Relationship Between Country Returns and Country Risk Ratings Revisited

Anas Aboulamer

A Thesis in the John Molson School of Business

In

The Department of Finance

Presented in Partial Fulfillment of the Requirements

for the Degree of Master of Science in Administration at

Concordia University

Montreal, Quebec, Canada

April 2003

Abstract

Relationship Between Country Returns and Country Risk Ratings Revisited

Anas Aboulamer

In this thesis, the relationship between Country Credit Rating or CCR and international markets returns is examined. Tests also are conducted of the use of CCR as a global explanatory variable, and the ability of CCR to predict returns in 50 countries using two different ratings sources (Institutional Investors Country Credit Rating and International Country Risk Guide). The prediction ability of CCR is further tested using a conditional asset allocation framework. Event-study techniques are used to measure the impact of CCR changes on country returns. CCR is identified as being a local risk variable that has a higher prediction power in emerging compared to developed countries. The impact of CCR changes on stock returns varies markedly before and after 1997 for both ratings measures. The use of the Sovereign risk ratings from S&P confirms the predictability pattern in emerging countries, and the identified differences between the impact on stock returns of CCR changes before and after 1997.

Acknowledgements

I would like to thank my supervisor Dr. Lawrence Kryzanowski for his assistance, patience, and help throughout the process of accomplishing this research. He introduced me to the subject and assisted me in shaping the research by his precious comments.

I would like also to thank Dr. Bhabra and Dr. Soufani for their valuable comments.

I would like to dedicate my work to my parents, Soumia, and Mehdi.

TABLE OF CONTENTS

LIST OF FIGURES

LIST OF TABLES

RELATIONSHIP BETWEEN COUNTRY RETURNS AND COUNTRY RISK RATINGS REVISITED

1. INTRODUCTION

International investment intensified after the emergence and ongoing integration of numerous markets located in various countries. The high returns and low correlations in emerging compared to more developed markets provide good investment opportunities for fund managers and international investors. However, differences between emerging and developed markets in terms of information availability, informational market efficiency, and trade costs have resulted in the use of different approaches to value the securities available in emerging markets.

Attempts to measure expected returns in such markets include the use of the international Capital Assets Pricing Model and Assets Pricing Theory, and new "models" that use the forward-looking Country Credit Rating or CCR as a risk measure. The internationalization of domestic asset pricing models faces numerous implementation problems caused by differences in the level of integration across world markets and the identification of world market wealth. After the publication of a series of papers that are reviewed later in section 2 that support its abilities for risk assessment and prediction, the CCR began to be used as an alternative risk measure.

This thesis has five primary objectives. The first objective is to test if the CCR is a global or a local measure of risk. The second objective is to test the CCR model for the pricing of equities in developing and developed markets. The third objective is to use such country credit ratings for conditional asset allocation, and to test its efficiency in

predicting optimal portfolios. The fourth objective is to use event study techniques to examine the market impact of changes in the CCR-types of measures that are available from both Institutional Investor Country Credit Rating and International Country Risk Guide. The fifth and last objective is to test the predictability and pricing characteristics of another set of ratings that are publicly available. These are the Sovereign ratings available from Standard and Poor's (S&P).

The first major finding of this thesis is that Country Credit Rating or CCR is a local and not a global risk measure. The second major finding is that CCR has low predictive ability for returns that has importance in emerging but not developed markets. The third major finding is that CCR leads to the best asset mix over the period 1997-2001 in a conditional asset allocation framework. The fourth major finding is that equity returns are sensititive to rating changes after the mid 1990s, when most researchers began to discuss the potential usefulness of these ratings. Prior to the mid-1990's, significant changes are confined essentially to the emerging markets. After this break point, returns in developed markets also become sensitive to such rating changes. The last major finding is the confirmation of the low prediction power of CCR represented by S&P Sovereign ratings, and for the difference between market return sensitivities to changes in S&P Sovereign ratings over the 1984-1996 and 1997-2002 time periods.

The remainder of this thesis is organized as follows. In the next section, the literature on international asset pricing and the emergence of Country Credit Ratings as a risk measure are reviewed. In the third section, the data are discussed. In the fourth section, tests of whether a world country risk rating can be used to predict future returns are conducted and discussed. The fifth section tests the predictability and asset pricing

characteristics of the CCR measure. The sixth section investigates the use of such ratings in conditional asset allocation compared to the use of valuation ratios and economic variables. In the seventh section, event study techniques are used to measure the sensitivity of market returns to changes in ratings over different event windows. In the eighth section, ratings from Standard and Poor's are used to further test the robustness of the results that are reported herein. The ninth section discusses the implications of the results and concludes the thesis.

2. REVIEW OF THE LITERATURE

The extension of the CAPM to an international setting dates back to Solnik (1974a, 1974b, 1977). Harvey and Zhou (1993) confirm the positive relationship between beta risk and expected returns for eighteen markets. Subsequent research shows the limitations of the ICAPM for modeling emerging markets because of the incomplete integration of world markets and the non-existence of a representative world market portfolio. Harvey (1995) finds no relationship between betas calculated with respect to the world portfolio and expected returns in emerging markets.

The degree of world market integration is important in asset pricing. Early theoretical models in international assets pricing such as the Solnik (1977) ICAPM , and the Solnik (1983) IAPT, assume integration of world markets. Various studies test for segmentation/integration using different asset pricing models. Jorion and Schwartz (1986) test the integration of the Canadian market into the global North American market using the ICAPM model and a binary decision of full segmentation or integration. They show that the Canadian market is not integrated into the North American market. Cho, Eun and Senbet (1986) use the IAPT and find that international markets are segmented

and that the IAPT is not supported by an international model. Moreover, Gultekin, Gultekin, and Penati (1989) test the impact of regulatory changes on the level of market integration. Their findings support the hypothesis that segmentation is the result of the restrictions of governments. Koutoulas and Kryzanowski (1994) develop a model that tests for partial segmentation/integration using the Solnik (1983) IAPT model. In contrast to Jorion and Schwartz (1986), they find partial segmentation/integration for the Canadian market with the global North American market.

Governmental actions and liberalization of markets change the level of integration/segmentation. As shown in Gultekin et al (1989), governmental actions are very important in the integration process of markets. Errunza, Losq and Padmanbhan (1992) support the idea of partial segmentation/integration in developing markets using a model that assumes that the level of market segmentation is constant over time. Bekaert and Harvey (1995) develop a model that includes local and world factors, and a changing level of integration for each market. The failure of the CAPM to explain the returns of emerging markets shifted interest to the APT and Multifactor models. Reasons for the failure of the CAPM include the low integration of these markets and the mean–variance inefficiency of the world market portfolio proxy, as discussed in Roll and Ross (1995) and Kandel and Stambaugh (1995).

Ferson and Harvey (1993, 1994) study a set of global economic factors that explain the cross-sectional variation in the returns of 18 developed markets. Ferson and Harvey (1999) test the source of the explanatory power of global and local price-to-book ratios in a conditional asset pricing model. Fama and French (1992, 1993, 1996) advocate the importance of book-to-market ratios as a factor in a domestic asset-pricing context. This

has lead to the internationalization or globalization of these risk variables. Fama and French (1998) use book-to-market in a global perspective. They find that a model with two world factors (specifically, the world market and the global book to market factors) exhibit more explanatory power than a model with only a world market factor. Griffin (1998) shows that the explanatory power of a global book-to-market factor is due only to the local component of the variable. Griffin (2002) also finds that an international model with local and global book-to-market factors is a better specified model, and has higher explanatory power than a global model for six developed countries.

A recent approach to international asset pricing is the use of a more standard, publicly available and possibly more representative measure of risk, such as Country Credit Rating or CCR. Such measures do not depend upon the development of financial markets or their informational efficiency. Furthermore, such risk measures are issued and updated on a regular basis for most (if not all) countries of the world regardless of their economic and financial development.

Erb, Harvey and Viskanta (1994) find that the CCR explains 50% of the cross-sectional variation in the returns of global fixed income securities. Erb, Harvey and Viskanta or EHV (1997) link the CCR measure of risk to other risk measures such as book to market, earnings to price and dividend yield. They find that CCR explains more than 25% of the variation in these commonly used risk measures for equities. Based on these findings, they conclude that CCR is itself a risk measure. Erb, Harvey and Viskanta (1996) estimate a return prediction model for a sample of 47 countries, and then apply the estimated model to predict the expected returns for out-of-sample countries without

financial markets. Specifically, risk premium are first calculated and then multiplied by the log of the CCR of these out-of-sample countries.

3. DESCRIPTION OF THE DATA

The returns for our sample of 56 country markets are obtained from both the MSCI and IFC databases. In contrast to previous studies in which only the IFC database is used for emerging countries, the IFC supplemented by the MSCI database for emerging markets are used herein. Previous studies rely only on the IFC database due to its extensive coverage of countries. While IFC extended its database to include different index families, only the S&P/IFC global is used herein. The MSCI emerging markets indexes are used herein due to the availability of various valuation ratios for these indexes. The MSCI indexes are used for all of the developed markets studied herein. As is evident from an examination of table 1,[1] the various market indices cover different time spans.

The two databases have two major differences: importance of industry and target coverage. MSCI indices are constructed based on capitalization and industry perspective. They target 60% coverage of total capitalization using indices whose weightings are close to the market structure. Conversely, S&P/IFC are more concerned with the most traded companies and their sizes. The priorities of S&P/IFC indices are 60% coverage of market capitalization and liquidity. Industry is the last criterion. Nevertheless, the correlation between the two sets of indices exceeds 96% for most countries.

[1] Please note that all tables and figures are presented at the end of this thesis.

3.1 Country Credit Rating

The country credit ratings used herein are drawn from three sources; namely, the Institutional Investor Journal, the Political Risk Service group database, and Standard and Poor's website.

3.1.1 Institutional Investor Country Credit Rating or IICCR

The IICCR were first published in 1979. These ratings are calculated from surveys of leading international banks. A country's rating represents the weighted average of the ratings awarded by the leading international banks, where each bank's weight depends upon its worldwide coverage and country analysis systems. Since no standard criteria underlie each bank's rating, grades reflect the perceived creditworthiness of the country by each bank. Each bank develops its own credit risk measurement system based on its interests and its degree of involvement in international markets. The IICCR are issued semi-annually in March and September.

3.1.2 PRS Group rating or International Country Risk Guide (ICRG)

The second set of country credit ratings are from the PRS group. Unlike the IICCR, the PRS Group ratings are based on pre-established standards. Each component of the risk rating system is given a specific weight for all of the countries, and grades depend directly on the evolution of the rated variables. The PRS rating consists of three major components (namely, economic, financial and political). Each of these components are further divided into sub-grades. Table 2 provides a breakdown of the three components' grades and relative weights of the sub-components. To illustrate, the weights for political, economic and financial risk are 50%, 25% and 25%, respectively, in the determination of the overall country risk. These weighting differences reflect the

difference between the ability and the willingness to satisfy loan commitments. The sum of economic and financial risks represents the ability of the country for loan repayment.

Each of the economic and financial risk grades shown in the table represents a specific range of the variable. For example, a country is awarded 10 points for the annual inflation rate grade if its inflation rate falls between 0.0% and 1.9%. In contrast, the political risk ratings are more subjective and depend upon the perception of the country's political system variables.

Based on an examination of table 3, the different rating indices are highly correlated. The correlations range from 0.70 for the financial and IICCR pairing to 0.96 for the political and ICRG pairing for the period 1984-2001.

3.1.3 Standard and Poor's Sovereign Ratings

Standard and Poor's Sovereign ratings are collected from the Standard and Poor's website. However, unlike IICCR or ICRG, S&P does not issue its ratings on a regular basis. S&P only issues new country ratings when they are changed. Thus, a possible limitation of the S&P rating is its low variability. Since almost all of the developed countries have a grade of "AAA", they have identical expected returns in a model such as the EHV (1996) model. However, using either IICCR or S&P Sovereign ratings should not affect model predictability substantially since Harvey et al (1997) claim that the correlation between the S&P ratings and IICCR is approximately 0.97. For further analysis, the S&P ratings are converted to a 10-point rating by assigning a grade of ten to the highest rating and a grade of 1 to the lowest S&P rating.

3.2 Macroeconomic Variables

The macroeconomic variables are collected from various databases. The major sources of data are IFS database (the International Monetary Fund database) and DataStream bond indices for calculating the term structure proxy.[2] The term structure variable is the difference between the yield on long-term and short-term bonds. Such data potentially are available for 32 countries including some emerging countries. However, only 21 countries have series with at least 100 data points. The final sample of 21 countries and the yield series and the corresponding databases used to calculate their term structure proxies are reported in table 5.

Quarterly real GDP data are collected from IFS for all countries. Given the differences in the economic importance of each country, the GDP are converted to a per capita basis and a uniform currency. The total population data are obtained from the IFS database. The GDP values that are reported in local currencies are converted into US dollars using the appropriate exchange rates obtained from the IFS database. For more details about the GDP, population and exchange rate series that are used for each country, please see the appendix to this thesis.

The resulting series of both GDP and CPI are then scaled using the corresponding aggregate series for all G7 countries. Such scaling eliminates any influence that exchange rate changes may have on these two variables. The variables are lagged to ensure that they are available to investors at each point of time. The monthly relative CPI variable has a 12-month lag to ensure that the official figures are published and available to investors at each decision point. The GDP values are lagged by five quarters.

[2] The series based on data from DataStream contain the average of daily yields for the respective indices.

4. IS COUNTRY RATING A WORLD VARIABLE?

To test if CCR is a world risk measure, two global CCR indices are constructed. The first is an equal-weighted index in which all countries are given the same weight, and the second is constructed using the country weights for the MSCI AC World Free Index. The indices are constructed on a monthly frequency for the 15-year period of 1987-2002. The amount of variation in the returns of the market index explained by the global CCR index is reflected in the R-square values for each country. A regression of fitted values of the residuals against ICRG of each country allows us to measure the ability of local CCR to explain variations in own-country index returns.

More formally, the following equation is first estimated using Ordinary Least Squares or OLS for each country i:

$$R_{i,t} = \delta_{1,i} + \delta_{2,i} LOG(WCCR_{t-1}) + \varepsilon_{i,t} \quad (1)$$

where $R_{i,t}$ is the return for the monthly index for country i in month t, $\delta_{1,i}$ is the intercept, $\delta_{2,i}$ is the reward in country i for each unit of risk represented by the global CCR index, WCCR is the weighted global CCR index, and $\varepsilon_{i,t}$ is the residual or the portion of the return for the country i index that is unexplained by the return on the global CCR index for time t.

The fitted residuals from equation (1) then are regressed against the log CCR as follows:

$$\hat{\varepsilon}_{i,t} = \lambda_{1,i} + \lambda_{2,i} LOG(CCR_{i,t-1}) + \eta_{i,t} \quad (2)$$

where $\hat{\varepsilon}_{i,t}$ is the fitted residuals for country i in month t, $\lambda_{1,i}$ is the intercept , $\lambda_{2,i}$ is the sensitivity of the residuals to changes in own-country CCR, and $\eta_{i,t}$ is the portion of the

fitted country return residuals for country i that is not explained by the own-country CCR.

The estimated coefficients and R-square values for the regressions of equations (1) and (2) for each country are reported in tables 6 and 7, respectively. The adjusted R-square values for the global regressions that are reported in table 6 are very low. This implies that the CCR cannot be considered as being a global variable. This inference of no relationship between the global risk rating index and the return of each country is further supported by the observation that most of the estimated deltas are not significant and that the fitted residuals exhibit a stronger relationship with the own-country ratings.

