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97s-15

**Liberalization, Political Risk  
and Stock Market Returns  
in Emerging Markets**

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Montréal  
Avril 1997

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# Liberalization, Political Risk and Stock Market Returns in Emerging Markets\*

Jean-Marc Suret<sup>†</sup>, Jean-François L'Her<sup>‡</sup>

## Résumé / Abstract

Cet article propose une analyse des périodes d'hyper-rendement des marchés boursiers émergents, de 1976 à 1994 et porte sur 20 pays. Une année dite d'hyper-rendement survient lorsque, au cours de cette année, il est possible d'observer une période durant laquelle le rendement cumulé de l'indice boursier dépasse 70 %. 23 % des 279 années/pays étudiés correspondent à cette définition. Un modèle logistique incorpore des indicateurs macroéconomiques contemporains, des indicateurs du processus de libéralisation des marchés boursiers et les variations du niveau de risque politique. Les périodes d'hyper-rendement sont associées de façon significative aux variations de risque politique et aux épisodes de libéralisation, mais les relations avec les changements de conditions économiques sont faibles. Un modèle prédictif est également testé, qui incorpore des mesures agrégées des ratios cours/bénéfice et valeur comptable/valeur marchande en plus des variations futures des conditions économiques. Dans ce cas également, les variations contemporaines de risque politique et les épisodes de libéralisation jouent un rôle prédominant.

*In this paper, we analyze hyper-return periods from 1976 to 1994 for 20 emerging stock markets. We define a hyper-return period as a calendar year during which a cumulative geometric return in excess of 70% is observed. According to this definition, the hyper-return periods represent 23% of the 279 country-year observations examined. First, a logistic model incorporating contemporary macroeconomic variables, market liberalization steps and political risk changes is used to explain hyper-return periods. Hyper-return periods are shown to be associated with political risk changes and with liberalization steps, whereas their relationship with changes in macroeconomic conditions is shown to be weak. Second, when a predictive model where aggregate price-to-earnings and book-to-market ratios and macroeconomic variables are used in addition to changes in political risk and liberalization steps, the latter variables play a predominant role.*

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**Mots Clés :** Marchés émergents, marchés boursiers, risque politique, libéralisation

**Keywords :** Emerging Markets, Stock Markets, Political Risk, Liberalization

JEL : G1

## Introduction

In the last few years emerging markets have attracted many investors. The reason is that their stock markets generate considerable returns that have low correlations with those of industrialized countries' stock markets. This increases the benefits of international diversification (Harvey, 1993). However, these markets are also very volatile (Divecha, Drach and Sefek, 1992; Harvey, 1993) and a large part of their performance seems to be driven by a few periods with excessively high returns. For instance (Table 1), annual geometric returns reached 602% in Venezuela (1990), 502% in Turkey (1989), 459% in Argentina (1976) and 383% in the Philippines (1986). The downside is that these high returns are often followed by large losses: -75% in Mexico (1982), -66% in Brazil (1990), -63% in Zimbabwe (1981) and -61% in Argentina (1989). These return *outliers* challenge both academics and practitioners. Can these hyper-returns be predicted by time-series models that account for conditional volatility or for unexpected changes in economic and structural factors? Are these returns induced by irrational factors? For practitioners, the analysis of these periods is also important because the return on an emerging market portfolio largely depends on the manager's ability to anticipate them. This paper analyzes hyper-return periods observed in a sample of emerging markets from 1976 to 1994. It also provides an empirical validation of the Kim and Singal (1993) and Hartmann and Khambata (1993) hypothesis, that links high stock market returns to the liberalization and gradual opening of the market.

The paper is organized as follows. In the first section we describe the data and hypotheses. We devote the second part of the paper to explaining hyper-return periods, using a model that incorporates both liberalization and political risk variables and macroeconomic determinants of stock market returns. In the third part of the paper, we investigate whether it is possible to predict hyper-return periods, using aggregate stock market anomalies, naive macroeconomic forecasts and liberalization variables. The last section offers concluding comments.

## 1. Data and hypotheses

### 1.1 Return distribution analysis

We obtain monthly stock market returns, expressed in U.S. dollars, from the *Emerging Market Database* (EMDB)<sup>1</sup>. Table 1 reports, for each of the 20

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<sup>1</sup>The *Emerging Markets Data Base* is provided by the International Finance Corporation, from the World Bank Group. See *The Emerging Stock Markets Fact Book* for a description of the index composition and computation. The section entitled *Currency Consideration* of this publication provides information relative to the conversion of local currency to the U.S. dollar.

