Preliminary draft
November 2006
(a revised version of this will be appearing in *The Journal of Economic Perspective*)

IS THE U.S. CAPITAL MARKET LOSING ITS COMPETITIVE EDGE?

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Abstract

In this paper I analyze the competitiveness of the U.S. equity markets by studying the recent trend in the share of global IPOs they are able to attract. I find that the U.S. equity market share has dropped dramatically from 2000 to 2005. This drop cannot be explained by changes in the geographical or the sectoral composition of IPOs. The most likely cause is a combination of an improvement in the competitors (mostly European equity markets) and an increase in the compliance costs for publicly traded companies.

* Prepared for the Committee on Capital Market Regulation. I gratefully acknowledge financial support from the Initiative on Global Financial Markets at the University of Chicago. The opinions expressed are mine and not those of the Committee. I would like to thank Jean Tobin for providing me with data on IPOs and Vincent Cannon, Ellen Ching, Pengyu He, Ferdinando Monte for excellent research assistantship.

During the 1990s the number of foreign companies listed on the NYSE increased from 100 to almost 400 (Pagano et al., 2002). Nasdaq enjoyed similar fortune, while the European exchanges, including London, lost market share. In the new millennium the trend seems reversed. Is the U.S. capital market losing its competitive edge? And if so, what are the causes? What can we do about it?

In this paper I analyze the competitiveness of the U.S. equity markets by studying the recent trend in their share of global IPOs. Global IPOs (IPOs of foreign companies that sell their shares outside their domestic market) are not interesting per se, but they are interesting as an indicator. Companies already listed in the States find it extremely costly to delist. And U.S. equity markets have a natural advantage in attracting IPOs of U.S.-based companies. Thus, the number of IPOs is more an indicator of the dynamism of the U.S. economy than an indicator of the attractiveness of its capital market. And the number of companies currently listed reflects the past competitiveness, not the current one. To analyze whether anything has changed, we need to look at the companies that are most sensitive to the cost and benefits of listing in different markets. These are the global IPOs. They represent the canary in the mine shaft.

I find that while in the late 1990s the U.S. capital market was attracting 48% of all the global IPOs, its share has dropped to 6% in 2005 and is estimated to be only 8% in 2006. Even more surprisingly, in recent years we have observed some U.S. companies choose to list in London rather than in the United States.

While this trend is too recent to be attributable to any single factor, it does not seem to be caused by a shift in the sectoral distribution of global IPOs, nor by a change in

their geographical distribution. That almost all these companies sought to be marketed in the United States suggest that the U.S. capital market retains some attractiveness. But the additional benefits derived from listing do not seem to be worth the direct and indirect costs associated with this decision.

To further explore the reasons for this change I review the main determinants of the cross listing decision as identified in the literature and I analyze how these determinants might have shifted at the turn of the century. Albeit other factors might have changed, the most salient change in the underlying determinants of cross listing is the change in regulation. As pointed out by Coates (2006), U.S. regulation might benefit foreign companies, especially from developing countries, in so much as it allows them to bond themselves to better disclosure and practices, but it also implies some cost. A cross sectional analysis of the post-Sox changes in the listing premium suggests that the cost-benefit analysis has been more favorable to companies coming from countries with poor corporate governance standards and less favorable so to countries with good corporate governance standards. This suggests that the costs of the post-2002 changes in the regulatory environment might have exceeded the benefits for U.S. companies.

1. The attractiveness of U.S. equity markets

That 24 out of 25 of the largest IPOs in 2005 took place outside of the United States has been used as the ultimate evidence that the U.S. capital market is losing attractiveness. But this conclusion might be premature. When it comes to an IPO, domestic equity markets are a natural magnet for companies. That Hong Kong attracts the Chinese IPOs or Mumbai the Indian ones is not necessarily a sign of loss of

competitiveness of the U.S. equity market. Looking at the total number of IPOs is equally misleading. As amply demonstrated in the literature (Ritter, 1984), IPOs come in waves associated with the fluctuating investment opportunities across sectors. In the early 1980s there was a flood of IPOs in oil and natural resources, in the late 1980s of biotech companies, and in the late 1990s of internet companies. That the U.S. equity market is not experiencing a phase like that is not necessarily a bad sign and definitely not a sign of its loss of competitiveness.

A better indicator of the attractiveness of an equity market is its ability to attract foreign listings. Every year several hundreds companies choose to sell their stock in markets outside their domestic ones. They do it to access a better capital market, to capitalize on their name recognition, or to commit to higher disclosure or governance practice. During the 1990s the number of foreign companies listed on the NYSE increased from 100 to almost 400 (Pagano et al., 2002). Nasdaq enjoyed similar fortune, while the European exchanges, including London, lost market share. In the new millennium the trend seems reversed.

To verify the presumed loss of competitiveness of U.S. equity market we should look at global IPOs. I define an IPO as global if a company goes public in a market other than its domestic market, regardless of whether the company was already public in the home market or not. After some low years (between 2001 and 2003) this segment of the market is booming again. In 2005 352 companies issued equity abroad for the first time, raising a total of $92 billions. Just in the first nine months of 2006 230 companies raised $86 billions, substantially above the numbers in 1999 and close to the 2000 levels.

Figure 1 reports the percentage of these global IPOs that listed in a U.S. equity market. While in 2000 one of every two dollars raised internationally was raised in the United States, in 2005 we are close to only one every 20 dollars. Similarly, during the same period the percentage of IPOs that chose to list in the United States went from 37% to 10%.

This change is so sudden and so recent that is difficult to attribute it to any individual cause. It is possible, however, to analyze and dismiss some potential explanations.

The first potential explanation is that the interest shown for the U.S. capital market during the 1990s was due to the importance of hi-tech IPOs during the last decade. Companies are naturally attracted to list their stocks in the market with the best expertise to evaluate them and thus internet and telecommunication companies are disproportionately attracted to the United States, a country at the forefront in these industries. According to this story, the attractiveness of the U.S. equity markets at the end of the 1990s was just the result of the predominance of these sectors among global IPOs during that period. As the tech bubbles subsided – this story goes - the percentage of hi-tech IPOs dropped leading to a decline in the share of global IPOs listing in the States.

There is some truth to this story. In 2000 50% of the global IPOs by value (30% by number) were in hi-tech sectors (telecommunications, computers, internet and biotech). In 2005-2006 those percentages are lass than half. But this story alone cannot explain the loss in market share experienced by U.S. equity markets. If we divide the global IPOs into hi-tech and non hi-tech, we see (Figures 2A and 2B) that the loss in

market share is present in both, albeit smaller in the hi-tech sector. Hence, the drop is not due just to differences in the sectoral composition of global IPOs over time.

Another potential explanation is that the loss in the U.S. market share is due to a change in the geographical distribution of IPOs. For Chinese companies listed in Hong Kong, London is the natural foreign market to cross list, since London and Hong Kong share the same regulation. London can be equally attractive to Indian companies, both for geographical proximity and for cultural links dating back to colonial times. Finally, thanks to its tolerance for their less than impeccable past, London has become the second home form many Russian tycoons. It would not be surprising, thus, that London could capture a greater share of Russian companies IPOs.

Even allowing all these ad hoc explanations for the loss of market share of U.S. equity markets we cannot justify the overall trend. As Figure 3 shows, even if we exclude from the pool of global IPOs those coming from those countries (and it is not obvious why we should) the loss in market share is not much less severe: from 50% to 10%.

