Do foreign cross-listings increase firm value?

Evidence from announcement effects of Dutch firms

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Introduction

The rapid internationalisation of capital markets in recent times has manifested itself in mobility of equity investment as well as in a growing number of foreign cross-listings. The classic argument is that foreign listings lead to a lower cost of capital because they help overcome the segmentation of the local equity market. Firms obtain a broader investor base which accepts a lower rate of return by diversifying firm specific and country specific risks, which may be priced in a small market. This argument suggests that the cost of financing is different across listing countries.

There may be different causes for such differences. While for the trading of employee shares transaction costs may be significant, in general asymmetric information costs (such as adverse selection) or agency costs (due to differential enforcement costs) must be different depending on the country of listing. This may lead firms to choose, for instance, listing in countries which either are more transparent (in order to overcome adverse selection) or have better enforcement of conflicts of interest between management and outside equity holders. In Roell's (1995) review, enhanced visibility is usually cited as the first or second most important motivation for the decision to go public. Mirroring this, somewhat ironically, the most important costs of going public are 'increased pressure on senior management due to closer public scrutiny', disclosure requirements, and external investor scrutiny. Yet increased scrutiny may allow better firms to finance themselves on better terms; Pagano, Panetta and Zingales (1994) report that Italian firms appear to choose a public listing in order to be able to diversify their bank borrowing and reduce its cost.

Theoretically, the main benefits of cross-listings occur when international capital markets are small or segmented[1]. In addition to legal barriers, there are other causes of market segmentation, such as foreign exchange risk, small country bias and political risk.

A foreign listing may be driven by the intention to send a signal to the local market about future prospects. Stoughton, Zechner and Wong (1996) argue that managers with positive private information on their firm's quality would choose for an IPO; the resulting increase in required disclosure implies that the decision is a credible signal. A listing on a prestigious exchange with high standards of disclosure may enhance the image of the company among investors, and reassure them about its prospects.

There may be also purely marketing purposes, namely to increase visibility with customers by broadening product identification. 'A foreign listing can boost corporate marketing efforts by enhancing name recognition among investors and consumers in the foreign country'; moreover, 'reports written by local analysts and news media give "free" advertising' (Saudagaran and Biddle, 1991).

For large companies located in small countries for which foreign sales are a necessity, a foreign listing may offer an excellent promotional effect. Dutch companies are a case in point. KLM in 1986 sold 15 million shares, of which 40% across Europe, 55% in the United States and the rest in Japan. The explicit aim of the management was

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to promote its international activities and support the share price (Euromoney, 1993). Interestingly, Dutch firms have long followed this strategy. At the turn of the century, the Van Linden margarine producer (a predecessor of Unilever) listed itself in London in a major stock offering even prior to seeking a listing in Amsterdam.

Besides broadening product identification, a foreign listing may signal to foreign competitors a more aggressive approach to local markets. In addition, a local share listing can increase the political appeal of the company in the foreign country by having local investors and reduce hostile nationalistic feelings. Moreover, often foreign acquisitions and/or mergers require a share swap.

A final cause may be the introduction of stock purchase plans to maintain labour relations in foreign countries. The Dutch company Ahold, with more than 50 000 employees in the U.S., stated this reason when it applied for a listing on the NASDAQ. Philips also applied for a listing on the TSE with the intention to recruit qualified personnel in Japan[2].

There are of course significant costs and disadvantages associated with a foreign listing, starting with listing fees. These costs can be separated into: 'initial listing fee', which has to be paid once, and the 'annual fee', which has to be paid annually. Listing fees depend on the size of the issue and are different on each stock exchange.

The following table shows the listing fees on the largest exchanges of the world and the number of foreign companies listed.

Table 1: Listing fees and number of foreign listings on five stock exchanges

Stock Exchange	*Number of foreign listings (June 1996)*	*Initial listing fee ($)*	*Annual listing fee ($)*
New York Stock Exchange	265	from 36.800	from 14.750
London Stock Exchange	518	990 - 62.500	910 - 16.300
Tokyo Stock Exchange	93	20.000	1.200
Federation of German Stock Exchanges	345	272 - 27.256	none
Paris Stock Exchange	208	none	none

Source: Eiteman et al., 1995, p. 326.