countries under study, descriptive statistics about their annual returns. For 9 countries (Argentina, Brazil, Chile, Greece, India, Korea, Mexico, Thailand, Zimbabwe), data are available for the 1976-1994 period (19 years). For 9 other countries (Colombia, Malaysia, Nigeria, Pakistan, the Philippines, Portugal, Taiwan, Turkey, Venezuela) data are only available for 8 to 10 years (1985-1994 subperiod or 1987-1994 subperiod). Finally, data for Indonesia and Jordan are available for 5 years and 16 years, respectively. To demonstrate the importance of hyper-return periods (HRPs, hereafter), we compare mean annual geometric returns obtained for each country from the complete series of available return observations to those obtained after omitting the highest annual return from the series. This criterion reduces considerably the average annual index returns. For instance, the average Turkish index return decreases from 20.8% to -4 %, while the Venezuelan index return goes from 13.7% to -7.1%. To better assess the relative importance of extreme annual returns, we also report maximum and minimum return values. In 15 out of 20 countries we observe at least one annual return greater than or equal to 95% (twice as much as the index). Losses can also be important, with half of the countries (10 countries) displaying an annual drop of 50% or more. However, the low frequency of dramatic negative return periods makes their study less interesting.

**Table 1**  
**Main characteristics of the distribution of annual returns of emerging stock markets, 1976-1994.**

	Years		Average annual arithmetic returns	Average annual geometric return		Maximum		First quartile	Median	Third quartile	Minimum	
	Beg.	Nb.		Global	The highest annual return is omitted	%	Year				%	Year
Argentina	76	19	731	261	161	4586	76	1682	98	-265	-611	89
Brazil	76	19	269	110	56	1704	91	698	3	-183	-657	90
Chile	76	19	479	343	296	1548	86	981	450	162	-546	82
Colombia	85	10	549	438	329	1913	91	786	361	122	-123	88
Greece	76	19	109	10	-40	1522	87	355	-2	-272	-534	83
India	76	19	197	174	139	1051	85	303	184	15	-156	87
Indonesia	90	5	108	3	-169	1134	93	29	-6	-193	-423	91
Jordan	79	16	109	91	67	522	81	245	16	-58	-122	84
Korea	76	19	241	180	142	1128	88	392	205	-44	-380	80
Malaysia	85	10	181	137	66	1029	93	279	120	-112	-215	94
Mexico	76	19	331	180	143	1083	88	972	254	-48	-750	82
Nigeria	85	10	186	52	-61	1909	94	378	60	-132	-567	86
Pakistan	85	10	278	206	102	1721	91	207	124	64	-184	92
Philippines	85	10	737	473	291	3826	86	595	494	183	-539	90
Portugal	87	8	308	152	-6	2241	87	391	109	-239	-298	90
Taiwan	85	10	407	278	203	1208	87	933	359	-6	-509	90
Thailand	76	19	292	221	177	1382	77	407	217	-68	-322	79
Turkey	87	8	1000	208	-40	5024	89	2482	-215	-473	-611	88
Venezuela	85	10	597	137	-71	6016	90	526	-155	-266	-423	92
Zimbabwe	76	19	262	81	31	1538	85	947	184	-195	-630	81

## 1.2 Defining and detecting hyper-return periods

We define HRPs as periods with returns of 70% or more. The HRPs could have been detected by looking at the geometric annual returns in a year. However, the planning horizon of portfolio managers do not necessarily correspond with a calendar year or any particular 12-month period. Therefore, a two-step procedure was used whereby HRPs were first identified and then assigned to calendar years as follows.

First, geometric returns were computed over a 6-month moving window over the entire sample and period available. Windows with geometric returns greater than or equal to 70% were identified. If such returns occur once or more during a calendar year, the given year is said to be a hyper-return period. If such returns occur during the first three months of a calendar year, the HRP is assigned to the previous calendar year.<sup>2</sup> Using this method, 24% of the 279 country-year observations in the sample were identified as HRPs. Table 2 reports these HRPs by country and by year. Relatively few of these HRPs occur in the 1976-1984 subperiod (except for Argentina and Chile), most appearing in the 1985-1994 subperiod. The year with the most HRPs (8) is 1987 and the country with the greatest number of HRPs (8) is Argentina.

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<sup>2</sup> This admittedly arbitrary definition has been used by Frankel and Rose (1996) in their study of currency crashes in emerging markets. As these limits are imposed arbitrarily, a sensitivity analysis is conducted to test the robustness of results to this definition of HRPs.