The main beneficiary of this loss is London. Reverting more than a decade of declining market share, in the last three years London went from a market share of 5% to a market share of almost 25%. More worrying, London started to attract also U.S. domestic IPOs. Starting in 2002 a handful of U.S. companies snubbed the U.S. equity markets to list in London. In the first nine months of 2006 11 companies chose to do so, raising a total of $800 M. While this is only 3% of the amount of fund raised by U.S. IPOs in America, it is a worrying sign. If we add the IPO of closed end venture funds done by KKR and AP Alternative Assets in the Euronext market in Amsterdam 23% of all the funds raised by U.S. IPOs have been raised abroad.

This migration of IPOs away from the United States could be due to a reduction of the United States as a source of capital. After all, the strong and persistent current account deficit has made the United States a net importer of capital. Why, then, should foreign companies come here to tap the capital markets?

While the weak macroeconomic position of the United States does not help the competitiveness of its capital market, it does not seem to be the reason of the current decline in the market share of its equity market. As Figure 4 shows, 94% (by value) of the global IPOs that do not list in the United States (57% by number) still choose to market their issues in the United States. They simply choose to market it only among institutional investors (under the rule 144A), avoiding all the disclosure and compliance requirements associated with a public offering. This choice is particularly surprising given that all the studies that have found a positive benefit associated to a U.S. listing (Karolyi (2006) , Hail and Leuz (2006)) find no benefit (and sometimes a cost) associated with the 144A registration. What leads foreign companies to access the U.S. market via the back door, while not listing in any of the U.S. exchanges? To answer this question we need to understand the costs and benefits of cross listings.

2. Costs and benefits of cross-listings: How did the change?

Pagano et al. (2002) summarize the cost and benefits of cross listings in the following categories. A company can cross list to reduce its cost of capital. This reduction can be achieved thanks to the better liquidity of the foreign markets, through the enhanced visibility the foreign marker provides, through the better valuation afforded by the foreign market (because of a segmentation in international market of because of the

existence of specific expertise in the foreign market) or because the foreign market allows a company to commit (bond) to a better form of disclosure or governance practices. The other main benefit of cross listing is associated with potential product of labor market spillovers associated with the prestige of being listing in a leading stock exchange.

On the cost side, cross listing implies additional listing costs, additional disclosure costs, which are both direct (the money spent in accountants and lawyers) and indirect (the distortions forced on operations due to the disclosure requirements). Finally, cross listing exposes a company to additional liabilities.

To understand the new trend exhibited by global IPOs in the new millennium we need to explore how important these factors were during the 1990s and how they might have changed over time.

Liquidity:

The NYSE has always marketed itself as the most liquid market in the world. International comparisons (e.g., Jain, 2005) shows that the NYSE has indeed the lowest effective percentage spread (measured as twice the absolute difference between transaction prices and midpoint quoted spreads divided midpoint quoted spread) in the world. Even if we take the U.S. equity markets overall (NYSE, NASDAQ and AMEX), its total transaction costs (given by the sum of commissions and price impact of trade) is second only to Paris (Domowitz et al., 2002). Hence, liquidity has always been indicated as one of the main reason why foreign companies want to be listed in the United States. Has this U.S. comparative advantage faded over time?

Unfortunately, I am not aware of any study directly able to answer this question. Halling et al. (2006), however, analyze the location of trade volume between domestic and U.S. market for cross listed stocks over the period 1980-2001. They regress the logarithm of the ratio of trading volume in the United States to trading volume in the domestic market on a series of country and company specific controls. They also insert in their regression a series of calendar year dummies. Figure 5 reports the coefficients of these dummies relative to companies cross listed from developed countries. As Figure 5 shows in the early 1980s a greater fraction of the volume was taking place in the United States. Over time, however, this allocation has reverted. By the end of the 1990s a much larger fraction of the volume was taking place in the domestic market. Interestingly, if we look at companies cross-listed from emerging markets we do not see a similar pattern (in fact there is no pattern at all).

This evidence is consistent with the hypothesis that in the last decade or so the U.S. equity market has become relatively less attractive vis-à-vis equity markets in developed countries. This is not to say that the U.S. markets have become less competitive, but only that the markets in other developed countries have caught up fast. Electronic and globalized trading might have eroded the unique advantage of trading in New York.

Visibility:

Several recent studies provide evidence that a U.S. cross-listing increases the number of financial analysts following its stock (Baker et al., 2002; Lang et al., 2003), especially for

companies with poor investor protection (Lang et al., 2004). This greater following is associated with more accurate earnings forecasts and better valuation (Lang et al., 2003).

All these studies, however, look at the world before the reform of equity research imposed by New York General Attorney Eliot Spitzer. Many commentators (e.g., (Parker, 2005)) have conjectured that the Global Research Settlement orchestrated by Spitzer may have caused a reduction in analyst coverage. This conjecture is confirmed by a recent study by Kolasinski (2006), even if his study does not attribute the drop to the Global Research Settlement because he finds that the reduction is not more significant for IPOs (which provides heavy investment banking fees) than for regular companies.

Regardless of the cause of this reduction in the number of analysts following a stock, its existence might have severely affected the benefit of listing in the United States. If the source of the better valuation and lower cost of capital of listing in the United States was indeed the increased analysts following (as shown by Lang et al., 2003), reduced analysts following might have eroded the advantage of a U.S. listing.

Bonding:

To explain the boom in U.S. listings of foreign companies during the 1990s several authors (Coffee, 1999; Stulz, 1999) have advanced the hypothesis that listing in the United States provided a form of bonding to companies coming from market with poor institutions. Consistent with this hypothesis, companies that chose to cross list trade at a premium with respect to otherwise similar firms from the same industry and the same country. This premium, however, is not necessarily a measure of the benefit of a U.S. listing. The decision to list could be correlated with some unobservable characteristics

that make a company be more valuable to begin with (for example better growth opportunities).

An alternative measure, less subject to this criticism, is to look at changes in the cost of capital implicit in a company valuation and its earnings forecast around the listing decision. This is the method followed by Hail and Leuz (2006), who find that cross listing in a U.S. exchange reduces the cost of capital by 70 to 110 basis points. Hence, before the turn of the century, listing in the United States was providing significant benefits to companies. Even using Hail and Leuz more conservative estimates, a company with a $300M in market capitalization would save $2.7M a year in capital cost by listing in the United States.

Unfortunately, it is less clear how these benefits have changed in the last several years. The introduction of tighter disclosure requirement (Sarbanes Oxley) has certainly increased the bonding provided by a U.S. listing (Coates, 2006). But more bonding is not necessarily better. For a company from a developing country, for instance, which has to pay bribes to compete in the marketplace, a more complete disclosure can be too costly from a competitive point of view. While the possibility that Sarbanes Oxley created excessive bonding cannot be ruled out, alone cannot explain all the data. As Figure 4 shows, the drop in U.S. market share is very similar if we exclude IPOs from the more "shady" countries, where some opacity might be useful in doing business.

What can we say on the net benefits of listing in the United States post Sox? Doidge et al. (2006) have updated their analysis of the premium of cross-listed firms to 2005. They document that while fluctuating over time the premium, defined as the difference in the market to book value of assets between cross listed and non cross listed

stocks, persists even in 2003, 2004, and 2005. But more interesting than its level is its variation over time. If the sample of cross listed companies remains relatively homogenous (as it should given the paucity of new cross listings in recent years) the difference between the listing premium post 2002 and pre 2002 can give us a sense of the changes in the relative benefits of cross listings. Table 1 shows the difference between the average listing premia in the 1997-2001 and 2003-2005 periods for every country with cross listed companies in both periods.

