Faculty of Law

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Dpt. International Business Law

Cross-listing in the 21st century

"Benefits of ADR-listings: an ending story?"

Dissertation

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INTRODUCTION

Cross-listing is often referred to as *"the strategy of parallel listing on both domestic and foreign stock exchanges"*.[1] Research shows that over the last three decades an increasing number of companies from both developed and emerging markets have been cross-listing abroad.[2] However, as Lasfer states, *"cross-listing is controversial and raises a number of academic and practitioner questions, particularly: Why and how does a firm cross-list, and does cross-listing create additional value for the existing stockholders?"*[3] Moreover, the pace of international cross-listings around the world has decelerated during the last few years. This deceleration, however, is *"coincident with a combination of global macroeconomic, political, regulatory and institutional factors, so it is difficult to assess what factors caused this outcome"*.[4]

Research shows that at the end of the last decade, many large European companies, *"including household names such as Ahold, Air France, Bayer, British Airways, Danone, and Fiat terminated their cross-listings on stock exchanges in the United States as the requirements for deregistering from U.S. markets became less stringent."*[5] Furthermore, there has been a significant slowdown in the pace of new international cross-listings.[6] At the end of 2011, the number of internationally cross-listed stocks had retreated to 2,289 from its 1997 high of 4,700, which is a decline of over 50%.[7] Some scholars claim that these moves represent the acceleration of an existing trend. Moreover, they claim that these numbers are caused by the fact that nowadays *"cross-listing brings few gains and significant costs"*.[8]

The aforementioned goes against the conventional wisdom that has long held that *"companies cross-listing their shares in the United States buy access to more investors, greater liquidity, a higher share*

[1] M. Lasfer, "Acquiring a Secondary Listing, or Cross-Listing", Q-Finance, 1.
[2] G.A. Karolyi, "The World of Cross-Listing and Cross-Listings of the World: Challenging Conventional Wisdom", Department of Finance, Fisher College of Business, The Ohio State University, 2004.
[3] *Ibid.*
[4] G.A. Karolyi, "The World of Cross-Listing and Cross-Listings of the World: Challenging Conventional Wisdom", Department of Finance, Fisher College of Business, The Ohio State University, 2004, 8.
[5] R. Dobbs and M.H. Goedhart, "Why cross-listing doesn't create value", McKinsey & Company, McKinsey on Finance, 2008, 1.
[6] G.A. Karolyi, "The World of Cross-Listing and Cross-Listings of the World: Challenging Conventional Wisdom", Department of Finance, Fisher College of Business, The Ohio State University, 2004, 8.
[7] See Figure 1 Annex Chapter I ; G.A. Karolyi, "The World of Cross-Listing and Cross-Listings of the World: Challenging Conventional Wisdom", Department of Finance, Fisher College of Business, The Ohio State University, 2004.
[8] R. Dobbs and M.H. Goedhart, "Why cross-listing doesn't create value", McKinsey & Company, McKinsey on Finance, 2008, 1.

price, and a lower cost of capital".[9] In the 1980s and 1990s, a vast amount of companies from around the world cross-listed on exchanges abroad. Yet according to some, this strategy no longer appears to make sense.[10] Furthermore, in comparison with the past – *"capital markets from all over the world have become more liquid and integrated and investors more global"*.[11] Hence, one could wonder if *"the United States is still the dominant destination for cross-listings".*[12]

In this thesis, the different types of DRs available worldwide, the reasons why companies list abroad (by contrasting the advantages and disadvantages of raising equity capital in foreign markets), and the cross-listing process will be briefly discussed. Furthermore, an overview of the different cross-listing theories and the empirical studies bunking or debunking them will be given. This is a very interesting topic as there are different opinions and empirical results in this field of study. Some proclaim that cross-listing has never been as beneficial as some studies have argued in the past. According to them, the positive effects of cross-listing have always been overestimated, however, others think it is still beneficial for companies to cross-list their shares. A middle-ground view states that cross-listing has been effective in the past, but has lost a major part of its positive effects during the last decade, especially cross-listings on the American market. This ongoing uncertainty makes it an interesting field of study, with yet a lot of unanswered questions. Not only does it seem interesting to evaluate the existing evidence derived from empirical studies to assess the current state and characteristics of cross-listing, it also seems opportune to contribute to the literature by executing an empirical study focused on data from the 21st century.

In Chapter I, the different types of Depository Receipts will be discussed. Chapter II discusses the incentives for companies to list abroad. Furthermore, in Chapter III, an overview is given of the different cross-listing theories and supporting empirical studies. In Chapter IV, recent research, which investigates the value creation of cross-listings, is discussed more into detail. In Chapter V, the question is asked if the U.S. market has lost its competitive edge. And finally, in Chapter VI, I contribute to the cross-listing literature by executing an empirical study focused on data from the 21st century.

[9] G.A. Karolyi, "The World of Cross-Listing and Cross-Listings of the World: Challenging Conventional Wisdom", Department of Finance, Fisher College of Business, The Ohio State University, 2004, 8.
[10] R. Dobbs and M.H. Goedhart, "Why cross-listing doesn't create value", McKinsey & Company, McKinsey on Finance, 2008, 1.
[11] *Ibid.*
[12] N. Cetorelli and S. Peristiani, "Firm Value and Cross-Listings: The Impact of Stock Market Prestige", Federal Reserve Bank of New York, Staff reports, 2010, 1.

Acknowledgments

First of all, I would like to thank Professor McCahery for inspiring me with his lectures on U.S. security regulations to choose this topic. I'm also grateful to Rob Grim for giving me access and introducing me to the WRDS database. I would also like to thank family, friends and classmates who supported me during the painstaking process of data collection and data processing, which without their support would not have been possible to realize.

I. DEPOSITORY RECEIPTS

i. American Depository Receipts

§1. Introduction

American Depository Receipts (ADRs) were first created "*in 1927 by J.P. Morgan, to make it easier for Americans to invest in the British retailer Selfridge"*.[13] ADRs are *"certificates which represent the shares of a foreign company, but are listed on American stock exchanges or are traded over-the-counter"*. As Christy states, *"this makes it easier for Americans to invest in foreign companies without worrying about currency exchange rates, foreign stock exchange rules, and foreign languages."* Moreover, the price information is more readily available and the transaction costs are lower.[14] Hence, nowadays, non-U.S. companies have several choices if they want to be listed on the U.S. market. For example, they can cross-list on the U.S. market via a direct listing or via American Depository receipts.

Research shows that contrary to other types of U.S. cross listings (e.g. direct listing), *"ADRs attract firms that originate from a wide array of developed and developing countries"*.[15] ADRs are defined as *"dollar denominated negotiable certificates that represent a non-U.S. company's publicly traded equity or debt."* Each of the issued ADRs *"represent a fraction or a multiple of the underlying shares held in custody in the foreign firm's home market, which is called the ratio"*. As a consequence, *"one ADR certificate may represent 1 or more shares of the foreign stock or only a fraction if the stock price on the home market is high, thus as to give the ADR an initial moderate price"*.[16] ADRs can be sponsored or unsponsored. On the one hand, sponsored ADR's are issued with the agreement and approval of the underlying firm. On the other hand, an unsponsored ADR is issued in accordance with the market demand and without the agreement of the underlying firm. However, since 1980, *"new ADR programs who list on major U.S. exchanges must be sponsored"*.[17]

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[13] J. Christy, "About ADRs – Understanding American Depository Receipts. What is an ADR?" (*to be consulted on:* http://internationalinvest.about.com/od/investinginadrs/a/whatisadr.htm).
[14] *Ibid.*
[15] A. Samet, "ADR Listings and the Financing Decisions of Foreign Firms", Service de l'Enseignment de la Finance, HEC Montréal, Thèse présentée en vue de l'obention du grade de Philosophie, 2009, 5.
[16] J. Christy, "About ADRs – Understanding American Depository Receipts. What is an ADR?" (*to be consulted on:* http://internationalinvest.about.com/od/investinginadrs/a/whatisadr.htm).
[17] A. Samet, "ADR Listings and the Financing Decisions of Foreign Firms", Service de l'Enseignment de la Finance, HEC Montréal, Thèse présentée en vue de l'obention du grade de Philosophie, 2009, 5.

§2. Types of American Depository Receipts

Four types of ADRs exist: Level I, Level II, Level III, and Rule 144A. Whilst, level I ADRs are traded Over-The-Counter and Rule 144A ADRs are initially sold as a private placement and traded through Automated Linkages (PORTAL) among Qualified Institutional Buyers (QIBs), Level II and Level III ADRs can be traded on the New York Stock Exchange (NYSE), the National Association of Securities Dealers Automated Quotation System (NASDAQ), or the American Stock Exchange (AMEX). Hence, Levels II and III ADRs are listed programs, whereas Level I and Rule 144A are unlisted programs.[18]

As stated by Samet, *"the aforementioned types of ADRs have different characteristics and features that involve different costs and benefits*". First of all, only Level III and Rule 144A allow foreign firms to raise equity capital on U.S. markets. Level III programs tap public investors and Rule 144A programs aim at QIB, which are institutional investors.[19] Secondly, with regard to disclosure standards, Level I and Rule 144A require only home markets' reconciliation, whilst, Level III and Level II programs mandate full and partial reconciliation with the U.S. Generally Accepted Accounting principles (GAAP).[20] Thirdly, what concerns U.S. reporting standards, only levels II and III ADRs are required to file a form 20-F, while Level I and Rule 144A are exempt from filing this form. A form 20-F has to contain a wide variety of information such as the names of major shareholders and related party transactions along with financial information in accordance with U.S. GAAP. Finally, the Sarbanes Oxley act (SOX) in 2002 introduced more stringent and costly corporate governance requirements for the firms listed on major U.S. exchanges, which, according to Samet, *"increases the burden of listing for Level II and III ADR firms"*.[21]

§3. How are ADRs created?

Unsponsored ADRs *"are created by a U.S. investment bank or a brokerage that buys the shares in the country where the shares trade, deposits them in a local bank (custodian bank), which is often a branch of a U.S. bank, called the depositary bank"*.[22] Spaulding explains that *"shares which represent an interest in the stocks are then issued by the depository bank, which handles most of the transactions with the American investors, serving both as transfer agent and registrar for the ADRs".* The

[18] A. Samet, "ADR Listings and the Financing Decisions of Foreign Firms", Service de l'Enseignment de la Finance, HEC Montréal, Thèse présentée en vue de l'obention du grade de Philosophie, 2009, 6.
[19] *Ibid.*
[20] *Ibid.*
[21] *Ibid.*
[22] W. Spaulding, "American Depository Receipts – Rule 144A Depository Receipts". (*to be consulted on:* http://thismatter.com/money/stocks/american-depositary-receipts.htm).

shares of foreign stock that are held in the custodian bank are called American Depositary Shares (ADS), although, as Spaulding claims, *"this term is also sometimes used as a synonym for ADRs"*.[23]

However, according to Spaulding, it should be noted that, *"most often, the company will sponsor the creation of its own ADRs, in which case they are called sponsored ADRs".* As stated before, there are 3 levels of sponsorship. A Level I sponsored ADR is created by the company to extend the market for its securities to this country, but without needing to register with the SEC, or conforming to generally accepted accounting principles (GAAP) as aforementioned.[24] Consequently, as Spaulding explains, *"this ADR can only be traded in the OTC Bulletin Board or Pink Sheets trading systems, usually by institutional investors"*.[25] Therefore, as Spaulding claims, *"these ADRs have more risk, and it is more difficult to compare a Level I ADR with other investments, because of the differences in accounting"*. Level II and Level III sponsored ADRs must register with the SEC, and financial statements must be reconciled to the GAAP. A Level II ADR requires partial compliance with GAAP, while a Level III ADR requires complete compliance. A Level III sponsorship is required, if the ADR is a primary offering and is used to raise capital for the company. As abovementioned, *"only Level II and Level III sponsored ADRs can be listed on the New York Stock Exchange, the American Stock Exchange, or NASDAQ"*.[26]

§4. ADRs in practice

Spaulding states that, *"the price of ADRs in the secondary market is determined by supply and demand, but the price will not deviate too much from the price of the underlying stock."* According to Spaulding, *"this is because of the fact that If the ADR is trading at a higher price than the equivalent foreign shares of the company, then more shares of the company will be bought and held in the custodian bank, and more ADRs will be created"*. Moreover, Spaulding states that, *"If the ADR trades below the equivalent price, then some ADRs will be canceled, and the corresponding shares of the company will be released by the custodian bank. This maintains parity between the price of the ADR and the foreign shares, after accounting for the currency exchange rate."* Whenever, dividends are paid, *"the custodian bank receives it and withholds any foreign taxes, exchanges it for U.S. dollars, then sends it to the depositary bank, which then sends it to the investors"*. From the aforementioned follows, that the depositary bank handles most of the interaction with the U.S. investors, such as

[23] W. Spaulding, "American Depository Receipts – Rule 144A Depository Receipts". (*to be consulted on:* http://thismatter.com/money/stocks/american-depositary-receipts.htm).
[24] A. Samet, "ADR Listings and the Financing Decisions of Foreign Firms", Service de l'Enseignment de la Finance, HEC Montréal, Thèse présentée en vue de l'obention du grade de Philosophie, 2009, 6.
[25] *Ibid.*
[26] W. Spaulding, "American Depository Receipts – Rule 144A Depository Receipts". (*to be consulted on:* http://thismatter.com/money/stocks/american-depositary-receipts.htm).

rights offerings, stock splits, and stock dividends. However, in the case of sponsored ADRs, investors may receive communications, such as financial statements, directly from the company.[27]

§5. Risks of ADRs

Spaulding notes, *"That although ADR transactions are in U.S. currency, there still is a currency exchange risk. If the dollar falls, for instance, then the amount of dividend in U.S. dollars will be reduced, and the market price of the ADR will drop."* Next to the exchange risk, there is also a political risk, because of the fact that *"the ADR still derives its value from the foreign stock, which could be adversely affected by unfavorable changes in the politics or the law of the country"*.[28]

§6. ADR Market

Figure 1 shows the new sponsored Depository Receipts programs that were introduced in 2011. The U.S. listed ADR programs are still steadily growing. However, the American ADR market does not experience the same growth it used to have in the eighties and nineties.

Figure 2 show the total sponsored Depository Receipts programs worldwide. 403 sponsored DR-programs are listed on the U.S. out of a total of 2289 DR-programs.

Figure 3 shows the top 10 Capital raisings, of which four are held on the New York Stock Exchange.

Figure 4 Shows the U.S. Holdings of Foreign equities from the period of 2006 till 2011. Although, the U.S holdings of foreign equities recovered in 2010, they are declining again in 2011.

Figure 5 shows the U.S. Net Investment in Foreign Equities, which has still not reached pre-crisis levels again.

Figure 6 shows the top 5 U.S.-listed Depository Receipts programs by value.

[27] W. Spaulding, "American Depository Receipts – Rule 144A Depository Receipts". (*to be consulted on:* http://thismatter.com/money/stocks/american-depositary-receipts.htm).
[28] *Ibid.*

ii. Global Depository Receipts

§1. Introduction

Depositary receipts (DRs), *"which are created and sold in other countries, than the company's home market"*, are often referred to as Global Depositary Receipts (GDR). Depository Receipts are not unique to the U.S. market; companies can create and sell depositary receipts in several countries. Spaulding claims that "*most companies issue DRs to broaden their base of investors, to increase awareness of their company, to raise capital, and to provide more liquidity".* It is also often stated, that DRs can be used *"as currency for mergers and acquisitions in those countries where receipts are available"*.[29]

GDRs, like ADRs, are also certificates that represent an ownership interest in the ordinary shares of a company, but *"are marketed outside of the company's home country for several reasons"*. As stated before, according to Spaulding, *"the main reasons are the increase of visibility in the world market and the access to a greater amount of investment capital in other countries"*. As is the case with ADRs, Global Depositary Receipts are also structured to resemble typical stocks of the country they trade in.[30] As a consequence, foreigners can buy an interest in the company without having to deal with "*differences in currency, accounting practices, or language barriers, or be concerned about the other risks of investing in foreign stock directly"*.[31]

Although ADRs were the most prevalent form of depositary receipts, as Figure 7 shows, the number of GDRs has recently surpassed ADRs. Some claim, this is because of *"the lower expense and time savings in issuing GDRs, especially on the London and Luxembourg stock exchanges"*.[32]

§2. Advantages and disadvantages of GDRs

According to Spaulding, *"GDRs, like ADRs, allow investors to invest in foreign companies without having to worry about foreign trading practices, different laws, accounting rules, or cross-border transactions"*. GDR holders enjoy the same corporate rights, for instance voting rights, as holders of the underlying securities. Moreover, they also allow for *"easier trading and the payment of dividends in the GDR currency, which is usually the United States dollar (USD)"*. Furthermore, corporate notifications,

[29] W. Spaulding, "Global Depository Receipts (GDRs)". (*to be consulted on:* http://thismatter.com/money/stocks/global-depositary-receipts.htm).
[30] *Ibid.*
[31] *Ibid.*
[32] *Ibid.*

such as shareholders' meetings and rights offerings are most often in English. GDRs are also often used *"to overcome limits on restrictions of foreign ownership or the movement of capital that may be imposed by the country of the corporate issuer"*. Spaulding explains that *"the issuer, hereby, avoids risky settlement procedures, and eliminates local or transfer taxes that would otherwise be due if the company's shares were bought or sold directly"*. However, GDRs, like ADRs, are also exposed to the foreign exchange risk and political risk. According to Spaulding, *"GDRs also increase the company's visibility in target markets, from which a larger and more diverse shareholder base will evolve"*.[33]

§3. GDR Market

Currently, the stock exchanges trading GDRs are the following: the London Stock Exchange, the Luxembourg Stock Exchange, NASDAQ Dubai, Singapore Stock Exchange, and the Hong Kong Stock Exchange. Spaulding claims that, *"companies choose a particular exchange because it feels the investors of the exchange's country know the company better, because the country has a larger investor base for international issues, or because the company's peers are represented on the exchange."* Most GDRs trade on the London or Luxembourg exchanges, which is caused, according to Spaulding, *"by the fact that they were the first to list GDRs and because it is cheaper and faster to issue GDRs for those exchanges"*.[34]

Figure 1 shows the new sponsored Depository Receipts programs worldwide that were introduced in 2011.

Figure 2 show the 2011 total sponsored Depository Receipts programs worldwide.

Figure 8 shows the New sponsored DR programs of 2011 by region.

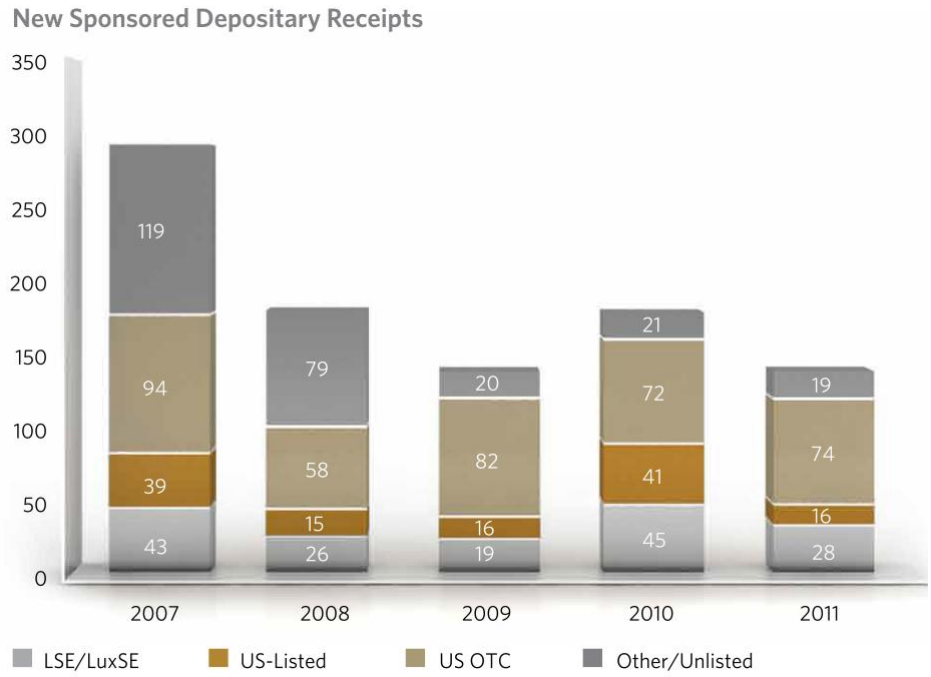
Figure 9 shows the total of sponsored DR programs worldwide by region.

Figure 10 and 11 shows the 2011 DR capital raising by region and exchange/market.

[33] W. Spaulding, "Global Depository Receipts (GDRs)". (*to be consulted on:* http://thismatter.com/money/stocks/global-depositary-receipts.htm).
[34] *Ibid.*

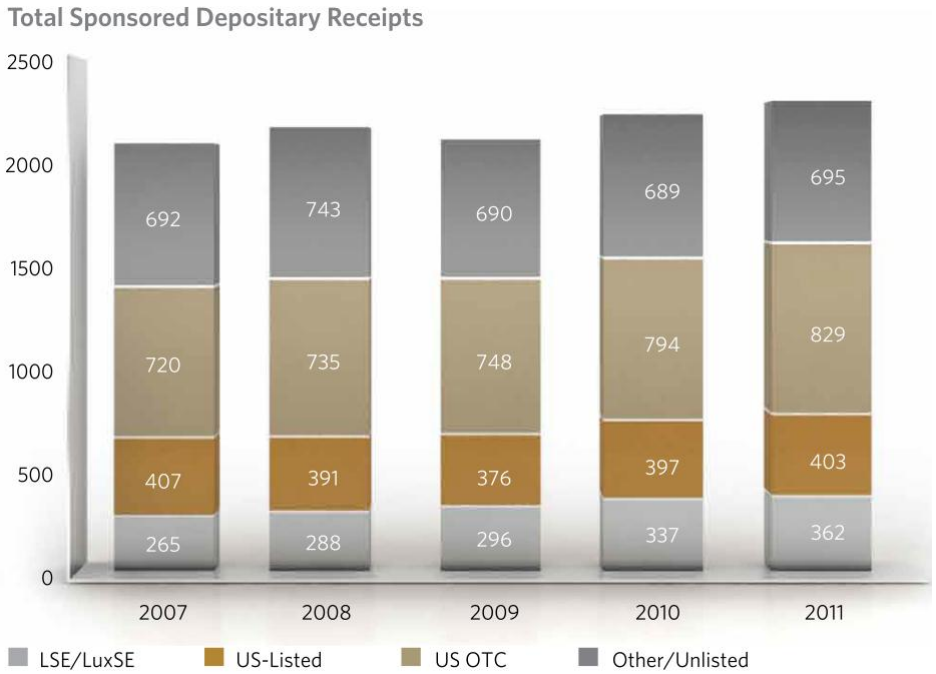
iii. Annex Chapter I

Figure 1



Source: BNY Mellon

Figure 2



Source: BNY Mellon

Figure 3

Top 10 Capital Raisings

Company	Type	Country	Exchange	Date	Total Capital Raised (mm)
VTB Bank	Follow-on	Russia	LSE	2/17/11	$2,780.4
Gerdau	Follow-on	Brazil	NYSE	4/18/11	$978.1
Renren	Initial	China	NYSE	5/9/11	$854.9
Ternium	Follow-on	Argentina	NYSE	2/18/11	$778.6
China Steel	Follow-on	Taiwan	US OTC	8/1/11	$751.1
Nomos Bank	Initial	Russia	LSE	4/18/11	$718.3
OCI	Initial	South Korea	Singapore Exchange	5/27/11	$700.0
Youku.com	Follow-on	China	NYSE	5/25/11	$593.1
Global Ports	Initial	Russia	LSE	6/29/11	$587.5
Etalon	Initial	Russia	LSE	4/19/11	$575.0

Source: BNY Mellon

Figure 4

Source: BNY Mellon

Figure 5

Source: BNY Mellon

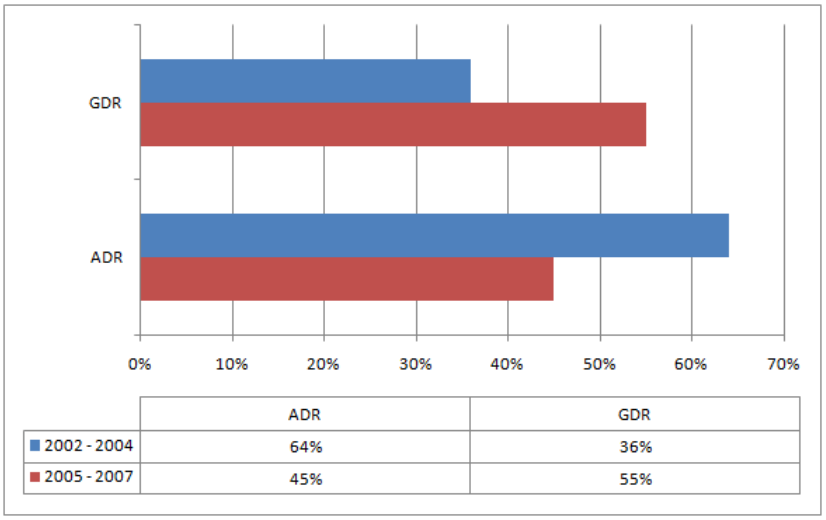
Figure 6

Top 5 U.S.-Listed Depositary Receipt Programs, by Value

Name	Industry	Country	Venue	Volume Traded (mm)	Value Traded (bb)
Baidu	Internet Software & Services	China	Nasdaq	2,063.4	$271.1
Vale (Common)	Metals & Mining	Brazil	NYSE	4,811.8	$142.1
Petroleo Brasileiro (Common)	Oil, Gas & Consumable Fuels	Brazil	NYSE	4,119.2	$133.7
BP	Oil, Gas & Consumable Fuels	UK	NYSE	2,313.8	$100.1
BHP Billiton	Metals & Mining	Australia	NYSE	964.8	$82.1

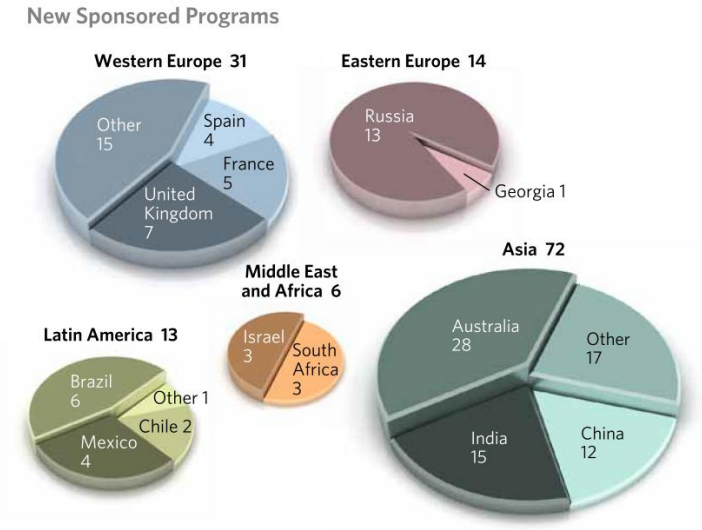
Source: BNY Mellon

Figure 7



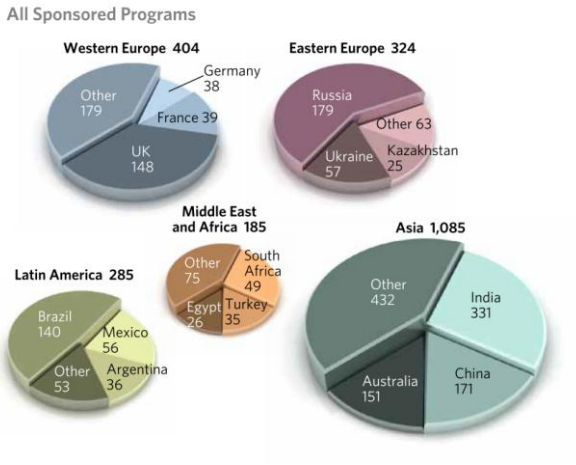
Source: JP Morgan

Figure 8



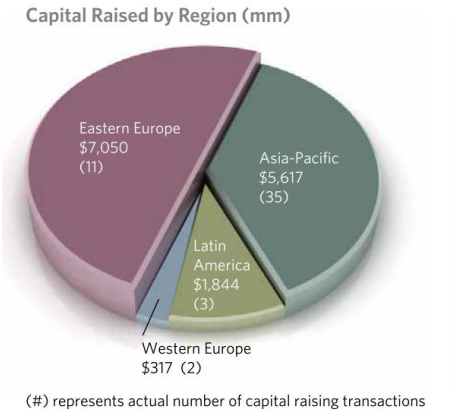
Source: BNY Mellon

Figure 9



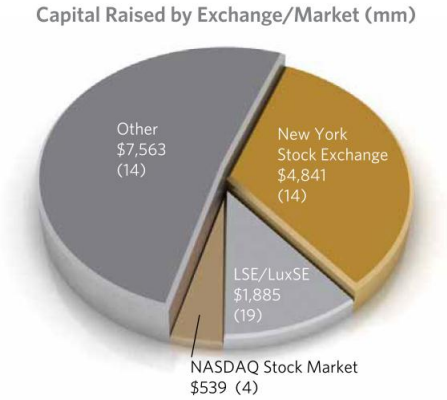
Source: BNY Mellon

Figure 10



Source: BNY Mellon

Figure 11



Source: BNY Mellon

II. THE RATIONALE FOR CROSS-BORDER LISTINGS

i. Introduction

According to survey results, *"corporate managers generally believe that access to a broader investor base and increased marketability of a firm's securities are the main benefits of pursuing cross-listings"*.[35]

According to Lasfer, *"companies cross-list when the size of their financial needs exceeds their domestic market capacity"*. Furthermore, there is often a limited liquidity in the domestic market, which can be improved by issuing Depository Receipts on foreign markets. Moreover, Lasfer argues that *"the price of shares may be more attractive in a foreign market, especially if there is market segmentation and Depository Receipts offer diversification benefits to investors"*. Furthermore, the existing domestic investors may also benefit, since cross-listing is, according to some, *"likely to mitigate the agency conflicts with their managers".* And lastly, a company becomes *"more visible internationally"*.[36]

Scholars have advanced several independent theories on the reasons that might motivate companies to cross-list their securities on foreign markets.[37] Licht states that *"there has been an evolution in these theories and studies that purport to test them"*. According to Licht, *"the first theories that appeared were about the financial aspects of cross-listing"*. Studies about other business motivations for cross-listing also emerged in the early 1990s. At the end of the 1990s theories about corporate governance motivations also started to emerge.[38] First of all, a brief overview of the different motivation, benefits and costs that are related to cross-listing will be given. In the next chapter, the different theories will be reviewed.

[35] E. Chouinard and Chris D'Souza, "The Rationale for Cross-Border Listings", Financial Markets Department, Bank of Canada Review, 2004, 26.
[36] M. Lasfer, "Acquiring a Secondary Listing, or Cross-Listing", Q-Finance, 2.
[37] A.N. Licht, "Cross-Listing and Corporate Governance: Bonding or Avoiding?", Chicago Journal of International Law, 2003, 143.
[38] A.N. Licht, "Cross-Listing and Corporate Governance: Bonding or Avoiding?", Chicago Journal of International Law, 2003, 144.

ii. Benefits of cross-listing

§1. Financial gains

Chouinard and D'souza claim *"that although some corporate managers may be partly motivated by such considerations as enhancing their firm's prestige or increasing the visibility of its products, the primary objective of cross-listing"*, according to them, *"is the financial goal of reducing the cost of the firm's equity capital"*. Chouinard and D'Souza explain that *"in a world without barriers, Listing a company's stock abroad should have no impact on its price, however, if barriers exist, a firm's share value may be positively affected by the cross-listing"*.[39]

§2. Liquidity

Cross-listing may also contribute to the stock value by increasing the liquidity of the shares. Chouinard and D'Souza explain that *"expected returns positively correlate with liquidity, measured in terms of the bid-ask spread"*. Thus, narrower spreads following cross-listing generate improved liquidity, which in turn increases the share value of a company. Hence, According to Chouinard and D'Szouza, *"enhanced inter-market competition might lower the spread and therefore improve liquidity"*.

§3. Increase in trading volume

Chouinard and D'Souza also argue that *"an increase in total trading volume and in market depth will emerge"*.[40] According to Karolyi and Foerster, the extent to which liquidity is enhanced is related to *"the proportion of total trading volume that the new market captures and to the trading restrictions imposed on foreigners prior to listing"*.[41] Chouinard and D'Souza claim that Liquidity improves the most when *"the domestic market retains a significant portion of its trading volume and when restrictions on pre-listing cross-border trading are stringent"*.[42]

[39] E. Chouinard and Chris D'Souza, "The Rationale for Cross-Border Listings", Financial Markets Department, Bank of Canada Review, 2004, 26.
[40] E. Chouinard and Chris D'Souza, "The Rationale for Cross-Border Listings", Financial Markets Department, Bank of Canada Review, 2004, 27.
[41] G.A. Karolyi, "Why Do Companies List Shares Abroad?: A Survey of the Evidence and Its Managerial Implications", Financial Markets, Institutions and Instruments 7(1), 1998, 1–60. ; E. Chouinard and Chris D'Souza, "The Rationale for Cross-Border Listings", Financial Markets Department, Bank of Canada Review, 2004, 27.
[42] E. Chouinard and Chris D'Souza, "The Rationale for Cross-Border Listings", Financial Markets Department, Bank of Canada Review, 2004, 27.

§4. Reduction in cost of capital

Lasfer claims that cross-listed firms can reach foreign investors who will be able to invest in both foreign and domestic firms, as a consequence, he claims that *"the market risk premium will be lower because the level of diversification that investors can attain in an open capital market is far greater"*.[43] As a result, the cross-listed firm's cost of capital will be lower. However, it is debated in the literature whether the markets *"react positively because of the decrease in the cost of capital or whether it is driven by other benefits of cross-listing such as Improved liquidity of existing shares and broadening of the stockholder base"*, with, as a result, *"a reduced probability of takeovers"*.[44]

§5. Segmentation

Chouinard and D'Souza define segmentation as *"the situation where similar assets in different markets have different prices, barring transaction costs"*. They state that the popularity of cross-listing is also based on the potential segmentation gains. Licht states that *"as emerging markets are often characterized by barriers to foreign investment due to regulatory limits and informational barriers, cross-listing brings foreign stocks closer to investors"*.[45]

§6. Increased shareholder base

Licht also claims that *"cross-listing brings foreign securities closer to potential investors, as it increases investor awareness of the securities"*. This familiarity could lower expected returns. This aspect of cross-listing is also often called *"firm visibility"*.[46] According to Licht, *"the benefits of increased visibility in the host country go well beyond the expected increase in shareholder base. In addition to greater demand for its stock, listing abroad provides a firm with greater access to foreign money markets and makes it easier to sell debt there. Thus, a firm becomes more credible by providing information to the local capital market, and, in turn, this continuous flow of information allows the capital market to make faster, more accurate decisions"*.[47]

[43] M. Lasfer, "Acquiring a Secondary Listing, or Cross-Listing", Q-Finance, 3.
[44] *Ibid.*
[45] A.N. Licht, "Cross-Listing and Corporate Governance: Bonding or Avoiding?", Chicago Journal of International Law, 2003, 144.
[46] *Ibid.*
[47] A.N. Licht, "Cross-Listing and Corporate Governance: Bonding or Avoiding?", Chicago Journal of International Law, 2003, 144-145.

§7. Establishment of a secondary market for shares used in acquisitions

Cross-listing makes it possible for companies to create a secondary market for shares that can be used to compensate local management and employees in a foreign subsidiary. Hence, in the literature it is stated that *"cross-listing can facilitate and enhance the attractiveness of employee stock ownership plans ("ESOPs") for employees of large multinational corporations, as local listing in the foreign market provides foreign employees with an accessible exit mechanism for their stocks"*.[48]

§8. Informational considerations

Cross-listing is believed to increase *"a firm's visibility as well as investor recognition"*. The aforementioned is based on evidence that *"both media coverage and the number of analysts following the firm rise subsequent to the foreign listing"*. Hence, it can be concluded that cross-listing tends to improve the accuracy of earnings forecasts.[49] As a result, Lang et al. argue *"that investors have to incur a lower cost to follow a corporation's affairs, its investor base expands, and demand for its stock will rise"*.[50] This has been supported by empirical work that suggests that "*cross-listing in a country with better disclosure requirements and investor protection might create value because superior accounting and disclosure standards reduce investors' costs for researching information"*.[51]

§9. Signaling effect/bonding

Some authors, such as Coffee, also believe that *"firms based in countries with poor standards may also benefit from the signaling effect of listing in a country with stricter requirements"*. According to them, cross-listing could *"signal a credible commitment to enhanced corporate governance"*.[52]

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[48] A.N. Licht, "Cross-Listing and Corporate Governance: Bonding or Avoiding?", Chicago Journal of International Law, 2003, 145.

[49] M.H. Lang, K.V. Lins and D.P. Miller, "ADRs, Analysts, and Accuracy: Does Cross Listing in the United States Improve a Firm's Information Environment and Increase Market Value?", Journal of Accounting Research 41(2), 2003, 317–45. ; H.K. Baker, J.R. Nofsinger and D.G. Weaver, "International Cross-Listing and Visibility", Journal of Financial and Quantitative Analysis 37(3), 2002, 495–521. ; S. Das and S.M. Saudagaran, "Accuracy, Bias, and Dispersion in Analysts' Earnings Forecasts: The Case of Cross-Listed Foreign Firms", Journal of International Financial Management and Accounting 9, 1998, 16–33. ; E. Chouinard and Chris D'Souza, "The Rationale for Cross-Border Listings", Financial Markets Department, Bank of Canada Review, 2004, 28.

[50] *Ibid.*

[51] Doidge, C., G.A. Karolyi, and R.M. Stulz. 2003. "Why Are Foreign Firms That List in the U.S. Worth More?", Journal of Financial Economics. In press, corrected proof. (*to be consulted on*: www.sciencedirect.com) ; E. Chouinard and Chris D'Souza, "The Rationale for Cross-Border Listings", Financial Markets Department, Bank of Canada Review, 2004, 28.

[52] J.C. Coffee, "Racing Towards the Top?: The Impact of Cross-Listings and Stock Market Competition on International Corporate Governance", Columbia Law Review 102(7), 2002, 1757–1831. ; E. Chouinard and Chris D'Souza, "The Rationale for Cross-Border Listings", Financial Markets Department, Bank of Canada Review, 2004, 28.

§10. Price Discovery

As stated by Chouinard and D'Souza, an additional advantage of cross-listing is *"that it facilitates the process of assessing a stock's value at the beginning of the trading session, in case of stocks trading on markets located in different time zones"*. Yamori et al. claim that *"at the opening of trading, prices are less volatile for shares that are traded overnight on other exchanges than for those that did not"*. According to them, pricing errors are thus reduced.[53]

iii. Costs of Cross-listing

As Lasfer states in cross-listing and selling equity abroad, *"a firm faces two barriers: an increased commitment to full disclosure and a continuing investor relations program"*. Non-US firms who cross-list in the U.S. will often be exposed to stricter disclosure requirements. Hence, as a consequence, *"there will be costs involved for firms that have been accustomed to revealing far less information"*.[54] This is supported by D'Souza and Chouinard's survey results, in which *"Canadian corporate managers believe compliance with foreign reporting requirements is a major cost"*.[55]

Lin directly examined the major cross-listing costs at the firm level. In his study, he provides a new perspective on the cost and benefit analysis.[56] He finds find that *"complying with U.S. financial reporting requirements is a significant cost factor when non-U.S. firms consider whether they should issue or list their shares in the U.S"*. However, according to the evidence, *"the importance of compliance costs diminishes when foreign firms contemplate whether they should list on an organized stock exchange where U.S. GAAP compliance is required"*.[57] Lin states that *"this finding is likely attributable to the fact that an exchange-listing gives foreign firms various benefits which potentially outweigh the compliance costs".* However, as stated before, Lin's evidence clearly shows that U.S. accounting and disclosure requirements do hinder potential non-U.S. firms from listing or issuing shares in the U.S. markets.[58] Karolyi states that *"next to the enhanced disclosure requirements, regis-*

[53] N. Yamori, "Does International Trading of Stocks Decrease Pricing Errors? Evidence from Japan", Journal of International Financial Markets, Institutions and Money 8(3–4), 1998, 413–432. ; E. Chouinard and Chris D'Souza, "The Rationale for Cross-Border Listings", Financial Markets Department, Bank of Canada Review, 2004, 28.
[54] M. Lasfer, "Acquiring a Secondary Listing, or Cross-Listing", Q-Finance, 3.
[55] E. Chouinard and Chris D'Souza, "The Rationale for Cross-Border Listings", Financial Markets Department, Bank of Canada Review, 2004, 26.
[56] J. Lin, "The Effect of U.S. GAAP Compliance on Non-U.S. Firms' Cross-Listing Decisions' and Listing Choices", Haub School of Business, Saint Joseph's University, 2011, 48.
[57] *Ibid.*
[58] *Ibid.*

tration costs with regulatory authorities and listing fees are also a major cost".[59] According to Bris, Cantale and Nishiotis, *"the Sarbanes Oxley Act has also increased the costs that foreign firms have to pay to have access to better governance"*. Therefore, it seems that, while ADRs were a beneficial strategy in the past, the potential benefits have reduced over time. Bris, Cantale and Nishiotis claim this explains *"the current trend of firms going back to their own domestic markets"*.[60] Moreover, other evidence by Melvin and Valero indicate that when a firm cross-lists in the U.S., *"its primary rival in the home market that is not listed in the U.S. is hurt by the listing"*.[61]

[59] G.A. Karolyi, "Why Do Companies List Shares Abroad?: A Survey of the Evidence and Its Managerial Implications", Financial Markets, Institutions and Instruments 7(1), 1998, 1–60. ; E. Chouinard and Chris D'Souza, "The Rationale for Cross-Border Listings", Financial Markets Department, Bank of Canada Review, 2004, 25.

[60] A. Bris, S. Cantale and G. Nishiotis, "A Breakdown of the Valuation Effects of International Cross-Listing", University of Cyprus, 2006, 22.

[61] M. Melvin and M. Valero, "The Dark Side of International Cross-Listing: Effects on Rival Firms at Home", Cesifo Working Paper No. 2174, Monetary Policy and International Finance, 2007, 28-29.

III. CROSS-LISTING THEORIES

i. Introduction

According to Licht, *"scholars have advanced several independent theories on the reasons that motivate companies to cross-list"*.[62] There has been an evolution in the studies that test the cross-listing-theories. According to Licht, *"the first theories were mostly about the financial aspects, however, studies about other business motivations also started to develop in 90s"*. Moreover, according to Licht also *"theories about corporate governance motivations started to develop".*[63] In this chapter, the different theories will be reviewed.

Karolyi states that *"during the 90s, there was a dramatic increase in the amount of empirical research which investigated the incentives to cross-list"*. According to him, these studies all focused on *"the benefits such as a lower cost of capital, broader shareholder base and greater liquidity"*.[64]However, as Karolyi states, *"in the last decade there has been a significant slowdown in the pace of new cross-listings, which raises questions about the costs of cross-listings"*. In his 2004 paper, Karolyi stated that *"at the end of 2002, the number of internationally cross-listed stocks had retreated to 2,300 from its 1997 high of 4,700, which is a decline of over 50%"*.[65] More recent numbers, as is shown by Figure 1, provide evidence that the same trend is still continuing. Figure 1 shows that in 2011, there were in total 2,289 internationally cross-listed stocks, which is still a decline of over 50% from its 1997 high of 4,700.

As aforementioned, research by Dobbs and Goedhart also shows that at the end of the last decade, *"many large European companies terminated their cross-listings in the U.S."*.[66] Dobbs and Goedhart state that these moves represent *"the acceleration of an existing trend"*. Furthermore, as Dobbs and Goedhart state *"the amount of cross-listings by companies from developed countries has been decreasing in capital markets such as New York"*, as Figure 1 shows. Moreover, they state that *"also in other markets such as Tokyo and London companies terminate their cross-listings"*.[67] Research indeed

[62] A.N. Licht, "Cross-Listing and Corporate Governance: Bonding or Avoiding?", Chicago Journal of International Law, 2003, 143.
[63] A.N. Licht, "Cross-Listing and Corporate Governance: Bonding or Avoiding?", Chicago Journal of International Law, 2003, 144.
[64] G.A. Karolyi, "The World of Cross-Listing and Cross-Listings of the World: Challenging Conventional Wisdom", Department of Finance, Fisher College of Business, The Ohio State University, 2004, 2.
[65] *Ibid.*
[66] R. Dobbs and M.H. Goedhart, "Why cross-listing doesn't create value", McKinsey & Company, McKinsey on Finance, 2008, 1.
[67] Some well-known companies, such as Boeing and BP, have recently withdrawn their listings.

shows that over the last decade, the number of cross-listings by companies from developed countries has been steadily decreasing (Figure 2).[68]

Furthermore, according to Karolyi, in recent years, there has been a vast amount of new empirical research which also examines the benefits and costs of cross-listings, but also tries to *"to rationalize the changing and now more complex world of cross-listings"*. These studies give a better insight in previously unexplored elements.

ii. Market Segmentation Hypothesis

§1. Introduction

The Market Segmentation Hypothesis, as argued by Errunza and Losq, claims *"that the world markets are segmented by different kinds of barriers to capital flows, causing additional risks to be borne by stocks in a country segmented from foreign investors. To reduce the investment barriers, foreign firms have incentives to list their shares in the U.S."*[69] Hence, the theory is based amongst others *"on the ability to reduce the cost of equity of the firm through cross-listing"*.[70] According to Stulz, *"market segmentation can arise from barriers to capital flow (such as ownership restrictions, regulatory environment, and information barriers) and can increase the risk premium of the firms in the segmented market"*.[71] A study by Errunza and Miller finds that *"there is a decline in the cost of capital after companies list their stock as ADRs, and thus is in support of the Market Segmentation Hypothesis"*.[72] Another study, also investigating the Market Segmentation Hypothesis, by Foerster, Karolyi, and Miller *"documents a small positive reaction to the listing or the announcement of listing"*.[73]

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[68] R. Dobbs and M.H. Goedhart, "Why cross-listing doesn't create value", McKinsey & Company, McKinsey on Finance, 2008, 1.

[69] V. Errunza and E. Losq, "International asset pricing under mild segmentation: Theory and test", The Journal of Finance 40, 1985, 105-124. ; J. Lin, "The Effect of U.S. GAAP Compliance on Non-U.S. Firms' Cross-Listing Decisions' and Listing Choices", Haub School of Business, Saint Joseph's University, 2011, 43.

[70] H.K. Baker, J.R. Nofsinger and D.G. Weaver, "International Cross-Listing and Visibility", NYSE Working Paper, 1999, 1.

[71] R.M. Stulz, "On the effects of barriers to international investment", Journal of Finance 36, 1981, 923-34. ; H.K. Baker, J.R. Nofsinger and D.G. Weaver, "International Cross-Listing and Visibility", NYSE Working Paper, 1999, 1.

[72] V. Errunza and E. Losq, "International asset pricing under mild segmentation: Theory and test", The Journal of Finance 40, 1985, 105-124. ; J. Lin, "The Effect of U.S. GAAP Compliance on Non-U.S. Firms' Cross-Listing Decisions' and Listing Choices", Haub School of Business, Saint Joseph's University, 2011, 43.

[73] S.R. Foerster and G. A. Karolyi, "The Effects of Market Segmentation and Investor Recognition on Asset Prices: Evidence from Foreign Stocks Listing in the United States", Journal of Finance 54, 1999, 981-1013. ; J. Lin, "The Effect of U.S. GAAP Compliance on Non-U.S. Firms' Cross-Listing Decisions' and Listing Choices", Haub School of Business, Saint Joseph's University, 2011, 43.

In the view of Jithendranathan, *"the main reason for companies to cross-list, is that it allows them to escape from problems in their home market such as exchange rate risks and restrictions on foreign direct investments"*, which supports the Market Segmentation Hypothesis. Moreover, according to Jithendranthan, *"legal regulations, information barriers, and restrictions on equity all contribute to market segmentation"*.[74] Scholars such as Stapleton, Subrahmanyam, Foerster and Karolyi all argue that overseas listings *"mitigate market segmentation"*.[75] Hence, as Wang et al. state, if, according to the Market Segmentation Hypothesis, the markets are segmented, *"then a positive listing effect, should emerge after cross-listing"*.[76]

§2. Listing effect

The listing effect can be defined as the effect that cross-listings have on the companies' return, which has been examined in several studies. Jayarnman studied *"the impact that ADRs have on the company's risk and return"*. Jayarnman's results show that there are abnormal positive returns on the listing date. Moreover, his study also shows that *"the returns volatility increases significantly after the cross-listing"*. [77] On the other hand, Martell *"compared the data regarding shares 75 days before and after the cross-listing date to examine the risks and returns before and after the cross-listing"*. They find, contrary to the study of Jayarnman, that *"few positive returns exist and that there are no significant systematic changes in returns variance"*.[78] However, another study by Foerster and Karolyi, shows

[74] T. Jithendranathan, T.R. Nirmalanandan and K. Tandon, "Barrier to international investing and market segmentation: Evidence from Indian GDR market", Pacific Basin Finance Journal 8, 2000, 399-417. ; Y. Wang, H. Chung and C.C. Hsu, "the Impact of International Cross-Listings on Risk and Return: Evidence from Asian Companies", International Research Journal of Finance and Economics, Eurojournals Publishing, 2008, 96.

[75] R. Stapleton and M. Subrahmanyam, "Market imperfections, capital market equilibrium and corporate finance", *Journal of Finance*, 1977, 307-319. ; S.R. Foerster and G.A. Karolyi, "The effects of market segmentation and investor recognition on asset prices: Evidence from foreign stocks listing in the United states", *Journal of Finance*, 1999, 981-1013. ; Y. Wang, H. Chung and C.C. Hsu, "the Impact of International Cross-Listings on Risk and Return: Evidence from Asian Companies", International Research Journal of Finance and Economics, Eurojournals Publishing, 2008, 96.