Similar unreported results are obtained for regressions using the weighted global economic, financial, and political rating indices. In contrast, more significant results are found for CCR as a global variable when the regressions are run for the equal-weighted index. Table 8 reports the results of the regression using the equal-weighted global CCR index.

This increase in the R-square values when the equal-weighted global CCR index is used is due to the low representation of emerging countries in the MSCI World index. The average total weight of emerging countries in the MSCI world index is lower than 10%. On the other hand, the CCRs for the developed countries have extremely low variations compared to those for the emerging countries. The increase in the R-square values reflects the increase in global CCR index variations as a result of increasing the weight of emerging countries, whose returns are highly volatile. The increase in the significance of the estimated delta for the emerging countries highlights the importance of the relationship between local CCR and the returns of the country indices.

5. THE POWER OF COUNTRY RISK RATINGS TO PREDICT FUTURE RETURNS

According to EHV (1996), CCR can be used in a portfolio framework to predict returns. In this section of the thesis, we test the predictability property of CCR. The simplest way to measure the ability of the EHV (1996) model to predict returns is to compare expected and realized returns. The EHV model states that country risk is a measure of the systematic risk of countries. If such is the case, then the estimated regression coefficient reflects the reward earned by an investor for bearing each unit of risk represented by the CCR. The specific regression equation estimated is:

$$R_{i,t} = \gamma_1 + \gamma_2 LOG(CCR_{i,t-1}) + \varepsilon_{i,t} \tag{3}$$

Equation (3) is estimated using a pooling of time series and cross-sectional regressions. The data sample covers the period from October 1979 to September 1995 for a total of 47 countries. Various sub-samples of emerging and developed countries are formed to measure the risk premia associated with various groupings of countries. While EHV (1996) find a significant negative relationship between future returns and current CCR, their adjusted R-squares are very small. The full sample has an adjusted R-square value of 1.76%. We replicate EHV (1996) using both ICRG and IICCR ratings over the same period and then we extend the period to the end of 2002.

Based on the results summarized in table 9, the same relationship as EHV (1996) is identified between future returns and CCR for both periods of time. The relationship between CCR and future returns as depicted in equation (3) is significant in semiannual data. The results from our extension of both the sample and the time period of study confirm this result. However, we find that the explanatory power decreases significantly

for our sample of 51 countries using returns for MSCI indices for developed and S&P/IFCG indices for developing countries.

We then run the split model, which estimates the reward for risk for developed and emerging countries separately. The split model as reported in EHV (1996) is:

$$R_{i,t} = \gamma_1 + \gamma_2 LOG(CCR^{Dev}_{i,t-1}) + \gamma_3 LOG(CCR^{Emer}_{i,t-1}) + \varepsilon_{i,t} \quad (4)$$

where γ_2 and γ_3 are the estimated reward for bearing risk for developed and emerging countries, respectively.

Both the significance of the coefficients and the explanatory power increase after splitting the sample. The augmented model shows a difference between the risk premiums for the developed and emerging countries, where the risk premium of the emerging market is higher than in the developed markets. This means that an increase of risk by one unit represented by IICCR leads to a higher return in emerging markets than in developed markets over the period 1979-2002. However, this difference is not statistically significant. This statistical insignificance may be explained by the difference between emerging countries and developed countries observations. Most of the emerging country indices start after 1989, while all of the developed countries indices start before this date. Furthermore, the greater number of developed country observations is far more important than the number of emerging country observations because semi-annual data are being used herein. The same pattern is reported in EHV (1996) in terms of the change in risk premium and explanatory power between the all countries and the split samples. The difference in explanatory power between the all countries model and the split sample in EHV (1996) is less important than it is in the 1979-2002 sample period. EHV (1996) report R-square values of 1.76% and 1.80% for the non-augmented and augmented

models, respectively. In contrast, our findings show a somewhat important difference between the R-square values of 0.49% and 1.72% for the all countries and split sample models, respectively.

Monthly returns and monthly ICRG are used to measure predictability of the EHV (1996) model. Both equations (3) and (4) are applied to measure risk premiums for the all countries and split samples. The results that are summarized in table 10 support the existence of a relationship between returns and lagged CCR for the period September 1988- December 2001 for a sample of 50 countries of which 26 are emerging. The second row of table 10, which represents results from the split sample, shows an increase in the risk premium of emerging countries similar to the results of the IICCR split sample regression. The difference between the risk premiums for the emerging and developed countries is significant for the monthly data. These result supports the explanation given beforehand about the statistical insignificance of this same difference in the IICCR data.

The explanatory power increases for the augmented model. Since the estimated coefficients differ for the two groupings of countries, this leads to the conjecture that there may not be a unique price for CCR risk across countries. The explanatory power increases after estimating the risk premiums for various groupings of countries. However, the increase in the adjusted R-square values for the monthly data are marginal.

Thus, we conclude from these results that the explanatory power of CCR in semi-annual data is more important than in monthly data. We also conclude that there is a difference between the price of risk between emerging and developed countries. This leads to a further investigation of the difference between the risk premiums associated with each grouping of countries.

The regression coefficients now are estimated for equation (3) using subsets of emerging and developed countries separately. This estimation allows for the separation of the predictive power for the two groupings of countries. The regression results using semi-annual data from 1979 to 2002 for 24 developed and 26 emerging markets are reported in the first two rows of table 11. The first two rows of this table show the higher level of predictability demonstrated in emerging compared to developed country markets. The differences in the adjusted R-square values and the significance of the estimated coefficients in the semi-annual data also support the conjecture of differences in predictability and risk premiums between emerging and developed markets.

The last two rows of table 11 present the regression results using monthly data over the period 1988-2001. Emerging markets are quite predictable using the CCR based on the high values of the adjusted R-square values and the high statistical significance of the estimated coefficients for these markets. However, such is not the case for the developed markets.

To further examine the predictability of future returns using CCR, the expected returns are calculated using equation (3) for monthly and semi-annual CCRs. This examination focuses on the relationship between future expected returns, which are predicted using equation (3), and future realized returns. The future expected returns are calculated over a 11-year period from September 1990 to September 2001 for the semi-annual data and from September 1993 to December 2001 for the monthly data. The difference in the time periods is due to data availability.

Equation (3) is estimated over a window of five years for both data frequencies to obtain conditional or time-varying coefficient estimates. EHV (1996) do not discuss the

conditioning of their reward for risk estimates. Our conjecture is that the market risk premium is likely to be time varying. This conjecture is confirmed based on an examination of the coefficient estimates across the various estimation windows that are reported in table 12.

The average realized and expected semi-annual returns over 11 years for all fifty countries are reported in table 13. The table also includes the correlations between expected and realized returns, which are used to measure the tracking error between the two types of returns. The correlations between expected and realized returns are positive and negative for emerging and developed markets, respectively. Specifically, the correlations between expected and realized semi-annual returns average 0.10 and –0.20 for all emerging markets and developed markets, respectively. This supports the earlier finding that the explanatory power and predictability of the EHV (1996) model is higher in emerging markets.

The difference between expected and future realized returns using both arithmetic and geometric averages enhances our understanding of the accuracy of the predictions. These differences are calculated herein as the realized average period return minus the expected average return.

The differences between the average returns across countries are systematically negative. The observation that the expected returns are higher than the realized returns leads to the conclusion that the EHV (1996) model overprices the risk represented by CCR. The only exceptions are Finland, France, Germany, Netherlands, Russia, Switzerland, and the US.

The average monthly realized and predicted returns using the ICRG monthly data are reported in table 14. While the predicted returns are lower than the realized returns for most developed countries, they are higher for all developing countries. This implies that either CCR is not a good return predictor, or that the log-linear model of EHV (1996) does not capture the real relationship between future returns and current CCR.

6. CONDITIONAL ASSET ALLOCATION AND CCR

In this section of the thesis, the prediction ability of the EHV (1996) model is further tested by using the predicted returns to obtain a mean-variance efficient portfolio for each CCR issuance date. The optimization procedure consists of minimizing each variance-covariance matrix, which is obtained from the fitted residuals for each model. Besides asset allocation using the EHV (1996) model, a prediction model that consists of other risk measures also is used. The performances of the mean-variance efficient portfolios using inputs of these two models are compared.

6.1 Valuation Ratio Model (VR Model)

Ferson and Harvey (1998) find that attributes such as dividends yields, price earning ratios and momentum are related to risk. As in Ferson and Harvey (1993), we estimate the coefficients that represent the sensitivity of index returns to each risk proxy that is measured over a period of 60 months.

Predictions are made of returns for markets with different levels of integration with the world market. The use of either local or global risk factors is only valid under the assumption of complete segmentation or integration as discussed previously in the literature review. Since, the prediction model includes all information available at time

(t-1), both local and global factors are used herein. The world component in the local predictor is removed to assure orthogonality of the independent variables used in the estimations. This is done by first running the following equations to isolate own-country components from global components, as in the segmentation/integration tests conducted in Koutoulas and Kryzanowski (1994):

$$DY_{it} = \alpha_{it}^{DY} + \beta_{it}^{DY} DY_{w,t} + \varepsilon_{it}^{DY} \tag{5}$$

$$PE_{it} = \alpha_{it}^{PE} + \beta_{it}^{PE} PE_{w,t} + \varepsilon_{it}^{PE} \tag{6}$$

$$R_{it} = \alpha_{it}^{R} + \beta_{it}^{R} R_{w,t} + \varepsilon_{it}^{R} \tag{7}$$

where DY_{it}, PE_{it} and R_{it} are the monthly dividend yield ratio, monthly price earnings ratio and the return on the index of country i in month t, respectively. The β_i's are the sensitivities between the country i variables and the global variables. If the market for country i is segmented, then the β_i's are expected to be statistically not different from zero. The ε_i's are pure domestic components that are orthogonal to the global variables. The α_i's capture the constant part of the relationship between the country and world variables.

The prediction model incorporates all of the components of the variables by using both domestic variables and their global counterparts. Harvey (1993) shows that the returns of international, especially emerging markets, are highly autocorrelated. Thus, a one-period lag of return is incorporated into the prediction equation to account for autocorrelation. Since momentum is linked to risk, it also may have some predictive power. Momentum is measured herein as the moving average of the monthly returns from (*t-1*) to (*t-7*) of each market index. The last predictive variable is the one-month

Eurobond yield, which is simply a proxy for the risk-free rate in international markets. The full model is given by:

$$R_{it} = \alpha_i + \beta_{1i} R^{w}_{t-1} + \beta_{2i} DY^{w}_{t-1} + \beta_{3i} PE^{w}_{t-1} + \beta_{4i} EURO_{(t-1)} + \beta_{5i} \hat{\varepsilon}^{R}_{i,(t-1)} + \beta_{6i} \hat{\varepsilon}^{PE}_{i,(t-1)} + \beta_{7i} \hat{\varepsilon}^{DY}_{i,(t-1)} + \beta_{8i} Mom_i + \mu_{i,t} \quad (8)$$

In equation (8), the β_{1i} through β_{8i} are the sensitivities of the returns in country i to changes in the various predictors. The $\hat{\varepsilon}^{R}_{i,(t-1)}$, $\hat{\varepsilon}^{PE}_{i,(t-1)}$ and $\hat{\varepsilon}^{DY}_{i,(t-1)}$ are fitted residuals from equations (5), (6) and (7), respectively. They are calculated as:

$\hat{\varepsilon}^{R}_{i,(t-1)} = R_{i,(t-1)} - \hat{R}_{i,(t-1)}$, $\hat{\varepsilon}^{PE}_{i,(t-1)} = PE_{i,(t-1)} - \hat{PE}_{i,(t-1)}$, and $\hat{\varepsilon}^{DY}_{i,(t-1)} = DY_{i,(t-1)} - \hat{DY}_{i,(t-1)}$,

respectively. The error term $\mu_{i,t}$ is the portion of the return of the index for country *i* that is not explained by the predictors.

6.2 Extended Macroeconomic Attributes Models

Since the prediction equation (8) only includes financial attributes, several new attributes are added to enhance the predictive power of the models. Economic attributes represent underlying economic risk factors. Due to problems of data availability, the extended prediction model that includes macroeconomic attributes is limited to developed countries.

The economic variables are exogenous to the stock market, and represent the future prospects of the economy. The extended prediction model includes proxies for real growth of each economy represented by the real GDP scaled to the GDP of G7 countries. Another proxy for growth is scaled relative to CPI. The consumer Price Index is scaled to the CPI of G7 countries. This extended prediction model is given by:

$$R_{it} = \alpha_i + +\beta_{1i} R^{w}_{t-1} + \beta_{2i} DY^{w}_{t-1} + \beta_{3i} PE^{w}_{t-1} + \beta_{4i} EURO_{(t-1)} + \beta_{5i} \hat{\varepsilon}^{R}_{i,(t-1)} + \beta_{6i} \hat{\varepsilon}^{PE}_{i,(t-1)} + \beta_{7i} \hat{\varepsilon}^{DY}_{i,(t-1)} + \beta_{8i} Term_{i,(t-1)} + \beta_{9i} RGDP_{i,(t-1)} + \beta_{10i(t-1)} RCPI_{i,(t-1)} + \beta_{11i} Mom_i + \mu_{i,t} \quad (9)$$

where all the terms are defined as in equation (8), except for the addition of the sensitivities of the returns for country i to each economic variable, as represented by β_{8i}, β_{9i}, and β_{10i} for term structure, relative GDP and relative CPI, respectively. The increase in the predictability of the returns for the market indices is implicit in the increase of the adjusted R square values.

6.3 Portfolio Allocation

The optimization procedure uses the outputs from the prediction models represented by equations (3), (8) and (9). In a mean-variance setting, the three required inputs are the means, variances and covariances. The modeled experiment is one in which investors have the choice to use a prediction model based on valuation ratios or the EHV (1996) model. The returns are predicted using sensitivities factors estimated over a 60 month prior period. The conditional volatilities and co-variances are obtained by using fitted residuals from equations (3), (8) and (9). Therefore, the conditional covariance is the value of the product of the residuals for the regression models for countries i and j, or:

$$Cov[r_{it}, r_{jt} | Z_{t-1}] = E[\varepsilon_{it} \varepsilon_{jt} | Z_{t-1}] \quad (10)$$

where Z_{t-1} is the global and local information variable vector at time (t-1).

Portfolios are revised at the end of each CCR issuance date for the EHV (1996) prediction models, and at the end of each month for the two other prediction models. The portfolio is updated at the end of March and September when the IICCR ratings are used, and monthly when the ICRG ratings are used. For the asset allocation exercise, the

composition of the optimal mean-variance efficient portfolio is determined at each point of time.

Four constraints on portfolio allocations are used to mimic realistic portfolios. The first two constraints concern the allocation between the markets of emerging and developed countries. An upper bound of 7% is imposed on the total investment portion of the portfolio in emerging markets and 100% for developed countries. The 7% upper bound represents the average weight of the emerging markets in the MSCI All Countries Free Index over the period under study. The third constraint rules out short selling in all countries, because derivative markets are non-existent in most emerging countries. The last constraint links the investment weight to the world benchmark by setting an upper bound on the investment allocation weight for each country. The bound is set at 10% in excess of the benchmark weight. For example, if a country's weight in the MSCI index is 4%, then the bound is set at 4.4%.

6.4 Conditional Asset Allocation Results

The results discussed in this section of the thesis are for the performance of the prediction models over the period from March 1997 to September 2001. The forecasting period for the models using monthly data starts from April 1997 and finishes with September 2001.

