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**The Performance of Privatization Stocks in Emerging Markets:
The Role of Political Risk**

by

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Abstract

This paper investigates the argument that privatization share pricing reflects a heightened political risk sensitivity, following Perotti (1995). We do by examining the relative performance in the short and medium term of privatization stocks in emerging markets. Our goal is to determine whether country risk changes have a stronger effect on the return of privatized firms than on the market as a whole. We are also interested in determining whether evidence can be found for "confidence building". We provide evidence that these stocks exhibit a greater exposure to changes in perceived political risk, particularly for larger corrections. This sensitivity progressively disappear after the sale, suggesting that uncertainty over government policy affecting the privatized firm tend to be resolved over time. This evidence suggests that the recent superior post-IPO performance of privatized stocks reported in Megginson et al (1996) reflects a period of progressive resolution of policy risk in emerging markets.

Introduction

International equity markets have enormously increased in size and depth in the last few years. Three major factors in the globalization of portfolio investment flows, the diffusion of privatization sales through public issues and the emergence of equity markets in many developing countries.

These developments are certainly correlated. Large privatization listings may have both a market-broadening and market-deepening effect, due to better risk-sharing from increased diversification and higher liquidity. This in turn can have further indirect effects: an increase in number and range of stocks may switch the market from a low liquidity to a high liquidity equilibrium (Pagano, 1990) or enhance risk-sharing which encourages risk-taking investment (Pagano, 1992; Levine, 1991). Higher trading volume may also encourage information-gathering incentives and thus greater informativeness of prices, thus encouraging participation of smaller investors. The expansion in depth and size of emerging markets is thus directly stimulated by promoting privatization programs.

Another argument is that privatization is a natural test of political and policy commitment (Perotti and Guney, 1993). If the announced policy is sustained after the sale, this will increase investor confidence in a permanent reduction in political risk.¹ There is recent evidence that progress in privatization is correlated with improved political risk as well as sustained stock market development in capitalization, volume and returns. Perotti and van Oijen (1997) show that the development of emerging equity markets is indirectly stimulated by domestic privatization programs sustained over time.

In this paper we focus on the relative pricing of privatization shares, focusing on emerging market privatization issues. We argue that such shares are particularly exposed to political risk developments. Erb, Harvey and Viskanta (1996) show evidence that political risk reductions affect expected rates of return on equity investment in emerging markets, a result consistent with the findings in Diamante and Lew (1996). A more recent result is that privatization issues seem to outperform new issues of private firms in the medium term (Megginson et al, 1996).

¹ The broad distribution of many privatization issues may be the result of a deliberate government policy aimed at improving the chance of reelection (Biais and Perotti, 1997) or to reduce ex post redistributive policies (Schmidt, 1996).

We confirm these findings about the superior relative performance in our sample, and offer an explanation. We investigate their relative risk characteristics by studying whether they appear to be more affected by changes in perceived political risk than other emerging market stocks. This approach is consistent with Perotti (1995): as privatized firms used to be under political control, after the sale they may more exposed to adverse policy changes, whether aimed at increasing tax revenues or regaining political influence and patronage. Since sovereign government may not fully commit to future policy, only a maintained reform and privatization policy may lead to a resolution of policy uncertainty.² Thus adverse changes in political risk may lead in general to a sharper price correction for privatization shares.

Another implication of the political risk approach to the pricing of privatization issues is that policy uncertainty is progressively resolved after the sale to the market. In the absence of policy reversals, investors would price a progressive resolution of political risk by accepting a lower political risk premium, as they reassess the risk to which they are more exposed. This would thus induce superior ex post performance relative to other stocks as long as measures of perceived political risk improve over time.³

A related issue is whether privatization IPOs are underpriced to the same extend as other IPO issues, as some early studies have suggested (Jenkinson and Mayer, 1986, Perotti and Guney, 1993). This is surprising in the light of the traditional theoretical literature on IPOs, which explains underpricing as a partial solution to a certain degree of asymmetric information among investors on the value of the firm. As privatized companies are often large and well known, they should be less underpriced than private IPOs, which on average represent issues by smaller and more recent companies.

A possible reason is the presence of higher political risk for these stocks; underpricing may then act as a signal of policy commitment (Perotti, 1995). The comprehensive study by Dewenter and Malatesta (1997), in a sample of emerged and emerging market issues, suggests that underpricing for privatized stocks is comparable to the average for private IPOs; on the other

² The exposure to political risk may be greatest for privatized utilities, which with their large sunk investments have high quasi-rents, more exposed to redistributive regulatory changes.

³ In fact, even if political risk were not a factor priced in ex ante required returns, its progressive resolution would lead to increases in ex post profitability and thus improve the relative valuation of firms more exposed to it.

hand, there is evidence that underpricing is positively related to the underlying political risk of the issuing company. Privatization stocks may also be priced relatively low and require a higher initial underpricing due to the residual political risk of future government interference with their operations, or outright political goals (Megginson et al, 1997; Perotti and Biais, 1997).

The first section in the paper presents the sample and discusses the methodological approach. The second section presents the empirical results. At the end we offer some thoughts for future research.

Section I

Hypotheses to be tested

The main two hypotheses to be tested from the political risk approach to the pricing of privatization issues are that 1) privatized companies' shares are more exposed to developments in the investors' perception of political risk than other local shares, and that 2) the sensitivity of privatized shares to political risk declines over time after the issue as the policy uncertainty is resolved.

To measure how the resolution of political risk affects privatized companies' stocks, we study their relative performance vis a vis the local stock index. To focus on countries in which political risk may be significant, we draw our sample only from emerging markets. Our main result is that the relative performance is significantly correlated with the evolution of political risk, suggesting a higher political risk exposure for these stocks. The notion of a political risk beta is consistent with the evidence that political risk is priced in the required rate of return on emerging market securities (Erb et al, 1996).

The basic test we perform is to regress the return on these stocks over different time interval against their appropriate benchmark as well as simultaneous measure of changes in perceived political risk.⁴ We try to distinguish between minor and major changes in investors' perception of political risk. Finally, we also investigate the time pattern of this sensitivity.

⁴ Other studies have confirmed that (sustained) privatization is associated with some resolution of political risk. Sader (1994) reveals that countries which privatized succeeded in attracting more foreign investment, and interprets it as a sign of improved political risk.

Sample Construction and Data

Our database contains a set of firms privatized by sales on the public market. We have obtained data on stock market time series, the relative domestic market indices, the size of the issue and its approximate date, and the industry. We collected our sample of state-issued privatisations (SIPs) from four sources:

- The World Bank Privatization Database
- The Privatization International Database
- The appendix to Megginson et al. (1996)
- Data provided in Perotti and Schindele (1997) and Perotti and Csendes (1997) on Polish and Hungarian privatisations, updated from data collected by ING.