### 1.3 Hypotheses

A survey of the financial literature revealed relatively few studies that deal specifically with HRPs. However, it is generally accepted that liberalization periods are associated with high returns on market indices. Gooptu (1993) notes that “recent regulatory changes in the developing countries are creating an appropriate environment for attracting foreign portfolio investment flows” (p. 60). As indicated by Hartmann and Khambata (1993, p. 92), such capital flows can lead to an increase in stock prices. Demingûç-Kunt and Huizinga (1994) note that restrictions to foreign investment represent effective barriers to portfolio flows and significantly increase pretax equity returns. Hartmann and Khambata (1993) as well as Kim and Singal (1993) estimate that liberalization steps increase the demand for emerging market equities from foreign investors, thus pushing up market returns. However, legal and fiscal restrictions are but two of a variety of barriers to foreign investment. Political risk is also an important factor in international portfolio decisions<sup>3</sup>. Political risk is a multidimensional concept which includes some aspects similar to those previously evoked concerning liberalization. For example, Solnik (1991) states that political transfer risk can take the form of a prohibition on repatriation of profits and/or capital investment from a foreign country. However, Robock (1971) suggests a broader definition of political risk, including unexpected discontinuities in the business environment resulting from political changes. Errunza (1983) and French and Poterba (1991), among others, acknowledge that political risk influences the international portfolio investment decision. Thus a reduction in political risk might also be associated with a rapid increase in stock prices. On the basis of these studies, the central null hypothesis of this paper can be stated as follows: There is no relationship between HRPs and either decreases in political risk or the liberalization process.

To specify the model correctly, it is necessary to take into account other variables likely to influence market index returns. Previous studies (Chen, Roll and Ross, 1986; Bodurtha, Cho and Senbet, 1989; Ferson and Harvey, 1993) have identified three main (macroeconomic) factors that can be linked to stock prices: economic activity, unexpected inflation and interest rates. Given the difficulty of obtaining reliable and consistent data on interest rates in emerging markets, we take only the first two variables into account. In addition, recent studies (Easton, Harris and Ohlson, 1992) have brought to light a close relationship between firms’ market and accounting returns. In consequence, among the control variables, we include the variation of the accounting rate of return on equity for all stocks included in the IFC index (also provided by the *EMDB*). Thus, the explicative model includes

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<sup>3</sup> See Cosset and Suret (1995) for a review of previous studies on political risk.

macroeconomic indicators, the accounting rate of return and the political risk and liberalization variables discussed above.

Our model to predict HRP is based on previous empirical studies that associate security returns to market anomalies (Fama and French, 1992). These studies were generally conducted at the security level. The three generally accepted market anomalies are size, price-to-earnings ratio (PE) and price-to-book ratio (PB). The first anomaly is not relevant when using aggregated data (emerging stock market indices), but we retain the aggregate PE and PB ratios. Consequently, three groups of variables were used to determine to what extent it is possible to anticipate HRPs. The first set of variables are the variations in political risk and liberalization steps during the contemporary period. Implicitly we are assuming that these variations can be partially anticipated. The second group of variables is made up of three indicators (variation of inflation, of Gross Domestic Product and of return on equity) during the preceding year. Finally, assuming that an analogy between market anomalies at the stock level and market anomalies at the market level is possible, the third group of variables includes aggregate price-to-earnings (PE) and price-to-book (PB) ratios.

#### 1.4 Measurement problems

*Political risk:* Monthly political risk indices relative to direct investment, as provided by Political Risk Services (PRS), are used as measures of perceived political risk<sup>4</sup>. A grade "A" for a country means low political risk exposure. According to Cosset and Suret (1995), international portfolio investors' political risk is associated with the uncertainty of future capital controls and therefore with PRS' risk category that applies to financial transfers. Specifically, this category refers to risk of financial transfers, local currency non-convertibility, and transfer of foreign currency out of the country (the transfer could be for payment of exports, repatriation of profits or capital, or for any other business purpose). Political risk indices are first transformed to numerical values (see appendix 1). The relative annual variation of the political risk level observed from December to December is then calculated as  $\Delta PR_t = ((PR_t - PR_{t-1}) / PR_{t-1})$ .

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<sup>4</sup> PRS, formerly *Frost & Sullivan* and developed by Michel O'Leary and William Coplin, is one of the world's leading agencies providing assessments of political risk. PRS's monthly newsletter, *Political Risk Letter*, publishes monthly forecasts of political risk in 85 countries. These forecasts rely on independent judgments from over 250 country experts in the United States and overseas. See Cosset and Suret (1995) for a more complete description of the data. For the two first years covered by the study, no political risk ratings were available. The first available ratings (1978) are thus considered to apply to previous years, i.e. we assume no variation in political risk grades for the years 1976 and 1977.