[76] Y. Wang, H. Chung and C.C. Hsu, "the Impact of International Cross-Listings on Risk and Return: Evidence from Asian Companies", International Research Journal of Finance and Economics, Eurojournals Publishing, 2008, 100.

[77] N. Jayaraman, K. Shastri and K. Tandon, "The impact of international cross listings on risk and return: The evidence from American Depositary Receipts", Journal of Banking and Finance, 1993, 91-103. ; Y. Wang, H. Chung and C.C. Hsu, "the Impact of International Cross-Listings on Risk and Return: Evidence from Asian Companies", International Research Journal of Finance and Economics, Eurojournals Publishing, 2008, 95.

[78] T.F. Martell, L. Rodriguez and G. Webb, "The Impact of Listing Latin American ADRs on the Risk and Returns of the Underlying Shares", Global Finance Journal, 1999, 147-160. ; Y. Wang, H. Chung and C.C. Hsu, "the Impact of International Cross-Listings on Risk and Return: Evidence from Asian Companies", International Research Journal of Finance and Economics, Eurojournals Publishing, 2008, 96.

"that the listing effect", among the companies in their study, *"was obviously positive between 1981 and 1992"*.[79]

Another study by Wang et al., examined *"the share prices of Indonesia companies 250 days before and after the cross-listing"*. The empirical results presented by this study show *"that there are no significant abnormal returns for the companies during their cross-listings"*.[80] This observation runs contrary to the conclusion by Foerster and Karolyi.[81] However, it should be noted that, according to Wang et al., the reason why Foerster and Karolyi reached a different conclusion, could be caused by the fact that *"Foerster and Karolyi sampled ADR-issuing companies from the Western world, while they sampled companies from Asia"*.[82]

Nevertheless, Wang et al.'s empirical results do not match the research of Foerster and Karolyi.[83] According to the Market Segmentation Hypothesis, *"the more segmented the local markets are from the U.S. capital markets, the larger the cumulative abnormal returns are during the listing periods."* However, in the study of Wang et al., "the most segmented markets *do not support the patterns of returns as predicted by the Market Segmentation Hypothesis"*. Furthermore, the observation of Wang et al. is also not in line with research conducted by Miller. Miller used announcement dates to examine the Market Segmentation Hypothesis.[84] According to Miller, *"as soon as the cross-listing dates are pre-determined, investors will react, which will be reflected in a higher share prices prior to*

[79] S.R. Foerster and G.A. Karolyi, "The effects of market segmentation and investor recognition on asset prices: Evidence from foreign stocks listing in the United states", *Journal of Finance*, 1999, 981-1013. ; Y. Wang, H. Chung and C.C. Hsu, "the Impact of International Cross-Listings on Risk and Return: Evidence from Asian Companies", International Research Journal of Finance and Economics, Eurojournals Publishing, 2008, 96.

[80] Y. Wang, H. Chung and C.C. Hsu, "the Impact of International Cross-Listings on Risk and Return: Evidence from Asian Companies", International Research Journal of Finance and Economics, Eurojournals Publishing, 2008, 99.

[81] S.R. Foerster and G.A. Karolyi, "The effects of market segmentation and investor recognition on asset prices: Evidence from foreign stocks listing in the United states", *Journal of Finance*, 1999, 981-1013. ; Y. Wang, H. Chung and C.C. Hsu, "the Impact of International Cross-Listings on Risk and Return: Evidence from Asian Companies", International Research Journal of Finance and Economics, Eurojournals Publishing, 2008, 99.

[82] Y. Wang, H. Chung and C.C. Hsu, "the Impact of International Cross-Listings on Risk and Return: Evidence from Asian Companies", International Research Journal of Finance and Economics, Eurojournals Publishing, 2008, 99.

[83] S.R. Foerster and G.A. Karolyi, "The effects of market segmentation and investor recognition on asset prices: Evidence from foreign stocks listing in the United states", Journal of Finance, 1999, 981-1013.. ; Y. Wang, H. Chung and C.C. Hsu, "the Impact of International Cross-Listings on Risk and Return: Evidence from Asian Companies", International Research Journal of Finance and Economics, Eurojournals Publishing, 2008, 99.

[84] D.P. Miller, "The market reaction to international cross-listings: Evidence From Depositary Receipt", Journal of Financial Economics, 1999, 103-123. ; Y. Wang, H. Chung and C.C. Hsu, "the Impact of International Cross-Listings on Risk and Return: Evidence from Asian Companies", International Research Journal of Finance and Economics, Eurojournals Publishing, 2008, 100.

the listing date". However, Wang does not find evidence that supports this theory.[85] Although several earlier studies seem to confirm the Market Segmentation Hypothesis, Wang's study clearly does not support the Market Segmentation Hypothesis, according to which *"the pre-listing abnormal returns should be positive"*. Another study by Bris, Cantale and Nishiotis, however, finds support for the Market Segmentation Hypothesis. They find that *"a premium is paid for the listed share class, which is reduced after cross-listing"*. The claim that this shows that *"cross listing acts as a move towards a capital market's integration"*.[86]

§3. Market Segmentation Hypothesis debunked?

Karolyi states that *"the market segmentation hypothesis for cross-listings faces a number of difficulties"*.[87] He criticizes the fact that *"almost all of the research that is in support of this hypothesis relies on event-study tests of the capital market reactions to the cross-listing announcement"*. He argues that in these studies *"the abnormal returns are extremely small (1 to 2 percent), compared to the dramatic increase in the cost of capital caused by shifting market risk exposures"*.[88]

A second criticism of Karolyi is that, *"if the driver of listing decisions is a lower cost of capital than companies who would experience such an effect would cross-list"*. However, Karolyi observes in almost every country *"a large amount of companies that do not choose to cross-list even though it should be worthwhile based on the Market Segmentation Hypothesis"*.[89]

A Third critique of Karolyi is that *"cross-listing effects are also observed for firms that are fairly integrated in world markets"*. A study of Forester and Karolyi[90], for example, shows that *"Canadian com-*

[85] Y. Wang, H. Chung and C.C. Hsu, "the Impact of International Cross-Listings on Risk and Return: Evidence from Asian Companies", International Research Journal of Finance and Economics, Eurojournals Publishing, 2008, 106-107.
[86] A. Bris, S. Cantale and G. Nishiotis, "A Breakdown of the Valuation Effects of International Cross-Listing", University of Cyprus, 2006, 18.
[87] G.A. Karolyi, "The World of Cross-Listing and Cross-Listings of the World: Challenging Conventional Wisdom", Department of Finance, Fisher College of Business, The Ohio State University, 2004, 12.
[88] D.P. Miller, "The Market Reaction to International Cross-Listing: Evidence From Depositary Receipts", Journal of Financial Economics 51, 1999, 103-123. ; G.A. Karolyi, "The World of Cross-Listing and Cross-Listings of the World: Challenging Conventional Wisdom", Department of Finance, Fisher College of Business, The Ohio State University, 2004, 12.
[89] C. Doidge, G.A. Karolyi and R. Stulz, "Why are Foreign Firms that are Listed in the U.S. Worth More?", Journal of Financial Economics 71, 2004, 205-238. ; G.A. Karolyi, "The World of Cross-Listing and Cross-Listings of the World: Challenging Conventional Wisdom", Department of Finance, Fisher College of Business, The Ohio State University, 2004, 12-13.
[90] S.R. Foerster and G. A. Karolyi, "The Effects of Market Segmentation and Investor Recognition on Asset Prices: Evidence from Foreign Stocks Listing in the United States", Journal of Finance 54, 1999, 981-1013. ; G.A. Karolyi, "The World of Cross-Listing and Cross-Listings of the World: Challenging Conventional Wisdom", Department of Finance, Fisher College of Business, The Ohio State University, 2004, 13.

panies experience a similar reaction to a U.S. cross-listing as European and Asian firms, although, nevertheless, there is a long-standing North American equity market integration".[91]

§4. Conclusion

As Hail and leuz state *"many studies on U.S. cross-listings view cross-listing as a mechanism to overcome market segmentation and barriers "*. Hence, the idea in most of these studies is that *"firms, which country's capital market is not completely integrated with global capital markets"*, will bear a higher cost of capital, *"because the risk of these companies is mostly borne by investors from their home country"*.[92] According to these studies, cross-listing makes it easier for foreign investors to hold shares in these firms and, as a consequence, *"risk is more widely shared"*. Hail and Leuz state that as a result, *"cross-listed firms should have a lower cost of capital and positive stock returns"*. Although, some of the evidence is consistent with the segmentation hypothesis (e.g., Foerster and Karolyi, 1999; Miller, 1999)[93], Hail and Leuz claim that *"recent research questions the extent to which market integration alone can explain the cross-listing effects"* (Doidge et al., 2004; Karolyi, 2006). [94] Hail and Leuz claim that *"if the Market Segmentation Theory is correct, the major number of cross-listings should originate primarily from countries where risk sharing benefits and diversification gains are the largest"*.[95] However, as stated by Hail and Leuz, *"several studies, such as the study by Sarkissian, Schill and Lee show that this hypothesis is not empirically supported"*.[96]

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[91] P. Jorion and E. Schwartz, "Integration Versus Segmentation in the Canadian Stock Market", Journal of Finance 41, 1986, 603-616. ; G.A. Karolyi, "The World of Cross-Listing and Cross-Listings of the World: Challenging Conventional Wisdom", Department of Finance, Fisher College of Business, The Ohio State University, 2004, 13.

[92] L. Hail and C. Leuz, "Cost of Capital Effects and Changes in Growth Expectations around U.S. Cross-Listings", European Corporate Governance Institute, ECGI Working Paper Series in Finance No. 46/2004, 2006, 6.

[93] S.R. Foerster and G.A Karolyi, "The effects of market segmentation and investor recognition on asset prices: Evidence from foreign stocks listing in the U.S.", Journal of Finance 54, 1999, 981–1013. ; D.P. Miller, "The market reaction to international cross-listings: Evidence from depositary receipts", Journal of Financial Economics 51, 1999, 103–123. ; L. Hail and C. Leuz, "Cost of Capital Effects and Changes in Growth Expectations around U.S. Cross-Listings", European Corporate Governance Institute, ECGI Working Paper Series in Finance No. 46/2004, 2006, 6.

[94] C. Doidge, G.A. Karolyi and R.M. Stulz, "Why are foreign firms listed in the U.S. worth more?", Journal of Financial Economics 71, 2004, 205–238. ; G.A. Karolyi, "The world of cross-listings and cross-listings of the World: Challenging conventional wisdom", Review of Finance 10, 2006, 99–152. ; L. Hail and C. Leuz, "Cost of Capital Effects and Changes in Growth Expectations around U.S. Cross-Listings", European Corporate Governance Institute, ECGI Working Paper Series in Finance No. 46/2004, 2006, 6.

[95] L. Hail and C. Leuz, "Cost of Capital Effects and Changes in Growth Expectations around U.S. Cross-Listings", European Corporate Governance Institute, ECGI Working Paper Series in Finance No. 46/2004, 2006, 7.

[96] S. Sarkissian and M. Schill, "The overseas listing decision: New evidence of proximity preference", Review of Financial Studies 17, 2004, 769–809. ; D. Lee, "Why does shareholder wealth increase when non-U.S. firms announce their listing in the U.S.?", Working paper, University of Kentucky, 2004. ; L. Hail and C. Leuz, "Cost of Capital Effects and Changes in Growth Expectations around U.S. Cross-Listings", European Corporate Governance Institute, ECGI Working Paper Series in Finance No. 46/2004, 2006, 7.

iii. Investor Recognition Hypothesis/visibility theory

§1. Introduction

The Investor Recognition Hypothesis is based upon Merton's (1987) model of capital market equilibrium with incomplete information.[97] According to Merton's model, *"an increase in the size of a firm's investor base",* which Merton calls the investor recognition factor*, "should lower the investors' expected return".* Merton claims that *"a lower expected return causes a lower cost capital and in turn increases the market value of the company's shares."*[98] Hence, according to this theory, firms should experience *"an increase in value after cross-listing, which results in a lower cost of capital"*.[99] According to this, *"firms with a relatively small shareholder base have incentives to expand the investor base by cross-listing"*. Hence, it can be concluded that, according to this theory, the increase of the shareholder base will reduce the required returns demanded by investors, and, as a result, *"the market value of the company will increase"*.[100]

In recent years, many studies have documented that cross listing on U.S. exchanges generates significant valuation benefits.[101] (see, for example, Doidge, Karolyi, and Stulz (2004, 2009) ; Gozzi, Levine, and Schmukler (2008)). For instance, a study by Baker, Nofsinger and Weaver shows that *"firms with a broader shareholder base have a lower cost of capital and better market value"*.[102]

§2. Informational considerations and stock market prestige

Moreover, an increased shareholder base can also decrease the cost of information, which can be explained, according to Hail and Leuz, because of the fact that *"cross-listing on a U.S. exchange gen-*

[97] H.K. Baker, J.R. Nofsinger and D.G. Weaver, "International Cross-Listing and Visibility", NYSE Working Paper, 1999, 1.
[98] *Ibid.*
[99] *Ibid.*
[100] N. Cetorelli and S. Peristiani, "Firm Value and Cross-Listings: The Impact of Stock Market Prestige", Federal Reserve Bank of New York, Staff reports, 2010, 2.
[101] C. Doidge, G.A. Karolyi and R. Stulz, "Why Are Foreign Firms Listed in the U.S. Worth More?", Journal of Financial Economics 71, 2004, 205–38. ; C. Doidge, G.A. Karolyi and R. Stulz, "Has New York Become Less Competitive than London in Global Markets? Evaluating Foreign Listing Choices Over Time", Journal of Financial Economics 91, 2009, 253–77. ; J.C. Gozzi, R. Levine and S. Schmukler, "Internationalization and the Evolution of Corporate Valuation", Journal of Financial Economics 88, 2008, 607–32.; N. Cetorelli and S. Peristiani, "Firm Value and Cross-Listings: The Impact of Stock Market Prestige", Federal Reserve Bank of New York, Staff reports, 2010, 2.
[102] K. Baker, J. Nofsinger and D. Weaver, "International Cross-listing and Visibility," Journal of Financial and Quantitative Analysis 37, 2002, 495–521. ; N. Cetorelli and S. Peristiani, "Firm Value and Cross-Listings: The Impact of Stock Market Prestige", Federal Reserve Bank of New York, Staff reports, 2010, 1-2.

erally commits foreign firms to disclosure rules that are stricter than in their home country".[103] Lang et al. argue that *"many empirical studies are consistent with this claim because they indicate an increase in disclosure quality after cross-listing"*.[104] Moreover, many of these studies also argue that these information effects are likely *"to reduce information asymmetries and lower a firms' cost of capital"*.[105]

Two other teams of researchers have focused on the role of analysts around international cross-listings. Lang, Lins and Miller[106] and Bailey, Karolyi and Salva[107] show that there is "an increased number of analysts after cross-listing. Moreover, they also show that there is an improved accuracy of analyst's forecasts, which results in better valuations, and more volatile share price reactions". The findings of Lang, Lins and Miller provide evidence that *"important changes occur in the information environment after cross-listing and that they are awarded with higher valuations by the market"*.[108] Another study by Lang et al. shows similar results. He examined 235 U.S. listed firms relative to a benchmark sample of 4,859 others from 28 countries and showed that *"U.S. listed firms have 2.64 more analysts and that their forecasts' accuracy increases by 1.36 percent"*.[109] Baker,

[103] L. Hail and C. Leuz, "Cost of Capital Effects and Changes in Growth Expectations around U.S. Cross-Listings", European Corporate Governance Institute, ECGI Working Paper Series in Finance No. 46/2004, 2006, 8.

[104] M.H. Lang, K.V. Lins and D.P. Miller, ADRs, "analysts, and accuracy: Does cross listing in the United States improve a firm's information environment and increase market value?", Journal of Accounting Research 41, 2003, 317–345. ; M.H. Lang, J.S. Raedy and M.H. Yetman, "How representative are firms that are cross-listed in the United States? An analysis of accounting quality", Journal of Accounting Research 41, 2003, 363–386. ; W. Bailey, G.A. Karolyi and C. Salva, "The economic consequences of increased disclosure: Evidence from international cross-listings", Journal of Financial Economics 81, 2006, 175–213. ; L. Hail and C. Leuz, "Cost of Capital Effects and Changes in Growth Expectations around U.S. Cross-Listings", European Corporate Governance Institute, ECGI Working Paper Series in Finance No. 46/2004, 2006, 8.

[105] R.E. Verrecchia, "Essays on disclosure", Journal of Accounting and Economics 32, 2001, 91–180. ; D. Easley and M. O'Hara, "Information and the cost of capital", Journal of Finance 59, 2004, 1553–1583. ; R.A. Lambert, C. Leuz, and R.E. Verrecchia, "Accounting information, disclosure, and the cost of capital", Working paper, University of Chicago and University of Pennsylvania, 2006. ; L. Hail and C. Leuz, "Cost of Capital Effects and Changes in Growth Expectations around U.S. Cross-Listings", European Corporate Governance Institute, ECGI Working Paper Series in Finance No. 46/2004, 2006, 8.

[106] M. Lang, K. Lins and D. P. Miller, "ADRs, Analysts and Accuracy: Does Cross-Listing in the U.S. Improve a Firm's Information Environment and Increase Market Value?", Journal of Accounting Research 41, 2003. ; M. Lang, K. Lins and D. P. Miller, "Concentrated Control, Analyst Following and Valuation: Do Analysts Matter Most When Investors are Protected Least?", Journal of Accounting Research, 2004. ; G.A. Karolyi, "The World of Cross-Listing and Cross-Listings of the World: Challenging Conventional Wisdom", Department of Finance, Fisher College of Business, The Ohio State University, 2004, 24.

[107] W. Bailey, G. A. Karolyi and C. Salva, "The Economic Consequences of Increased Disclosure: Evidence from International Cross-Listings," Ohio State University working paper, 2003. ; G.A. Karolyi, "The World of Cross-Listing and Cross-Listings of the World: Challenging Conventional Wisdom", Department of Finance, Fisher College of Business, The Ohio State University, 2004, 24.

[108] M.H. Lang, K.V. Lins and D.P. Miller, "ADRs, Analysts, and Accuracy: Does Cross Listing in the United States Improve a Firm's Information Environment and Increase Market Value?", Journal of Accounting Research, 2005, 342.

[109] M. Lang, J.S. Raedy and M. Yetman, "How Representative are Cross-Listed Firms? An Analysis of Firm Performance and Accounting Quality", Journal of Accounting Research 41, 2003. ; G.A. Karolyi, "The World of

Nofsinger and Weaver also showed that *"the analyst following increases by an average of 6.18 analysts (128 percent) for firms listing on the NYSE*. According to them, the NYSE listed firms also experience *"an average increase in newspaper citations".*[110]

Cetorelli and Peristiani have investigated *"the valuation impact of a firm's decision to cross-list on a more (or less) prestigious stock exchange relative to its own domestic market"*. They use network analysis to derive *"broad market-based measures of prestige for forty-five stock exchange destinations between 1990 and 2006"*.[111] They find that *"firms cross-listing in a more prestigious market benefit from significant valuation gains over the five-year period following the listing"*. Moreover, they also document *"a reverse effect for firms cross-listing in less prestigious markets"*.[112]

§3. Conclusion

The above findings support the hypothesis that *"non-domestic cross-listing increases firm visibility and as a consequence that cross-listing on U.S. stock exchanges generates large valuation benefits"*. However, recent papers, such as those by Gozzi, Levine, and Schmukler[113] and Sarkissian and Schill[114], *"analyze broad panels of companies cross-listing in different world locations, and do not find much evidence of future valuation benefits"*. According to Gozzi, Levine, and Schmukler, *"cross-listing firms seem to actually experience valuation losses in the years after cross-listing"*.[115] Their data shows that *"one year after the cross-listing the valuation of international firms is lower than it is one year before they internationalize"*.[116] The study of Sarkissian and Schill shows similar results. They conclude based on their data that *"firms listing abroad do not appear to achieve any sustained valuation benefits even when the listings occur during periods of intense listing activity which should indicate particular benefit"*.[117] Thus, their results confirm the aforementioned study of Gozzi, Levine and

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Cross-Listing and Cross-Listings of the World: Challenging Conventional Wisdom", Department of Finance, Fisher College of Business, The Ohio State University, 2004, 24.

[110] H.K. Baker, J.R. Nofsinger and D.G. Weaver, "International Cross-Listing and Visibility", NYSE Working Paper, 1999, 1.

[111] N. Cetorelli and S. Peristiani, "Firm Value and Cross-Listings: The Impact of Stock Market Prestige", Federal Reserve Bank of New York, Staff reports, 2010, 8.

[112] *Ibid.*

[113] J.C. Gozzi, R. Levine and S.L. Schmukler, "Internationalization and the Evolution of Corporate Valuation", 2008, 27-28. ; N. Cetorelli and S. Peristiani, "Firm Value and Cross-Listings: The Impact of Stock Market Prestige", Federal Reserve Bank of New York, Staff reports, 2010, 2.

[114] S. Sarkissian and M.J. Schill, "Cross-Listing waves", 2012, 33. ; N. Cetorelli and S. Peristiani, "Firm Value and Cross-Listings: The Impact of Stock Market Prestige", Federal Reserve Bank of New York, Staff reports, 2010, 2.

[115] N. Cetorelli and S. Peristiani, "Firm Value and Cross-Listings: The Impact of Stock Market Prestige", Federal Reserve Bank of New York, Staff reports, 2010, 2.

[116] J.C. Gozzi, R. Levine and S.L. Schmukler, "Internationalization and the Evolution of Corporate Valuation", 2008, 27-28.

[117] S. Sarkissian and M.J. Schill, "Cross-Listing waves", 2012, 33.

Schmukler. Another study by Wang, examined the share prices of Indonesia companies 250 days before and after cross-listings. The empirical results presented by this study show that there are *"no significant abnormal returns for the companies during their cross-listings"*,[118] which does not support the investor recognition hypothesis.

King and Segal studied the longer-horizon benefits of cross-listing for Canadian firms. King and Segal's empirical evidence shows that *"the impact of investor recognition appears to disappear within two years after cross-listing"*.[119] Consistent with the results of Foerster and Karolyi (1999) and Mittoo (2003), they find that *"firms' valuations revert to levels at or below their pre-listing levels within several years"*.[120] Hence, according to these results, firms that cross-list on the U.S. market *"do better initially, but they still end up valued no differently from non-cross-listed firms"*.

As stated by King and Segal, these results *"call into question the benefits of cross-listing when the primary motivation is to increase the firm's valuation by broadening its investor base"*. They claim that this result *"may partially explain why so few foreign firms are not yet cross-listed on a U.S. exchange"*. Hence, it can be concluded that although earlier studies support the hypothesis that *"non-domestic cross-listing increases firm visibility and as a consequence generates value for the company"*, there is, however, *"no evidence that cross-listing firms experience long-term valuation benefits because of cross-listing effects such as increased visibility or broader shareholder base"*.[121]

iv. The Liquidity Hypothesis

§1. Introduction

The Liquidity Hypothesis, as established by Amihud and Mendelson, states that *"since U.S. capital markets are very liquid, firms who cross-list can raise capital at a lower cost than at home, especially*

[118] Y. Wang, H. Chung and C.C. Hsu, "the Impact of International Cross-Listings on Risk and Return: Evidence from Asian Companies", International Research Journal of Finance and Economics, Eurojournals Publishing, 2008, 104-105.
[119] M.R. King and D. Segal, "Are There Longer Horizon Benefits to Cross-Listing?: Untangling the Effects of Investor Recognition", Trading and Ownership, 2005, 29.
[120] S.R. Foerster and G.A. Karolyi, "The Effects of Market Segmentation and Investor Recognition on Asset Prices: Evidence from Foreign Stocks Listing in the United States", Journal of Finance 54(3), 1999, 981-1013. ; U.R. Mittoo, "Globalization and the Value of U.S. Listings: Revisiting Canadian Evidence", Journal of Banking and Finance 27(9), 2003, 1629-1661. ; M.R. King and D. Segal, "Are There Longer Horizon Benefits to Cross-Listing?: Untangling the Effects of Investor Recognition", Trading and Ownership, 2005, 29-30.
[121] M.R. King and D. Segal, "Are There Longer Horizon Benefits to Cross-Listing?: Untangling the Effects of Investor Recognition", Trading and Ownership, 2005, 29-30.

companies from emerging markets".[122] Amihud and Mendelson suggest that *"companies who reside on capital markets with poor liquidity should cross-list on exchanges with superior liquidity, which would decrease their liquidity risk premium and their expected return"*[123] *They claim that "the liquidity risk and expected returns will decrease and, consequently, share price will rise".*[124]

§2. Empirical evidence

A number of studies examine patterns in bid-ask spreads, price volatility and trading volumes in ADRs after they have cross-listed on U.S. markets. (Forster and George (1995); Chan, Fong, Kho and Stulz (1996); Werner and Kleidon (1996)).[125] Foerster and Karolyi provide evidence of *"a 29 percent increase in intraday volume and a 44 basis point decline in intraday effective spreads for 52 Canadian companies listing in the U.S"*.[126] For a sample of 128 NYSE-listed non-U.S. stocks, Smith and Sofianos measured *"an increase in the combined value of trading from $240 million per stock per day to $340 million, a 34 percent increase"*.[127] Bris, Cantale and Nishiotis find evidence that supports the liquidity hypothesis, and more specifically, that *"the premium is linked to the relative liquidity of the two classes of shares"*. Their data shows that after the listing, the company's liquidity significantly improves for both classes of shares in the domestic market.[128]

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[122] Y. Wang, H. Chung and C.C. Hsu, "the Impact of International Cross-Listings on Risk and Return: Evidence from Asian Companies", International Research Journal of Finance and Economics, Eurojournals Publishing, 2008, 96.

[123] H.K. Baker, J.R. Nofsinger and D.G. Weaver, "International Cross-Listing and Visibility", NYSE Working Paper, 1999, 1.

[124] Y. Amihud and H. Mendelson, "Asset Pricing and the Bid-Ask Spread", Journal of Financial Economics, 1986, 223-249. ; Y. Wang, H. Chung and C.C. Hsu, "the Impact of International Cross-Listings on Risk and Return: Evidence from Asian Companies", International Research Journal of Finance and Economics, Eurojournals Publishing, 2008, 96.

[125] M.M. Forster and T.J. George, "Trading Hours, Information Flow And International Cross-Listing", International Review of Financial Analysis 4, 1995, 19-34. ; K.C. Chan, W. Fong, B. Kho and R. Stulz, "Information, Trading and Stock Returns: Lessons from Dually-Listed Securities", Journal of Banking and Finance 20, 1996, 1161-1187. ; I. Werner and A. Kleidon, "U.S. and U.K. Trading of British Cross-Listed Stocks: An Intraday Analysis of Market Integration", Review of Financial Studies 9, 1996, 619-664. ; G.A. Karolyi, "The World of Cross-Listing and Cross-Listings of the World: Challenging Conventional Wisdom", Department of Finance, Fisher College of Business, The Ohio State University, 2004, 7.

[126] S.R. Foerster and G. A. Karolyi, "Multimarket Trading And Liquidity: A Transaction Data Analysis of Canada-US Interlistings", Journal of International Financial Markets, Institutions and Money 8, 1998, 393-412. ; G.A. Karolyi, "The World of Cross-Listing and Cross-Listings of the World: Challenging Conventional Wisdom", Department of Finance, Fisher College of Business, The Ohio State University, 2004, 7.

[127] K. Smith and G. Sofianos, "The Distribution of Global Trading in NYSE-Listed Non-U.S. Stocks", NYSE working paper 96-02, 1996. ; G.A. Karolyi, "The World of Cross-Listing and Cross-Listings of the World: Challenging Conventional Wisdom", Department of Finance, Fisher College of Business, The Ohio State University, 2004, 7.

[128] A. Bris, S. Cantale and G. Nishiotis, "A Breakdown of the Valuation Effects of International Cross-Listing", University of Cyprus, 2006, 18.

However, not all empirical evidence supports the Liquidity Hypothesis Theory.[129] Wang, Chung and Hsu show that, although, *"there were no significant abnormal returns for Asian companies before they cross-listed, nevertheless, returns did drop markedly after cross-listing"*. Hence, it can be concluded that the study of Wang, Chung and Hsu, find no evidence *"that there was a listing effect such as increased liquidity for Asian companies who cross-listed in the 1990s"*.[130]

§3. Conclusion

Although, many studies seem in support of the Liquidity Hypothesis, the findings of more recent studies, which show that there are, for example, no listing effects, with regard to cross-listing Asian companies, does not support the Liquidity Hypothesis.[131]

v. Bonding Hypothesis

§1. Introduction

Recent research argues that *"a principal motivation for cross-listing is investor protection"*.[132] The bonding hypothesis, as established by Coffee and Stulz, is built upon the seminal work of La Porta, Lopez-de-Silanes, Shleifer and Vishny that states that *"countries differ in their protections of minority shareholders and enforcement strength"*.[133] Based on the former, Coffee argues that *"Large firms can choose the capital market on which they will cross-list, and in so doing they can opt into governance systems, disclosure standards, and accounting rules that may be more rigorous than those required or prevailing in their jurisdiction of incorporation". Hence, Coffee claims that "the most visible contemporary form of migration seems motivated by the impulse to opt into higher regulatory or disclosure standards and thus to implement a form of bonding under which firms commit to governance standards more exacting than that of their home countries."* According to Coffee, *"the application of U.S. securities law significantly constrains opportunism by controlling*

[129] H.K. Baker, J.R. Nofsinger and D.G. Weaver, "International Cross-Listing and Visibility", NYSE Working Paper, 1999, 1.
[130] Y. Wang, H. Chung and C.C. Hsu, "the Impact of International Cross-Listings on Risk and Return: Evidence from Asian Companies", International Research Journal of Finance and Economics, Eurojournals Publishing, 2008, 105.
[131] *Ibid.*
[132] M.R. King and D. Segal, "International Cross-Listing and the Bonding Hypothesis", Working Paper 2004-17, Bank of Canada, 2004, 1.
[133] R. La Porta, F. Lopez-de-Silanes, A. Shleifer and R. Vishny, "Law and Finance." Journal of Political Economy 106(6), 1998, 1113–55. ; A.N. Licht, "Cross-Listing and Corporate Governance: Bonding or Avoiding?", Chicago Journal of International Law, 2003, 145.

shareholders"[134] Hence, the bonding hypothesis argues that companies from countries with low investor protections can *"bond themselves with the U.S. where investor protections are high"*. This "increased *respect for minority shareholder rights and the increase of the amount of disclosed information*",[135] should in turn increase a firm's ability to raise capital and lower its cost of capital.[136]

§2. The U.S. regulatory environment

Cross-listing on a U.S. exchange via a Level II or III ADR program subjects foreign firms to *"governance systems, disclosure standards, accounting rules, and legal rules that are more rigorous than the standards they are subject to in their home country"*. As stated by Doidge, *"foreign firms that list their shares on a U.S. stock exchange become subject to mandatory U.S. legal standards"*. Because of this, much of the discretion and potential for opportunistic actions that controlling shareholders can take under other legal regimes is sharply limited.[137] Morever, as Doidge states, *"U.S. securities laws not only seek to improve disclosure and financial reporting, they also seek to reduce agency costs and inhibit controlling shareholders by imposing substantive obligations on them"*.[138]

Furthermore, as Lel and Miller argue, cross-listed firms are also subject *"to U.S. investor protection laws such as the Foreign Corrupt Practices Act and the Sarbanes Oxley Act"*. Moreover, cross-listed firms are also subject to *"punishment by U.S. law enforcement, both by the SEC as well as private investor law suits"*. In addition, *"cross-listed firms are subject to increased scrutiny from intermediaries such as financial analysts and debt rating agencies"*.[139] Insider trading rules also restrict their investor's ability to buy or sell based on material nonpublic information.[140] Moreover, Lel and Miller also state that *"foreign firms (and their controlling shareholders) are subject to liability provisions in the Exchange Act under §10b and Rule 10b-5, §18, §20A, and §21A. For Level 3 ADRs, the liability*

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[134] J.C. Coffee, "The Future as History: The Prospects for Global Convergence in Corporate Governance and Its Implications", Northwestern University Law Review 93(3), 1999, 641–708. ; A.N. Licht, "Cross-Listing and Corporate Governance: Bonding or Avoiding?", Chicago Journal of International Law, 2003, 145.
[135] *Ibid.*
[136] L. Hail and C. Leuz, "Cost of Capital Effects and Changes in Growth Expectations around U.S. Cross-Listings", European Corporate Governance Institute, ECGI Working Paper Series in Finance No. 46/2004, 2004, 8.
[137] C. Doidge, "U.S. Cross-Listings, the Private Benefits of Control: Evidence from dual-class firms", University of Toronto, 2002, 6-7.
[138] *Ibid.*
[139] U. Lel and D.P. Miller, "International Cross-Listing, Firm Performance and Top Management Turnover: A Test of the Bonding Hypothesis", International Finance Discussion Papers, 2006, 6.
[140] Ibid.

provisions in §11 and §12(2) of the Securities Act also apply"[141]. Hence it can be concluded that the U.S. regulatory environment is *"designed to protect minority shareholders and has a constraining impact on controlling shareholders"*.

However, as Siegel states, *"the question is if bonding occurs through the courts or through the operation of the financial markets"*. Siegel studies Mexican firms with ADRs traded on U.S. exchanges and finds that *"U.S. law enforcement neither deterred nor punished Mexican insiders who expropriated assets from those companies"*. Furthermore, Siegel finds that *"the courts have been mostly ineffective in punishing the foreign firms"*. Instead, Siegel claims that *"investors punish Mexican firms by reducing their access to capital"*. Thus, according to this research bonding does not work through the courts, but rather through a reputational mechanism.[142]

§3. Empirical evidence

Reese and Weisenbach found that listing in a country with stricter standards than at home *"reduces the potential for managers to benefit from private information in their possession"*.[143] As a consequence, Doidge et al. claim that "*many firms do not cross-list their shares in the U.S, because they do not want to give up their private benefits"*. Furthermore, they also claim that firms that are controlled by their top managers and their families are less likely to have a U.S listing, because of this bonding effect.[144] Lel and Miler, examined *"the relative propensity for cross-listed firms to terminate poorly performing CEOs"*. They constructed a database of over 70,000 firms from 42 countries and find that *"cross-listed firms are more likely to shed poorly performing CEOs than non-cross-listed firms"*. Moreover, they find that *"this effect is concentrated in cross-listings on major U.S. exchanges with the strongest investor protections"*.[145] Doidge also found that *"the premium between voting and*

[141] E. Greene, A. Beller, E. Rosen, L. Silverman, D. Braverman and S. Sperber, "U.S. Regulation of the International Securities and Derivatives Markets", Aspen Law and Business 5 th ed., New York, 2000. ; C. Doidge, U.S. Cross-Listings, "the Private Benefits of Control: Evidence from dual-class firms", University of Toronto, 2002, 8.
[142] J. Siegel, "Can Foreign Firms Bond Themselves Effectively by Renting U.S. Securities Laws?", Journal of Financial Economics, forthcoming, 2004. ; M.R. King and D. Segal, "International Cross-Listing and the Bonding Hypothesis", Working Paper 2004-17, Bank of Canada, 2004, 7-8.
[143] W. Reese and M. Weisbach, "Protection of minority shareholder interests, cross-listings in the United States, and subsequent equity offerings", Journal of Financial Economics 66, 2002, 65-104. ; E. Chouinard and Chris D'Souza, "The Rationale for Cross-Border Listings", Financial Markets Department, Bank of Canada Review, 2004, 28.
[144] C. Doidge, G.A. Karolyi, K.V. Lins, D.P. Miller, R.M. Stulz, "Private Benefits of Control, Ownership, and the Cross-Listing Decision", Working Paper 11162, National Bureau of Economic Research, 2005, 2.
[145] U. Lel and D.P. Miller, "International Cross-Listing, Firm Performance and Top Management Turnover: A Test of the Bonding Hypothesis", International Finance Discussion Papers, 2006, 31.

non-voting shares declines following cross-listing; an indication that minority investors are better protected and benefit more from cross-listing".[146]

Although, the former evidence shows that the bonding hypothesis applies most directly to firms from emerging markets, the question is whether *"bonding also has an impact on the valuation of firms from developed countries"*. This has been researched by King and Segal, who empirically test the bonding hypothesis on Canadian data. The results suggest that *"Canadian firms can increase their valuation by bonding themselves to the U.S. regulatory environment through cross-listing"*.[147] Their study shows that *"the cross-listed firms that are subject to stricter SEC supervision and greater scrutiny by U.S. investors are valued more highly than Canadian firms that are listed exclusively on the TSX"*.[148] Furthermore, they find that Cross-listed firms that are *"traded actively in the U.S. market experience a significant increase of valuation over the long term"*. According to King and Segal, this could be explained by the fact that *"investor protection in the United States is qualitatively higher than in Canada"*. As a consequence, they claim that *"bonding might have a positive impact on the valuation of cross-listed Canadian firms"*.[149]

§4. Is bonding really effective?

The former studies confirm the Bonding Hypothesis. However, Lel and Miller argue that *"the evidence in several recent studies shows that the bonding via a cross- listing in the U.S. is ineffective"*.[150] For example, Siegel finds that *"the SEC and minority shareholders have rarely enforced U.S. laws against cross-listed firms"*. He also documents instances where insiders from cross-listed firms *"exploited this weak legal enforcement with impunity"*.[151] Moreover, Licht claims that *"the SEC applies a lower standard of enforcement of corporate governance rules for foreign issu-*

[146] M.R. King and D. Segal, "International Cross-Listing and the Bonding Hypothesis", Working Paper 2004-17, Bank of Canada, 2004, 7.
[147] E. Chouinard and Chris D'Souza, "The Rationale for Cross-Border Listings", Financial Markets Department, Bank of Canada Review, 2004, 28.
[148] M.R. King and D. Segal, "International Cross-Listing and the Bonding Hypothesis", Working Paper 2004-17, Bank of Canada, 2004, 3.
[149] M.R. King and D. Segal, "International Cross-Listing and the Bonding Hypothesis", Working Paper 2004-17, Bank of Canada, 2004, 10-11.
[150] U. Lel and D.P. Miller, "International Cross-Listing, Firm Performance and Top Management Turnover: A Test of the Bonding Hypothesis", International Finance Discussion Papers, 2006, 7.
[151] J. Siegel, "Can foreign firms bond themselves effectively by submitting to U.S. law?", Journal of Financial Economics 75, 2005, 319-359. ; U. Lel and D.P. Miller, "International Cross-Listing, Firm Performance and Top Management Turnover: A Test of the Bonding Hypothesis", International Finance Discussion Papers, 2006, 7.

ers".[152] Furthermore, Lang, Raedy and Wilson show that *"the accounting data of cross-listed firms from weak investor protection environments are of lower quality than data prepared by U.S. firms"*.[153] However, it should be noted that this form of research also has drawbacks. Coffee (2002) and Benos and Weisbach (2004) suggest that *"measuring the incidence of legal actions may understate its benefit as a deterrent"*.[154]

Ayyagari also criticizes the fact that *"the bonding hypothesis presumes that US securities law deters corporate malfeasance by foreign issuers"*. According to Ayyagari, several factors undermine the importance of US securities law with respect to ADR holders.[155] Firstly, he argues that *"the laws of many countries recognize the depositary bank as the shareholder of the securities underlying the ADR program and not the ADR holders"*.[156] Secondly, Ayyagari also notes that there are *"no NYSE rules regarding the notice of shareholder meetings or disclosure of agenda items to holders of ADRs"*. Furthermore, Ayyagari also states that *"foreign issuers are not subjected to the SEC's proxy rules and foreign issuers may obtain waivers for the holding of their annual shareholder meetings, including quorum requirements for these meetings"*.[157]

Moreover, according to Ayyagari, *"some depository agreements, which play a role in determining voting rights of ADR holders, provide that if ADR holders do not vote, shares are autoproxied to the issuer"*. He states that many "include a disclaimer that there is no guarantee that ADR holders will receive proxy materials in time to exercise their votes".[158] Furthermore, Ayyagari states that *"several provisions in current SEC regulations allow for accommodations to foreign issuers"*. For example, as

[152] A. Licht, "Cross-listing and corporate governance: bonding or avoiding?", Chicago Journal of International Law 4, 2003, 141-163. ; U. Lel and D.P. Miller, "International Cross-Listing, Firm Performance and Top Management Turnover: A Test of the Bonding Hypothesis", International Finance Discussion Papers, 2006, 7.

[153] M. Lang, J. Smith Raedy and W. Wilson, "Earnings management and cross listing: Are reconciled earnings comparable to U.S. earnings?", Journal of Accounting and Economics, 2006. ; U. Lel and D.P. Miller, "International Cross-Listing, Firm Performance and Top Management Turnover: A Test of the Bonding Hypothesis", International Finance Discussion Papers, 2006, 7.

[154] J. Coffee, "Racing Towards the Top? the impact of cross-listings and stock market competition on international corporate governance", Working Paper, Columbia University, 2002. ; E. Benos and M. Weisbach, "Private benefits and cross-listings in the United States", Emerging Markets Review 5, 2004, 217-240. ; U. Lel and D.P. Miller, "International Cross-Listing, Firm Performance and Top Management Turnover: A Test of the Bonding Hypothesis", International Finance Discussion Papers, 2006, 8.

[155] M. Ayyagari, "Does Cross-Listing lead to functional Convergence? Emperical Evidence", World Bank Policy Research Working Paper 3264, 2004, 8.

[156] *Ibid.*

[157] *Ibid.*

[158] M. Ayyagari, "Does Cross-Listing lead to functional Convergence? Emperical Evidence", World Bank Policy Research Working Paper 3264, 2004, 8-9.

stated by Ayyagari, *"some foreign issuers are not required to have audit committees consisting of external, independent directors. Instead they are allowed to have internal auditors"*.[159]

§5. A critical view of the Bonding Hypothesis

Earlier studies suggest that amongst others the bonding effects of U.S. cross-listings offer substantial benefits such as a decreased cost of capital. However, as stated before, *"the sources of these benefits are not yet well understood"*.[160] Hail and Leuz apply a novel approach to this question. In their new approach, Hail and Leuz investigate to what extent, *"the benefits of cross-listing really stem from a reduction in the firms' cost of capital, as the bonding hypothesis and other theories claim"*.

According to the results of their study, they claim that *"the valuation effects reflect a firms' choice to cross-list when they experience an expansion in their growth opportunities that is unrelated to cross-listing theories such as the Bonding Hypothesis"*. Under this explanation, *"the valuation benefits do not stem from cross-listing per se and also should not be manifested in a lower cost of capital"*.[161] Moreover, according to Miller et al., even if there are valuation benefits, *"it is not clear if these benefits are sustained"*.[162]

Furthermore, Leuz, notes, that *"the evidence contained in many studies, which supports the bonding hypothesis is fairly indirect"*. According to Leuz, *"it is difficult to attribute the economic consequences of cross-listing directly to the bonding hypothesis because many theories of cross-listing have similar economic predictions"*.[163] According to Lel and Miller, *"researchers face a challenge when testing the bonding hypothesis, because it is often difficult to assess the quality of*

[159] M. Ayyagari, "Does Cross-Listing lead to functional Convergence? Emperical Evidence", World Bank Policy Research Working Paper 3264, 2004, 8-9.
[160] M. Ayyagari, "Does Cross-Listing lead to functional Convergence? Emperical Evidence", World Bank Policy Research Working Paper 3264, 2004, 8-9.
[161] L. Hail and C. Leuz, "Cost of Capital Effects and Changes in Growth Expectations around U.S. Cross-Listings", European Corporate Governance Institute, ECGI Working Paper Series in Finance No. 46/2004, 2004, 9.
[162] D.P. Miller, "The market reaction to international cross-listings: Evidence from depositary receipts", Journal of Financial Economics 51, 1999, 103–123.; J.C. Gozzi, R. Levine and S.L. Schmukler, "Internationalization and the evolution of corporate valuation", Working paper, World Bank and Brown University, 2006. ; S. Sarkissian and M. Schill, "Are there permanent valuation gains to overseas listing? Evidence from market sequencing and selection", Working paper, McGill University and University of Virginia, 2006. ; L. Hail and C. Leuz, "Cost of Capital Effects and Changes in Growth Expectations around U.S. Cross-Listings", European Corporate Governance Institute, ECGI Working Paper Series in Finance No. 46/2004, 2004, 9.
[163] C. Leuz, "Cross listing, bonding, and firms' reporting incentives: A discussion of Lang, Raedy, and Wilson", Journal of Accounting and Economics, 2006. ; U. Lel and D.P. Miller, "International Cross-Listing, Firm Performance and Top Management Turnover: A Test of the Bonding Hypothesis", International Finance Discussion Papers, 2006, 2.

governance from observed mechanisms of governance."[164] Moreover, Lang, Lins and Miller find that *"increased monitoring by financial analysts occurs around the cross-listing, and this monitoring can offset the valuation discounts associated with high concentration of ownership".*[165] Therefore, according to Lel and Miller, *"using the mechanisms of governance to infer the effectiveness of a cross-listed firm's corporate governance system is not likely to be unambiguous."*[166]

§6. Alternative approach to the Bonding Hypothesis

However, there is an alternative approach to test the bonding hypothesis *"by looking at the effect of legal bonding on ownership and control structures"*. Ayyagari tests what happens to the ownership structure when *"a firm migrates from a poor investor protection environment to one with greater protection"*. Ayyagari investigated 425 firms from 42 countries that cross-listed on a major exchange in the United States. He examined the changes in ownership and control structures around the date of cross-listing. His results show *"that there is no mass transformation of ownership structures"*. Ayyagari's results are consistent with the path-dependence theory, by Bebchuk and Roe, that *"predicts that the initial ownership patterns of foreign firms persist after cross-listing"*.[167] According to them, *"the controlling owner is likely to retain control after the cross-listing, instead of selling his voting rights to a dispersed group of shareholders, because of the fact that the ownership structure of a firm at any point is influenced by the initial ownership pattern due to complementarities, network externalities, and sunk costs"*.[168]

The aforementioned findings question the bonding hypothesis and *"the idea that legal protections provided by cross-listing are effective enough to cause firms to change their governance structure"*.[169] According to Ayyagari, this can be explained by the fact that *"foreign issuers are still held more accountable to home country laws and are subject to different governance standards*

[164] U. Lel and D.P. Miller, "International Cross-Listing, Firm Performance and Top Management Turnover: A Test of the Bonding Hypothesis", International Finance Discussion Papers, 2006, 8.
[165] M.H. Lang, K. Lins and D. Miller, "ADRs, analysts, and accuracy: Does cross listing in the United States improve a firm's information environment and increase market value?", Journal of Accounting Research 41, 2003, 317-345. ; M.H. Lang, K. Lins and D. Miller, "Concentrated control, analyst following, and valuation: Do analysts matter most when investors are protected least?", Journal of Accounting Research 42, 2004, 589-623. ; U. Lel and D.P. Miller, "International Cross-Listing, Firm Performance and Top Management Turnover: A Test of the Bonding Hypothesis", International Finance Discussion Papers, 2006, 8.
[166] U. Lel and D.P. Miller, "International Cross-Listing, Firm Performance and Top Management Turnover: A Test of the Bonding Hypothesis", International Finance Discussion Papers, 2006, 8.
[167] L.A Bebchuk and M. Roe, "A Theory of Path Dependence in Corporate Ownership and Governance", Stanford Law Review 52, 1999, 775-808. ; M. Ayyagari, "Does Cross-Listing lead to functional Convergence? Emperical Evidence", World Bank Policy Research Working Paper 3264, 2004, 2.
[168] *Ibid.*
[169] M. Ayyagari, "Does Cross-Listing lead to functional Convergence? Empirical Evidence", World Bank Policy Research Working Paper 3264, 2004, 36.

than domestic U.S. firms". As a consequence, *"a transformation in their governance structures is unlikely to happen"*.[170]

§7. Licht's survey study

Based on a comprehensive survey of the literature, Licht argues that *"the bonding role of cross-listing has been greatly overstated"*. He claims that *"a large body of evidence, using various research methodologies, indicates that the bonding theory is unfounded"*.[171] According to Licht, the evidence supports an alternative theory, which may be called *"the avoiding hypothesis"*. Licht claims that, contrary to conventional wisdom, *"corporate governance plays a negative role in cross-listing decisions"*.[172]

Licht notes that the early investigations' focus was *"on the overall financial impact of cross-listings"*. He argues that, as a consequence, *"the whole problem of managerial opportunism was overlooked"*. This is supported by studies, in which *"managers of non–US firms were interviewed, who cited disclosure requirements as the major obstacle"*. Hence, as Licht remarks, these findings debunk the bonding hypothesis, because of the fact that they indicate that *"increased disclosure levels play a negative role rather than a positive one"*.[173]

Another study that supports the aforementioned view, examined *"the correlation between a Mexican issuer having an ADR facility and the likelihood of an insider of the issuer engaging in asset-taking"*. The results of the study found that *"having an ADR was associated with a substantially greater likelihood of having an insider engage in asset-taking"*. This study shows that *"cross-listing in the U.S. might have encouraged self-dealing, which is contrary to the bonding hypothesis"*.[174]

Licht also mentions the fact that *"subsequent equity issuances of firms from certain countries (typically emerging economies) do not take place in the United States"*. Licht finds this very puzzling, as *"access to external finance is among the main reasons cited by managers for cross-listing in*

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[170] M. Ayyagari, "Does Cross-Listing lead to functional Convergence? Empirical Evidence", World Bank Policy Research Working Paper 3264, 2004, 36.
[171] A.N. Licht, "Cross-Listing and Corporate Governance: Bonding or Avoiding?", Chicago Journal of International Law, 2003, 142.
[172] *Ibid.*
[173] A.N. Licht, "Cross-Listing and Corporate Governance: Bonding or Avoiding?", Chicago Journal of International Law, 2003, 161.
[174] J. Siegel, "Can Foreign Firms Bond Themselves Effectively by Renting U.S. Securities Laws?", MIT Working Paper, 2002. ; A.N. Licht, "Cross-Listing and Corporate Governance: Bonding or Avoiding?", Chicago Journal of International Law, 2003, 160.

the US". Licht concluded that the fact that *"U.S.–listed issuers prefer (or are driven) not to re-tap the American capital market actually suggests that U.S. Investors are not impressed by the alleged positive signals"*.[175] Licht also mentions Reese and Weisbach's finding that cross-listing firms from emerging markets tend to avoid the high-disclosure NYSE and NASDAQ, which is according to Licht *"in line with the findings of numerous other studies."*

The aforementioned findings are according to Licht, consistent with the *"avoiding hypothesis, which states that managers and blockholders prefer private benefits above good corporate governance"*, but it is inconsistent with the bonding theory.