A total of 1,067 privatization transactions were identified in 52 countries (see table 1). 943 of these 1,067 SIP transactions are initial public offerings; the remaining 119 are seasoned public offerings (SPOs). Resolving the considerable overlap between the various sources led to 604 of unique SIP transactions. We next dropped the 309 transactions for companies or countries not covered in Datastream.⁵

We finally obtained a total of 477 transactions covering 386 firms in 31 countries. Table 2 presents the distribution of these 477 SIPs by country and by type (IPO or SPO). We have assumed that the earliest known transaction is the IPO; if only one transaction is known for a firm, it is assumed that this is the IPO.⁶

The final step in the sample construction process is to match the transactions with return series from Datastream. A considerable gap seem to exist between offering dates from the transactions data sources and the first price date in Datastream.⁷

In order to ensure that we are matching the correct privatization transaction to the correct price series, we selected only transactions for which the difference between the transaction and the price date is less than 3 months. Since such a comparison cannot be made for SPOs, all 91 SPOs

⁵ This led to drop all observations for Cote d'Ivoire, Croatia, Jamaica, Kuwait, Nepal, Nicaragua, Nigeria, Oman, Papua New Guinea, Romania, Trinidad & Tobago, Tunisia, and Uganda.

⁶ Our analysis does not depend on the assumption that the transaction was an IPO, only that the initial transaction correspond to a significant decrease in government ownership.

⁷ We also checked the DAIS database, which however did not provide additional coverage relative to Datastream.

were dropped from the sample. Of the 386 IPOs identified, 252 IPOs are eliminated because the difference between the two dates is larger than 3 months. As a result, the sample contains 134 privatized firms from 19 countries. These firms, together with their country of origin, Datastream code, and offering dates are presented in Table 3.

End-of-month price data in local currency from Datastream was used to generate monthly local currency return series for all firms in the sample. Prices for a few stocks not traded in the local currency of their country, such as Chinese stocks traded in Hong Kong or privatization stocks traded in New York, were converted to local currency prices.

Market return data for all countries, except Brazil, was collected from Datastream in the form of the IFC General Indices in local currency.⁸ The market return series generally go back far enough to include all IPOs in the sample. In a few cases the return series had to be truncated in the estimation. Table 4 presents the availability date for the market return series as well as some descriptive statistics for these series.

Monthly country risk data for four risk indicators were collected from the International Country Risk Guide for all countries. Because the risk indicators have a distinct upward trend, we use the percentage monthly change of the risk data to ensure stationarity. Descriptive statistics of these transformed country risk series are reported in table 5.

In order to control for the possibility that small changes in the country risk series did not represent significant changes in policy risk we constructed a smaller dataset consisting of only those months in which the percentage change in composite country risk was larger than 2.5 standard deviations ("shocks"). This dataset covers 34 "shocks" across 16 countries, for a total of 158 observations (see table 6).

Excess Returns and Econometric Methodology

Our goal is to determine whether country risk changes have a stronger effect on the returns recently privatized firms than on the market as a whole. If this effect is found, we are also interested in determining whether evidence can be found for "confidence building", that is, the sensitivity of the privatized firm's stock to country risk diminishes as the time lapsed since IPO increases.

⁸ Due to implausible discontinuities in the IFC General Index for Brazil, we used the Morgan Stanley Index instead.

We choose to measure stock performance of privatized firms relative to the local index. This choice reflects in part the well-known empirical difficulties in using an international asset pricing model. First of all, there is evidence of only limited integration of emerging markets in international capital markets; this suggests that a domestic-based pricing model is more appropriate. Although the degree of segmentation may be receding (Bekaert 1995a, 1995b), there are serious difficulties in calculating stable estimates of betas given the limited time series on which privatization data are available. Remarkably, the required rate of return on emerging market stocks implied by recent estimates of beta assuming international integration are in fact often below the riskless rate, reflecting the low correlation between emerging stock markets and other markets.⁹ We believe that our approach, which computes excess return relative to the local index, is reasonable under the circumstances, and is in line with the methodology employed by Megginson et al (1996), thus allowing for comparisons of results.

There are two main obstacles to the implementation of a complete CAPM specification. The first relates to data availability on the risk-free rate. In developed markets, a short-term T-bill rate is used to proxy for the risk-free rate. Most of the countries in our sample, however, do not have such a market. While we could resort to other interest rate series such as the discount rate, rates on saving accounts, and CD rates, in many cases these interest rates are not market determined but regulated rates. Our solution is to assume that the risk-free rate is constant. Considering the variation in short-term rates, this is not an ideal assumption.

Another difficulty is that the accuracy of our estimates depends on a sufficient length of the time series. Even in our larger dataset, the time series of returns concern recently issued privatized firms. In general, this will increase the standard error in the regression and reduce the significance of the regressors. Our solution is to focus on relative rather than excess return, thus employing a simple market adjustment to the return series. Our basic equation (1) is therefore:¹⁰

$$R_{it} - R_{Mt} = \alpha + \gamma [\Delta \ln Cr_{it}] + \varepsilon_{it} \quad (1)$$

⁹ In fact, Goetzman and Jorion (1996) argue that estimation of structural characteristics of returns from emerging markets is systematically biased due to the fact that data becomes available during periods of positive development and tend to “submerge” during periods of poor performance.

¹⁰ This model imposes the restriction that all privatization sales have the same exposure to country risk, obviously a simplification. On the other hand we do not have independent measures of individual companies’ exposure to the risk of adverse policy changes. In future work we plan to investigate the possibility of different political risk betas across countries.

where R represent stock price returns and CR represents the level of the political risk indicator for the country of origin of the privatized firm.

This regression should help us to establish whether the ex post relative performance for privatized stocks contains a greater political risk component than the index as a whole.

We are aware that we are stacking the econometric battle in favor of country risk by constraining the ability of theoretically justifiable variables such as the risk-free rate and the local systematic risk to explain the variation in IPO returns. This may lead to estimation bias in some circumstances. For example we may find γ to be significantly positive if country risk is correlated with market return and the true beta on a sufficient number of IPOs is significantly larger than unity. In that case, changes in country risk would pick up the portion of systematic risk that we are not accounting for fully restricting beta to unity. To control for this possibility we later assess the possibility that privatization stocks may have indeed on average a higher local market beta.