On average the listing premium almost halves dropping by 0.19, and this difference is statistically significant at the 10% level. This result is consistent with Li (2006), who finds that cross-listed foreign private issuers experience abnormal stock returns of -10%, on average in response to the passage and implementation of the Sarbanes-Oxley Act (SOX), whereas Pink Sheets traded foreign companies, that are exempt from SOX compliance, are not affected.

As Table 1 shows, however, this drop in the premium is not homogeneous across countries. Since the costs of implementation are likely to be similar across countries, the differential response can give some insights on how the benefits of SOX may vary across countries. The benefit may vary for two reasons. One has it that the degree of regulation offered by the U.S. after SOX is excessive and so particularly harmful (from a valuation point of view) for countries with poor corporate governance (usually developing countries). Companies in developing countries, for instance, often have to pay bribes to compete. Very strict transparency standards might prevent foreign companies to pay bribes and hence to compete in their own marketplace. If this is the case, we should

observe that the listing premium drops the most for countries with the poorest corporate governance record.

Alternatively, the extra bonding offered by SOX can be beneficial but too costly. If this were the case, the companies that should suffer the most from the passage of SOX are the ones from countries with a good corporate governance record, since these companies will bear the additional cost of SOX while getting less benefit, i.e. they already have good corporate governance.

In Figure 7 I plot the changes in the listing premium against a measure of the quality of the corporate governance environment. As a measure I use the premium paid in control-based transactions as calculated by Dyck and Zingales (2004). Since the control premium captures how much private benefits insiders extract at the expense of minority shareholders, the control premium is inversely related to the quality of a country's corporate governance (at least in terms of protection of minority shareholders). As Figure 7 shows, countries with larger control premia (and hence worse corporate governance) exhibit a smaller decline in the listing premium. This correlation is statistically significant at the 5% level. We obtain similar results if we measure the quality of country corporate governance by the quality of accounting standards.

One possible interpretation of this result is that the decline is indeed a reflection of an improvement in the quality and efficiency of European markets. Since European countries tend to have better corporate governance, this might account for the observed correlation. Yet, if we insert a dummy variable for European countries we find that the result is due to the quality of governance, not to the improvement in European markets.

With all the caveats associated with the limited number of observations, these results suggest that the changes in the U.S. regulatory environment post SOX decreased the benefit of a U.S. cross-listing, particularly for countries that have good governance standards. This result is consistent with Li (2006), who finds that the abnormal returns of foreign listed companies at the time SOX was passed are generally more negative for better governed firms. It is also consistent with Hochberg et al (2006), who find that the firms most positively affected by the law as those whose insiders lobbied against the provisions of SOX and thus likely the least well governed firms.

If the loss in premium was driven by companies from developing countries, one could still argue that SOX was good for U.S. companies, but bad for the ones from developing countries. Showing that the loss is for companies from developed countries with good corporate governance suggests that SOX is likely to have more cost than benefits for most U.S. companies, which are more similar to those from well-governed countries.

Better valuation:

Practitioners often claim that one of the benefits of cross-listing is to tap additional sources of demand for one's stock. This story could be rationalized in two ways. First, if markets are segmented, listing in a foreign country does indeed increase demand for a stock. Since it is difficult to argue that capital markets were segmented in the 1990s or are segmented today, we can safely dismiss this hypothesis. The second interpretation is that there are pockets of expertise in certain countries and listing in those countries validate the quality of a stock and increases the demand for it. An Israeli internet company, for instance, in Israel may not find a lot of analysts who understand the stock.

But if it lists in the United States, where this expertise is more diffused, more analysts and potential investors will be able to evaluate it and this will increase the demand for it.

If we buy into this second interpretation it is possible that U.S. equity markets might have lost some of their luster after the high tech boom. During the boom high tech companies, which represented a larger share of the global IPOs, felt more compelled to list here. While a priori plausible, this interpretation is inconsistent with the data. As Figures 2 shows, the drop in the U.S. share of the global IPOs market is equally pronounced in high-tech and non high tech.

Product/labor market spillovers:

As Pagano et al. (2002) argue, companies might list in a foreign market to promote their brand in that market or to facilitate acquisitions in that market (if there are traded locally they can more easily use their stock as a currency in acquisitions). It is difficult to assess how important this factor is overall. Nevertheless, there is no question that the high-tech revolution and the fast rate of growth of the United States in the 1990s made this market very attractive. The situation has changed in the new century. China and India have emerged as the hot places to invest, eclipsing the U.S. appeal. While it is difficult to quantify how important this factor was in reducing foreign listing, it might have played a role.

Listing costs:

The NYSE has significantly higher listing costs that its competitors. A recent study (see Tables 2) conducted by the London Stock Exchange (Oxera, 2006) finds that a typical £100M ($187M) company will pay £45,390 ($84,880) to list on the LSE (equal to 0.05% of its value) and £81,900 ($153,150) to list on the NYSE (equal to 0.08%). Annual fees

are also more expensive: £19,110 ($35,735) in New York versus £4,029 ($7,534) in London.

The absolute magnitude of these costs, however, is trivial and it is difficult to imagine that they would play any significant role in the decision to list in New York versus London. If it is true, as Hail and Leuz (2006) seem to indicate, that a company could reduce its cost of capital by 90 basis points, what are 2 extra basis points of cost?

Another competitive disadvantage of New York, which is often mentioned, is the higher underwriting fee companies have to pay to list there. The same study mentioned above summarizes the underwriting fees generally charged to domestic and foreign IPOs (Table 2c). The gross spread in New York (5.6%) is 60% higher than the gross spread to list on the LSE (3.5%). While these magnitudes seem more important, they are unlikely to drive the decision to list in different places.

First, all U.S. IPOs are sold with an extensive bookbuilding, which helps improve the price at which a stock is sold. In other countries the bookbuilding is not done at all or is done in a less extensive way. Hence, differences in price do not adjust for differences in quality. Second, most of the firms that cross list do not do an IPO in the United States, because they are already public in their own country. Most of the time they only do a seasoned equity offering, which has a much smaller cost. Third, even when they do an IPO they rarely sell more than 10-15% of the equity in the initial offering. Hence, the 2.1% difference in spread between New York and London is only paid on a 10-15% of the equity, reducing the cost differential to a one-time fee of 20 basis points, which could hardly be determinant in affecting their decisions. Last but not least, this difference in cost was present also in the 1990s when companies were flocking to list in the United

States. Hence, by itself it cannot explain the significant drop in the U.S. share of global IPOs.

Disclosure costs:

The most visible change occurring after year 2000 has been the introduction of the Sarbanes Oxley legislation (SOX). Passed in 2002 as a response to the Enron and WorldCom scandals, SOX includes, among its provisions, enhanced disclosure and compliance requirements. The most controversial one is the now infamous Section 404, under which management is required to produce an "internal control report." This report must affirm "the responsibility of management for establishing and maintaining an adequate internal control structure and procedures for financial reporting." The report must also "contain an assessment, as of the end of the most recent fiscal year of the company, of the effectiveness of the internal control structure and procedures of the issuer for financial reporting."

The estimates of the cost associated with SOX 404 compliance have varied widely. As PCAOB member Niemeier has stated, the first year figures are likely to greatly overestimate the actual average cost, given the high up-front fee involved in starting the process of certification and the significant effect of learning by doing.

In spite of the size of its costs and the attention they have generated, it is difficult to assert that they can be the sole cause of the loss of attractiveness of the U.S. equity market. In Table 3 I try to compare the compliance costs of listing in a U.S. market after SOX with its estimated benefits. The cost of compliance are obtained from a study of responses from 147 public companies and of the 2005 annual meeting proxy statements of more than 700 public companies, done by the law firm Foley & Lardner. The benefit is

based on Hail and Leuz (2006) cost of capital benefit of listing in the United States, which they estimate to be 90 basis points.