Still, the initial and annual listing fees are only a fraction of the total costs: commissions payable to the 'book runner', accountants' and lawyer's fees and the expense of preparing annual and other reports in the foreign languages. To keep and obtain new shareholders, companies have to organise road shows and presentations. This helps preventing the flow back of shares to the country of origin (Adhikari et al., 1991).

The next section describes the international evidence on the impact of cross-listings and the market assessment of the decision. Ultimately, the response of investors is prima facie evidence of the effect of cross-listings on shareholder value.

Section I International empirical evidence

Several studies investigate the role of financial disclosure requirements on foreign stock exchange listing decisions. Biddle and Saudagaran (1991) report that companies are reluctant to apply for a listing on an exchange with high disclosure levels. However, Meek and Gray (1989) found that continental European firms listed on the London Stock Exchange exceeded the requirements of the London Stock Exchange by a wide range of voluntary disclosures, in some cases substantial. The authors conclude that 'the significance of the Stock Exchange requirements appeared to be relatively minimal compared to the need to raise capital in the international capital market. It may also be that some companies prefer more disclosure requirements under strict rules[3].

Goldman (1982) found that when the shares of a company are the hands of both domestic and foreign investors the influence of shocks in the economy and industry is decreased, suggesting that the share price becomes more stable with a broader share base.

Howe and Kelm (1987) examine the impact of a foreign stock listing on the domestic share price using the standard event-time methodology (Brown and Warner, 1985) . The 'event' day taken in this research is the actual listing date. According to their results, 'a firm's first overseas listing appears to be harmful to shareholder wealth' since at the listing date share prices seem to decline on average.

Alexander et al. (1988) assess changes in *expected* returns. Their empirical results indicate that non-Canadian companies experience an

expected return decline after a cross-listing, while the result for Canadian companies was not significant. This could indicate that non-Canadian companies are based in partially segmented markets. The high positive CARs before the event date may suggest that the cost of capital did decrease for cross-listing firms.

Lee (1991) presented a study on American companies with a listing on the London and Toronto Stock Exchange. His results were in contrast to the findings by Howe and Kelm, as returns on listing dates in his sample are not significantly different from zero, a result confirmed in a sample of UK firms listed on the Tokyo Stock Exchange (TSE) and Japanese firms listed on the LSE (Lee, 1992).

These inconclusive results are not surprising as in an efficient market any effect of the decision should already been discounted by the date of listing.

Karolyi (1996) focuses on the valuation and liquidity effects of the listing decision, the impact of listing on the companies global risk exposure and its costs of equity capital. The main findings are as follows: the impact on the stock price around a cross-listing is initially favourable after the listing date, however the post-listing period seems to be associated with highly variable performances, depending on the home and listing market, the companies capitalisation and capital raising needs and other company-specific factors. After a company gets listed on a foreign stock exchange, its stock experiences on average an increase of trading volume. The liquidity improves overall, but depends again on the market place and the scope of foreign ownership restrictions in the home market. Furthermore, firms will experience a decrease in exposure to domestic market risk. This result in a decline of cost of capital, despite of the fact that the above mentioned studies found on average no significant results. From these studies, it can be concluded that American Depository Receipts can represent an effective instrument to diversify globally, and to overcome the stringent disclosure requirements of the NYSE.

The problem with this literature to date has been the use as 'event' date of the listing date. If markets are efficient in that stock prices reflect all available information, the timing to measure the impact of a particular event is the announcement date. By the listing date the news of the cross-listing has already been included in the price of the stock. Furthermore, firms tend to list after a period of good performance. It is therefore difficult to determine whether the positive returns occurred because of the good results in the pre-listing period. Only a few studies used the correct date, that is the announcement date[4].

