2003	63	1982	1988	21	1982	2002	279	1982	2002
Turkey	13	1989	2003	107	1991	2001	13	1989	2002	98	1991	2002
United Kingdom	22	1982	2003	409	1982	1999	21	1982	2002	534	1982	2002
United States	21	1982	2002	505	1982	2002	21	1982	2002	567	1982	2002
Venezuela	7	1994	2001	29	1990	1999	8	1992	2001	31	1990	2001

TABLE 2a. Investment and Stock Prices in the Time-Series: Entire Economy and Corporate Sector

The dependent variable is the growth rate of aggregate investment between t and t-1 for the entire economy (columns (1) to (6)) and for the corporate sector (columns (7) to (12)). $DInv_{t-1}$ is the lagged value of the above. DQ_{t-1} is the growth rate of the market-to-book assets ratio between t-1 and t-2. Columns (1) and (7) use U.S. data only, while the rest use the whole sample. All the regressions include country and year fixed effects. Robust, time-clustered standard errors are reported in parentheses. *, **, and *** indicate significance at 10%, 5% and 1% levels, respectively.

	Time-Series											
	Entire Economy						Corporate Sector					
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
$DInv_{t-1}$	0.2986*	0.3020***	0.3162***	0.3006***	0.3000***	0.3018***	0.3929	0.0449	0.0523	0.0464	0.0467	0.0452
	(0.1720)	(0.0866)	(0.0851)	(0.0858)	(0.0846)	(0.0849)	(0.2805)	(0.0492)	(0.0521)	(0.0503)	(0.0516)	(0.0498)
DQ_{t-1}	0.8328***	0.1981***	0.3594***	0.2712**	1.2535***	0.07	0.8024	0.6811***	0.9587***	0.8119***	2.7773**	0.2133
	(0.2293)	(0.0639)	(0.0516)	(0.1147)	(0.3560)	(0.1475)	(0.5377)	(0.1387)	(0.1630)	(0.1866)	(1.0953)	(0.1815)
DQ_{t-1}·Market Capitalization/GDP			0.1402***						0.2292**			
			(0.0491)						(0.0976)			
DQ_{t-1}·Market Value Traded/GDP				0.0449						0.0785		
				(0.0448)						(0.0961)		
DQ_{t-1}·Listed Firms/Population					0.0901**						0.1789*	
					(0.0334)						(0.0963)	
DQ_{t-1}·Market Synchronicity						-0.2878						-1.059***
						(0.2398)						(0.2747)
Observations	21	554	554	554	554	554	21	554	554	554	554	554
R2	0.5183	0.3391	0.3692	0.3419	0.3544	0.345	0.1978	0.2844	0.2909	0.2851	0.2888	0.2904
R2-Adj	0.4648	0.2661	0.2981	0.2678	0.2817	0.2712	0.1087	0.207	0.2126	0.2062	0.2103	0.2121

TABLE 2b. Investment and Stock Prices in the Cross-Section: Entire Economy and Corporate Sector

The dependent variable is the growth rate of industry-level investment between t and t-1 for the entire economy (columns (1) to (6)) and for the corporate sector (columns (7) to (12)). $DInv_{t-1}$ is the lagged value of the above. DQ_{t-1} is the growth rate of the market-to-book assets ratio between t-1 and t-2. Columns (1) and (7) use U.S. data only, while the rest use the whole sample. All the regressions include year, country and time-varying country fixed effects. Robust, time-clustered standard errors are reported in parentheses. *, **, and *** indicate significance at 10%, 5% and 1% levels, respectively.

	Cross-Section											
	Entire Economy						Corporate Sector					
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
$DInv_{t-1}$	-0.1024**	-0.1849***	-0.1848***	-0.1846***	-0.1846***	-0.1848***	0.0880**	-0.1157***	-0.1158***	-0.1161	-0.1164***	-0.1155***
	(0.0419)	(0.0214)	(0.0212)	(0.0213)	(0.0212)	(0.0214)	(0.0432)	(0.0154)	(0.0153)	(0.0153)	(0.0153)	(0.0154)
DQ_{t-1}	0.1562**	0.0646	0.1155**	0.1386**	0.8055	0.0427	0.4984***	0.2186***	0.2869***	0.3245***	1.3405***	-0.0789
	(0.0650)	(0.0403)	(0.0521)	(0.0628)	(0.5245)	(0.1624)	(0.0849)	(0.0518)	(0.0610)	(0.0603)	(0.3492)	(0.1423)
DQ_{t-1}·Market Capitalization/GDP			0.0692						0.1079**			
			(0.0574)						(0.0494)			
DQ_{t-1}·Market Value Traded/GDP				0.0661						0.0952*		
				(0.0575)						(0.0515)		
DQ_{t-1}·Listed Firms/Population					0.0668						0.1021***	
					(0.0484)						(0.0321)	
DQ_{t-1}·Market Synchronicity						-0.163						-0.4228**
						(0.2104)						(0.1871)
Observations	505	6037	6037	6037	6037	6037	567	7904	7904	7904	7904	7904
R2	0.8434	0.4906	0.4909	0.4909	0.491	0.4907	0.2596	0.2276	0.2283	0.2282	0.2286	0.2285
R2-Adj	0.8369	0.4489	0.4491	0.4491	0.4492	0.4489	0.2296	0.1678	0.1684	0.1683	0.1688	0.1687

TABLE 3a. Fundamentals and Stock Prices in the Time-Series: Entire Economy and Corporate Sector

The dependent variable is the growth rate of aggregate sales between t and t-1 for the entire economy (GDP, columns (1) to (6)) and for the corporate sector (Net Revenues, columns (7) to (12)). $DSales_{t-1}$ is the lagged value of the above. DQ_{t-1} is the growth rate of the market-to-book assets ratio between t-1 and t-2. Columns (1) and (7) use U.S. data only, while the rest use the whole sample. All the regressions include country and year fixed effects. Robust, time-clustered standard errors are reported in parentheses. *, **, and *** indicate significance at 10%, 5% and 1% levels, respectively.