*Liberalization:* Taking into account steps leading to market liberalization is difficult since there is no systematic account of these events and liberalization is often a gradual process which can not easily be attributed to a specific date (Kim and Singal, 1993). A systematic survey of events linked to the liberalization of emerging markets was thus carried out. This account is similar to that of Kim and Singal, but spans a broader group of announcements. Indeed, included in this list are all events of an economic nature likely to affect markets in a positive way: liberalization measures, debt refinancing agreements, massive privatization initiatives, measures to ease and stimulate investments by foreigners, etc. A binary variable (LIB) takes the value 1 for a given country-year when a liberalization step is deemed to have taken place in that country during that year. When the announced measures bear on many consecutive years, each of these years is attributed the value 1. A list of liberalization steps and periods over which these events are expected to have an influence is presented in appendix 2.

Control variables were obtained as follows. The Gross Domestic Product (GDP), in US \$, was extracted from the *Emerging Stock Markets Fact Book* (various years, published by the International Finance Corporation, IFC), for the years 1980-1994. For 1976 to 1979 inclusively, data were taken from the *United Nations Statistical Yearbook*. Since data for corresponding years in both sources was not exactly identical, the data taken from the United Nations source were adjusted using the ratio of the 1980 GDP values taken from both sources.  $\Delta GDP_t$ , the annual variation of the GDP, is given by  $((GDP_t - GDP_{t-1}) / GDP_{t-1})$ . The rate of inflation,  $INFL_t$ , was also taken from the *Emerging Stock Markets Fact Book* for the years 1981-1994. From 1976 to 1980 inclusively, it was taken from the *International Financial Statistics* of the International Monetary Fund. The annual change in the inflation rate,  $\Delta INFL$ , is given by  $((INFL_t - INFL_{t-1}) / INFL_{t-1})$ .

The price-to-earnings ( $PE_t$ ) and the price-to-book value ( $PB_t$ ) ratios are extracted from the *Emerging Stock Markets Fact book*. The earnings-to-book value ratio is given by  $(PB_t / PE_t) = EB_t$ . The annual variation of the earnings-to-book value ratio,  $\Delta EB_t$ , is calculated as follows:  $(EB_t - EB_{t-1}) / EB_{t-1}$ .

## 2. Methodology and results

### 2.1 Models

Logistic models are used to estimate the coefficients associated with a set of independent variables likely to explain or predict the HRP dummy variable. The general logistic model can be stated as follows:

$$L_i = \ln \frac{P_i}{(1-P_i)} = \beta_1 + \beta_2 X_{i,2} + \dots + \beta_k X_{i,k} \quad (1)$$

where  $P_i$  is the probability of observing a HRP during the year  $t$  for a specific country and  $X_2$  to  $X_k$  are the independent variables. Four models are estimated. Models 1 and 2 are descriptive, testing the relationship between HRPs and concurrent variables, whereas Models 3 and 4 use previous years' data to predict future HRPs.

The following is the default model (Model 1):

$$\ln \frac{P_i}{(1-P_{i,t})} = \beta_1 + \beta_2 \Delta INFL_{i,t} + \beta_3 \Delta GDP_{i,t} + \beta_4 \Delta ROE_{i,t} + \beta_5 \Delta PR_{i,t} + \beta_6 \quad (2)$$

where  $\Delta INFL$ ,  $\Delta GDP$  and  $\Delta ROE$  stand for the annual relative change in the inflation rate, in the Gross Domestic Product and in the rate of return on equity of listed companies, respectively.  $\Delta PR$  is the annual change in political risk and  $LIB$  is a dummy variable taking the value 1 when a liberalization step occurs and 0 otherwise.

Model 2 allows for a possible expectation effect. It is possible that investors forecast the evolution, over the following year, of indicators associated with market returns. Thus, variations in inflation, GDP and ROE for the year following the year of analysis are added to model 1 and used as control variables. Model 2 can be stated as follows:

$$L_{i,t} = \beta_1 + \beta_2 \Delta INFL_{i,t} + \beta_3 \Delta GDP_{i,t} + \beta_4 \Delta ROE_{i,t} + \beta_5 \Delta PR_{i,t} + \beta_6 LIB_{i,t} + \beta_7 \Delta INFL_{i,t+1} + \beta_8 \Delta GDP_{i,t+1} + \beta_9 \Delta ROE_{i,t+1} \quad (3)$$

Model 3 is a simple predictive model which can be used by a portfolio manager investing in emerging markets:

$$L_i = \beta_1 + \beta_2 \Delta INFL_{i,t-1} + \beta_3 \Delta GDP_{i,t-1} + \beta_4 \Delta ROE_{i,t-1} + \beta_5 PE_{i,t-1} + \beta_6 PB_{i,t-1} \quad (4)$$

However, this predictive model does not factor in changes in political risk and the ongoing liberalization process. Model 4 takes these variables into account:

$$L_i = \beta_1 + \beta_2 \Delta INFL_{i,t-1} + \beta_3 \Delta GDP_{i,t-1} + \beta_4 \Delta ROE_{i,t-1} + \beta_5 \Delta PR_{i,t} + \beta_6 LIB_{i,t} + \beta_7 PE_{i,t-1} + \beta_8 PB_{i,t-1} \quad (5)$$

In this model, the variations in inflation, GDP and ROE are calculated for the preceding year while the average PE and PB ratios are estimated at the end of the year preceding the HRP. Variations in political risk are considered to be predictable and they are measured simultaneously with the HRP.