§8. Conclusion

As stated by Licht, *"Proving or disproving whether the bonding hypothesis is correct is a difficult task*, *because of the fact that many factors are simultaneously at play*." The survey of the literature by Licht shows that *"the body of evidence that has accumulated in recent years indicates that as a positive empirical matter, the bonding hypothesis is unfounded. Licht shows that "cross-listing may be pursued for many good reasons, but as research shows self-improvement is most likely not one of them.* Hence, *"instead of bonding, most issuers may actually be avoiding better governance"*.[176]

vi. Alternative Cross-listing Theories

§1. Price Discovery Theory

A study by Binch, Chong and Eom suggest that *"a desire to facilitate round-the-clock trading can be a motivation for cross-listing, even when the two markets share identical trading hours"*.[177] However, it should be noted that their study is *"limited to one firm over a relatively short data period".*[178]

Price discovery is defined by Schreiber and Schwartz as *"the search for an equilibrium price, which is a key function of a stock exchange"*.[179] A study by Eun and Sabherwahl examined 62 Canadian firms

[175] A.N. Licht, "Cross-Listing and Corporate Governance: Bonding or Avoiding?", Chicago Journal of International Law, 2003, 161.
[176] A.N. Licht, "Cross-Listing and Corporate Governance: Bonding or Avoiding?", Chicago Journal of International Law, 2003, 161.
[177] K.B. Binch, B. Chong, K.S. Eom, "Cross-Border Price Discovery and a New Motivation for Cross-Listing", International Research Journal of Finance and Economics, 2010, 94-95.
[178] *Ibid.*
[179] Y. Su, H. Huang and Y. Chen, "Intraday Return-Order Imbalance Relation in Cross-Listings between NYSE and TSX", International Research Journal of Finance and Economics 76, 2011, 85.

cross-listed on the Toronto Stock Exchange (TSX) and the NYSE or Nasdaq for three months in 1998. Overall, they find strong evidence that *"considerable price discovery takes place in the U.S"*. (for 58 of 62 stocks). Menkveld, Koopman and Lucas examined one year of transactions data on seven major Dutch firms (such as Aegon, Ahold, and KLM). Their data shows *"important price and quote activity around the NYSE opening for these stocks"*.[180]

§2. Investment Sensitivity Theory

Frésard and Foucault find, using a large sample of U.S. cross-listings from 38 countries over the period 1989-2007, that cross-listed firms *"have a higher sensitivity of corporate investment to stock price than non-cross-listed firms"*.[181] Moreover, according to Frésard and Foucault, this difference in sensitivity of investment to stock price *"materializes after a cross-listing (as it does not exist before) and it is long-lasting"*. According to Frésard and Foucault, *"these findings support the hypothesis that a U.S. cross-listing enables managers to obtain more information from the stock market, which then they use to make their corporate investment decisions"*.[182]

§3. Proximity Theory

Scholars such as Pagano, Randl, Roell and Zechner (2001)[183], Claessens, Klingebiel and Schmukler (2007)[184] and Sarkissian and Schill (2003)[185] emphasize *"the importance of geography in listing choices"*. For example, Sarkissian and Schill find evidence that "*proximity preference is a surprisingly important factor, especially for non-G-5 (France, Germany, Japan, U.K., and U.S.) countries"*. Another study of Sarkissian and Schill, evaluates *"the longer-run capital market reactions to listings*

[180] Y. Su, H. Huang and Y. Chen, "Intraday Return-Order Imbalance Relation in Cross-Listings between NYSE and TSX", International Research Journal of Finance and Economics 76, 2011, 85.
[181] T. Foucault and L. Frésard, "Cross-Listing, Investment Sensitivity to Stock Price and the Learning Hypothesis", 2010, 26.
[182] *Ibid.*
[183] M. Pagano, O. Randl, A.A. Roell and J. Zechner, "What Makes Stock Exchanges Succeed? Evidence From Cross-Listing Decisions", European Economic Review 45, 2001, 770-782. ; M. Pagano, A.A. Roell and J. Zechner, "The Geography Of Equity Listing: Why Do Companies List Abroad?", Journal of Finance 57, 2002, 2651-2694. ; G.A. Karolyi, "The World of Cross-Listing and Cross-Listings of the World: Challenging Conventional Wisdom", Department of Finance, Fisher College of Business, The Ohio State University, 2004, 25.
[184] S. Claessens and S. Schmukler, "International Financial Integration Through Equity Markets: Which Firms from Which Countries Go Global?", IMF Working Paper, 2007. ; G.A. Karolyi, "The World of Cross-Listing and Cross-Listings of the World: Challenging Conventional Wisdom", Department of Finance, Fisher College of Business, The Ohio State University, 2004, 25.
[185] S. Sarkissian and M. Schill, "The Cost of Capital Effects of Overseas Listings: Market Sequencing and Selection", University of Virginia working paper, 2003. ; S. Sarkissian and M. Schill, "The Overseas Listing Decision: New Evidence of Proximity Preference," Review of Financial Studies, forthcoming, 2004. ; G.A. Karolyi, "The World of Cross-Listing and Cross-Listings of the World: Challenging Conventional Wisdom", Department of Finance, Fisher College of Business, The Ohio State University, 2004, 25.

decisions". They show for *"1,298 listings spanning most world markets that the cost-of-capital gains are more modest than those reported in earlier studies"*.[186]

§4. Spillover Effects of Cross-listings

Some research has investigated if there are *"spill-over effects, to other firms from the home market of cross-listed firms"*.[187] For example, Moel examined, in his study of 2001, *"the effects of ADR growth for three different proxies of stock market development (market openness, liquidity and the growth in domestic listings) in 28 emerging markets"*. The results of his study shows that *"ADR expansion negatively affects investability, liquidity and growth in domestic listings"*.[188] Thus, according to his research, domestic stocks become *"more fragmented or segmented from global markets"*.[189] Karolyi has also investigated the spill-over effects of cross-border listings.[190] In his study, Karolyi provides evidence that cross-listing has *"a deleterious impact on the number of listed firms, their overall capitalization and trading activity in the home market"*.[191]

[186] S. Sarkissian and M. Schill, "The Cost of Capital Effects of Overseas Listings: Market Sequencing and Selection", University of Virginia working paper, 2003. ; G.A. Karolyi, "The World of Cross-Listing and Cross-Listings of the World: Challenging Conventional Wisdom", Department of Finance, Fisher College of Business, The Ohio State University, 2004, 26.

[187] G.A. Karolyi, "The World of Cross-Listing and Cross-Listings of the World: Challenging Conventional Wisdom", Department of Finance, Fisher College of Business, The Ohio State University, 2004, 30.

[188] *Ibid.*

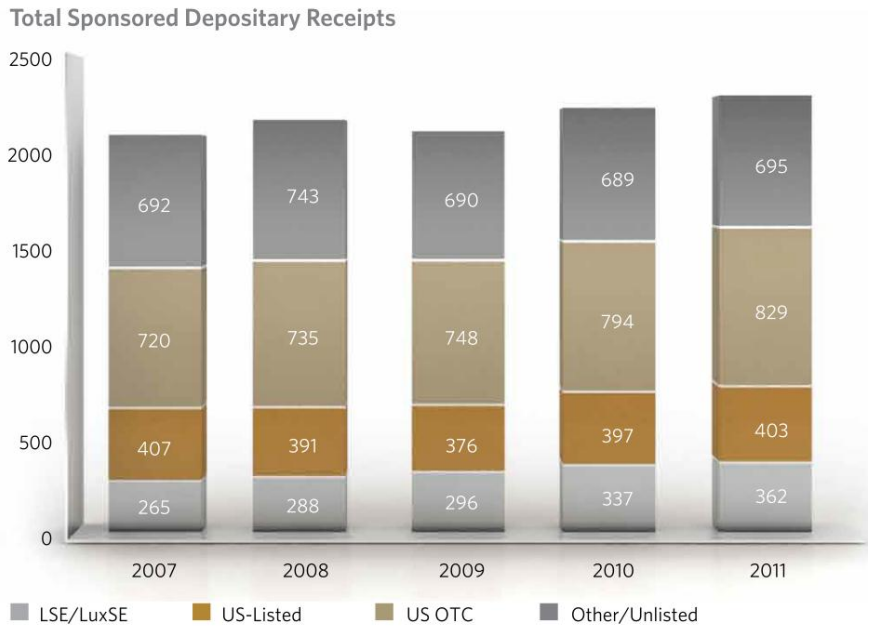
[189] G.A. Karolyi, "The World of Cross-Listing and Cross-Listings of the World: Challenging Conventional Wisdom", Department of Finance, Fisher College of Business, The Ohio State University, 2004, 31.

[190] G.A. Karolyi, "The role of ADRs in the Development and Integration of Emerging Equity Markets", 2002, 1.

[191] G.A. Karolyi, "The role of ADRs in the Development and Integration of Emerging Equity Markets", 2002, 27.

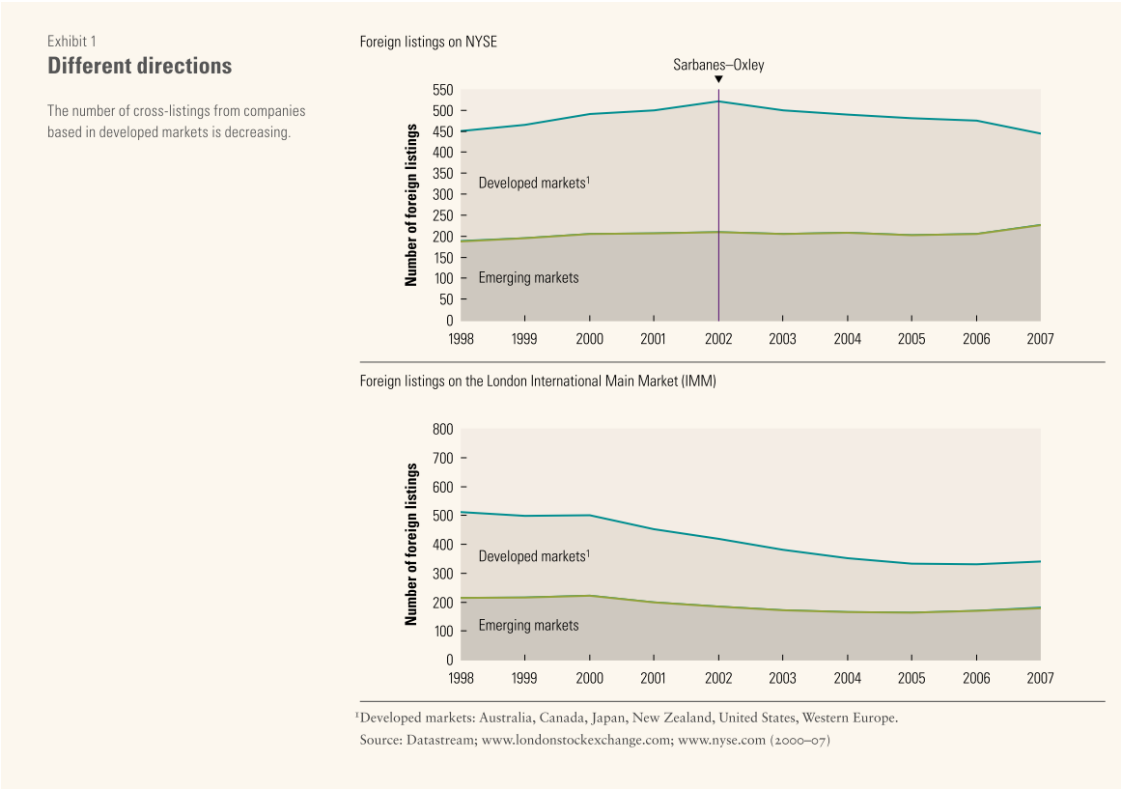
vii. Annex Chapter III

Figure 1



Source: BNY Mellon

Figure 2



Source: McKinsey

IV. THE VALUE CREATION OF CROSS-LISTING: DEBUNKING CONVENTIONAL WISDOM?

i. Introduction

In their study, Dobbs and Goedhart are going against the conventional wisdom that *"cross-listing buys access to more investors, greater liquidity, a higher share price, and a lower cost of capital"*. According to them, *"the strategy of cross-listing does no longer appear to make sense"*. They argue that this is caused by the fact that *"capital markets have become more liquid and integrated and investors more global."* Moreover, the authors even claim that *"the benefits of cross-listing were overrated from the start"*.[192] Although, the former statement is debatable, it is clear that cross-listing has lost some of its former popularity in the last decade. Dobbs and Goedhart, give as an example *"the period from 2007 to May 2008, in which 35 large European companies took advantage of the fact that requirements for deregistering in the US became less stringent by delisting from exchanges in New York"*.[193]

Furthermore, as Dobbs and Goedhart state, *"the number of cross-listings by companies based in the developed world has been steadily declining in key capital markets such as New York and London"*, as Figure 1 shows. As former numbers show, the benefits - that companies might once have derived from cross-listing - do no longer exist or are no longer sufficient. Dobbs and Goedhart, argue that these numbers are caused by the fact that *"cross-listing brings few gains and significant costs"*. Although, they emphasize the former is *"mostly true for companies from developed markets such as Australia, Europe, and Japan and is less applicable to companies from emerging markets"*.[194]

In chapter 3 of this thesis, an overview is given of previous research with regard to cross-listing. Many studies attribute several benefits to cross-listing. In their study, Dobbs and Goedhart, have reexamined this previous research.[195]

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[192] R. Dobbs and M.H. Goedhart, "Why cross-listing doesn't create value", McKinsey & Company, McKinsey on Finance, 2008, 18.

[193] Since March 2007, foreign companies have been allowed to deregister with the US Securities and Exchange Commission if less than 5 percent of global trading in their shares takes place on US stock exchanges. ; R. Dobbs and M.H. Goedhart, "Why cross-listing doesn't create value", McKinsey & Company, McKinsey on Finance, 2008, 18.

[194] R. Dobbs and M.H. Goedhart, "Why cross-listing doesn't create value", McKinsey & Company, McKinsey on Finance, 2008, 18.

[195] For example: C. Doidge, G.A Karolyi, and R.M. Stulz, "Why are foreign firms that list in the U.S. worth more?", Journal of Financial Economics, Volume 71, Number 2, 2004, 205–238.

ii. Improved liquidity

Earlier studies have investigated the liquidity benefits of cross-listing. Previous studies have argued that *"cross-listing may contribute to share value by increasing the stock liquidity"*.[196] According to Jain, research indeed shows that *"the NYSE has the lowest effective percentage spread in the world"*.[197] Zingales argues, that as a consequence, *"liquidity has always been held responsible for the reason that companies want to be cross-listed in the United States"*. However, because of a recent increase in delistings, some claim that *"the U.S. market has lost its comparative advantage over time"*.[198] This has been investigated by some such as Halling et al., who *"analyzed the location of trade volume between the domestic and U.S. market for cross listed stocks over the period 1980-2001"*.[199] According to their data, *"a great fraction of the volume was taking place in the United States in the early 1980s"*. However, their data also shows that this allocation has changed over time.[200] Their study shows that *"a much larger part of the volume was being traded in the domestic market by the end of the 1990s"*.[201] Hence, this research supports the idea that the U.S. market has become relatively less attractive. However, as Zingales states *"this does not mean that the U.S. market has become less competitive, but only that the markets in other developed countries have caught up fast"*.[202] According to Zingales *"electronic and globalized trading is responsible for this effect, as it has eroded the unique advantage of trading in New York"*.[203]

More recent data by Dobbs and Goedhart also shows that *"the trading volumes of cross-listed shares (American Depositary Receipts) of European companies in the United States typically only account for less than 3 percent of these companies' total trading volumes"*. All these results combined suggest that *"companies do not experience much improved liquidity after cross-listing"*.[204]

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[196] A.N. Licht, "Cross-Listing and Corporate Governance: Bonding or Avoiding?", Chicago Journal of International Law, 2003, 144.
[197] P. Jain, "Institutional Design and Liquidity at Stock Exchanges around the World", University of Memphis working paper, 2005. ; L. Zingales, "Is the U.S. Capital Market Losing Its Competitive Edge?", Preliminary Draft, 2006, 8.
[198] L. Zingales, "Is the U.S. Capital Market Losing Its Competitive Edge?", Preliminary Draft, 2006, 8.
[199] M. Halling, M. Pagano, O. Randl, and J. Zechner, "Where is the Market? Evidence from Cross-listings in the U.S.", University of Vienna working paper, 2006. ; L. Zingales, "Is the U.S. Capital Market Losing Its Competitive Edge?", Preliminary Draft, 2006, 9.
[200] *Ibid.*
[201] *Ibid.*
[202] L. Zingales, "Is the U.S. Capital Market Losing Its Competitive Edge?", Preliminary Draft, 2006, 9.
[203] *Ibid.*
[204] R. Dobbs and M.H. Goedhart, "Why cross-listing doesn't create value", McKinsey & Company, McKinsey on Finance, 2008, 19.

iii. More analyst coverage

According to empirical research, *"cross-listing increases a firm's visibility as well as investor recognition."* Lang et al. claim *"that investors have to incur a lower cost to follow a corporation's affairs, its investor base expands, and demand for its stock will rise."*[205] Thus, from the aforementioned could be concluded that *"cross-listing might create value because it reduces investors' costs for researching information".*

Although, *"it is indeed true that cross-listed companies receive more coverage from analysts"*, according to Dobbs and Goedhart, the main reason, that causes this, is the fact that *"cross-listed companies are on average larger"*. In their study, as is shown in Figure 2, they correct the data for the impact of size and found that *"cross-listed European companies are covered by only about 2 more analysts than those that are not cross-listed"*. These results show that companies only experience a slight difference in analyst coverage, since, according to Figure 2 the average number of analysts covering the 300 largest European companies is 20. Dobbs and Goedhart argue that *"such a small increase is unlikely to have any economic significance"*.[206]

Moreover, some scholars also believe that *"the reform of equity research imposed by New York General Attorney Eliot Spitzer is responsible for a decrease in analyst coverage"*.[207] This view is supported by a study of Kolasinski.[208] Zingales argues that the aforementioned factors might have *"severely affected the benefit of listing in the United States"*. Thus, if the increased analysts following was indeed responsible for the better valuation and lower cost of capital of listing in the U.S., then *"the impact of this effect might have been considerably lower in the last couple of years"*.[209]

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[205] M.H. Lang, K.V. Lins and D.P. Miller, "ADRs, Analysts, and Accuracy: Does Cross Listing in the United States Improve a Firm's Information Environment and Increase Market Value?", Journal of Accounting Research 41(2), 2003, 317–45. ; H.K. Baker, J.R. Nofsinger and D.G. Weaver, "International Cross-Listing and Visibility", Journal of Financial and Quantitative Analysis 37(3), 2002, 495–521. ; S. Das and S.M. Saudagaran, "Accuracy, Bias, and Dispersion in Analysts' Earnings Forecasts: The Case of Cross-Listed Foreign Firms", Journal of International Financial Management and Accounting 9, 1998, 16–33. ; E. Chouinard and Chris D'Souza, "The Rationale for Cross-Border Listings", Financial Markets Department, Bank of Canada Review, 2004, 28.

[206] R. Dobbs and M.H. Goedhart, "Why cross-listing doesn't create value", McKinsey & Company, McKinsey on Finance, 2008, 19.

[207] L. Zingales, "Is the U.S. Capital Market Losing Its Competitive Edge?", Preliminary Draft, 10.

[208] A.C. Kolasinski, "Is the Chinese Wall too High? Investigating the Costs of New Restrictions on Cooperation Between Analysts and Investment Bankers", University of Washington working paper, 2006. ; L. Zingales, "Is the U.S. Capital Market Losing Its Competitive Edge?", Preliminary Draft, 10.

[209] M.H. Lang, K.V. Lins and D.P. Miller, "ADRs, Analysts and Accuracy: Does Cross-listing in the U.S. Improve a Firm's Information Environment and Increase Market Value?", Journal of Accounting Research, 41(2), 2003, 317-345. ; L. Zingales, "Is the U.S. Capital Market Losing Its Competitive Edge?", Preliminary Draft, 10.

iv. Broader shareholder base

As stated by Licht, *"cross-listing brings foreign securities closer to potential investors, as it increases investor awareness of the securities"*. This in turn could lead to lower expected returns.[210] This aspect of cross-listing is also often called *"firm visibility"*.[211] According to D'Souza and Chouinard, *"the increased visibility not only increases the shareholder base, but also causes a greater demand for the company's stock. Moreover, listing abroad gives the firm better access to foreign money markets and makes it easier to sell debt there*.[212] Although, the aforementioned was certainly true in the past, Dobbs and Goedhart claim that *"in an age when electronic trading provides easy access to foreign markets, the argument no longer holds"*. Moreover, they state that *"a foreign listing is not even a condition, let alone a guarantee for attracting foreign shareholders"*. They argue that, although, *"cross-listing has improved access to private investors in the past, nowadays, capital markets have become more global and as a result institutional investors are able to invest in stocks no matter where those stocks are listed*". Dobbs and Goedhart give the example of CalPERS, a large U.S. investor, who has an international equity portfolio of around 2,400 companies, but of which less than 10 percent has a US cross-listing. According to Dobbs and Goedhart, this is caused by the fact that *"home markets often have a better liquidity and as a consequence institutional investors often prefer to buy shares from the home market instead of cross-listed shares"*.[213]

v. Better corporate governance

Some authors, such as Coffee, also believe that *"firms based in countries with poor standards may also benefit from the signaling effect of listing in a country with stricter requirements"*. However, according the Zingales, *"more bonding is not necessarily better"*. Zingales gives the example of *"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."*[214]

As stated before, some scholars also claim that *"the implementation of SOX has made the costs of bonding higher than the benefits"*.[215] Zingales investigated the difference between the listing premi-

[210] A.N. Licht, "Cross-Listing and Corporate Governance: Bonding or Avoiding?", Chicago Journal of International Law, 2003, 144.
[211] *Ibid.*
[212] E. Chouinard and Chris D'Souza, "The Rationale for Cross-Border Listings", Financial Markets Department, Bank of Canada Review, 2004, 145.
[213] R. Dobbs and M.H. Goedhart, "Why cross-listing doesn't create value", McKinsey & Company, McKinsey on Finance, 2008, 20.
[214] L. Zingales, "Is the U.S. Capital Market Losing Its Competitive Edge?", Preliminary Draft, 2006, 11.
[215] *Ibid.*

um post 2002 and pre 2002. The results of this study show that *"on average the listing premium almost halves dropping by 0.19, and this difference is statistically significant at the 10% level"*.[216] Figure 3 shows the difference between the average listing premia in 1997-2001 and 2003-2005 periods for every country with cross listed companies in both periods. This result is consistent with the research of Li, 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".*

Moreover, Dobbs and Goedhart, argue that, although, *"the UK and US capital markets may once have had higher corporate governance standards than other parts of the world, other developed nations, such as many European countries, have radically improved their own corporate-governance regulations"*. As a consequence, Dobbs and Goedhart claim that "*the governance advantages of cross-listing hardly exist anymore"*.[217]

Dobbs and Goedhart's argument is confirmed by the research of Zingales, of which the results suggest that *"the changes in the U.S. regulatory environment post SOX decreased the benefit of a U.S. cross-listing"*. Zingales claims that this is particularly true for companies from the developed world.[218] This result is also consistent with Li, who finds that *"the abnormal returns of foreign listed companies at the time SOX was passed are generally more negative for better governed firms"*.[219] Hence, it can be concluded that "the advantages that companies from developed countries once derived from a cross-listing abroad are disappearing".[220] With regard to emerging countries, it seems that the current research is still inconclusive.[221]

vi. Access to capital

According to Lasfer, companies cross-list because of the fact that *"the size of their financial needs exceeds their domestic market capacity"*. Lasfer claims that *"there is often a limited liquidity in the domestic market, which can be increased by the issuance of DRs abroad"*.[222] However, according to Dobbs and Goedhart, as capital markets become more global, *"local stock markets have provided a*

[216] L. Zingales, "Is the U.S. Capital Market Losing Its Competitive Edge?", Preliminary Draft, 2006, 12.
[217] R. Dobbs and M.H. Goedhart, "Why cross-listing doesn't create value", McKinsey & Company, McKinsey on Finance, 2008, 20.
[218] L. Zingales, "Is the U.S. Capital Market Losing Its Competitive Edge?", Preliminary Draft, 2006, 14.
[219] X. Li, "The Sarbanes-Oxley Act and Cross-Listed Foreign Private Issuers", University of Miami working paper, 2006. ; L. Zingales, "Is the U.S. Capital Market Losing Its Competitive Edge?", Preliminary Draft, 2006, 14.
[220] R. Dobbs and M.H. Goedhart, "Why cross-listing doesn't create value", McKinsey & Company, McKinsey on Finance, 2008, 20.
[221] R. Dobbs and M.H. Goedhart, "Why cross-listing doesn't create value", McKinsey & Company, McKinsey on Finance, 2008, 22.
[222] M. Lasfer, "Acquiring a Secondary Listing, or Cross-Listing", Q-Finance, 2.

sufficient supply of equity capital to companies in the developed economies of the European Union and Japan". Therefore, they claim that *"a U.S. or U.K. cross-listing is no longer beneficial"*[223].

Morever, Dobbs and Goedhart also state that *"three-quarters of the US cross-listings of companies from developed countries (through ADRs) have actually never had as its main purpose the raising of capital"*.[224] The main reason, according to Dobbs and Goedhart, in these cases, was *"to provide foreign companies with acquisition currency for US share transactions"*. This is based upon empirical studies, which show that *"companies which have cross-listed in the U.S have doubled, on average, their US acquisition activity over the first five years after their cross-listing"*.[225]

vii. Significant costs and few gains

Cross-listing generates extra costs, for example, *"fees for the stock exchanges and additional reporting requirements, such as 20-F statements for ADRs"*.[226] As Lasfer states, in cross-listing, *"a firm faces two barriers: an increased commitment to full disclosure and a continuing investor relations program*". Hence, firms that have been accustomed to *"revealing far less information, will suddenly be exposed to much higher costs"*. [227] This supported by D'Souza and Chouinard's survey results, in which *"Canadian corporate managers believe that compliance with foreign reporting requirements is a major cost"*.[228]

For example, listing on the NYSE involves significant listing costs. A recent study conducted by the London Stock Exchange 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%)"*.[229] As stated before, a major cost comes from the introduction of the Sarbanes Oxley Act.[230] Under Section 404 of SOX, the management of the company is required to produce an "internal control report." This report must affirm "*the responsibility of management for establishing and maintain-*

[223] R. Dobbs and M.H. Goedhart, "Why cross-listing doesn't create value", McKinsey & Company, McKinsey on Finance, 2008, 21.
[224] This figure is based on 420 depositary receipt issues on the NYSE, NASDAQ, and AMEX from January 1970 to May 2008 (adrbny.com).
[225] P. Tolmunen and S. Torstila, "Cross-listings and M&A activity: Transatlantic evidence," Financial Management Volume 34, Number 1, 2005, 123–42. ; R. Dobbs and M.H. Goedhart, "Why cross-listing doesn't create value", McKinsey & Company, McKinsey on Finance, 2008, 1.
[226] M. Lasfer, "Acquiring a Secondary Listing, or Cross-Listing", Q-Finance, 3.
[227] M. Lasfer, "Acquiring a Secondary Listing, or Cross-Listing", Q-Finance, 3.
[228] E. Chouinard and Chris D'Souza, "The Rationale for Cross-Border Listings", Financial Markets Department, Bank of Canada Review, 2004, 26.
[229] L. Zingales, "Is the U.S. Capital Market Losing Its Competitive Edge?", Preliminary Draft, 2006, 15-16.
[230] *Ibid.*

ing 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."*[231] Although some *"claim that these rules highly increase a company's cost"*, others such as Niemeier state that *"the costs are highly overestimated"*. According to him, *"the actual average cost is much lower than some claim"*.[232]

Another often overlooked cost is the litigation cost. Zingales argues that *"from the moment a foreign company sells securities to U.S. retail investors it exposes itself to the possibility of class action suits"*. However, as he states, *"this cost is difficult to assess"*. However, Zingales claims that *"over the last couple of years this cost has dramatically increased"*.[233] First of all, Zingales explains that *"the total value of settlements in securities class action lawsuits has continued to increase"*. Secondly, he also mentions the fact *that "the size of the biggest awards has skyrocketed, as a result of the major corporate scandals"*.[234] Lin also investigated the major cross-listing costs of companies. In his study, he provides *"a new perspective on foreign firms' cost and benefit analysis"*. He finds that *"complying with U.S. financial reporting requirements is a significant cost factor when non-U.S. firms consider whether they should issue or list their shares in the U.S"*.[235]

Karolyi also states that *"disclosure requirements, registration costs with regulatory authorities, and listing fees are also a major cost"*.[236] The aforementioned is also supported by Dobbs and Goedhart, who claim they that *"the costs of cross-listing have grown enormously over the last few years"*. They give the example of British Airways and Air France, which *"both announced that their delisting from US exchanges, could save around $20 million each in annual service and compliance costs"*. Moreover, as Dobbs and Goedhart state *"this sum probably does not include the time executives spend monitoring compliance and disclosure for the US market"*.[237] Therefore, it seems that, *"while ADRs were a beneficial strategy in the past, the potential benefits have reduced over time"*.[238]

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[231] L. Zingales, "Is the U.S. Capital Market Losing Its Competitive Edge?", Preliminary Draft, 2006, 17.
[232] *Ibid.*
[233] Ibid.
[234] Ibid.
[235] J. Lin, "The Effect of U.S. GAAP Compliance on Non-U.S. Firms' Cross-Listing Decisions' and Listing Choices", Haub School of Business, Saint Joseph's University, 2011, 48.
[236] G.A. Karolyi, "Why Do Companies List SharesAbroad?: A Survey of the Evidence and Its Managerial Implications." Financial Markets, Institutions and Instruments 7(1), 1998, 1–60. ; E. Chouinard and Chris D'Souza, "The Rationale for Cross-Border Listings", Financial Markets Department, Bank of Canada Review, 2004, 25.
[237] R. Dobbs and M.H. Goedhart, "Why cross-listing doesn't create value", McKinsey & Company, McKinsey on Finance, 2008, 22.
[238] A. Bris, S. Cantale and G. Nishiotis, "A Breakdown of the Valuation Effects of International Cross-Listing", University of Cyprus, 2006, 22.

viii. Value creation sensu stricto

In their study, Dobbs and Goedhart also have not found *"any evidence that cross-listings promote the creation of value"*. They analyzed *"the stock market reactions to 229 delistings since 2002 on UK and US stock exchanges"* (Figure 4). Their data shows that *"there is no negative share price response from the announcement of a voluntary delisting"*.[239] Figure 5 shows their comparative analysis of the 2006 valuation levels of some 200 cross-listed companies, on the one hand, and more than 1,500 comparable companies without foreign listings, in which they investigate the key drivers of valuation. The result of their research shows that *"a cross-listing has no impact on valuation"*.[240] Instead, they show that *"the key drivers of valuation are growth and return on invested capital (ROIC), together with sector and region"*.[241]

ix. What about emerging markets?

Dobbs and Goedhart claim that with regard to companies from the emerging world, *"their results are still inconclusive"*. Although, it should be noted that, until now, "*they have not found any evidence of material value creation for the shareholders of these companies"*.[242]

Nevertheless, Dobbs and Goedhart state that *"cross-listing is probably more beneficial for companies from emerging countries"*. This view is also supported by Zingales, who did *"a cross sectional analysis of the post-SOX changes in the listing premium, which shows that the cost-benefit analysis has been more favorable to companies coming from countries with poor corporate governance standards and less favorable to countries with good corporate governance standards"*.[243]

x. Conclusion

As stated by Dobbs and Goedhart, it seems that *"companies from developed economies with well-functioning, globalized capital markets have little to gain from cross-listings and should reconsider*

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[239] Involuntary delistings occur, for example, as a result of bankruptcies, mergers, and takeovers.

[240] Using multiple regression, Dobbs and Goedhart estimated to what extent a cross-listing influenced a company's valuation level as measured by the ratio between enterprise value and invested capital (Tobin's Q) and the ratio between enterprise value and earnings before interest, taxes, depreciation, and amortization (EBITDA). Of course, we took into account the company's return on invested capital (ROIC), consensus growth projections, industry sector, and geographic region.

[241] R. Dobbs and M.H. Goedhart, "Why cross-listing doesn't create value", McKinsey & Company, McKinsey on Finance, 2008, 22.

[242] This finding might be explained by the much smaller size of the sample of companies from the emerging world and the much higher average volatility of their equity returns. ; R. Dobbs and M.H. Goedhart, "Why cross-listing doesn't create value", McKinsey & Company, McKinsey on Finance, 2008, 22.

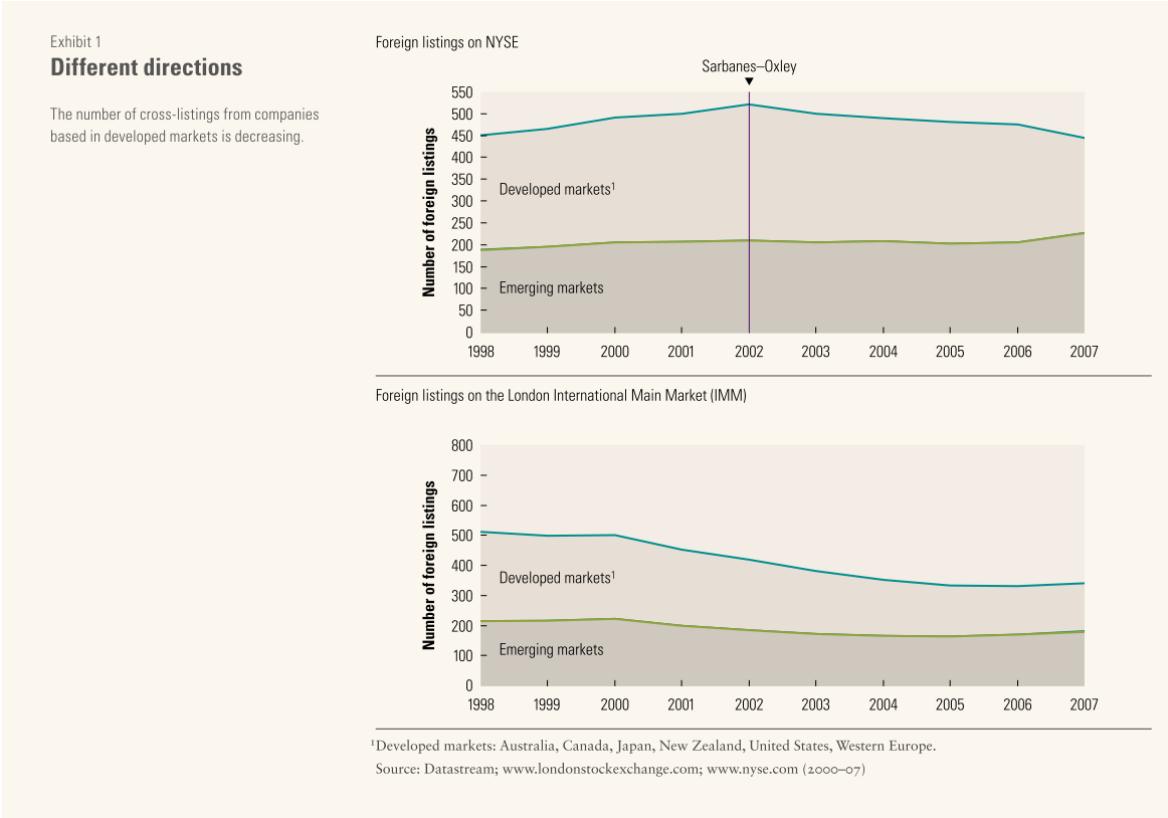
[243] L. Zingales, "Is the U.S. Capital Market Losing Its Competitive Edge?", Preliminary Draft, 2006, 3.

them". However, *"companies from emerging markets could still benefit from cross-listing"*, but, however, as Dobbs and Goedhart show *"the evidence is not conclusive"*.[244]

[244] R. Dobbs and M.H. Goedhart, "Why cross-listing doesn't create value", McKinsey & Company, McKinsey on Finance, 2008, 23.

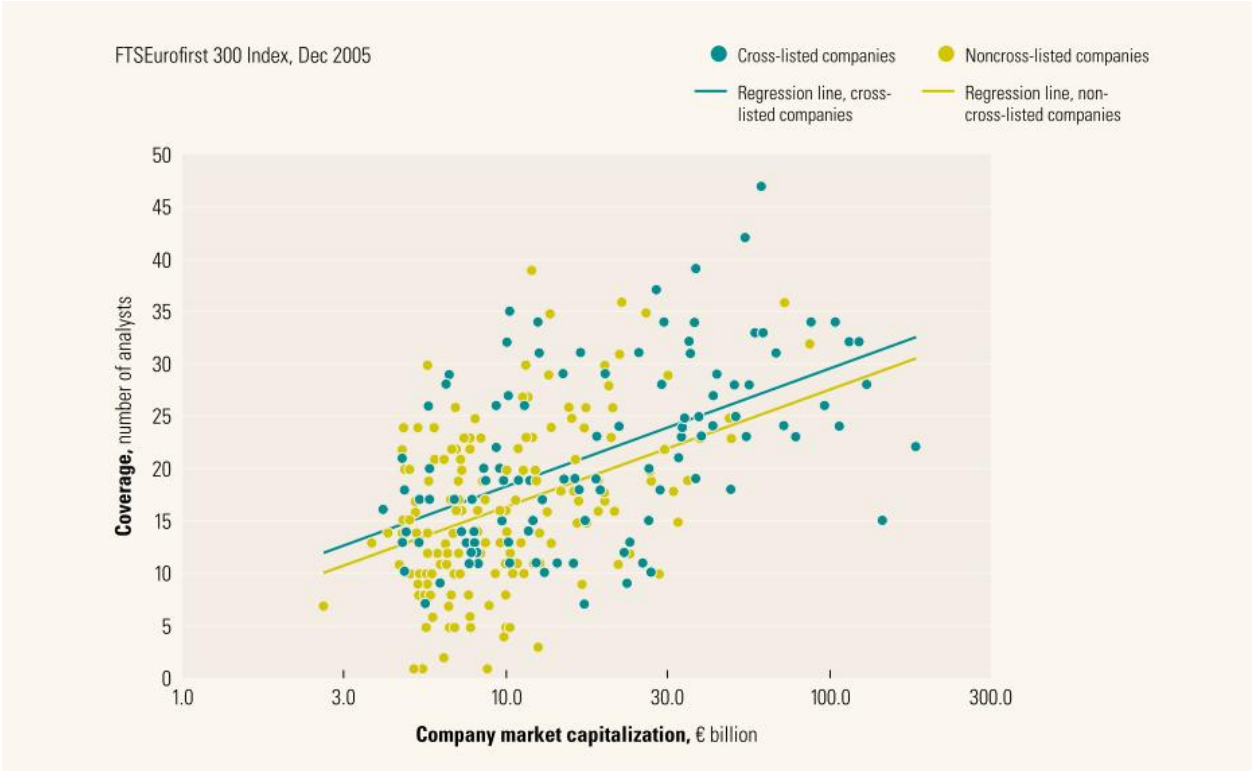
xi. Annex Chapter IV

Figure 1



Source: McKinsey

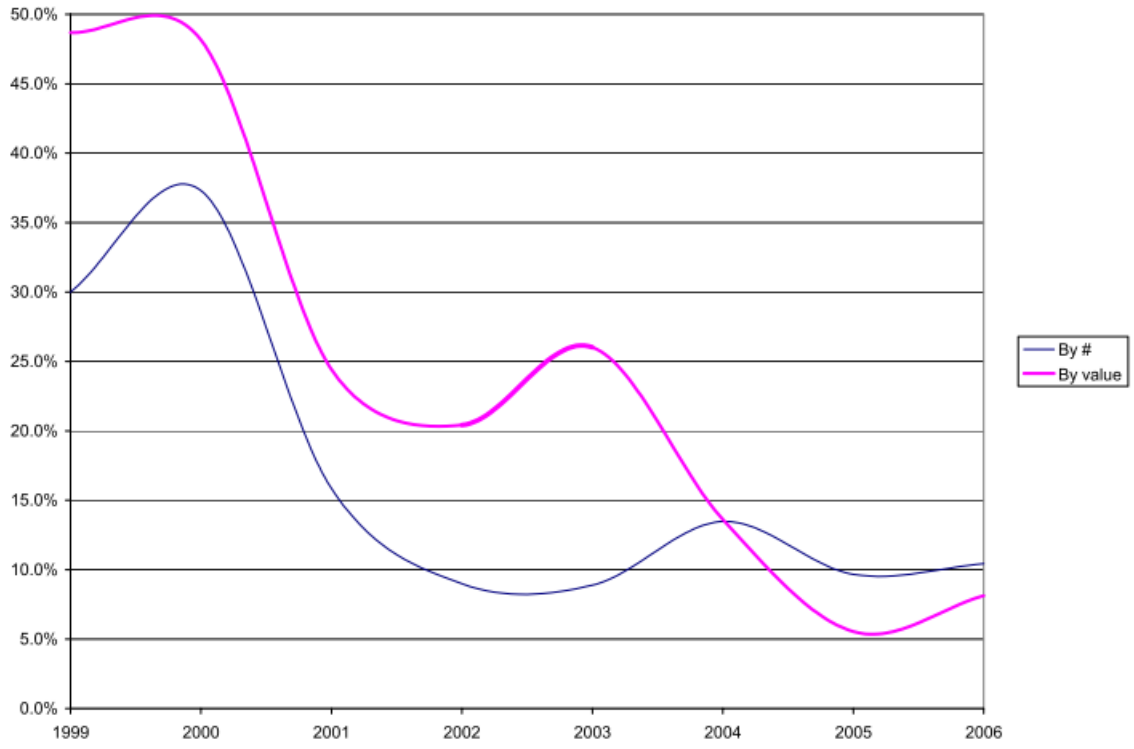
Figure 2



Source: McKinsey

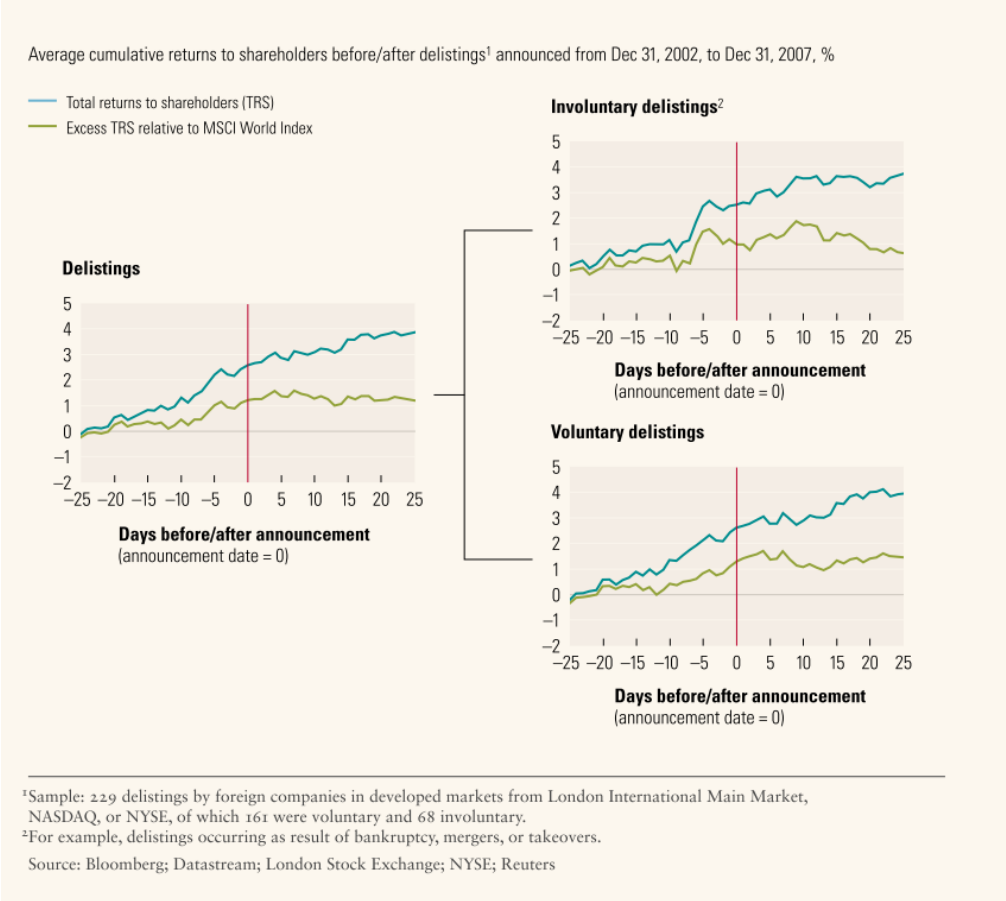
Figure 3

% 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.



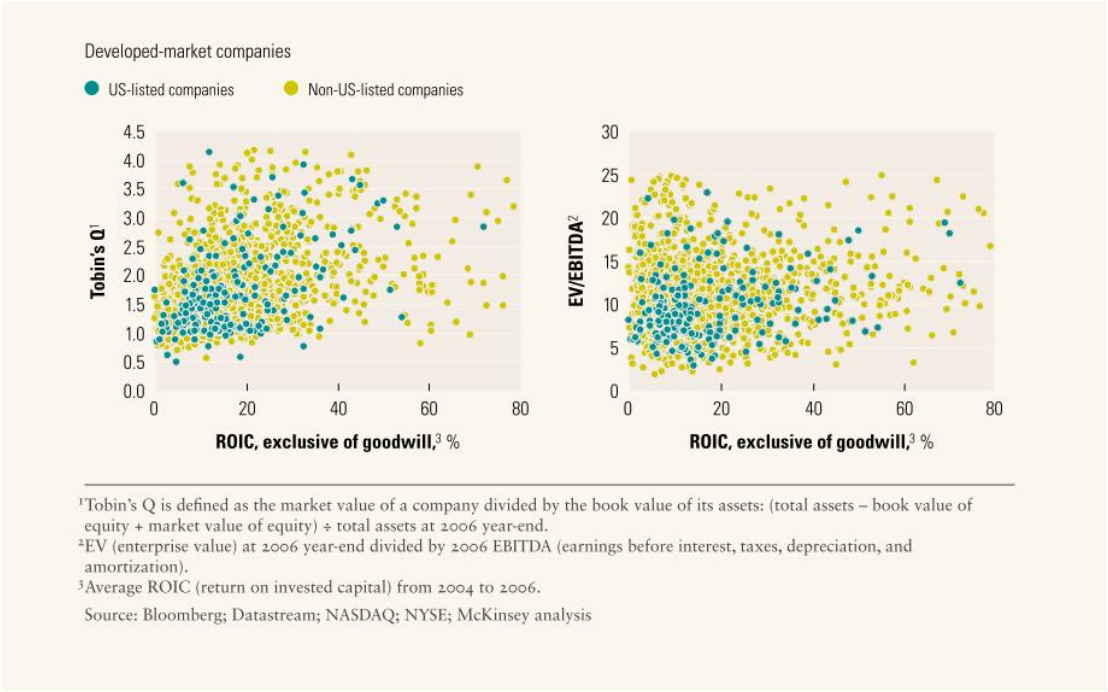
Source: Zingales

Figure 4



Source: McKinsey

Figure 5



Source: McKinsey

V. HAS THE U.S. LOST ITS COMPETITIVE EDGE?

i. Introduction

As claimed by Karolyi, "cross-listing has been an important component of the expansion of cross-border capital flows". Over the last couple of decades, *"a competition among the major stock exchanges emerged to attract cross-listings"*. Research by Karolyi shows that during the 1990s, *"the number of cross-listed companies on major exchanges outside of their home markets reached as high as 4,700"*[245] However, recent numbers, provide evidence that the number of internationally cross-listed stocks has retreated. In 2011, there were in total 2,289 internationally cross-listed stocks, which is a decline of over 50% from its 1997 high of 4,700.[246]

Dobbs and Goedhart argue that this is partially caused by the fact that *"capital markets from all over the world have become more liquid and integrated and investors more global"*.[247] Hence, one can wonder if *"the U.S. is still the dominant destination for global financial activity"*. As Cetorelli and Peristiani state "*for most of the previous twenty years, U.S. equity markets had been routinely attracting the lion's share of global equity activity, especially from markets that were themselves considered relatively important. However, following the dramatic evolution in globalization since at least the early 1990s, an increasing number of alternative destinations have been able to develop and achieve the level of sophistication needed to attract global equity business."* [248] Cetorelli and Peristiani argue that *"this evolution has brought with it potential consequences for the geography of financial activity and has affected the hierarchy of international financial centers"*.[249] Hence, it is clear that the US has lost some of it competitiveness towards emerging markets such as China and India. Moreover, it seems that the US is not only losing its competitive edge towards emerging markets, but also *"from the home markets of companies from the developed world, because many of these companies have chosen to delist from the U.S. market in favour of their own home markets"*.[250] Although, the decline of cross-listings in the U.S. market can be attributed to the simple fact that in recent years other capital markets from all over the world have become more liquid and global , many also claim that *"the*

[245] G.A. Karolyi, "The World of Cross-Listing and Cross-Listings of the World: Challenging Conventional Wisdom", Department of Finance, Fisher College of Business, The Ohio State University, 2004, 2.
[246] See Figure 1 from Annex Chapter III.
[247] R. Dobbs and M.H. Goedhart, "Why cross-listing doesn't create value", McKinsey & Company, McKinsey on Finance, 2008, 18.
[248] N. Cetorelli and S. Peristiani, "Firm Value and Cross-Listings: The Impact of Stock Market Prestige", Federal Reserve Bank of New York, Staff reports, 2010. 1.
[249] *Ibid.*
[250] G.A. Karolyi, "The World of Cross-Listing and Cross-Listings of the World: Challenging Conventional Wisdom", Department of Finance, Fisher College of Business, The Ohio State University, 2004, 2.

workings of the U.S. market itself is in large part to blame for the current decrease in ADR listings".[251] Hence, the questions that can be asked are the following: What are the causes? And are there solutions?

ii. What are the causes?