	Time-Series											
	Entire Economy						Corporate Sector					
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
$DSales_{t-1}$	0.1201	0.2405***	0.2329***	0.2359***	0.2242***	0.2336***	0.5571**	0.0668	0.0738	0.0657	0.0751	0.0689
	(0.1748)	(0.0618)	(0.0618)	(0.0620)	(0.0611)	(0.0624)	(0.2204)	(0.0783)	(0.0767)	(0.0765)	(0.0763)	(0.0775)
DQ_{t-1}	0.2957***	0.0617*	0.0873***	0.0669	0.4678**	-0.0215	0.5980**	-0.0188	0.1472	0.2045	1.3418**	-0.1496
	(0.0826)	(0.0406)	(0.0254)	(0.0444)	(0.1701)	(0.0424)	(0.2367)	(0.0712)	(0.1044)	(0.1605)	(0.5347)	(0.1668)
DQ_{t-1}·Market Capitalization/GDP			0.0404*						0.1557			
			(0.0232)						(0.0621)			
DQ_{t-1}·Market Value Traded/GDP				0.016						0.1421*		
				(0.0195)						(0.0706)		
DQ_{t-1}·Listed Firms/Population					0.0364**						0.1175**	
					(0.0147)						(0.0444)	
DQ_{t-1}·Market Synchronicity						-0.1399*						-0.2875
						(0.0774)						(0.3104)
Observations	22	550	550	550	550	550	21	538	538	538	538	538
R2	0.4221	0.451	0.4705	0.4538	0.4703	0.4619	0.406	0.3826	0.3968	0.3935	0.3918	0.3849
R2-Adj	0.3613	0.3899	0.4104	0.3918	0.4102	0.4007	0.3401	0.3136	0.328	0.3243	0.3224	0.3147

TABLE 3b. Fundamentals and Stock Prices in the Cross-Section: Entire Economy and Corporate Sector

The dependent variable is the growth rate of industry-level sales between t and t-1 for the entire economy (Value Added, columns (1) to (6)) and for the corporate sector (Net Revenues, columns (7) to (12)). $DSales_{t-1}$ is the lagged value of the above. DQ_{t-1} is the growth rate of the market-to-book assets ratio between t-1 and t-2. Columns (1) and (7) use U.S. data only, while the rest use the whole sample. All the regressions include year, country and time-varying country fixed effects. Robust, time-clustered standard errors are reported in parentheses. *, **, and *** indicate significance at 10%, 5% and 1% levels, respectively.

	Cross-Section											
	Entire Economy						Corporate Sector					
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
$DSales_{t-1}$	0.0792*	-0.0741**	-0.0750**	-0.0737**	-0.0748**	-0.0740**	0.2334***	0.1103***	0.1096***	0.1100***	0.1099***	0.1104***
	(0.0479)	(0.0356)	(0.0351)	(0.0352)	(0.0347)	(0.0354)	(0.0400)	(0.0172)	(0.0171)	(0.0170)	(0.0171)	(0.0171)
DQ_{t-1}	0.1601***	0.0321**	0.0719***	0.0989***	0.7071***	-0.0074	0.1697***	0.0623***	0.0831***	0.1126***	0.3346**	0.0406
	(0.0378)	(0.0149)	(0.0205)	(0.0277)	(0.2146)	(0.0305)	(0.0348)	(0.0154)	(0.0161)	(0.0215)	(0.1342)	(0.0397)
DQ_{t-1}·Market Capitalization/GDP			0.0490**						0.0335*			
			(0.0192)						(0.0170)			
DQ_{t-1}·Market Value Traded/GDP				0.0567**						0.0460**		
				(0.0228)						(0.0178)		
DQ_{t-1}·Listed Firms/Population					0.0601***						0.0248*	
					(0.0190)						(0.0123)	
DQ_{t-1}·Market Synchronicity						-0.0591						-0.0305
						(0.0381)						(0.0451)
Observations	453	5168	5168	5168	5168	5168	567	7726	7726	7726	7726	7726
R2	0.383	0.3094	0.3112	0.3119	0.3134	0.3096	0.2684	0.4671	0.4678	0.4684	0.4677	0.4672
R2-Adj	0.3574	0.2522	0.254	0.2548	0.2564	0.2523	0.2388	0.425	0.4256	0.4263	0.4255	0.425

TABLE 4a. Investment and Fundamentals in the Time-Series: Entire Economy and Corporate Sector

The dependent variable is the growth rate of aggregate investment between t and t-1 for the entire economy (columns (1) to (6)) and for the corporate sector (columns (7) to (12)). $DInv_{t-1}$ is the lagged value of the above. $DSales_t$ is the growth rate of aggregate sales between t and t-1 for the entire economy (GDP, columns (1) to (6)) and for the corporate sector (Net Revenues, columns (7) to (12)). DQ_{t-1} is the growth rate of the market-to-book assets ratio between t-1 and t-2. Columns (1) and (7) use U.S. data only, while the rest use the whole sample. All the regressions include country and year fixed effects. Robust, time-clustered standard errors are reported in parentheses. *, **, and *** indicate significance at 10%, 5% and 1% levels, respectively.