For an S&P small cap firm (on average 750M in equity capitalization), the estimated direct costs of compliance are about $1M. The estimated loss in productivity due to compliance requirement is estimated to be $1.1M, for a total of $2.1M per year (assuming no learning by doing). On the benefit size, a $750M company will reap annual benefits equal to $6.75M, thanks to the reduced cost of capital. Hence, even for small cap companies the benefits of listing exceed the cost.

Even assuming that the compliance costs are totally fixed for companies below $1B, listing in a U.S. equity market is economically convenient for any company above $230M in market capitalization. The average Global IPO that did not list in the United States in the last few years has a market capitalization of about $387M. Hence, the compliance costs cannot explain the choice of the average Global IPO not to list in the United States unless the benefits have also dropped significantly.

Exposure to liability:

When a foreign company sells securities to U.S. retail investors it exposes itself to the possibility of class action suits, in particular to security class action. This is probably the cost of a U.S. listing that is most difficult to quantify. Being very idiosyncratic, the risk of a class action suit does not impact the cost of capital, but the future expected cashflow. Hence, Hail and Leuz (2006) estimates of the cost of capital benefits of listing in the United States are gross of this potential cost.

The risk of a legal suit is not a new phenomenon. It was also present in the 1990s, when companies were rushing to list on the NYSE. What has changed? There are several

reasons why the perception of this risk has increased dramatically in the last five years. First, the total value of settlement in securities class action lawsuits has continued to increase from $150 million in 1997 to $9.7 billion in 2005. Second, the size of the biggest awards has skyrocketed, as a result of the major corporate scandals. Third, Spitzer's aggressiveness and highly innovative approach to pursue corporate scandals have increased the potential risk of a suit. Last but not least, in a few (but highly visible cases like Enron) directors had to contribute to the settlement out of their own pockets (above and beyond what was covered by the director liability insurance). This generates an interesting agency problem. Even if cross listing in the United States increases shareholders' value, is it in the interest of a company's directors, who reap only a very tiny fraction of the shareholders gain, but face significant personal costs?

The importance of legal liability in the decline of the U.S. share of global IPOs is consistent with the huge increase of 144A registrations. Almost all Global IPOs that do not list in the States market their stocks in the States under the 144A. Why? The most likely explanation is to avoid the legal liability.

Has the world changed?

An alternative story is that nothing has changed on the relative attractiveness of U.S. equity market. The decline in the U.S. share of global IPOs might simply reflect a change in the supply of IPOs. If the current pool of IPOs were made of companies that are intrinsically shadier, it would not only be expected, but also reassuring that most of them desert the U.S. market, preferring to list in countries with weaker governance

standards. After all, this is the main reason why regulation exists in the first place: to keep bad companies away.

While it is hard to dismiss completely this explanation, it is unlikely to be the answer. The major change in the composition of IPOs has been the rise of importance of China, Russia, and India. But, as we have already discussed, the loss in the U.S. market share persists even if we exclude from the sample companies from these countries.

3. Should we care?

One possible reaction to the U.S. loss of market share in international listings is that this is exactly what regulation was designed to achieve. One of the main purposes of regulation is to keep out of the public markets bad firms, firms that are likely to commit fraud and fail, undermining public confidence in the market as a whole. Unfortunately, the dramatic drop in the U.S. share of international listings cannot be easily dismissed as the benign effect of regulation. As Figure 6 shows, the loss is even more severe when we restrict our attention to Global IPOs from developed countries (Old Europe, Australia, Canada, Japan, and New Zealand), where bad apples are less likely to be present.

Another possible reaction is to dismiss this loss in market share as a non issue. In 2000 100 foreign companies were listing in the States, raising $55 billion in capital. Last year only 34 foreign companies listed here, raising only $5 billion in capital. Does this matter for the U.S. economy?

The direct impact is small, albeit not trivial. A loss of $50 billion in fund raising implies a loss of at least $2.8 billions in underwriting fees and an annual loss of $3.3

billions in trading revenues.[1] Since IPOs are very likely to raise more equity in subsequent years, we can estimate an additional loss in revenues of roughly a billion dollars.[2] In addition to this loss in revenues, which implies a correspondent loss in jobs, there will be fewer jobs for analysts following these stocks.[3]

This relatively benign view of the problem ignores the fact that the attractiveness of a stock market to Global IPOs represents a good indicator of the competitiveness and efficiency of that equity market in general. Companies that cross list are the most sensitive ones to the costs and benefits of listing and are likely to respond immediately to any change in them. By contrast, in the short term there are several factors that prevent an equity market from feeling the full consequences of its lack of competitiveness. IPOs tend to list in the country where their business is located, even if this is not the most competitive market. In addition, foreign companies that are already listed in the United States find it very costly to delist, since delisting does not eliminate their need for reporting in the States unless they go below the threshold of 300 U.S. investors. Even if they become uncompetitive, thus, the U.S. equity markets are not at risk of losing a significant fraction of their listings any time soon. Rather than helping, however, these natural suspensions delay a prompt response, letting the problem grow to a point where it is very difficult to address. In the meantime, the damage created to the economy can be substantial. For this reason, the sign embedded in foreign companies' decisions to desert

[1] These figures have been obtained in the following way. For underwriting fees we use the Oxera (2006) estimate of 5.6% of the funds raised. For trading fees we assume that on average the amount raised is 15% of a company market capitalization. This estimates a loss of total listing equal to 333 billions. Assuming an annual turnover of 100% and a trading commission of 1% we arrive to the amount of $3.3 billions.

[2] This is calculated assuming that new listed companies raise a similar amount of funds in seasoned equity offerings in the three following the IPO. Since the underwriting fee for SEOs is smaller, we assume a 2% underwriting fee.

[3] By using Lang et al. (2002) estimate we can estimate that there will be 198 fewer analysts employed following these stocks.

the U.S. equity markets cannot be ignored. It is a sign that the U.S. equity markets have become less competitive and something should be done before the economy will suffer the consequences.

But what can be done? We cannot alter the attractiveness of our competitors, but we can definitely work to make the U.S. equity market more attractive. When the competitive advantage of the U.S. equity market was very large, no regulation, not matter how expensive, could discourage companies from listing here. But today, this is not true any more. To make the U.S. capital market more competitive we need more cost-effective regulation. This does not necessarily mean less regulation. One of the reasons why listing in the United States carried a premium (at least until few years ago) is because investors appreciated the degree of bonding offered by U.S. institutions. This bonding, however, has costs as well. Regulation needs to trade off these costs and benefits.

As I suggested in Zingales (2004), one possible way to address this problem is to create a Regulation Oversight Board (ROB) with two tasks: when new regulation is proposed, it should assess the cost of compliance, the estimated benefits, and the potential deadweight cost. Then, a few years after a new regulation has been imposed, it should re-estimate these numbers on the basis of the available evidence. While this is agency is unlikely to be a panacea, it can reduce help make U.S. regulation more cost-effective.

4. Conclusions

The U.S. loss of market share in Global IPOs cannot be easily attributed to one single factor. Even the significant increase in compliance costs generated by SOX cannot

by itself explain the dramatic drop in foreign listings. It is probably the concurrent action of multiple factors that generated this drop. These factors are: the reduced liquidity advantage of the U.S. equity market vis-à-vis developed equity market, the reduced analysts following in the United States, the reduced attractiveness of the U.S. market as a market where to invest and grow, the increased cost of compliance, and the significant increase in the liability risk, especially as perceived by the directors.