§1. Value creation of ADR-listings debunked?

A recent study by Dobbs and Goedhart, which is discussed in Chapter IV of this thesis, *"does not found any evidence that cross-listings promote the creation of value, which contradicts earlier studies"*. The result of their analysis shows that *"cross-listing has no impact on valuation"*.[252] Other studies, which are discussed in Chapter III, such as the study by Gozzi, Levine, and Schmukler[253] and Sarkissian and Schill[254], *"analyze broad panels of companies cross-listing, and do not find much evidence of future valuation benefits"*. Moreover, these studies show that cross-listing firms seem to experience valuation losses in the years after the listing event.[255]

The results of these studies may partially explain why nowadays "*a lot of companies decide to only list on their home market",* because, as aforementioned studies show*, "cross-listing does not have any valuation benefits anymore"*.[256]

§2. Loss of liquidity?

Studies have shown that *"one of the main benefits of cross-listing is that it contributes to the share value by increasing the stock liquidity"*.[257] As discussed in Chapter IV, in the past, *"the NYSE has al-*

[251] G.A. Karolyi, "The World of Cross-Listing and Cross-Listings of the World: Challenging Conventional Wisdom", Department of Finance, Fisher College of Business, The Ohio State University, 2004, 2.
[252] Using multiple regression, Dobbs and Goedhart estimated to what extent a cross-listing influenced a company's valuation level as measured by the ratio between enterprise value and invested capital (Tobin's Q) and the ratio between enterprise value and earnings before interest, taxes, depreciation, and amortization (EBITDA). Of course, we took into account the company's return on invested capital (ROIC), consensus growth projections, industry sector, and geographic region.
[253] J.C. Gozzi, R. Levine and S.L. Schmukler, "Internationalization and the Evolution of Corporate Valuation", 2008, 27-28. ; N. Cetorelli and S. Peristiani, "Firm Value and Cross-Listings: The Impact of Stock Market Prestige", Federal Reserve Bank of New York, Staff reports, 2010. 2.
[254] S. Sarkissian and M.J. Schill, "Cross-Listing waves", 2012, 33. ; N. Cetorelli and S. Peristiani, "Firm Value and Cross-Listings: The Impact of Stock Market Prestige", Federal Reserve Bank of New York, Staff reports, 2010, 2.
[255] N. Cetorelli and S. Peristiani, "Firm Value and Cross-Listings: The Impact of Stock Market Prestige", Federal Reserve Bank of New York, Staff reports, 2010, 2.
[256] *Ibid.*
[257] L. Zingales, "Is the U.S. Capital Market Losing Its Competitive Edge?", Preliminary Draft, 2006, 8.

ways marketed itself as the most liquid market in the world".[258] However, research by Halling et al. shows that, although, *"a great fraction of the volume was taking place in the U.S in the early 1980s, nowadays, a much larger fraction of the volume is taking place in the domestic market"*.[259] Hence, this research shows that *"the U.S. equity market has become relatively less attractive versus markets in the developed world"*.[260]

§3. Promoting the brand

According to Pagano, *"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)*".[261] Zingales argues that "*In the 1990s, the high-tech revolution and the fast rate of growth of the United States made this a very attractive market"* However, he claims that *"nowadays, the situation has changed in the new century"*. He states that *"China and India have emerged as the hot places to invest, eclipsing the U.S. appeal"*. Hence, this may have been *"an important factor in reducing cross-listings worldwide"*.[262]

§4. Listing costs

As discussed in Chapter IV, Zingales states that *"listing on the NYSE has significantly higher listing costs than its competitors"*. This is also supported by a study of Oxera, *"which shows that listing costs on the NYSE are much higher than on the LSE"*. Nevertheless, Zingales thinks that *"listing costs do not play an important role in the listing decision"*. According to Zingales, their impact is rather small.[263]

[258] P. Jain, "Institutional Design and Liquidity at Stock Exchanges around the World", University of Memphis working paper, 2005. ; L. Zingales, "Is the U.S. Capital Market Losing Its Competitive Edge?", Preliminary Draft, 2006, 8.
[259] M. Halling, M. Pagano, O. Randl and J. Zechner, "Where is the Market? Evidence from Crosslistings in the U.S.", University of Vienna working paper, 2006. ; L. Zingales, "Is the U.S. Capital Market Losing Its Competitive Edge?", Preliminary Draft, 2006, 9.
[260] *Ibid.*
[261] M. Pagano, A.A. Röell and J. Zechner, "The Geography of Equity Listing: Why Do Companies List Abroad?", Journal of Finance, 57(6), 2002. ; L. Zingales, "Is the U.S. Capital Market Losing Its Competitive Edge?", Preliminary Draft, 2006, 15.
[262] L. Zingales, "Is the U.S. Capital Market Losing Its Competitive Edge?", Preliminary Draft, 2006, 15.
[263] *Ibid.*

§5. Underwriting fee

Another competitive disadvantage of New York, according to Zingales, *"is the higher underwriting fee for foreign companies who plan to do an IPO in the U.S."*[264] However, Zinagales also claims that while these figures seem important, *"they are unlikely to drive the decision to list in different places"*.

§6. Disclosure costs

Law firm Foley & Lardner did a study, in which *"they compared the compliance costs of listing in a U.S. market after SOX with its estimated benefits"*. They obtained *"the cost of compliance from 147 public companies and of the 2005 annual meeting proxy statements of more than 700 public companies"*.[265] Based on their research, "they conclude that compliance costs cannot explain the deceleration in U.S. cross-listings".[266] However, some scholars, as discussed in Chapter IV, also claim that *"the implementation of SOX has made the costs of bonding higher than the benefits"*.[267] Zingales investigated the difference between the listing premium post 2002 and pre 2002. The results of this study show that *"on average the listing premium almost halves dropping by 0.19, and this difference is statistically significant at the 10% level".*[268]

§7. SOX and the developed world

According to Zingales, *"companies that should suffer the most from the passage of SOX are the ones from countries with a good corporate governance record"*. He states that *"these companies will bear the additional cost of SOX while getting less benefit, because they already have good corporate governance"*. [269] Zingales' own research shows *"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"*.[270]

§8. Exposure to liability

Liability is, according to Zingales, *"probably the cost of a U.S. listing that is most difficult to quantify"*. Although, it should be noted that the risk of a legal suit is not a new phenomenon. However, according to Zingales, *"there are several reasons why the perception of this risk has increased dramatically*

[264] L. Zingales, "Is the U.S. Capital Market Losing Its Competitive Edge?", Preliminary Draft, 2006, 15.
[265] L. Zingales, "Is the U.S. Capital Market Losing Its Competitive Edge?", Preliminary Draft, 2006, 17-18.
[266] *Ibid.*
[267] *Ibid.*
[268] L. Zingales, "Is the U.S. Capital Market Losing Its Competitive Edge?", Preliminary Draft, 2006, 12.
[269] L. Zingales, "Is the U.S. Capital Market Losing Its Competitive Edge?", Preliminary Draft, 2006, 13.
[270] L. Zingales, "Is the U.S. Capital Market Losing Its Competitive Edge?", Preliminary Draft, 2006, 14.

in the last five years". Zingales explains that *"one of the main reasons is that the total value of settlements in securities class action lawsuits has continued to increase from $150 million in 1997 to $9.7 billion in 2005"*. Moreover, some also claim that over the last couple of years the potential risk of a suit has significantly increased.[271] Moreover, Zingales claims that *"the huge increase of 144A registrations is evidence for the fact that the increased legal liability is amongst others responsible for the decline in U.S. foreign listings"*.[272]

§9. Has the world changed?

In the last couple of years, the importance of emerging countries such as China and India has risen.[273] As Cetorelli and Peristiani state "*for most of the previous twenty years, U.S. equity markets had been routinely attracting the lion's share of global equity activity, however, since the early 1990s, an increasing number of alternative destinations have been able to develop."* [274] Cetorelli and Peristiani argue that *"this evolution has brought with it potential consequences for the geography of financial activity and has affected the hierarchy of international financial centers"*. This evolution together with the loss of liquidity and other aforementioned reasons attribute to the fact that the U.S. is losing more and more of its competitive advantage it used to have towards other markets.

iii. Solutions

Zingales claims that "to make the U.S. capital market more competitive more cost- effective regulation should be introduced". Zingales claims that *"the creation of a Regulation Oversight Board (ROB) could help achieve this"*. The role of the Regulation Oversight Board should consist out of two tasks: *"when new regulation is proposed, it should assess the cost of compliance, the estimated benefits, and the potential deadweight cost"*.[275] However, one can wonder if this really would be a *"panacea"*. Instead, it seems this could be rather a hindrance for the speed of implementation of future regulations.

[271] L. Zingales, "Is the U.S. Capital Market Losing Its Competitive Edge?", Preliminary Draft, 2006, 14.
[272] *Ibid.*
[273] L. Zingales, "Is the U.S. Capital Market Losing Its Competitive Edge?", Preliminary Draft, 2006, 19-20.
[274] N. Cetorelli and S. Peristiani, "Firm Value and Cross-Listings: The Impact of Stock Market Prestige", Federal Reserve Bank of New York, Staff reports, 2010, 1.
[275] *Ibid.*

iv. Conclusion

As stated by Zingales, *"The loss of competitiveness of the U.S. market cannot be easily attributed to one single factor."* It is more likely *"the concurrent action of multiple factors that generated this drop"*.[276]

Although, as Zingales states, *"most of the aforementioned factors are outside of U.S. control"*, it can be concluded that nonetheless, the U.S. should intervene *"more aggressively in the only areas where it can intervene: excessive regulation and overly burdensome litigation risk"*.[277]

[276] L. Zingales, "Is the U.S. Capital Market Losing Its Competitive Edge?", Preliminary Draft, 2006, 23.
[277] *Ibid.*

VI. RESEARCH QUESTION

i. Introduction

In their 1997 paper Smith and Sofianos *"investigate what happens to the trading in the company's home market after cross-listing"*.[278] They examined 128 non-U.S. stocks that listed on the NYSE between June 1, 1985 and July 31, 1996. The results of their study suggest that, *"on average, listing on the NYSE is not a zero-sum game, but a win-win situation with both the home market and the U.S. market benefitting"*. For example, their results show that *"the home market value of trading increased 24 percent, from $210 million to $260 million"*. Their results also indicate that *"the cost of capital of the non-U.S. companies being cross-listed was reduced"*. In their sample, *"on average, stock prices in the six months after listing were 8 percent higher than prices in the six months immediately prior"*.[279]

In their paper, Smith and Sofianos investigate the 80s and 90s. At that time, *"the pace of globalization in capital markets was accelerating and broadening in scope"*.[280] During the 1990s, *"the number of cross-listed companies on major exchanges outside of their home markets reached as high as 4,700"*.[281] However, as stated in Chapter V of this thesis, *"the pace of international cross-listings around the world decelerated in the last decade"*. In 2011, there were in total 2,289 internationally cross-listed stocks, which is a decline of over 50% from its 1997 high of 4,700.[282] Moreover, according to research by Dobbs and Goedhart, *"the number of cross-listings by companies based in the developed world has been steadily declining in New York, London, and Tokyo"*.[283]

Hence, it seems interesting to investigate what the results would be if similar research was executed based on 21st century data. In this chapter, 60 non-U.S. stocks (ADRs) that were listed on the NYSE between January 1, 2000 and December 31, 2011 will be examined. In what follows, the volume of trading, value of trading and share price of the 60 sample stocks will be investigated 6 months before and 6 months after cross-listing. As a result, the effect of cross-listing on the volume of trading, value of trading and share price can be investigated. The main purpose of this research is to investigate if cross-listing in the 21st century is still a win-win situation with both the home market and the U.S.

[278] K. Smith and G. Sofianos, "The Impact of an NYSE listing on the Global Trading of Non-U.S. Stocks", NYSE Working paper, 1997.
[279] *Ibid.*
[280] G.A. Karolyi, "The World of Cross-Listing and Cross-Listings of the World: Challenging Conventional Wisdom", Department of Finance, Fisher College of Business, The Ohio State University, 2004, 2.
[281] *Ibid.*
[282] See Figure 1 from Annex Chapter III.
[283] Some well-known companies, such as Boeing and BP, have recently withdrawn their listings.

market benefitting, as is shown by the research of Smith and Sofianos. First of all, the sample and data sources will be discussed. Secondly, the trading patterns for 2 individual companies of the sample will be discussed. In part 3 of this chapter, all 60 sample stocks will be analyzed. Moreover, the results of this empirical study will be compared to the results of Smith and Sofianos.

ii. Data sources and sample description

The sample period is ranging from 1 January, 2000 till December 31, 2011. The data for each company of the sample covers the period of six months before till six months after the listing event. The total sample exists out of 353 non-U.S. stocks (common and preferred) listed on the NYSE during the aforementioned time span (Table 1). Whereas, Smith and Sofianos included non-ADR stocks in their final sample of 128 stocks (e.g. Canadian companies cross-listing on NYSE via ordinary shares), our research solely investigates ADR-listings. Hence, as a result, 107 non-ADR cross-listed companies are dropped from the investigation. We focus on the 246 ADR-listings of the sample. An additional 47 stocks were dropped because they are not listed on the NYSE as ADR common shares, but as preferred stocks, structured products, rights, units and closed-ended funds. Another 76 stocks were dropped because they were not publicly traded in the home market prior to the NYSE listing: 72 were IPOs, 24 were not listed in the home market (before or after the NYSE listing). 43 other stocks were also dropped, because there was a reorganization around the NYSE listing or because of the fact that there was questionable or undetectable home market data. Hence, the sample is made up of the remaining 60 stocks.

Table 2 shows that the 60 sample stocks come from 21 countries; 31 stocks from 11 developed markets and 29 stocks from 10 emerging markets. Japan and India have the largest number of sample stocks, namely 8. The U.K. and Brazil follow with respectively 7 and 6 stocks. Seven countries are represented by a single listing each.

Table 3 illustrates what happens to the value of trading, the volume of trading and prices in the months surrounding the NYSE-listing for 2 stocks: CIA Saneamentp Basico Estado and Anheuser-Bush Inbev.

Table 4 classifies the 60 sample stocks according to whether trading increased or decreased following the NYSE listing. In 37 cases the home volume of trading increased after listing on the NYSE; in 32 cases the home market value of trading also increased. Table 9 also shows that in 31 cases there was an increase in share price.

In Tables 5 and 6, we quantify the changes in the volume of trading, value of trading and share price in the 12 months surrounding the NYSE listing. Table 5 shows the changes in the volume of trading, value of trading and share price for the total sample, the emerging countries, developed countries and the different years, whilst, table 6 shows the changes in the aforementioned factors per country.

The total sample of 353 companies that cross-listed on the NYSE from 2000 till 2011 is collected from the NYSE website. All of the pre and post-listing NYSE volume and price data is collected from the CRSP database (Wharton research data services). The pre and post-listing home-country volume and prices data is collected from the COMPUSTAT database (Wharton research data services).

iii. Overview of trading patterns: individual companies

Figure 2G shows the monthly dollar value of trading for Anheuser-Bush Inbev, a Belgian company, over the period of six months before and six months after it listed on the NYSE. Anheuser-Bush Inbev listed on the NYSE on September 16, 2009. Table 3 shows that Anheuser-Bush Inbev's average value of trading in the months before the NYSE listing was $65 million per month. In the months after the listing, Anheuser-Bush Inbev's combined (New York plus home market) average value of trading increased to 98$ million per month. The average home value of trading increased to $81 million, a 44 percent home-market increase from before the NYSE listing. Hence, Anheuser-Bush Inbev experienced increased home market trading after cross-listing on the NYSE.

However, the value of trading may go up, for example, not because there is increased trading, but because of the fact that the stock price went up. Thus, it is also important to have a look at the trading volume (Figure 3D). Anheuser-bush Inbev's home value of trading decreased in the months after the listing from 3 million on average to 2 million on average after the NYSE listing, which is a 30 percent decrease. Thus, it can be concluded that the increase in value of trading post-listing can be explained, because of the increase in stock price. Anheuser-Bush inbev's stock price increased from $24 to $35 post listing, which is 31 percent increase (Table 3 and Figure 4G). As a result, the cost of capital for Anheuser-Bush Inbev was considerably lower post-listing than pre-listing. To be sure, the increase in post-listing trading values is certainly not caused by an increase in the shares outstanding for Anheuser-Bush Inbev as is shown by Figure 1D.

Table 3 also shows the data for CIA Saneamento Basico Estado, a Brazilian company. CIA Saneamento Basico Estado listed on the NYSE on May 10, 2002. Table 3 shows CIA Saneamento's average value of trading in the months before the NYSE listing was $2,723 million per month. In the months after the

listing, CIA Saneamento Basico Estado's combined average value of trading was $3,429 million per month. The average home value of trading increased to $3,428 million, a 21 percent home-market increase from before the NYSE listing. Hence, similar to Anheuser-Bush Inbev, CIA Saneamento experienced increased home market trading after cross-listing on the NYSE (Figure 2H).

However, as aforementioned, the value of trading may go up, for example, not because there is increased trading, but because the stock price went up. Because of this, it is also important to have a look at the trading volume (Figure 3E). As is shown by Table 3, CIA Saneamento Estado Basico's home value of trading increased in the months after the listing from 21 million on average to 39 million on average after the NYSE listing, which is a 30 percent increase. Unlike Anheuser-Bush Inbev, CIA Saneamento Estado Basico's increase in value of trading post-listing can be explained, because of the increase in volume and not because of the increase in stock price. On the contrary, CIA Saneamento Estado Basico's stock price decreased from $132 to $87 post listing, which is 34 percent decrease (Table 3 and Figure 4H). The increase in value of trading is also not caused by an increase in the shares outstanding of CIA Saneamento Estado as Figure 1E shows. Hence, it can be concluded that CIA Saneamento Basico Estado experienced an increase in the average monthly value of trading post-listing because of the 30 percent increase in trading volumes.

iv. Trading value, trading volume and price patterns based on the whole sample

First of all, it should be noted that because of the fact that some sample stocks have very high share prices compared to other stocks in the sample, there are two versions of each figure describing the value of trading and share prices during the months surrounding the NYSE listing. For example, Figure 2A describes the average value of trading for all 60 samples and Figure 2B also describes the value of trading, but excludes the sample stocks which are characterized by extremely high share prices. The purpose of this is to ascertain that the high share prices do not lead to distorted results. In the control versions of the Figures only 45 stocks of the total of 60 stocks are included. It should also be noted that the comma in the values presented in the tables and figures is used to separate thousands and the full stop is used for the decimal point.

Figures 2A, 2B, 3A, 4A, 4B show what happens to the average trading volumes, trading values and share prices on the home market in the months surrounding the NYSE listing for all 60 sample stocks. Tables 5 and 6 compare trading statistics before and after listing on the NYSE. Because of the fact that trading is unusually high immediately surrounding the listing event, the month before and the month after the listing date are dropped from the calculation of the averages. The before-listing pe-

riod, therefore, consists of the five months prior to the month before the listing date and the after-listing period consists of the five months after the month that follows the listing date.

Table 4 classifies the 60 sample stocks according to whether trading increased or decreased following the NYSE listing. In 37 cases, the home volume of trading increased after listing on the NYSE. The share price increased in 31 cases and in 32 cases the home value of trading also increased.

In Table 5 till 6, the changes in the value of trading, the volume of trading and share prices in the 12 months surrounding the NYSE listing are quantified. Table 5 shows that, for the whole sample, the average home value of trading decreased from $527,135 million to $245,605 million, which is a decrease of 53 percent. On the contrary in the study of Smith and Sofianos, the home value of trading increased 24 percent, from $207 million to $263 million per stock per month. Table 5 also shows that, for the whole sample, the home volume of trading decreased with 0,1 percent, from $12.184 million to $12.173 million. The share price decreased on average from $43,251 to $20,116, which is a decrease of 53 percent. This is contrary to the study of Smith and Sofianos, in which the average price was seven percentage points higher after listing than before. Table 5 also shows the changes in the value of trading, the volume of trading and share prices in the 12 months surrounding the NYSE listing of the control sample (total amount of 45 stocks). The average home value of trading decreased from $1,279 million to $1,120 million. The average home volume of trading decreased from $14.866 million to $14.68 million, which is a decrease of 0,04 percent. Hence, the home trading volumes post and pre-listing are on average more or less similar. The share price decreased on average from $85 to $75, which is a decrease of 22 percent. Thus, it can be concluded that the decrease in value of trading for the whole sample is mostly caused by the decrease in share price after the listing date, and less by the decrease in volume of trading, which is marginal.

Table 5 also shows that, for the emerging countries in the sample, the average home value of trading decreased from $57,090 million to $39,374 million, which is a decrease of 31 percent. On the contrary in the study of Smith and Sofianos, the home value of trading of the emerging countries increased 8 percent, from $137 million to $148 million per stock per month. Table 5 also shows that, for the emerging countries, the home volume of trading decreased with 2,2 percent, from $20.499 million to $20.051 million. The share price decreased on average from $2,784 to $1,963, which is a decrease of 30 percent. This is contrary to the study of Smith and Sofianos, in which the average share price of the emerging countries increased on average from $92 to $99. Table 5 also shows the changes in the value of trading, the volume of trading and share prices in the 12 months surrounding the NYSE listing of the control sample for the emerging countries. The average home value of trading decreased

from $2,863 million to $2,773 million, which is a decrease of 3 percent. The average home volume of trading decreased from $23.596 million to $23.263 million, which is a decrease of 2 percent. The share price decreased on average from $121 to $119. Hence, from this control sample can be concluded that the home trading volumes and the home value of trading post and pre-listing are on average more or less similar, although they slightly decrease. However, this is still very different from the results obtained by the study of Smith and Sofianos in which there is an increase in value of trading, volume of trading and share price for the emerging countries.

Table 5 also shows that for the developed countries the average home value of trading decreased from $322,817 million to $164,846 million, which is a decrease of 49 percent. On the contrary in the study of Smith and Sofianos, the home value of trading of the developed countries increased 30 percent, from $246 million to $349 million per stock per month. Table 5 also shows that, for the developed countries, the home volume of trading increases with 10 percent, from $3.867 million to $4.295 million. The share price decreased on average from $83,459 to $38,269, which is a decrease of 54 percent. This is contrary to the study of Smith and Sofianos, in which the average share price increased from $93 to $100. Table 5 also shows the changes in the value of trading, the volume of trading and share prices in the 12 months surrounding the NYSE listing of the control sample for the developed countries. The average home volume of trading increased from $4.505 million to $4.858 million, which is an increase of 7 percent. The average home value of trading decreased from $198 million to $113 million, which is a decrease of 43 percent. The share price decreased on average from $44 to $23, which is a decrease of 48 percent. It can be concluded that these results are not in line with the results of the study of Smith and Sofianos, in which the value of trading and the share price increased for the developed countries post-listing.

It should be noted that the decrease in trading values and trading volumes for the whole sample and the developed countries could be partially explained by the decrease in shares outstanding as is shown by Figure 1A and 1B.

Table 5 also shows the changes in the value of trading, the volume of trading and share prices in the 12 months surrounding the NYSE listing for each year of the total time span in which the study is conducted. The years with the worst performance are 2000, 2002 and 2007. Hence, one can question if the bubble burst around the millennium and the worldwide financial crisis of 2007-2008 are mainly the cause for the poor performance of the sample as a whole or if more structural problems are to blame, which make the U.S. market less competitive than in the 80s and 90s. I will expand further on this point in the conclusion.

Table 6 shows the changes in the value of trading, the volume of trading and share prices in the 12 months surrounding the NYSE listing per country. Countries such as Brazil, France, Japan and Mexico perform the worst of the total group of countries.

Figure 2A, 3A and 4A give a more detailed picture of the average monthly trading value, volume of trading and share prices in the 60 sample stocks in the 12 months surrounding the NYSE listing. Figure 2C, 3C, 4C, 2E, 3E and 4E give a more detailed overview of the average monthly trading volumes, trading values and share prices for the emerging countries and developed countries. Each Figure also has a control version, in which sample stocks with extremely high share prices are left out of the calculations in order to ascertain that the figures based on the whole sample do not give distorted results.

Figures 2A, 2C and 2E show the monthly value of trading for the whole sample, the emerging countries and the developed countries. Figure 2A clearly shows that the monthly value of trading for the whole sample is decreasing post-listing. Although, it should be noted that this result could be distorted by the high share prices of 15 stocks in the sample. The control figure clearly shows that the monthly trading value stays more stable than the Figure that describes the whole sample of 60 stocks. However, it seems there is still a slight decrease in monthly value of trading on average. This is very different from the study of Smith and Sofianos whose results indicate an increase in monthly trading values. Figure 2C, which describes the emerging countries, shows an increase in monthly trading values post-listing. Although, it should be noted that the control version shows a more stable picture. With regard to the developed countries, Figure 2E as well as its control version clearly show a vast decrease in monthly value of trading.

Figure 3A, 3C and 3E clearly show for both developed and emerging countries as well as for the sample as a whole a slight increase in trading volumes post-listing. Although, the charts of the emerging countries and the whole sample could also be interpreted as a status quo, which is contrary to the study of Smith and Sofianos, in which a major increase in trading volumes was found.

The Figures presenting the monthly trading volume and value of trading also show, contrary to the results of Smith and Sofianos, that the U.S. market value of trading and volume of trading post-listing for the emerging, developed and total sample of 60 stocks only makes out less than 10 percent on average of the combined value of trading and volume of trading (home market + U.S.), whereas in the study of Smith and Sofianos this was still on average between 20-50 percent.

Figure 4A, 4C, 4E as well as the control versions clearly indicate that for the whole sample, the emerging countries and the developed countries there is a decrease in share price post-listing. Although, the control version for the emerging countries could be interpreted as showing more or less a status quo with regard to the share price level.

v. Conclusion

The Figures make it clear that the U.S. market value of trading and volume of trading post-listing only makes out a small portion of the combined value of trading and volume of trading (home market + U.S.). This is different from the results of the study by Smith and Sofianos. Contrary to the results of Smith and Sofianos, this study clearly shows that the U.S. market value of trading and volume of trading post-listing for the emerging, developed and total sample of 60 stocks only makes out less than 10 percent on average of the combined value of trading and volume of trading (home market + U.S.), whereas in the study of Smith and Sofianos this was still on average between 20 till 50 percent. This supports the argument of Dobbs and Goedhart that *"the U.S. market became less competitive and in turn the home markets became more liquid themselves"*.[284] According to them, *"the loss of competitiveness is one of the major reasons for the large number of delistings that occurred in the last decade from the U.S. market"*. They argue that *"it is no longer useful to cross-list, because cross-listing in the U.S. market does no longer contribute to the liquidity of a company's stock and the value of the firm"*.[285]

However, it should be noted that although the U.S. value and volume of trading only makes out less than 10 percent of the combined value of trading on average, our results still show that cross-listing in the U.S. market still has the effect of slightly increasing the home markets trading volume, although this effect is nullified by the decrease in share price that companies from this sample experience after cross-listing. Although, 31 companies of the total of 60 experience an increase in share price, in most cases it is a very small increase and share prices levels pre- and post-listing are rather status quo. On the contrary, in the major part of the 29 cases where the share price decreases, it is a vast decrease, which results in the fact that the share price and value of trading levels for all 60 samples on average decrease, which is completely different from the results of Smith and Sofianos, who saw an increase in the value of trading and share price levels post-listing.

[284] R. Dobbs and M.H. Goedhart, "Why cross-listing doesn't create value", McKinsey & Company, McKinsey on Finance, 2008, 1.
[285] *Ibid.*

For example, our results show that the average home value of trading of the total sample decreased from $527,135 million to $245,605 million post-listing, which is a decrease of 53 percent. This is contrary to the study of Smith and Sofianos, in which the home value of trading increased 24 percent, from $207 million to $263 million per stock per month. The results of our study also show that the home volume of trading of the whole sample decreased with 0,1 percent, from $12.184 million to $12.173 million. Moreover, the share price decreased on average from $43,251 to $20,116, which is a decrease of 53 percent. This is contrary to the study of Smith and Sofianos, in which the average price was seven percentage points higher after listing than before. With regard to the emerging countries in the sample, the average home value of trading decreased from $57,090 million to $39,374 million, which is a decrease of 31 percent. On the contrary in the study of Smith and Sofianos, the home value of trading of the emerging countries increased 8 percent, from $137 million to $148 million per stock per month. The average home value of trading of the developed countries also decreased from $322,817 million to $164,846 million, which is a decrease of 49 percent, which also contradicts the study of Smith and Sofianos, in which the home value of trading of the developed countries increased 30 percent, from $246 million to $349 million per stock per month.

These results confirm the view of Dobbs and Goedhart, which is explained in Chapter IV of this thesis. According to them, *"the strategy of cross-listing does no longer appear to make sense"*. First of all, *"they claim that the global capital markets have become more liquid and integrated and investors more global, which nullifies the incentives to cross-list"*.[286] Moreover, they argue that recent delisting of major companies from the U.S. market is caused by the fact that *"cross-listing brings few gains and significant costs"*. According to them, *"cross-listing does not increase a firm's value in the long-term"*.[287]

As our results show, the benefits - which companies, according to some studies, derived from cross-listing in the 80s and 90s such as increased liquidity and lower cost of capital – do indeed no longer seem to exist in the same 21st century. The factors that could be responsible for this result are discussed in Chapter IV and V of this thesis.

However, further research is necessary and the results are inconclusive due to several factors. The group of stocks we examined consist of a small number of issues. Because of this, company-specific factors may dominate the trading patterns. The observed decline in the post-NYSE listing trading can

[286] R. Dobbs and M.H. Goedhart, "Why cross-listing doesn't create value", McKinsey & Company, McKinsey on Finance, 2008, 1.
[287] *Ibid.*

be due to individual companies that experience sharp declines in trading in the months after the NYSE-listing. Although, the size of the sample was limited by data availability, future research should research a larger sample of companies to determine if the current results are not distorted.

Moreover, recent economic events may have also affected trading patterns. Our sample period, for example, covers the period around the millennium bubble burst and the global financial crisis of 2007 and 2008, which still has consequences on a global scale till this day. Table 5 indeed shows that the years with the worst performance are 2000, 2002 and 2007. Hence, one can question if the bubble burst around the millennium and the worldwide financial crisis of 2007 and 2008 are mainly the cause for the poor performance of the sample as a whole or if nevertheless there are more structural problems that make the U.S. market less competitive than in the 80s and 90s as is argued by some scholars such as Dobbs and Goedhart. Hence, future research in the coming years should investigate post-crisis data to see if the trend continues.

vi. Annex A – Chapter VI

Table 1
Selection of stocks in sample

The sample used to investigate the research question exists out of 60 ADR stocks listed on the NYSE. Similar to the study by Smith and Sofianos, the research is focused on NYSE-defined common stocks because for most NYSE-defined preferred issues there is no home-country trading.

Total sample of Non-US companies that listed on the NYSE between 1 January, 2000 and 31 December, 2011	**353**
Non-ADR cross-listed companies (107 stocks)	246
Preferred stocks (22 stocks)	224
Structured products (17 stocks)	207
Rights (2 stocks)	205
Units (3 stocks)	202
Closed-end funds (2 stocks)	200
NY registry shares (1 stock)	199
Worldwide IPOs at time of NYSE listing (72 stocks)	127
No home market trading (24 stocks)	103
Re-organization around NYSE-listing, e.g. M&As (6 stocks)	97
Questionable or undetectable home market data (37 stocks)	60

Table 2
Distribution of 60 sample stocks by country

	Number of stocks	Developed	Emerging
1. Australia	1	T	
2. Argentina	2		T
3. Belgium	2	T	
4. Brazil	6		T
5. Chili	2		T
6. China	1		T

7. Columbia	1		T
8 France	3	T	
9. Germany	1	T	
10. Great Britain	7	T	
11. Greece	1	T	
12. India	8		T
13. Ireland	2	T	
14. Japan	8	T	
15. Mexico	1		T
16. Netherlands	2	T	
17. South Africa	3		T
18. South Korea	2		T
19. Spain	1	T	
20 Swiss	3	T	
21. Taiwan	3		T

Table 3
Value of trading, volume of trading and prices before and after cross-listing for CIA Saneamento and Anheuser-Bush Inbev

In the calculation of average values, the month before and the month after the listing are dropped. Hence, the "before" period covers the five months preceding the month before the listing data; the "after" period covers the five months after the month following the listing date. The comma in the values is used to separate thousands and the full stop is used for the decimal point.

		Combined value of trading ($million per month per stock)		Home value of trading ($million per month per stock)		Home volume of trading (million per month per stock)		Home market price ($)	
		Before	After	Before	After	Before	After	Before	After
1	CIA SANEAMENTO	2,723	3,429	2,723	3,428	21	39	132	87
2	ANHEUSER-BUSH INBEV	65	98	65	81	3	2	24	35

Table 4
Number of cases where the value of trading, volume of trading and share price increased/decreased after listing on the NYSE

In the calculation of average values, the month before and the month after the listing are dropped. Hence, the "before" period covers the five months preceding the month before the listing data; the "after" period covers the five months after the month following the listing date. The comma in the values is used to separate thousands and the full stop is used for the decimal point.

	All	Developed	Emerging
Home volume of trading			
Increase	37	21	16
Decrease	23	10	13
Home value of trading			
Increase	32	16	16
Decrease	28	15	13
Share price			
Increase	31	15	16
Decrease	29	16	13

Table 5
Value of trading, volume of trading and share price before and after cross-listing

In the calculation of average values, the month before and the month after the listing are dropped. Hence, the "before" period covers the five months preceding the month before the listing data; the "after" period covers the five months after the month following the listing date. The comma in the values is used to separate thousands and the full stop is used for the decimal point.

	Home value of trading ($million per month per stock)		Home volume of trading (million)		Home market price ($)	
	Before	After	Before	After	Before	After
All 60 stocks	527,135	245,605	12.184	12.173	43,251	20,116
Correction	1,279	1,120	14.866	14.68	85	75

Emerging (29)	57,090	39,374	20.499	20.051	2,784	1,963
Correction	2,863	2,773	23.569	23.263	121	119
Developed (31)	322,817	164,846	3.867	4.295	83,459	38,269
Correction	198	113	4.505	4.858	44	23
2000	19,396	2,230	14.873	2.112	1,302	1,057
Correction	3,561	145	25	2	137	49
2001	2,810	4,417	2.931	4.283	956	1,029
Correction	411	366	3	5	129	75
2002	1,703,451	486,305	11	16	153,871	30,347
Correction	957	1,197	14	20	70	59
2003	24,780	42,187	5.850	6.574	4,223	6,418
Correction	415	402	8	9	51	44
2004	18,148	31,385	83	132	215	237
2005	1,341	802	10	5	137	158
2006	107,788	149,329	0.568	0.906	189.384	165.192

Correction	18	13	0.555	0.711	34	18
2007	2,106	2,245	67	83	141	213
2008	67,037	28,046	6	5	10,756	5,794
Correction	42	40	3.242	2.825	13	14
2009	288	318	26	19	11	16
2010	6,495	5,543	7	6	883	938
Correction	7.475	7.440	5	2	1.4	3
2011	1,166	1,803	17	13	69	92

Table 6
Value of trading, volume of trading and price before and after cross-listing per country

In the calculation of average values, the month before and the month after the listing are dropped. Hence, the "before" period covers the five months preceding the month before the listing data; the "after" period covers the five months after the month following the listing date. The comma in the values is used to separate thousands and the full stop is used for the decimal point.

		Home value of trading ($million per month per stock)		**Home volume of trading (million)**		**Home market price ($)**	
		Before	**After**	**Before**	**After**	**Before**	**After**
1	**Australia (1)**	19	27	0.668	0.764	28	35

2	**Argentina (2)**	4.930	4.316	1.494	1.076	3	4
3	**Belgium (2)**	53	62	1.410	1.259	39	50
4	**Brazil (6)**	4,662	873	40	22	115	38
5	**Chili (2)**	1,192	1,634	82	137	14	11
6	**China (1)**	3.459	2.874	0.983	0.699	3.655	4.116
7	**Columbia (1)**	55,819	29,463	21	14	2,528	2,030
8	**France (3)**	176	46	4	1	40	33
9	**Germany (1)**	223	348	1.545	4.696	145	76
10	**G-Britain (7)**	71.149	70.735	8.362	8.989	8.531	7.878
11	**Greece (1)**	3.017	2.812	0.184	0.207	16	13
12	**India (8)**	382	360	0.651	0.671	591	527
12	**Correction**	254	312	0.845	0.836	301	365
13	**Ireland (2)**	25	22	1.764	1.402	14.603	16.048
14	**Japan (8)**	828,910	477,675	2.652	3.334	312,577	143,121
15	**Mexico (1)**	71	83	16	2	4	32
16	**Netherlands (2)**	54	44	5.659	4.918	9.589	9.062

17	**South Africa (3)**	152	166	1.408	1.566	107.720	106.245
18	**South Korea (2)**	69,981	65,026	1.887	2.517	37	26
19	**Spain (1)**	1	7	0.774	3.697	1.902	1.923
20	**Swiss (3)**	883	3,433	0.992	3.790	895	904
20	**Correction**	304	245	1	5	226	43
21	**Taiwan (3)**	2,280	2,351	51.053	51.528	44.850	45.486

vii. Annex B – Chapter VI

The comma in the values is used to separate thousands and the full stop is used for the decimal point