	Time-Series											
	Entire Economy						Corporate Sector					
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
$DInv_{t-1}$	0.1291*	0.1819***	0.1886***	0.1817***	0.1851***	0.1915***	0.1531	0.0341	0.0287	0.0266	0.0305	0.0264
	(0.0733)	(0.0616)	(0.0634)	(0.0629)	(0.0645)	(0.0655)	(0.1784)	(0.0408)	(0.0406)	(0.0436)	(0.0415)	(0.0418)
$Dsales_t$	2.3739***	2.1820***	2.0667***	2.0272***	-0.2199	2.3862***	1.5569***	0.9458***	1.0390***	1.0972***	1.8122	0.6684**
	(0.1982)	(0.0868)	(0.1022)	(0.1317)	(1.0658)	(0.3204)	(0.2626)	(0.1196)	(0.1164)	(0.1450)	(1.1020)	(0.2732)
$Dsales_t$·Market Capitalization/GDP			-0.1946*						0.1074			
			(0.1138)						(0.0835)			
$Dsales_t$·Market Value Traded/GDP				-0.1563						0.1129		
				(0.0998)						(0.1263)		
$DSales_t$·Listed Firms/Population					-0.2230**						0.0773	
					(0.0976)						(0.1000)	
$DSales_t$·Market Synchronicity						0.3431						-0.4548
						(0.5260)						(0.3251)
Observations	39	552	552	552	552	550	21	546	546	546	546	546
R2	0.824	0.6637	0.6677	0.6659	0.6695	0.6663	0.6947	0.3616	0.3634	0.3639	0.3628	0.364
R2-Adj	0.8142	0.6264	0.6301	0.628	0.6321	0.6284	0.6608	0.2914	0.2919	0.2925	0.2912	0.2927

TABLE 4b. Investment and Fundamentals in the Cross-Section: Entire Economy and Corporate Sector

The dependent variable is the growth rate of industry-level investment between t and t-1 for the entire economy (columns (1) to (6)) and for the corporate sector (columns (7) to (12)). $DInv_{t-1}$ is the lagged value of the above. $DSales_t$ is the growth rate of industry-level sales between t and t-1 for the entire economy (Value Added, columns (1) to (6)) and for the corporate sector (Net Revenues, columns (7) to (12)). DQ_{t-1} is the growth rate of the market-to-book assets ratio between t-1 and t-2. Columns (1) and (7) use U.S. data only, while the rest use the whole sample. All the regressions include year, country and time-varying country fixed effects. Robust, time-clustered standard errors are reported in parentheses. *, **, and *** indicate significance at 10%, 5% and 1% levels, respectively.

	Cross-Section											
	Entire Economy						Corporate Sector					
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
$DInv_{t-1}$	-0.053	-0.2097***	-0.2099***	-0.2098***	-0.2103***	-0.2097***	0.0453	-0.1237***	-0.1236***	-0.1241***	-0.1238***	-0.1236***
	(0.0353)	(0.0249)	(0.0246)	(0.0245)	(0.0249)	(0.0249)	(0.0401)	(0.0162)	(0.0161)	(0.0162)	(0.0161)	(0.0161)
$Dsales_t$	0.6631***	0.5102***	0.6532***	0.7829***	2.4498***	0.4458	0.9974***	0.6993***	0.7211***	0.6545***	1.4900*	0.5382**
	(0.0737)	(0.1220)	(0.1634)	(0.1611)	(0.7291)	(0.2884)	(0.0932)	(0.0438)	(0.0489)	(0.0591)	(0.8145)	(0.2043)
$Dsales_t$·Market Capitalization/GDP			0.198						0.0395			
			(0.1194)						(0.0642)			
$Dsales_t$·Market Value Traded/GDP				0.2346**						-0.0452		
				(0.0897)						(0.0687)		
$DSales_t$·Listed Firms/Population					0.1727***						0.0727	
					(0.0597)						(0.0763)	
$DSales_t$·Market Synchronicity						-0.0953						-0.2179
						(0.3069)						(0.2502)
Observations	747	5237	5237	5237	5237	5237	567	7815	7815	7815	7815	7815
R2	0.3254	0.3788	0.3802	0.3811	0.3808	0.3788	0.3497	0.2534	0.2537	0.2533	0.2538	0.2534
R2-Adj	0.299	0.3278	0.3292	0.3302	0.3299	0.3277	0.3234	0.1949	0.1951	0.1948	0.1952	0.1949

TABLE 5a. Investment, Stock Prices, and Fundamentals in the Time-Series: Entire Economy and Corporate Sector

The dependent variable is the growth rate of aggregate investment between t and t-1 for the entire economy (columns (1) to (6)) and for the corporate sector (columns (7) to (12)). $DInv_{t-1}$ is the lagged value of the above. $DSales_t$ is the growth rate of aggregate sales between t and t-1 for the entire economy (GDP, columns (1) to (6)) and for the corporate sector (Net Revenues, columns (7) to (12)). DQ_{t-1} is the growth rate of the market-to-book assets ratio between t-1 and t-2. Columns (1) and (7) use U.S. data only, while the rest use the whole sample. All the regressions include country and year fixed effects. Robust, time-clustered standard errors are reported in parentheses. *, **, and *** indicate significance at 10%, 5% and 1% levels, respectively.