These conclusions are confirmed by a small survey done by Ernst & Young on the CEOs and CFOs of 20 of the 42 U.S. companies that chose to list their stock on London's AIM. The most cited main driver of their choice (30% of the cases) is access to institutional investors. Only 20% cites Sarbanes Oxley. In fact, 40% of these companies are either Sox compliant now or are working to become so in the near future. Another 15% cite cost and 5% better analysts following. Hence, not single reason dominates. But many factors together conspire in making the U.S. capital market less attractive.

Most of these factors are outside of U.S. control. This is not necessarily a reason for inaction. To the contrary, it is a reason to intervene more aggressively in the only areas where we can intervene: excessive regulation and overly burdensome litigation risk.

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FIGURE 1: Share of Global IPOs captured by US exchanges

% of global IPOs listed in a U.S. exchange (NYSE, NASDAQ, AMEX). An IPO is defined as global if a company goes public in a market other than its domestic market, regardless of whether the company was already public in the home market or not. The source of the data is Dealogic.

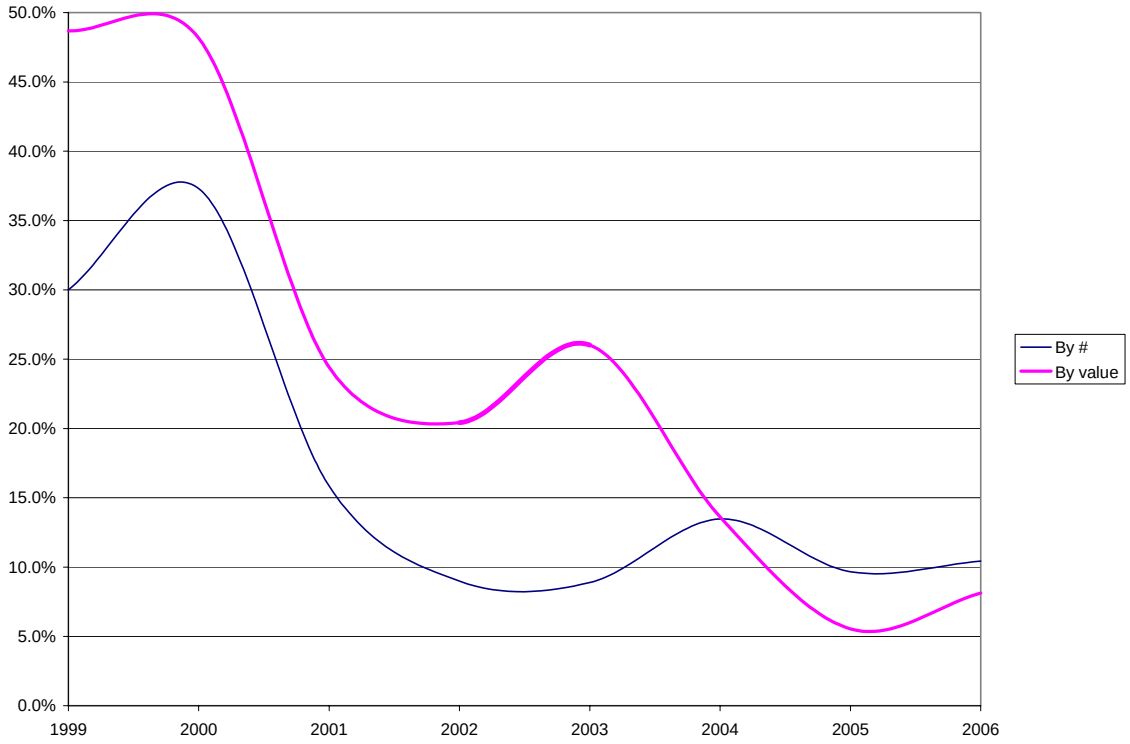
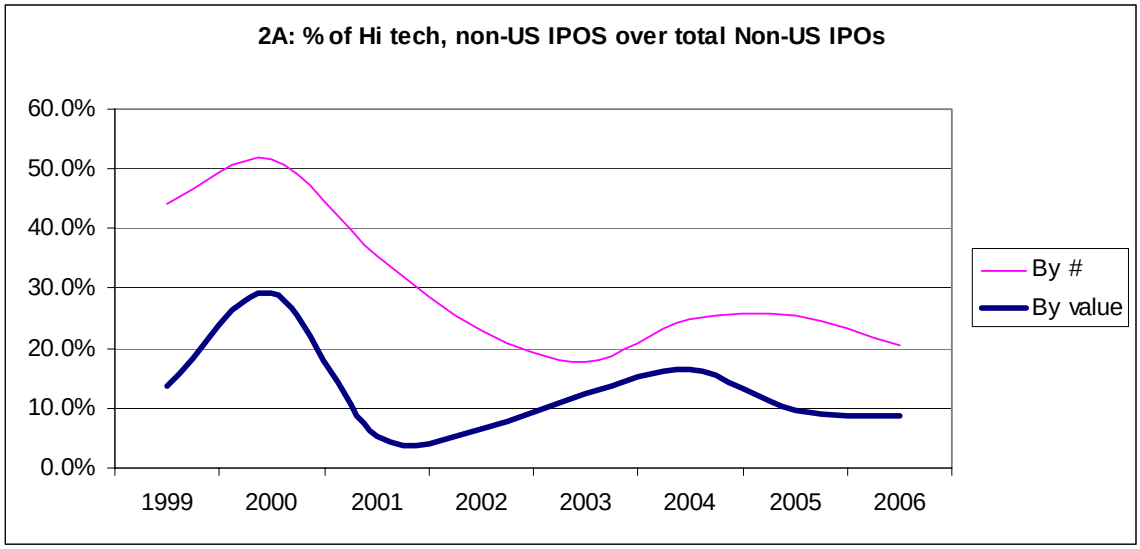


FIGURE 2: Share of Global IPOs captured by US exchanges in hi-tech and low-tech sectors.

% of global IPOs listed in a U.S. exchange (NYSE, NASDAQ, AMEX) in hi-tech and low-tech sectors An IPO is defined as global if a company goes public in a market other than its domestic market, regardless of whether the company was already public in the home market or not. The list of hi-tech and low-tech sectors is provided in the appendix. The source of the data is Dealogic.



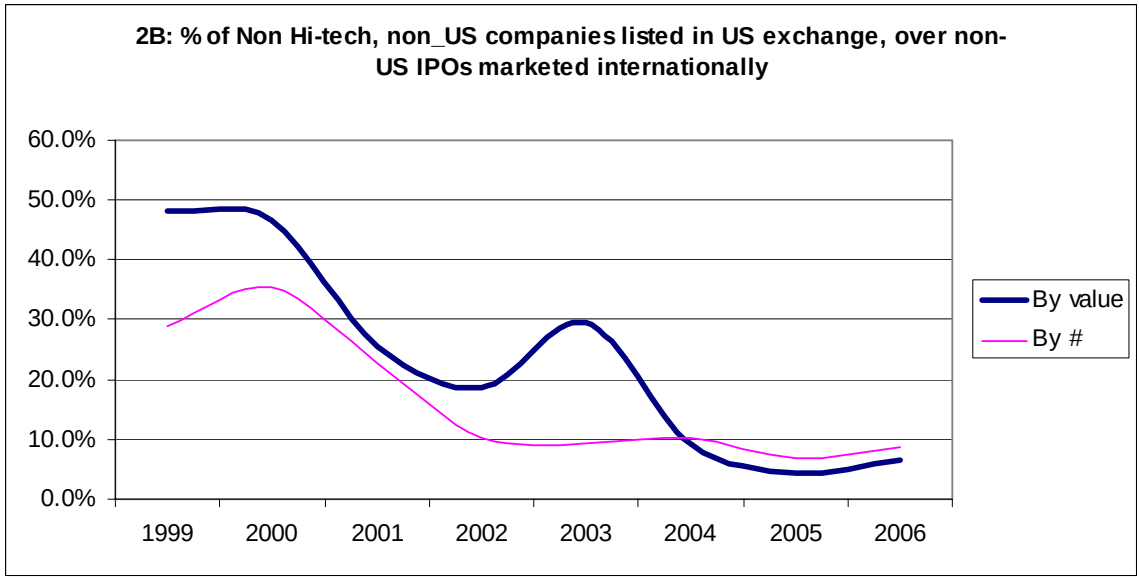


FIGURE 3: Share of Global IPOs captured by US exchanges US excluding IPOs from China, India, and Russia