We tend to view these first results as an indirect attempt to discover the risk factors priced in privatized stocks. In itself, country risk is likely to be one of the macro factors that drive market return. Individual stocks may be more or less sensitive to these factors than the market as a whole. If we find a significant effect for country risk in addition to the market return, we could not outright conclude that country risk is significant in explaining non-systematic risk; we can however conclude that the greater significance of country risk for privatized stocks may explain why such shares are more sensitive to country-level systematic risk than other stocks.¹¹

III Estimation Results in the "Shocks" Sample

We report first the result from regression (1) based on the smaller sample of large political risk shocks. Our first goal is to determine which country risk indicator is most effective in explaining the variability of market-adjusted returns.

¹¹ Our results can be taken as indicative of the role that country risk plays in explaining the market-adjusted returns of privatized firms; or alternatively, the role of country risk in explaining why privatized firms have high local betas.

We consider five variables as country risk indicator:

1. the percentage change in composite country risk (PCHCCR)
2. the percentage change in political country risk (PCHCPR)
3. the percentage change in economic country risk (PCHCER)
4. the percentage change in financial country risk (PCHCFR)
5. the normalized percentage change in composite country risk (SHOCK)

As we have no strong a priori reason to choose one variable, we compare the goodness of fit of each of these variables in estimating regression (1). Table 7 summarizes the results.

Table 7: Regression Results for Equation (1) comparing various Country Risk Indicators

Indicator	γ	t-stat	R2
PCHCPR	0.585	3.95	0.0946
PCHCCR	0.380	2.80	0.0498
SHOCK	0.006	2.18	0.0307
PCHCFR	0.090	1.36	0.0126
PCHCER	0.106	1.14	0.0087

Several things can be noted. Firstly, all variables have the expected sign: an increase in the country indicators, which implies a decrease in country risk, is correlated with higher market-adjusted returns. For three of the country risk indicators this correlation is significantly different from zero at better than the 5% level. The variable with the most explanatory power appears to be the percentage change in political risk, which explains 9.4% of the variance of market-adjusted returns, nearly double the explained variance of the second-best predictor, PCHCCR. Stepwise regression, a multiple regression from which the most insignificant predictors are successively removed, yields the same result.

Taking into consideration the general difficulty in explaining excess returns, we find the degree of significance quite satisfactory. The result leads to conclude that excess returns for privatization stocks relative to the local index appear indeed to be explained by unexpected political changes.

In a multiple regression with both political and composite country risk, the coefficient on political country risk is found to be significantly positive at a level of 5% statistical significance.

We also test whether the effect of political country risk has a linear relationship with market-adjusted returns by successively including higher powers of PCHCPR in the equation. None of these were found to be significant.

In conclusion, the following model seems to best explain market-adjusted returns of privatization IPOs in the sample of large shocks to composite risk:¹²

$$\begin{aligned} \text{MAR}_t &= -0.038 + 0.585 \text{ PCHCPR}_t & (1a) \\ & (0.009^{**}) \quad (0.147^{**}) \\ R^2 &= 0.095 \quad n=152 \quad s = 0.12 \end{aligned}$$

The estimates support the hypothesis that country risk affects privatized IPOs more than the aggregate market in emerging market economies, a result consistent with Perotti and Gunev (1993) and Perotti (1995).

An interesting aspect of this result is the statistically significant negative intercept, which indicates that privatized IPOs, in the absence of changes in country risk, underperform the market by 3.7% per month. This estimate should be interpreted with caution as we are studying partially specified market-adjusted returns in times of large country risk changes; however, this result is consistent with the evidence of IPO underperformance in developed markets. On the other hand, the distinct upward trend in political risk across almost all countries in the sample in our opinion helps explain the finding in Megginson et al (1996) of overperformance by privatization IPOs: privatization stocks outperformed the local markets because they bore more political risk in a period in which such risk has declined.

We now re-estimate the regression by dropping the assumption of a constant sensitivity of privatization stocks to political risk. We conjecture that such sensitivity depends on the specific political circumstances of each country. Thus we choose to assume a constant market beta for all privatization stocks in each country at the time of the shock. In order to avoid look-ahead bias in the estimates, only observations prior to the month of the shock are used to estimate the betas.

Specifically, for each shock at time t in country j , we estimate privatization betas per country using the following model:

$$R_{i,j,t} = a_j + b_j R_{j,t} + e_{i,j,t} \quad (2)$$

¹² Unless otherwise noted, the numbers in brackets are the standard errors. "*" indicates significance at the 10% level, "***" indicates significance at the 5% level.)

We then proceed by regressing the “beta-adjusted” return on a constant and a measure of political risk change:

$$(R_{i,j,t} - b_j R_{j,t}) = a_0 + a_1 \text{dPR}_{j,t} + e_{i,j,t} \quad (3)$$

Earlier we found that the percentage change in composite country risk (PCHCCR) and in political country risk (PCHCPR) did best in explaining market-adjusted returns.

We repeated the test on these two indicators in the regressions on beta-adjusted returns and report the results in Table 8.

Table 8: Regression Results for Equation (3) using various Country Risk Indicators

Indicator	g	t-stat	R ²
PCHCPR	0.611	4.11	0.102
PCHCCR	0.333	2.41	0.038

These results strengthen the results found using market-adjusted returns: both indicators are statistically significant at the 5% level, but political risk is considerably more significant than composite risk. Once again the data support the notion that it is political risk rather than generic country risk which drive unexpected returns on privatization shares.

We finally estimate the following regression as the best model to explain market-adjusted returns of privatization issues:

$$\text{BAR}_t = -0.029 + 0.611 \text{PCHCPR}_t \quad (3a)$$

(0.010**) (0.148**)

$$R^2 = 0.102 \quad n=151 \quad s = 0.12$$

The estimates support our hypothesis that country risk affects privatized IPOs more than the aggregate market in emerging market economies. Another interesting aspect of this result is

the statistically significant negative intercept, which indicates that privatized IPOs, in the absence of changes in country risk, underperform the market by 2.9% per month. This confirms the IPO underperformance result found in developed markets.

The Confidence Building Hypothesis: Resolution of Political Risk after Privatization

Having found evidence for political risk effects on market-adjusted returns, we turn to the question whether we can find evidence for a confidence building effect. We thus test if privatized firm's stock become less sensitive to country risk as time passes from the privatization sale.

We first re-estimated the model after including a variable that allows the age of the IPO, as measured by the months since the offering date (MSIPO) to have an effect on the market-adjusted return when a change in political country risk occurs. Since under the confidence building hypothesis this variable should have an effect on market-adjusted return depending on the change in political country risk, the MSIPO variable enters the equation multiplicatively.

We thus include as a new regressor to our basic equation the variable PCHCPR divided by an increasing function of MSIPO, implying a trade-off between the size of the political country risk change and the age of the privatized firm.