	Time-Series											
	Entire Economy						Corporate Sector					
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
$DInv_{t-1}$	0.1785*	0.1849***	0.2054***	0.1843***	0.1894***	0.1872***	0.1506	0.0471	0.0489	0.0428	0.0496	0.0402
	(0.1048)	(0.0567)	(0.0587)	(0.0579)	(0.0588)	(0.0569)	(0.1836)	(0.0375)	(0.0362)	(0.0393)	(0.0375)	(0.0380)
DQ_{t-1}	0.1683	0.1031***	0.1901***	0.1344*	0.3498	0.112	-0.0839	0.7039***	0.7639***	0.5997***	1.7961**	0.4585***
	(0.1788)	(0.0315)	(0.0397)	(0.0672)	(0.3389)	(0.0891)	(0.3800)	(0.1089)	(0.1434)	(0.1816)	(0.7853)	(0.1448)
$Dsales_t$	2.1490***	2.1133***	1.8712***	1.9317***	-0.7168	2.2938***	1.5863***	0.9501***	0.9456***	0.9998***	1.1184	0.7240**
	(0.3717)	(0.0956)	(0.1008)	(0.1495)	(1.1844)	(0.3483)	(0.3009)	(0.1290)	(0.1378)	(0.1606)	(1.0783)	(0.2830)
DQ_{t-1}·Market Capitalization/GDP			0.0671**						0.0545			
			(0.0271)						(0.0963)			
$Dsales_t$·Market Capitalization/GDP			-0.2933**						0.0033			
			(0.1074)						(0.0825)			
DQ_{t-1}·Market Value Traded/GDP				0.0196						-0.058		
				(0.0349)						(0.0918)		
$Dsales_t$·Market Value Traded/GDP				-0.1769						0.0321		
				(0.1106)						(0.1219)		
DQ_{t-1}·Listed Firms/Population					0.0206						0.0942	
					(0.0298)						(0.0690)	
$DSales_t$·Listed Firms/Population					-0.2605**						0.0158	
					(0.1098)						(0.0970)	
DQ_{t-1}·Market Synchronicity						0.0205						-0.5334*
						(0.1575)						(0.2768)
$DSales_t$·Market Synchronicity						0.2956						-0.3596
						(0.5417)						(0.3267)
Observations	21	552	552	552	552	552	21	546	546	546	546	546
R2	0.8376	0.6759	0.6873	0.6784	0.6834	0.6764	0.6956	0.4012	0.4016	0.4018	0.4025	0.4044
R2-Adj	0.809	0.6392	0.6505	0.6405	0.6462	0.6384	0.6419	0.334	0.3317	0.3319	0.3327	0.3348

TABLE 5b. Investment, Stock Prices, and Fundamentals in the Cross-Section: Entire Economy and Corporate Sector

The dependent variable is the growth rate of industry-level investment between t and t-1 for the entire economy (columns (1) to (6)) and for the corporate sector (columns (7) to (12)). $DInv_{t-1}$ is the lagged value of the above. $DSales_t$ is the growth rate of industry-level sales between t and t-1 for the entire economy (Value Added, columns (1) to (6)) and for the corporate sector (Net Revenues, columns (7) to (12)). DQ_{t-1} is the growth rate of the market-to-book assets ratio between t-1 and t-2. Columns (1) and (7) use U.S. data only, while the rest use the whole sample. All the regressions include year, country and time-varying country fixed effects. Robust, time-clustered standard errors are reported in parentheses. *, **, and *** indicate significance at 10%, 5% and 1% levels, respectively.

	Cross-Section											
	Entire Economy						Corporate Sector					
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
$DInv_{t-1}$	-0.1098**	-0.2100***	-0.2102***	-0.2102***	-0.2106***	-0.2101***	0.0716*	-0.1233***	-0.1234***	-0.1240***	-0.1240***	-0.1230***
	(0.0443)	(0.0248)	(0.0246)	(0.0244)	(0.0248)	(0.0248)	(0.0398)	(0.0162)	(0.0160)	(0.0161)	(0.0160)	(0.0161)
DQ_{t-1}	0.0854	0.0568	0.045	0.014	0.0404	0.0105	0.3578***	0.1912***	0.2428**	0.2658***	1.0974***	-0.1297
	(0.0713)	(0.0476)	(0.0592)	(0.0746)	(0.4900)	(0.1610)	(0.0794)	(0.0545)	(0.0640)	(0.0648)	(0.3533)	(0.1490)
$Dsales_t$	0.5687***	0.5079***	0.6491***	0.7802***	2.4085***	0.4494	0.0923***	0.6859***	0.6979***	0.6263***	1.3751	0.5479**
	(0.0880)	(0.1221)	(0.1646)	(0.1624)	(0.7164)	(0.2878)	(0.0930)	(0.0439)	(0.0494)	(0.0629)	(0.8318)	(0.2018)
DQ_{t-1}·Market Capitalization/GDP			-0.0061						0.0826*			
			(0.0551)						(0.0450)			
$Dsales_t$·Market Capitalization/GDP			0.1946						0.027			
			(0.1196)						(0.0644)			
DQ_{t-1}·Market Value Traded/GDP				-0.0271						0.0653		
				(0.0632)						(0.0513)		
$Dsales_t$·Market Value Traded/GDP				0.2323**						-0.0565		
				(0.0907)						(0.0707)		
DQ_{t-1}·Listed Firms/Population					-0.0004						0.0827**	
					(0.0446)						(0.0317)	
$DSales_t$·Listed Firms/Population					0.1691***						0.0637	
					(0.0585)						(0.0779)	
DQ_{t-1}·Market Synchronicity						-0.069						-0.4557**
						(0.1938)						(0.1933)
$DSales_t$·Market Synchronicity						-0.0859						-0.1844
						(0.3063)						(0.2469)
Observations	453	5237	5237	5237	5237	5237	567	7815	7815	7815	7815	7815
R2	0.3697	0.379	0.3804	0.3813	0.381	0.3791	0.3731	0.2558	0.2563	0.2563	0.2568	0.2572
R2-Adj	0.3421	0.3279	0.3291	0.3301	0.3298	0.3277	0.3465	0.1975	0.1978	0.1978	0.1984	0.1987

TABLE 6. Investment and Fundamentals: The Existence of Market Price Signals

The dependent variable is the growth rate of aggregate investment between t and t-1 for the entire economy (columns (1)) and the growth rate of industry-level investment between t and t-1 for the entire economy (columns (2) to (5)). $DInv_{t-1}$ is the lagged value of the above. $DSales_t$ is the growth rate of aggregate sales between t and t-1 for the entire economy (GDP, column (1)) and the growth rate of industry-level sales between t and t-1 for the entire economy (Value Added, columns (2) to (5)). *Market Exists* takes a value of 0 if there aren't any firms listed in the country according to World Development Indicators, and 1 otherwise. *Industry Represented* takes a value of 1 if we have any stock market data for the industry-country observation during the 1982-2003 period, and 0 otherwise. All the regressions include year, country and time-varying country fixed effects. Robust, time-clustered standard errors are reported in parentheses. *, **, and *** indicate significance at 10%, 5% and 1% levels, respectively.