% of global IPOs excluding those coming from India, China and Russia that listed in a U.S. exchange (NYSE, NASDAQ, AMEX) An IPO is defined as global if a company goes public in a market other than its domestic market, regardless of whether the company was already public in the home market or not. The source of the data is Dealogic.

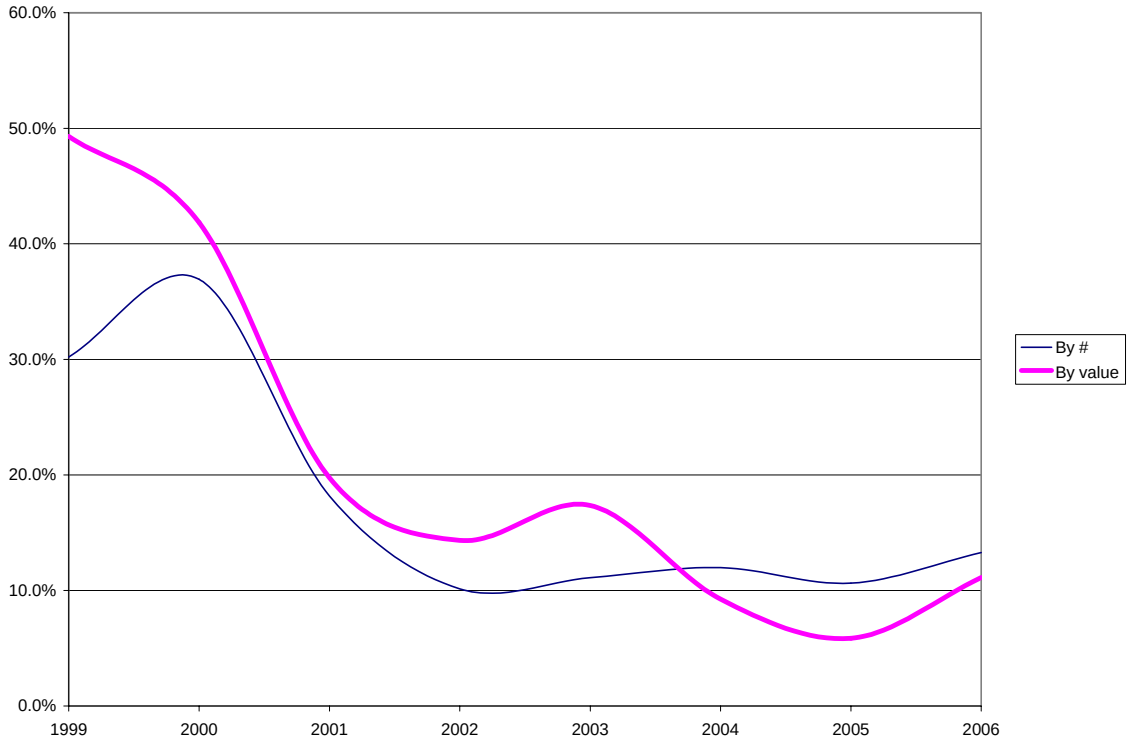


FIGURE 4: Share of Global IPOs not listed in US exchanges that market their stock in the United States under 144A rule.

% of global IPOs not listed in a U.S. exchange (NYSE, NASDAQ, AMEX) that market their stock in the United States under 144A rule. An IPO is defined as global if a company goes public in a market other than its domestic market, regardless of whether the company was already public in the home market or not. The source of the data is Dealogic.

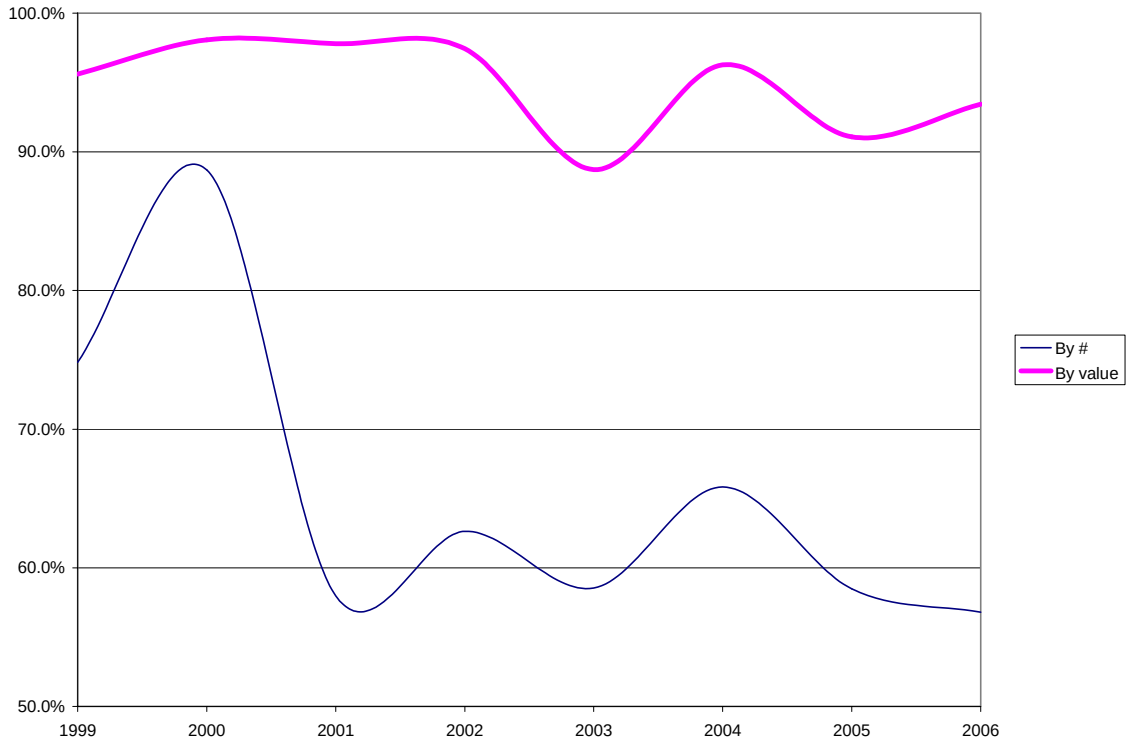


FIGURE 5: Relative attractiveness of trading in the United States vs. trading in the domestic market

This figures report the value of the time dummies in a regression whose dependent variable is the log of the ratio of trading volume in the United States to domestic trading volume for companies cross listed. Explanatory variables are insider trading law enforcement, investor protection, the time elapsed since cross-listing, geographical distance, asset growth, volatility and the Baruch-Karolyi-Lemmon incremental information measure. The base year in these specifications is 1980, and the base region is Australia and Asia. The regressions are estimated with random effects and a correction for AR(1) disturbances on a panel of monthly data. The results are from Halling et al. (2006) who kindly provided this information not contained in their paper.