The evolution of the returns for the conditional portfolios using prediction models represented by equations (3) and (9), and using both semi-annual and ICRG monthly data, are depicted in figure 1. The returns on the MSCI index also are shown in the figure to represent the performance of a passive portfolio strategy.

Both CCR models exhibit superior end-of-period performances relative to the MSCI. However, the differences between the performances of the monthly conditional CCR and VR is not very important at 17.89% and 16.87%, respectively, given their respective standard deviations of monthly returns of 4.95% and 4.99%. The total return for the semi-annual conditional portfolio is higher at 23.57%, but it also is very risky given its standard deviation of 15.23%. Based on a comparison of the Sharpe ratios of these portfolios, the portfolio conditioned to the ICRG has the highest value of 0.2497.

The constraints set in the first allocation experiment are now relaxed to verify the ability of the CCR models to predict returns in emerging markets and to determine if the performance of the CCR is due to the accuracy of better predicting returns for the emerging country markets. The evolution of the returns for the conditional portfolios and the MSCI, after the relaxation of the overall weight of emerging countries from 7% to 20% and then to 40% are depicted in figures 2 and 3, respectively.

Figures 2 and 3 demonstrate that the gap between the returns on the conditional portfolios increase in favor of CCR models as the allowed weight for emerging countries is increased. For example, the cumulative returns at the end-of-the-period of the conditional portfolios are 26.03% and 16.91% for the ICRG and VR models, respectively. Since the difference between the return performances of the two monthly conditional portfolios increases dramatically after relaxing the upper bound on the weights in emerging countries, the CCR appears to have more predictive power for emerging compared to developed countries markets.

To further study this issue, all the emerging countries are removed from the sample and the optimization procedure is rerun. The evolution of the returns on the portfolios

conditioned to VR, IICCR and ICRG, and on the extended model using economic and valuation ratios (VR+Eco) are depicted in Figure 4. For the sample containing developed countries only, all constraints are eliminated except for short and long positions. The results reported in figure 4 show that the best portfolio performance in terms of raw returns for developed countries is the (VR+Eco) conditioned portfolio followed by the ICRG and VR conditioned portfolios, respectively. The prediction model using economic and financial variables gives better raw return results than the CCR. Based strictly on raw returns, the portfolio based on the (VR+Eco) model always outperforms the other models. These results confirm our earlier findings about the power of the CCR risk proxy to forecast returns. From this asset allocation exercise, we find further support for the conjecture that emerging countries are predictable by the CCR, while other financial and economic predictors are better for the markets of developed countries.

To measure the level of contribution of each active strategy to the portfolio, we measure the Alpha of Jensen metric for the two conditional monthly portfolios for the all countries samples using different sets of optimization constraints. This comparison allows us to measure the value added of each strategy when the total allowed weights of emerging countries are increased. The MSCI world index is used as the market benchmark and one-month Eurobonds rate as the risk-free rate for this purpose. The following equation is estimated:

$$R_{i,t} - R_{f,t} = \alpha + \beta(R_{M,t} - R_{f,t}) \qquad (11)$$

Based on unreported regression results, the alpha estimates are 41.2% and 40.3% for the ICRG and VR models, respectively, when the total weight of emerging countries is capped at 10%. Alphas estimates increase to 46.8% and 40.8% for the ICRG and VR

models, with t-values of 14.71 and 14.33, respectively, when the cap on the total weight of emerging countries is increased to 40%. Once again, this suggests that the CCR model has more predictive power in the markets of developing countries while other financial and economic variables are more precise for the markets of developed countries.

7. MARKET IMPACT OF CHANGES IN THE CCR AND IICCR RATINGS USING EVENT-STUDY TECHNIQUES

The impact of changes in CCR on the returns of each country's index is investigated in this section of the thesis. Hand, Holthausen and Leftwich (1992) show that changes in the rating of companies, as proxied by their bond ratings, lead to symmetric excess returns for equity and bonds in domestic markets. Ederington and Goh (1998) document two-way causality between the releases by rating agencies and changes in the forecasts of stock analysts. Both rating agencies and stock analysts use available information to evaluate publicly traded companies. Rating agencies use analyst forecasts in the assessment of companies that they assess. When bad forecasts are released by analysts, rating agencies tend to downgrade these companies. In turn, this may drive the analysts to revise their forecasts down further, which may lead to even lower evaluations by the rating agencies.

Since CCR is a measure of the ability of a country to meet its financial commitments, extending this research into an international framework would help to clarify the relationship between returns and ratings, and enhance our understanding of the relationship between the CCR change on various groups of country markets.

Erb, Harvey, and Viskanta (1997) use an event study methodology similar to that used by Ederington and Goh (1998). Erb et al (1997) show that there is a relationship

between CCR changes and future returns for both fixed income securities and equities. They find that the market reacts favorably to an upgrade, which leads to a positive abnormal return, and vice versa for a downgrade. Erb et al (1997) examine monthly observations for the MSCI indices for developed countries, S&P/IFCG indices for developing countries, and CCR ratings from PRS Group over the period from 1984 to 1996 for 49 countries.

A similar sample of countries for the same period is used herein. The exceptions include the use of the MSCI indices instead of IFC indices for Greece and Portugal, and an extension of the sample to include countries for which indexes became available after 1997.

7.1 Event Study Methodology

Two different methodologies for calculating abnormal returns are used. The first methodology consists of calculating abnormal returns as market-adjusted returns. The market portfolio is represented by the MSCI World index for the period 1984-1987, and by the MSCI All Countries Free Index for the rest of the sample period. This methodology has two assumptions; namely, that all countries are integrated with the world market, and that the world risk premium is constant over the sample period.[3] The second methodology is the so-called mean-adjusted abnormal return, which is found by taking the realized monthly return minus the average monthly return over the entire sample period.

[3] In unreported results, the assumption of a constant world risk premium is tested by including an interaction term in equations (9) and (10), which is given by the product of a dummy variable and the return on the world market index. The dummy variable takes the value of one from 1995 to 2003, and 0 elsewhere. Since the estimated coefficient of the interaction term is not significant, the world risk premium appears to be unchanged from the period 1984-1994 to 1995-2003.

Since changes in CCR may have an effect beyond the actual month of change, the impact of the change is assessed by including only months that are preceded by two months without any change. Since the ICRG issues the rating at the end of each month, the actual event month is deemed to be the month following the month of the change in the rating. For instance, if the rating change is released in January, then the event month is taken as being February because the rating is not available before the beginning of February. However, since the information used to calculate the rating is available to the public over the month of January, a dummy variable for the month preceding the change is added to control for market expectations about a rating change. Thus, the first methodology is implemented as:

$$\begin{aligned} R_{i,t} = {} & \alpha + \beta MSCI + \delta_1 * Dum_P(-1) + \delta_2 * Dum_N(-1) + \delta_3 * Dum_P(0) \\ & + \delta_4 * Dum_N(0) + \delta_5 * Dum_P(1) + \delta_6 * Dum_N(1) \\ & + \delta_7 * Dum_P(2) + \delta_8 * Dum_N(2) \end{aligned} \qquad (12)$$

where *(i)* is the country, *(t)* represents the month, and the subscripts "*P*" and "*N*" represent upgrades and downgrades, respectively. The dummy variable *Dum(-1)* controls for market expectations, and takes the value of one on the month before the actual rating change and zero elsewhere. The dummy variables, *Dum(1)* and *Dum(2)*, measure the average monthly abnormal returns for the two consecutive months following the event month.

To measure the cumulative abnormal returns, the dummies are given the value of one for all three months and zero elsewhere. The model would be:

$$R_{i,t} = \alpha + \beta MSCI + \delta_1 * Dum_P + \delta_2 * Dum_N \qquad (13)$$

where all the terms are defined as in equation (12).

As noted above, the second method uses mean-adjusted instead of market-adjusted returns. The corresponding regression equations for the monthly abnormal returns and cumulative abnormal returns are as follows:

$$\begin{aligned} R_{i,t} = \overline{R}_i &+ \delta_1 * Dum_P(-1) + \delta_2 * Dum_N(-1) \\ &+ \delta_3 * Dum_P(0) + \delta_4 * Dum_N(0) + \delta_5 * Dum_P(1) \\ &+ \delta_6 * Dum_N(1) + \delta_7 * Dum_P(2) + \delta_8 * Dum_N(2) \end{aligned} \tag{14}$$

and

$$R_{i,t} = \overline{R}_i + \delta_1 * Dum_P + \delta_2 * Dum_N \tag{15}$$

where $\overline{R}$ is the average return over the sample period, and the dummies and subscripts are defined as in equations (12) and (13) above. Equations (12) through (15) are each estimated using Seemingly Unrelated Regressions (SUR).

7.2 Event Study Results

The numbers of upgrades and downgrades used to measure the impact of CCR changes on the returns of the market indices are reported in table 15 for the various risk measures and sample periods. The results for the estimations of equations (12) and (13) over the period studied using the EHV (1997) model and all PRS Group rating indices are reported in table 16. These findings suggest that developed markets are less sensitive than emerging markets to changes in the CCR. Our results are similar to the EHV (1997) findings in terms of the reaction of investors. For example, market indices exhibit negative and positive abnormal returns to CCR downgrades and upgrades, respectively. As expected, the political component is important in the emerging markets. Changes in the CCR have an impact only in the month prior to the rating release. Since information

on political events is quickly and widely known, it appears that investors react before such information are incorporated in the CCR ratings at the end of the month.

Changes in the CCR financial ratings lead to significant changes in the returns of the indices for both developed and emerging countries. In developed countries, the market anticipates such information so that its impact is already incorporated in securities prices before the rating change is released. Furthermore, the abnormal returns resulting from such changes are not significant. In contrast, the market reactions to such changes are material and vary considerably in emerging markets.

EHV (1997) conclude that changes in the economic component of the CCR have no significant impact on the returns of the market indexes. In contrast, the results summarized in table 16 show that the returns in emerging markets are sensitive to changes in the economic component of the CCR. Significant (cumulative) abnormal returns resulting from changes in this component occur in the second month after the release of a rating.

Thus, over the earliest sample period of 1984-1996, returns in developed markets are influenced in general less by changes in the CCR ratings composite and its components than are returns in emerging markets. Furthermore, while upgrades and downgrades results in positive and negative abnormal returns in most developing markets, such changes result in positive abnormal returns in developed markets.

The relationships between abnormal returns and the various CCR rating changes for the more recent time period of 1997-2003 are summarized in table 17. For this more recent period, the returns for both developed and emerging markets have become more sensitive to CCR changes than they were in the prior time period of 1984-1996. Now

changes in all four of the rating indices have an impact on the returns in the "All countries" sample during the month of the rating change. This impact persists during the following months. Examination of the results in table 17 for both developed and developing markets indicates that the returns in the emerging markets are still the most sensitive to changes in the CCR. However, the results in the 17 developed countries also are significantly sensitive to changes in the CCR. The market reactions in the emerging markets now occur in the month of the change rather than in the first and second months after the rating change.

The regression results for the full time period of 1984 to 2003 are summarized in table 18. As expected, these results are intermediate between those for the early part of the period and those for the later part of the period.

From the results summarize in tables 16, 17 and 18, we conclude that the impact of CCR changes on the returns of the country market indexes has changed dramatically over time. The power of CCR changes to impact market returns has increased significantly over time.

These conclusions are supported by the results obtained from the use of the mean-adjusted method of calculating abnormal returns as represented by equations (14) and (15). These results for the split-period and total period are summarized in tables 19, 20 and 21.

The results for replications of the above for changes in IICCR ratings over the sample period 1979-2001 are summarized in tables 22 and 23. These results also suggest that changes in the IICCR ratings have a significant impact on market returns, and that the impact is of greater importance in emerging markets.

8. MARKET IMPACT FROM CHANGES IN S&P SOVEREIGN RATINGS

There are numerous rating agencies with different methodologies. Standard and Poor's supposedly is one of the most reliable rating agencies that issues Sovereign ratings for many countries. Sovereign ratings are similar to the ratings issued by Institutional Investors in that they measure the ability of a country to meet its financial obligations based on the economic and political environment as assessed by the agency analysts.

In this section of the thesis, the S&P Sovereign ratings are used instead of the CCR ratings for a sample of 48 countries. The predictive power of the EHV (1996) model, as given by equation (3), over the sample periods of 1984-1996 and 1997-2003 is tested for various country groupings. The market impact of changes in the S&P ratings is assessed over the 1984-1996 and 1997-2003 periods using event study techniques for mean-adjusted returns.

The regression results, which are summarized in table 24, suggest that no significant relationship exists between CCR and future returns. While the expected coefficient signs are found, the estimated coefficients are not statistically significant, probably due to the low variability of S&P ratings.

The split sample results measure the risk premium for each country grouping. They support the results discussed previously from using the IICCR ratings. The risk premium estimates for emerging and developed markets display the same pattern as in our previous results in that the risk premiums in emerging exceed those in developed markets. There is a noticeable increase in the adjusted R-square value when moving from the earlier time period (1984-1996) to the later time period (1997-2003).

The event-study results using S&P rating changes are summarized in table 25. All of the abnormal returns for the most recent time period are statistically significant, while only three are significant during the earlier time period of 1984-1996. These results support our earlier findings for the ICRG data, and confirm the differences in market impact identified for CCR changes before and after 1997.

9. CONCLUSION

In this thesis, the use of CCR as both a risk measure and predictor of future returns is assessed. Global indices of CCR and its different components have little, if any, power for explaining country market returns. The EHV (1996) prediction model has a very marginal ability to predict returns given the very low R-squares values.

A conditional asset allocation test is used to further investigate the prediction ability of CCR. In these tests, the EHV (1996) prediction model is compared to other models that use various financial and economic variables. The CCR-based models result in the best portfolio mix, which beats both the benchmark and the challenging prediction models when the upper bound on allocations to emerging countries increases from 7% to 40%. These results appear to be due to the higher predictive ability of CCR for emerging compared to developed markets.

Event study techniques reveal that the market impact of CCR release increased dramatically after 1997. Before 1997, markets in emerging and not developed countries are sensitive to changes in CCR. In contrast, after 1997, both markets have become very sensitive to CCR changes. This break point of 1997 coincides with the date when researchers started to advocate that the CCR is a risk measure that can predict future expected returns. The increasing volume of academic research on the CCR led investors

to start relying on this measure to provide them with information even on developed countries. This is the same phenomenon reported by Ederington and Goh (1998), where financial analysts revise their forecasts after the issuance of bond ratings that agencies published after consulting the previous recommendations of analysts. Additional evidence that supports these explanations is derived from the market reaction to changes in S&P Sovereign ratings.

The first contribution of this thesis is to identify the limitations of the CCR model and to differentiate between the prediction power of the model in emerging and developed countries. EHV (1996) suggest that CCR is useful in calculating cost of capital associated with investing in segmented markets and countries without financial markets. However, even in-sample assessments show the weakness of this relationship. Thus, the use of calculated risk premiums out-of-sample is suspect. The second contribution of this thesis is to clarify the relationship between CCR and returns in international markets. Our findings suggest that CCR is effective in an active investment strategy of asset allocation for emerging markets.

The simple log-linear relationship between CCR and expected returns depicted in EHV (1996) systematically overprices risk measured by CCR. The investigation of a new relationship may enhance the prediction ability of the CCR ratings. Another possibly interesting avenue of investigation is the use of ratings that go beyond a semi-annual time horizon since the PRS group also issues rating forecasts for 1, 3 and 5 years forward.