		Entire Economy			
	Time Series	Cross-Section			
	(1)	(2)	(3)	(4)	(5)
$DInv_{t-1}$	0.1067***	-0.1582***	-0.1587***	-0.1799***	-0.1586***
	(0.0369)	(0.0136)	(0.0136)	(0.0203)	(0.0136)
$Dsales_t$	1.5362***	0.5796***	0.5417***	0.5394***	0.5795***
	(0.2277)	(0.1562)	(0.0619)	(0.0940)	(0.1561)
$DSales_t$·Market Exists	0.3242	-0.0141			-0.0416
	(0.2472)	(0.1887)			(0.1804)
Industry Represented			-0.0595**	-0.0671***	-0.0596**
			(0.0226)	(0.0164)	(0.0225)
$DSales_t$·Industry Represented			0.0903	0.0725	0.0938
			(0.0879)	(0.1047)	(0.0828)
Observations	1411	19006	19006	11878	19006
Number of Countries	78	78	78	33	78
R2	0.4062	0.2495	0.2498	0.2621	0.2498
R2-Adj	0.3705	0.2126	0.2129	0.2312	0.2129

TABLE 7. Cross-Sectional Investment and Equity Dependence: Corporate Sector and Entire Economy

For columns (1) to (7) the dependent variable is the growth rate of industry-level corporate investment between t and t-1. For columns (8) to (11) the dependent variable is the growth rate of industry-level investment for the entire economy between t and t-1. DQ_{t-1} is the growth rate of the market-to-book assets ratio between t-1 and t-2, $EquityDep_{US}$ is each industry's equity finance dependence in the U.S. taken from Rajan and Zingales (1998), and *EquityDep* is Kaplan and Zingales (1997)'s measure computed for each observation. The sample varies according to the headings. All regressions include time, country, and time-varying country fixed effects. Robust standard errors are reported in parentheses. *, **, and *** indicate significance at 10%, 5% and 1% levels, respectively.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
	Corporate Sector							Enitre Economy			
	U.S.	Whole Sample	Developed Stock Mkt	Less-developed Stock Mkt	Whole Sample	Developed Stock Mkt	Less-developed Stock Mkt	U.S.	Whole Sample	Developed Stock Mkt	Less-developed Stock Mkt
$DInv_{t-1}$	0.0873	-0.1149***	-0.1061***	-0.1258***	-0.1151***	-0.1076***	-0.1254***	-0.1075*	-0.1855***	-0.1583***	-0.2103***
	(0.0531)	(0.0156)	(0.0221)	(0.0275)	(0.0149)	(0.0221)	(0.0240)	(0.0522)	(0.0239)	(0.0267)	(0.0345)
DQ_{t-1}	0.5095***	0.1799***	0.3006***	0.0263	0.2326***	0.3538***	0.0764	0.1611*	0.0560	0.0924	0.0302
	(0.1160)	(0.0547)	(0.0583)	(0.0828)	(0.0582)	(0.0668)	(0.0817)	(0.0881)	(0.0415)	(0.0627)	(0.0570)
$EquityDep_{US}$	0.0270	-0.0068	-0.0002	-0.0242				0.0220	0.0438	0.0631	0.0145
	(0.0200)	(0.0436)	(0.0488)	(0.0590)				(0.0170)	(0.0665)	(0.0616)	(0.0973)
$EquityDep_{US} \cdot DQ_{t-1}$	1.3060***	0.4982**	0.5616*	0.3710				0.5447	0.0829	0.3457	-0.2190
	(0.3282)	(0.2381)	(0.2832)	(0.3942)				(0.3239)	(0.2357)	(0.3298)	(0.2544)
EquityDep					-0.0125	0.0090	-0.0452***				
					(0.0104)	(0.0128)	(0.0127)				
$EquityDep \cdot DQ_{t-1}$					0.0785	0.3207**	-0.1896				
					(0.1130)	(0.1538)	(0.1586)				
Observations	567	7480	4812	2668	7872	5061	2811	505	5705	3362	2343
R^2	0.2803	0.2289	0.2293	0.2293	0.2273	0.2306	0.2281	0.8449	0.5106	0.5421	0.4805

TABLE 8. Cross-Sectional Investment and Investors' Strength: Corporate Sector and Entire Economy

For columns (1) to (4) the dependent variable is the growth rate of industry-level corporate investment between t and t-1. For columns (5) to (8) the dependent variable is the growth rate of industry-level investment for the entire economy between t and t-1. DQ_{t-1} is the growth rate of the market-to-book assets ratio between t-1 and t-2, and *Strength* is an industry-level variable that represents the strength of investors vis-à-vis the management constructed based on Gompers et.al (2003)'s U.S. data. The sample varies according to the headings. All regressions include time, country, and time-varying country fixed effects. Robust standard errors are reported in parentheses. *, **, and *** indicate significance at 10%, 5% and 1% levels, respectively.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Corporate Sector				Entire Economy			
	U.S.	Whole Sample	Developed Stock Mkt	Less-developed Stock Mkt	U.S.	Whole Sample	Developed Stock Mkt	Less-developed Stock Mkt
$DInv_{t-1}$	0.0915	-0.1155***	-0.1080***	-0.1256***	-0.1025*	-0.1859***	-0.1611***	-0.2110***
	(0.0591)	(0.0155)	(0.0222)	(0.0249)	(0.0540)	(0.0215)	(0.0256)	(0.0293)
DQ_{t-1}	0.0516	0.0764	0.0978	0.0510	0.1915	0.0498	0.0908	0.0080
	(0.2430)	(0.0870)	(0.1248)	(0.2002)	(0.1677)	(0.1180)	(0.1597)	(0.1496)
Strength	0.0123	-0.0003	-0.0004	-0.0002	0.0014	-0.0141*	-0.0042	-0.0284***
	(0.0074)	(0.0065)	(0.0080)	(0.0125)	(0.0075)	(0.0070)	(0.0092)	(0.0093)
Strength · DQ_{t-1}	0.1777*	0.0537*	0.0984**	-0.0025	-0.0141	0.0056	0.0277	-0.0086
	(0.1023)	(0.0303)	(0.0366)	(0.0727)	(0.0436)	(0.0364)	(0.0532)	(0.0472)
Observations	567	7904	5061	2843	505	6037	3541	2496
R^2	0.2691	0.2278	0.2298	0.2273	0.8435	0.4912	0.5141	0.4701