In the next section we investigate the impact on the stock price of a very large fraction of the population of Dutch companies with a foreign listing, using the correct date to measure the stock price reaction.

Our conclusion is clear: Dutch cross-listings are associated with positive abnormal returns at the time of the announcement. There is also some evidence that the increase is positively associated with the degree of disclosure demanded by the listing markets.

Section II Empirical results on Dutch cross-listings

Sample description

From the Amsterdam Stock Exchange, we received a list of Dutch holdings that were listed on one or more stock exchanges up to February, 1996. There is a total of 40 non-financial companies, for a total of 178 listings (see appendix for a list). As there are no market returns on a daily basis available before 1973, we focus on the period between 1973 and 1995.This leads to a loss of 10 events. We also excluded 8 listings by companies which listed on a foreign exchange prior or simultaneously to a listing in Amsterdam. Finally, we could not find some announcement dates even after extensive contacts with the companies: this was the case with 15 companies.

In conclusion, we obtained a sample of 53 listings[5]. Since some companies were listed on the same day on different exchanges, there have been 31 separate announcement dates.

Our main advantage relative to previous work on cross-listings is that we are able to measure the stock market reaction on the announcement date rather than the listing date. The announcement dates are carefully obtained from various sources such as the companies themselves, the *Financial Times*, *Wall Street Journal*, *NRC Handelsblad* and *Het Financieele Dagblad*. Following common practice in the literature, we use a pre-event time series as estimation period to

compute each stock's characteristics, excluding the last few days to avoid capturing any early information leak. Specifically, we estimate the alpha and beta for each stock's in the 100-day period from t= -106 to t= -7, thus leaving out one week prior to the issue.

We calculate abnormal returns using both market adjusted and risk adjusted returns. According to the market model, the required return on stock i is determined by the amount of market related systematic risk times its risk premium. For each stock we run the following regression:

$$R_{i,t} = \alpha_i + \beta_i R_{m,t} + \epsilon_{i,t}$$

where:

$R_{i,t}$ = daily returns on stock i for period t

α_i = intercept term of the y- axis

β = estimated beta, a measure of market risk

$R_{m,t}$ = market return for period t

$\epsilon_{i,t}$ = 'residual term'.

α_i is the average rate of price change non-explained by the estimated required return. Its interpretation is ambiguous. In general, even if the CAPM applies and the true α_i were all zero, the estimated value on individual stock return will in general result in a non-zero α_i. This may simply reflect the fact that that its idiosyncratic performance in a short time series was better or worse than anticipated. $\epsilon_{i,t}$ is the residual term or abnormal return, not explained by market movements. If markets are efficient, the expected value of ϵ_i is equal to zero. By analyzing the residual terms we are thus able to detect abnormal returns around the announcement date.

We compute estimates α_i and β_i by regressing daily stock prices (obtained from Datastream) on the market index. Daily average residuals are estimated by adding up estimated residuals for every firm in the event period and averaging across firms in common event time. The next step is to aggregate the average residuals over particular time intervals to obtain the Cumulative Average Residuals (CARs)[6].

To test if the average residuals and the cumulative average residuals are significant from zero, we use the Student-*t* statistic to determine whether the two sample means are equal. We calculate the standard deviation over the period t= -106 up to t= -7. The null hypothesis to be tested is that cross-listing does not create value for a Dutch company that already has a domestic listing. Average residuals and cumulative average residuals must therefore be insignificantly different from zero. We follow the standard practice in the literature and do not adjust the returns for heteroskedasticy.

Table 2 summarises our findings around the event date.