Specifically, we estimated a new equation (2) by successively adding cross-terms with higher powers of MSIPO in the denominator. Thus, we first regressed market adjusted returns (MAR) on PCHCPR (=PCHCPR/MSIPO⁰), then on PCHCPR and PCHCPR/MSIPO¹, then on PCHCPR/MSIPO², etc.. The best model in terms of significance of the estimates and overall fit was the one including PCHCPR as well as one cross-term, PCHCPR/MSIPO.

The results of this regression are given below:

$$\text{MAR}_{it} = -0.038 + 0.312 \text{ PCHCPR}_{it} + 2.701 [\text{PCHCPR}_{it} / \text{IPOAGE}_{it}] + \varepsilon_{it} \quad (4)$$

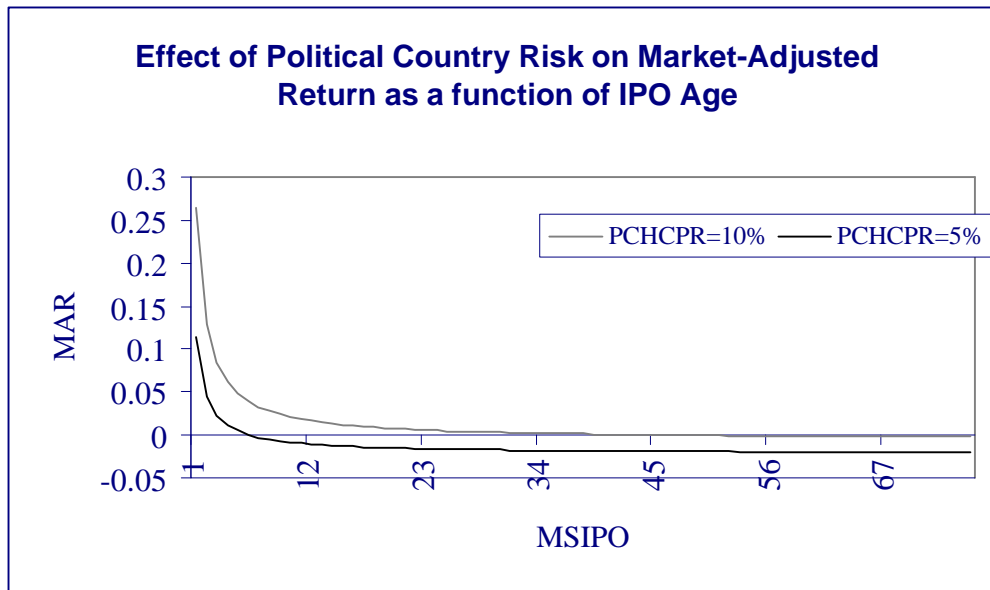
(0.010*) (0.187*) (1.19**)

$$R^2 = 0.125 \quad n = 152 \quad s = 0.114$$

The inclusion of the cross-term increases the R^2 of our model by more than 30% to 0.125. Moreover, the cross-term is found to be significant at better than the 5% level, while the linear political country risk term is significant at the 10% level. Both estimated coefficients also have the hypothesized positive sign.

The implied effect of IPO age on the effect of a given percentage political country risk change on market-adjusted return is illustrated in the graph below:

Graph 1



These results are confirmed by regressions that use a dummy approach to test for a confidence building effect in IPO market-adjusted returns. The regression takes the form:

$$MAR_{it} = \alpha_0 + \alpha_1 PCHCPR_{it} + \alpha_2 D_k PCHCPR_{it} + \epsilon_{it} \quad (5)$$

where D_k is a dummy variable equal to zero if the IPO took place less than k months ago and equal to unity if the IPO took place more than k months ago.

Regressions with several dummy variables led to estimates that were insignificant or had an incorrect sign. Presumably the sample is not large enough to estimate more than two or three coefficients with relatively small standard errors.

However, successive regressions that include only one dummy variable increasing in k show a pattern of diminishing effect of political country.

Table 9: Regression Results for Equation (5)

D_k	α_0 $t(\alpha_0)$	α_1 $t(\alpha_1)$	α_2 $t(\alpha_2)$	R^2 F	$\chi^2(\alpha_1 - \alpha_2 = 0)$ $P(\alpha_1 - \alpha_2 = 0)$
D ₃	-0.038 (-3.88)**	1.498 (4.32)**	-1.086 (-2.89)**	0.143 (12.43)	13.45 (0.000)
D ₆	-0.038 (-3.95)**	1.422 (4.36)**	-1.018 (-2.86)**	0.142 (12.31)	13.50 (0.000)
D ₉	-0.038 (-3.85)**	0.909 (3.36)**	-0.446 (-1.43)	0.106 (8.91)	5.87 (0.015)
D ₁₂	-0.038 (-3.79)**	0.792 (3.03)**	-0.296 (-0.96)	0.100 (8.30)	4.016 (0.045)
D ₁₅	0.0380 (-3.81)**	0.551 (2.63)**	0.064 (0.23)	0.095 (7.82)	1.151 (0.283)
D ₁₈	-0.038 (-3.80)**	0.587 (2.83)**	-0.005 (-0.02)	0.095 (7.79)	1.721 (0.189)
D ₂₄	-0.038 (-3.80)**	0.603 (2.94)**	-0.038 (-0.13)	0.095 (7.80)	2.056 (0.154)
D ₃₆	-0.038 (-3.81)**	0.586 (2.93)**	-0.002 (-0.01)	0.095 (7.79)	1.178 (0.181)

Note: Numbers in brackets are t-statistics.

The pattern is suggestive. The a_1 estimate almost continuously decreases as k is increased. Since a_1 is the coefficient on the percentage change in political country risk for IPOs younger than k months, this means that as the age of IPOs grows, the effect of political country risk changes on market-adjusted return falls. The size of this effect is considerable: IPOs that are no older than 3 months are three times more sensitive to a percentage change in political risk than are IPOs that are no older than 15 months of age. The a_1 estimate appears to stabilize around 0.5-0.6 for $k > 15$. The a_2 estimates, which measure the difference in the effect of political country risk changes on the market-adjusted returns of old IPOs relative to young IPOs confirms that the older the IPO, the less sensitive its market-adjusted return is to political country risk. Interestingly, the estimated coefficient is significant at the 5% level or better in all cases.

The a_2 estimates indicate the difference in sensitivity to political risk change between IPOs older than k months and those younger than k months. The fact that all but the estimate for $k=15$ are estimated to be negative indicates that older IPOs are less sensitive than younger IPOs. This difference is estimated to be significant when the dividing line between old and young IPOs is drawn at 3 or 6 months. Interestingly, the difference in sensitivity to political risk between old and young IPOs ($a_1 + a_2$) rises only slightly as k is increased.