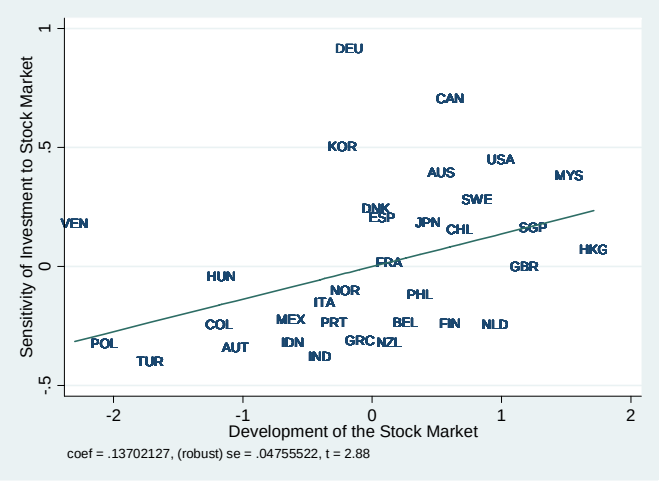
TABLE 9. Cross-Sectional Corporate Investment: Equity Dependence, Investors' Strength, and Fundamentals

The dependent variable is the growth rate of industry-level corporate investment between t and t-1. DQ_{t-1} is the growth rate of the market-to-book assets ratio between t-1 and t-2, $DSales_t$ is the growth rate of net revenues between t and t-1, $EquityDep_{US}$ is each industry's equity finance dependence in the U.S. taken from Rajan and Zingales (1998), and *Strength* is an industry-level variable that represents the strength of investors vis-à-vis the management constructed based on Gompers et.al (2003)'s U.S. data. The sample varies according to the headings. All regressions include time, country, and time-varying country fixed effects. Robust standard errors are reported in parentheses. *, **, and *** indicate significance at 10%, 5% and 1% levels, respectively.

	(1) U.S.	(2) Whole Sample	(3) Developed Stock Mkt	(4) Less-developed Stock Mkt	(5) U.S.	(6) Whole Sample	(7) Developed Stock Mkt	(8) Less-developed Stock Mkt
$DInv_{t-1}$	0.0911	-0.1148***	-0.1063***	-0.1259***	0.0787	-0.1229***	-0.1145***	-0.1341***
	(0.0549)	(0.0157)	(0.0222)	(0.0277)	(0.0605)	(0.0164)	(0.0216)	(0.0286)
DQ_{t-1}	0.0423	0.0411	0.0294	0.0490	0.0777	0.0666	0.0728	0.0497
	(0.2374)	(0.0990)	(0.1183)	(0.2140)	(0.2208)	(0.1071)	(0.1280)	(0.2114)
$EquityDep_{US}$	0.0283	-0.0071	-0.0004	-0.0241	0.0200	-0.0203	-0.0160	-0.0252
	(0.0196)	(0.0437)	(0.0484)	(0.0589)	(0.0188)	(0.0398)	(0.0391)	(0.0521)
$EquityDep_{US} \cdot DQ_{t-1}$	1.3349***	0.5059**	0.5774**	0.3700	0.8277**	0.4889**	0.4919**	0.4388
	(0.3356)	(0.2369)	(0.2765)	(0.3948)	(0.3630)	(0.2204)	(0.2236)	(0.3940)
Strength	0.0128*	-0.0002	-0.0002	-0.0002	0.0024	-0.0016	-0.0034	0.0011
	(0.0072)	(0.0067)	(0.0081)	(0.0128)	(0.0081)	(0.0067)	(0.0081)	(0.0116)
$Strength \cdot DQ_{t-1}$	0.1861*	0.0521	0.1013**	-0.0085	0.1214	0.0328	0.0691	-0.0137
	(0.1005)	(0.0315)	(0.0378)	(0.0751)	(0.0998)	(0.0296)	(0.0410)	(0.0673)
$DSales_t$					0.6377*	0.5301*	0.5298**	0.5036**
					(0.3416)	(0.1509)	(0.1980)	(0.2069)
$DQ_{t-1} \cdot DSales_t$					-0.3434	-0.0774	0.0369	-0.2709
					(1.1030)	(0.1885)	(0.2293)	(0.2895)
$EquityDepUS \cdot DSales_t$					-0.1217	-.0277	0.2572	-0.7508*
					(0.1529)	(0.2106)	(0.2366)	(0.4031)
$Strength \cdot DSales_t$					0.0635	0.0565	0.0796	0.0266
					(0.1123)	(0.0468)	(0.0615)	(0.0533)
Observations	567	7480	4812	2668	567	7394	4771	2623
R^2	0.2907	0.2292	0.2302	0.2293	0.3843	0.2578	0.2729	0.2443