Figure 1A

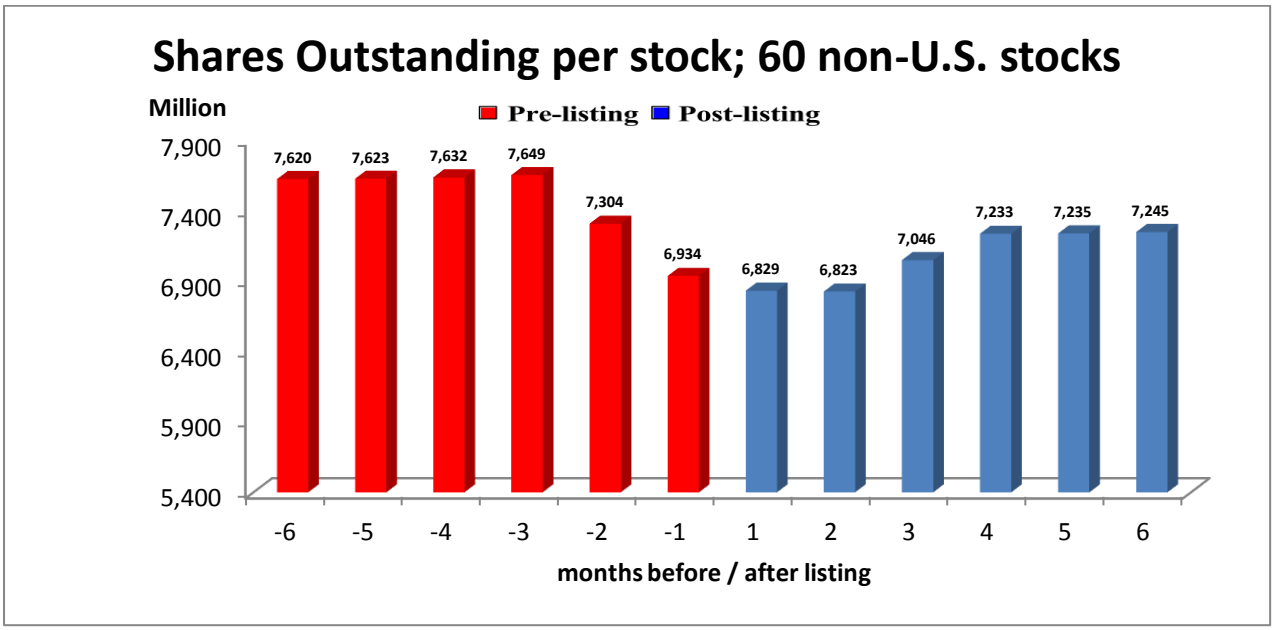


Figure 1B

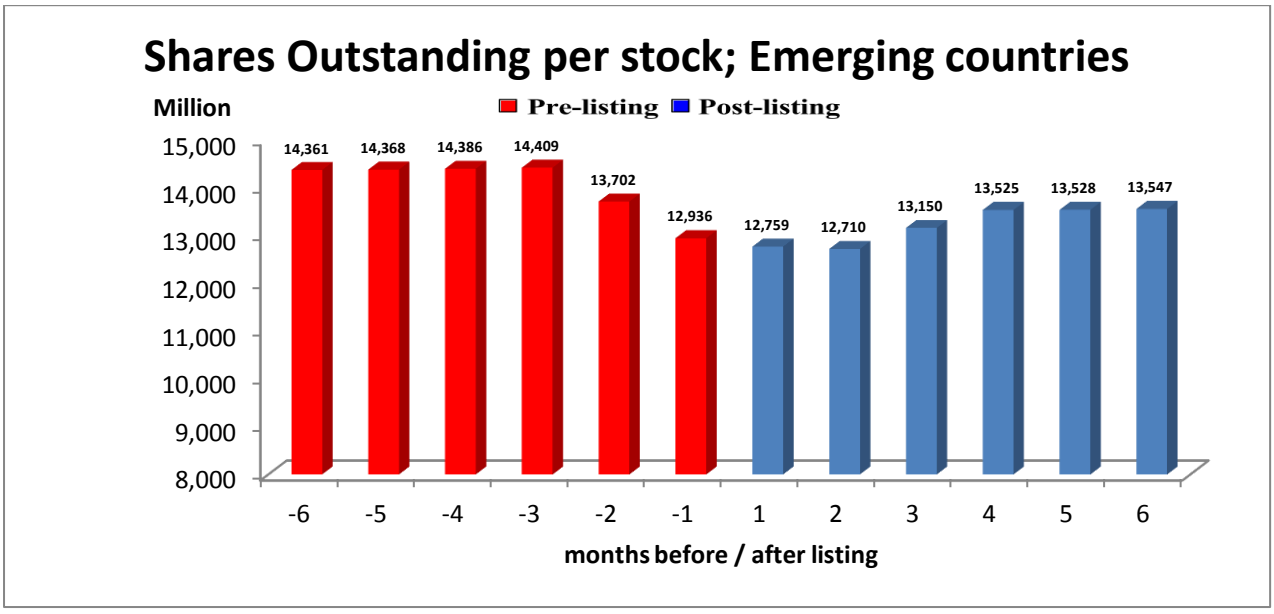


Figure 1C

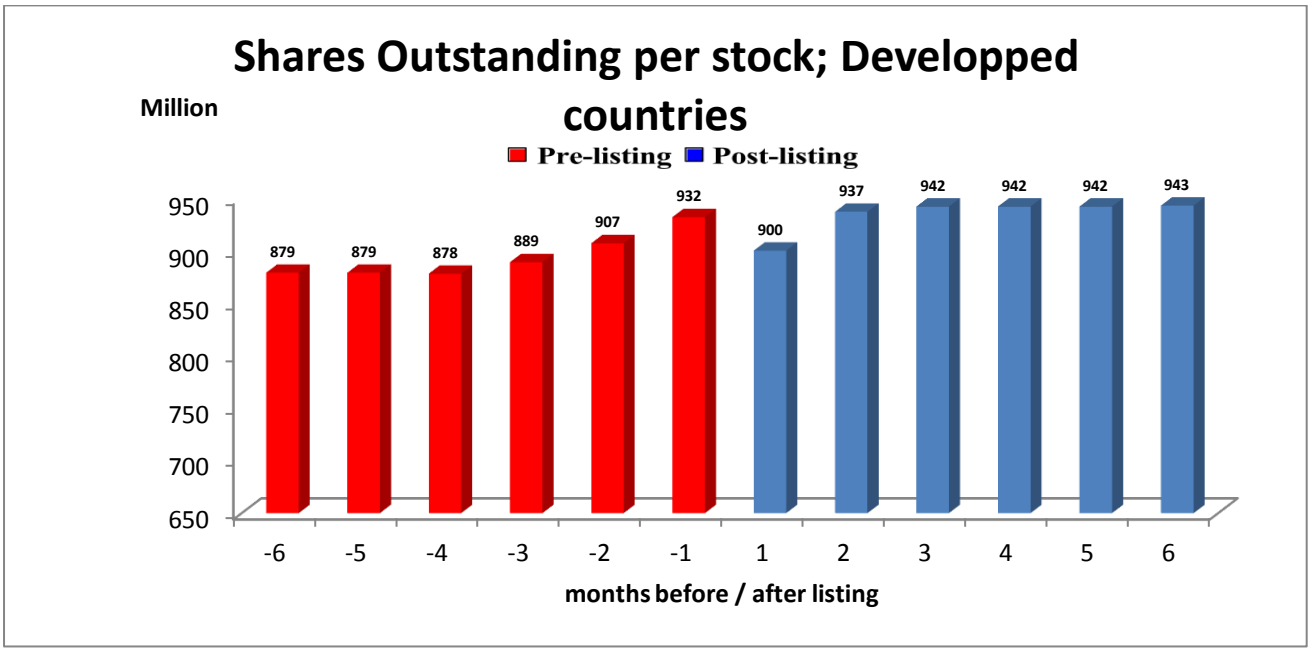


Figure 1D

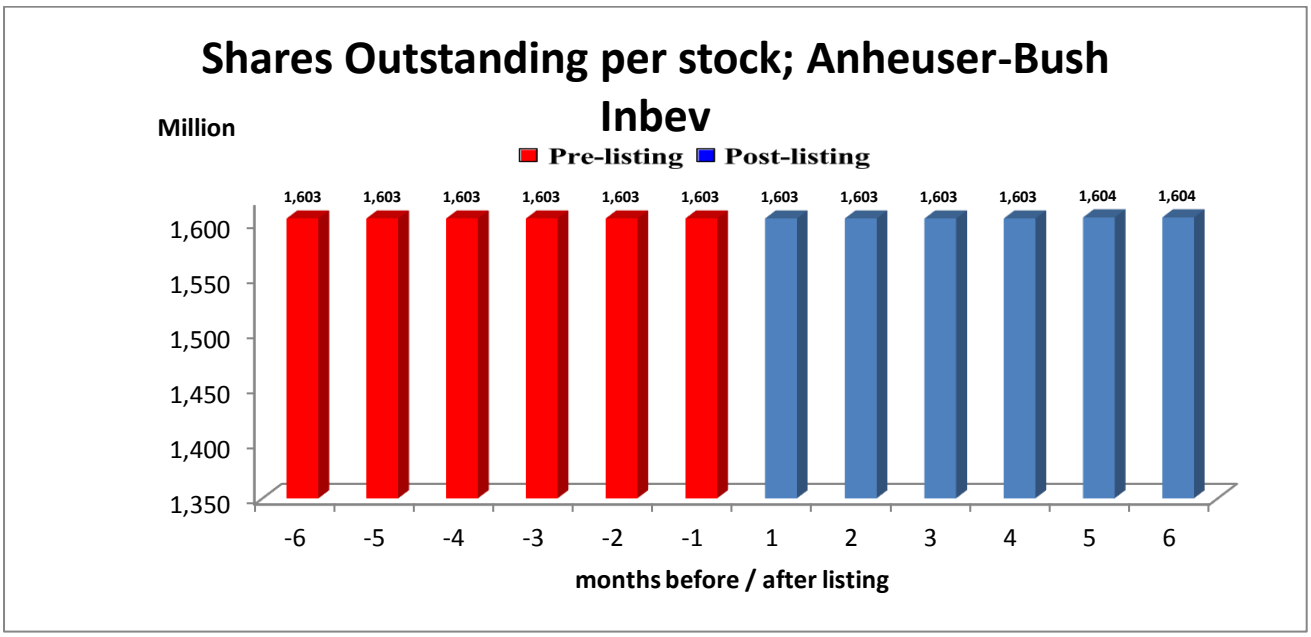


Figure 1E

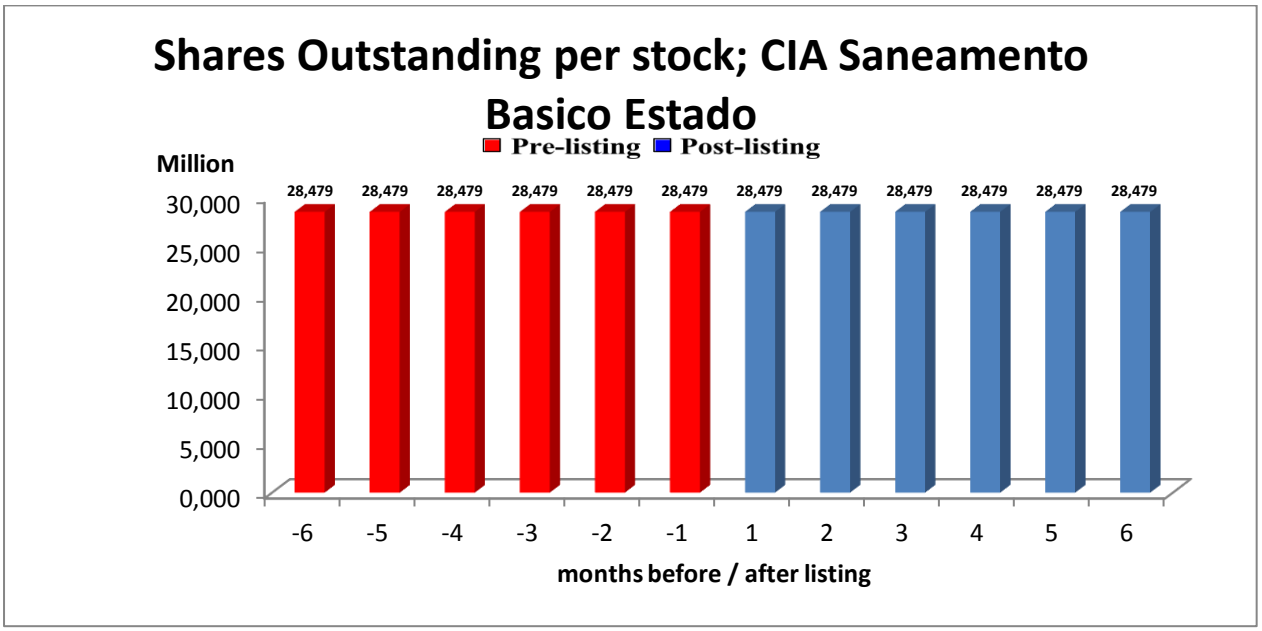


Figure 2A

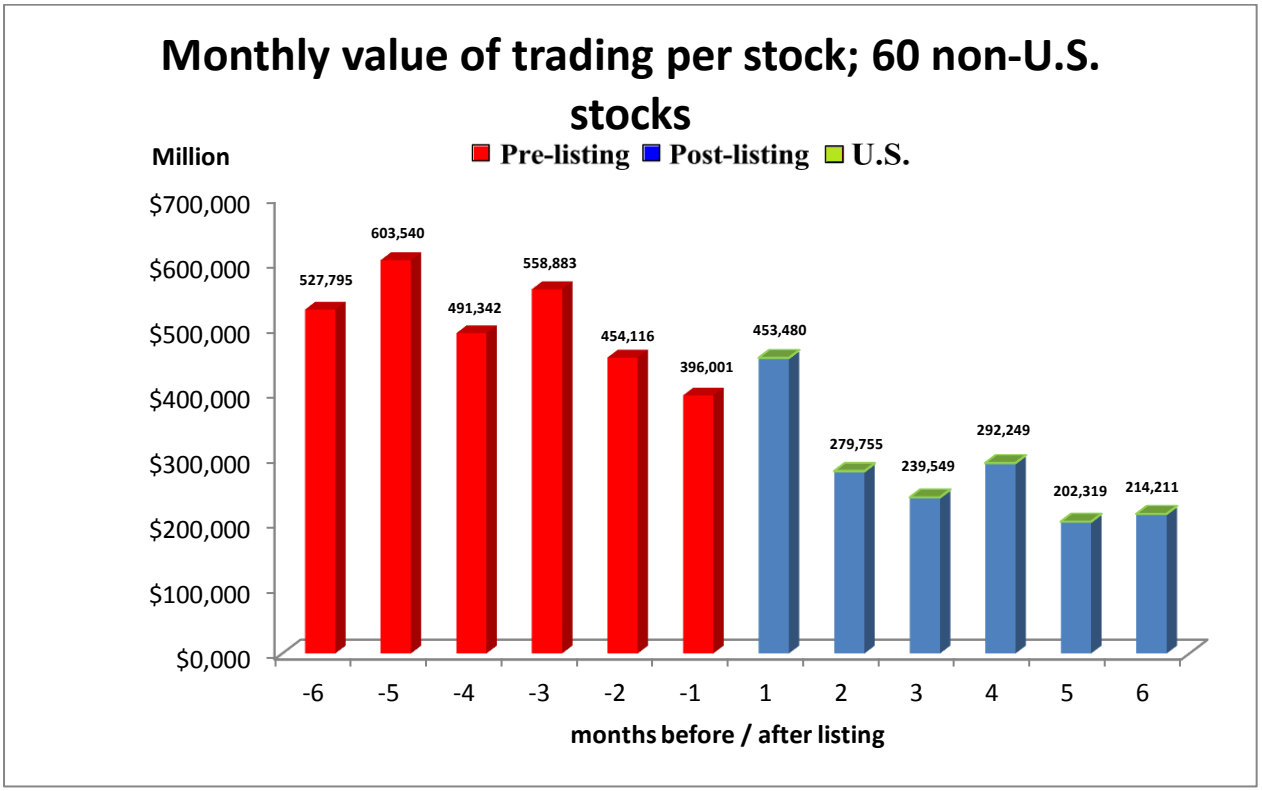


Figure 2B

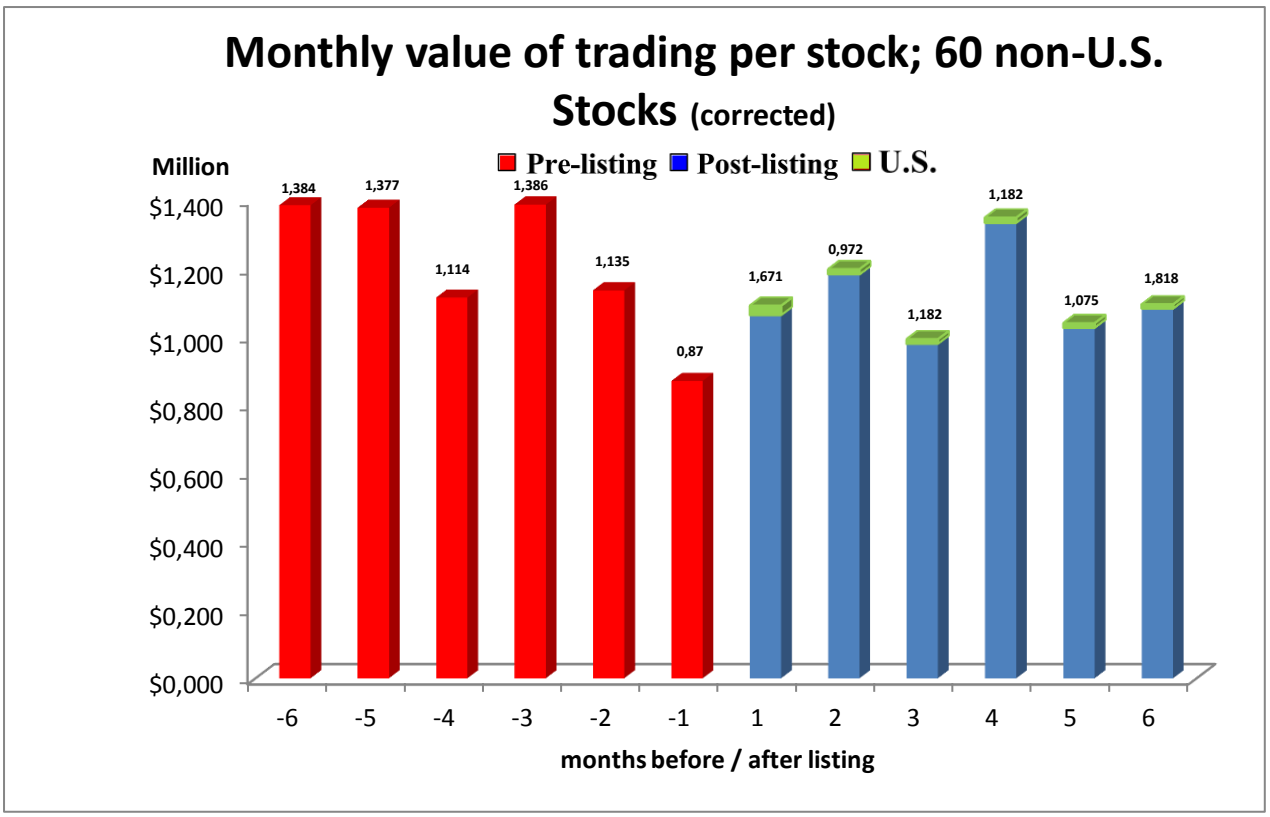


Figure 2C

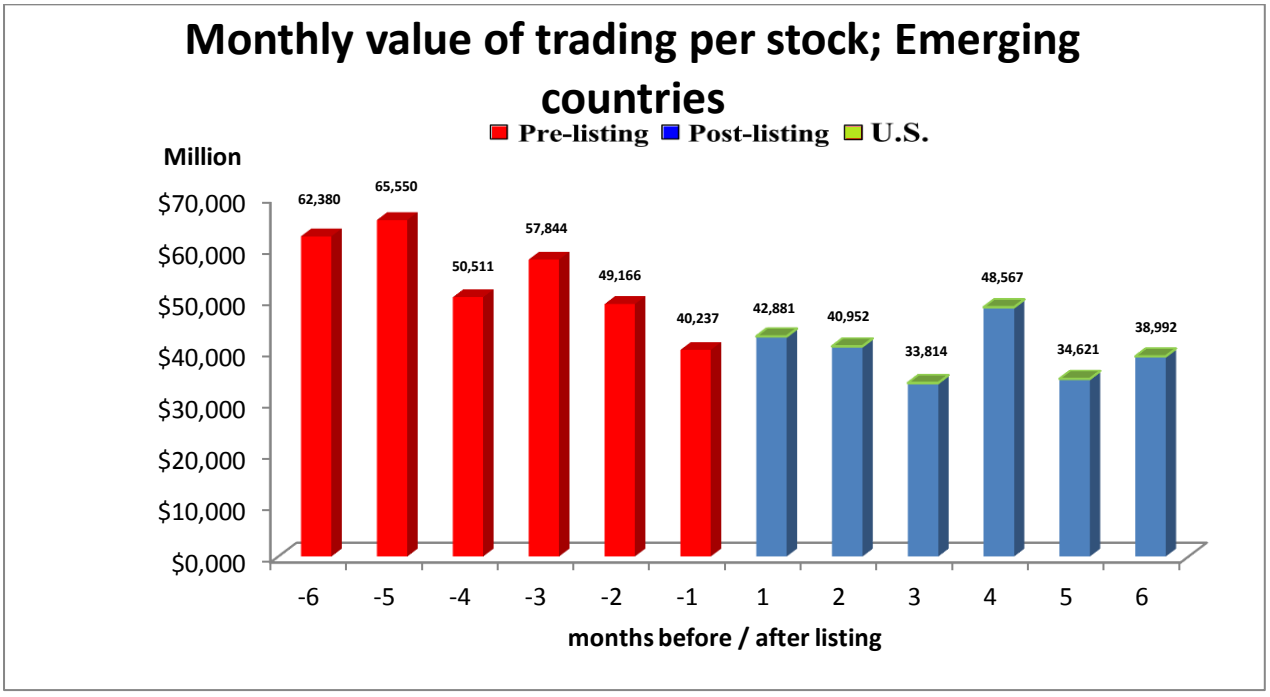


Figure 2D

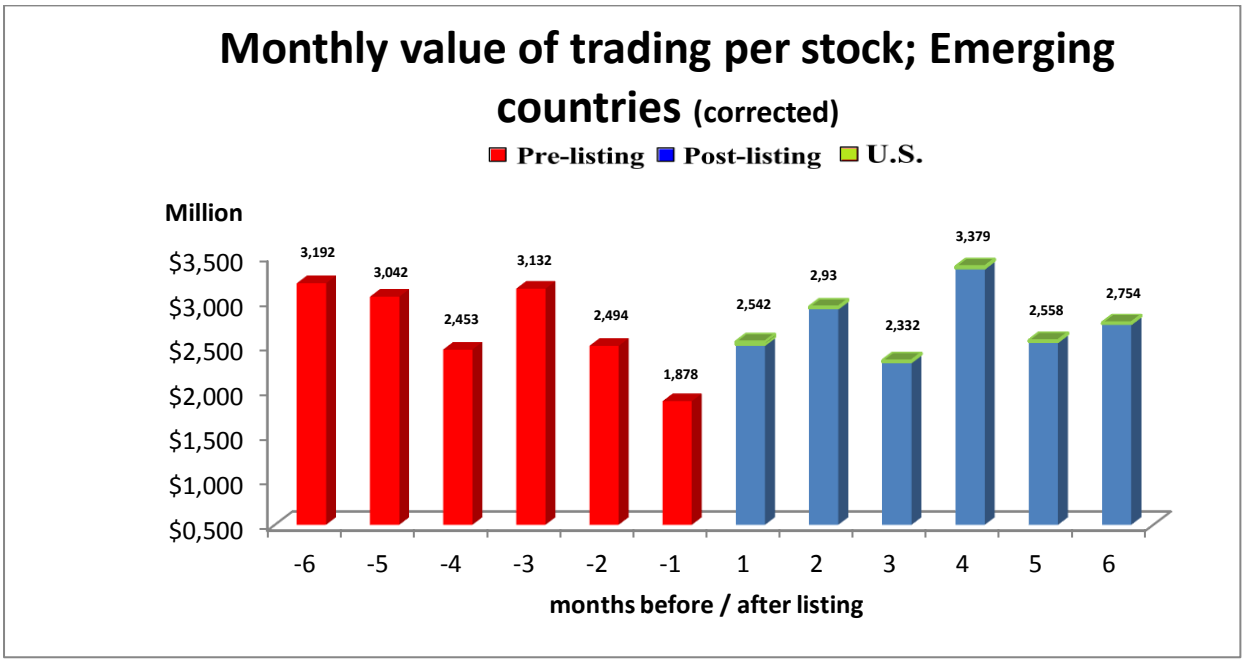
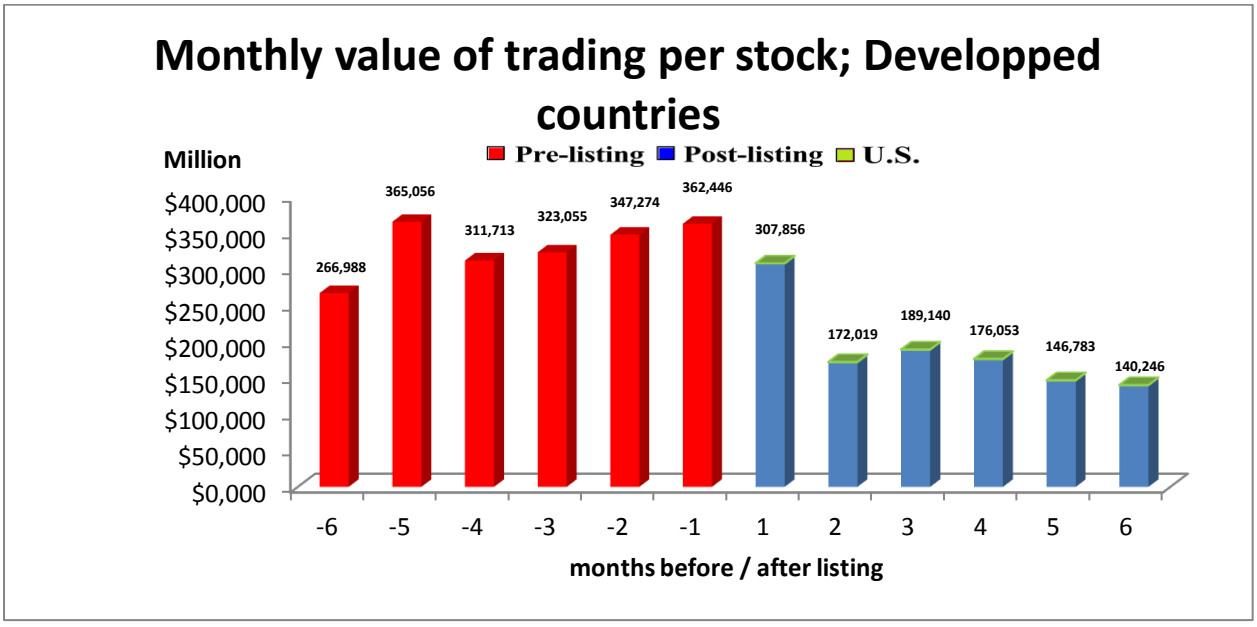


Figure 2E



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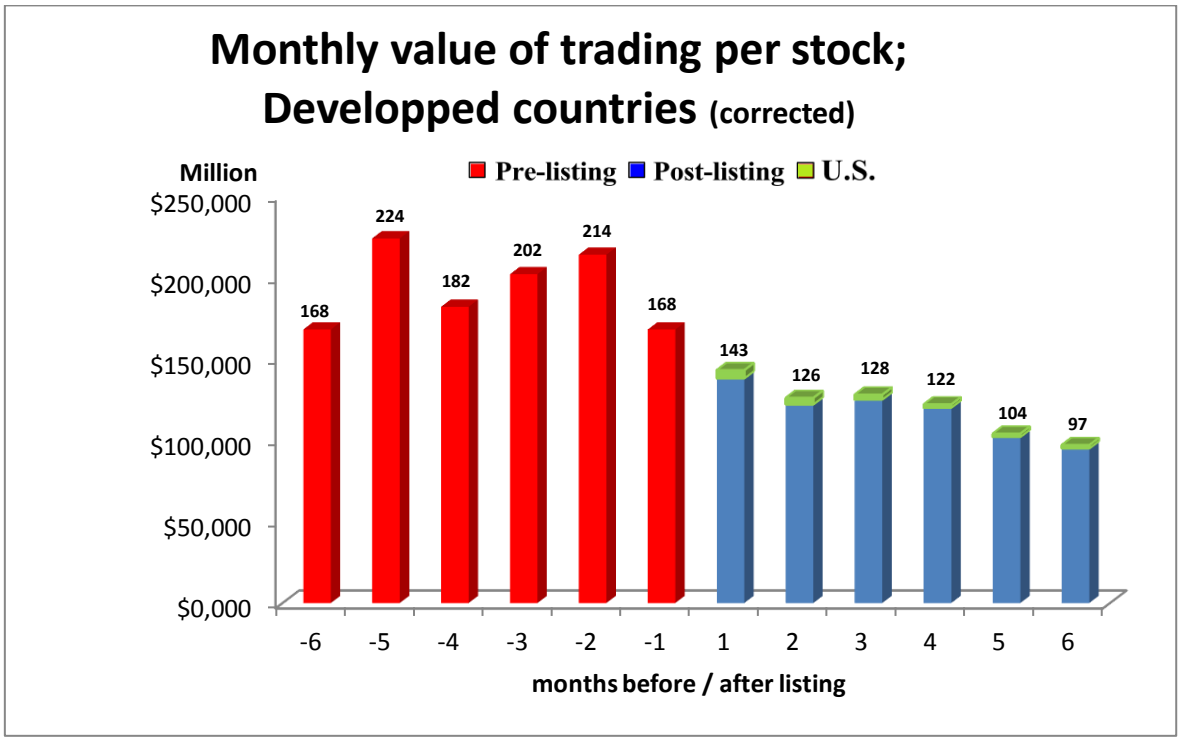


Figure 2G

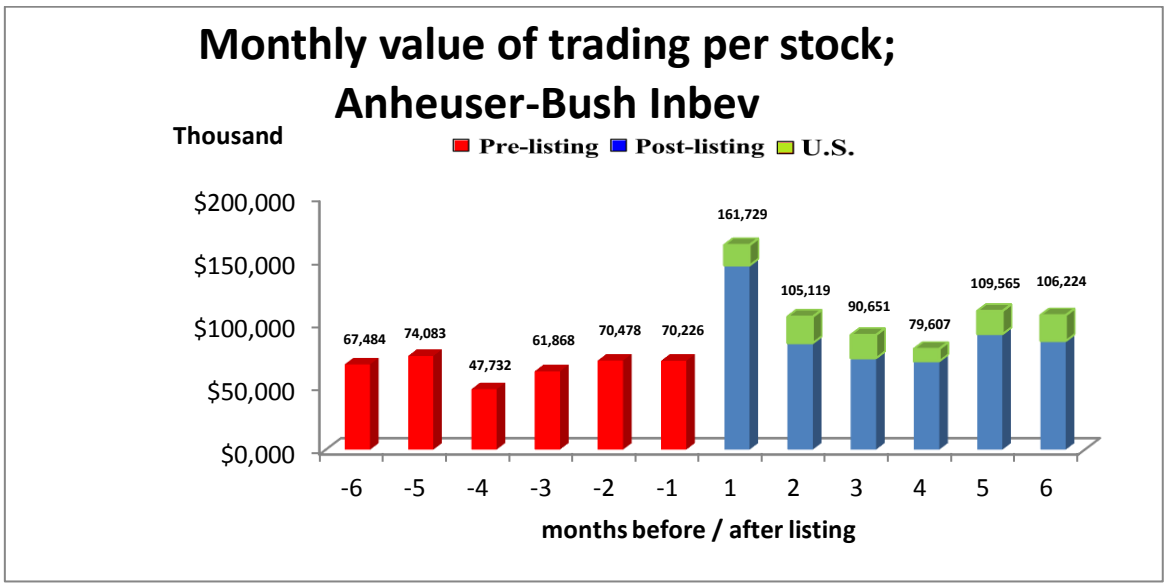


Figure 2H

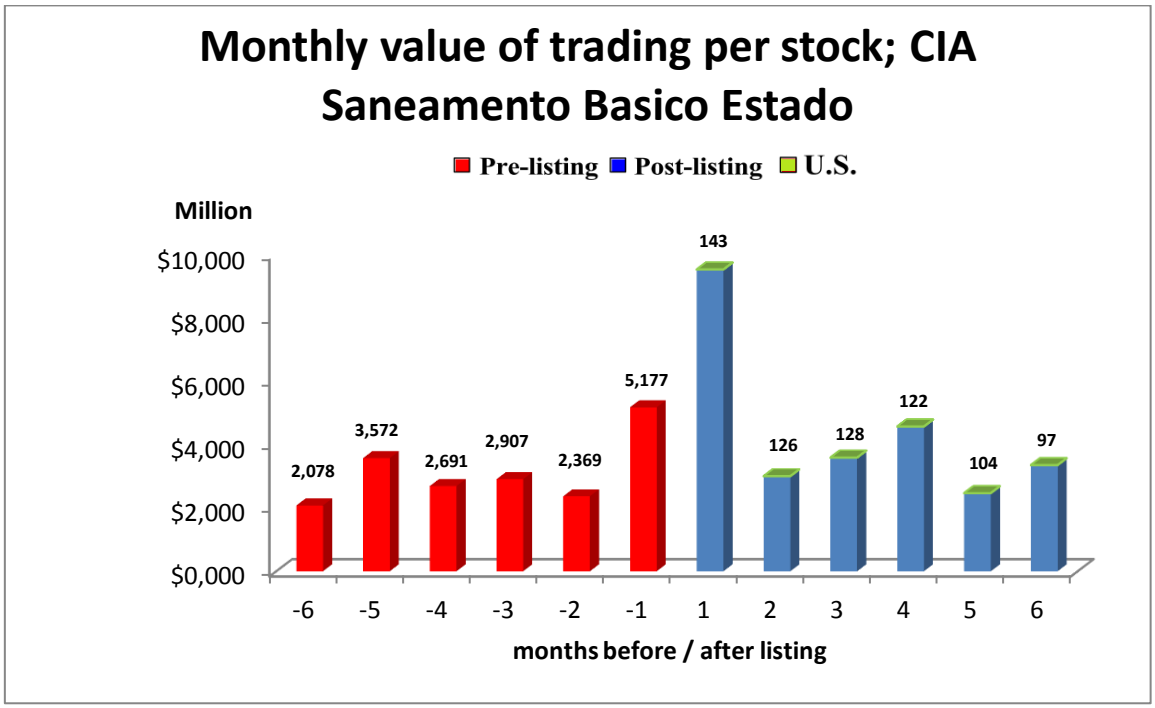


Figure 3A

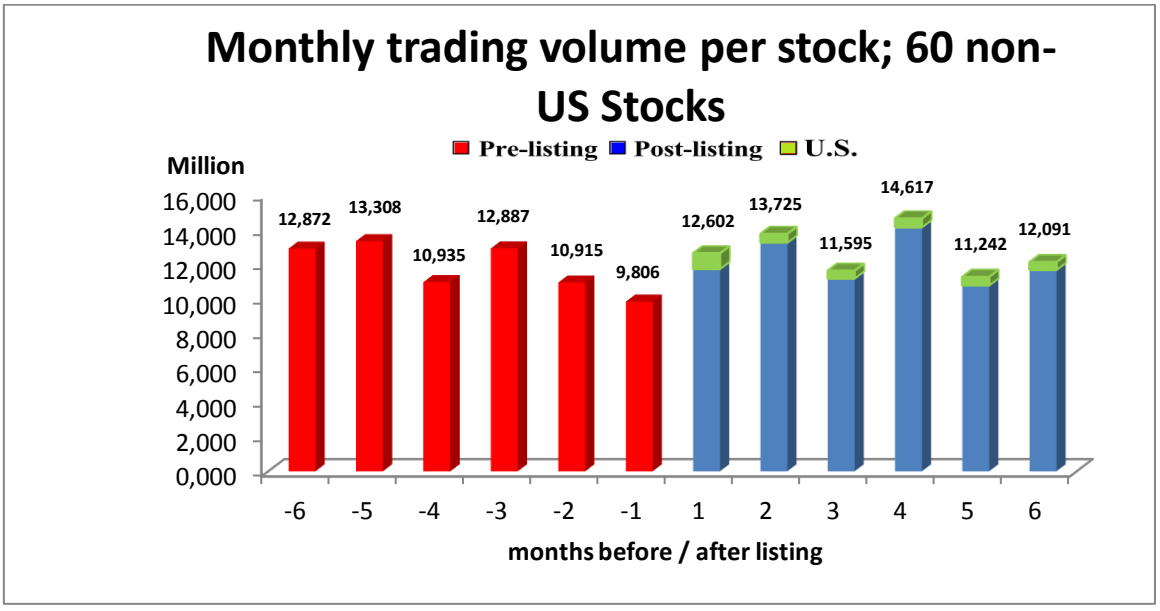


Figure 3B

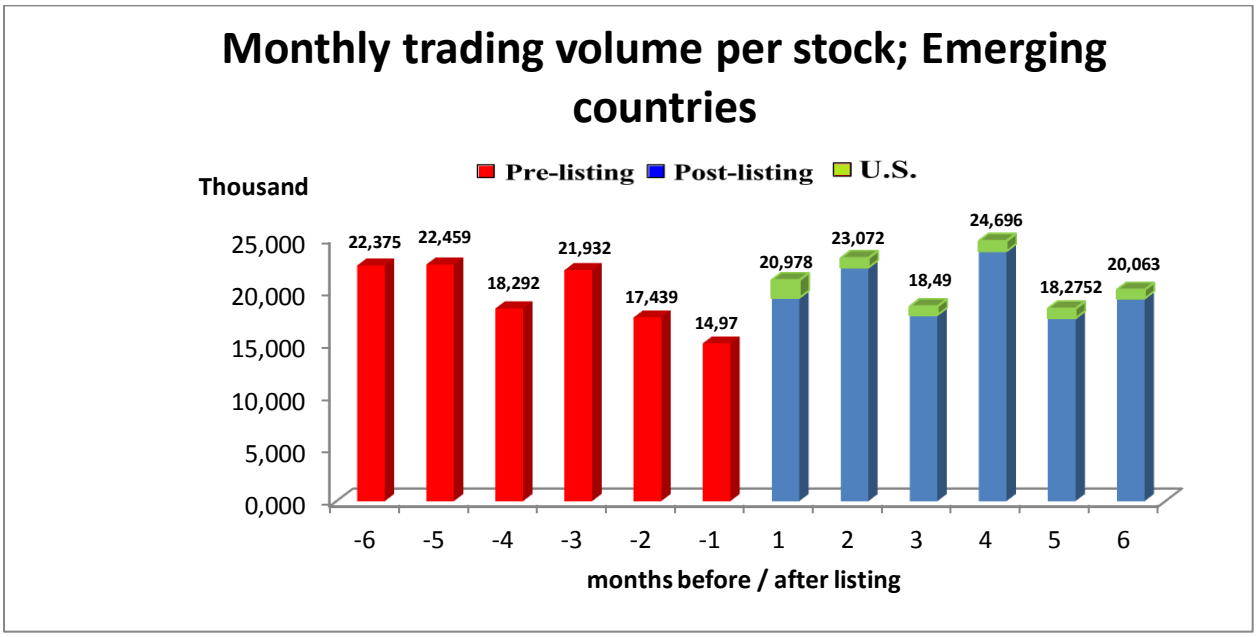
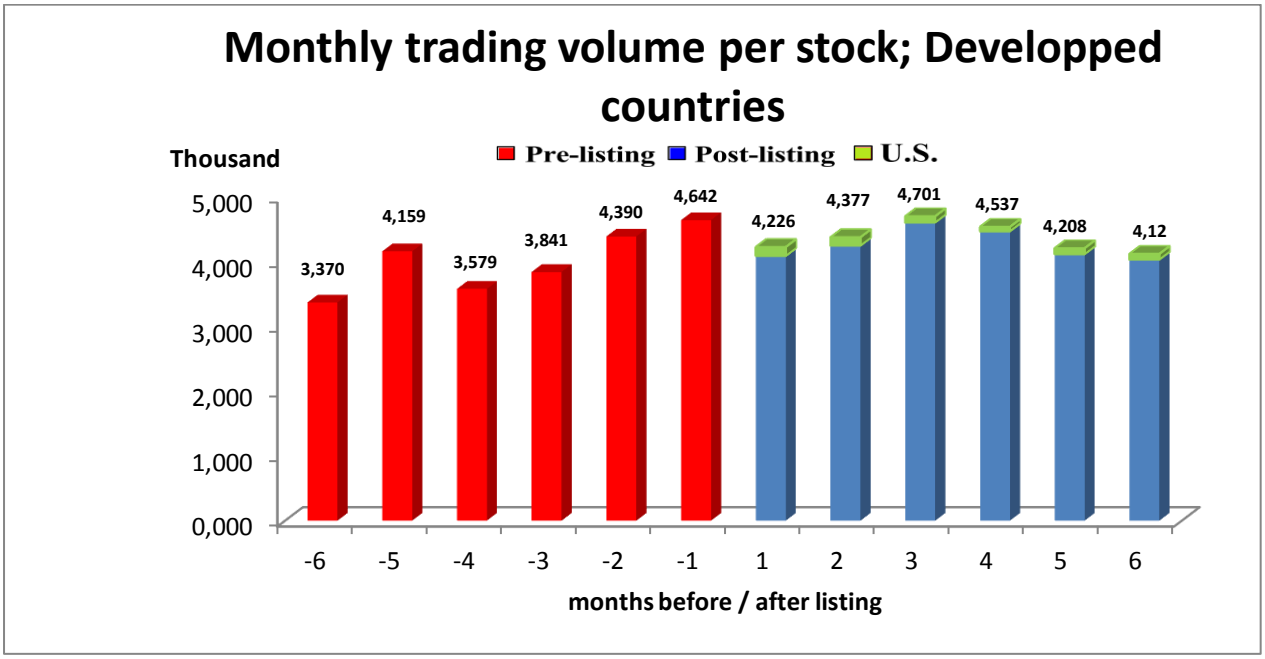


Figure 3C



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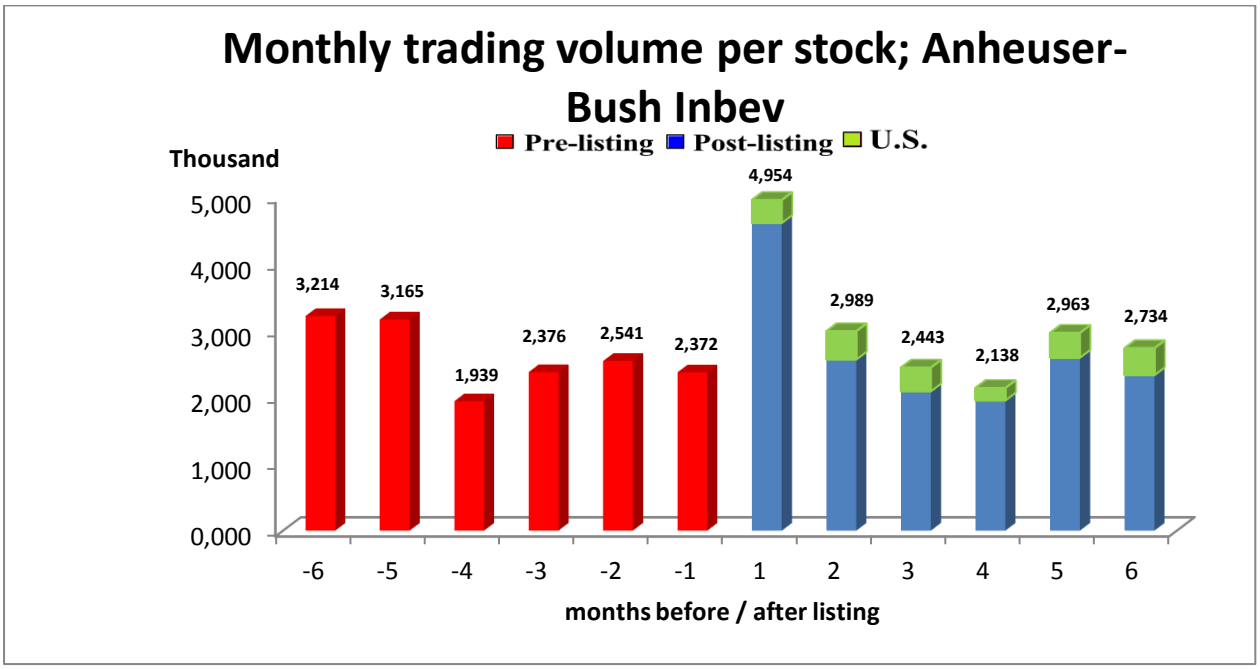

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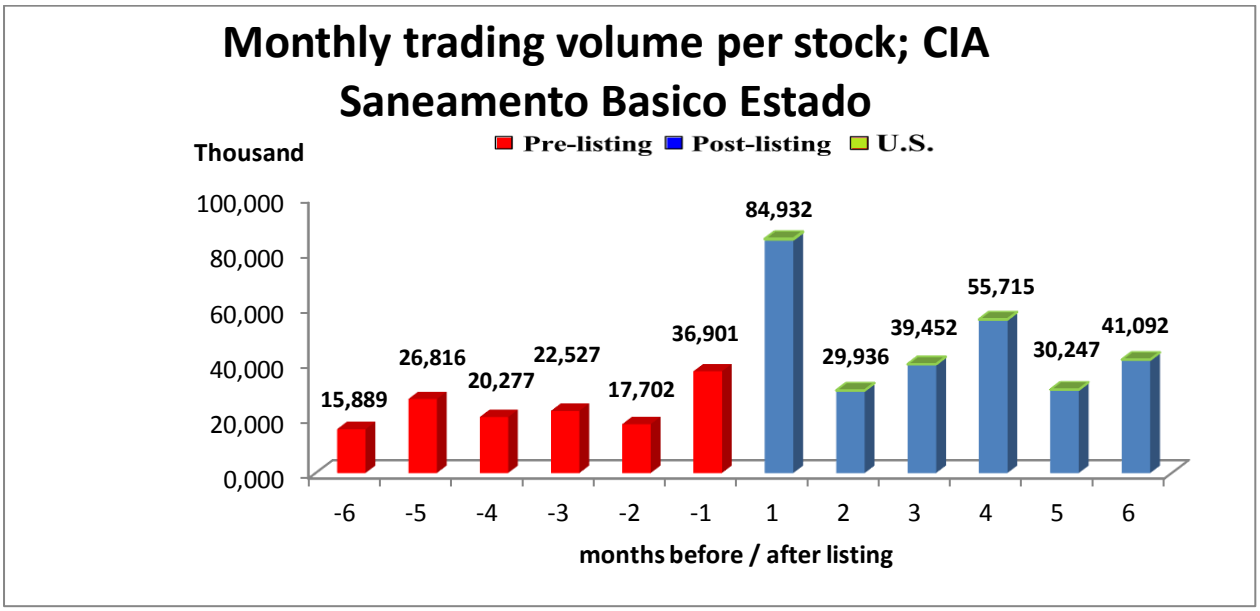


Figure 4A

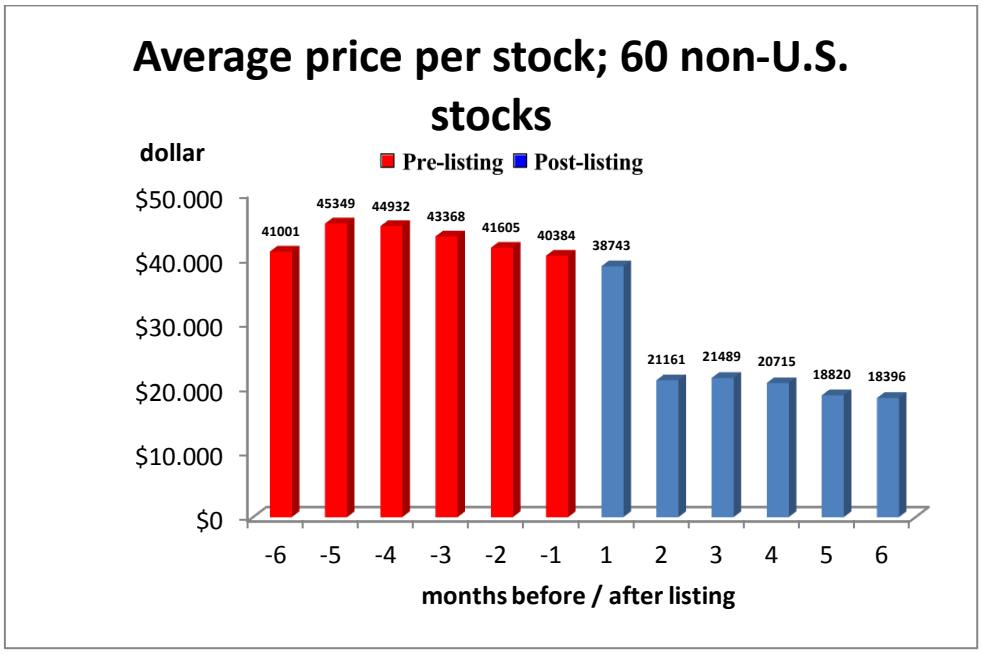
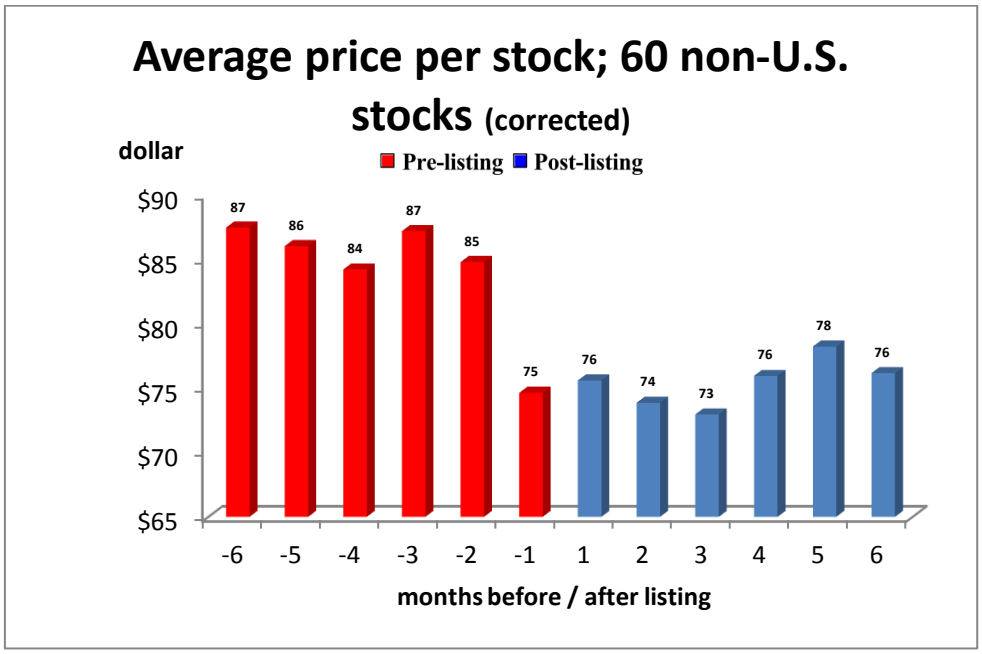


Figure 4B



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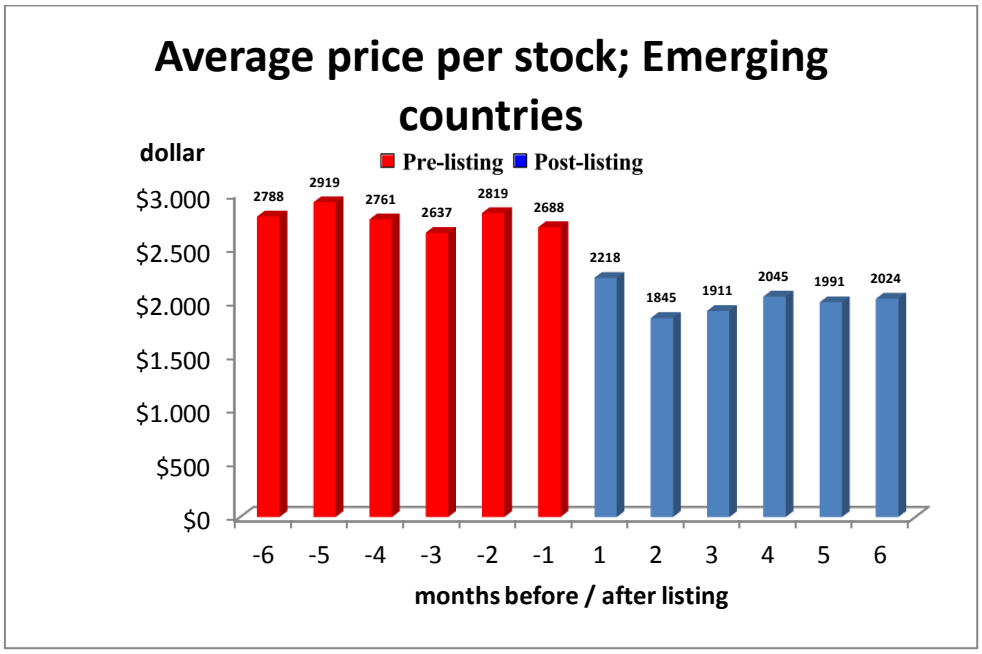

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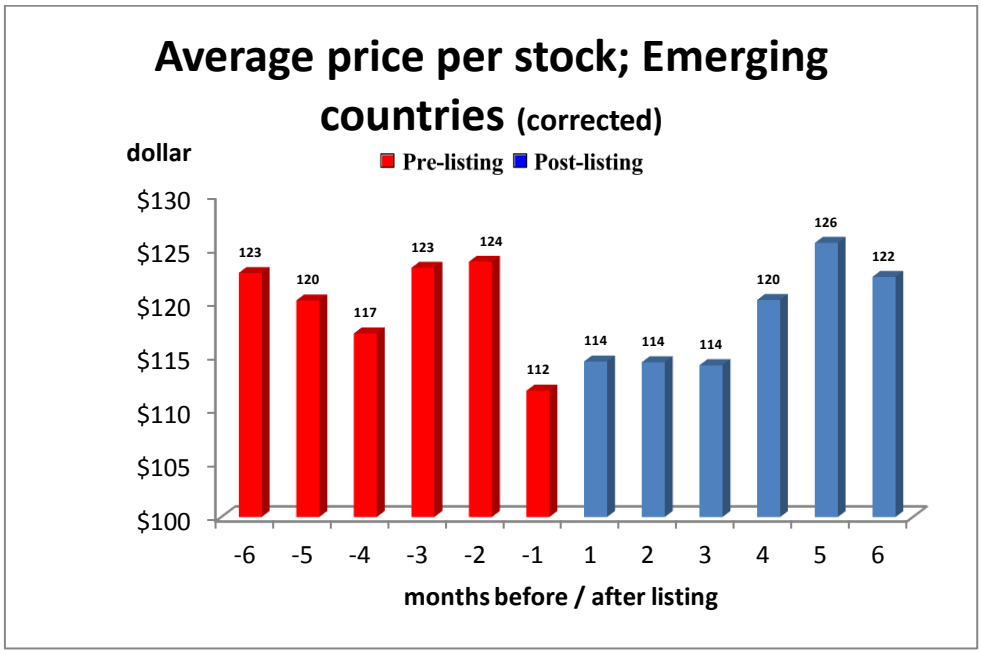

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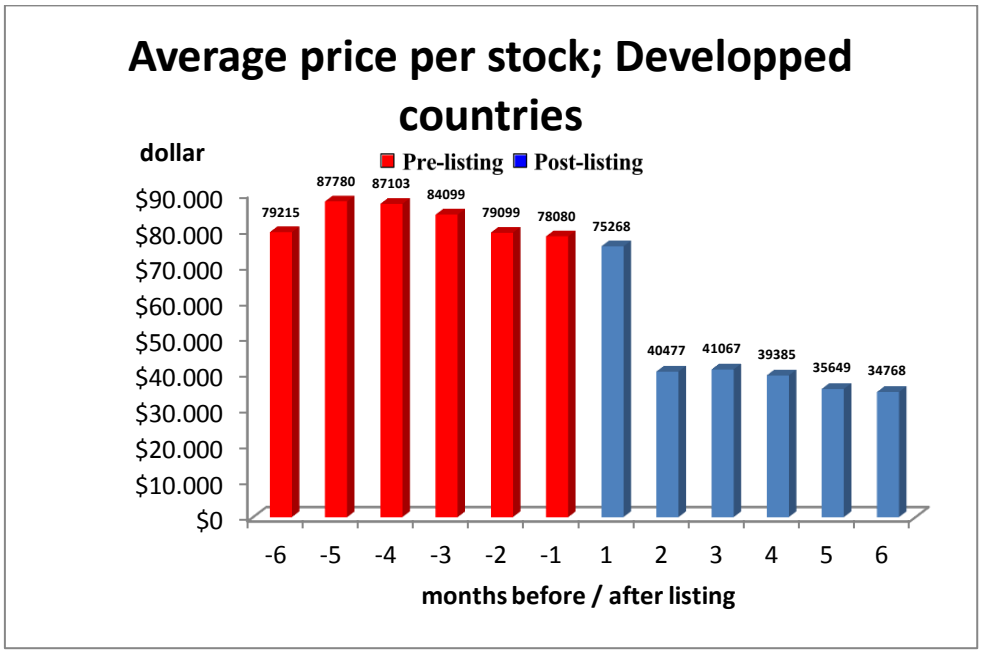


Figure 4F

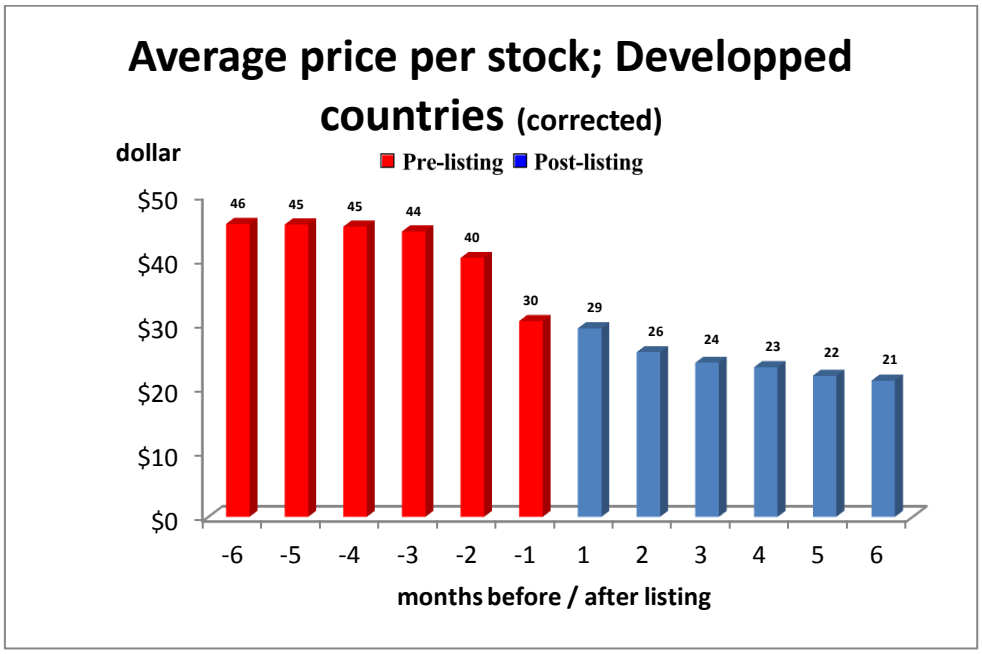


Figure 4G

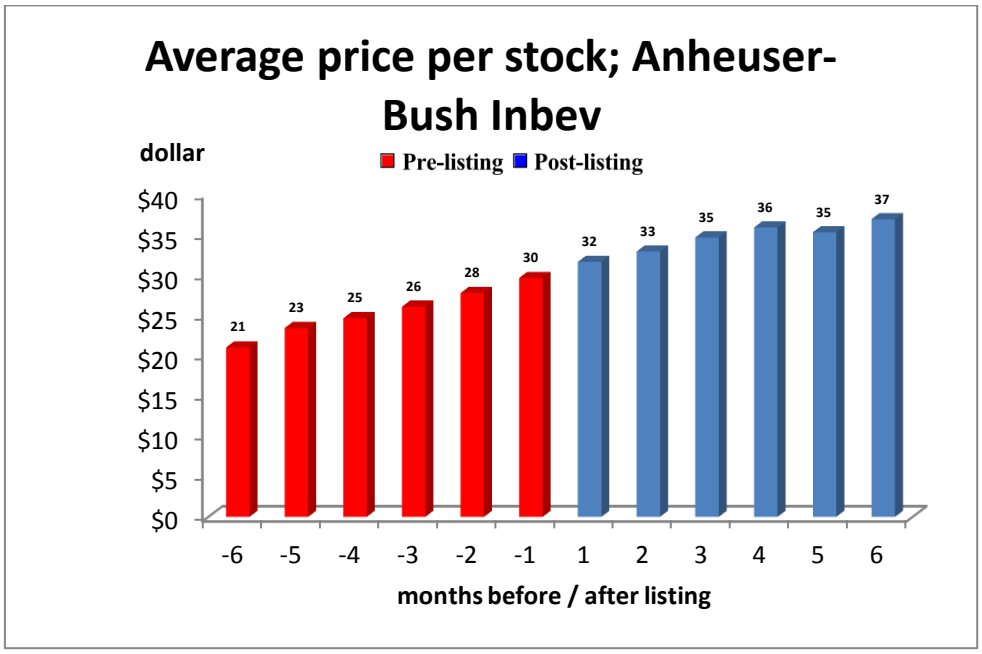
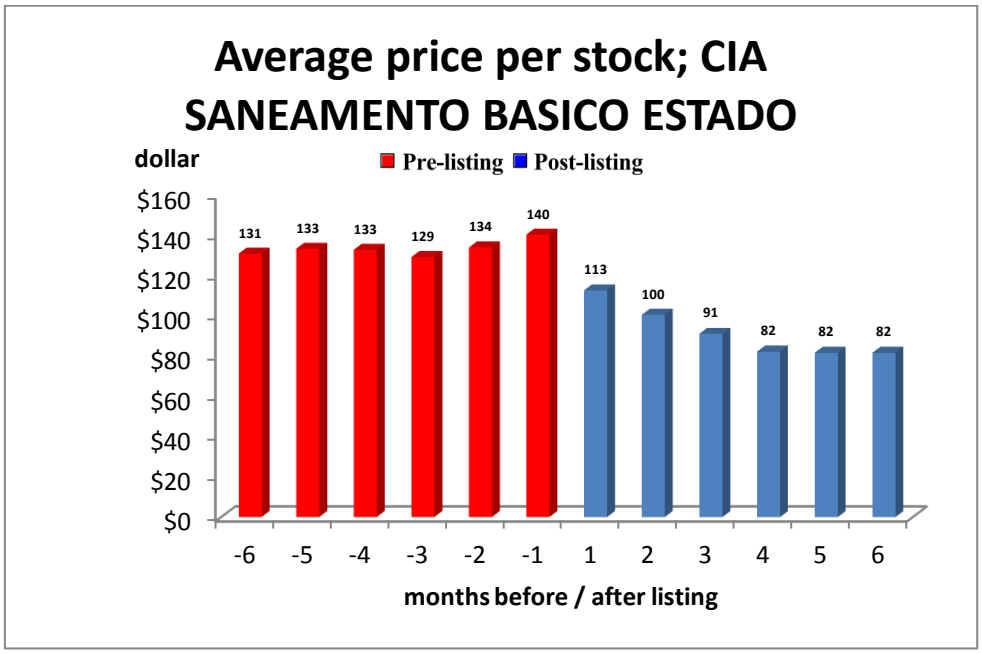


Figure 4H



CONCLUSION

During the 1990s, *"the number of cross-listed companies on major exchanges outside of their home markets reached as high as 4,700 and included among their numbers not only companies from developed economies, but also many from emerging economies"*.[288] However, *"the pace of international cross-listings around the world has decelerated during the last few years"*. In 2011, there were in total 2,289 internationally cross-listed stocks, which is a decline of over 50% from its 1997 high of 4,700.[289] Moreover, research by Dobbs and Goedhart shows that *"at the end of the last decade, many large European companies terminated their cross-listings on stock exchanges in United States as the requirements for deregistering from US markets became less stringent"*. Moreover, according to their research *"the number of cross-listings by companies based in the developed world has been steadily declining in key capital markets such as New York, London and Tokyo"*.[290]

Some scholars claim that the abovementioned slowdown in global cross-listings can be contributed to the fact that the benefits of cross-listing, especially in the U.S. market, do no longer exist. First of all, they claim that *"the global capital markets have become more liquid and integrated and investors more global, which nullifies the incentives to cross-list"*.[291] Moreover, they argue that the recent delisting of major companies from the U.S. market is caused by the fact that *"cross-listing brings few gains and significant costs"*. According to them, *"cross-listing does not increase a firm's value in the long-term"*.[292]

In chapter VI of this thesis their view is empirically tested by the investigation of 60 non-U.S. stocks (ADRs) that were listed on the NYSE between January 1, 2000 and December 31, 2011. I examined the volume of trading, value of trading and share price of the 60 sample stocks 6 months before and 6 months after cross-listing. As a result, the effect of cross-listing on the volume of trading, value of trading and share price could be monitored. The main purpose of this research was to investigate if cross-listing in the 21st century is still a win-win situation with both the home market and the U.S. market benefitting, as is shown by the research of Smith and Sofianos.[293] Our results show that the average home value of trading of the total sample decreased from $527,135 million to $245,605 mil-

[288] R. Dobbs and M.H. Goedhart, "Why cross-listing doesn't create value", McKinsey & Company, McKinsey on Finance, 2008, 1.
[289] See Figure 1 from Annex Chapter III.
[290] Some well-known companies, such as Boeing and BP, have recently withdrawn their listings.
[291] R. Dobbs and M.H. Goedhart, "Why cross-listing doesn't create value", McKinsey & Company, McKinsey on Finance, 2008, 1.
[292] *Ibid.*
[293] K. Smith and G. Sofianos, "The Impact of an NYSE listing on the Global Trading of Non-U.S. Stocks", NYSE Working paper, 1997.

lion post-listing, which is a decrease of 53 percent. This is contrary to the study of Smith and Sofianos, in which *"the home value of trading increased 24 percent, from $207 million to $263 million per stock per month"*.[294] Our results also show that the home volume of trading of the whole sample decreased with 0,1 percent, from $12.184 million to $12.173 million. Moreover, the share price decreased on average from $43,251 to $20,116, which is a decrease of 53 percent. This is contrary to the study of Smith and Sofianos, in which *"the average price was seven percentage points higher after listing than before"*[295]. With regard to the emerging countries in the sample, the average home value of trading decreased from $57,090 million to $39,374 million, which is a decrease of 31 percent. On the contrary, in the study of Smith and Sofianos, *"the home value of trading of the emerging countries increased 8 percent, from $137 million to $148 million per stock per month"*.[296] The average home value of trading of the developed countries also decreased from $322,817 million to $164,846 million, which is a decrease of 49 percent, which also contradicts the study of Smith and Sofianos, in which *"the home value of trading of the developed countries increased 30 percent, from $246 million to $349 million per stock per month"*.[297]

As our results show, the benefits - which companies, according to some studies, derived from cross-listing in the 80s and 90s such as increased liquidity and lower cost of capital – do indeed no longer seem to exist in the 21st century. However, further research is necessary and the results are inconclusive due to several factors. The groups of stocks we examined consist out of a small number of issues. Because of this, company-specific factors may dominate the trading patterns. Moreover, recent economic events may have also affected trading patterns. Our sample period, for example, covers the period around the millennium bubble burst and the global financial crisis of 2007 and 2008, which still has consequences on a global scale till this day. Because of this, future research in the coming years should investigate post-crisis data to see if the trend continues.