To summarize these results, in the case of a 1% increase in political country risk, IPOs younger than 3 months underperform IPOs older than 3 months by 0.41%, IPOs younger than 6 months underperform IPOs older than 6 months by 0.42%, and IPOs younger than 9 months underperform IPOs older than 9 months by 0.49%.

To test when IPOs lose their excess sensitivity to political country risk changes, we perform a Wald test on the difference between a_1 and a_2 . The test statistic, together with the associated probability that $a_1 - a_2 = 0$ is reported in the last column of the above table. These statistics indicate that the hypothesis that privatized firms have excess sensitivity to political country risk up to 12 months after IPO cannot be rejected.

Finally, we have run some additional regressions to assess whether other factors influenced the response of IPO returns to political risk changes. We found no evidence that the sector of the IPO, the government retained share, the value of the privatized firm, the existence of a golden share for government, or the percentage of the sale open to foreign investors, influenced the relationship between IPO return and political risk.

Concluding, we can claim to have found considerable evidence that:

- i) Privatized firms in emerging markets are, relative to their national market, relatively more sensitive to political risk changes than the average stock.*
- ii) Most of the effect arises from the impact of large changes in perceived political risk.*
- iii) This relative sensitivity to large political risk changes decreases over time and appears to have disappeared a year after the IPO (or initial placement) date.*

Conclusions and Future Extensions

This paper has investigated the relative performance in the short and medium term of privatization stocks in emerging markets. We provide evidence that these stocks exhibit a greater exposure to political risk, that such risk is progressively resolved over time as political risk is resolved, and that the superior post-IPO performance of privatization stocks in part reflects a period of progressive resolution of policy risk in emerging markets.

There are several ways to extend and improve this line of inquiry. Our main intent is in expanding the dataset in order to allow for more precise estimates of the impact of political risk on the overall priced risk in privatization stocks, i.e. the relation between market betas and political risk betas. Moreover, we are interested in removing the restriction that all privatization sales have the same exposure to country risk. While we do not have a measure of individual companies' exposure to the risk of adverse policy changes, in future work we plan to investigate the possibility of different political risk betas across countries. A related goal is to establish whether the benefits of resolution of political risk are dependent on the initial level of perceived country risk. We plan to pursue these lines of investigation in future research.

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Table 1 : SIP Transactions Covered by Data Source

Country	Priv. Int.		World Bank		Megginson		Perotti		Petra		SUBTOTAL		TOTAL
	IPO	SPO	IPO	SPO	IPO	SPO	IPO	SPO	IPO	SPO	IPO	SPO	
Argentina	6	0	6	1	3	1	0	0	0	0	15	2	17
Bahrain	1	0	1	0	0	0	0	0	0	0	2	0	2
Barbados	0	0	1	0	0	0	0	0	0	0	1	0	1
Belize	0	0	1	1	0	0	0	0	0	0	1	1	2
Brazil	6	2	25	0	10	0	0	0	0	0	41	2	43
Chile	0	0	4	0	2	0	0	0	0	0	6	0	6
China	77	0	75	5	9	0	0	0	0	0	161	5	166
Colombia	2	0	2	0	0	0	0	0	0	0	4	0	4
Costa Rica	0	0	1	0	0	0	0	0	0	0	1	0	1
Cote d'Ivoire	1	0	3	0	0	0	0	0	0	0	4	0	4
Croatia	1	0	14	0	0	0	0	0	0	0	15	0	15
Ecuador	0	0	6	0	0	0	0	0	0	0	6	0	6
Egypt	39	4	3	1	0	0	0	0	0	0	42	5	47
Estonia	1	0	0	0	0	0	0	0	0	0	1	0	1
Ghana	3	0	1	1	1	0	0	0	0	0	5	1	6
Greece	2	1	1	0	1	0	0	0	0	0	4	1	5
Grenada	0	0	1	0	0	0	0	0	0	0	1	0	1
Hungary	13	4	10	1	2	1	43	0	6	0	74	6	80
India	4	2	37	20	2	0	0	0	0	0	43	22	65
Indonesia	4	1	4	0	3	0	0	0	0	0	11	1	12
Jamaica	4	0	2	0	2	0	0	0	0	0	8	0	8
Kenya	4	2	2	0	0	0	0	0	0	0	6	2	8
Korea	4	0	4	2	2	2	0	0	0	0	10	4	14
Kuwait	6	1	1	0	1	0	0	0	0	0	8	1	9
Malaysia	8	1	9	0	4	1	0	0	0	0	21	2	23
Mexico	1	2	2	2	3	2	0	0	0	0	6	6	12
Morocco	10	1	7	0	6	0	0	0	0	0	23	1	24
Nepal	0	0	1	0	0	0	0	0	0	0	1	0	1
Nicaragua	0	0	1	0	0	0	0	0	0	0	1	0	1
Nigeria	19	0	37	0	0	0	0	0	0	0	56	0	56
Oman	0	0	4	0	0	0	0	0	0	0	4	0	4
Pakistan	2	0	4	0	1	0	0	0	0	0	7	0	7
Panama	0	0	1	0	0	0	0	0	0	0	1	0	1
PN Guinea	1	0	0	0	0	0	0	0	0	0	1	0	1
Peru	3	0	10	1	0	0	0	0	0	0	13	1	14
Philippines	3	1	4	0	0	0	0	0	0	0	7	1	8
Poland	41	1	11	1	12	0	69	0	29	0	162	2	164
Portugal	17	11	33	9	19	12	0	0	0	0	69	32	101
Romania	4	0	0	0	0	0	0	0	0	0	4	0	4
Russia	5	0	0	0	0	0	0	0	0	0	5	0	5
Slovakia	1	0	1	0	1	0	0	0	0	0	3	0	3
South Africa	2	0	0	0	0	0	0	0	0	0	2	0	2
Sri Lanka	3	0	18	0	0	0	0	0	0	0	21	0	21
Tanzania	0	0	1	0	0	0	0	0	0	0	1	0	1
Thailand	8	0	7	1	4	0	0	0	0	0	19	1	20
Trin & Tob	0	0	5	0	0	0	0	0	0	0	5	0	5
Tunisia	1	0	5	0	0	0	0	0	0	0	6	0	6
Turkey	3	0	26	19	2	0	0	0	0	0	31	19	50
Uganda	0	0	3	0	0	0	0	0	0	0	3	0	3
Venezuela	1	0	2	0	0	0	0	0	0	0	3	0	3
Zambia	1	0	0	0	0	0	0	0	0	0	1	0	1
Zimbabwe	2	1	0	0	0	0	0	0	0	0	2	1	3
SUBTOTAL	314	35	397	65	90	19	112	0	35	0	948	119	1067
TOTAL	349		462		109		112		35		1067		