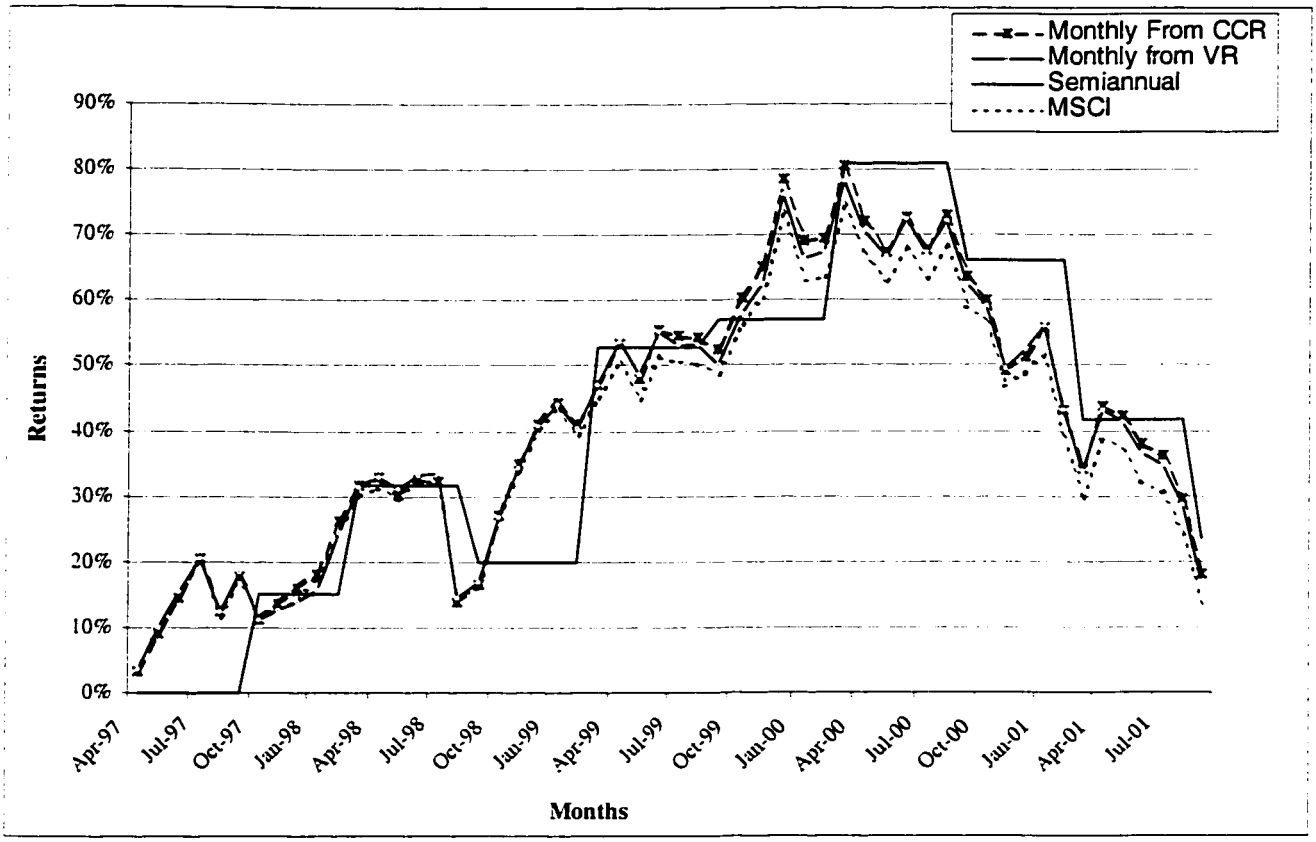

Figure 1. Evolution of the returns for the conditional portfolios from March 1997 to September 2001 using all available countries and a 7% allocation constraint for emerging countries

This figure represents the monthly and semiannual evolution of returns for the conditional optimal portfolios using VR, IICCR and ICRG models and the MSCI AC Free Index. A 7% constraint is imposed on the total investment in emerging countries.

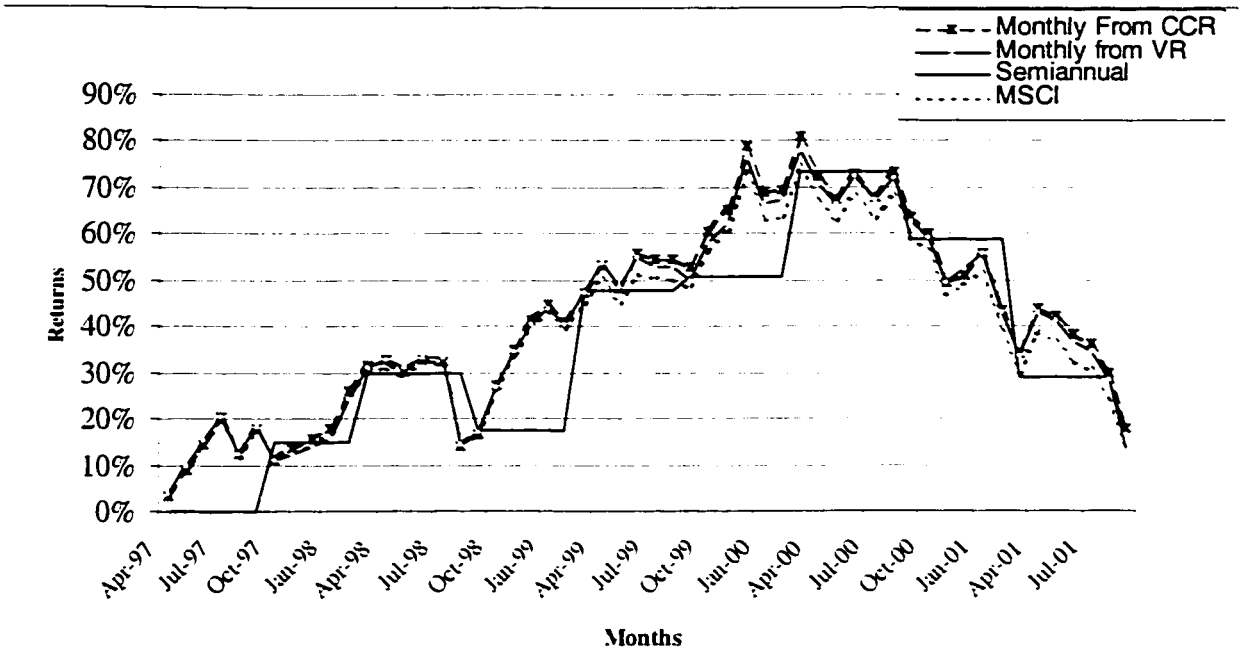

Figure 2. Evolution of the returns for the conditional portfolios from March 1997 to September 2001 using all available countries and a 20% maximum constraint on total investment in emerging countries

This figure represents the monthly and semiannual evolution of the returns of the conditional optimal portfolios using VR, IICCR and ICRG models and the MSCI AC Free Index. A 20% constraint is imposed on the total investment in emerging countries

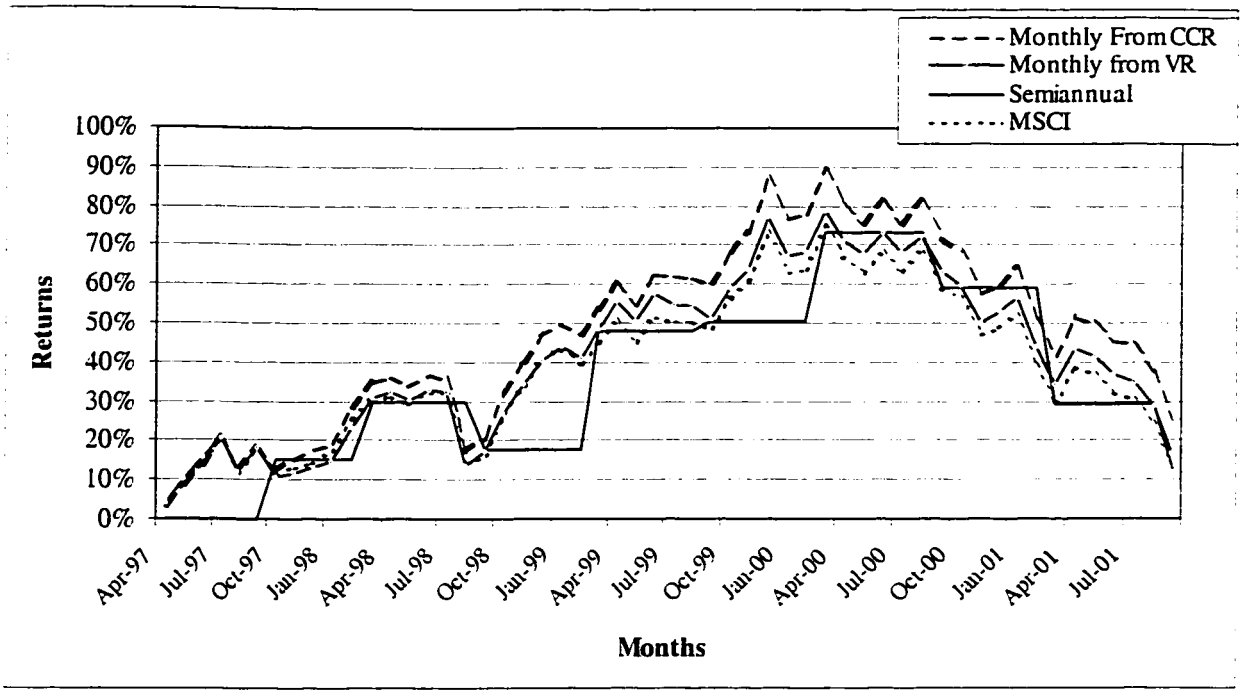

Figure 3. Evolution of the returns of the conditional portfolios over the period from March 1997 to September 2001 using all available countries and a 40% constraint on total investment in emerging countries

This figure represents the monthly and semiannual evolution of the returns of the conditional optimal portfolios using VR, ΠCCR and ICRG models and the MSCI AC Free Index. A 40% constraint is imposed on the total investment in emerging countries.

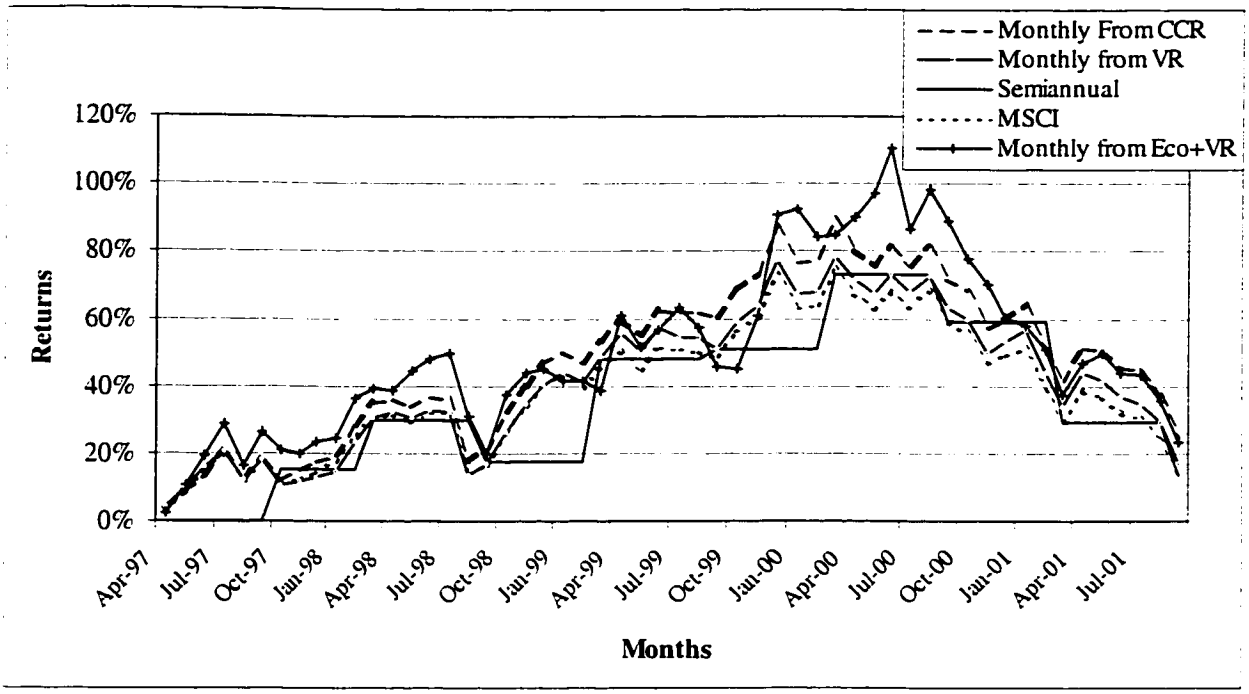

Figure 4. Evolution of the returns for the conditional portfolios over the period from March 1997 to September 2001 for the sample of developed countries

This figure represents the monthly and semiannual evolution of the returns of the conditional optimal portfolios using VR, (VR+Eco), IICCR and ICRG models and the MSCI AC Free Index. No constraints are set on the investment allocations for these conditional asset allocation portfolios.

Table 1. Coverage of the indices from both MSCI and the S&P/IFCG databases

This table gives the total return index used for each country market, and the starting and ending dates for the total series coverage used for each of these country markets. The series are drawn from MSCI and S&P/IFC.

Country	Start	End	Description
ARGENTINA	12/31/87	01/31/03	MSCI ARGENTINA U$ - TOT RETURN IND (~U$)
	12/31/75	01/31/03	S&P/IFCG M ARGENTINA $ - PRICE INDEX (~U$)
AUSTRALIA	12/31/69	01/31/03	MSCI AUSTRIA U$ - TOT RETURN IND (~U$)
AUSTRIA	12/31/69	01/31/03	MSCI AUSTRALIA U$ - TOT RETURN IND (~U$)
BAHRAIN	01/29/99	01/29/03	S&P/IFCG M BAHRAIN $ - PRICE INDEX (~U$)
BELGIUM	12/31/69	01/31/03	MSCI BELGIUM U$ - TOT RETURN IND (~U$)
BRAZIL	12/31/87	01/31/03	MSCI BRAZIL U$ - TOT RETURN IND (~U$)
	12/31/75	01/31/03	S&P/IFCG M BRAZIL $ - PRICE INDEX (~U$)
CANADA	12/31/69	01/31/03	MSCI CANADA U$ - TOT RETURN IND (~U$)
CHILE	12/31/87	01/31/03	MSCI CHILE U$ - TOT RETURN IND (~U$)
	12/31/75	01/31/03	S&P/IFCG M CHILE $ - PRICEINDEX (~U$)
CHINA	12/31/92	01/31/03	MSCI CHINA U$ - TOT RETURN IND (~U$)
	10/29/93	01/29/03	S&P/IFCG M CHINA $ - PRICEINDEX (~U$)
COLOMBIA	12/31/92	01/31/03	MSCI COLOMBIA U$ - TOT RETURN IND (~U$)
	12/31/84	01/31/03	S&P/IFCG M COLOMBIA $ - PRICE INDEX (~U$)
CZECH REPUBLIC	12/30/94	01/30/03	MSCI CZECH REPUBLICU$ - TOT RETURN IND (~U$)
	12/31/93	01/31/03	S&P/IFCG M CZECH REPUBLIC $ - PRICE INDEX (~U$)
DENMARK	12/31/69	01/31/03	MSCI DENMARK U$ - TOT RETURN IND (~U$)
EGYPT	12/30/94	01/30/03	MSCI EGYPT U$ - TOTRETURN IND (~U$)
	01/01/96	02/01/03	S&P/IFCG M EGYPT $ - PRICE INDEX (~U$)
FINLAND	12/31/81	01/31/03	MSCI FINLAND U$ - TOT RETURN IND (~U$)
FRANCE	12/31/69	01/31/03	MSCI FRANCE U$ - TOT RETURN IND (~U$)
GERMANY	12/31/69	01/31/03	MSCI GERMANY U$ - TOT RETURN IND (~U$)
GREECE	12/31/87	01/31/03	MSCI GREECE U$ 'DEAD' - TOT RETURN IND (~U$)
HONG KONG	12/31/69	01/31/03	MSCI HONG KONG U$ - TOT RETURN IND (~U$)
HUNGARY	12/30/94	01/30/03	MSCI HUNGARY U$ - TOT RETURN IND (~U$)
	12/31/93	01/31/03	S&P/IFCG M HUNGARY $ - PRICE INDEX (~U$)
INDIA	12/31/92	01/31/03	MSCI INDIA U$ - TOT RETURN IND (~U$)
	12/31/75	01/31/03	S&P/IFCG M INDIA $ - PRICEINDEX (~U$)
INDONESIA	12/31/87	01/31/03	MSCI INDONESIA F U$ - TOT RETURN IND (~U$)
	12/29/89	01/29/03	S&P/IFCG M INDONESIA $ - PRICE INDEX (~U$)
IRELAND	12/31/87	01/31/03	MSCI IRELAND U$ - TOT RETURN IND (~U$)
ISRAEL	12/31/92	01/31/03	MSCI ISRAEL U$ - TOT RETURN IND (~U$)
	01/01/96	02/01/03	S&P/IFCG M ISRAEL $ - PRICEINDEX (~U$)
ITALY	12/31/69	01/31/03	MSCI ITALY U$ - TOT RETURN IND (~U$)
JAPAN	12/31/69	01/31/03	MSCI JAPAN U$ - TOT RETURN IND (~U$)

Table 1. Continued.