Nevertheless, it is a fact that the international cross-listings around the world has decelerated during the last decade. In recent years, *"the number of cross-listed stocks has declined over 50% from its 1997 all-time high of 4,700"*.[298] The global economic crisis does not play a role in these statistics, as the number of cross-listings worldwide had already declined to 2,300 at the end of 2002. In 2007, this number decreased to 2,084, but in 2011 the number of international cross-listings recovered to

[294] K. Smith and G. Sofianos, "The Impact of an NYSE listing on the Global Trading of Non-U.S. Stocks", NYSE Working paper, 1997.
[295] *Ibid.*
[296] *Ibid.*
[297] *Ibid.*
[298] See Figure 1 from Annex Chapter III.

its pre-crisis levels, which is still 50% less than the levels that were reached in the 80s and 90s. Especially the U.S. market seems to bear most of the consequences of this downward trend. Statistics show that the U.S. share in the total number of global Depository Receipts has dramatically declined during the last decade.[299]

In this thesis an overview is given of the literature that investigates the causes of this phenomenon. From this overview can be concluded that *"the benefits - that companies might once have derived from cross-listing - do no longer exist or are no longer sufficient"*.[300] Research shows that cross-listing nowadays brings *"few gains and significant costs"*.[301] However, it is difficult to determine what factors exactly caused this turnover. From the literature follows, that it cannot be easily attributed to one single factor. Hence, *"the loss of competitiveness of the U.S. market seems attributable to the concurrent action of multiple factors"*.[302] One of the major causes is *"the reduced liquidity advantage of the U.S. equity market vis-à-vis other developed equity markets and also the reduced attractiveness of the U.S. market as a market where to invest and grow"*[303]. Other major factors are *"the increased costs of compliance, and the significant increase in liability risks"*.[304]

These findings are supported by my own research, but also by a vast amount of other recent research and empirical studies, which are going against the *"conventional wisdom that has long held that companies cross-listing their shares in the United States buy access to more investors, greater liquidity, a higher share price, and a lower cost of capital"*[305]. However, as stated before future research should ascertain if the trend is continuing or just temporary.

[299] See Figure 1 Annex Chapter I
[300] R. Dobbs and M.H. Goedhart, "Why cross-listing doesn't create value", McKinsey & Company, McKinsey on Finance, 2008, 1.
[301] *Ibid.*
[302] L. Zingales, "Is the U.S. Capital Market Losing Its Competitive Edge?", Preliminary Draft, 2006.
[303] *Ibid.*
[304] *Ibid.*
[305] G.A. Karolyi, "The World of Cross-Listing and Cross-Listings of the World: Challenging Conventional Wisdom", Department of Finance, Fisher College of Business, The Ohio State University, 2004, 2.

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ANNEX

HOME MARKET						
Average of data sample	SHARES OUTSTANDING	TRADING VOLUME	VALUE OF TRADING	SHARE PRICE		
	6 months before ADR listing	6 months before listing	6 months before listing	6 months before listing		
1	7620186147	12872594,3	5,27795E+11	41001,45078		
2	7623372090	13308649,29	6,0354E+11	45349,48048		
3	7632467503	10935134,12	4,91342E+11	44932,39289		
4	7648938172	12886921,04	5,58883E+11	43368,23537		
5	7304390582	10914817,57	4,54116E+11	41605,46301		
6	6934017028	9805884,416	3,96001E+11	40384,00915		
average*	**7565870899**	**12183623,26**	**5,27135E+11**	**43251,40451**	US MARKET	
	6monthes after ADR listing	6monthes after ADR listing	6monthes after ADR listing	6monthes after ADR listing	VOLUME OF TRADING	VALUE OF TRADING
1	6829253902	11704263,56	4,53458E+11	38742,96172	898129,4394	22167178,77
2	6823404581	13219623,06	2,79743E+11	21161,1652	504739,1648	12312675,33
3	7046251417	11146902,22	2,39538E+11	21489,17017	448415,9505	10822847,06
4	7233460679	14107588,5	2,92237E+11	20714,90943	508888,7032	12132497
5	7234998345	10749539,14	2,02307E+11	18820,10765	491801,8423	11530735,99
6	7244697163	11643901,55	2,14201E+11	18396,02392	447377,5474	10311376,93
average*	**7116562437**	**12173510,89**	**2,45605E+11**	**20116,27527**	**480244,6416**	**11422026,46**

HOME MARKET						
China	SHARES OUTSTANDING	TRADING VOLUME	VALUE OF TRADING	SHARE PRICE		
	6 months before ADR listing	6 months before listing	6 months before listing	6 months before listing		
1	100000032	1285955,095	4712768,233	3,6648		
2	100000032	1344993,773	3681247,956	2,737		
3	100000032	1008543,095	3586177,538	3,5558		
4	100000032	657955,087	2760647,954	4,1958		
5	100000032	620492,8947	2557113,268	4,1211		
6	100000032	686822,7619	2995714,841	4,3617		
average*	**100000032**	**983587,989**	**3459590,99**	**3,6549**	US MARKET	
	6monthes after ADR listing	6monthes after ADR listing	6monthes after ADR listing	6monthes after ADR listing	VOLUME OF TRADING	VALUE OF TRADING
1	114546923,3	752464,5652	2257995,667	3,0008	1088477,273	12995439,01
2	118485032	686240,2222	1626457,951	2,3701	613647,3684	5775403,572
3	118485032	867561,3636	3092769,505	3,5649	1739759,091	24901519,82
4	118485032	853035,75	4617738,425	5,4133	4055752,381	86582607,4
5	121965010,2	547868,4091	2965447,338	5,4127	4388309,091	92094809,91
6	137624912	542609,9091	2072444,287	3,8194	2987552,381	45233036,82
average*	**123009003,6**	**699463,1308**	**2874971,501**	**4,11608**	**2757004,062**	**50917475,51**

HOME MARKET						
South Korea	SHARES OUTSTANDING	TRADING VOLUME	VALUE OF TRADING	SHARE PRICE		
	6 months before ADR listing	6 months before listing	6 months before listing	6 months before listing		
1	314370120,5	2123618,955	79320063825	37351,36365		
2	314370120,5	1501368,947	59009726062	39303,94735		
3	314370120,5	1649410,426	61509460145	37291,7857		
4	314370120,5	2516876,434	89326641348	35491,07145		
5	314370120,5	1647460,995	60743197375	36870,79545		
6	314370120,5	2818508,963	1,03135E+11	36592,10525		
average*	**314370120,5**	**1887747,152**	**69981817751**	**37261,79272**	US MARKET	
	6monthes after ADR listing	6monthes after ADR listing	6monthes after ADR listing	6monthes after ADR listing	VOLUME OF TRADING	VALUE OF TRADING
1	314769563	2833532,857	84025666368	29654,0293	405604,5455	10825585,32
2	315307966	3213054,955	77792441932	24211,36365	463315,0433	7109708,334
3	317804538,1	2098816,498	53033844766	25268,4524	309452,5	7411310,012
4	325294254,5	1788816,155	48597427490	27167,3684	265040,4762	7276209,201
5	325376496,5	2072386,087	54303916911	26203,57145	347020	9869769,33
6	325376496,5	3414531,857	91403765986	26769,04765	449116,6667	13294279,99
average*	**321831950,3**	**2517521,11**	**65026279417**	**25923,96071**	**366788,9372**	**8992255,374**

HOME MARKET						
Mexico	SHARES OUTSTANDING	TRADING VOLUME	VALUE OF TRADING	SHARE PRICE		
	6 months before ADR listing	6 months before listing	6 months before listing	6 months before listing		
1	1865054114	9422362,955	41625172,82	4,4177		
2	1890466685	36114552,77	163942012,3	4,5395		
3	2412624466	12289869	53432663,45	4,3477		
4	2412624466	13114054,67	53824014,57	4,1043		
5	2412624466	10795176,32	43558536,44	4,035		
6	2412624466	16026932,15	69348535,41	4,327		
average*	**2198678839**	**16347203,14**	**71276479,92**	**4,28884**	US MARKET	
	6monthes after ADR listing	6monthes after ADR listing	6monthes after ADR listing	6monthes after ADR listing	VOLUME OF TRADING	VALUE OF TRADING
1	402104077	3019607,435	80459553,83	26,6457	34766,6667	1046859,101
2	402104077	2790430,35	86628910,22	31,045	33050	1178298,6
3	402601975,9	2908349,7	90504934,31	31,119	27273,6842	963808,3617
4	402657298	2029509,762	65785138,28	32,4143	18326,087	652670,7602
5	402657298	2451260,579	85875502,11	35,0332	22295	850420,48
6	402657298	2582097,261	89675205,03	34,7296	59800	2212002
average*	**402535589,4**	**2552329,53**	**83693937,99**	**32,86822**	**32148,95424**	**1171440,04**

HOME MARKET						
Australia	SHARES OUTSTANDING	TRADING VOLUME	VALUE OF TRADING	SHARE PRICE		
	6 months before ADR listing	6 months before listing	6 months before listing	6 months before listing		
1	126157434,4	608078,2381	19154464,5	31,5		
2	126475789,2	686848,6818	19415632,48	28,2677		
3	126505842	654663,5714	17647242,16	26,9562		
4	126505842	505866,1	13226627,98	26,1465		
5	126519114,7	886457,5238	25774816,25	29,0762		
6	126543738,3	1349608,85	42590281,28	31,5575		
average*	**126432804,5**	**668382,823**	**19043756,68**	**28,38932**	US MARKET	
	6monthes after ADR listing	6monthes after ADR listing	6monthes after ADR listing	6monthes after ADR listing	VOLUME OF TRADING	VALUE OF TRADING
1	180027819,2	1107184,619	34788294,32	31,4205	735145,4545	21353328,93
2	180338062	667984,85	23761557,08	35,572	478438,0952	16062984,92
3	180506279,1	609185,4286	22092536	36,2657	331238,0952	11548682,44
4	180556273,8	870907,6364	33923071,71	38,9514	464047,619	17133102,14
5	180584367	681485,8636	21814703,24	32,0105	514745,4545	15116890,08
6	180675446,5	994579,5652	32277587,92	32,4535	410304,5455	10922307
average*	**180532085,7**	**764828,6688**	**26773891,19**	**35,05062**	**439754,7619**	**14156793,32**

HOME MARKET						
India	SHARES OUTSTANDING	TRADING VOLUME	VALUE OF TRADING	SHARE PRICE		
	6 months before ADR listing	6 months before listing	6 months before listing	6 months before listing		
1	330562783,9	549872,159	384008514,7	698,359625		
2	346254643,6	633177,0552	404257225,4	638,458425		
3	349884907,8	653512,7137	347010039,2	530,992025		
4	352367103,2	745960,3019	395935438,1	530,7728		
5	352785720,8	677374,2829	378033358,1	558,086375		
6	353335039,7	538883,9073	267651612,9	496,6776875		
average*	**346371031,8**	**651979,3025**	**381848915,1**	**591,33385**	US MARKET	
	6monthes after ADR listing	6monthes after ADR listing	6monthes after ADR listing	6monthes after ADR listing	VOLUME OF TRADING	VALUE OF TRADING
1	353491977,4	606996,8287	297918087,6	490,8066625	722663,9583	9823577,684
2	300132626,1	385236,5912	196556718,5	510,2233875	342636,5263	4709813,164
3	320840302,2	434779,1252	216639133,8	498,274	215562,561	3101859,027
4	329871399,3	622667,6029	327356338,7	525,7320875	378054,3682	5789718,348
5	340974091,1	924407,5066	517970577,4	560,3271	573909,8926	8895402,466
6	403981426,6	992723,8316	541290846,7	545,2582375	362081,9651	5420606,897
average*	**339159969,1**	**671962,9315**	**359962723**	**527,9629625**	**374449,0626**	**5583479,98**

HOME MARKET						
Argentina	SHARES OUTSTANDING	TRADING VOLUME	VALUE OF TRADING	SHARE PRICE		
	6 months before ADR listing	6 months before listing	6 months before listing	6 months before listing		
1	1049816732	1411802,728	4239502,412	3,0029		
2	1061951005	1185397,797	3736373,856	3,152		
3	1061951005	1167413,361	3589504,231	3,07475		
4	1061951005	1965337,87	6754964,527	3,43705		
5	1061951005	1743656,033	6328076,475	3,6292		
6	1061951005	3249337,625	12787443,29	3,9354		
average*	**1059524150**	**1494721,558**	**4929684,3**	**3,25918**	US MARKET	
	6monthes after ADR listing	6monthes after ADR listing	6monthes after ADR listing	6monthes after ADR listing	VOLUME OF TRADING	VALUE OF TRADING
1	1061951005	3026870,833	13112555,79	4,33205	297049,5238	5159765,081
2	1095879576	1158149	4909104,074	4,23875	120448,2684	2022832,309
3	1099451005	1422460,664	5633655,459	3,9605	133763,9286	2092462,446
4	1099451005	965870,5574	3751586,125	3,88415	47371,5476	730521,3727
5	1099451005	804276,2478	3185778,431	3,96105	56889,3593	891228,7028
6	1099451005	1030098,619	4100359,058	3,98055	37547,412	591493,7681
average*	**1098736719**	**1076171,018**	**4316096,63**	**4,005**	**79204,10317**	**1265707,72**

HOME MARKET						
Chili	SHARES OUTSTANDING	TRADING VOLUME	VALUE OF TRADING	SHARE PRICE		
	6 months before ADR listing	6 months before listing	6 months before listing	6 months before listing		
1	1,35921E+11	87532181,17	1331346969	15,2098		
2	1,35921E+11	91586061,08	1363716449	14,89		
3	1,35921E+11	52249527,67	723742169,9	13,85165		
4	1,35921E+11	84155432,97	1148540726	13,64785		
5	1,35921E+11	98561815,05	1396832827	14,17215		
6	1,35921E+11	54736506,5	779967849,4	14,2495		
average*	**1,35921E+11**	**82817003,59**	**1192835828**	**14,35429**	US MARKET	
	6monthes after ADR listing	6monthes after ADR listing	6monthes after ADR listing	6monthes after ADR listing	VOLUME OF TRADING	VALUE OF TRADING
1	1,35921E+11	109529467,9	1504162706	13,73295	7678,57145	141747,5808
2	1,35921E+11	189144517,2	2417304759	12,7802	9693,7799	152326,1186
3	1,42351E+11	130693096,1	1680066284	12,85505	14375,11905	258178,5756
4	1,47495E+11	148491296,5	1643464547	11,06775	13430,5024	265799,7154
5	1,47495E+11	106195622,5	1171735949	11,03375	15900,21645	295647,8297
6	1,47495E+11	114741159,1	1258320395	10,9666	14544,8052	187892,7025
average*	**1,44151E+11**	**137853138,3**	**1634178387**	**11,74067**	**13588,8846**	**231968,9884**

HOME MARKET						
Columbia	SHARES OUTSTANDING	TRADING VOLUME	VALUE OF TRADING	SHARE PRICE		
	6 months before ADR listing	6 months before listing	6 months before listing	6 months before listing		
1	36384788817	16477480,65	35513090171	2155,25		
2	36384788817	37647027,89	98377628355	2613,1579		
3	36384788817	21691350,2	60551404083	2791,5		
4	36968716194	17309906,33	45117034930	2606,4286		
5	40472280453	15953528,9	39540821379	2478,5		
6	40472280453	23267787,82	59956859124	2576,8182		
average*	**37319072620**	**21815858,8**	**55819995784**	**2528,9673**	US MARKET	
	6monthes after ADR listing	6monthes after ADR listing	6monthes after ADR listing	6monthes after ADR listing	VOLUME OF TRADING	VALUE OF TRADING
1	40472280453	26128434,05	64047323965	2451,25	65271,4286	1483580,409
2	40472280453	22510013,89	44812699295	1990,7895	24627,2727	423791,0341
3	40472390993	18998120,33	38018857929	2001,1905	10628,5714	184711,8166
4	40472512588	9974675,5	20176552164	2022,7778	66205,2632	1232814,827
5	40472512588	10997601,23	22710046534	2065	49771,4286	860657,4976
6	40472512588	10429818,24	21597173772	2070,7143	32776,1905	538217,8242
average*	**40472441842**	**14582045,84**	**29463065939**	**2030,09442**	**36801,74528**	**648038,5998**

HOME MARKET						
South Africa	SHARES OUTSTANDING	TRADING VOLUME	VALUE OF TRADING	SHARE PRICE		
	6 months before ADR listing	6 months before listing	6 months before listing	6 months before listing		
1	431436875,4	1520412,974	156098722,1	102,6686333		
2	434914110,9	1208594,436	125726977,2	104,0274333		
3	435020013,3	1317897,86	131830992,3	100,0312667		
4	435221322,4	1679214,426	198548242,7	118,2387667		
5	435223894,7	1316821,098	149637667,8	113,6355333		
6	436614057,9	1466426,993	172684585,2	117,7587333		
average*	**434363243,3**	**1408588,159**	**152368520,4**	**107,7203267**	US MARKET	
	6monthes after ADR listing	6monthes after ADR listing	6monthes after ADR listing	6monthes after ADR listing	VOLUME OF TRADING	VALUE OF TRADING
1	437461357,7	1909236,951	230880269,6	120,9280333	1870847,857	25657555,85
2	437485921	1683380,584	202825083,7	120,4867667	1672212,544	22697108,08
3	439746988,4	1684148,961	184080176,1	109,3016	1741265,597	21691525,96
4	440740789,8	1193888,721	120560594,3	100,9814333	1156253,636	13472204,87
5	440802249,3	1471799,036	152492313,2	103,6094667	1305198,12	15735163,99
6	440860778,8	1801180,188	174434394,7	96,8445	1108885,897	13038576,08
average*	**439927345,5**	**1566879,498**	**166878512,4**	**106,2447533**	**1396763,159**	**17326915,8**

HOME MARKET						
Brasil	SHARES OUTSTANDING	TRADING VOLUME	VALUE OF TRADING	SHARE PRICE		
	6 months before ADR listing	6 months before listing	6 months before listing	6 months before listing		
1	13675223341	49519249,1	5729010678	115,6926		
2	13675227126	38506062,04	4646640741	120,6729667		
3	13675232174	38767975,75	4585702964	118,28585		
4	13691394021	47490058,74	5680794070	119,6207		
5	9598922946	25853284,78	2668816490	103,2293		
6	6246796247	18023085,94	985329618	54,67041667		
average*	**12863199922**	**40027326,08**	**4662192989**	**115,5002833**	US MARKET	
	6monthes after ADR listing	6monthes after ADR listing	6monthes after ADR listing	6monthes after ADR listing	VOLUME OF TRADING	VALUE OF TRADING
1	6300465110	28172897,94	1202309410	42,6761	4212239,851	91255227,81
2	6302705094	13974960,04	573476926,1	41,03603333	1360286,853	26674068,94
3	6302705094	18852028,81	729701080,2	38,70676667	1209962,013	23615191,6
4	6302797548	41950809,11	1614379003	38,48266667	1386847,946	27977577,04
5	6302964737	21361287,94	814352463,9	38,12281667	1190123,639	23098713
6	6310178381	16692729,26	636786167,8	38,14751667	1183419,241	21972111,12
average*	**6304270171**	**22566363,03**	**873739128,2**	**38,89916**	**1266127,938**	**24667532,34**

HOME MARKET						
Taiwan	SHARES OUTSTANDING	TRADING VOLUME	VALUE OF TRADING	SHARE PRICE		
	6 months before ADR listing	6 months before listing	6 months before listing	6 months before listing		
1	10602636778	51746052,67	1999341560	38,63756667		
2	10603880492	56563325,76	2348062435	41,5121		
3	10603880492	53727120,97	2546221390	47,39173333		
4	10601096913	51055193,02	2472722127	48,43233333		
5	10539858159	42175545,45	2036128490	48,27746667		
6	9583298534	56435071,77	2700271453	47,8474		
average*	**10590270567**	**51053447,57**	**2280495200**	**44,85024**	US MARKET	
	6monthes after ADR listing	6monthes after ADR listing	6monthes after ADR listing	6monthes after ADR listing	VOLUME OF TRADING	VALUE OF TRADING
1	8349687247	46048146,46	2177687453	47,29153333	3266603,644	49009181,13
2	7980285031	53339908,73	2502441818	46,915	2738562,339	38604600,45
3	8031647738	39064491,37	1785761605	45,71316667	2273472,754	31276998,28
4	8316112822	45289367,65	2020793469	44,6196	2820497,778	39082509,51
5	8316112809	49550250,63	2144741306	43,28416667	1773945,945	24094029,48
6	8316112809	70399767,46	3301730320	46,89973333	2149151,91	31820701,38
average*	**8192054242**	**51528757,17**	**2351093704**	**45,48633333**	**2351126,145**	**32975767,82**

HOME MARKET						
Spain	SHARES OUTSTANDING	TRADING VOLUME	VALUE OF TRADING	SHARE PRICE		
	6 months before ADR listing	6 months before listing	6 months before listing	6 months before listing		
1	219135500	943271,381	1904936,554	2,0195		
2	219135500	548106,1364	1156010,652	2,1091		
3	219135500	966772,0909	1893809,849	1,9589		
4	219135500	742345,4545	1245804,142	1,6782		
5	219135500	673772	1176203,78	1,7457		
6	219135500	1107875,143	2075160,93	1,8731		
average*	**219135500**	**774853,4126**	**1475352,995**	**1,90228**	US MARKET	
	6monthes after ADR listing	6monthes after ADR listing	6monthes after ADR listing	6monthes after ADR listing	VOLUME OF TRADING	VALUE OF TRADING
1	403108198,2	4632347,619	7282050,457	1,572	1352082,353	10948622,06
2	443991020	5365318,952	8939157,907	1,6661	965885,7143	8525583,434
3	444073007,9	3428589,667	6992608,625	2,0395	234415	2596849,37
4	444260108,1	3788636,286	7728060,296	2,0398	81080,9524	920503,9445
5	444352281	4177883	8514525,554	2,038	26477,2727	313398,2383
6	444773502,5	1726031,9	3161227,425	1,8315	87514,2857	922260,5484
average*	**444289983,9**	**3697291,961**	**7067115,961**	**1,92298**	**279074,645**	**2655719,107**

HOME MARKET						
Netherlands	SHARES OUTSTANDING	TRADING VOLUME	VALUE OF TRADING	SHARE PRICE		
	6 months before ADR listing	6 months before listing	6 months before listing	6 months before listing		
1	1018995039	6453502,952	65016783,52	10,07465		
2	1017501113	6326885,878	59852973,1	9,4601		
3	1014520752	5197172,285	50384766,29	9,69465		
4	1014099579	4658824,386	44831634,13	9,62295		
5	1014195827	5659242,614	51469396,76	9,09475		
6	1014455272	5776194,556	57183459,67	9,89985		
average*	**1015862462**	**5659125,623**	**54311110,76**	**9,58942**	US MARKET	
	6monthes after ADR listing	6monthes after ADR listing	6monthes after ADR listing	6monthes after ADR listing	VOLUME OF TRADING	VALUE OF TRADING
1	882512826,7	7414626,177	68525975,13	9,242	106597,7273	4521609,096
2	879012299,8	6366605,095	57639740,9	9,05345	145200	6087764,1
3	879225040,2	5828659,816	54105991,91	9,28275	102462,5	4573413,688
4	879684209,6	3706082,595	34512338,26	9,31235	54786,36365	2449610,631
5	880119770,8	3977618,909	36750812,15	9,2394	81961,9048	3602926,49
6	880389179,3	4713710,546	39692506,7	8,42065	97092,85715	3906531,107
average*	**879686100**	**4918535,392**	**44540277,98**	**9,06172**	**96300,72512**	**4124049,203**

HOME MARKET						
Ireland	SHARES OUTSTANDING	TRADING VOLUME	VALUE OF TRADING	SHARE PRICE		
	6 months before ADR listing	6 months before listing	6 months before listing	6 months before listing		
1	474903232	973760,2064	12859574,66	13,2061		
2	474977844,9	4064584,614	55027972,33	13,5384		
3	475098814,6	1436292,083	21012594,11	14,62975		
4	482292701,9	1304932,218	20462446,36	15,68085		
5	492633611	1041050,291	16612820,28	15,95775		
6	492635697,6	1277053,739	20621927,63	16,14805		
average*	**479981240,9**	**1764123,882**	**25195081,55**	**14,60257**	US MARKET	
	6monthes after ADR listing	6monthes after ADR listing	6monthes after ADR listing	6monthes after ADR listing	VOLUME OF TRADING	VALUE OF TRADING
1	494453625,3	1044720,892	17341792,2	16,59945	19273,6842	307952,9988
2	495004561,5	1307400,601	21357042,51	16,3355	10876,13635	164651,1092
3	495591112,4	1729918,159	26513504,16	15,32645	11838,03825	201949,8297
4	495641737,6	1374028,71	21987688,33	16,00235	8804,54545	146935,097
5	495697400,4	1385390,888	22036235,27	15,90615	8915,97825	171736,4525
6	497178934	1218248,198	20310146,65	16,6716	25802,38095	564979,2542
average*	**495822749,2**	**1402997,311**	**22440923,39**	**16,04841**	**13247,41585**	**250050,3485**

HOME MARKET						
Greece	SHARES OUTSTANDING	TRADING VOLUME	VALUE OF TRADING	SHARE PRICE		
	6 months before ADR listing	6 months before listing	6 months before listing	6 months before listing		
1	236668596	162691,5	2472373,918	15,1967		
2	236668596	252701,7143	4125052,244	16,3238		
3	236668596	181240,5238	3059521,282	16,881		
4	236668596	158327,5455	2678332,091	16,9164		
5	236668596	166214,4286	2752028,916	16,5571		
6	236668596	142875,5	2082739,026	14,5773		
average*	**236668596**	**184235,1424**	**3017461,69**	**16,375**	US MARKET	
	6monthes after ADR listing	6monthes after ADR listing	6monthes after ADR listing	6monthes after ADR listing	VOLUME OF TRADING	VALUE OF TRADING
1	236668596	102316,6667	1488461,94	14,5476	2195,4545	17885,48963
2	236668596	387949,7619	5713956,863	14,7286	4775	42074,9125
3	236668596	96049,0526	1300504,172	13,54	942,8571	9466,756713
4	236668596	186478,8571	2385157,822	12,7905	485	1312,6525
5	236668596	146489,45	1943182,554	13,265	510,5263	-322,8568321
6	236668596	221112,7273	2717475,419	12,29	641,6667	2967,708488
average*	**236668596**	**207615,9698**	**2812055,366**	**13,32282**	**1471,01002**	**11099,83467**

HOME MARKET						
Germany	SHARES OUTSTANDING	TRADING VOLUME	VALUE OF TRADING	SHARE PRICE		
	6 months before ADR listing	6 months before listing	6 months before listing	6 months before listing		
1	594790940	283358	44415714,78	156,7477		
2	594790940	301926,2273	43565207,07	144,2909		
3	594790940	883759,1905	120477853	136,3243		
4	594502727,3	2908314,15	403281381,6	138,665		
5	591620600	3351013,238	507874874,9	151,5586		
6	591620600	3535069,85	472242911,1	133,588		
average*	**594099229,5**	**1545674,161**	**223923006,3**	**145,5173**	US MARKET	
	6monthes after ADR listing	6monthes after ADR listing	6monthes after ADR listing	6monthes after ADR listing	VOLUME OF TRADING	VALUE OF TRADING
1	591620600	4790146,522	553732794,7	115,5983	152939,1304	15838039,88
2	718399411,9	4028918	433446308,3	107,5838	106710	11163253,23
3	887437350	3353086,136	290110689,1	86,5205	61861,9048	4611835,934
4	887796440,9	6135152,364	437570109,8	71,3218	71542,8571	4369837,712
5	888227350	5038501,864	310694682,8	61,6641	80331,8182	4343653,875
6	888227350	4927647,87	270553491,8	54,9052	77625	3946532,625
average*	**854017580,6**	**4696661,247**	**348475056,4**	**76,39908**	**79614,31602**	**5687022,675**

HOME MARKET						
France	SHARES OUTSTANDING	TRADING VOLUME	VALUE OF TRADING	SHARE PRICE		
	6 months before ADR listing	6 months before listing	6 months before listing	6 months before listing		
1	449349791,1	3172385,445	137087763,5	43,21283333		
2	449356689	3518537,845	146022370	41,50086667		
3	449356689	2073242,888	84915674,89	40,9579		
4	543604000,4	4945010,69	198271851,9	40,09533333		
5	626489467,5	8182767,076	317760848,3	38,83293333		
6	624927714	6564967,011	226053478,6	34,4333		
average*	**503631327,4**	**4378388,789**	**176811701,7**	**40,91997333**	US MARKET	
	6monthes after ADR listing	6monthes after ADR listing	6monthes after ADR listing	6monthes after ADR listing	VOLUME OF TRADING	VALUE OF TRADING
1	385978716,3	1446848,956	50217908,78	34,70846667	41695,31027	906601,9788
2	385990760,7	1157373,621	41891639,75	36,19543333	29379,00433	718396,9586
3	386000250,7	1535233,252	50354524,83	32,79926667	41144,69697	872748,9686
4	386041956,5	1393171,184	47783078,13	34,29806667	27948,9993	617719,4662
5	386055772,9	1169826,215	39397875,19	33,6784	18741,30743	382721,8615
6	391577059,2	1616295,796	52135183,33	32,25596667	20630,48183	416700,6612
average*	**387133160**	**1374380,014**	**46312460,25**	**33,84542667**	**27568,89797**	**601657,5832**

HOME MARKET						
Great-Britain	SHARES OUTSTANDING	TRADING VOLUME	VALUE OF TRADING	SHARE PRICE		
	6 months before ADR listing	6 months before listing	6 months before listing	6 months before listing		
1	2013002549	6520570,436	58237822,79	8,9314		
2	2013586928	9365058,159	78786896,43	8,412857143		
3	2013566479	8393603,959	70768753,24	8,431271429		
4	2013440895	8601548,299	73228298,41	8,513385714		
5	2014180505	8930228,107	74725724,88	8,367728571		
6	2031827093	9566398,823	79420379,69	8,302014286		
average*	**2013555471**	**8362201,792**	**71149499,15**	**8,531328571**	US MARKET	
	6monthes after ADR listing	6monthes after ADR listing	6monthes after ADR listing	6monthes after ADR listing	VOLUME OF TRADING	VALUE OF TRADING
1	1987964131	7786718,317	65690758,02	8,436257143	108569,8809	3069393,063
2	1988434184	8301428,568	67851607,81	8,173485714	100927,2387	2850803,761
3	1988623000	10034261,12	78730962,95	7,846214286	104453,7399	2825515,445
4	1988460219	9992897,447	76219254,97	7,627342857	96509,05071	2573741,968
5	1988311073	8660623,556	68632843,5	7,9247	98621,0006	2736917,329
6	1988052024	7959458,215	62238869,8	7,819485714	117008,8961	3318842,001
average*	**1988376100**	**8989733,781**	**70734707,81**	**7,878245714**	**103503,9852**	**2861164,101**

HOME MARKET						
Belgium	SHARES OUTSTANDING	TRADING VOLUME	VALUE OF TRADING	SHARE PRICE		
	6 months before ADR listing	6 months before listing	6 months before listing	6 months before listing		
1	827399808,5	1669090,952	62263852,34	37,30405		
2	827434361,5	1679296,9	61168389,58	36,425		
3	827438180,6	1061556,984	39920009,62	37,60515		
4	827473065,4	1291298,293	54311877,09	42,0599		
5	827638976	1349490,061	59001729,72	43,7215		
6	827638976	1263081,023	56000339,15	44,3363		
average*	**827476878,4**	**1410146,638**	**55333171,67**	**39,42312**	US MARKET	
	6monthes after ADR listing	6monthes after ADR listing	6monthes after ADR listing	6monthes after ADR listing	VOLUME OF TRADING	VALUE OF TRADING
1	848478291,9	2479181,666	116697560,2	47,071	230602,8139	11690882,38
2	847894197,1	1445600,857	73021636,1	50,513	246959,5238	13210976,25
3	847784889,5	1153533,477	59193974,12	51,31535	203495,2381	11168347,75
4	847784889,5	1056586,248	53951829,62	51,0624	110275,4546	6102329,37
5	848129979,7	1389401,182	66234699,5	47,6714	198414,7059	10282504,83
6	848261616,5	1252360,421	62332232,42	49,7718	211733,9545	11321329,85
average*	**847971114,5**	**1259496,437**	**62946874,35**	**50,06679**	**194175,7754**	**10417097,61**

HOME MARKET						
Japan	SHARES OUTSTANDING	TRADING VOLUME	VALUE OF TRADING	SHARE PRICE		
	6 months before ADR listing	6 months before listing	6 months before listing	6 months before listing		
1	570352881,4	2936995,455	8,71218E+11	296635,7394		
2	570364738,2	2628888,61	8,64297E+11	328768,9734		
3	570364883,3	2811056,708	9,17101E+11	326247,6841		
4	570370018,9	2411444,482	7,59587E+11	314992,535		
5	570370047,6	2472147,088	7,32352E+11	296241,2381		
6	572864804,9	2850362,202	8,33507E+11	292421,4814		
average*	**570364513,9**	**2652106,469**	**8,28911E+11**	**312577,234**	US MARKET	
	6monthes after ADR listing	6monthes after ADR listing	6monthes after ADR listing	6monthes after ADR listing	VOLUME OF TRADING	VALUE OF TRADING
1	584041263,6	2885139,349	8,13228E+11	281867,9675	78473,08186	2431756,231
2	588228570,4	3432202,007	5,1966E+11	151407,0907	87742,17714	2754707,329
3	588228570,4	3493764,851	5,36698E+11	153615,9079	94501,58748	2867487,657
4	588229328,5	3155877,491	4,64874E+11	147304,1324	64951,71271	1763473,1
5	588229375,9	3245357,834	4,32594E+11	133296,2377	138406,3264	3828346,668
6	588229423,4	3343157,688	4,34552E+11	129982,5914	72973,11419	2014053,391
average*	**588229053,7**	**3334071,974**	**4,77676E+11**	**143121,192**	**91714,98357**	**2645613,629**

HOME MARKET						
Swiss	SHARES OUTSTANDING	TRADING VOLUME	VALUE OF TRADING	SHARE PRICE		
	6 months before ADR listing	6 months before listing	6 months before listing	6 months before listing		
1	223900760	957854,7937	917913398,2	958,3012		
2	223900760	791977,0015	736821980,8	930,3578		
3	223900760	824893,6665	730712807	885,8266667		
4	223900760	861468,4803	735369078,8	853,6227333		
5	319432496,3	1528030,567	1299044235	850,1428333		
6	523470565	2792684,83	2402239750	860,1900667		
average*	**243007107,3**	**992844,9017**	**883972300**	**895,6502467**	US MARKET	
	6monthes after ADR listing	6monthes after ADR listing	6monthes after ADR listing	6monthes after ADR listing	VOLUME OF TRADING	VALUE OF TRADING
1	523470565	3124103,073	2759173156	883,1889	114436,6147	3361159,77
2	823472923	3476204,832	3041509010	874,9510333	144175,9524	4606383,231
3	823472923	3689416,339	3307590772	896,5078667	102984,196	3285913,309
4	823472923	4112924,021	3740788849	909,5205333	73887,77777	2309002,907
5	822601204,2	3518674,43	3202961132	910,2749333	61396,9697	1760590,851
6	822509444,3	4152870,916	3874012555	932,8516667	92913,13547	2576351,168
average*	**823105883,5**	**3790018,108**	**3433372463**	**904,8212067**	**95071,60626**	**2907648,293**

HOME MARKET						
Emerging countries	SHARES OUTSTANDING	TRADING VOLUME	VALUE OF TRADING	SHARE PRICE		
	6 months before ADR listing	6 months before listing	6 months before listing	6 months before listing		
1	14361479502	22374765,05	62380051694	2787,964547		
2	14367803499	22458554,27	65549785785	2918,700153		
3	14386189430	18291604,72	50511476346	2761,456807		
4	14409289737	21932477,8	57844064672	2637,37026		
5	13701569453	17439244,08	49166342007	2819,293186		
6	12935774473	14969798,03	40236774780	2687,86357		
average*	**14245266324**	**20499329,18**	**57090344101**	**2784,956991**	US MARKET	
	6monthes after ADR listing	6monthes after ADR listing	6monthes after ADR listing	6monthes after ADR listing	VOLUME OF TRADING	VALUE OF TRADING
1	12758550679	19318431,54	42850647157	2218,122473	1660381,046	30094578,03
2	12710271160	22189587,75	40937385825	1844,89168	882393,8299	14770766,81
3	13150236496	17688276,34	33800027793	1910,871763	801752,3386	14107257,33
4	13524636438	23745201,99	48549244640	2044,591773	951059,7756	17687058,37
5	13527759157	17381730,75	34605069601	1990,88745	892806,4431	16325150,33
6	13546534727	19254056,44	38977841329	2024,396337	808804,5157	14088692,57
average*	**13291887596**	**20051770,65**	**39373913838**	**1963,127801**	**867363,3806**	**15395785,08**

HOME MARKET						
Developped countries	SHARES OUTSTANDING	TRADING VOLUME	VALUE OF TRADING	SHARE PRICE		
	6 months before ADR listing	6 months before listing	6 months before listing	6 months before listing		
1	878892791,4	3370423,55	2,66988E+11	79214,93702		
2	878940680,8	4158744,313	3,65056E+11	87780,26081		
3	878745576,4	3578663,518	3,11714E+11	87103,32897		
4	888586607	3841364,28	3,23055E+11	84099,10048		
5	907211711,1	4390391,066	3,47274E+11	79098,76051		
6	932259583,9	4641970,801	3,62446E+11	78080,15473		
average*	**886475473,4**	**3867917,346**	**3,22817E+11**	**83459,27756**	US MARKET	
	6monthes after ADR listing	6monthes after ADR listing	6monthes after ADR listing	6monthes after ADR listing	VOLUME OF TRADING	VALUE OF TRADING
1	899957125,1	4090095,579	3,07852E+11	75267,80096	135877,8328	4244536,795
2	936538001,5	4249658,374	1,72015E+11	40477,43873	127084,4998	4072911,223
3	942266337,3	4605528,106	1,89137E+11	41067,46858	95079,56241	2916654,318
4	942284920,6	4469975,01	1,76051E+11	39385,22709	66717,63082	1940489,631
5	942237532,5	4117347,526	1,46781E+11	35649,32785	90797,24138	2597399,457
6	942859599,1	4033746,666	1,40244E+11	34767,65151	85950,57919	2464875,525
average*	**941237278,2**	**4295251,136**	**1,64846E+11**	**38269,42275**	**93125,90271**	**2798466,031**

HOME MARKET						
2000	SHARES OUTSTANDING	TRADING VOLUME	VALUE OF TRADING	SHARE PRICE		
	6 months before ADR listing	6 months before listing	6 months before listing	6 months before listing		
1	7061629265	15094935,13	20560597011	1362,085814		
2	7079744370	15241955,65	20777871178	1363,202443		
3	7083284364	18610986,9	23215673942	1247,417671		
4	7085312931	16626993,32	21442239234	1289,604129		
5	3570579315	8792449,517	10988339166	1249,7472		
6	711058860,4	2039833,483	2384632102	1169,032729		
average*	**6376110049**	**14873464,1**	**19396944106**	**1302,411451**	US MARKET	
	6monthes after ADR listing	6monthes after ADR listing	6monthes after ADR listing	6monthes after ADR listing	VOLUME OF TRADING	VALUE OF TRADING
1	720781494,9	2224169,589	2597771585	1167,9737	628629,6889	18021582,86
2	645974367,1	1876544,093	2068979293	1102,547657	241806,9623	6550668,057
3	654962505,3	2206009,637	2340346485	1060,895857	219268,7065	5772160,992
4	664832635,1	2009650,981	2050961941	1020,556286	213849,1729	5456117,249
5	677443803	2378349,209	2510920025	1055,740686	207886,4956	5359530,653
6	748907087,7	2091170,179	2181712829	1043,2976	213263,6872	5574697,55
average*	**678424079,7**	**2112344,82**	**2230584115**	**1056,607617**	**219215,0049**	**5742634,9**

HOME MARKET						
2001	SHARES OUTSTANDING	TRADING VOLUME	VALUE OF TRADING	SHARE PRICE		
	6 months before ADR listing	6 months before listing	6 months before listing	6 months before listing		
1	917313281,7	2211203,121	2151721274	973,0997818		
2	917313842,9	3248718,214	3453483712	1063,029627		
3	917314431,6	2465644,805	2605923945	1056,893491		
4	918785747,4	3369255,637	3073601311	912,2493636		
5	946755249,9	3362540,346	2766682912	822,7954545		
6	1002916459	3485899,964	2454497334	704,1215636		
average*	**923496510,7**	**2931472,424**	**2810282631**	**965,6135436**	US MARKET	
	6monthes after ADR listing	6monthes after ADR listing	6monthes after ADR listing	6monthes after ADR listing	VOLUME OF TRADING	VALUE OF TRADING
1	1012010334	3219794,257	2304219446	715,6418273	95387,97026	2819468,953
2	1107075582	3796248,257	3052148846	803,9908455	64937,63347	2021722,234
3	1124457335	4881398,437	4774974544	978,1980727	49070,15835	1448538,138
4	1124782708	4636000,222	4830893457	1042,039091	69663,17394	2041651,57
5	1124623130	3913209,083	4381591751	1119,692727	59556,50693	1742120,952
6	1125196072	4188582,761	5048104999	1205,205982	58847,99235	1772994,248
average*	**1121226965**	**4283087,752**	**4417542719**	**1029,825344**	**60415,09301**	**1805405,428**

HOME MARKET						
2002	SHARES OUTSTANDING	TRADING VOLUME	VALUE OF TRADING	SHARE PRICE		
	6 months before ADR listing	6 months before listing	6 months before listing	6 months before listing		
1	7846281959	12569821,31	1,75966E+12	139990,7634		
2	7847312599	13926590,3	2,35458E+12	169071,0304		
3	7847329421	10846542,51	1,76375E+12	162609,7037		
4	7847386614	9081497,672	1,39947E+12	154101,6724		
5	7847386614	8637672,085	1,24024E+12	143584,6362		
6	7847802715	11114432,96	1,55303E+12	139730,6373		
average*	**7847139441**	**11012424,78**	**1,70354E+12**	**153871,5612**	US MARKET	
	6monthes after ADR listing	6monthes after ADR listing	6monthes after ADR listing	6monthes after ADR listing	VOLUME OF TRADING	VALUE OF TRADING
1	7848846622	16557178,06	2,30993E+12	139512,2394	785005,2987	17207316,15
2	7852061755	14178811,98	4,88021E+11	34419,05225	605028,32	13621922,21
3	9154044220	12069711,83	3,9537E+11	32757,18179	621797,9854	12270225,67
4	10268323480	15273825,64	4,68149E+11	30650,39799	402035,3015	6337849,328
5	10268345606	15372621,87	4,14336E+11	26952,88285	455501,0605	6573950,731
6	10268347513	24692288,23	6,65653E+11	26957,94089	368912,8888	5353416,671
average*	**9562224515**	**16317451,91**	**4,86306E+11**	**30347,49115**	**490655,1113**	**8831472,923**

HOME MARKET						
2003	SHARES OUTSTANDING	TRADING VOLUME	VALUE OF TRADING	SHARE PRICE		
	6 months before ADR listing	6 months before listing	6 months before listing	6 months before listing		
1	1142753438	5035202,39	18479530801	3670,067133		
2	1142802103	6365560,885	25431987180	3995,246867		
3	1142851933	5973461,828	24013647678	4020,055433		
4	1142862599	6047787,819	26861522756	4441,545167		
5	1142865171	5831871,31	29111928466	4991,867433		
6	1142903095	5296620,258	28645878888	5408,331633		
average*	**1142827049**	**5850776,846**	**24779723376**	**4223,756407**	US MARKET	
	6monthes after ADR listing	6monthes after ADR listing	6monthes after ADR listing	6monthes after ADR listing	VOLUME OF TRADING	VALUE OF TRADING
1	1143213912	5329852,925	30194215362	5665,1123	91159,74023	1264811,009
2	1143597411	5889294,935	35126188646	5964,413233	102566,2987	1148342,537
3	1143661644	6859474,281	40357876985	5883,523333	168893,6075	2775271,018
4	1143678345	7087120,795	44001458191	6208,6508	120043,0015	2207902,909
5	1143734685	6566243,281	43965810729	6695,732833	133308,4964	2749967,649
6	1143794247	6468501,336	47483679214	7340,754333	180137,2671	4013980,709
average*	**1143693266**	**6574126,926**	**42187002753**	**6418,614907**	**140989,7342**	**2579092,964**