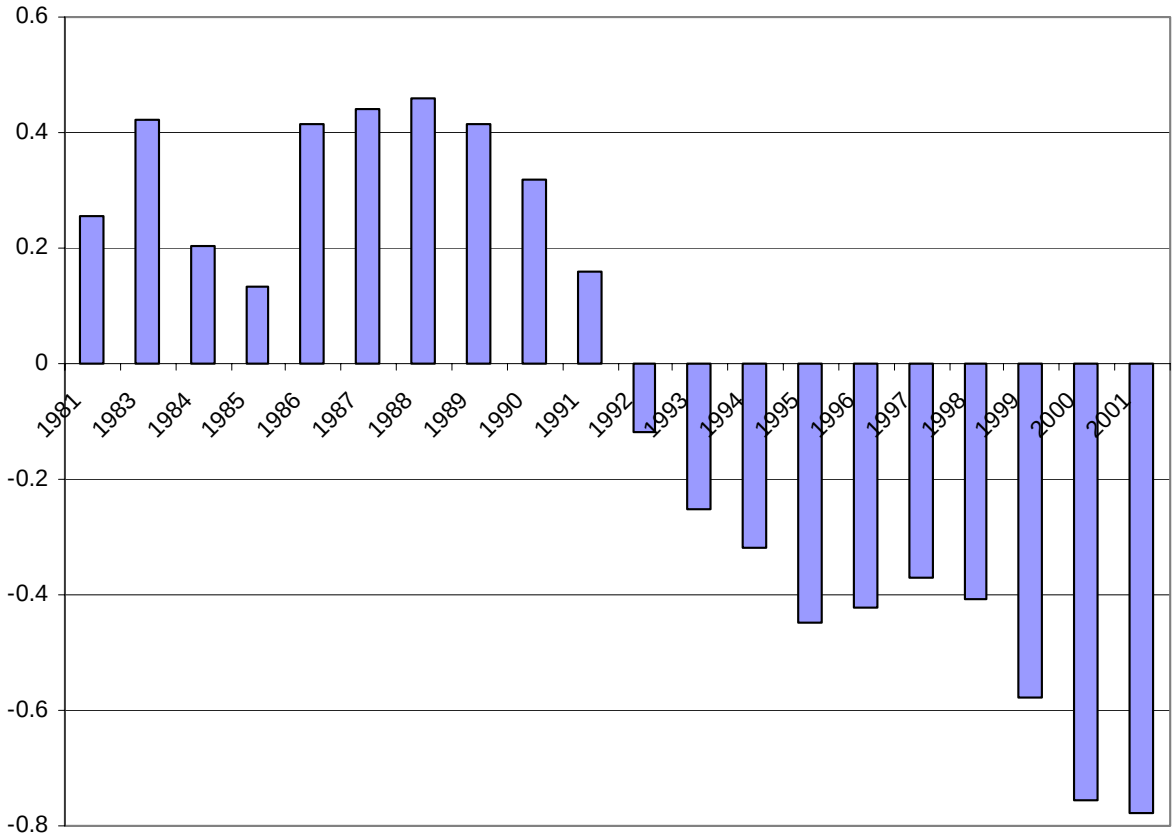


FIGURE 6: Share of Global IPOs from highly developed countries captured by US exchanges

% of global IPOs coming from highly developed countries (Old Europe + Australia, Canada, Japan, and New Zealand) listed in a U.S. exchange (NYSE, NASDAQ, AMEX). An IPO is defined as global if a company goes public in a market other than its domestic market, regardless of whether the company was already public in the home market or not. The source of the data is Dealogic.

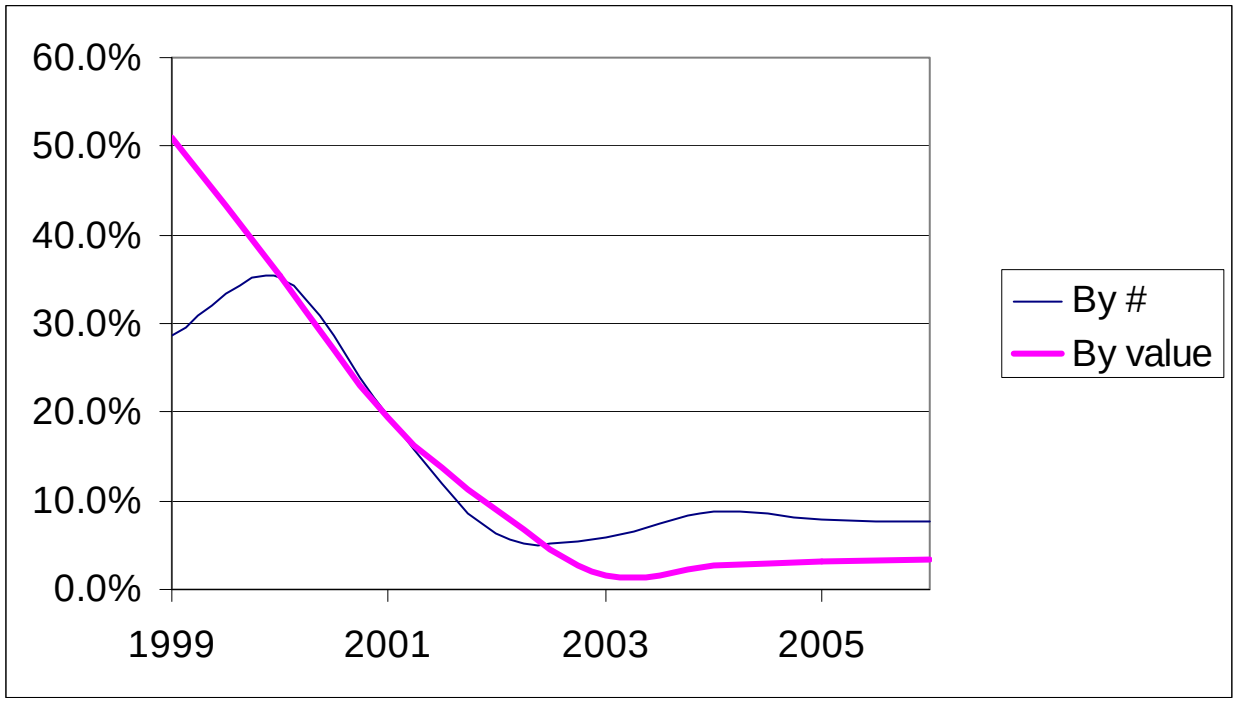


Figure 7

This figure plots the country average decline in the listing premium between the 2003-2005 period and the 1997-2001 on the country average premium in control block transactions, which is a measure of the quality of a country corporate governance (higher premium lower quality). The listing premia (from Doidge et al. (2006)) are the differences in the market to book value of assets between cross listed and non cross listed stocks. I compute the difference between the average listing premium between the 2003-2005 period and the average in the 1997-2001 period. The control premium is from Dyck and Zingales (2004) and represents the control premium paid when a large block is sold. The interpolated line shows the predicated values of a linear regression of the changes in the listing premia on the control premia.