Table 2: Average residuals (AR) and cumulative average residuals (CAR)

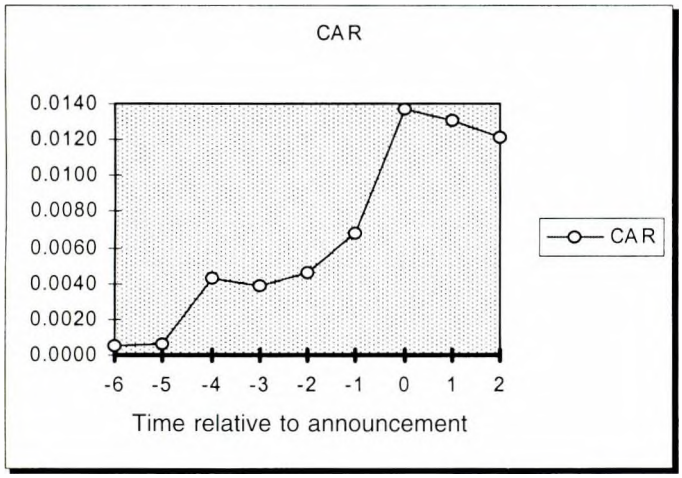
Day	*Average Residuals (AR) %*	*Cumulative Average Residuals (CAR) %*
- 6	0.06	0.06
- 5	0.01	0.07
- 4	0.37	0.44
- 3	-0.04	0.40
- 2	0.07	0.47
- 1	0.22	0.69
0	0.68 **	1.38
+ 1	-0.06	1.30
+ 2	-0.09	1.22

** significant at a 95% significance level

A difficulty in interpreting the data is that to the extend that the decision to list abroad results in an issue of new shares, it may in fact convey a double signal and may thus be hard to interpret. There is ample evidence that a statistically significant stock price drop occurs after an announcement of common stock offerings (Mikkelson and Partch, 1985; for a theoretical interpretation, see Myers and Majluf, 1984). Our measured price response to the issue may be downward biased if they incorporate some negative inference about the firm's need to raise new equity. Obviously, this possibility works against finding a significant positive impact of the crosslisting on the stock price.

The table shows the results from the one-tailed test at a 95% significance level (with 30 degrees of freedom) surrounding the announcement date. While post-announcement returns are insignificant, the average residual (AR= 0.68) on the announcement day is positive and statistically significant at the 95% significance level (t = 2.2 ; σ = 0.0031). Companies announcing a dual listing experience a positive significant abnormal return upon the announcement. Figure 1 presents the price effect for the 'event-period'.

Figure 1: Cumulative Average Residuals for the whole sample



An additional hypothesis we want to test is whether a market with more liquidity, a larger shareholder base and more stringent disclosure requirements results in an larger increase of shareholder value than companies listed on a smaller, less stringent exchange. To investigate this hypothesis we examine the listing on the NYSE separately. This reduces the sample size significantly, which would tend to reduce the significance of any excess return on the event date.

Table 3 represents the results for NYSE listings. The abnormal returns leading up to the announcement are quite interesting. Four days before the announcement day, the AR is statistically significant (AR= 0.73% ; t= 8.1) at a 99% significance level and as well two days before the announcement day.

It is remarkable that the average residual (1.21%) on the announcement day is significant at a 99% significance level: the *t statistic* is exceptionally high at 13.4.

Figure 2 represents the graph for the 'event-period' for companies listed on the NYSE.

While we must interpret the results with care because of the small size of the sample, the evidence is strongly suggestive. In any event the sample encompasses almost the entire population of Dutch cross-listings.

We now investigate whether the results for the complete sample are driven by the NYSE listings. We therefore look at the companies with a dual listing excluding the companies listed on the NYSE. Table 4 presents the results.

The results show a similar pattern as for the NYSE and the results for all exchanges. The average residual on the announcement day is 0.52% which is statistically significant at a 99% significance level ($t = 4.73$; $\sigma = 0.0011$).