## 2.2 Results

Results of the various models are reported in Table 3, where HRPs are defined according to the 70% limit.

### *Explanatory models*

Models 1 and 2 show that variations in political risk as well as liberalization steps are highly significant. In Model 1, as expected, variations in political risk are negatively linked to the probability of observing a HRP (p-value of 0.0241), since a decrease (increase) in this risk is considered as positive (negative) for investors. On the other hand, liberalization steps are positively associated with HRPs (p-value of 0.0001) for they favour the inflow of foreign capital. The values of the coefficients associated with both variables, as well as their significance levels, vary slightly when changes in control variables are introduced in the model (Model 2).

The explanatory power of variations in inflation, GDP and firms' rates of return is weak. Indeed, none of the coefficients corresponding to these variables is significant at the 5% level. HRPs are thus linked more to variations in regulatory or political conditions than to contemporary variations in the economy (Model 1). However, the introduction of variations in inflation and GDP during the following period improves the model (Model 2). Both coefficients are significant at the 5% level. Thus, HRPs seem to occur not only during periods of liberalization or decrease in political risk, but also when agents expect an improvement in the country's economic performance. To test the ability of the models to correctly classify HRPs and non-HRPs, the percentage of concordant/discordant pairs has been computed<sup>5</sup>. Models 1 and 2 discriminate HRPs and non-HRPs at 75% and 79% levels, respectively.

### *Predictive models*

Models 3 and 4 attempt to predict HRPs. In Model 3, all variables are measured

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<sup>5</sup> A pair of input observations with different responses ( $L_i, L_j$ ) is said to be concordant (discordant) if the larger response has a lower (higher) predicted event probability ( $e^x/1-e^x$ ) than the smaller response. If the pair is neither concordant nor discordant, it is a tie.

before the HRP. Only the BM variable (book-to-market ratio) plays a significant role and predicts, to a certain extent, HRPs. It is negatively related to HRPs and has a p-value of 0.0038. This result is identical to that observed by Fama and French (1992) at the security level. In Model 4, the inclusion of variables linked to liberalization steps and to variations in political risk contemporary to HRPs appreciably improves the model, whose chi-square increases from 16.6% to 27.95%. Their inclusion, however, changes the sign of the BM coefficient. The ability of both models to correctly classify HRPs and non-HRPs is reduced compared to Models 1 and 2. However, the percentages of concordant/discordant pairs are still 67.5 % (Model 3) and 78,7% (Model 4).

#### *Sensitivity analysis*

In order to test the robustness of the previous results, the four models were re-estimated redefining HRPs as periods with 50% and 90% six-month geometric returns. When the definition is relaxed (50% level), the only notable difference is the fact that political risk variation no longer plays a significant role in the explanatory models (Models 1 and 2). Liberalization steps still play an important role. The relaxed definition of HRPs also weakens the performance of predictive models. On the other hand, when the definition of HRPs is made more restrictive (geometric returns of 90%), the validity of the models is reinforced, both overall and in terms of the variables' significance levels. With that exception, results are identical to those reported in Table 3.

### **3. Concluding remarks**

Extreme returns obtained on emerging stock markets and their low correlation with developed markets' returns have attracted many investors. However, their volatility has also discouraged many of them. We examined whether hyper-return periods observed in emerging stock markets are associated with three different sets of fundamental variables: 1) the liberalization process and changes in political risk; 2) macroeconomic indicators (variations in inflation, in Gross Domestic Product and in aggregate returns on equity); and 3) market anomalies transposed to the market level (price-to-earnings ratio and price-to-book ratio).

We find evidence that financial liberalization and changes in political risk are the variables that have the strongest impact on stock market returns and the existence of hyper-return periods. The positive effect of liberalization on emerging stock markets is consistent with an increase in foreign investment. This result is of particular interest because the implementation of liberalization processes in

emerging markets could alternatively have induced capital outflows (Kim and Singal, 1993) or complicated macroeconomic adjustment policies to capital flows (Corbo and Hernandez, 1993).

Macroeconomic indicators play a role in explaining hyper-return periods only if investors are able to correctly predict the future inflation rates or Gross Domestic Products. However, return on equity does not help to identify hyper-return periods. Finally, aggregate market anomalies are not good predictors of hyper-return periods. While the price-to-book ratio is significant and of the expected sign when used alone, it provides no incremental explanatory power when the political risk and liberalization variables are included in the model.