JORDAN	12/31/87	01/31/03	MSCI JORDAN U$ - TOT RETURN IND (~U$)
	01/31/78	01/31/03	S&P/IFCG M JORDAN $ - PRICE INDEX (~U$)
KOREA	12/31/87	01/31/03	MSCI KOREA U$ - TOT RETURN IND (~U$)
	12/31/75	01/31/03	S&P/IFCG M KOREA $ - PRICEINDEX (~U$)
MALAYSIA	12/31/87	01/31/03	MSCI MALAYSIA (EM)U$ - TOT RETURN IND (~U$)
MEXICO	12/31/87	01/31/03	MSCI MEXICO U$ - TOT RETURN IND (~U$)
	12/31/75	01/31/03	S&P/IFCG M MEXICO $ - PRICE INDEX (~U$)
MOROCCO	12/30/94	01/30/03	MSCI MOROCCO U$ - TOT RETURN IND (~U$)
	01/01/96	02/01/03	S&P/IFCG M MOROCCO $ - PRICE INDEX (~U$)
NETHERLANDS	12/31/69	01/31/03	MSCI NETHERLANDS U$ - TOT RETURN IND (~U$)
NEW ZEALAND	12/31/81	01/31/03	MSCI NEW ZEALAND U$ - TOT RETURN IND (~U$)
NIGERIA	12/31/84	01/31/03	S&P/IFCG M NIGERIA $ - PRICE INDEX (~U$)
NORWAY	12/31/69	01/31/03	MSCI NORWAY U$ - TOT RETURN IND (~U$)
OMAN	01/29/99	01/29/03	S&P/IFCG M OMAN $ - PRICE INDEX (~U$)
PAKISTAN	12/31/92	01/31/03	MSCI PAKISTAN U$ - TOT RETURN IND (~U$)
	12/31/84	01/31/03	S&P/IFCG M PAKISTAN $ - PRICE INDEX (~U$)
PERU	12/31/92	01/31/03	MSCI PERU U$ - TOTRETURN IND (~U$)
	09/30/93	01/31/03	S&P/IFCG M PERU $ - PRICE INDEX (~U$)
PHILIPPINES	12/31/87	01/31/03	MSCI PHILIPPINES U$ - TOT RETURN IND (~U$)
	12/31/84	01/31/03	S&P/IFCG M PHILIPPINES $ - PRICE INDEX (~U$)
POLAND	12/31/92	01/31/03	MSCI POLAND U$ - TOT RETURN IND (~U$)
	12/31/93	01/31/03	S&P/IFCG M POLAND $ - PRICE INDEX (~U$)
PORTUGAL	12/31/87	01/31/03	MSCI PORTUGAL U$ - TOT RETURN IND (~U$)
RUSSIA	12/30/94	01/30/03	MSCI RUSSIA U$ - TOT RETURN IND (~U$)
	01/01/96	02/01/03	S&P/IFCG M RUSSIA $ - PRICEINDEX (~U$)
SAUDI ARABIA	01/30/98	01/30/03	S&P/IFCG M SAUDI ARABIA - PRICE INDEX (~U$)
SINGAPORE	12/31/69	01/31/03	MSCI SINGAPORE U$ - TOT RETURN IND (~U$)
SLOVAKIA	01/01/96	02/01/03	S&P/IFCG M SLOVAKIA $ - PRICE INDEX (~U$)
SOUTH AFRICA	12/31/92	01/31/03	MSCI SOUTH AFRICA U$ - TOT RETURN IND (~U$)
	01/31/94	01/31/03	S&P/IFCG M SOUTH AFRICA $ - PRICE INDEX (~U$)
SPAIN	12/31/69	01/31/03	MSCI SPAIN U$ - TOT RETURN IND (~U$)
SRI LANKA	12/31/92	01/31/03	MSCI SRI LANKA U$ - TOT RETURN IND (~U$)
	09/30/93	01/31/03	S&P/IFCG M SRI LANKA $ - PRICE INDEX (~U$)
SWEDEN	12/31/69	01/31/03	MSCI SWITZERLAND U$ - TOT RETURN IND (~U$)
SWITZERLAND	12/31/69	01/31/03	MSCI SWEDEN U$ - TOT RETURN IND (~U$)
TAIWAN	12/31/87	01/31/03	MSCI TAIWAN U$ - TOT RETURN IND (~U$)
	12/31/84	01/31/03	S&P/IFCG M TAIWAN.CHINA $ - PRICE INDEX (~U$)
THAILAND	12/31/87	01/31/03	MSCI THAILAND U$ - TOT RETURN IND (~U$)
	12/31/75	01/31/03	S&P/IFCG M THAILAND $ - PRICE INDEX (~U$)

Table 1. Continued.

TURKEY	12/31/87	01/31/03	MSCI TURKEY U$ - TOT RETURN IND (~U$)
	12/31/86	01/31/03	S&P/IFCG M TURKEY $ - PRICE INDEX (~U$)
UNITED KINGDOM	12/31/69	01/31/03	MSCI UK U$ - TOT RETURN IND (~U$)
USA	12/31/69	01/31/03	MSCI USA U$ - TOT RETURN IND (~U$)
VENEZUELA	12/31/92	01/31/03	MSCI VENEZUELA U$ - TOT RETURN IND (~U$)
	12/31/84	01/31/03	S&P/IFCG M VENEZUELA $ - PRICE INDEX (~U$)
ZIMBABWE	12/31/75	01/31/03	S&P/IFCG M ZIMBABWE $ - PRICE INDEX (~U$)

Table 2. The components and sub-components of the International Credit Rating Index or ICRI and their grades and overall weights

This table summarizes the grades and overall weights of each variable in the International Credit Rating Guide. The database is purchased from PRS Group and all information available in this table is obtained from PRS Group Brief Guide to the rating system.

Component	Sub-component	Grades	Overall Weights
Political Risk	Government Stability	12	6.00%
	Socioeconomic Conditions	12	6.00%
	Investment Profile	12	6.00%
	Internal Conflict	12	6.00%
	External Conflict	12	6.00%
	Corruption	6	3.00%
	Military in Politics	6	3.00%
	Religion in Politics	6	3.00%
	Law and Order	6	3.00%
	Ethnic Tensions	6	3.00%
	Democratic Accountability	6	3.00%
	Bureaucracy Quality	4	2.00%
	Risk Component sub-total	100	50.00%
Economic Risk	GDP per Head	5	2.50%
	Real GDP Growth	10	5.00%
	Annual Inflation rate	10	5.00%
	Budget Balance	10	5.00%
	Current Account % GDP	15	7.50%
	Risk Component sub-total	50	25.00%
Financial Risk	Foreign Debt % GDP	10	5.00%
	Debt Service % XGS*	10	5.00%
	Current Account % XGS*	15	7.50%
	Net Liquidity in Months	5	2.50%
	Exchange Rate Stability	10	5.00%
	Risk Component sub-total	50	25.00%

*Exports of Goods and Services

Table 3. The correlation matrix of the ICGR indices and the IICCR index over the period 1984-2001

This table reports the correlations for each pairing of country CCR indexes. The ratings are averages over the period 1984-2001.

Rating	Economic	Financial	Political	Composite	IICCR
Economic	1.00	0.85	0.82	0.93	0.78
Financial		1.00	0.73	0.87	0.70
Political			1.00	0.96	0.82
Composite				1.00	0.84
IICCR					1.00

Table 4. The conversion table for S&P Sovereign ratings

This table represents the numeric scale corresponding to each rating letter for the S&P Sovereign ratings. Ratings explanations are drawn from Standard and Poor's website, where the numeric values are estimated by the author.

Explanation of the Rating	S&P Rating	Numeric Value of Rating
EXTREMELY STRONG	AAA	10
VERY STRONG	AA+	9.25
	AA	9
	AA-	8.75
STRONG	A+	8.25
	A	8
	A-	7.75
ADEQUATE	BBB+	7.25
	BBB	7
	BBB-	6.75
VULNERABLE	BB+	6.25
	BB	6
	BB-	5.75
MORE VULNERABLE	B+	5.25
	B	5
	B-	4.75
CURRENTLY VULNERABLE	CCC+	4.25
	CCC	4
	CCC-	3.75
CURRENTLY HIGH VULNERABLE	CC+	3.25
	CC	3
	CC-	2.75
CURRENTLY HIGHLY VULNERABLE	C+	2.25
	C	2
	C-	1.75
SELECTIVE DEFAULT	SD/R	1

Pluses and minuses reflect the relative standing within the major rating categories.

Table 5. Interest rate series used to calculate the term structure proxies for various countries and the source of each series

This table summarizes the sources and describes the series used in the calculation of the term structure proxies for each country. All the series are drawn from DataStream and are averages of daily yields. The series from IFS are for end of month yields.

Countries	Series	Database
AUSTRALIA	Treasury bonds: 15 years	IFS
	Austria Vibor 3 month - offered rate	IFS
AUSTRIA	Government bond yield	DataStream
	Treasury paper	IFS
BELGIUM	Government bond yield	IFS
	Treasury bill rate	IFS
CANADA	Government bond yield > 10 yrs.	IFS
	Denmark interbank 3 month - offered rate	IFS
DENMARK	Government bond yield	DataStream
	Finland interbank fixing 3 month - offered rate	IFS
FINLAND	Finland benchmark bonds 10 yr (ds) - red. Yield	DataStream
	Treasury bills:3 months	DataStream
FRANCE	Government bond yield	IFS
	Treasury bill rate	IFS
GERMANY	Government bond yield	IFS
	Exchequer bills	IFS
IRELAND	Government bond yield	IFS
	Treasury bill rate	IFS
ITALY	Government bond yield	IFS
	Japan bills 3 month 'dead' - middle rate	IFS
JAPAN	Government bond yield	DataStream
	Korea ncd 91 days - middle rate	IFS
KOREA	YLD.on nat'l housing bonds,1&2	DataStream
	Netherlands Interbank 3 mth - middle rate	IFS
NETHERLANDS	Government bond yield	DataStream
	New issue rate: 3-mo t bills	IFS
NEW ZEALAND	Government bond yield	IFS
	Norway interbank 3mth (effective) - middle rate	IFS
NORWAY	Government bond yield	DataStream
	Portugal apb 90 day 'dead' - middle rate	IFS
PORTUGAL	PT benchmark 10 year ds govt. index - red. Yield annual.	DataStream
	Treasury bill rate	DataStream

Table 5. Continued.

SPAIN	Government bond yield	IFS
	3 months treasury disc. Notes	IFS
SWEDEN	Sweden benchmark bonds 10 yr (ds) - red. Yield	DataStream
	Treasury bill rate	DataStream
SWITZERLAND	Government bond yield	IFS
	Treasury bill rate	IFS
UK	Government bond yield: long-term	IFS
	Treasury bill rate	IFS
US	Government bond yield: 10 year	IFS
	Treasury bonds: 15 years	IFS

Table 6. Regression of the returns on the country market indexes against the weighted CCR world index

This table reports the coefficient estimates and their corresponding t-values, and the adjusted R-square values for the regressions for equation (1) for the total returns for each country index against the weighted CCR calculated using the MSCI All Countries Free Index weights over the period 1988-2002. *, ** and *** indicate significance at the 0.10, 0.05 and 0.01 levels, respectively. δ_1 and δ_2 are the intercept and the slope for the regressions of equation (1), respectively.

Country	δ_1	t -value	δ_2	t-value	Adjusted R^2
ARGENTINA	0.5304	0.443	-0.1152	-0.4194	-0.50%
AUSTRALIA	-0.3242	-0.726	0.0759	0.7401	-0.27%
AUSTRIA	0.2484	0.6771	-0.0549	-0.6526	-0.35%
BELGIUM	0.1653	0.5098	-0.0357	-0.4792	-0.46%
BRAZIL	0.7959	0.7035	-0.1764	-0.6795	-0.32%
CANADA	-0.0073	-0.0217	0.0036	0.0464	-0.60%
CHILE	0.5467	1.1058	-0.1216	-1.0717	0.09%
CHINA	0.5182	0.5084	-0.1207	-0.5163	-0.68%
COLOMBIA	0.5891	0.7591	-0.1343	-0.7543	-0.40%
CZECH REPUBLIC	-0.1292	-0.1137	0.0302	0.1164	-1.19%
DENMARK	-0.2789	-0.7907	0.0666	0.8231	-0.19%
EGYPT	1.2788	1.07	-0.2911	-1.0666	0.16%
FINLAND	0.1434	0.2244	-0.0292	-0.199	-0.58%
FRANCE	-0.16	-0.4407	0.0394	0.4732	-0.47%
GERMANY	-0.01	-0.0257	0.0047	0.0525	-0.60%
GREECE	-0.7815	-1.0565	0.183	1.0782	0.10%
HONG KONG	0.7772	1.4116	-0.1751	-1.386	0.55%
HUNGARY	1.2616	0.9398	-0.2842	-0.927	-0.17%
INDIA	0.1395	0.1963	-0.031	-0.1902	-0.90%
INDONESIA	-0.7665	-0.6832	0.1791	0.6955	-0.31%
IRELAND	0.3104	0.827	-0.0693	-0.8048	-0.21%
ISRAEL	-0.4431	-0.6898	0.1033	0.7006	-0.47%
ITALY	0.0076	0.0164	0	-0.0002	-0.60%
JAPAN	0.5869	1.2726	-0.1349	-1.2746	0.37%
JORDAN	0.5825	2.021**	-0.1333	-2.0146**	1.80%
KOREA	0.088	0.1077	-0.0182	-0.0973	-0.60%
MALAYSIA	0.3561	0.5395	-0.0796	-0.5252	-0.44%
MEXICO	-0.2044	-0.3026	0.0523	0.3371	-0.53%
MOROCCO	1.392	2.1947**	-0.3165	-2.1848**	4.30%
NETHERLANDS	0.4056	1.3793	-0.0904	-1.3395	0.47%
NEW ZEALAND	0.9403	2.0521**	-0.2149	-2.0436**	1.87%
NORWAY	-0.1138	-0.2574	0.0281	0.2771	-0.56%
PAKISTAN	0.077	0.0772	-0.017	-0.0744	-0.93%
PERU	1.118	1.4842	-0.2541	-1.4704	1.07%
PHILIPPINES	1.2304	1.8187*	-0.2806	-1.8069*	1.34%

Table 6. Continued.