Figure 1a. Time-Series Sensitivity of Investment to Stock Prices and Stock Market Development

Entire Economy



Corporate Sector

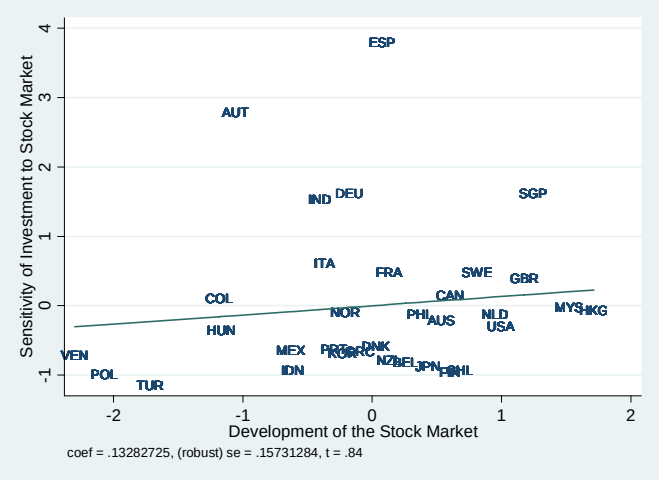
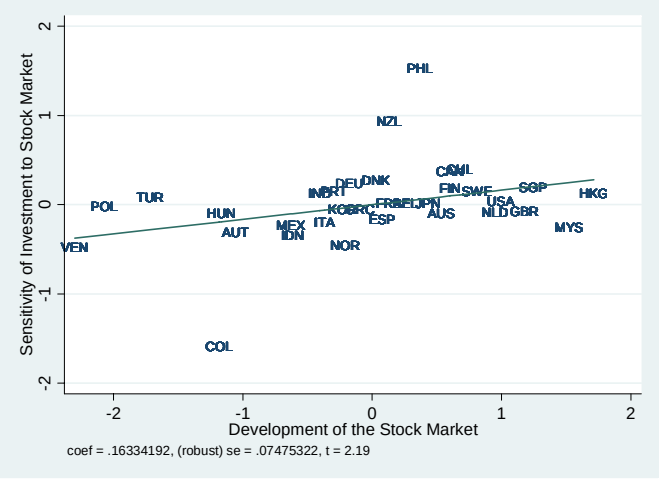


Figure 1b. Cross-Sectional Sensitivity of Investment to Stock Prices and Stock Market Development

Entire Economy



Corporate Sector

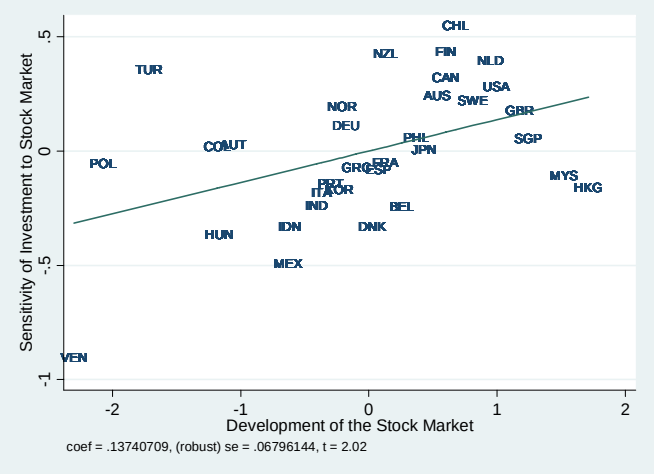
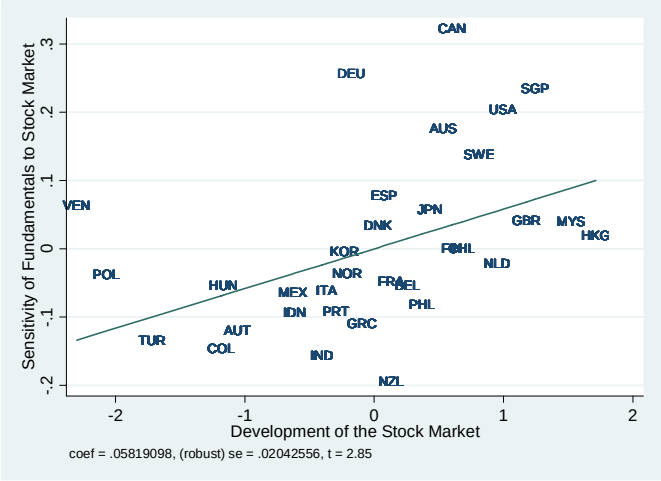


Figure 2a. Time-Series Sensitivity of Fundamentals to Stock Prices and Stock Market Development