Table 2 : SIP Transactions Covered by All Data Sources Combined

Country	IPO	SPO	Total
Argentina	7	1	8
Bahrain	0	0	0
Barbados	0	0	0
Belize	0	0	0
Brazil	14	4	18
Chile	4	0	4
China	97	4	101
Colombia	2	0	2
Costa Rica	0	0	0
Cote d'Ivoire	0	0	0
Croatia	0	0	0
Ecuador	3	1	4
Egypt	19	3	22
Estonia	0	0	0
Ghana	1	1	2
Greece	3	0	3
Grenada	0	0	0
Hungary	23	7	30
India	25	18	43
Indonesia	5	1	6
Jamaica	0	0	0
Kenya	4	2	6
Korea	3	3	6
Kuwait	0	0	0
Malaysia	9	2	11
Mexico	3	3	6
Morocco	9	2	11
Nepal	0	0	0
Nicaragua	0	0	0
Nigeria	0	0	0
Oman	0	0	0
Pakistan	2	0	2
Panama	0	0	0
Papua New Guinea	0	0	0
Peru	9	0	9
Philippines	4	2	6
Poland	71	4	75
Portugal	18	14	32
Romania	0	0	0
Russia	5	0	5
Slovakia	1	0	1
South Africa	1	0	1
Sri Lanka	9	2	11
Tanzania	0	0	0
Thailand	8	1	9
Trinidad & Tobago	0	0	0
Tunisia	0	0	0
Turkey	24	16	40
Uganda	0	0	0
Venezuela	2	0	2
Zambia	0	0	0
Zimbabwe	1	0	1
TOTAL	386	91	477

Table 3: IPOs Included in the Sample

DATASTREAM	COMPANY	COUNTRY	IPO DATE
AG:CEP	CENTRAL PUERTO	ARGENTIN	NOV-93
AG:MET	METROGAS	ARGENTIN	NOV-94
AG:TEC	TELECOM ARGENTINA 'B'	ARGENTIN	MAR-92
AG:TEA	TELEFONICA DE ARGN.B	ARGENTIN	DEC-91
AG:YPF	YPF 'D'	ARGENTIN	JUL-93
BR:AC3	ACESITA ON	BRAZIL	JAN-92
BR:COP	COPEL ON	BRAZIL	JAN-97
BR:ESC	ESCELSA ON	BRAZIL	AUG-97
BR:OX4	OXITENO PN	BRAZIL	JAN-93
BR:SAB	SABESP ON	BRAZIL	JUL-97
CL:CAA	CTC 'A'	CHILE	SEP-90
K:ANG CH	ANGANG NEW STEEL 'H' SHARES (~CH)	CHINA	JUL-97
K:BPOW CH	BEIJING DATANG POWER 'H SHARES' (~CH)	CHINA	MAR-97
K:BEEN CH	BEIJING ENTERPRISE (~CH)	CHINA	MAY-97
K:BNS CH	BEIJING NORTH STAR CO. 'H SHARES' (~CH)	CHINA	MAY-97
K:BEY CH	BEIJING YANHUA 'H SHARES' (~CH)	CHINA	JUL-97
U:CBA CH	BRILLIANCE CHINA AUTV.HLDG. (~CH)	CHINA	OCT-92
K:CSH CH	CATIC SHENZHEN 'H' (~CH)	CHINA	SEP-97
K:CHTC CH	CHENGDU TELECOM.CABLE 'H SHARES' (~CH)	CHINA	DEC-94
CN:CFP	CHINA FIRST PENCIL 'A'	CHINA	JUL-92
K:CSA CH	CHINA STHN.AIRL. 'H' (~CH)	CHINA	AUG-97
CN:CTM CH	CHINA TEX.MCH. 'B' (US\$) (~CH)	CHINA	JUL-92
CN:DZT CH	SHAL.DAZHONG TAXI 'B' (US\$) (~CH)	CHINA	JUN-92
K:DENW CH	DENWAY INV. (~CH)	CHINA	JAN-93
K:FTH CH	FIRST TRACTOR 'H SHARES' (~CH)	CHINA	JUN-97
CN:FEL	FOSHAN ELEC.& LTG. 'A'	CHINA	JUL-95
K:FNHK CH	FOUNDER HONG KONG (~CH)	CHINA	DEC-95
K:KELO CH	GUANGDONG KELON 'H-SHARES' (~CH)	CHINA	JUL-96
K:GUAS CH	GUANGZHOU SHIP. 'H SHARES' (~CH)	CHINA	JUL-93
K:HARP CH	HARBIN POWER EQUIPMENT 'H SHARES' (~CH)	CHINA	DEC-94
CN:HMC	HEFEI MEILING 'A'	CHINA	AUG-96
CN:HEG	HEILONGJIANG ELEC. 'A'	CHINA	APR-96
U:HNP CH	HUANENG PWR.SPN.ADR.N 1 ADR = 40 SHARES (~CH)	CHINA	OCT-94
CN:HCC	HUAXIN CEMENT 'A'	CHINA	JAN-94
K:JCOP CH	JIANGXI COPPER 'H SHARES' (~CH)	CHINA	JUN-97
K:JILI CH	JILIN CHEMICAL IND. 'H SHARES' (~CH)	CHINA	MAY-95
K:LUOY CH	LUOYANG GLASS 'H SHARES' (~CH)	CHINA	JUN-94
CN:YUT CH	LUTHAI TEXTILE 'B' (~CH)	CHINA	AUG-97
K:MAAN CH	MAANSHAN IRON & STL. 'H SHARES' (~CH)	CHINA	OCT-93
CN:NNP	NANJING PANDA ELEC. 'A'	CHINA	APR-96
CN:SPB	SHAL.PHOENIX BICYCLE 'A'	CHINA	NOV-93
K:QING CH	QINGLING MOTORS 'H SHARES' (~CH)	CHINA	AUG-94
CN:SDP CH	SHANDONG CHENMING 'B' (~CH)	CHINA	MAY-97
U:SH CH	SHANDONG HUAN N SPN.ADR.1 ADR = 50 SHARES (~CH)	CHINA	AUG-94
K:SHXI CH	SHANDONG XINHUA PHARM. 'H SHARES' (~CH)	CHINA	DEC-96
CN:CAC CH	SHAL.CHLOR CHM. 'B' (US\$) (~CH)	CHINA	JUL-92
CN:SDG	SHAL.DAJIANG STOCK 'A'	CHINA	DEC-93
CN:SAB CH	SHAL.FOREVER BICYCLE 'B'(US\$) (~CH)	CHINA	NOV-93
K:SHIP CH	SHAI. HAI XING SHIP. 'H SHARES' (~CH)	CHINA	NOV-94
CN:SLS	SHALLIANHUA FIBRE 'A'	CHINA	JAN-93
K:SHPT CH	SHANGHAI PETROCHEM. 'H SHARES' (~CH)	CHINA	JUL-93
CN:STE	SHAL.POSTS & TELECOM.'A'	CHINA	JAN-94
CN:SCO	SHAL.REFRIG.COMPR. 'A'	CHINA	DEC-92
CN:RB CH	SHAL.RUBBER BELT 'B' (~CH)	CHINA	JUL-92
CN:SSE CH	SHAL.SHANGLING ELEC.'B' (US\$) (~CH)	CHINA	JAN-94
CN:T&R CH	SHAL.TYRE & RUBBER 'B' (~CH)	CHINA	JUL-92
CN:SVD	SHAI.VACUUM ELT.APP.'A'	CHINA	JAN-92
K:EXPR CH	SHENZHEN EXPRESSWAY 'H SHARES' (~CH)	CHINA	MAR-97
CN:SJM CH	SHN.JIANSHE MCYCLES.'B' (~CH)	CHINA	JUN-95
CN:SSG CH	SHENZHEN SEG 'B' (~CH)	CHINA	JUL-96
CN:SBO	SHN.SHENBAO INDL. 'A'	CHINA	NOV-92
CN:XMZ	TIBET PEARL STAR 'A'	CHINA	JAN-95
K:TSIN CH	TSINGTAO BREWERY 'H SHARES' (~CH)	CHINA	JUL-93
CN:WFI CH	WEIFU FUEL INJECTION'B' (~CH)	CHINA	AUG-95
K:ZHRC CH	ZHENHAI REFN. & CHM. 'H SHARES' (~CH)	CHINA	NOV-94
EG:EDF	EAST DELTA FLOUR MILLS	EGYPT	OCT-96
EG:NFC	THE NILE FOR PHARMACY	EGYPT	MAY-95
G:HTO	OTE-SA TELECOM ORG.	GREECE	APR-96