HOME MARKET						
2004	SHARES OUTSTANDING	TRADING VOLUME	VALUE OF TRADING	SHARE PRICE		
	6 months before ADR listing	6 months before listing	6 months before listing	6 months before listing		
1	1,13626E+11	88066517,97	22125250736	251,2334		
2	1,13627E+11	92000656,75	20679019818	224,77035		
3	1,13629E+11	53195033,89	10482613378	197,06		
4	1,13631E+11	85028416,83	17080061973	200,87475		
5	1,13631E+11	99339926,82	20375766368	205,11155		
6	1,13633E+11	55046697,42	10988394215	199,6195		
average*	**1,13629E+11**	**83526110,45**	**18148542455**	**215,81001**	US MARKET	
	6monthes after ADR listing	6monthes after ADR listing	6monthes after ADR listing	6monthes after ADR listing	VOLUME OF TRADING	VALUE OF TRADING
1	1,13634E+11	110200938,6	22863912186	207,47475	120867,2078	1902872,886
2	1,13635E+11	189388959,5	41081618631	216,91665	118546,5368	1751169,441
3	1,13635E+11	130356561,7	32321681343	247,94825	223595	3968252,263
4	1,13635E+11	145911032,1	35960379399	246,45415	118998,6842	2259660,064
5	1,13635E+11	103228784,4	25459831237	246,635	127445,4546	2393215,351
6	1,13636E+11	95391344,41	22104234952	231,7216	71648,8722	867682,1721
average*	**1,13635E+11**	**132855336,4**	**31385549113**	**237,93513**	**132046,9095**	**2247995,858**

HOME MARKET						
2005	SHARES OUTSTANDING	TRADING VOLUME	VALUE OF TRADING	SHARE PRICE		
	6 months before ADR listing	6 months before listing	6 months before listing	6 months before listing		
1	1693213700	6191145,361	746869646,1	120,6351333		
2	1701826316	16251284,55	2006582940	123,4722667		
3	1875882935	9496410,175	1277853097	134,5617		
4	1875967587	8945459,209	1359849051	152,0155667		
5	1876025041	8436597,031	1314987632	155,8670667		
6	1876060804	12000141,07	1864803121	155,3984333		
average*	**1804583116**	**9864179,265**	**1341228473**	**137,3103467**	US MARKET	
	6monthes after ADR listing	6monthes after ADR listing	6monthes after ADR listing	6monthes after ADR listing	VOLUME OF TRADING	VALUE OF TRADING
1	1080045413	5044195,403	863906063,5	171,2673667	174751,3527	5828994,469
2	1081289946	5857998,72	995136905,3	169,8766	72059,5238	2601785,97
3	1084373518	5312299,786	902011327,1	169,7967667	47087,5522	1651785,813
4	1084403357	5021850,931	843540890,5	167,9741	75190,94673	2618216,437
5	1084417339	4008619,167	611932952,9	152,6543	96909,68253	3402544,178
6	1084423138	4966276,904	658801959,3	132,6551	106197,9296	3636418,886
average*	**1083781459**	**5033409,101**	**802284807**	**158,5913733**	**79489,12697**	**2782150,257**

HOME MARKET						
2006	SHARES OUTSTANDING	TRADING VOLUME	VALUE OF TRADING	SHARE PRICE		
	6 months before ADR listing	6 months before listing	6 months before listing	6 months before listing		
1	246946787,8	675496,319	1,29496E+11	191704,453		
2	251830342,1	562377,9024	1,0387E+11	184697,3431		
3	251852370,1	604871,8443	1,17095E+11	193586,4968		
4	251866288,6	541529,5014	1,04421E+11	192826,274		
5	251866288,6	456575,129	84059206215	184108,1585		
6	255858458,7	668158,2457	1,24258E+11	185971,6055		
average*	**250872415,4**	**568170,1392**	**1,07788E+11**	**189384,5451**	US MARKET	
	6monthes after ADR listing	6monthes after ADR listing	6monthes after ADR listing	6monthes after ADR listing	VOLUME OF TRADING	VALUE OF TRADING
1	296238219,5	1291046,774	2,18765E+11	169447,5238	127175,2459	4001416,503
2	310023480,4	892532,9468	1,52402E+11	170752,1401	73548,77778	2098264,255
3	311661522	811687,8819	1,4385E+11	177223,2822	59279,28136	1660001,273
4	311663716	912659,4127	1,56292E+11	171249,3475	39892,2407	1144167,706
5	311663716	976414,2219	1,52402E+11	156082,9235	36595,64128	987747,0985
6	311663716	940590,1239	1,41702E+11	150652,2248	37492,4826	1008060,38
average*	**311335230,1**	**906776,9174**	**1,4933E+11**	**165191,9836**	**49361,68474**	**1379648,142**

HOME MARKET						
2007	SHARES OUTSTANDING	TRADING VOLUME	VALUE OF TRADING	SHARE PRICE		
	6 months before ADR listing	6 months before listing	6 months before listing	6 months before listing		
1	5041357479	10393962,01	1536419873	147,8185		
2	5042603759	13479750,02	1897956217	140,80055		
3	5042561654	16813118,34	2252871271	133,99485		
4	5040133418	21122944,21	2843041620	134,59495		
5	4994623206	13314808,37	1998567383	150,1011		
6	4277433608	21894568,43	3317650018	151,52845		
average*	**5032255903**	**15024916,59**	**2105771273**	**141,46199**	US MARKET	
	6monthes after ADR listing	6monthes after ADR listing	6monthes after ADR listing	6monthes after ADR listing	VOLUME OF TRADING	VALUE OF TRADING
1	3551175575	12889412,19	2152490912	166,996825	3171328,274	56892915,69
2	3570132685	12631729,82	2163689001	171,29	2279795,193	41854816,94
3	3588205252	9320374,193	1565235914	167,937025	1671651,667	30630258,57
4	3588376771	11953838,93	2498946741	209,049725	2512389,754	47236947,2
5	3588130326	8372923,152	2143647298	256,021375	2107692,77	41818626,86
6	3587673777	10872696,56	2855169845	262,599975	2024938,8	37201973,15
average*	**3584503762**	**10630312,53**	**2245337760**	**213,37962**	**2119293,637**	**39748524,54**

HOME MARKET						
2008	SHARES OUTSTANDING	TRADING VOLUME	VALUE OF TRADING	SHARE PRICE		
	6 months before ADR listing	6 months before listing	6 months before listing	6 months before listing		
1	6497552580	5603027,981	61647842143	11002,59402		
2	6497107663	9041923,79	1,04577E+11	11565,77695		
3	6496119218	5913519,398	64526325591	10911,66212		
4	6593300057	5110110,898	51452990961	10068,85995		
5	7177261728	5178235,856	52981100916	10231,49628		
6	7177352314	6846274,359	68100503902	9947,089517		
average*	**6652268249**	**6169363,585**	**67037026672**	**10756,07786**	US MARKET	
	6monthes after ADR listing	6monthes after ADR listing	6monthes after ADR listing	6monthes after ADR listing	VOLUME OF TRADING	VALUE OF TRADING
1	7144709994	7883628,431	58996225566	7483,38485	485160,3896	14802566,93
2	7144251210	6935150,828	37761394386	5444,927633	388795,7735	10760966,3
3	7145200774	5860671,943	34221036453	5839,097767	483872,6263	14501920,67
4	7147879001	3614078,381	22817185096	6313,417333	869716,173	27913265,16
5	7148608867	3835553,767	22072362116	5754,67415	967361,6306	28702651,43
6	7151323833	4154660,221	23356787516	5621,828567	752722,9798	20128540,11
average*	**7147452737**	**4880023,028**	**28045753113**	**5794,78909**	**692493,8366**	**20401468,74**

HOME MARKET						
2009	SHARES OUTSTANDING	TRADING VOLUME	VALUE OF TRADING	SHARE PRICE		
	6 months before ADR listing	6 months before listing	6 months before listing	6 months before listing		
1	2296046684	37978309,08	304423491,7	8,01572		
2	2296060505	23582320,4	213659596	9,06016		
3	2296061175	19252079,79	211334315,3	10,97722		
4	2315468883	32362757,41	476794032,3	14,7328		
5	2325878829	18301545,7	234458814,3	12,810875		
6	2330045012	15416401,59	214864247,2	13,93738		
average*	**2305903215**	**26295402,48**	**288134049,9**	**11,119355**	US MARKET	
	6monthes after ADR listing	6monthes after ADR listing	6monthes after ADR listing	6monthes after ADR listing	VOLUME OF TRADING	VALUE OF TRADING
1	2367001951	17948671,8	268796437	14,97584	4248419,936	85779507,05
2	2369694983	11171139,13	171397223,7	15,34286	1451199,476	29779164,71
3	2369707371	15139565,09	228936264,3	15,12172	1288144,487	27060540,73
4	2369707371	39267317,21	640575599,1	16,3132	1445642,952	30802054,17
5	2370034385	19849365,58	343900183,4	17,3255	1253868	26697833,93
6	2378743129	12084098,6	205916423,7	17,04028	1257709,787	26428633,07
average*	**2371577448**	**19502297,12**	**318145138,8**	**16,228712**	**1339312,941**	**28153645,32**

HOME MARKET						
2010	SHARES OUTSTANDING	TRADING VOLUME	VALUE OF TRADING	SHARE PRICE		
	6 months before ADR listing	6 months before listing	6 months before listing	6 months before listing		
1	634360384,3	7696953,54	7260863395	943,3425		
2	634360384,3	5305693,47	4707017058	887,1634		
3	634360384,3	5664101,094	4849345262	856,1544333		
4	728607695,7	7073916,89	6174067974	872,7934		
5	811493162,8	11082720,08	9485407898	855,8736333		
6	809896644,7	9598621,457	7758990302	808,3442333		
average*	**688636402,3**	**7364677,014**	**6495340317**	**883,0654733**	US MARKET	
	6monthes after ADR listing	6monthes after ADR listing	6monthes after ADR listing	6monthes after ADR listing	VOLUME OF TRADING	VALUE OF TRADING
1	632271234,4	6112691,57	5139952676	840,8657	581446,2821	3781338,988
2	645898841,7	6375496,644	5952521120	933,6560667	481763,1313	3292738,591
3	645926171	5473076,874	5379036825	982,8177	285911,3636	2230137,227
4	645988537,7	6148718,541	6200164664	1008,366967	133442,9407	1110890,241
5	646019262	6716168,394	6236483305	928,5775667	299771,9964	2430531,362
6	651678321	4716798,213	3948460242	837,1060333	161135,368	1176669,54
average*	**647102226,7**	**5886051,733**	**5543333231**	**938,1048667**	**272404,96**	**2048193,392**

HOME MARKET						
2011	SHARES OUTSTANDING	TRADING VOLUME	VALUE OF TRADING	SHARE PRICE		
	6 months before ADR listing	6 months before listing	6 months before listing	6 months before listing		
1	9696808180	15303681,82	1024302971	66,9318		
2	9696808180	20160500	1324819033	65,7136		
3	9696808180	18433285,71	1272399943	69,0273		
4	9696808180	13017318,18	930738250	71,5		
5	9696808180	17124571,43	1275943255	74,5095		
6	9696808180	24726739,13	1824403103	73,7826		
average*	**9696808180**	**16807871,43**	**1165640690**	**69,53644**	US MARKET	
	6monthes after ADR listing	6monthes after ADR listing	6monthes after ADR listing	6monthes after ADR listing	VOLUME OF TRADING	VALUE OF TRADING
1	8865653193	20777000	1661171015	79,9524	329980	9929428,18
2	7757446544	10892250	956829701,3	87,845	545147,3684	16190876,84
3	7757446544	13130095,24	1172232582	89,2783	332495,6522	10048883,1
4	7757446544	11658650	1065267173	91,3714	330170	10412736,38
5	7757446544	12587809,52	1174271434	93,2864	310652,381	10031555,62
6	7757446544	18219000	1803522495	98,9913	435536,3636	14924829,45
average*	**7757446544**	**13297560,95**	**1234424677**	**92,15448**	**390800,353**	**12321776,28**

HOME MARKET						
Average of data sample	SHARES OUTSTANDING	TRADING VOLUME	VALUE OF TRADING	SHARE PRICE		
	6 months before ADR listing	6 months before listing	6 months before listing	6 months before listing		
1	9031330418	15820584,48	1383822672	87,46975652		
2	9035483934	16010433,58	1377437048	86,03371304		
3	9047347492	13223577,55	1113696285	84,22049783		
4	9056093757	15896736,05	1386130968	87,19594783		
5	8530450758	13380639,09	1134501838	84,78682		
6	8046920947	11658785,81	870113813,8	74,63159783		
average*	**8940141272**	**14866394,15**	**1279117762**	**85,94134704**	US MARKET	
	6monthes after ADR listing	6monthes after ADR listing	6monthes after ADR listing	6monthes after ADR listing	VOLUME OF TRADING	VALUE OF TRADING
1	7908312292	14065731,4	1063267103	75,59273478	1121628,537	26763178,53
2	7899931107	16009906,76	1182476051	73,85902174	608248,4031	14582561,09
3	8187783075	13420877,34	979180792	72,95952174	541339,0163	12659242,32
4	8430073338	17549184,06	1332814482	75,94737609	624861,7872	14533370,97
5	8432068644	13114817,13	1025875636	78,2226413	588932,8345	13276207,9
6	8444640699	14209714,93	1082282134	76,16494348	535261,0476	11780101,93
average*	**8278899372**	**14860900,04**	**1120525819**	**75,43070087**	**579728,6177**	**13366296,84**

HOME MARKET						
India	SHARES OUTSTANDING	TRADING VOLUME	VALUE OF TRADING	SHARE PRICE		
	6 months before ADR listing	6 months before listing	6 months before listing	6 months before listing		
1	420502488,8	708601,1528	221299836,6	312,3052167		
2	441424968,4	815636,4085	240837108,5	295,2750833		
3	446265320,7	846770,2391	240864161,5	284,4504333		
4	449251007,2	972432,2472	290712639,7	298,9541333		
5	449282814,4	882725,584	278914964,6	315,9701833		
6	450015239,6	697506,7047	220010168,8	315,4237333		
average*	**441345319,9**	**845233,1263**	**254525742,2**	**301,39101**	US MARKET	
	6monthes after ADR listing	6monthes after ADR listing	6monthes after ADR listing	6monthes after ADR listing	VOLUME OF TRADING	VALUE OF TRADING
1	450224489,8	787784,3394	263154736,9	334,0441333	873461,7929	12542911,35
2	379078688,1	491641,3271	164599484,2	334,7958667	408891,4399	5937056,003
3	385936271,5	554305,8336	189524407,4	341,9130667	228488,7176	3411005,246
4	385961635,7	788219,5311	293063292,8	371,80415	416191,6468	6303284,92
5	400713396,5	1161520,371	458068111	394,3694167	689534,1111	10065106,44
6	484120809,9	1186518,187	454448924,1	383,0105	396545,8448	5574681,141
average*	**407162160,3**	**836441,0499**	**311940843,9**	**365,1786**	**427930,352**	**6258226,749**

HOME MARKET						
Swiss	SHARES OUTSTANDING	TRADING VOLUME	VALUE OF TRADING	SHARE PRICE		
	6 months before ADR listing	6 months before listing	6 months before listing	6 months before listing		
1	299786081,5	1316422,441	308308505,1	234,2018		
2	299786081,5	1094695,502	267462737,5	244,32615		
3	299786081,5	1138653,239	276594699	242,9139		
4	299786081,5	1193652,795	273984020,1	229,5341		
5	443083686	2176351,964	394336476,8	181,1915		
6	749140789	4081435,614	381274246,3	93,4167		
average*	**328445602,4**	**1383955,188**	**304137287,7**	**226,43349**	US MARKET	
	6monthes after ADR listing	6monthes after ADR listing	6monthes after ADR listing	6monthes after ADR listing	VOLUME OF TRADING	VALUE OF TRADING
1	749140789	4573011,434	398690456,4	87,18335	47631,13635	1224965,657
2	1199144326	5116363,152	244844070,3	47,8551	34271,42855	975812,0987
3	1199144326	5456371,759	260606136,7	47,7618	22352,38095	635472,6023
4	1199144326	6098640,174	284137475,3	46,5903	37584,16665	1043907,746
5	1197836748	5198318,486	210667314,9	40,52605	36063,63635	867595,5219
6	1197699108	6149115,548	228288066,9	37,12535	45134,9206	1004028,565
average*	**1198593767**	**5603761,824**	**245708612,8**	**43,97172**	**35081,30662**	**905363,3068**

HOME MARKET						
Emerging countries	SHARES OUTSTANDING	TRADING VOLUME	VALUE OF TRADING	SHARE PRICE		
	6 months before ADR listing	6 months before listing	6 months before listing	6 months before listing		
1	15748374746	26014834,5	3192450375	122,716536		
2	15755963543	25317410,57	3042074330	120,157404		
3	15778026661	20944419,61	2452507088	117,095968		
4	15782312196	25419903,43	3131812125	123,203148		
5	14792778961	20152249,23	2494295611	123,7725667		
6	13873824985	16802524,17	1877849630	111,759972		
average*	**15571491221**	**23569763,47**	**2862627906**	**121,3891245**	US MARKET	
	6monthes after ADR listing	6monthes after ADR listing	6monthes after ADR listing	6monthes after ADR listing	VOLUME OF TRADING	VALUE OF TRADING
1	13661124477	21905127,12	2507854128	114,487084	1935776,398	34461094,08
2	13603145982	25464778,56	2913396489	114,408868	1009312,559	17418187,26
3	14125919601	20292005,55	2316002891	114,13376	922778,7361	16131726,27
4	14571711626	27942069,13	3358867846	120,208272	1096328,88	19854235,35
5	14575439871	20235336,45	2540004427	125,523212	1023452,296	17929475,95
6	14597825987	22381605,19	2738682684	122,363104	912629,8118	15023168,03
average*	**14294808613**	**23263158,97**	**2773390867**	**119,3274432**	**992900,4563**	**17271358,57**

HOME MARKET						
Developped countries	SHARES OUTSTANDING	TRADING VOLUME	VALUE OF TRADING	SHARE PRICE		
	6 months before ADR listing	6 months before listing	6 months before listing	6 months before listing		
1	1034849075	3684572,541	167682334,7	45,50930476		
2	1034912972	4930699,072	223904383,2	45,41027143		
3	1034634196	4032098,922	181779250,1	45,08303333		
4	1048690854	4559632,033	202129551,9	44,33023333		
5	1075298135	5319198,452	214000295,1	40,23168095		
6	1110130427	5535287,769	168445185,6	30,43115238		
average*	**1045677046**	**4505240,204**	**197899163**	**44,11290476**	US MARKET	
	6monthes after ADR listing	6monthes after ADR listing	6monthes after ADR listing	6monthes after ADR listing	VOLUME OF TRADING	VALUE OF TRADING
1	1059726359	4733117,44	138632716,8	29,2899381	152404,8933	4735806,43
2	1110389589	4754106,998	121635706,6	25,58539524	130791,075	4181567,548
3	1118572926	5240962,804	125482126,3	23,94257143	87244,11174	2653344,369
4	1118599184	5176701,84	120388515,2	23,25583333	63591,43919	1868828,546
5	1118531469	4638008,418	101630072,3	21,9124381	71647,76163	2043681,435
6	1119420118	4481274,134	94855727,1	21,16713333	86012,5189	2460938,993
average*	**1117102657**	**4858210,839**	**112798429,5**	**23,17267429**	**87857,3813**	**2641672,178**

HOME MARKET						
2000	SHARES OUTSTANDING	TRADING VOLUME	VALUE OF TRADING	SHARE PRICE		
	6 months before ADR listing	6 months before listing	6 months before listing	6 months before listing		
1	12098147363	25944169,36	3734695609	143,95125		
2	12129826625	25862431,91	3780669867	146,18385		
3	12135988922	31921331,04	4487839083	140,5906		
4	12139529155	28595697,9	4209898679	147,2214		
5	5988745327	14761156,46	1591943858	107,846825		
6	984584531,5	2817035,568	163586664	58,0705		
average*	**10898447478**	**25416957,33**	**3561009419**	**137,158785**	US MARKET	
	6monthes after ADR listing	6monthes after ADR listing	6monthes after ADR listing	6monthes after ADR listing	VOLUME OF TRADING	VALUE OF TRADING
1	1001599142	3046401,369	164626463,7	54,03965	956565,5498	26188827,71
2	870686668,2	2664532,781	130811240,1	49,0935	280417,882	7203893,327
3	856188637,3	3252125,817	171603459,5	52,76655	253654,3297	6278458,309
4	856188637,3	2773473,612	144758196,4	52,193825	265520,7613	6306469,896
5	878258181,1	3298892,868	155304701,2	47,077825	273301,7262	6339848,468
6	1003318929	2628897,563	125557396,3	47,760475	245143,8982	5843409,302
average*	**892928210,6**	**2923584,528**	**145606998,7**	**49,778435**	**263607,7195**	**6394415,86**

HOME MARKET						
2001	SHARES OUTSTANDING	TRADING VOLUME	VALUE OF TRADING	SHARE PRICE		
	6 months before ADR listing	6 months before listing	6 months before listing	6 months before listing		
1	1004679696	2368137,624	324283471,3	136,936075		
2	1004679696	3530642,491	476344266,7	134,9171625		
3	1004680233	2574164,866	335104750,1	130,1799875		
4	1006460105	3635109,418	465515838	128,061025		
5	1044523380	3920516,085	456506902,2	116,4405125		
6	1121744869	4091502,538	374700927,6	91,580275		
average*	**1013004622**	**3205714,097**	**411551045,7**	**129,3069525**	US MARKET	
	6monthes after ADR listing	6monthes after ADR listing	6monthes after ADR listing	6monthes after ADR listing	VOLUME OF TRADING	VALUE OF TRADING
1	1134054428	3885205,378	356086066,3	91,6518	86705,38371	2869481,076
2	1264596237	4019731,448	326275019,3	81,1683625	59534,39484	2064485,372
3	1288045294	5259577,76	397792253,6	75,631975	43884,46899	1399359,971
4	1288116215	5594417,113	425094441,7	75,985475	50494,71319	1502840,696
5	1287857876	4765737,039	353336748,1	74,14105	42780,43784	1200351,707
6	1288193849	4554213,865	328524365,3	72,13635	40861,31685	1157118,943
average*	**1283361894**	**4838735,445**	**366204565,6**	**75,8126425**	**47511,06634**	**1464831,338**

HOME MARKET						
2002	SHARES OUTSTANDING	TRADING VOLUME	VALUE OF TRADING	SHARE PRICE		
	6 months before ADR listing	6 months before listing	6 months before listing	6 months before listing		
1	9790505753	15661542,01	1038741398	66,3243375		
2	9791794054	17286135,45	1177243516	68,1033375		
3	9791815080	13487840,78	922694926,5	68,4093875		
4	9791886572	11308421,82	851582543	75,3051625		
5	9791886572	10725795,93	797149197,9	74,32075		
6	9792406698	13813099,33	1032900057	74,77685		
average*	**9791577606**	**13693947,2**	**957482316,3**	**70,492595**	US MARKET	
	6monthes after ADR listing	6monthes after ADR listing	6monthes after ADR listing	6monthes after ADR listing	VOLUME OF TRADING	VALUE OF TRADING
1	9792707982	20627454,18	1483860412	71,9361875	974614,7484	16459561,89
2	9792712499	17660199,02	1208984774	68,4581625	752594,3556	12788770,03
3	11420190579	15030384,11	926889406,4	61,6677125	774814,7545	11794307,67
4	12813039655	19037040,98	1090219450	57,268325	497817,9662	7023377,658
5	12813067311	19163140,19	1095507379	57,167425	566186,6098	7117878,66
6	12813069696	30766553,79	1664469791	54,099975	458826,9876	6123619,684
average*	**11930415948**	**20331463,62**	**1197214160**	**59,73232**	**610048,1347**	**8969590,742**

HOME MARKET						
2003	SHARES OUTSTANDING	TRADING VOLUME	VALUE OF TRADING	SHARE PRICE		
	6 months before ADR listing	6 months before listing	6 months before listing	6 months before listing		
1	1567949595	6599008,63	371108778,3	56,23705		
2	1568022591	9006422,696	492763001,1	54,7124		
3	1568097338	8176889,792	429966622,5	52,58315		
4	1568113336	7989449,842	398016414,9	49,81775		
5	1568117195	8245571,264	383840824,8	46,55115		
6	1568174079	7236940,228	328500638,2	45,3922		
average*	**1568060011**	**8003468,445**	**415139128,3**	**51,9803**	US MARKET	
	6monthes after ADR listing	6monthes after ADR listing	6monthes after ADR listing	6monthes after ADR listing	VOLUME OF TRADING	VALUE OF TRADING
1	1568240863	7403464,03	308843275,7	41,71605	135571,4286	1542674,064
2	1568277708	8127615,357	378908208,8	46,61985	153365,3572	1910679,297
3	1568374058	9706317,373	430306285,6	44,3326	252230,4113	3202405,582
4	1568399109	10128708,14	435293386,8	42,9762	176383,5498	2339304,468
5	1568401377	9192543,477	400788001,2	43,59925	196652,7446	2700612,476
6	1568490720	8054986,409	367752821	45,6553	266848,7578	3259023,879
average*	**1568388594**	**9042034,152**	**402609740,7**	**44,63664**	**209096,1641**	**2682405,14**

HOME MARKET						
2006	SHARES OUTSTANDING	TRADING VOLUME	VALUE OF TRADING	SHARE PRICE		
	6 months before ADR listing	6 months before listing	6 months before listing	6 months before listing		
1	374315519,7	709474,5489	20869950,63	29,41606667		
2	382454776,9	528987,2183	16222451,02	30,667		
3	382535423,4	613912,1056	21946498,3	35,7486		
4	382558621	508332,9206	19576154,94	38,5105		
5	382558621	414804,9014	14816278,01	35,71866667		
6	382560012,1	593641,9094	20980808,97	35,34253333		
average*	**380884592,4**	**555102,339**	**18686266,58**	**34,01216667**	US MARKET	
	6monthes after ADR listing	6monthes after ADR listing	6monthes after ADR listing	6monthes after ADR listing	VOLUME OF TRADING	VALUE OF TRADING
1	423250710,8	1289222,253	25291446,48	19,6176	195283,726	5979001,838
2	446226145,6	766476,2417	14328200,27	18,6936	109315	2826321,106
3	448956214,9	727495,8024	12482906,47	17,15873333	88866,37803	2086369,277
4	448959871,7	747276,2843	14264009,71	19,088	50909,24243	1294837,551
5	448959871,7	665979,9731	12172271,36	18,27723333	25742,44307	642867,7469
6	448959871,7	649487,7662	12207577,21	18,7957	46002,6225	1171331,041
average*	**448412395,1**	**711343,2135**	**13090993,01**	**18,40265333**	**64167,13721**	**1604345,344**

HOME MARKET						
2008	SHARES OUTSTANDING	TRADING VOLUME	VALUE OF TRADING	SHARE PRICE		
	6 months before ADR listing	6 months before listing	6 months before listing	6 months before listing		
1	566036886	3700259,81	51169135,28	13,828525		
2	565369511,9	3671403,553	45823613,81	12,481225		
3	563886844,4	3014387,809	37605467,59	12,475325		
4	563676257,9	2620367,49	32484826,79	12,39705		
5	563727700,1	3206358,911	41191131,03	12,8467		
6	563863578,5	3397205,181	47322133,94	13,929725		
average*	**564539440,1**	**3242555,515**	**41654834,9**	**12,805765**	US MARKET	
	6monthes after ADR listing	6monthes after ADR listing	6monthes after ADR listing	6monthes after ADR listing	VOLUME OF TRADING	VALUE OF TRADING
1	514900099	4172225,385	55183208,91	13,226325	509204,5454	16017092,63
2	514211923,4	3521858,816	49349166,19	14,01225	345621,3659	10959558,47
3	514360347,9	3283516,606	47936141,02	14,599025	568980,5465	19693611,57
4	514602431,3	2284027,144	35967374,85	15,74735	1157343,182	42732929,51
5	515697229,7	2296148,023	32089816,69	13,9755	1266744,589	43788573,59
6	519769679,3	2741152,641	36398532,41	13,27855	898010,6602	27441073
average*	**515728322,3**	**2825340,646**	**40348206,23**	**14,322535**	**847340,0686**	**28923149,23**

HOME MARKET						
2010	SHARES OUTSTANDING	TRADING VOLUME	VALUE OF TRADING	SHARE PRICE		
	6 months before ADR listing	6 months before listing	6 months before listing	6 months before listing		
1	244512764	4063871,976	6151686,204	1,51375		
2	244512764	3732151,568	5834472,547	1,5633		
3	244512764	2512337,355	3836590,375	1,5271		
4	385883731	6558677,608	8401666,016	1,281		
5	510211931,8	11426052,61	13155385,68	1,15135		
6	507817154,5	8237362,185	9744799,465	1,183		
average*	**325926791**	**5658618,224**	**7475960,164**	**1,4073**	US MARKET	
	6monthes after ADR listing	6monthes after ADR listing	6monthes after ADR listing	6monthes after ADR listing	VOLUME OF TRADING	VALUE OF TRADING
1	241379039,1	2880397,355	8126465,058	2,8213	680447,9947	4573256,95
2	261820450	3044630,681	8489800,422	2,78845	484983,3334	3345124,043
3	261861444	2271765,311	7059510,703	3,1075	121062,0455	984827,6335
4	261954994,1	2391672,548	7893595,66	3,30045	44338,09525	392001,9677
5	262001080,5	2638811,682	8309486,045	3,14895	16036,2554	140145,6468
6	270489669,1	1865154,82	5448023,97	2,92095	47223,05195	375095,0628
average*	**263625527,5**	**2442407,008**	**7440083,36**	**3,05326**	**142728,5563**	**1047438,871**

HOME MARKET					
1. ABB LTD	SHARES OUTSTANDING	TRADING VOLUME	SHARE PRICE		
	6 months before ADR listing	6 months before listing	6 months before listing		
1	300002358	1190689,381	163,1786		
2	300002358	654659,4545	164,3523		
3	300002358	776007,2778	168,2778		
4	300002358	911168,1818	165,9091		
5	300002358	1881808,2	143,2875		
6	300002358	1522756	125,5652		
average*	**300002358**	**1082866,499**	**161,00106**	US MARKET	
	6monthes after ADR listing	6monthes after ADR listing	6monthes after ADR listing	TRADING VOLUME	SHARE PRICE
1	300002358	1238104,778	119,4167	68035	17,62
2	1200009432	3158956,35	31,9625	50438,0952	18,319
3	1200009432	3918506,818	27,9886	31066,6667	15,7714
4	1200009432	5944897,191	21,9095	37333,3333	12,6124
5	1200009432	3715886,304	18,5783	15527,2727	11,1532
6	1200009432	5809672	12,3864	51022,2222	7,6044
average*	**1200009432**	**4509583,733**	**22,56506**	**37077,51802**	**13,09208**

HOME MARKET					
2. ADVANTEST CORPORATION	SHARES OUTSTANDING	TRADING VOLUME	SHARE PRICE		
	6 months before ADR listing	6 months before listing	6 months before listing		
1	99783385	1170461,905	14086,1905		
2	99783385	1134380	12109		
3	99783385	1105776,191	10920,4762		
4	99783385	1132628,571	11407,1429		
5	99783385	978509,0909	10883,6364		
6	119740062	1495305	10502		
average*	**99783385**	**1104351,152**	**11881,2892**	US MARKET	
	6monthes after ADR listing	6monthes after ADR listing	6monthes after ADR listing	TRADING VOLUME	SHARE PRICE
1	199566770	2491622,727	6035,9091	12386,9565	50,9317
2	199566770	2108736,842	5926,8421	9710	50,6005
3	199566770	1792619,048	6428,5714	4770	54,9491
4	199566770	2233010,526	6347,3684	10190,4762	52,8538
5	199566770	2802265	5645,5	11384,2105	46,7679
6	199566770	2685180,952	5310	5763,6364	45,4382
average*	**199566770**	**2324362,474**	**5931,65638**	**8363,66462**	**50,1219**

HOME MARKET					
3. ANHEUSER-BUSH INBEV	SHARES OUTSTANDING	TRADING VOLUME	SHARE PRICE		
	6 months before ADR listing	6 months before listing	6 months before listing		
1	1602774492	3213753,429	20,9986		
2	1602843598	3165187,4	23,4055		
3	1602846946	1939169,318	24,6148		
4	1602914406	2375555,682	26,0436		
5	1603246227	2540852,273	27,738		
6	1603246227	2372221,046	29,6036		
average*	**1602925134**	**2646903,62**	**24,5601**	US MARKET	
	6monthes after ADR listing	6monthes after ADR listing	6monthes after ADR listing	TRADING VOLUME	SHARE PRICE
1	1603264928	4611792,682	31,6045	342381,8182	46,6627
2	1603290188	2566274,381	32,8736	422533,3333	49,1223
3	1603352125	2089616,227	34,6284	353314,2857	51,7714
4	1603352125	1952146,45	35,8543	185810	51,742
5	1604042305	2593992,818	35,2564	369300	49,0395
6	1604305579	2330629,191	36,8871	403180,9524	50,2357
average*	**1603668464**	**2306531,813**	**35,09996**	**346827,7143**	**50,38218**

HOME MARKET					
4. AU OPTRONICS CORP	SHARES OUTSTANDING	TRADING VOLUME	SHARE PRICE		
	6 months before ADR listing	6 months before listing	6 months before listing		
1	2970581607	103173619	29,719		
2	2970581607	103612250	39,3		
3	2970581607	81956866,67	53,14		
4	2970581607	61000000	54,4579		
5	2970581607	61834428,57	52,1524		
6	2970581607	65177333,33	49,5667		
average*	**2970581607**	**82315432,86**	**45,75386**	US MARKET	
	6monthes after ADR listing	6monthes after ADR listing	6monthes after ADR listing	TRADING VOLUME	SHARE PRICE
1	2970581607	72593772,73	41,4455	1803985,714	11,1005
2	2970581607	104347523,8	33,4286	906370	9,096
3	3124272600	72129521,74	28,4826	916382,6087	7,657
4	3976397040	84995100	24,455	413390	6,949
5	3976397000	109956047,6	18,5714	563545,4545	5,2741
6	3976397000	156439347,8	23,4261	278773,913	6,8226
average*	**3604809049**	**105573508,2**	**25,67274**	**615692,3952**	**7,15974**

HOME MARKET					
5. AVIVA PLC	SHARES OUTSTANDING	TRADING VOLUME	SHARE PRICE		
	6 months before ADR listing	6 months before listing	6 months before listing		
1	100000000	112586,5238	0,9645		
2	100000000	66532,1905	0,993		
3	100000000	49517,2381	1,009		
4	100000000	70036,8261	1,0324		
5	100000000	71576,5238	1,0623		
6	100000000	69740,7143	1,1762		
average*	**100000000**	**74049,86046**	**1,01224**	US MARKET	
	6monthes after ADR listing	6monthes after ADR listing	6monthes after ADR listing	TRADING VOLUME	SHARE PRICE
1	100000000	51852,5217	1,2372	44426,087	13,6107
2	100000000	49524,8095	1,1633	10335	12,5994
3	100000000	59793,1053	1,1385	46215,7895	13,1399
4	100000000	44927,0909	1,1478	15800	12,335
5	100000000	75013,2	1,1265	23340	11,8823
6	100000000	79909,619	1,123	46313,6364	11,8954
average*	**100000000**	**61833,56494**	**1,13982**	**28400,88518**	**12,3704**

HOME MARKET					
6. BANCO DE CHILE	SHARES OUTSTANDING	TRADING VOLUME	SHARE PRICE		
	6 months before ADR listing	6 months before listing	6 months before listing		
1	44932657180	439374,8421	27,5111		
2	44932657180	1365368,15	26,8325		
3	44932657180	458852,1111	24,6333		
4	44932657180	873078,6667	24,1962		
5	44932657180	1133739,15	25,1495		
6	44932657180	1058296,5	25,26		
average*	**44932657180**	**854082,584**	**25,66452**	US MARKET	
	6monthes after ADR listing	6monthes after ADR listing	6monthes after ADR listing	TRADING VOLUME	SHARE PRICE
1	44932657180	563817,2778	24,2139	6100	14,5624
2	44932657180	341999,1538	22,3985	11642,1053	11,4426
3	57792171861	1605683,053	22,6011	5695,2381	11,6467
4	68079783605	5972235,5	19,0415	6213,6364	12,7441
5	68079783605	7726994,95	18,9725	5209,5238	10,8402
6	68079783605	41638392,95	18,9032	21318,1818	12,1502
average*	**61392835971**	**11457061,12**	**20,38336**	**10015,73708**	**11,76476**

HOME MARKET					
7. BANCO MACRO SA	SHARES OUTSTANDING	TRADING VOLUME	SHARE PRICE		
	6 months before ADR listing	6 months before listing	6 months before listing		
1	573439221,1	1046703,79	5,0211		
2	597707767	506010,2609	5,2022		
3	597707767	577102,15	4,9645		
4	597707767	470533,1905	5,6		
5	597707767	256368,3043	5,8057		
6	597707767	747477,25	6,0985		
average*	**592854057,8**	**571343,539**	**5,3187**	US MARKET	
	6monthes after ADR listing	6monthes after ADR listing	6monthes after ADR listing	TRADING VOLUME	SHARE PRICE
1	597707767	2261875,611	6,8617	505180	22,783
2	665564909,9	635457,0476	6,8248	219372,7273	22,66
3	672707767	602829,55	6,22	181842,8571	20,1262
4	672707767	259175,5238	6,0733	52305	19,717
5	672707767	234739,0455	6,2091	42726,087	20,3104
6	672707767	204962,5714	6,2157	38690,4762	20,2043
average*	**671279195,6**	**387432,7477**	**6,30858**	**106987,4295**	**20,60358**

HOME MARKET					
8. BANCO SANTANDER SA	SHARES OUTSTANDING	TRADING VOLUME	SHARE PRICE		
	6 months before ADR listing	6 months before listing	6 months before listing		
1	8155605723	184066731,6	6,6658		
2	8155605723	111842301,8	7,3291		
3	8155605723	90631745,71	8,1657		
4	8155605723	154813806,5	9,253		
5	8155605723	84803060,95	10,376		
6	8155605723	67776420,91	10,8907		
average*	**8155605723**	**125231529,3**	**8,35792**	US MARKET	
	6monthes after ADR listing	6monthes after ADR listing	6monthes after ADR listing	TRADING VOLUME	SHARE PRICE
1	8215386233	80139911,36	11,2134	19636786,36	12,8932
2	8228826135	50768202,86	11,6107	5975810	13,2185
3	8228826135	70245315,26	11,5216	4400861,905	13,6286
4	8228826135	191000685	10,938	5630166,667	12,6014
5	8229771028	93996655,5	9,7466	4616142,105	11,9632
6	8230925897	54756586,19	10,148	4390172,727	12,2741
average*	**8229435066**	**92153488,96**	**10,79298**	**5002630,681**	**12,73716**

HOME MARKET					
9. BHP BILLITON GROUP	SHARES OUTSTANDING	TRADING VOLUME	SHARE PRICE		
	6 months before ADR listing	6 months before listing	6 months before listing		
1	2467990029	11931271,58	3,2482		
2	2467990029	16990619,77	3,0315		
3	2467990029	15267026,9	3,2079		
4	2467990029	14389834,05	3,331		
5	2467990029	15140315,58	3,1133		
6	2467990029	12971408,41	3,2325		
average*	**2467990029**	**14743813,58**	**3,18638**	US MARKET	
	6monthes after ADR listing	6monthes after ADR listing	6monthes after ADR listing	TRADING VOLUME	SHARE PRICE
1	2467990029	12979344,23	3,3327	235823,8095	11,9129
2	2467990029	14760553,76	3,8349	267485,7143	13,4062
3	2467990029	17868066,32	4,2338	401422,7273	14,4041
4	2467990029	18982095,24	4,406	306076,1905	15,5229
5	2467990029	16815995,59	4,5376	359400,7273	16,1677
6	2468004299	14617217,64	4,6133	508271,4286	17,2281
average*	**2467992883**	**16608785,71**	**4,32512**	**368531,3576**	**15,3458**

HOME MARKET					
10. BRF - BRASIL FOODS SA	SHARES OUTSTANDING	TRADING VOLUME	SHARE PRICE		
	6 months before ADR listing	6 months before listing	6 months before listing		
1	15471956	175	61,5		
2	15471956	166,6667	64,6333		
3	15471956	766,6667	78,5033		
4	15471956	100	84,3725		
5	15471956	100	74,6633		
6	15471956	100	72,02		
average*	**15471956**	**261,66668**	**72,73448**	US MARKET	
	6monthes after ADR listing	6monthes after ADR listing	6monthes after ADR listing	TRADING VOLUME	SHARE PRICE
1	133957149	516826,3158	23,3989	42223,8095	33,3833
2	133957149	680161,9048	21,901	86995	19,324
3	133957149	475571,4286	20,5833	61538,0952	18,5052
4	133957149	856759,0909	25,3345	83172,7273	23,195
5	133957149	450519,0476	22,9348	17414,2857	21,2105
6	133957149	514618,1818	23,1859	48117,3913	21,373
average*	**133957149**	**595525,9307**	**22,7879**	**59447,4999**	**20,72154**

HOME MARKET					
11. CANON INC	SHARES OUTSTANDING	TRADING VOLUME	SHARE PRICE		
	6 months before ADR listing	6 months before listing	6 months before listing		
1	871685290	1611818,182	4239,0909		
2	871773971,1	3037611,111	4700,5556		
3	871904745,6	2377608,696	4764,7826		
4	871943780	1789428,571	5209,0476		
5	871943780	2247285,714	4874,7619		
6	871943780	2764043,478	4686,5217		
average*	**871850313,3**	**2212750,455**	**4757,64772**	US MARKET	
	6monthes after ADR listing	6monthes after ADR listing	6monthes after ADR listing	TRADING VOLUME	SHARE PRICE
1	871943780	3075263,158	4660,5263	52557,1429	43,5625
2	871943780	2250095,238	4266,6667	72263,6364	39,7358
3	871943780	2215714,286	4222,8571	65447,619	38,3601
4	871943780	2717235,294	4014,7059	97594,7368	35,2697
5	871943780	3094909,091	4244,5455	81245,4545	36,648
6	871943780	3463600	4040	87505	34,135
average*	**871943780**	**2748310,782**	**4157,75504**	**80811,28934**	**36,82972**

HOME MARKET					
12. CHUNGHWA TELECOM LTD	SHARES OUTSTANDING	TRADING VOLUME	SHARE PRICE		
	6 months before ADR listing	6 months before listing	6 months before listing		
1	9696808180	15303681,82	66,9318		
2	9696808180	20160500	65,7136		
3	9696808180	18433285,71	69,0273		
4	9696808180	13017318,18	71,5		
5	9696808180	17124571,43	74,5095		
6	9696808180	24726739,13	73,7826		
average*	**9696808180**	**16807871,43**	**69,53644**	US MARKET	
	6monthes after ADR listing	6monthes after ADR listing	6monthes after ADR listing	TRADING VOLUME	SHARE PRICE
1	8865653193	20777000	79,9524	329980	30,091
2	7757446544	10892250	87,845	545147,3684	29,7
3	7757446544	13130095,24	89,2783	332495,6522	30,2226
4	7757446544	11658650	91,3714	330170	31,5375
5	7757446544	12587809,52	93,2864	310652,381	32,2919
6	7757446544	18219000	98,9913	435536,3636	34,2677
average*	**7757446544**	**13297560,95**	**92,15448**	**390800,353**	**31,60394**

HOME MARKET					
13. COCA -COLA HELLENIC BOTTLING COMPANY	SHARES OUTSTANDING	TRADING VOLUME	SHARE PRICE		
	6 months before ADR listing	6 months before listing	6 months before listing		
1	236668596	162691,5	15,1967		
2	236668596	252701,7143	16,3238		
3	236668596	181240,5238	16,881		
4	236668596	158327,5455	16,9164		
5	236668596	166214,4286	16,5571		
6	236668596	142875,5	14,5773		
average*	**236668596**	**184235,1424**	**16,375**	US MARKET	
	6monthes after ADR listing	6monthes after ADR listing	6monthes after ADR listing	TRADING VOLUME	SHARE PRICE
1	236668596	102316,6667	14,5476	2195,4545	8,1466
2	236668596	387949,7619	14,7286	4775	8,8115
3	236668596	96049,0526	13,54	942,8571	10,0405
4	236668596	186478,8571	12,7905	485	2,7065
5	236668596	146489,45	13,265	510,5263	-0,6324
6	236668596	221112,7273	12,29	641,6667	4,625
average*	**236668596**	**207615,9698**	**13,32282**	**1471,01002**	**5,11022**

HOME MARKET					
14. CIA SANEAMENTO BASICO ESTADO	SHARES OUTSTANDING	TRADING VOLUME	SHARE PRICE		
	6 months before ADR listing	6 months before listing	6 months before listing		
1	28479577827	15889473,68	130,7574		
2	28479577827	26815789,47	133,1963		
3	28479577827	20277000	132,707		
4	28479577827	22527368,42	129,0568		
5	28479577827	17702380,95	133,8476		
6	28479577827	36901428,57	140,2795		
average*	**28479577827**	**20642402,51**	**131,91302**	US MARKET	
	6monthes after ADR listing	6monthes after ADR listing	6monthes after ADR listing	TRADING VOLUME	SHARE PRICE
1	28479577827	84647500	112,543	291140	11,1125
2	28479577827	29900476,19	100,3786	36519,0476	8,9943
3	28479577827	39413181,82	91,0223	39013,6364	7,6059
4	28479577827	55651363,64	82,1286	64133,3333	6,539
5	28479577827	30219545,45	81,5877	27909,0909	4,6
6	28479577827	41078181,82	81,5868	13690,9091	4,8632
average*	**28479577827**	**39252549,78**	**87,3408**	**36253,20346**	**6,52048**

HOME MARKET					
15. CORPBANCA	SHARES OUTSTANDING	TRADING VOLUME	SHARE PRICE		
	6 months before ADR listing	6 months before listing	6 months before listing		
1	2,26909E+11	174624987,5	2,9085		
2	2,26909E+11	181806754	2,9475		
3	2,26909E+11	104040203,2	3,07		
4	2,26909E+11	167437787,3	3,0995		
5	2,26909E+11	195989891	3,1948		
6	2,26909E+11	108414716,5	3,239		
average*	**2,26909E+11**	**164779924,6**	**3,04406**	US MARKET	
	6monthes after ADR listing	6monthes after ADR listing	6monthes after ADR listing	TRADING VOLUME	SHARE PRICE
1	2,26909E+11	218495118,5	3,252	9257,1429	22,3579
2	2,26909E+11	377947035,2	3,1619	7745,4545	19,985
3	2,26909E+11	259780509	3,109	23055	24,2735
4	2,26909E+11	291010357,5	3,094	20647,3684	26,8374
5	2,26909E+11	204664250	3,095	26590,9091	26,3477
6	2,26909E+11	187843925,2	3,03	7771,4286	13,6862
average*	**2,26909E+11**	**264249215,4**	**3,09798**	**17162,03212**	**22,22596**

HOME MARKET					
16. CREDIT SUISSE GROUP	SHARES OUTSTANDING	TRADING VOLUME	SHARE PRICE		
	6 months before ADR listing	6 months before listing	6 months before listing		
1	299569805	1442155,5	305,225		
2	299569805	1534731,55	324,3		
3	299569805	1501299,2	317,55		
4	299569805	1476137,409	293,1591		
5	586165014	2470895,727	219,0955		
6	1198279220	6640115,227	61,2682		
average*	**356888846,8**	**1685043,877**	**291,86592**	US MARKET	
	6monthes after ADR listing	6monthes after ADR listing	6monthes after ADR listing	TRADING VOLUME	SHARE PRICE
1	1198279220	7907918,091	54,95	27227,2727	33,8155
2	1198279220	7073769,955	63,7477	18104,7619	38,6271
3	1198279220	6994236,7	67,535	13638,0952	41,0881
4	1198279220	6252383,158	71,2711	37835	42,938
5	1195664064	6680750,667	62,4738	56600	36,9615
6	1195388784	6488559,095	61,8643	39247,619	36,8857
average*	**1197178102**	**6697939,915**	**65,37838**	**33085,09522**	**39,30008**

HOME MARKET					
17. CRH PLC	SHARES OUTSTANDING	TRADING VOLUME	SHARE PRICE		
	6 months before ADR listing	6 months before listing	6 months before listing		
1	534035382	1081544,857	21,7271		
2	534184607,7	1080784,727	22,1655		
3	534426547,3	1263867,5	23,778		
4	534496140	1054365,571	25,559		
5	534496140	987946,4	26,687		
6	534500313,3	1033348,478	27,9091		
average*	**534327763,4**	**1093701,811**	**23,98332**	US MARKET	
	6monthes after ADR listing	6monthes after ADR listing	6monthes after ADR listing	TRADING VOLUME	SHARE PRICE
1	538087216,4	1088964,833	28,5922	38447,3684	35,6847
2	539156377,9	983809,7727	27,355	21577,2727	35,5805
3	540203728,8	1104086,429	24,6729	23218,1818	31,8014
4	540214699	1125894,238	25,8562	17250	33,3907
5	540214699	1312681,826	25,6878	17086,9565	33,3983
6	540214699	1228882,546	26,9855	51200	34,8095
average*	**540000840,7**	**1151070,962**	**26,11148**	**26066,4822**	**33,79608**