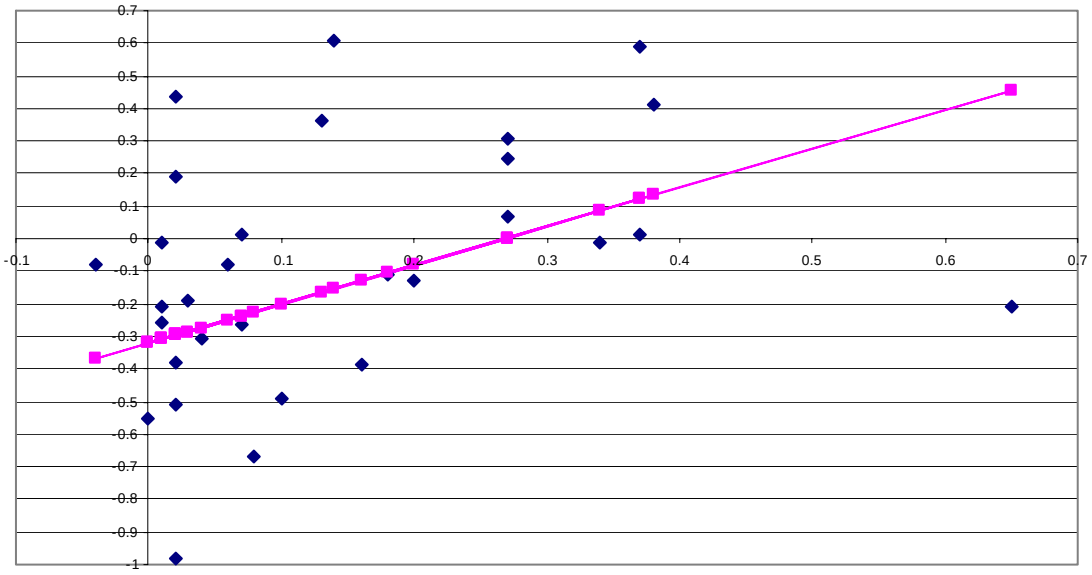


Table 1

This table reports the country average decline in the listing premium before and after 2002. The listing premia (from Doidge et al. (2006)) are the differences in the market to book value of assets between cross listed and non cross listed stocks. I compute the difference between the average listing premium between the 2003-2005 period and the average in the 1997-2001 period.

Country	Difference in the premia
India	-3.48
Taiwan	-1.33
Singapore	-1.23
Finland	-0.98
Hungary	-0.84
Ireland	-0.71
Denmark	-0.67
Hong Kong	-0.55
France	-0.51
Germany	-0.49
South Korea	-0.39
Netherlands	-0.38
Spain	-0.31
Sweden	-0.26
United Kingdon	-0.26
Brazil	-0.21
Canada	-0.21
New Zealand	-0.19
Portugal	-0.13
Chile	-0.11
Japan	-0.08
Switzerland	-0.08
Norway	-0.01
Mexico	-0.01
Indonesia	0.01
Italy	0.02
Israel	0.07
Russia	0.12
Australia	0.19
Argentina	0.25
Venezuela	0.31
Philippines	0.36
Austria	0.41
South Africa	0.44
Belgium	0.45
Luxembourg	0.52
Greece	0.52
Turkey	0.59
Peru	0.61
China	0.72

TABLE 2: Cost and benefits of listing at different dimensional sizes

The cost of compliance are obtained from a study of responses from 147 public companies and of the 2005 annual meeting proxy statements of more than 700 public companies, done by the law firm Foley & Lardner. The benefit is based on the estimated using the Hail and Leuz (2006) cost of capital benefit of listing in the United States (90 basis points).

	S& P Small Cap	Midcap	S&P 500
Average market cap. (in billions)	0.75	6	24
Audit Fees	1	2.2	7.4
Lost productivity	1.1	2.9	2.9
Total audit cost (in millions)	**2.1**	**5.1**	**10.3**
Total benefit (in millions)	**6.75**	**54**	**216**
Net benefit (in millions)	**4.65**	**48.9**	**205.7**

Table 3: Listing Costs

All these tables are from Oxera, "The Cost of Capital An International Comparison (2006).

Table 3A: Admission fees for different exchanges, 2005

	Market capitalisation of £100m		Market capitalisation of £500m	
	(£)	% of value	(£)	% of value
LSE Main Market	45,390	0.05	115,023	0.02
LSE Aim	4,180	0.00	4,180	0.00
NYSE[1]	81,900	0.08	104,887	0.02
Nasdaq National[1]	54,600	0.05	81,900	0.02
Nasdaq Small Cap[1]	51,870	0.05	27,300	0.01
Euronext	56,512	0.06	200,912	0.04
Deutsche Boerse	3,440	0.00	3,440	0.00

Notes: The table documents only initial fees that are classified by exchanges as 'admission fees'. In some instances, exchanges, or the competent authorities, charge additional fees (e.g., vetting and introduction fees). [1] The admission fee on NYSE and Nasdaq is calculated with reference to the number of shares outstanding; for the purpose of this illustration, a median level of share prices observed on the NYSE (c. £14) and Nasdaq (c. £7) is assumed to enable estimation of admission fees.
Source: Oxera calculations based on information available from the exchanges.

Table 3B: Annual fees for different exchanges, 2005

	Market capitalisation of £100m		Market capitalisation of £500m		Market capitalisation of £10 billion	
	(£)	% of value	(£)	% of value	(£)	% of value
LSE Main Market	4,029	0.00	8,235	0.00	34,515	0.00
LSE AIM	4,180	0.00	4,180	0.00	n/a	0.00
NYSE[1]	19,110	0.02	19,110	0.00	273,000	0.00
Nasdaq National[1]	16,653	0.02	24,297	0.00	40,950	0.00
Nasdaq Small Cap[1]	11,466	0.01	11,466	0.00	n/a	0.00
Euronext	2,752	0.00	8,256	0.00	13,760	0.00
Deutsche Boerse	5,160	0.01	5,160	0.00	5,160	0.00

Notes: [1] The annual fee on NYSE, Nasdaq and Euronext is calculated with reference to the number of shares outstanding; for the purpose of this illustration, a median level of share prices observed on the NYSE (c. £14), Nasdaq (c. £7) and Euronext (c £27) is assumed in order to allow estimation of annual fees.
Source: Oxera calculations based on information available from the exchanges.

Table 3C: Underwriting fees for domestic and foreign IPOs

	Domestic companies		Foreign companies	
	Sample size	Gross spread (%)	Sample size	Gross spread (%)
UK—Main Market	28	3.3	5	3.5
UK—AIM	43	3.5	8	4.9
USA—NYSE	74	6.5	14	5.6
USA—Nasdaq	192	7.0	28	7.0
Euronext	7	1.8	–	–
Deutsche Boerse	6	3.0	–	–

Notes: No data was available for foreign IPOs on Euronext and Deutsche Boerse. On Euronext, foreign IPOs include IPOs by companies outside France, the Netherlands, Belgium and Portugal. Median values of gross spreads are reported.
Source: Oxera calculations based on Bloomberg.

Appendix

List of Hi-Tech sectors

Aerospace-Aircraft
Computers & Electronics
Computers & Electronics-Components
Computers & Electronics-Mainframes
Computers & Electronics-Measuring Devices
Computers & Electronics-Memory Devices
Computers & Electronics-Miscellaneous
Computers & Electronics-Networks
Computers & Electronics-PCs
Computers & Electronics-Peripherals
Computers & Electronics-Semicond Capital Equipment
Computers & Electronics-Semiconductors
Computers & Electronics-Services
Computers & Electronics-Software
Healthcare-Biomed/Genetics
Healthcare-Drugs/Pharmaceuticals
Healthcare-Instruments
Healthcare-Medical/Analytical Systems
Telecommunications-Equipment