POLAND	3.0185	2.1519**	-0.6865	-2.1329**	3.18%
PORTUGAL	0.3386	0.7773	-0.0769	-0.7692	-0.25%
RUSSIA	2.1511	0.719	-0.4822	-0.7057	-0.60%
SINGAPORE	0.3097	0.6172	-0.069	-0.5992	-0.39%
SOUTH AFRICA	1.1701	1.8065*	-0.2666	-1.794*	2.01%
SPAIN	0.1712	0.4093	-0.0372	-0.3879	-0.51%
SRI LANKA	0.4932	0.5853	-0.1133	-0.5859	-0.61%
SWEDEN	0.2158	0.4464	-0.0466	-0.4201	-0.50%
SWITZERLAND	0.5102	1.5267	-0.1144	-1.4916	0.73%
TAIWAN	0.193	0.2381	-0.0416	-0.2235	-0.57%
THAILAND	0.5046	0.6044	-0.1141	-0.5955	-0.39%
TURKEY	-0.4264	-0.3453	0.1031	0.3638	-0.52%
UK	0.2076	0.6752	-0.0456	-0.6469	-0.35%
USA	0.1812	0.678	-0.0389	-0.6337	-0.36%
VENEZUELA	0.6378	0.5444	-0.1433	-0.533	-0.67%

Table 7. Regression results for the fitted residuals against the country-specific CCR index

This table reports the coefficient estimates and their corresponding t-values, and the adjusted R^2 values for the regressions for equation (2) of the fitted residuals for each country obtained from the regression of total index returns on the weighted CCR of each country over the period 1988-2002. *, ** and *** indicate significance at the 0.10, 0.05 and 0.01 levels, respectively. λ_1 and λ_2 are the intercept and the slope of the regressions for equation (2), respectively.

Country	λ_1	t-value	λ_2	t- value	Adjusted R^2
ARGENTINA	0.998	2.8867***	-0.1152	-2.889***	4.21%
AUSTRALIA	0.5984	1.7923**	0.0759	-1.7925*	1.31%
AUSTRIA	0.1109	0.2505	-0.0549	-0.2505	-0.56%
BELGIUM	-0.0452	-0.1269	-0.0357	0.1269	-0.59%
BRAZIL	2.0534	2.4046**	-0.1764	-2.4049**	2.79%
CANADA	0.2869	0.883	0.0036	-0.883	-0.13%
CHILE	0.818	3.039***	-0.1216	-3.0397***	4.70%
CHINA	-0.1116	-0.191	-0.1207	0.1911	-0.90%
COLOMBIA	0.2304	0.4147	-0.1343	-0.4147	-0.77%
CZECH REPUBLIC	-0.2674	-0.1603	0.0302	0.1603	-1.17%
DENMARK	0.5377	1.7812*	0.0666	-1.7814*	1.29%
EGYPT	2.7374	2.4667**	-0.2911	-2.4668***	5.71%
FINLAND	-0.1202	-0.3005	-0.0292	0.3006	-0.55%
FRANCE	0.2898	0.7199	0.0394	-0.7199	-0.29%
GERMANY	0.0229	0.0812	0.0047	-0.0812	-0.60%
GREECE	0.3501	1.2226	0.183	-1.2232	0.30%
HONG KONG	0.1323	1.0105	-0.1751	-1.0117	0.01%
HUNGARY	-0.616	-0.6647	-0.2842	0.6647	-0.67%
INDIA	0.4429	0.8368	-0.031	-0.8369	-0.28%
INDONESIA	0.8796	2.5005**	0.1791	-2.5022**	3.05%
IRELAND	0.0706	0.3164	-0.0693	-0.3164	-0.54%
ISRAEL	0.6513	0.8587	0.1033	-0.8587	-0.24%
ITALY	0.0043	0.0163	0	-0.0163	-0.60%
JAPAN	-0.1426	-0.3549	-0.1349	0.3549	-0.53%
JORDAN	-0.0391	-0.6651	-0.1333	0.6662	-0.33%
KOREA	1.2742	1.4485	-0.0182	-1.4486	0.65%
MALAYSIA	0.8629	1.9621**	-0.0796	-1.9624**	1.68%
MEXICO	0.7116	1.5336	0.0523	-1.5338	0.80%
MOROCCO	0.5608	1.3634	-0.3165	-1.3636	1.01%
NETHERLANDS	0.1476	0.5284	-0.0904	-0.5284	-0.43%
NEW ZEALAND	-0.31	-0.6262	-0.2149	0.6263	-0.37%
NORWAY	0.6568	2.1018**	0.0281	-2.1021**	2.01%
PAKISTAN	0.7635	1.2612	-0.017	-1.2614	0.54%
PERU	0.0463	0.2011	-0.2541	-0.2012	-0.90%
PHILIPPINES	0.2869	1.7594*	-0.2806	-1.7615*	1.24%

Table 7. Continued.

POLAND	0.4397	0.4812	-0.6865	-0.4813	-0.72%
PORTUGAL	-0.3774	-1.3066	-0.0769	1.3068	0.42%
RUSSIA	0.7702	0.9463	-0.4822	-0.9468	-0.12%
SINGAPORE	0.338	1.3577	-0.069	-1.3581	0.50%
SOUTH AFRICA	1.0608	1.4942	-0.2666	-1.4943	1.13%
SPAIN	0.0215	0.0679	-0.0372	-0.068	-0.60%
SRI LANKA	0.8775	1.4052	-0.1133	-1.4054	0.90%
SWEDEN	0.0713	0.1997	-0.0466	-0.1997	-0.58%
SWITZERLAND	0.2241	0.6726	-0.1144	-0.6727	-0.33%
TAIWAN	-0.0529	-0.0529	-0.0416	0.0529	-0.60%
THAILAND	0.9429	1.584	-0.1141	-1.5843	0.90%
TURKEY	0.4438	0.9987	0.1031	-0.9992	0.00%
UK	0.0962	0.4353	-0.0456	-0.4354	-0.49%
USA	0.1077	0.3916	-0.0389	-0.3916	-0.51%
VENEZUELA	1.2382	1.5087	-0.1433	-1.5089	1.17%

Table 8. Results for the regressions of the returns on the country market indexes against the equal-weighted CCR world index

This table reports the coefficient estimates and their corresponding t-values, and the adjusted R^2 values of the regressions for equation (2) for the total return for each country index against the equal-weighted CCR over the period 1988-2002. *, ** and *** indicate significance at the 0.10, 0.05 and 0.01 levels, respectively. δ_1 and δ_2 are the intercept and the slope of the regressions for equation (1), respectively.

Country	δ_1	t -value	δ_2	t-value	Adjusted R^2
ARGENTINA	1.8598	2.5678**	-0.4334	-2.5292**	3.13%
AUSTRALIA	0.4596	1.6810*	-0.1073	-1.6584*	1.04%
AUSTRIA	0.2412	1.0692	-0.0550	-1.0295	0.04%
BELGIUM	0.1738	0.8706	-0.0388	-0.8211	-0.20%
BRAZIL	1.1374	1.6417	-0.2627	-1.6026	0.93%
CANADA	0.0195	0.0939	-0.0026	-0.0539	-0.60%
CHILE	1.0714	3.6374***	-0.2495	-3.5807***	6.61%
CHINA	0.8554	0.8527	-0.2019	-0.8607	-0.24%
COLOMBIA	0.6424	0.8397	-0.1494	-0.8348	-0.28%
CZECH REPUBLIC	0.0060	0.0051	-0.0007	-0.0026	-1.20%
DENMARK	0.2307	1.0625	-0.0519	-1.0101	0.01%
EGYPT	2.4255	1.9855**	-0.5635	-1.9821**	3.37%
FINLAND	-0.5818	-1.4879	0.1415	1.5298	0.80%
FRANCE	0.2195	0.9829	-0.0492	-0.9302	-0.08%
GERMANY	0.2482	1.0335	-0.0563	-0.9900	-0.01%
GREECE	0.5218	1.1450	-0.1197	-1.1101	0.14%
HONG KONG	0.5402	1.5944	-0.1245	-1.5529	0.84%
HUNGARY	1.1645	0.8340	-0.2670	-0.8216	-0.39%
INDIA	0.6232	0.8919	-0.1447	-0.8858	-0.20%
INDONESIA	1.1286	1.6429	-0.2638	-1.6231	0.97%
IRELAND	0.1560	0.6740	-0.0350	-0.6382	-0.36%
ISRAEL	-0.1525	-0.2402	0.0373	0.2511	-0.88%
ITALY	-0.0530	-0.1869	0.0143	0.2131	-0.57%
JAPAN	0.2670	0.9374	-0.0634	-0.9406	-0.07%
JORDAN	0.0234	0.1303	-0.0051	-0.1198	-0.59%
KOREA	-0.0728	-0.1447	0.0192	0.1616	-0.59%
MALAYSIA	0.5133	1.2668	-0.1192	-1.2436	0.33%
MEXICO	0.8644	2.1023**	-0.1991	-2.0461**	1.87%
MOROCCO	1.2783	1.9277*	-0.2960	-1.9182*	3.09%
NETHERLANDS	0.2199	1.2121	-0.0493	-1.1478	0.19%
NEW ZEALAND	0.1584	0.5547	-0.0366	-0.5409	-0.43%
NORWAY	0.3010	1.1087	-0.0692	-1.0769	0.10%
PAKISTAN	0.6435	0.6549	-0.1498	-0.6521	-0.54%
PERU	1.2041	1.6237	-0.2792	-1.6097	1.45%
PHILIPPINES	0.9375	2.2605**	-0.2200	-2.2414**	2.35%

Table 8. Continued.

POLAND	3.3024	2.3984	-0.7660	-2.3791**	4.14%
PORTUGAL	-0.2066	-0.7699	0.0497	0.7833	-0.23%
RUSSIA	2.6795	0.8632	-0.6143	-0.8504	-0.33%
SINGAPORE	0.4107	1.3334	-0.0951	-1.3044	0.42%
SOUTH AFRICA	1.4004	2.2076**	-0.3256	-2.1949**	3.41%
SPAIN	-0.0717	-0.2783	0.0191	0.3132	-0.54%
SRI LANKA	0.6975	0.8406	-0.1632	-0.8411	-0.27%
SWEDEN	0.1440	0.4834	-0.0311	-0.4408	-0.48%
SWITZERLAND	0.1816	0.8777	-0.0402	-0.8211	-0.20%
TAIWAN	0.5778	1.1612	-0.1340	-1.1377	0.18%
THAILAND	0.8317	1.6274	-0.1950	-1.6131	0.95%
TURKEY	0.1591	0.2090	-0.0322	-0.1789	-0.58%
UK	0.1562	0.8250	-0.0349	-0.7792	-0.24%
USA	0.1065	0.6468	-0.0224	-0.5749	-0.40%
VENEZUELA	0.8713	0.7548	-0.2007	-0.7433	-0.42%

Table 9. Time series and cross-sectional augmented and non-augmented prediction models for 1979-2002 using IICCR

This table reports the coefficient estimates and their corresponding t-values in parenthesis, and the adjusted R^2 values for the regressions of the prediction models of EHV (1996) that are given by equations (3) and (4) in the text, respectively, over the period 1979-2001. The IICCR is used as the risk proxy.

	Intercept	All countries	Emerging	Developed	Adj. R^2
Full Sample	0.2875 (2.9640***)	-0.1237 (-2.3640***)			0.49%
Split Sample	0.06585 (4.5421***)		-0.3672 (-4.2410***)	-0.3084 (-4.0588***)	1.72%

Table 10. Time series and cross-sectional augmented and non-augmented prediction models for 1984-2002 using ICRG

This table reports the coefficient estimates and their corresponding t-values in parenthesis, and the adjusted R^2 values of the regressions of the prediction models of EHV (1996) that are referred to as equations (3) and (4), respectively, in the text over the period 1984-2002. The ICRG is used as the risk proxy.

	Intercept	All countries	Emerging	Developed	Adj. R^2
Full Sample	0.2155 (6.5547***)	-0.1108 (-6.2406***)			0.54%
Split Sample	0.2833 (7.2866***)		-0.1503 (-6.9972***)	-0.1452 (-7.0349***)	0.67%

Table 11. Time series and cross sectional prediction models for different groupings of countries

This table reports the coefficient estimates and their corresponding t-values in parenthesis, and the adjusted R^2 values for the estimation of the prediction model given by equation (3):

$$R_{i,t} = \gamma_1 + \gamma_2 LOG(CCR_{i,t-1}) + \varepsilon_{i,t}.$$

The regressions are run for different groupings of countries and time periods.

Time Period	Country Grouping	Number of Observations	γ_1	γ_2	Adj. R^2
Semi-annual (1979-2001)	**Developed**	927	0.5897 (2.13**)	-0.2723 (-1.89**)	0.56%
	Emerging	780	0.6681 (4.15***)	-0.3731 (-3.88***)	2.08%
Monthly (1984-2002)	**Developed**	3762	0.1775 (3.91***)	-0.0890 (-3.70***)	0.33%
	Emerging	3204	0.3350 (4.39***)	-0.1788 (-4.29***)	12.95%

Table 12. The coefficient estimates and their t values for each estimation window used in the prediction model represented by equation (3)

This table reports the coefficient estimates and their corresponding t-values for each 60-month estimation window that is used to predict the future returns for the countries using equation (3). γ_1 and γ_2 are the intercept and slope of the regressions using equation (3), respectively.