HN:BON	BONBON	HUNGARY	JUN-91
HN:BOR	BORSODCHEM	HUNGARY	APR-96
HN:RIC	RICHTER GEDEON	HUNGARY	OCT-94
HN:DAH	DANUBIUS HOTEL & SPA	HUNGARY	DEC-92
HN:DOM	DOMUS	HUNGARY	DEC-93
HN:EGI	EGIS	HUNGARY	JUN-94
HN:GLO	GLOBUS	HUNGARY	DEC-93
O:IBUS HF	IBUSZ CERT.(AS) (~HF)	HUNGARY	JUN-90
HN:MMG	MOL MAGYAR	HUNGARY	NOV-95
HN:OTP	OTP BANK	HUNGARY	JUL-95
HN:PAN	PANNONPLAST	HUNGARY	MAY-94
HN:PIC	PICK SZEGED	HUNGARY	DEC-92
HN:PRI	PRIMAGAZ HUNGARIA	HUNGARY	DEC-93
HN:SOP	SOPRONI SORGYAR	HUNGARY	APR-94
HN:STY	STYL GARMENT FACTORY	HUNGARY	JUN-91
HN:ZWA	ZWACK UNICUM	HUNGARY	MAY-93
ID:BNE	BANK NEGARA INDONESIA	INDONESIA	NOV-96
ID:IAT	INDOSAT	INDONESIA	OCT-94
GD:TAM RI	TAMBANG TIMAH GDR (~RI)	INDONESIA	OCT-95
ID:RLK	TELEKOMUNIKASI INDO.	INDONESIA	NOV-95
KO:PIS	POSCO	KOREA	JUN-88
L:EDAN	EDARAN OTOMOBIL NASIONAL	MALAYSIA	JUL-90
MX:SFA	GSERFIN 'A'	MEXICO	DEC-93
MC:CIO	CIOR	MOROCCO	DEC-93
MC:SNT	SNI	MOROCCO	OCT-94
PE:BVC	BUENAVENTURA CAP	PERU	JAN-91
PH:MRA	MANILA ELECTRIC 'A'	PHILLIPINE	DEC-91
PH:PTC	PETRON CORP.	PHILIPPINE	AUG-94
PO:APT	APATOR	POLAND	MAY-97
PO:BPH	BPH	POLAND	JAN-95
PO:PHY	BANK HANDLOWY	POLAND	JUN-97
PO:BUX	BUDIMEX	POLAND	MAY-95
PO:FAR	FARM FOOD	POLAND	OCT-95
PO:BSK	BSK	POLAND	DEC-93
PO:ELT	ELEKTROBUDOWA SA	POLAND	JAN-96
PO:ESP	ESPEBEPE	POLAND	OCT-94
PO:BUD	EXBUD	POLAND	APR-91
PO:SLA	KABLE	POLAND	APR-91
PO:KRE	KREDYT 'B'	POLAND	JUL-94
PO:KRO	KROSNO	POLAND	APR-91
PO:MOS	MOSTALEXP	POLAND	APR-92
PO:MTR	MOSTALWAR	POLAND	NOV-93
PO:MZB	MOSTALZAB	POLAND	NOV-94
PO:OPT	OPTIMUS	POLAND	AUG-94
PO:PET	PETROBANK	POLAND	OCT-95
PO:PSA	PROCHEM	POLAND	JUN-94
PO:RAF	RAFAKO	POLAND	FEB-94
PO:POL	POLIFARBC	POLAND	MAY-93
PO:REL	RELPOL	POLAND	FEB-96
PO:SWA	SWARZDEZ	POLAND	MAY-91
PO:WAR	WARTA	POLAND	MAY-95
PO:WBK	WBK	POLAND	MAY-93
PO:WED	WEDEL	POLAND	NOV-91
PO:WOL	WOLCZANK	POLAND	JUN-91
P:CPR	CIMPOR	PORTUGAL	JUN-94
P:CPP	CREDITO PREDIAL	PORTUGAL	DEC-92
P:ECP	ELECTRICIDAD DE PORTUGAL	PORTUGAL	JUN-97
P:IMP	SEGUROS IMPERIO	PORTUGAL	NOV-92
P:PTI	PORTUCEL INDUSTRIAL	PORTUGAL	JUN-95
P:PTC	PORTUGAL TELECOM 'B'	PORTUGAL	JUN-95
SL:DSC	DISTILLERIES	SRI LANKA	JAN-92
Q:DHIP	DHIPAYA	THAILAND	JUL-96
Q:EWRD	ETN.WT.RES.DEV.& MAN.	THAILAND	JUN-97
TK:ADA	ADANA CIMENTO 'A'	TURKEY	JAN-91
TK:MIG	MIGROS TURK	TURKEY	JAN-91
TK:TEL	TELETAS TELEKOMUNIKASYON	TURKEY	MAR-88