HOME MARKET					
18. DELHAIZE GROUP	SHARES OUTSTANDING	TRADING VOLUME	SHARE PRICE		
	6 months before ADR listing	6 months before listing	6 months before listing		
1	52025125	124428,4762	53,6095		
2	52025125	193406,4	49,4445		
3	52029415	183944,65	50,5955		
4	52031725	207040,9048	58,0762		
5	52031725	158127,85	59,705		
6	52031725	153941	59,069		
average*	**52028623**	**173389,6562**	**54,28614**	US MARKET	
	6monthes after ADR listing	6monthes after ADR listing	6monthes after ADR listing	TRADING VOLUME	SHARE PRICE
1	93691656	346570,65	62,5375	118823,8095	54,7314
2	92498206,76	324927,3333	68,1524	71385,7143	57,8667
3	92217654	217450,7273	68,0023	53676,1905	57,9938
4	92217654	161026,0455	66,2705	34740,9091	58,9323
5	92217654	184809,5455	60,0864	27529,4118	54,6071
6	92217654	174091,6522	62,6565	20286,9565	56,7035
average*	**92273764,55**	**212461,0608**	**65,03362**	**41523,83644**	**57,22068**

HOME MARKET					
19. DR REDDY's LABORATORIES LTD	SHARES OUTSTANDING	TRADING VOLUME	SHARE PRICE		
	6 months before ADR listing	6 months before listing	6 months before listing		
1	26487338	112039,5455	1399,8409		
2	26487338	151787,1905	1381,3119		
3	26487338	130879,3333	1308,1071		
4	28430782,57	113455,7143	1324,9619		
5	31588880	98793,4737	1314,8342		
6	31588880	94565,6667	1210,1905		
average*	**27896335,31**	**121391,0515**	**1345,8112**	US MARKET	
	6monthes after ADR listing	6monthes after ADR listing	6monthes after ADR listing	TRADING VOLUME	SHARE PRICE
1	31588880	47236,45	1098,2575	267000	11,6652
2	31588880	100350,6667	1347,3619	153015	14,612
3	35195698,18	90053,5909	1536,3659	163000	17,5029
4	38201380	137088,2273	1690	336513,6364	21,5232
5	38512350,25	227560,25	1808,845	285385	23,297
6	42126553,09	324062,1818	1716,2659	281085	20,6145
average*	**37124972,3**	**175822,9833**	**1619,76774**	**243799,7273**	**19,50992**

HOME MARKET					
20. ECOPETROL SA	SHARES OUTSTANDING	TRADING VOLUME	SHARE PRICE		
	6 months before ADR listing	6 months before listing	6 months before listing		
1	36384788817	16477480,65	2155,25		
2	36384788817	37647027,89	2613,1579		
3	36384788817	21691350,2	2791,5		
4	36968716194	17309906,33	2606,4286		
5	40472280453	15953528,9	2478,5		
6	40472280453	23267787,82	2576,8182		
average*	**37319072620**	**21815858,8**	**2528,9673**	US MARKET	
	6monthes after ADR listing	6monthes after ADR listing	6monthes after ADR listing	TRADING VOLUME	SHARE PRICE
1	40472280453	26128434,05	2451,25	65271,4286	22,7294
2	40472280453	22510013,89	1990,7895	24627,2727	17,2082
3	40472390993	18998120,33	2001,1905	10628,5714	17,3788
4	40472512588	9974675,5	2022,7778	66205,2632	18,6211
5	40472512588	10997601,23	2065	49771,4286	17,2922
6	40472512588	10429818,24	2070,7143	32776,1905	16,421
average*	**40472441842**	**14582045,84**	**2030,09442**	**36801,74528**	**17,38426**

HOME MARKET					
21. EMPRESAS ICA SAB DE CV	SHARES OUTSTANDING	TRADING VOLUME	SHARE PRICE		
	6 months before ADR listing	6 months before listing	6 months before listing		
1	1865054114	9422362,955	4,4177		
2	1890466685	36114552,77	4,5395		
3	2412624466	12289869	4,3477		
4	2412624466	13114054,67	4,1043		
5	2412624466	10795176,32	4,035		
6	2412624466	16026932,15	4,327		
average*	**2198678839**	**16347203,14**	**4,28884**	US MARKET	
	6monthes after ADR listing	6monthes after ADR listing	6monthes after ADR listing	TRADING VOLUME	SHARE PRICE
1	402104077	3019607,435	26,6457	34766,6667	30,111
2	402104077	2790430,35	31,045	33050	35,652
3	402601975,9	2908349,7	31,119	27273,6842	35,3384
4	402657298	2029509,762	32,4143	18326,087	35,6143
5	402657298	2451260,579	35,0332	22295	38,144
6	402657298	2582097,261	34,7296	59800	36,99
average*	**402535589,4**	**2552329,53**	**32,86822**	**32148,95424**	**36,34774**

HOME MARKET					
22. FIBRIA CELULOSE SA	SHARES OUTSTANDING	TRADING VOLUME	SHARE PRICE		
	6 months before ADR listing	6 months before listing	6 months before listing		
1	95658964	721572,2222	10,465		
2	95658964	972795,2381	12,4714		
3	95658964	1882242,105	19,9116		
4	192630043,8	1094245,455	22,6022		
5	244347953	861295	20,9905		
6	265178867,1	1112427,273	26,2441		
average*	**144790977,8**	**1106430,004**	**17,28814**	US MARKET	
	6monthes after ADR listing	6monthes after ADR listing	6monthes after ADR listing	TRADING VOLUME	SHARE PRICE
1	390164352	1147936,364	29,0217	1129586,364	15,8309
2	390164352	790852,6316	29,414	825795,2381	16,7333
3	390164352	1061009,091	26,6191	1554645,455	15,3373
4	390164352	1666261,905	31,9309	1354000	18,7305
5	390164352	1207352,941	38,785	1189505,263	22,5553
6	432289927,9	1398133,333	35,2979	1412477,273	19,3591
average*	**398589467,2**	**1224721,98**	**32,40938**	**1267284,646**	**18,5431**

HOME MARKET					
23. GAFISA SA	SHARES OUTSTANDING	TRADING VOLUME	SHARE PRICE		
	6 months before ADR listing	6 months before listing	6 months before listing		
1	111458597	135963,1579	28,22		
2	111481310,9	327223,8095	31,6648		
3	111511596	246100	31,307		
4	111511596	283468,4211	31,0711		
5	112864456,9	302545,4545	30,8441		
6	113007438	416338,8889	30,0539		
average*	**111765511,4**	**259060,1686**	**30,6214**	US MARKET	
	6monthes after ADR listing	6monthes after ADR listing	6monthes after ADR listing	TRADING VOLUME	SHARE PRICE
1	131769430	882685	26,892	770580	26,373
2	131769430	660633,3333	29,5871	263754,5455	29,1318
3	131769430	585252,381	32,2138	327452,381	33,0105
4	132324153	1404445	31,3615	331260	32,8595
5	132382398	1059365,217	28,7865	396426,087	30,4917
6	132383815,7	1327333,333	24,871	417857,1429	25,2876
average*	**132125845,3**	**1007405,853**	**29,36398**	**347350,0313**	**30,15622**

HOME MARKET					
24. GOLD FIELDS LTD	SHARES OUTSTANDING	TRADING VOLUME	SHARE PRICE		
	6 months before ADR listing	6 months before listing	6 months before listing		
1	458328419,7	1671988,286	46,2405		
2	468614134	1353083,833	58		
3	468782348,8	2036527,182	70,0773		
4	469354279	2037732,55	94,645		
5	469354279	1709543,105	103,9105		
6	469411711,6	2236033,476	126,5143		
average*	**466886692,1**	**1761774,991**	**74,57466**	US MARKET	
	6monthes after ADR listing	6monthes after ADR listing	6monthes after ADR listing	TRADING VOLUME	SHARE PRICE
1	469463923	2514788,546	146,0773	3663609,524	14,6505
2	469463923	2736405,1	125,029	3137940	12,213
3	469463923	2395553,455	116,9882	3159308,696	11,3543
4	469463923	1410637,381	118,8405	1985190	11,34
5	469463923	2075447,429	135,7833	2546027,273	12,9482
6	469463923	1849965	111,7843	1855552,174	10,9913
average*	**469463923**	**2093601,673**	**121,68506**	**2536803,628**	**11,76936**

HOME MARKET					
25. HARMONY GOLD MINING CO LTD	SHARES OUTSTANDING	TRADING VOLUME	SHARE PRICE		
	6 months before ADR listing	6 months before listing	6 months before listing		
1	168073045	1622504,955	152,5395		
2	168073045	1250473,857	147,689		
3	168073045	830413,7143	128,0581		
4	168073045	1410845,091	163,7668		
5	168073045	890093,2381	147,0071		
6	172072332,3	660775,4545	139,21		
average*	**168073045**	**1200866,171**	**147,8121**	US MARKET	
	6monthes after ADR listing	6monthes after ADR listing	6monthes after ADR listing	TRADING VOLUME	SHARE PRICE
1	174428453	1385338,474	136,6074	1913615	15,6475
2	174428453	819059,7	147,0265	1839452,632	16,9958
3	181018955,3	1112325	126,4852	1961450	15,0291
4	183950257,9	895707,7368	102,5574	1436880	12,6125
5	184130100	770858,3158	92,3842	1335662,326	11,921
6	184141271,9	2060820,381	92,0519	1445679,429	12,0705
average*	**181533807,6**	**1131754,227**	**112,10104**	**1603824,877**	**13,72578**

HOME MARKET					
26. HDFC BANK LTD	SHARES OUTSTANDING	TRADING VOLUME	SHARE PRICE		
	6 months before ADR listing	6 months before listing	6 months before listing		
1	243278260,0000	208449,2	255,4325		
2	243278260	171704,5263	250,0158		
3	243278260	81453,2381	231,081		
4	243484960	46164,75	236,2725		
5	243596260	96723,7273	228,1114		
6	243596260	73542,4706	213,7833		
average*	**243409435**	**120899,0883**	**240,18264**	US MARKET	
	6monthes after ADR listing	6monthes after ADR listing	6monthes after ADR listing	TRADING VOLUME	SHARE PRICE
1	243786760	41953,5	231,495	210133,3333	15,2643
2	262496086	38869,8182	227,7477	83677,7778	15,7617
3	281205412	183496,85	217,1425	66104,7619	14,3457
4	281323402	112365,25	220,8525	59968,1818	14,6336
5	281329612	188482,95	225,4325	69161,9048	13,3157
6	281329612	52901,85	226,245	29840	14,704
average*	**277536824,8**	**115223,3436**	**223,48404**	**61750,52526**	**14,55214**

HOME MARKET					
27. ICICI BANK LTD	SHARES OUTSTANDING	TRADING VOLUME	SHARE PRICE		
	6 months before ADR listing	6 months before listing	6 months before listing		
1	622522473	566979,619	84,919		
2	746795078	332885,3684	79,385		
3	771388709,9	807081,5238	93,3857		
4	785311548	1167102	116,6048		
5	785311548	981459,0952	145,9595		
6	785311548	983789	155,6895		
average*	**742265871,4**	**771101,5213**	**104,0508**	US MARKET	
	6monthes after ADR listing	6monthes after ADR listing	6monthes after ADR listing	TRADING VOLUME	SHARE PRICE
1	785311548	458105,1905	134,1881	229381,8182	22,0994
2	255668146,8	471641,9474	115,9425	94104,7619	18,3862
3	196818880	644570,0909	134,525	109166,6667	18,8006
4	196818880	425157,3636	134,0227	171919,0476	17,1726
5	285097055,2	451801	115,1975	156780,9524	14,369
6	785340048	827597,4783	111,1478	139086,9565	13,2554
average*	**343948602**	**564153,576**	**122,1671**	**134211,677**	**16,39676**

HOME MARKET					
28. INTERCONTINENTAL HOTELS GRP	SHARES OUTSTANDING	TRADING VOLUME	SHARE PRICE		
	6 months before ADR listing	6 months before listing	6 months before listing		
1	355031811,9	3489718,25	11,5588		
2	356263073,1	6417429,182	12,5064		
3	356064369,8	4924506	12,662		
4	354702165,3	3769362,409	12,3982		
5	355024717,8	4309351,45	12,5345		
6	355802217,4	6762841,895	13,1784		
average*	**355417227,6**	**4582073,458**	**12,33198**	US MARKET	
	6monthes after ADR listing	6monthes after ADR listing	6monthes after ADR listing	TRADING VOLUME	SHARE PRICE
1	301686968,5	4261578,591	13,0709	90454,5455	26,0259
2	298943981	4031456,818	12,2991	214466,6667	25,0067
3	299408548,9	3776323,429	10,6262	135847,619	21,4857
4	298269085,7	5276611,636	9,7455	232504,5455	19,8045
5	297225060,5	3183510,955	10,6518	173868,1818	21,853
6	295397449,1	3024134,364	9,5014	139474,2857	19,6886
average*	**297848825**	**3858407,44**	**10,5648**	**179232,2597**	**21,5677**

HOME MARKET					
29. JAMES HARDIE INDUSTRIES SE	SHARES OUTSTANDING	TRADING VOLUME	SHARE PRICE		
	6 months before ADR listing	6 months before listing	6 months before listing		
1	415771082	865975,5556	4,6851		
2	415771082	7048384,5	4,9113		
3	415771082	1608716,667	5,4815		
4	430089263,8	1555498,864	5,8027		
5	450771082	1094154,182	5,2285		
6	450771082	1520759	4,387		
average*	**425634718,4**	**2434545,954**	**5,22182**	US MARKET	
	6monthes after ADR listing	6monthes after ADR listing	6monthes after ADR listing	TRADING VOLUME	SHARE PRICE
1	450820034,2	1000476,95	4,6067	100	-3,7289
2	450852745,1	1630991,429	5,316	175	-5,303
3	450978495,9	2355749,889	5,98	457,8947	2,3174
4	451068776,2	1622163,182	6,1485	359,0909	-0,0136
5	451180101,8	1458099,95	6,1245	745	5,125
6	454143169	1207613,85	6,3577	404,7619	8,9833
average*	**451644657,6**	**1654923,66**	**5,98534**	**428,3495**	**2,22182**

HOME MARKET					
30. KB FINANCIAL GROUP	SHARES OUTSTANDING	TRADING VOLUME	SHARE PRICE		
	6 months before ADR listing	6 months before listing	6 months before listing		
1	336379116	2339648	63805		
2	336379116	1918900,632	66731,5789		
3	336379116	1732214,952	62628,5714		
4	336379116	2869289,095	57757,1429		
5	336379116	2290450,591	58859,0909		
6	336379116	4221037,611	57050		
average*	**336379116**	**2230100,654**	**61956,27682**	US MARKET	
	6monthes after ADR listing	6monthes after ADR listing	6monthes after ADR listing	TRADING VOLUME	SHARE PRICE
1	336379116	4484435	42396,1538	808872,7273	34,5141
2	336379116	5013455,818	30622,7273	925661,9048	22,019
3	341372260,3	3031844,9	32975	616685	23,996
4	356351693	2573686,211	35794,7368	522719,0476	26,2538
5	356351693	2831129,286	32407,1429	687420	22,463
6	356351693	3533532,524	31607,1429	891519,0476	21,7943
average*	**349361291,1**	**3396729,748**	**32681,34998**	**728801**	**23,30522**

HOME MARKET					
31. KONAMI CORP	SHARES OUTSTANDING	TRADING VOLUME	SHARE PRICE		
	6 months before ADR listing	6 months before listing	6 months before listing		
1	128737566	383885	3061,25		
2	128737566	956850	2892,75		
3	128737566	543995,2381	2692,619		
4	128737566	333131,8182	2519,5455		
5	128737566	556047,8261	2620,2174		
6	128737566	624742,1053	3023,9474		
average*	**128737566**	**554781,9765**	**2757,27638**	US MARKET	
	6monthes after ADR listing	6monthes after ADR listing	6monthes after ADR listing	TRADING VOLUME	SHARE PRICE
1	128737566	501128,5714	2946,9048	5900	19,8998
2	128737566	428147,619	2976,1905	5823,8095	24,6433
3	128737566	383695	2888	1880	23,771
4	128737566	367788,8889	2645,8333	2114,2857	20,3
5	128737566	339965	2549,75	1095	21,287
6	128737566	732425	2055,7	2785,7143	15,8788
average*	**128737566**	**450404,3016**	**2623,09476**	**2739,7619**	**21,17602**

HOME MARKET					
32. LOYDS BANKING GROUP PLC	SHARES OUTSTANDING	TRADING VOLUME	SHARE PRICE		
	6 months before ADR listing	6 months before listing	6 months before listing		
1	5502000000	14191752,43	7,1652		
2	5502000000	17646360,5	6,8043		
3	5502000000	15303357	7,2774		
4	5502000000	21769504,68	6,7061		
5	5502000000	22076646,67	6,8921		
6	5507657708	19044589,09	7,2148		
average*	**5502000000**	**18197524,26**	**6,96902**	US MARKET	
	6monthes after ADR listing	6monthes after ADR listing	6monthes after ADR listing	TRADING VOLUME	SHARE PRICE
1	5564234792	15464909,8	7,226	114609,5238	42,281
2	5564234792	15614717,33	7,3631	86960	43,289
3	5564234792	24771915,91	7,4798	62495,2381	43,3795
4	5564234792	23621254,4	7,194	36145	41,805
5	5564234792	20008395,45	7,382	26938,0952	43,019
6	5564234792	17324809,43	7,754	25385,7143	45,9476
average*	**5564234792**	**20268218,5**	**7,43458**	**47584,80952**	**43,48802**

HOME MARKET					
33. MAHANAGAR TELEPHONE NIGAM	SHARES OUTSTANDING	TRADING VOLUME	SHARE PRICE		
	6 months before ADR listing	6 months before listing	6 months before listing		
1	630000000	638292,45	149,445		
2	630000000	693966,7727	135,2182		
3	630000000	254781,7059	124,8524		
4	630000000	207046,4	119,8975		
5	630000000	234759,0909	117,6455		
6	630000000	241247,6667	127,7667		
average*	**630000000**	**405769,2839**	**129,41172**	US MARKET	
	6monthes after ADR listing	6monthes after ADR listing	6monthes after ADR listing	TRADING VOLUME	SHARE PRICE
1	630000000	291562,7368	137,3842	1775	1,2158
2	630000000	286701,3684	137,4737	58823,8095	4,244
3	630000000	282179,0476	124,4071	61775	5,6525
4	630000000	906095,3182	142,9159	126033,3333	6,111
5	630000000	850969,5789	151,3868	65410	6,2145
6	630000000	448415,1739	144,9217	83078,2609	4,8761
average*	**630000000**	**554872,0974**	**140,22104**	**79024,08074**	**5,41962**

HOME MARKET					
34. MIZUHO FINANCIAL GROUP INC	SHARES OUTSTANDING	TRADING VOLUME	SHARE PRICE		
	6 months before ADR listing	6 months before listing	6 months before listing		
1	12003995	78596,0435	944347,8261		
2	12003995	90547,8571	911285,7143		
3	11872195	76846,7143	956904,7619		
4	11872195	50020,1739	952608,6957		
5	11872195	59951,85	909550		
6	11872195	64560,5	919250		
average*	**11924915**	**71192,52776**	**934939,3996**	US MARKET	
	6monthes after ADR listing	6monthes after ADR listing	6monthes after ADR listing	TRADING VOLUME	SHARE PRICE
1	11872195	95944,381	841142,8571	37638,0952	14,5363
2	11872195	54499,1667	847777,7778	30088,8889	14,4794
3	11872195	83332,9545	879636,3636	25027,2727	14,6334
4	11872195	88457,6842	849842,1053	36543	14,2508
5	11872195	81866,1905	774714,2857	94366,6667	13,2671
6	11872195	69306,3684	747894,7368	43690,9091	12,61
average*	**11872195**	**75492,47286**	**819973,0538**	**45943,34748**	**13,84814**

HOME MARKET					
35. NATIONAL GRID PLC	SHARES OUTSTANDING	TRADING VOLUME	SHARE PRICE		
	6 months before ADR listing	6 months before listing	6 months before listing		
1	3089496002	9010545,4	5,2445		
2	3089910951	12395718,43	4,9473		
3	3089910951	15902577,95	5,0064		
4	3090155973	13217774,15	5,2138		
5	3090248790	14300866,09	5,3451		
6	3090248790	19763658,38	5,254		
average*	**3089944533**	**12965496,4**	**5,15142**	US MARKET	
	6monthes after ADR listing	6monthes after ADR listing	6monthes after ADR listing	TRADING VOLUME	SHARE PRICE
1	2712687779	11724371,36	5,2041	80917,3913	47,0478
2	2712727627	14516691,41	5,4473	72523,8095	49,3014
3	2712727627	12731638,76	5,1845	56004,7619	45,7524
4	2712727627	12481996,68	5,348	53228,5714	46,4943
5	2712727627	9031968,7	5,5575	63719,0476	48,5524
6	2712727627	12063666,41	5,6461	76328,5714	49,94
average*	**2712727627**	**12165192,39**	**5,43668**	**64360,95236**	**48,0081**

HOME MARKET					
36. NIDEC CORP	SHARES OUTSTANDING	TRADING VOLUME	SHARE PRICE		
	6 months before ADR listing	6 months before listing	6 months before listing		
1	63541490	162665,2174	5910,4348		
2	63546919,67	228427,7778	7127,2222		
3	63549105,64	135513,6364	7214,0909		
4	63551156	130180,9524	6047,1429		
5	63551386,14	171476,1905	5097,619		
6	63552767	119063,6364	4060,4545		
average*	**63548011,49**	**165652,7549**	**6279,30196**	US MARKET	
	6monthes after ADR listing	6monthes after ADR listing	6monthes after ADR listing	TRADING VOLUME	SHARE PRICE
1	63552767	89975	4409	8885,7143	36,3543
2	63552767	311957,1429	5406,6667	4580,9524	39,6619
3	63552767	363557,1429	6992,8571	2738,0952	39,649
4	63558831,94	285005,8824	7434,1176	12995	49,5355
5	63559211	257738,0952	8082,8571	12747,619	59,6405
6	63559591,35	165410	8927	7590,4762	67,831
average*	**63556633,66**	**276733,6527**	**7368,6997**	**8130,42856**	**51,26358**

HOME MARKET					
37. NOMURA HOLDINGS INC	SHARES OUTSTANDING	TRADING VOLUME	SHARE PRICE		
	6 months before ADR listing	6 months before listing	6 months before listing		
1	1962979700	5103428,571	2298,3333		
2	1962980444	7110545,455	2105,4545		
3	1962980444	6262380,952	2062,1905		
4	1962980444	7737300	1638,15		
5	1962980444	5353545,455	1706,7727		
6	1962980444	5399250	1742,05		
average*	**1962980295**	**6313440,087**	**1962,1802**	US MARKET	
	6monthes after ADR listing	6monthes after ADR listing	6monthes after ADR listing	TRADING VOLUME	SHARE PRICE
1	1964536605	4198882,353	1631,5882	79738,8889	12,3606
2	1965919860	9188571,429	1440,5238	80442,8571	10,7748
3	1965919860	11165150	1625,9	22957,8947	12,4663
4	1965919860	5818571,429	1730,4286	12828,5714	13,2248
5	1965919860	4434105,263	1831,7895	14745,4545	14,3623
6	1965919860	9151227,273	2036,9091	31761,9048	16,421
average*	**1965919860**	**7951525,079**	**1733,1102**	**32547,3365**	**13,44984**

HOME MARKET					
38. NOVARTIS AG	SHARES OUTSTANDING	TRADING VOLUME	SHARE PRICE		
	6 months before ADR listing	6 months before listing	6 months before listing		
1	72130117	240719,5	2406,5		
2	72130117	186540	2302,4211		
3	72130117	197374,5217	2171,6522		
4	72130117	197099,85	2101,8		
5	72130117	231387,7727	2188,0455		
6	72130117	215183,2632	2393,7368		
average*	**72130117**	**210624,3289**	**2234,08376**	US MARKET	
	6monthes after ADR listing	6monthes after ADR listing	6monthes after ADR listing	TRADING VOLUME	SHARE PRICE
1	72130117	226286,35	2475,2	248047,5714	36,6786
2	72130117	195888,1905	2529,1429	363985	38,9031
3	72130117	155505,5	2594	264247,8261	38,8614
4	72130117	141491,7143	2635,381	146495	38,2
5	72130117	159386,3182	2649,7727	112063,6364	37,9119
6	72130117	160381,6522	2724,3043	188469,5652	38,6957
average*	**72130117**	**162530,675**	**2626,52018**	**215052,2055**	**38,51442**

HOME MARKET					
39. NTT DOCOMO INC	SHARES OUTSTANDING	TRADING VOLUME	SHARE PRICE		
	6 months before ADR listing	6 months before listing	6 months before listing		
1	10036000	21992,0526	1396315,79		
2	10036000	19969,4091	1687272,727		
3	10036000	18703,6667	1622857,143		
4	10036000	14470,3158	1537894,737		
5	10036000	14305,5789	1432631,579		
6	10036000	14792,8947	1393684,211		
average*	**10036000**	**17888,20462**	**1535394,395**	US MARKET	
	6monthes after ADR listing	6monthes after ADR listing	6monthes after ADR listing	TRADING VOLUME	SHARE PRICE
1	18064800	51018,6	1391600	47235	64,194
2	50180000	78380,0476	340666,6667	23704,5455	64,5586
3	50180000	70350,381	324190,4762	17581,8182	51,7868
4	50180000	74139,7	303400	35695	24,4775
5	50180000	81132,2174	266521,7391	24422,7273	22,4636
6	50180000	58026,9091	267090,9091	15727,2727	22,4645
average*	**50180000**	**72405,85102**	**300373,9582**	**23426,27274**	**37,1502**

HOME MARKET					
40. PAMPA ENERGIA SA	SHARES OUTSTANDING	TRADING VOLUME	SHARE PRICE		
	6 months before ADR listing	6 months before listing	6 months before listing		
1	1526194242	1776901,667	0,9847		
2	1526194242	1864785,333	1,1018		
3	1526194242	1757724,571	1,185		
4	1526194242	3460142,55	1,2741		
5	1526194242	3230943,762	1,4527		
6	1526194242	5751198	1,7723		
average*	**1526194242**	**2418099,577**	**1,19966**	US MARKET	
	6monthes after ADR listing	6monthes after ADR listing	6monthes after ADR listing	TRADING VOLUME	SHARE PRICE
1	1526194242	3791866,056	1,8024	88919,0476	11,9571
2	1526194242	1680840,952	1,6527	21523,8095	10,9284
3	1526194242	2242091,778	1,701	85685	11,1597
4	1526194242	1672565,591	1,695	42438,0952	11,1252
5	1526194242	1373813,45	1,713	71052,6316	11,0216
6	1526194242	1855234,667	1,7454	36404,3478	11,3022
average*	**1526194242**	**1764909,288**	**1,70142**	**51420,77682**	**11,10742**

HOME MARKET					
41. PÄTNI COMPUTER SYSTEMS	SHARES OUTSTANDING	TRADING VOLUME	SHARE PRICE		
	6 months before ADR listing	6 months before listing	6 months before listing		
1	125090984	140527,7273	352,2432		
2	125101311,5	243582,45	360,93		
3	125113387,6	296783,5714	394,331		
4	125122322,1	504548,8095	446,7286		
5	125201865,6	213748,6842	458,2211		
6	125309155,4	209832,6667	456,6143		
average*	**125125974,1**	**279838,2485**	**402,49078**	US MARKET	
	6monthes after ADR listing	6monthes after ADR listing	6monthes after ADR listing	TRADING VOLUME	SHARE PRICE
1	125344384	388607,4091	481,9523	408570	22,909
2	129038134	266874,4	473,1375	110604,7619	23,3648
3	137790950,8	296910,8947	473,0868	57984,2105	24,1463
4	137825146,1	554046,35	466,16	154018,1818	22,3541
5	137867090,5	542628,2222	417,3722	204715	18,635
6	137884487,6	253067,0417	357,5896	182465,2174	15,7957
average*	**136081161,8**	**382705,3817**	**437,46922**	**141957,4743**	**20,85918**

HOME MARKET					
42. PEARSON PLC	SHARES OUTSTANDING	TRADING VOLUME	SHARE PRICE		
	6 months before ADR listing	6 months before listing	6 months before listing		
1	624000000	2155394,217	23,1896		
2	624944444,4	2382421,375	20,5694		
3	625000000	2004679,048	20,2519		
4	625000000	1728605,227	21,3355		
5	625000000	2386355,333	20,0052		
6	740909090,9	3209533,136	18,2514		
average*	**624788888,9**	**2131491,04**	**21,07032**	US MARKET	
	6monthes after ADR listing	6monthes after ADR listing	6monthes after ADR listing	TRADING VOLUME	SHARE PRICE
1	795285714,3	2910406,667	19,2652	13015	28,1625
2	796000000	2160646,318	17,6686	17890,9091	26,2273
3	796000000	2670954,909	17,0382	13080,9524	24,9554
4	796000000	3082481,895	16,3537	14090	24,3094
5	796000000	3185833,273	16,2618	13433,3333	24,625
6	796000000	2904679,857	15,3129	14025	22,766
average*	**796000000**	**2800919,25**	**16,52704**	**14504,03896**	**24,57662**

HOME MARKET					
43. PETROBAS-PETROLEO BRASILIER	SHARES OUTSTANDING	TRADING VOLUME	SHARE PRICE		
	6 months before ADR listing	6 months before listing	6 months before listing		
1	45193566978	96301578,95	456,5474		
2	45193566978	91078095,24	474,7429		
3	45193566978	119570000	439,1205		
4	45193566978	106221363,6	441,3686		
5	20585669758	51450326,32	255,801		
6	451935669	1931800	48,5343		
average*	**40271987534**	**92924272,83**	**413,51608**	US MARKET	
	6monthes after ADR listing	6monthes after ADR listing	6monthes after ADR listing	TRADING VOLUME	SHARE PRICE
1	451935669	1702528,571	52,9876	3403122,571	30,3929
2	451935669	1049433,333	53,3248	972847,2857	30,253
3	451935669	1331842,857	50,2805	876260,6087	29,0163
4	451935669	1125340	49,2025	858354,95	27,1156
5	451935669	1234289,474	46,8963	893345	25,6313
6	451935669	1081522,727	53,7955	818200	28,2428
average*	**451935669**	**1164485,678**	**50,69992**	**883801,5689**	**28,0518**

HOME MARKET					
44. PROMOTORA DE INFORMACIONES	SHARES OUTSTANDING	TRADING VOLUME	SHARE PRICE		
	6 months before ADR listing	6 months before listing	6 months before listing		
1	219135500	943271,381	2,0195		
2	219135500	548106,1364	2,1091		
3	219135500	966772,0909	1,9589		
4	219135500	742345,4545	1,6782		
5	219135500	673772	1,7457		
6	219135500	1107875,143	1,8731		
average*	**219135500**	**774853,4126**	**1,90228**	US MARKET	
	6monthes after ADR listing	6monthes after ADR listing	6monthes after ADR listing	TRADING VOLUME	SHARE PRICE
1	403108198,2	4632347,619	1,572	1352082,353	8,0976
2	443991020	5365318,952	1,6661	965885,7143	8,8267
3	444073007,9	3428589,667	2,0395	234415	11,078
4	444260108,1	3788636,286	2,0398	81080,9524	11,3529
5	444352281	4177883	2,038	26477,2727	11,8365
6	444773502,5	1726031,9	1,8315	87514,2857	10,5384
average*	**444289983,9**	**3697291,961**	**1,92298**	**279074,645**	**10,7265**

HOME MARKET					
45. PRUDENTENTIAL PLC	SHARES OUTSTANDING	TRADING VOLUME	SHARE PRICE		
	6 months before ADR listing	6 months before listing	6 months before listing		
1	1952500000	4752724,65	11,149		
2	1954000000	9656325,667	10,0381		
3	1954000000	5303563,571	9,6043		
4	1954238095	5265720,75	9,5767		
5	1959000000	4226485,105	9,6216		
6	1960181818	5143020,136	9,8068		
average*	**1954747619**	**5840963,949**	**9,99794**	US MARKET	
	6monthes after ADR listing	6monthes after ADR listing	6monthes after ADR listing	TRADING VOLUME	SHARE PRICE
1	1973863636	7114565,046	9,7177	180742,8095	28,8571
2	1979142857	6976409,524	9,4381	36828,5714	27,8929
3	1980000000	8361135,409	9,2225	16109,0909	26,2358
4	1980000000	6460915,191	9,1964	17719,0476	26,4077
5	1980000000	8323647,727	9,9557	29647,619	28,1637
6	1980000000	5701790,191	10,7857	9263,6364	31,0824
average*	**1979828571**	**7164779,608**	**9,71968**	**21913,59306**	**27,9565**

HOME MARKET					
46. REED ELSEVIER NV	SHARES OUTSTANDING	TRADING VOLUME	SHARE PRICE		
	6 months before ADR listing	6 months before listing	6 months before listing		
1	757611345,3	4040502,381	13,85		
2	759180783	4143104,348	12,99		
3	759180783	2711820,619	13,2633		
4	759180783	3089259,273	13,1232		
5	759620373,9	3947345,136	12,2709		
6	759868732,5	3909936	13,2594		
average*	**758954813,6**	**3586406,351**	**13,09948**	US MARKET	
	6monthes after ADR listing	6monthes after ADR listing	6monthes after ADR listing	TRADING VOLUME	SHARE PRICE
1	658113305,1	4778698,217	12,337	107700	36,3759
2	658127218	4562512,714	11,9962	206155	35,704
3	658127218	4015910,632	12,1858	104420	38,077
4	658999570	2898766,476	12,1576	57490,9091	38,1886
5	659435746	3034381,818	12,06	113761,9048	37,5814
6	659435746	3492982,546	10,9577	82157,1429	34,1519
average*	**658825099,6**	**3600910,837**	**11,87146**	**112796,9914**	**36,74058**

HOME MARKET					
47. REED ELSEVIER PLC	SHARES OUTSTANDING	TRADING VOLUME	SHARE PRICE		
	6 months before ADR listing	6 months before listing	6 months before listing		
1	1280378732	8866503,524	6,2993		
2	1275821443	8510667,409	5,9302		
3	1269860721	7682523,95	6,126		
4	1269018375	6228389,5	6,1227		
5	1268771280	7371140,091	5,9186		
6	1269041811	7642453,111	6,5403		
average*	**1272770110**	**7731844,895**	**6,07936**	US MARKET	
	6monthes after ADR listing	6monthes after ADR listing	6monthes after ADR listing	TRADING VOLUME	SHARE PRICE
1	1106912348	10050554,14	6,147	105495,4545	48,4591
2	1099897382	8170697,476	6,1107	84245	48,1495
3	1100322862	7641409	6,3797	100505	51,193
4	1100368849	4513398,714	6,4671	52081,8182	51,2355
5	1100803796	4920856	6,4188	50161,9048	50,3357
6	1101342613	5934438,546	5,8836	112028,5714	46,3181
average*	**1100547100**	**6236159,947**	**6,25198**	**79804,45888**	**49,44636**

HOME MARKET					
48. RENESOLA LTD	SHARES OUTSTANDING	TRADING VOLUME	SHARE PRICE		
	6 months before ADR listing	6 months before listing	6 months before listing		
1	100000032	1285955,095	3,6648		
2	100000032	1344993,773	2,737		
3	100000032	1008543,095	3,5558		
4	100000032	657955,087	4,1958		
5	100000032	620492,8947	4,1211		
6	100000032	686822,7619	4,3617		
average*	**100000032**	**983587,989**	**3,6549**	US MARKET	
	6monthes after ADR listing	6monthes after ADR listing	6monthes after ADR listing	TRADING VOLUME	SHARE PRICE
1	114546923,3	752464,5652	3,0008	1088477,273	11,9391
2	118485032	686240,2222	2,3701	613647,3684	9,4116
3	118485032	867561,3636	3,5649	1739759,091	14,3132
4	118485032	853035,75	5,4133	4055752,381	21,3481
5	121965010,2	547868,4091	5,4127	4388309,091	20,9864
6	137624912	542609,9091	3,8194	2987552,381	15,1405
average*	**123009003,6**	**699463,1308**	**4,11608**	**2757004,062**	**16,23996**

HOME MARKET					
49. SANOFI	SHARES OUTSTANDING	TRADING VOLUME	SHARE PRICE		
	6 months before ADR listing	6 months before listing	6 months before listing		
1	731984390,4	1827806,818	80,0977		
2	732005084	3313153,25	73,4375		
3	732005084	1806098	72,6125		
4	732005084	1995945,762	69,8286		
5	732005084	1856842,591	68,1659		
6	732109378	3523323,35	58,4225		
average*	**732000945,3**	**2159969,284**	**72,82844**	US MARKET	
	6monthes after ADR listing	6monthes after ADR listing	6monthes after ADR listing	TRADING VOLUME	SHARE PRICE
1	732111314	2647348,826	57,6543	110481,8182	28,7291
2	732147447,1	1802958,909	62,6023	81622,7273	30,7977
3	732175917	2357017,857	56,8929	109400	28,1095
4	732301034,4	2259187,696	60,4326	74256,5217	29,8126
5	732342483,7	1800608,381	59,4548	49555	29,7905
6	732350387	1746334,65	57,1025	51385,7143	29,2457
average*	**732263453,8**	**1993221,499**	**59,29702**	**73243,99266**	**29,5512**

HOME MARKET					
50. SASOL LTD	SHARES OUTSTANDING	TRADING VOLUME	SHARE PRICE		
	6 months before ADR listing	6 months before listing	6 months before listing		
1	667909161,4	1266745,682	109,2259		
2	668055153,6	1022225,619	106,3933		
3	668204646,1	1086752,684	101,9584		
4	668236643,2	1589065,636	96,3045		
5	668244360	1350826,95	89,989		
6	668358129,8	1502472,048	87,5519		
average*	**668129992,8**	**1263123,314**	**100,77422**	US MARKET	
	6monthes after ADR listing	6monthes after ADR listing	6monthes after ADR listing	TRADING VOLUME	SHARE PRICE
1	668491697,2	1827583,833	80,0994	35319,0476	10,8452
2	668565386,9	1494676,952	89,4048	39245	11,5105
3	668758086,9	1544568,429	84,4314	103038,0952	10,9886
4	668808188,6	1275321,046	81,5464	46690,9091	11,0023
5	668812725	1569091,364	82,6609	33904,7619	11,2981
6	668977141,4	1492755,182	86,6973	25426,087	12,213
average*	**668784305,8**	**1475282,594**	**84,94816**	**49660,97064**	**11,4025**

HOME MARKET					
51. SHINHAN FINANCIAL GROUP LTD	SHARES OUTSTANDING	TRADING VOLUME	SHARE PRICE		
	6 months before ADR listing	6 months before listing	6 months before listing		
1	292361125	1907589,909	10897,7273		
2	292361125	1083837,263	11876,3158		
3	292361125	1566605,9	11955		
4	292361125	2164463,773	13225		
5	292361125	1004471,4	14882,5		
6	292361125	1415980,316	16134,2105		
average*	**292361125**	**1545393,649**	**12567,30862**	US MARKET	
	6monthes after ADR listing	6monthes after ADR listing	6monthes after ADR listing	TRADING VOLUME	SHARE PRICE
1	293160010	1182630,714	16911,9048	2336,3636	18,8659
2	294236816	1412654,091	17800	968,1818	8,6716
3	294236816	1165788,095	17561,9048	2220	23,9035
4	294236816	1003946,1	18540	7361,9048	28,6526
5	294401300	1313642,889	20000	6620	34,42
6	294401300	3295531,191	21930,9524	6714,2857	37,4076
average*	**294302609,6**	**1638312,473**	**19166,57144**	**4776,87446**	**26,61106**

HOME MARKET					
52. SIEMENS AG	SHARES OUTSTANDING	TRADING VOLUME	SHARE PRICE		
	6 months before ADR listing	6 months before listing	6 months before listing		
1	594790940	283358	156,7477		
2	594790940	301926,2273	144,2909		
3	594790940	883759,1905	136,3243		
4	594502727,3	2908314,15	138,665		
5	591620600	3351013,238	151,5586		
6	591620600	3535069,85	133,588		
average*	**594099229,5**	**1545674,161**	**145,5173**	US MARKET	
	6monthes after ADR listing	6monthes after ADR listing	6monthes after ADR listing	TRADING VOLUME	SHARE PRICE
1	591620600	4790146,522	115,5983	152939,1304	103,5578
2	718399411,9	4028918	107,5838	106710	104,613
3	887437350	3353086,136	86,5205	61861,9048	74,5505
4	887796440,9	6135152,364	71,3218	71542,8571	61,08
5	888227350	5038501,864	61,6641	80331,8182	54,0714
6	888227350	4927647,87	54,9052	77625	50,841
average*	**854017580,6**	**4696661,247**	**76,39908**	**79614,31602**	**69,03118**

HOME MARKET					
53. SIMS METAL MANAGEMENT LTD	SHARES OUTSTANDING	TRADING VOLUME	SHARE PRICE		
	6 months before ADR listing	6 months before listing	6 months before listing		
1	126157434,4	608078,2381	31,5		
2	126475789,2	686848,6818	28,2677		
3	126505842	654663,5714	26,9562		
4	126505842	505866,1	26,1465		
5	126519114,7	886457,5238	29,0762		
6	126543738,3	1349608,85	31,5575		
average*	**126432804,5**	**668382,823**	**28,38932**	US MARKET	
	6monthes after ADR listing	6monthes after ADR listing	6monthes after ADR listing	TRADING VOLUME	SHARE PRICE
1	180027819,2	1107184,619	31,4205	735145,4545	29,0464
2	180338062	667984,85	35,572	478438,0952	33,5738
3	180506279,1	609185,4286	36,2657	331238,0952	34,8652
4	180556273,8	870907,6364	38,9514	464047,619	36,921
5	180584367	681485,8636	32,0105	514745,4545	29,3677
6	180675446,5	994579,5652	32,4535	410304,5455	26,62
average*	**180532085,7**	**764828,6688**	**35,05062**	**439754,7619**	**32,26954**

HOME MARKET					
54. STERLITE INDUSTRIES	SHARES OUTSTANDING	TRADING VOLUME	SHARE PRICE		
	6 months before ADR listing	6 months before listing	6 months before listing		
1	558418961	1189309,476	532,2333		
2	558418961	1257119,833	499,5083		
3	558418961	1290656,85	472,0025		
4	558418961	1290685,143	475,5714		
5	558418961	1079700,211	538,8553		
6	558418961	997950,0909	542,6886		
average*	**558418961**	**1221494,303**	**503,63416**	US MARKET	
	6monthes after ADR listing	6monthes after ADR listing	6monthes after ADR listing	TRADING VOLUME	SHARE PRICE
1	558418961	1639718,5	607,5477	4158433,333	15,5424
2	636990389,6	1054876,762	623,8024	1876789,909	15,8036
3	708418961	986063,8182	609,5295	651766,6667	15,4047
4	708418961	1919946,143	777,0595	1767861,136	19,4591
5	708418961	3141921,7	966,6525	3412836,81	23,8386
6	708418961	2598364	997,7457	1809278,318	25,1832
average*	**694133246,7**	**1940234,485**	**794,95792**	**1903706,568**	**19,93784**

HOME MARKET					
55. SUMITOMO MITSUI FINANCIAL GR	SHARES OUTSTANDING	TRADING VOLUME	SHARE PRICE		
	6 months before ADR listing	6 months before listing	6 months before listing		
1	1414055625	14963116,67	2827		
2	1414055625	8452777,273	2658,3636		
3	1414055625	11967628,57	2565,4091		
4	1414055625	8104395,455	2615,8182		
5	1414055625	10396055	2565,3182		
6	1414055625	12321140	2422,6667		
average*	**1414055625**	**10776794,59**	**2646,38182**	US MARKET	
	6monthes after ADR listing	6monthes after ADR listing	6monthes after ADR listing	TRADING VOLUME	SHARE PRICE
1	1414055625	12577280	2516,9545	383442,8571	6,0681
2	1414055625	13037228,57	2795,3913	475322,7273	6,7095
3	1414055625	11875700	2942,2381	615610	7,1305
4	1414055625	13662810,53	3018,5	311652,6316	7,2921
5	1414055625	14870881,82	2779,4348	867243,4783	6,8452
6	1414055625	10420085	2505,4762	388960	6,021
average*	**1414055625**	**12773341,18**	**2808,20808**	**531757,7674**	**6,79966**

HOME MARKET					
56. TATA COMMUNICATIONS LTD	SHARES OUTSTANDING	TRADING VOLUME	SHARE PRICE		
	6 months before ADR listing	6 months before listing	6 months before listing		
1	95000000	35330,8095	2313,2048		
2	95000000	19810,8	1954,705		
3	95000000	16600,9412	1233,1265		
4	95000000	19633,2174	1127,4957		
5	95000000	23847,2857	1254,0357		
6	95000000	31465,3636	870,6886		
average*	**95000000**	**23044,61076**	**1576,51354**	US MARKET	
	6monthes after ADR listing	6monthes after ADR listing	6monthes after ADR listing	TRADING VOLUME	SHARE PRICE
1	95000000	82032,1429	823,931	273540,9091	10,9233
2	95000000	31694,1	725,65	134728,5714	8,2351
3	215909090,9	62344,4091	398,3477	190568,1818	8,0426
4	285000000	114935,4091	285,0318	190771,4286	10,122
5	285000000	198577,5789	307,5553	168689,4737	13,1184
6	285000000	498619,3478	347,737	236295,6522	14,8022
average*	**233181818,2**	**181234,169**	**412,86436**	**184210,6615**	**10,86406**

HOME MARKET					
57. TATA MOTORS LIMITED	SHARES OUTSTANDING	TRADING VOLUME	SHARE PRICE		
	6 months before ADR listing	6 months before listing	6 months before listing		
1	343704255	1508048,444	499,5583		
2	344956200	2194559,5	446,5932		
3	349392605,7	2349864,546	391,05		
4	353168252	2619046,381	398,65		
5	353168252	2689962,696	407,0283		
6	357455513	1678678,333	396		
average*	**348877912,9**	**2272296,313**	**428,57596**	US MARKET	
	6monthes after ADR listing	6monthes after ADR listing	6monthes after ADR listing	TRADING VOLUME	SHARE PRICE
1	358485286	1906758,7	411,6975	232477,2727	9,1291
2	360279372	830883,6667	430,6714	229347,619	9,559
3	361383425	932614,3	492,7875	424135	11,2215
4	361383425	811706,7619	489,8143	217350	11,1405
5	361567660	1793318,773	490,175	228300	11,209
6	361751751	2938763,579	460,4132	135526,3158	10,5342
average*	**361273126,6**	**1461457,416**	**472,77228**	**246931,787**	**10,73284**

HOME MARKET					
58. TECHNICOLOR SA	SHARES OUTSTANDING	TRADING VOLUME	SHARE PRICE		
	6 months before ADR listing	6 months before listing	6 months before listing		
1	269890028	7184472,571	1,008		
2	269890028	6916197	1,0175		
3	269890028	4057902,619	1,0953		
4	552631962,1	12375009,76	0,8838		
5	801288363,5	22178333,23	0,557		
6	796498809	15366849,23	0,4929		
average*	**432718081,9**	**10542383,04**	**0,91232**	US MARKET	
	6monthes after ADR listing	6monthes after ADR listing	6monthes after ADR listing	TRADING VOLUME	SHARE PRICE
1	79649880	1128447,091	4,0706	8813,6364	5,3443
2	79649880	723942,4091	3,9108	4080,9524	4,9681
3	79649880	1114940,955	4,1755	7709,0909	5,1918
4	79649880	994708,8095	4,5611	7595,2381	6,3295
5	79649880	1099740,364	4,2599	5595,2381	5,6421
6	96205835,65	2004277,739	4,0104	6931,8182	5,3477
average*	**82961071,13**	**1187522,055**	**4,18354**	**6382,46754**	**5,49584**

HOME MARKET					
59. UNITED MICRO ELECTRONICS	SHARES OUTSTANDING	TRADING VOLUME	SHARE PRICE		
	6 months before ADR listing	6 months before listing	6 months before listing		
1	19140520547	36760857,14	19,2619		
2	19144251690	45917227,27	19,5227		
3	19144251690	60791210,53	20,0079		
4	19135900951	79148260,87	19,3391		
5	18952184690	47567636,36	18,1705		
6	16082505816	79401142,86	20,1929		
average*	**19103421914**	**54037038,44**	**19,26042**	US MARKET	
	6monthes after ADR listing	6monthes after ADR listing	6monthes after ADR listing	TRADING VOLUME	SHARE PRICE
1	13212826941	44773666,67	20,4767	7665845,217	3,8178
2	13212826941	44779952,38	19,4714	6764169,65	3,494
3	13213224070	31933857,14	19,3786	5571540	3,3925
4	13214494883	39214352,94	18,0324	7717933,333	3,0833
5	13214494883	26106894,74	17,9947	4447640	3,1805
6	13214494883	36540954,55	18,2818	5733145,455	3,3282
average*	**13213907132**	**35715202,35**	**18,63178**	**6046885,688**	**3,2957**

HOME MARKET					
60. VEOLIA ENVIRONNEMENT	SHARES OUTSTANDING	TRADING VOLUME	SHARE PRICE		
	6 months before ADR listing	6 months before listing	6 months before listing		
1	346174955	504876,9444	48,5328		
2	346174955	326263,2857	50,0476		
3	346174955	355728,0455	49,1659		
4	346174955	464076,5455	49,5736		
5	346174955	513125,4091	47,7759		
6	346174955	804728,4545	44,3845		
average*	**346174955**	**432814,046**	**49,01916**	US MARKET	
	6monthes after ADR listing	6monthes after ADR listing	6monthes after ADR listing	TRADING VOLUME	SHARE PRICE
1	346174955	564750,9524	42,4005	5790,4762	31,1571
2	346174955	945219,5455	42,0732	2433,3333	37,5924
3	346174955	1133740,944	37,3294	6325	30,3338
4	346174955	925617,0455	37,9005	1995,2381	30,1629
5	346174955	609129,9	37,3205	1073,6842	25,8313
6	346174955	1098275	35,655	3573,913	26,0015
average*	**346174955**	**942396,4871**	**38,05572**	**3080,23372**	**29,98438**