Estimation window	γ_1	t stat	γ_2	t stat
Period 1	0.2435	4.7063***	-0.1235	-4.3736***
Period 2	0.2488	4.8102***	-0.1265	-4.4816***
Period 3	0.2758	5.3133***	-0.1408	-4.9693***
Period 4	0.2874	5.5023***	-0.1473	-5.1660***
Period 5	0.2797	5.3365***	-0.1421	-4.9631***
Period 6	0.2955	5.5664***	-0.1502	-5.1809***
Period 7	0.3015	5.6372***	-0.1538	-5.2653***
Period 8	0.3022	5.5704***	-0.1552	-5.2363***
Period 9	0.2838	5.1918***	-0.1457	-4.8781***
Period 10	0.2561	4.6939***	-0.1307	-4.3854***
Period 11	0.2583	4.7056***	-0.1324	-4.4151***
Period 12	0.2740	4.9766***	-0.1410	-4.6873***
Period 13	0.2498	4.5940***	-0.1277	-4.2999***
Period 14	0.2066	3.9032***	-0.1049	-3.6292***
Period 15	0.1950	3.6632***	-0.0983	-3.3817***
Period 16	0.2181	4.0742***	-0.1115	-3.8120***
Period 17	0.2021	3.7690***	-0.1035	-3.5345***
Period 18	0.1900	3.5337***	-0.0977	-3.3264***
Period 19	0.1560	2.8649***	-0.0793	-2.6656***
Period 20	0.1588	2.9253***	-0.0804	-2.7126***
Period 21	0.1350	2.4972**	-0.0670	-2.2715**
Period 22	0.1535	2.8384***	-0.0773	-2.6178***
Period 23	0.1707	3.1053***	-0.0866	-2.8832***
Period 24	0.1700	3.0818***	-0.0862	-2.8625***
Period 25	0.1818	3.3161***	-0.0922	-3.0808***
Period 26	0.1571	2.8868***	-0.0779	-2.6224***
Period 27	0.1793	3.2882***	-0.0905	-3.0410***
Period 28	0.1812	3.2803***	-0.0918	-3.0427***
Period 29	0.1859	3.3343***	-0.0940	-3.0892***
Period 30	0.1711	3.0498***	-0.0859	-2.8044***
Period 31	0.1533	2.7213***	-0.0769	-2.5005***
Period 32	0.1368	2.4327**	-0.0678	-2.2090**
Period 33	0.1597	2.8011***	-0.0798	-2.5670***
Period 34	0.1615	2.8296***	-0.0810	-2.6022***
Period 35	0.1751	2.9945***	-0.0877	-2.7518***
Period 36	0.1899	3.2372***	-0.0965	-3.0183***

Table 12. Continued.

Period 37	0.1618	2.8109***	-0.0811	-2.5833***
Period 38	0.1853	3.2261***	-0.0937	-2.9917***
Period 39	0.1811	3.1547***	-0.0914	-2.9221***
Period 40	0.1510	2.6422***	-0.0746	-2.3967**
Period 41	0.1389	2.4512**	-0.0685	-2.2182**
Period 42	0.1473	2.5899***	-0.0729	-2.3516**
Period 43	0.1698	2.9571***	-0.0846	-2.7053***
Period 44	0.1611	2.8249***	-0.0799	-2.5728***
Period 45	0.1683	2.9605***	-0.0839	-2.7105***
Period 46	0.1649	2.9192***	-0.0818	-2.6622***
Period 47	0.1541	2.7593***	-0.0754	-2.4824**
Period 48	0.1508	2.7165***	-0.0733	-2.4258**
Period 49	0.1689	3.0297***	-0.0836	-2.7557***
Period 50	0.1438	2.6020***	-0.0693	-2.3041**
Period 51	0.1947	3.5209***	-0.0977	-3.2512***
Period 52	0.2085	3.7827***	-0.1056	-3.5265***
Period 53	0.2097	3.8243***	-0.1064	-3.5718***
Period 54	0.2112	3.7781***	-0.1074	-3.5387***
Period 55	0.1681	2.9707***	-0.0834	-2.7168***
Period 56	0.1634	2.8908***	-0.0806	-2.6290***
Period 57	0.1615	2.8720***	-0.0798	-2.6187***
Period 58	0.1308	2.3491**	-0.0643	-2.1314***
Period 59	0.1079	1.9214**	-0.0525	-1.7276*
Period 60	0.1084	1.9297**	-0.0527	-1.7325*
Period 61	0.1207	2.0574**	-0.0618	-1.9489**
Period 62	0.0936	1.5767	-0.0472	-1.4693
Period 63	0.0600	0.9941	-0.0286	-0.8768
Period 64	0.1005	1.6533	-0.0497	-1.5136
Period 65	0.0404	0.6748	-0.0180	-0.5584
Period 66	-0.0001	-0.0019	0.0032	0.1013
Period 67	0.0283	0.4801	-0.0121	-0.3800
Period 68	0.0606	1.0310	-0.0285	-0.8978
Period 69	0.0926	1.5598	-0.0448	-1.3988
Period 70	0.1098	1.8535*	-0.0542	-1.6975*
Period 71	0.1137	1.9185*	-0.0556	-1.7397*
Period 72	0.1003	1.6980*	-0.0487	-1.5311
Period 73	0.0635	1.0827	-0.0295	-0.9326
Period 74	0.0608	1.0397	-0.0282	-0.8933
Period 75	0.0750	1.2857	-0.0356	-1.1326
Period 76	0.0932	1.6026	-0.0446	-1.4241

Table 12. Continued.

Period 77	0.1362	2.3124**	-0.0665	-2.0993**
Period 78	0.1736	2.9571***	-0.0864	-2.7347***
Period 79	0.1928	3.2863***	-0.0965	-3.0573***
Period 80	0.1905	3.2495***	-0.0953	-3.0236***
Period 81	0.1928	3.2945***	-0.0974	-3.0972***
Period 82	0.1736	2.9541***	-0.0876	-2.7755***
Period 83	0.1338	2.2951**	-0.0662	-2.1149**
Period 84	0.1333	2.2804***	-0.0665	-2.1184**
Period 85	0.1392	2.3820***	-0.0694	-2.2111**
Period 86	0.1579	2.6924***	-0.0799	-2.5403***
Period 87	0.1667	2.8385***	-0.0849	-2.6945***
Period 88	0.1809	3.0761***	-0.0927	-2.9403***
Period 89	0.1685	2.8526***	-0.0859	-2.7137***
Period 90	0.1613	2.7158***	-0.0818	-2.5686***
Period 91	0.1624	2.7228***	-0.0831	-2.6021***
Period 92	0.1654	2.7560***	-0.0856	-2.6615***
Period 93	0.1395	2.3193**	-0.0715	-2.2224**
Period 94	0.1510	2.5060***	-0.0777	-2.4105***
Period 95	0.1442	2.4280***	-0.0746	-2.3466***
Period 96	0.1542	2.5957***	-0.0797	-2.5106***
Period 97	0.1574	2.6506***	-0.0819	-2.5772***
Period 98	0.1519	2.5290***	-0.0801	-2.4940***
Period 99	0.1633	2.6952***	-0.0857	-2.6455***
Period 100	0.1542	2.5393***	-0.0806	-2.4834***

Table 13. The semiannual geometric and arithmetic averages of the predicted and realized returns and their correlations

This table reports geometric and arithmetic averages of the predicted and realized semi-annual returns over a 11-year period from 1990-2001. The table also reports the correlations between the realized and expected returns for each country, and the differences between the geometric averages and between the arithmetic averages for the predicted and realized returns.

Country	Arithmetic Average Semiannual Realized Return	Geometric Average Semiannual Realized Return	Arithmetic Average Semiannual Predicted Return	Geometric Average Semiannual Predicted Return	Correlation	Difference Between Arithmetic Averages	Difference Between Geometric Averages
Argentina	12.50%	8.19%	20.33%	19.66%	39.52%	-7.83%	-11.47%
Australia	1.77%	1.35%	7.35%	7.30%	-4.99%	-5.58%	-5.95%
Austria	-2.38%	-3.03%	4.34%	4.30%	-44.25%	-6.72%	-7.33%
Belgium	2.99%	2.54%	5.32%	5.29%	-18.63%	-2.34%	-2.75%
Brazil	17.08%	12.00%	19.78%	19.31%	31.74%	-2.70%	-7.31%
Canada	4.00%	2.72%	4.85%	4.82%	-11.76%	-0.84%	-2.09%
Chile	9.22%	6.70%	12.56%	12.30%	39.17%	-3.34%	-5.60%
China	-5.62%	-6.35%	10.72%	10.61%	-7.74%	-16.33%	-16.96%
Colombia	1.69%	-1.52%	15.58%	15.29%	33.84%	-13.89%	-16.81%
Czech Republic	1.11%	-0.17%	8.96%	6.39%	-38.40%	-7.85%	-6.56%
Denmark	4.08%	3.46%	5.94%	5.89%	-22.03%	-1.86%	-2.43%
Egypt	7.23%	1.30%	20.48%	19.92%	-0.07%	-13.25%	-18.62%
Finland	14.50%	9.02%	6.48%	6.45%	-33.17%	8.02%	2.57%
France	4.51%	3.94%	3.89%	3.86%	-17.49%	0.62%	0.08%
Germany	3.47%	2.70%	3.38%	3.35%	-31.97%	0.09%	-0.65%
Greece	6.99%	4.16%	12.45%	12.30%	8.43%	-5.46%	-8.14%
Hong Kong	6.92%	5.28%	8.34%	8.28%	-4.77%	-1.42%	-3.00%
Hungary	12.04%	4.13%	13.86%	13.67%	28.22%	-1.82%	-9.53%
India	4.01%	1.23%	14.77%	14.57%	10.95%	-10.76%	-13.34%
Indonesia	-2.16%	-10.15%	12.60%	12.49%	-33.64%	-14.76%	-22.64%
Ireland	2.99%	2.23%	7.05%	6.99%	-35.02%	-4.06%	-4.76%
Israel	5.13%	1.86%	14.88%	14.58%	-28.96%	-9.75%	-12.72%
Italy	3.23%	1.88%	6.04%	6.01%	-20.34%	-2.81%	-4.13%
Japan	0.66%	-0.86%	3.29%	3.25%	-21.79%	-2.63%	-4.11%
Jordan	1.66%	0.98%	22.55%	21.93%	27.90%	-20.89%	-20.95%
Korea	2.55%	-2.77%	7.59%	7.54%	-32.24%	-5.04%	-10.32%
Malaysia	4.91%	-1.03%	8.68%	8.60%	-23.07%	-3.77%	-9.64%
Mexico	12.48%	7.03%	14.88%	14.63%	19.94%	-2.39%	-7.60%
Morocco	5.22%	2.20%	18.22%	17.80%	59.24%	-13.00%	-15.60%

Table 13. Continued.

Netherlands	5.45%	5.10%	3.75%	3.72%	-32.25%	1.69%	1.38%
New Zealand	2.55%	1.34%	8.13%	8.06%	-14.08%	-5.58%	-6.72%
Norway	0.99%	0.05%	5.34%	5.30%	-36.68%	-4.35%	-5.25%
Pakistan	1.09%	-2.67%	20.86%	20.52%	7.88%	-19.77%	-23.20%
Peru	6.07%	2.62%	27.90%	26.64%	42.05%	-21.84%	-24.02%
Philippines	3.84%	-1.11%	19.66%	19.12%	21.20%	-15.82%	-20.23%
Poland	23.39%	6.10%	19.86%	19.18%	44.78%	3.53%	-13.08%
Portugal	3.76%	2.79%	7.98%	7.90%	-24.06%	-4.22%	-5.12%
Russia	38.16%	4.41%	20.92%	15.47%	-28.02%	17.23%	-11.06%
Singapore	3.17%	0.95%	5.22%	5.18%	-20.31%	-2.05%	-4.22%
South Africa	4.11%	1.89%	15.53%	15.26%	34.68%	-11.42%	-13.36%
Spain	5.44%	4.35%	6.12%	6.08%	-5.17%	-0.68%	-1.74%
Sri Lanka	-1.73%	-3.83%	21.64%	21.07%	43.93%	-23.37%	-24.90%
Sweden	7.08%	4.73%	5.89%	5.86%	-17.84%	1.19%	-1.13%
Switzerland	6.81%	6.20%	3.12%	3.09%	-31.72%	3.69%	3.11%
Taiwan	3.85%	-2.41%	5.71%	5.67%	-22.95%	-1.86%	-8.08%
Thailand	0.09%	-4.07%	9.36%	9.30%	14.91%	-9.27%	-13.37%
Turkey	8.03%	-1.49%	14.73%	14.56%	-29.81%	-6.69%	-16.05%
UK	4.05%	3.61%	4.17%	4.14%	1.28%	-0.12%	-0.52%
USA	6.53%	5.88%	3.64%	3.61%	-12.71%	2.88%	2.27%
Venezuela	9.09%	3.05%	17.34%	17.10%	4.49%	-8.25%	-14.05%

Table 14. The monthly geometric and arithmetic averages of the predicted and realized returns and their correlations

This table reports the geometric and arithmetic averages of the predicted and realized monthly returns over an 8-year period from 1993-2001. The table also reports the correlations between the realized and expected returns for each country and for the differences between the geometric averages and between the arithmetic averages for the predicted and realized returns.

Country	Arithmetic Average Monthly Realized Return	Geometric Average Monthly Realized Return	Arithmetic Average Monthly Predicted Return	Geometric Average Monthly Predicted Return	Correlation	Difference Between Arithmetic Averages	Difference Between Geometric Averages
Argentina	0.14%	-0.39%	1.22%	1.22%	8.28%	-1.08%	-1.61%
Australia	-0.09%	-0.23%	0.84%	0.84%	1.85%	-0.93%	-1.07%
Austria	0.69%	0.54%	0.66%	0.66%	-17.48%	0.03%	-0.12%
Belgium	0.91%	0.81%	0.81%	0.81%	3.30%	0.10%	0.00%
Brazil	1.42%	0.68%	1.63%	1.63%	11.47%	-0.21%	-0.95%
Canada	0.98%	0.80%	0.73%	0.73%	2.68%	0.25%	0.07%
Chile	0.56%	0.28%	0.93%	0.93%	2.81%	-0.37%	-0.65%
China	-0.65%	-1.44%	1.32%	1.32%	-4.89%	-1.97%	-2.76%
Colombia	0.37%	-0.11%	1.78%	1.78%	-0.26%	-1.41%	-1.89%
Czech Republic	0.26%	-0.16%	1.01%	1.01%	-6.02%	-0.75%	-1.17%
Denmark	1.04%	0.92%	0.62%	0.62%	11.58%	0.42%	0.30%
Egypt	0.54%	0.09%	1.30%	1.30%	14.22%	-0.76%	-1.21%
Finland	2.77%	2.19%	0.69%	0.69%	3.19%	2.08%	1.50%
France	0.91%	0.78%	0.88%	0.87%	-0.01%	0.03%	-0.10%
Germany	0.86%	0.71%	0.81%	0.81%	6.68%	0.05%	-0.10%
Greece	1.05%	0.65%	1.14%	1.14%	0.15%	-0.09%	-0.49%
Hong Kong	0.85%	0.41%	1.10%	1.10%	0.10%	-0.25%	-0.69%
Hungary	1.62%	0.83%	1.15%	1.14%	2.19%	0.47%	-0.31%
India	0.41%	0.02%	1.56%	1.56%	7.59%	-1.15%	-1.54%
Indonesia	-0.53%	-1.85%	1.72%	1.72%	-21.70%	-2.25%	-3.57%
Ireland	0.96%	0.85%	0.69%	0.69%	2.79%	0.27%	0.16%
Israel	0.76%	0.43%	1.33%	1.33%	-5.15%	-0.57%	-0.89%
Italy	0.83%	0.60%	0.99%	0.99%	5.23%	-0.16%	-0.39%
Japan	-0.38%	-0.58%	0.68%	0.68%	3.62%	-1.07%	-1.26%
Jordan	-0.04%	-0.11%	1.19%	1.19%	-14.50%	-1.23%	-1.30%
Korea	1.10%	0.13%	0.93%	0.93%	-10.33%	0.18%	-0.80%
Malaysia	0.26%	-0.43%	0.94%	0.94%	-17.29%	-0.68%	-1.37%
Mexico	0.88%	0.29%	1.32%	1.32%	-6.07%	-0.44%	-1.03%
Morocco	0.72%	0.49%	1.29%	1.29%	31.61%	-0.57%	-0.80%

Table 14. Continued.