Entire Economy



Corporate Sector

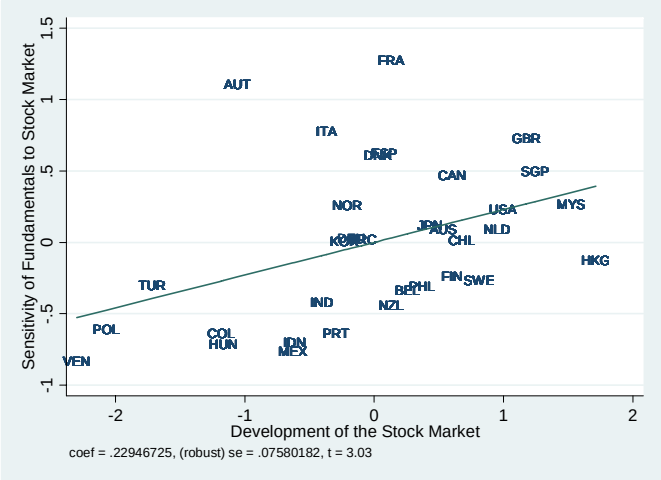
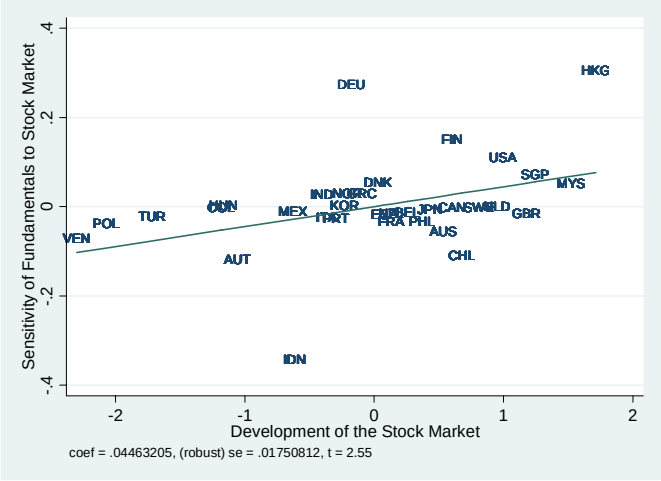


Figure 2b. Cross-Sectional Sensitivity of Fundamentals to Stock Prices and Stock Market Development

Entire Economy



Corporate Sector

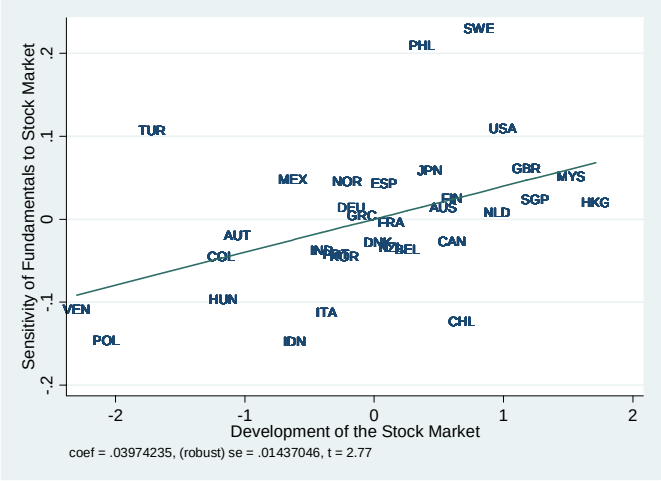
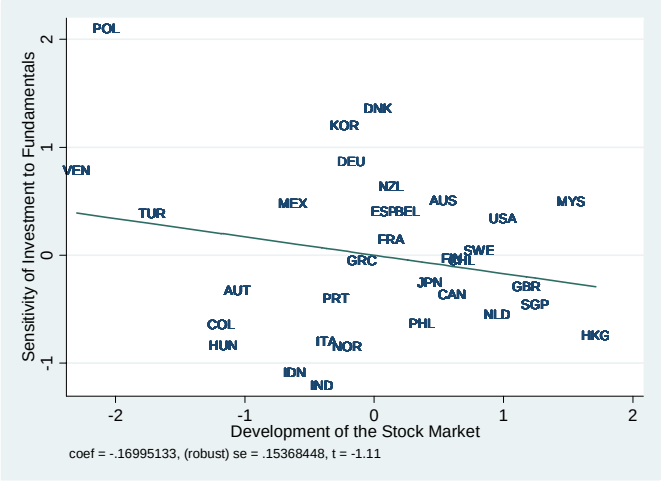


Figure 3a. Time-Series Sensitivity of Investment to Fundamentals and Stock Market Development

Entire Economy



Corporate Sector

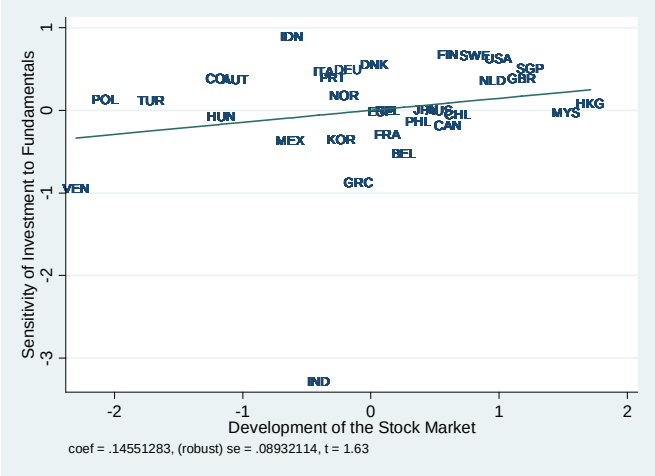
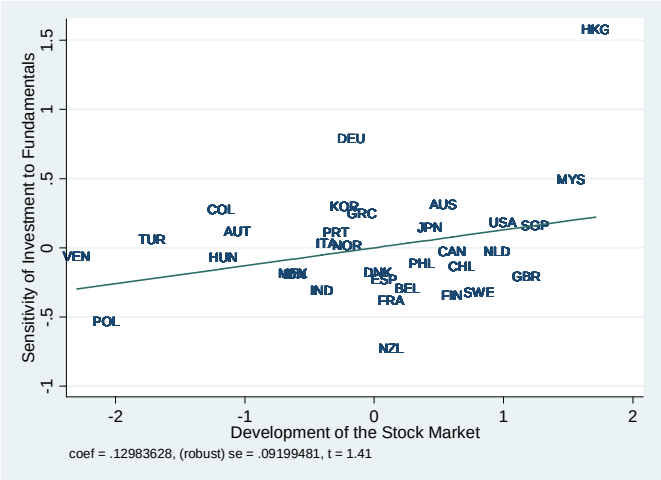


Figure 3b. Cross-Sectional Sensitivity of Investment to Fundamentals and Stock Market Development

Entire Economy



Corporate Sector