Thus, liberalization and political risk dominate other variables in identifying hyper-return periods in 20 emerging stock markets over the 1976-1994 period. However, macroeconomic variables as well as return on equity, price-to-earnings and price-to-book ratios are not free from measurement problems. The three latter variables are computed from detailed data about individual stocks from emerging stock markets. The reliability of these data is sometimes questionable. In addition, emerging stock market returns are driven by very few firms and the huge returns observed on emerging markets may be due to the strategic and comparative advantages of these firms on the international markets. The success factors of these firms are not considered in the paper. Finally, the paper focuses upon fundamental factors likely to explain hyper-return periods in emerging stock markets. However, these returns can be greatly affected by the considerable capital flows which are governed more by speculative and short-term interests than by investment decisions based on fundamentals.



**Table 3**  
**Results from the 4 logistic models used to estimate the coefficients of independent variables assumed to explain HRPs. P-values appear under the coefficients.**

	Model 1	Model 2	Model 3	Model 4
INTCPT	2.0039	2.4503	2.017	-2.4968
	0.0001*	0.0001*	0.0002*	0.0001*
$\Delta$ INFL	232502107	+0.1084		
		0.5893		
$\Delta$ GDP	1705601584	+0.9322		
		0.479		
$\Delta$ ROE	210604112	+0.0087		
		0.9796		
$\Delta$ PR	-1.7037	-1.5526		-26697
	0.0241*	0.0365*		0.0288*
LIB	+1.4717	+1.4644		+1.2780
	0.0001*	0.0004*		0.0140*
$BM_{t-1}$			-1.0786	+0.9519
			0.0038*	0.0149*
$PE_{t-1}$			-6308033	+0.0151
				0.6127
$\Delta$ INFL <sub>t-1</sub>			-0.0308	-217303819
			0.7275	
$\Delta$ GDP <sub>t-1</sub>			1023404900	-2545301464
$\Delta$ ROE <sub>t-1</sub>			409801848	-354803330
$\Delta$ INFL <sub>t+1</sub>		+0.4841		
		0.0301*		
$\Delta$ GDP <sub>t+1</sub>		+3.8821		
		0.0126*		
$\Delta$ ROE <sub>t+1</sub>		+0.0465		
		8681		
Chi Square	31401	36298	16990	27950
p. value	1	1	53	2
Association of predicted probabilities and observed responses				
Concordant	75.3%	79.0%	67.5%	78.5%
Discordant	24.3%	20.8%	31.6%	20.9%

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**Appendix 1**  
**Political risk levels**

The *Political Risk Services* quotations are transformed to numerical values for simplified use (refer to the Cosset and Suret study for the transformation in numerical values). In addition, the following table shows the reconciliation of political risk quotations from *Frost & Sullivan* and *Political Risk Services*.

<i>Political Risk Service</i> (1982 to 1984)	<i>Frost &amp; Sullivan</i> (1978 70 1981)	Quotation values used
A+	< 13%	0.125
A	13% - 15%	0.380
A-	15% - 17%	0.630
B+	17% - 20%	0.880
B	20% - 23%	1.130
B-	23% - 25%	1.380
C+	25% - 27%	1.630
C	27% - 30%	1.880
C-	30% - 33%	2.130
D+	33% - 35%	2.380
D	35% - 37%	2.630
D-	37% - 40%	2.880

**Appendix 2**  
**Steps of liberalization in emerging markets**

<b>Liberalization steps</b>	<b>Year of event</b>
<b>Argentina</b>	
A new team of Argentine policymakers set out to dismantle government controls in prices, interest, international trade and capital flows.	1976
Full liberalization of the banking system (EUI, 1986): elimination of highly centralized banking arrangements to give incentives to domestic financial intermediation.	1977
From 1976 until 1978, the financial market was characterized by many financial reforms, including interest rate liberalization in 1978 (Rojas-Suarez and Weisbrod, 1992).	1978
Massive privatization initiative.	1988
Almost complete elimination of controls on prices, salaries, and foreign exchange transactions.	1989
The tax on exports was eliminated. A major deregulation decree was issued. This ended a series of market-impeding rules and dissolved several regulatory bodies.	1991
October's massive deregulation programme included the following provisions: the abolition of the 36 % capital gains tax on foreign investors, the elimination of fixed brokerage commissions and the introduction of foreign competition in the brokerage industry.	1992
<b>Brazil</b>	
The Brazilian government began new efforts to stimulate interest in the market by creating the Securities Commission (mandate: to regulate the market and encourage its role in development). Other measures included an attempt to attract foreign investors through special investment companies.	1976
Interest rate were liberalized in November and a more relaxed price control policy was announced.	1980