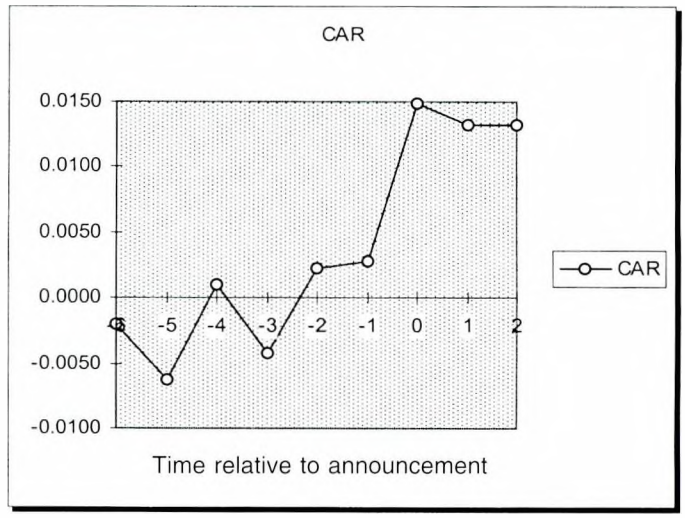
Table 3: Results for NYSE listings

Day	*Average Residuals (AR) %*	*Cumulative Average Residuals (CAR) %*
- 6	-0.20	-0.0020
- 5	-0.42	-0.0062
- 4	0.73**	0.0010
- 3	-0.52	-0.0042
- 2	0.64**	0.0022
- 1	0.06	0.0028
0	1.21**	0.0148 *
+ 1	-0.16	0.0132*
+ 2	0.01	0.0133*

* significant at a 95% significance level

** significant at a 99% significance level

Figure 2: Cumulative Average Residuals (CAR) for NYSE listings



Conclusions

We have examined the hypothesis that large Dutch companies list their stock on a foreign exchange in order to increase shareholder value. The results, though based on a small sample, encompass a very large part of the population. Indeed the decision to go public results in an increase in the firm's value. The approximate increase in share price on the announcement day is 0.68% for all companies; the one-week cumulative return is 1.38%. The stock price increase seems to be permanent, given the insignificant abnormal returns following the announcement.

Table 4: ARs and CARs for all companies not listed on the NYSE

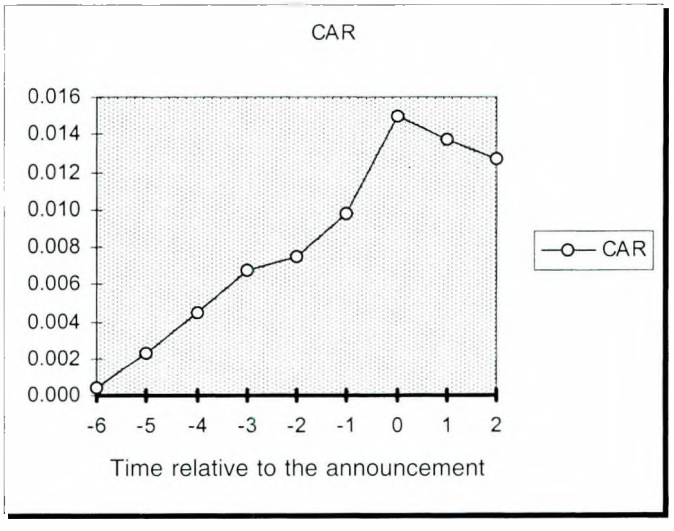
Day	*Average Residuals (AR) %*	*Cumulative Average Residuals (CAR) %*
- 6	0.0004	0.0004
- 5	0.0019	0.0023
- 4	0.0022	0.0045
- 3	0.0023	0.0067
- 2	0.0008	0.0075
- 1	0.0023	0.0098
0	0.0052**	0.0149
+ 1	-0.0012	0.0137
+ 2	-0.0010	0.0127

*** significant at a 95% significance level*

This evidence is consistent with various potential explanations. Foreign listing may decrease barriers to capital flows and thus reduce the costs of capital for firms. Alternatively, they may represent positive signals of higher underlying value than the current quotation suggests, either because the listing is a sign of the capacity of the firm to expand its international activities or its willingness to undergo greater scrutiny by international investors.