**Table 4: Market Return Data Availability and Descriptive Statistics
(Monthly Returns in Local Currency)**

Country	Index	First Available	Mean	St. Dev.
Argentina	IFC General	Jan-85	14.0%	42.9%
Brazil	MSCI	Jan-88	21.0%	26.8%
Chile	IFC General	Jan-85	3.3%	7.4%
China	IFC General	Nov-93	1.9%	18.0%
Egypt	IFC General	Feb-97	0.4%	8.0%
Greece	IFC General	Jan-85	2.1%	11.3%
Hungary	IFC General	Feb-94	3.2%	13.1%
Indonesia	IFC General	Jan-90	0.7%	9.1%
Korea	IFC General	Jan-85	0.9%	8.2%
Malaysia	IFC General	Jan-85	0.8%	7.9%
Mexico	IFC General	Jan-85	5.1%	12.4%
Morocco	IFC General	Feb-97	3.7%	7.2%
Peru	IFC General	Oct-93	2.5%	9.3%
Philippines	IFC General	Jan-85	2.7%	10.7%
Poland	IFC General	Feb-94	1.6%	15.5%
Portugal	IFC General	Feb-86	2.4%	11.5%
Sri Lanka	IFC General	Oct-93	0.3%	8.4%
Thailand	IFC General	Jan-85	1.2%	9.7%
Turkey	IFC General	Jan-87	7.4%	19.3%

N.B. The average monthly returns for some countries may appear unreasonably high. Recall however, that these are returns in local currency, which have not been corrected for inflation.

Table 5: Descriptive Statistics for Country Risk Indicators

Country	Political Risk		Economic Risk		Financial Risk		Composite Risk	
	Average	St. Dev.	Average	St. Dev.	Average	St. Dev.	Average	St. Dev.
Argentina	0.3%	1.9%	0.9%	6.6%	0.6%	4.9%	0.4%	2.1%
Brazil	0.2%	1.7%	0.6%	4.6%	0.3%	2.8%	0.2%	1.6%
Chile	0.3%	1.6%	0.4%	3.9%	0.4%	1.9%	0.3%	1.4%
China	0.0%	1.7%	0.1%	3.5%	0.2%	2.7%	0.1%	1.5%
Egypt	0.2%	2.5%	0.3%	5.2%	0.4%	3.1%	0.2%	1.9%
Greece	0.2%	1.6%	0.2%	3.3%	0.2%	2.3%	0.2%	1.5%
Hungary	0.1%	1.2%	0.1%	3.9%	0.1%	2.4%	0.1%	1.4%
Indonesia	0.2%	1.8%	0.2%	2.7%	0.2%	3.0%	0.2%	1.6%
Korea	0.1%	2.0%	0.1%	1.6%	0.1%	1.6%	0.1%	1.2%
Malaysia	0.0%	1.2%	0.0%	1.8%	0.0%	2.5%	0.0%	1.2%
Mexico	0.0%	1.6%	0.3%	4.0%	0.3%	3.4%	0.1%	1.8%
Morocco	0.3%	2.9%	0.1%	3.1%	0.3%	3.2%	0.2%	2.3%
Peru	0.2%	3.5%	0.4%	5.3%	0.6%	6.7%	0.3%	2.8%
Philippines	0.5%	3.2%	0.3%	2.6%	0.5%	4.0%	0.4%	2.2%
Poland	0.4%	1.6%	0.4%	3.7%	0.4%	2.8%	0.3%	1.6%
Portugal	0.1%	1.4%	0.2%	1.9%	0.1%	1.9%	0.1%	1.1%
Sri Lanka	0.1%	3.3%	NA	NA	NA	NA	0.1%	2.5%
Thailand	0.1%	1.9%	0.0%	1.9%	0.0%	2.7%	0.1%	1.4%
Turkey	0.1%	3.7%	0.0%	4.8%	0.1%	7.1%	0.0%	3.1%

Table 6: Sample of Large Shocks

Country	Shock Date	Shock Size	Number of IPOs	Avg. MAR	Avg. Age
Argentina	Sep-95	-2.6	5	-2.3%	29.8
Brazil	May-96	2.8	2	-10.4%	47.0
	Jun-96	-2.9	2	-17.8%	47.9
Chile	Sep-97	-2.9	1	6.6%	85.0
Hungary	May-96	3.8	16	-5.9%	32.1
	Jun-96	-2.8	16	-6.4%	33.0
	Aug-97	2.6	16	-1.3%	47.1
	Sep-97	-4.6	16	-0.5%	48.1
Indonesia	Jun-96	2.7	3	-0.2%	12.1
	Sep-97	-4.3	4	4.8%	23.1
S. Korea	Mar-90	3.2	1	-1.4%	22.0
	Apr-90	-3.9	1	-4.4%	23.0
	Oct-91	6.2	1	0.5%	41.0
	Sep-97	-5.1	1	5.3%	112.0
Malaysia	Sep-97	-6.9	1	17.3%	87.0
Mexico	Jan-95	-5.2	1	3.8%	14.0
	Sep-97	-2.6	1	-19.5%	46.0
Morocco	Sep-97	-3.5	2	1.1%	40.7
Peru	Dec-95	2.7	1	10.1%	59.9
Philippines	Mar-92	3.2	1	8.0%	4.0
	Jul-92	6.6	1	-6.2%	8.0
	May-95	-2.5	2	1.2%	25.9
Poland	Sep-97	-3.4	26	-4.9%	43.8
Portugal	Nov-95	2.8	5	0.8%	20.2
	Sep-97	-5.9	6	-4.8%	35.8
Sri Lanka	Jan-95	2.5	1	2.4%	37.0
	Aug-97	3.1	1	8.3%	67.9
	Sep-97	-3.0	1	-5.0%	69.0
Thailand	Sep-97	-8.2	2	-38.8%	9.0
Turkey	Mar-91	3.3	3	28.9%	14.3
	Jan-92	8.7	3	4.7%	24.3
	May-96	3.6	3	3.6%	76.3
	Jun-96	-3.3	3	-6.2%	77.2
	Sep-97	-2.5	3	-0.7%	92.3