New legislation (Resolution No 1224) which enables foreign investment in the domestic capital markets through two new mechanisms: “foreign capital investment funds” and “managed portfolios of bonds and securities”.	1985
The Central Bank issued resolution No 1460, amending the previous regulations on debt/equity swaps. Accordingly, funds originating from conversions can be invested in the Brazilian securities market through foreign capital conversion funds.	1988
Access of foreign investors to capital markets was liberalized.	1989
Foreign investment in Brazilian equities became more favorable after the passage of Resolutions 1848 and 1832. 1848: allows for the issuance of ADRs and IDRs through primary and secondary offerings. Foreigners are exempt from withholding tax on capital gains but dividends are subject to a 15 % tax at the time of remittance. 1938: takes away the diversification requirements of the past, abolishes the minimum time period of investment of capital (90 days), allows complete freedom for institutional investors although limiting them to a minority ownership in the company, allows foreign institutional investors to invest in the Brazilian market through a managed portfolio. The CVM plans to continue to liberalize rules for foreign investment.	1990
Brazil’s SEC announced new rules allowing foreign institutions to purchase shares listed on Brazilian exchanges directly.	1991
A special tax on profit and dividend remittances abroad was eliminated and foreign investors were authorized to operate in future and option markets on interest rates and securities (Banco Pactual, 1994)	1992
<hr/>	
<b>Chile</b>	
Allocative quotas and interest rate ceilings were abolished in 1976. Restrictions to capital flows were eliminated in 1976 (Faruqi, 1993).	1976
Deregulation of the country’s financial system (Sundararajan and Balino, 1991).	1977
In 1979, international capital flows were freed and commercial banks were authorized to accept foreign deposits (Haggard, Lee, Maxfield, 1993).	1979

Establishment of a Securities Commission.	1980
A law was enacted which provides the legal framework within which foreign investment funds may invest new money in the securities market.	1987
In 1990, capital flows were liberalized.	1990
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<b>Colombia</b>	
<hr/>	
In 1985, authorities allowed foreign interests to take more than a 49% stake in banks which were threatened with collapse.	1985
Forced investments were gradually eliminated and interest rates were freed. New financial intermediaries were authorized, fusions and transformations of existing ones were facilitated. Foreign investment in the financial sector which had been restricted since 1975 was opened. Two markets were established: a free one for trade in some services and a controlled one for the rest. Steps were taken to adopt a reform of the financial sector, to increase competition and to allocate resources more responsively to market forces. Most interest rates were freed rapidly. New financial intermediaries were authorized (Faruqi, 1993).	1989
<hr/>	
Capital gains tax and wealth tax were eliminated.	1990
Foreign investment regulations were liberalized: Direct foreign investors may take ownership up to 100 %, capital must remain within the company for a minimum of a year, although profits and dividends may be freely repatriated. Exception: if enterprise is within the terms of the Cartagena Agreement, ownership must become 51 % Colombian; direct foreign investment in banks, insurance and other financial institutions cannot exceed 49 %; investment in securities must be authorized by the National Planning Department (NPD).	1991
In mid-March, the government announced a further liberalization of the regulations governing foreign investments in the local stock market (EIU, 1992).	1992
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**Greece**

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Greek foreign exchange regulations now permit free remittance by residents of EEC countries of dividends and the sale proceeds of quoted shares. 1986

Liberalization of currency controls allowed foreigners to participate in the Greek market and to repatriate their capital and gains. 1987

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**India**

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Measures were taken to liberalize trade, and fiscal incentives and flexible exchange rate management improved export incentives. 1981

Economic liberalization set in motion by the Rajiv Ghandi Government. 1985

The establishment of the India International Fund enabled foreigners to trade indirectly on the country's stock exchanges. 1986

The new government launched a far-reaching programme of economic liberalization and reform, including a considerable liberalization of foreign investment. 1991

Financial sector reforms began, which include eliminating government control over firm borrowings in domestic capital markets. Markets were liberalized up to 24% of the issued share capital (Kim and Singal, 1993). 1992

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**Indonesia**

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The Government planned to reduce external debt by raising tax revenues and continuing to encourage a high rate of foreign investment. The Minister of Finance issued new regulations governing the licensing of capital market supporting institutions. 1990

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**Jordan**

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Nil

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**Korea**

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The government allowed non-residents to begin indirect investment in equities.	1981
For the first time, foreign investors were allowed to hold equity directly in Korean companies that sell convertible bonds overseas.	1985
The capital market was being opened, as foreign investment was allowed up to 10% of the capital of listed companies (Kim and Singal, 1993).	1992

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**Malaysia**

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The market was opened as far as 30% for banks and institutions, and 100% for the other stocks (Kim and Singal, 1993).	1988
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**Mexico**