We obtained an additional piece of evidence in this direction. On average, companies that listed on the NYSE experienced a higher increase in share value. Our conclusion is that a NYSE listing is a more significant strategic decision and has a correspondingly greater price impact. Such a listing may result in greater internationalisation of the shareholder base and an increased amount of transparency and disclosure. It may also enhance visibility of corporate strategy for both US and international investors. We plan to study this hypothesis in more detail.

Figure 3: Cumulative Average Residuals (CAR) for dual listings excluding NYSE listings



APPENDIX: FOREIGN LISTINGS BY DUTCH COMPANIES

ABN/AMRO Holding N.V.

Belgium	Brussels
Germany	Düsseldorf, Frankfurt, Hamburg
France	Paris
Great Britain	London (Seaq)
Singapore	Singapore
Switzerland	Basel, Bern, Geneva, Lausanne, Zurich

Aegon N.V.

Great-Britain	London (Seaq)
Japan	Tokyo
United States	New York (Nasdaq)[7], New York (NYSE)
Switzerland	Basel, Geneva, Zürich

Ahold N.V.

Belgium	Brussels
United States	New York (Nasdaq)[8], New York (NYSE)
Switzerland	Zurich

Akzo Nobel N.V.

Belgium	Antwerp, Brussels
Germany	Berlin, Düsseldorf, Frankfurt
France	Paris
Great-Britain	London (Seaq)
Austria	Vienna
United States	New York (Nasdaq)
Switzerland	Basel, Geneva, Zurich
Sweden	Stockholm

ASM Lithography Holding N.V.

United States	New York (Nasdaq)

Baan Company N.V.

United States	New York (Nasdaq)

BE Semiconductor Industries N.V.

Great-Britain	London (Seaq)
United States	New York (Nasdaq)

BolsWessanen N.V.

Great-Britain	London (Seaq)
Germany	Düsseldorf, Frankfurt
Switzerland	Basel, Geneva, Zurich

CMG plc.

Great-Britain	London (Seaq)

DSM N.V.

Germany	Düsseldorf, Frankfurt
Switzerland	Basel, Geneva, Zurich

Elsevier N.V.

Great-Britain	London (Seaq)
Switzerland	Basel, Geneva, Zurich
United States	New York (NYSE)

EVC International N.V.

Great-Britain	London (Seaq)

Fokker N.V.

Germany	Frankfurt
Great-Britain	London (Seaq)
Switzerland	Basel, Geneva, Zurich

Fortis AMEV N.V.

Luxembourg	Luxembourg
Great-Britain	London (Seaq)

Getronics N.V.

Great-Britain	London (Seaq)

Gucci Groep N.V.

Great-Britain	London (Seaq)
United States	New York

Heidemij N.V.

United States	New York (Nasdaq)

Heineken

Belgium	Brussels
Luxembourg	Luxembourg

Hoogovens N.V.

Belgium	Brussels
Germany	Düsseldorf, Frankfurt
Switzerland	Basel, Geneva, Zurich

Hunter Douglas N.V.

Great-Britain	London (Seaq)
Switzerland	Basel, Geneva, Zurich

IHC Caland N.V.

Belgium	Brussels

ING Groep N.V.

Germany	Frankfurt
France	Paris
Belgium	Antwerp, Brussels
Great-Britain	London (Seaq)
Switzerland	Basel, Geneva, Zurich

Internatio-Müller N.V.

Great-Britain	London (Seaq)

KLM N.V.

Belgium	Brussels
Germany	Düsseldorf, Frankfurt, Hamburg
United States	New York (NYSE)

KNP-BT N.V.

Belgium	Brussels
Germany	Düseldorf, Frankfurt
Great-Britain	London (Seaq)
Austria	Vienna
Switzerland	Basel, Geneva, Zurich

Koninklijke Olie N.V.

Belgium	Antwerp, Brussels
Germany	Berlin, Bremen, Düsseldorf, Frankfurt, Hamburg, Hannover, Munich
France	Paris
Great-Britain	London (Seaq)
Luxembourg	Luxembourg
Oostenrijk	Vienna
United States	New York (NYSE), Boston, Chicago, Los Angeles, Philadelphia, Cincinnati
Switzerland	Basel, Geneva, Zurich

KPN N.V.

Great-Britain	London (Seaq)
United States	New York (NYSE)

LCI Computer Group N.V

Belgium	Brussels

Nedlloyd N.V.

Germany	Frankfurt
Great-Britain	London (Seaq)

Oce van der Grinten N.V.

Germany	Düsseldorf, Frankfurt
United States	New York (Nasdaq)
Switzerland	Basel, Geneva, Zurich

Otra N.V.

France	Paris

Pakhoed Holding N.V.

France	Paris
Germany	Düsseldorf, Frankfurt

Philips Electronics N.V.

Belgium	Antwerp, Brussels
Germany	Berlin, Düsseldorf, Frankfurt, Hamburg, Munich
France	Paris
Great-Britain	London (Seaq)
Japan	Tokyo
Luxembourg	Luxembourg

Austria	Vienna
United States	New York (NYSE)
Switzerland	Basel, Bern, Geneva, Zurich
Pirelli Tyre Holding N.V.	
Great-Britain	London (Seaq)
Polygram N.V.	
United States	New York (NYSE)
Stad Rotterdam N.V.	
Belgium	Brussels, Antwerp
Stork N.V	
Germany	Düsseldorf, Frankfurt
Switzerland	Basel, Geneva, Zurich
Unilever N.V.	
Belgium	Brussels
Germany	Berlin, Düsseldorf, Frankfurt, Hamburg, Munich
France	Paris
Great-Britain	London (Seaq)
Luxemburg	Luxemburg
Austria	Vienna
United States	New York (NYSE)
Switzerland	Basel, Geneva, Zürich
Van Ommeren N.V.	
Belgium	Brussels
Germany	Frankfurt, Hamburg
Wolters Kluwer N.V.	
Switzerland	Bern, Basel, Geneva, Zurich

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NOTES

1 As stated in Eiteman et al. (1985): 'a national capital market is segmented if the required rate of return on securities in that market differs from the required rate of return on securities of comparable expected return and risk that are traded on other national securities markets'.

2 According to a spokesman of the Tokyo Stock Exchange (TSE): 'as the parent company's name become more familiar to their family, peers and colleagues, the moral of local employees will improve. By having a listing on the TSE, Philips would get more familiar and would get more status.'

3 A survey on the perceived ranking of reporting and regulatory requirements among managers and professionals involved in the foreign listing process (Biddle and Saudagaran) attributes the most demanding requirements to the Anglo-Saxon markets with the US at the top. Netherlands ranks just below, while Japan, France and Germany rank much lower.

4 One exception is Miller (1996), who investigated the reaction of international listings of ADRs around the announcement date. He showed a larger market reaction in magnitude than previously reported studies. The main result is that firms announcing a listing in the US via a ADR program experience a significant positive abnormal return of 0,53%. Interestingly, the higher the levels of DR programs, the larger is the increase in share value. This is consistent with the hypothesis that more stringent disclosure requirements, a greater shareholder base and liquidity results in a higher increase of share price.

5 Six of these listings are already withdrawn, but are still included in our study. The companies are: Aegon (Nasdaq), Ahold (Nasdaq), Philips (Tokyo) and Pakhoed (Paris, Düsseldorf and Frankfurt)

6 Brown and Warner (1985) summarise that 'examining the CAR of a set of sample securities as of any given event related day t is a way of looking at whether or not the values of the average residuals, starting from the month of cumulating and up to that point, are systematically different from zero.

7 The NASDAQ stock listing is changed into a listing on the NYSE in 1991

8 The NASDAQ stock listing is changed into a listing on the NYSE in 1993

9 These are all former listings from Wessanen.

10 The listings of Pakhoed on the exchanges of Paris, and Frankfurt were removed in 1992.

11 The listing on the exchange of Tokyo was removed in 1992.