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Financial sector was liberalized, measures included easier entry by domestic and foreign capital.	1987
The financial sector was liberalized in 1988 (Faruqi, 1993).	1988
Regulations of foreign investment were modified to encourage investment by introducing automaticity and transparency and harmonizing the tax system. In some sectors, 100 % foreign ownership is allowed, 49 % and 30 % for brokerage houses and banks, respectively. Foreigners are now allowed to purchase securities in the Mexican stock market.	1989
Price controls were relaxed.	1990

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**Nigeria**

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New measures to liberalize legislation regulating foreign investment, a privatization initiative and a system for providing a united exchange rate for the naira, determined by the market.	1988
Foreign investors are now allowed 100 % ownership of companies in a wide range of economic activities (Nigerian Enterprise Promotion Decree was enacted).	1989

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**Pakistan**

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Prime Minister Benazir Bhutto launched privatization plans. A new stock exchange opened in Islamabad.	1989
The Government removed the majority of foreign-exchange controls (Kim and Singal , 1993).	1991

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**Philippines**

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The market is investable by foreigners up to 40% (Kim and Singal, 1993).	1989
President Ramos ended controls on the transfer of foreign currency in the Philippines, to attract overseas capital.	1992

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**Portugal**

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The introduction of new regulatory directives are expected to improve both primary and secondary markets and improve liquidity. In addition, computerized paperless trading and liberalized investment funds are introduced.	1987
Voluntary liberalization implemented: gradual deregulation of money and foreign currency markets and liberalized interest rates.	1989

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**Taiwan**

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Foreign exchange controls were liberalized considerably.	1987
Various financial reforms were passed, including plans to allow private banks to set up business.	1989
The government permitted foreign institutional investors to invest directly in listed securities. The market is considered investable up to 10% (Kim and Singal, 1993).	1991

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**Thailand**

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Relaxation, in 1989, of foreign exchange dealings, switching the business from the central bank to commercial banks (Janssen, 1994).	1989
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Monetary arrangements have been liberalized; deposit interest rates (except savings deposit rate) have been completely freed; the foreign exchange regime and controls have also been further relaxed.	1990
In 1992, commercial banks were permitted to undertake investment banking businesses. Adoption of the SEC act, which empowers limited companies to issue debt instruments directly to the public and to encourage the issuance of new financial instruments (Bowman, 03-93)	1992
In March, Thailand opened the door a crack to foreign competition (Warber, 03-94). Since early 1993, the ministry of finance has eased control on some finance and securities companies (Davies, 03-94).	1993
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<b>Turkey</b>	
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Since 1986, stock dividends have become exempt from tax to both domestic and foreign shareholders. Capital gains tax rates for foreign investors have been reduced so that the same rates and regulations apply as for domestic holders. The Istanbul Stock Exchange was reopened.	1986
New procedures for the setting up of investment trusts and for the repatriation of funds, allowing institutions, but not individuals, to invest through a local intermediary.	1988
Since 1989, foreigners have been allowed to trade in listed securities with no restrictions whatsoever, and pay no withholding or capital gains taxes provided they are registered with the Capital Markets Board and the Treasury. Foreigners are allowed to purchase stocks and bonds freely, with guaranteed repatriation of the proceeds, following a decree aiming at lira convertibility. Capital markets reform bill provides further liberalization.	1989
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<b>Venezuela</b>	
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Government announces a programme of economic measures, including foreign investment incentives. Maracaibo Stock Exchange is established. The MSC has minimized procedures for new offers of securities.	1986
Interest rates liberalized in 1989 (Sundararajan, 1995). Liberalization of controls on interest rates and prices (Evans, 1989)	1989

Removal of most restrictions and implementation of a privatization programme. The amendment of the income tax law completely eliminated withholding taxes on dividend remittance abroad: all dividends paid to foreign shareholders are now exempt from Venezuelan income tax. Capital gains from the sale of all types of shares are now subject to ordinary tax rates. In 1990, Venezuela radically liberalized foreign investment policies. In January, the government allowed the purchase and issuance of debt and equity securities by foreigners, and unrestricted access to domestic credit and capital markets. 1990

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### **Zimbabwe**

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Relaxation of existing financial constraints concerning foreign ownership of companies and remittance of after-tax profits. 1989

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The main sources used were the World Bank publications, *Euromoney*, *The Financial Times*, *The Economist*, the IMF, the OECD, *Political Risk Services*, *Business International* as well as various articles published in *The Quarterly Review of Economics and Finance* and *Finance Development*. This summary was done by É. Chavez and V. Girard, whom we wish to thank, as well as Klaus Fischer, who kindly gave us access to complementary data.

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