Netherlands	1.05%	0.94%	0.62%	0.62%	10.42%	0.44%	0.32%
New Zealand	0.27%	0.04%	0.82%	0.82%	-9.39%	-0.54%	-0.78%
Norway	0.70%	0.49%	0.55%	0.55%	10.58%	0.15%	-0.06%
Pakistan	0.02%	-0.74%	2.09%	2.09%	7.58%	-2.07%	-2.83%
Peru	0.92%	0.49%	1.76%	1.75%	14.09%	-0.83%	-1.26%
Philippines	-0.44%	-1.06%	1.46%	1.46%	6.83%	-1.90%	-2.52%
Poland	0.69%	-0.20%	1.04%	1.04%	0.36%	-0.35%	-1.24%
Portugal	0.77%	0.59%	0.81%	0.81%	4.09%	-0.04%	-0.22%
Russia	3.94%	0.93%	2.06%	2.06%	-6.27%	1.87%	-1.13%
Singapore	0.33%	-0.06%	0.60%	0.60%	2.76%	-0.27%	-0.66%
South Africa	0.58%	0.23%	1.23%	1.23%	3.64%	-0.64%	-1.00%
Spain	1.20%	1.00%	1.00%	1.00%	0.16%	0.20%	0.01%
Sri Lanka	-0.09%	-0.63%	1.73%	1.73%	6.83%	-1.82%	-2.36%
Sweden	1.48%	1.18%	0.79%	0.79%	10.63%	0.69%	0.39%
Switzerland	1.08%	0.96%	0.53%	0.53%	6.38%	0.55%	0.43%
Taiwan	0.88%	0.33%	0.70%	0.70%	-3.79%	0.18%	-0.37%
Thailand	-0.52%	-1.61%	1.16%	1.16%	-11.59%	-1.68%	-2.77%
Turkey	1.80%	0.15%	2.06%	2.06%	-14.33%	-0.26%	-1.91%
UK	0.81%	0.74%	0.81%	0.81%	3.16%	0.00%	-0.07%
USA	1.17%	1.08%	0.76%	0.76%	1.09%	0.41%	0.32%
Venezuela	1.46%	0.38%	1.56%	1.56%	8.11%	-0.10%	-1.18%

Table 15. Number of CCR upgrades and downgrades for various sample periods

This table summarizes the number of positive and negative changes of the CCRs for various periods of time.

Risk Measure	Sample Period	Upgrade	Downgrade
ICRG Composite	1984-2003	496	428
	1984-1996	376	335
ICRG Economic	1984-2003	833	742
	1984-1996	484	473
ICRG Financial	1984-2003	756	741
	1984-1996	550	503
ICRG Political	1984-2003	806	808
	1984-1996	519	502
IICCR	1980-2001	24	24

Table 16. Event study analysis of the changes in the ICRG ratings using market-adjusted returns over the period 1984-1996

This table reports the regression results for 47 countries using indices from both IFC and MSCI. The regressions involve event study model (12) for average monthly returns and model (13) for cumulative average monthly returns. The ICRG monthly ratings are used. "Up" and "Down" indicate upgrades and downgrades, respectively. The number next to them refers to the month measured: (-1) is the month preceding the change, and so forth. (0-1-2) refers to actual and the two following months. *, ** and *** indicate significance at the 0.10, 0.05 and 0.01 levels, respectively.

		Event Month									
		-1 Up	**-1 Down**	**0 Up**	**0 Down**	**+1 Up**	**+1 Down**	**+2 Up**	**+2 Down**	**(0-1-2) Up**	**(0-1-2) Down**
All Countries	**ICRG**	-0.30%	-0.46%	0.12%	0.41%	0.08%	0.14%	1.13%	0.53%	0.49%	0.40%
		(-1.12)	(-1.65*)	(0.46)	(1.46)	(0.29)	(0.5)	4.18***)	(1.85*)	(2.97***)	(2.33**)
	Political	0.38%	-0.46%	0.22%	-0.14%	0.57%	-0.15%	-0.17%	-0.20%	0.21%	-0.17%
		(1.58)	(-2.00**)	(0.87)	(-0.59)	(2.28**)	(-0.63)	(-0.68)	(-0.85)	(1.37)	(-1.17)
	Financial	0.00%	-0.76%	0.06%	-0.37%	0.70%	-0.03%	0.10%	-0.05%	0.33%	-0.09%
		(0.01)	(-3.27***)	(0.24)	(-1.57)	(3.00***)	(-0.14)	(0.45)	(-0.2)	(2.28***)	(-0.65)
	Economic	0.13%	-0.49%	0.37%	-0.91%	-0.43%	0.25%	0.77%	-0.88%	0.26%	-0.48%
		(0.51)	(-1.98**)	(1.4)	(-3.64***)	(-1.61)	(1.01)	(2.9***)	(-3.55***)	(1.57)	(-3.08***)
Developed	**ICRG**	0.04%	-0.23%	-0.32%	0.39%	-0.06%	-0.05%	0.67%	0.64%	0.12%	0.33%
		(0.17)	(-0.82)	(-1.2)	(1.34)	(-0.21)	(-0.18)	(2.51**)	(2.22**)	(0.73)	(1.94*)
	Political	0.17%	-0.12%	-0.12%	-0.14%	0.03%	-0.22%	-0.28%	0.14%	-0.12%	-0.08%
		(0.67)	(-0.51)	(-0.46)	(-0.6)	(0.1)	(-0.97)	(-1.11)	(0.61)	(-0.77)	(-0.56)
	Financial	-0.01%	-0.48%	0.37%	0.14%	0.60%	0.35%	0.25%	0.43%	0.42%	0.34%
		(-0.05)	(-2.11**)	(1.63)	(0.61)	(2.60***)	(1.51)	(1.11)	(1.88**)	(2.95***)	(2.36**)
	Economic	-0.21%	0.18%	0.17%	-0.76%	-0.44%	0.18%	0.08%	-0.30%	-0.05%	-0.29%
		(-0.82)	(0.72)	(0.65)	(-3.04***)	(-1.64)	(0.73)	(0.3)	(-1.22)	(-0.33)	(-1.91*)
Emerging	**ICRG**	-1.60%	-2.41%	1.90%	-0.75%	-0.47%	1.02%	1.71%	0.42%	1.23%	0.42%
		(-1.87*)	(-2.79***)	(2.22**)	(-0.86)	(-0.54)	(1.18)	(2.01**)	(0.48)	(2.37***)	(0.79)
	Political	0.60%	-2.07%	1.67%	0.44%	1.84%	-0.70%	0.66%	-0.82%	1.44%	-0.33%
		(0.9)	(-2.85***)	(2.46**)	(0.59)	(2.71**)	(-0.94)	(0.98)	(-1.11)	(3.33***)	(-0.72)
	Financial	0.29%	-1.04%	-0.29%	-2.28%	0.57%	-1.83%	-0.27%	-1.89%	0.05%	-1.93%
		(0.42)	(-1.39)	(-0.42)	(-3.01***)	(0.8)	(-2.39***)	(-0.39)	(-2.48**)	(0.12)	(-4.13***)
	Economic	0.84%	-2.01%	1.38%	-0.52%	0.02%	-0.20%	2.06%	-2.39%	1.22%	-0.88%
		(1.17)	(-2.71***)	(1.89*)	(-0.7)	(0.03)	(-0.27)	(2.83**)	(-3.2***)	(2.67***)	(-1.9*)

Table 17. Event study analysis of the changes in the ICRG ratings using market-adjusted returns over the period 1997-2003

This table reports the regression results for 56 countries using indices from both IFC and MSCI. The regressions involve event study model (12) for average monthly returns and model (13) for cumulative average monthly returns. The ICRG monthly ratings are used. "Up" and "Down" indicate upgrades and downgrades, respectively. The number next to them refers to the month measured: (-1) is the month preceding the change, and so forth. (0-1-2) refers to actual and the two following months. *, ** and *** indicate significance at the 0.10, 0.05 and 0.01 levels, respectively.

		Event Month									
		-1 Up	**-1 Down**	**0 Up**	**0 Down**	**+1 Up**	**+1 Down**	**+2 Up**	**+2 Down**	**(0-1-2) Up**	**(0-1-2) Down**
All Countries	**ICRG**	0.50%	0.78%	-0.24%	0.31%	0.41%	0.03%	0.00%	0.37%	0.06%	0.22%
		(2.05**)	(2.77***)	(-0.99)	(1.12)	(1.7)	(0.09)	(0.00)	(1.35)	(0.4)	(1.36)
	Political	-0.28%	-0.37%	0.30%	-0.74%	0.40%	-0.56%	-0.47%	-0.10%	0.10%	-0.41%
		(-1.73*)	(-2.28**)	(1.9*)	(-4.45***)	(2.5**)	(-3.38***)	(-3.02***)	(-0.62)	(1.05)	(-3.93***)
	Financial	-0.20%	-0.56%	0.14%	-1.10%	-0.39%	-0.76%	0.17%	0.53%	0.05%	-0.40%
		(-0.98)	(-3.00***)	(0.69)	(-5.81***)	(-1.91*)	(-4.1***)	(0.85)	(2.86***)	(0.4)	(-3.45***)
	Economic	0.49%	-2.04%	-0.15%	-0.84%	0.44%	0.14%	0.22%	0.33%	0.28%	-0.08%
		(2.94***)	(-11.32***)	(-0.9)	(-4.65***)	(2.7***)	(0.77)	(1.38)	(1.84*)	(2.83***)	(-0.76)
Developed	**ICRG**	0.56%	0.23%	0.47%	-0.25%	0.84%	-0.52%	-0.01%	-0.14%	0.39%	-0.32%
		(1.57)	(0.7)	(1.31)	(-0.77)	(2.38***)	(-1.63)	(-0.02)	(-0.44)	(1.83*)	(-1.7*)
	Political	-0.17%	0.22%	-0.40%	-0.42%	-0.24%	-0.25%	-0.22%	-0.31%	-0.25%	-0.35%
		(-1.02)	(1.15)	(-2.33**)	(-2.21**)	(-1.39)	(-1.31)	(-1.33)	(-1.66*)	(-2.48**)	(-3.1***)
	Financial	-0.80%	-0.01%	-0.23%	-0.80%	-0.42%	0.31%	0.14%	0.31%	-0.05%	0.08%
		(-2.96***)	(-0.04)	(-0.86)	(-3.35***)	(-1.57)	(1.33)	(0.55)	(1.3)	(-0.38)	(0.58)
	Economic	0.42%	-0.58%	0.20%	-0.11%	0.39%	-0.02%	0.25%	-0.19%	0.29%	-0.08%
		(2.24**)	(-3.15***)	(1.12)	(-0.61)	(2.14**)	(-0.14)	(1.37)	(-1.05)	(2.83***)	(-0.8)
Emerging	**ICRG**	0.20%	0.21%	-1.48%	0.84%	0.23%	-0.82%	0.55%	0.39%	-0.26%	0.07%
		(0.26)	(0.27)	(-1.94*)	(1.12)	(0.3)	(-1.13)	(0.73)	(0.54)	(-0.57)	(0.17)
	Political	-0.19%	-0.74%	1.01%	-0.93%	0.92%	0.25%	-1.14%	0.11%	0.34%	-0.14%
		(-0.41)	(-1.66*)	(2.17**)	(-2.11**)	(2.00**)	(0.58)	(-2.49***)	(0.25)	(1.18)	(-0.52)
	Financial	0.48%	-0.92%	1.01%	-0.84%	0.03%	-1.64%	0.30%	0.88%	0.50%	-0.52%
		(0.97)	(-1.71*)	(2.07**)	(-1.57)	(0.06)	(-3.09***)	(0.63)	(1.67*)	(1.69*)	(-1.56)
	Economic	0.66%	-2.61%	-0.93%	-1.10%	-0.04%	-0.74%	0.20%	1.17%	-0.23%	-0.20%
		(1.47)	(-5.12***)	(-2.05**)	(-2.16**)	(-0.08)	(-1.46)	(0.46)	(2.32**)	(-0.82)	(-0.66)

Table 18. Event study analysis of changes in the ICRG ratings using market-adjusted returns over the period 1984-2003

This table reports the regression results for 56 countries using indices from both IFC and MSCI. The regressions involve event study model (12) for average monthly returns and model (13) for cumulative average monthly returns. The ICRG monthly ratings are used. "Up" and "Down" indicate upgrades and downgrades, respectively. The number next to them refers to the month measured: (-1) is the month preceding the change, and so forth. (0-1-2) refers to actual and the two following months. *, ** and *** indicate significance at the 0.10, 0.05 and 0.01 levels, respectively.

		Event Month									
		-1 Up	-1 Down	0 Up	0 Down	+1 Up	+1 Down	+2 Up	+2 Down	(1-2-3) Up	(1-2-3) Down
All Countries	ICRG	0.09%	-0.19%	0.15%	0.52%	0.34%	0.07%	0.87%	0.33%	0.47%	0.30%
		(0.36)	(-0.74)	(0.65)	(2.06**)	(1.41)	(0.26)	(3.67***)	(1.29)	(3.24***)	(2.01**)
	Political	0.12%	-0.21%	0.23%	-0.27%	0.33%	-0.10%	-0.15%	-0.07%	0.14%	-0.14%
		(0.61)	(-1.12)	(1.19)	(-1.45)	(1.7*)	(-0.54)	(-0.79)	(-0.38)	(1.17)	(-1.22)
	Financial	-0.03%	-0.68%	0.26%	-0.52%	0.57%	-0.11%	0.12%	0.14%	0.36%	-0.12%
		(-0.15)	(-3.53***)	(1.31)	(-2.66**)	(2.85***)	(-0.54)	(0.62)	(0.74)	(2.92***)	(-0.95)
	Economic	0.47%	-0.65%	0.27%	-0.67%	0.20%	0.39%	0.43%	-0.41%	0.30%	-0.19%
		(2.37**)	(-3.25***)	(1.37)	(-3.32**)	(0.98)	(1.92*)	(2.2**)	(-2.04**)	(2.46**)	(-1.55)
Developed	ICRG	0.20%	-0.29%	0.14%	0.45%	0.35%	-0.11%	0.48%	0.40%	0.33%	0.26%
		(0.82)	(-1.12)	(0.57)	(1.73*)	(1.42)	(-0.42)	(1.98**)	(1.54)	(2.29**)	(1.65*)
	Political	0.05%	0.04%	-0.07%	-0.12%	-0.20%	-0.18%	-0.14%	0.13%	-0.14%	-0.06%
		(0.26)	(0.2)	(-0.37)	(-0.65)	(-1.02)	(-0.96)	(-0.71)	(0.71)	(-1.19)	(-0.55)
	Financial	0.08%	-0.33%	0.38%	-0.27%	0.37%	0.42%	0.19%	0.39%	0.33%	0.21%
		(0.37)	(-1.67*)	(1.86*)	(-1.38)	(1.81*)	(2.16***)	(0.95)	(1.99**)	(2.6***)	(1.76*)
	Economic	0.11%	-0.03%	0.13%	-0.54%	0.07%	0.21%	0.08%	-0.36%	0.08%	-0.25%
		(0.56)	(-0.18)	(0.62)	(-2.75***)	(0.32)	(1.08)	(0.39)	(-1.85*)	(0.61)	(-2.05)
Emerging	ICRG	-0.84%	-0.82%	0.64%	0.21%	0.34%	0.68%	1.61%	0.24%	0.88%	0.43%
		(-1.22)	(-1.23)	(0.93)	(0.31)	(0.5)	(1.02)	(2.38***)	(0.37)	(2.18*)	(1.07)
	Political	-0.09%	-1.05%	1.31%	-0.33%	1.34%	-0.43%	-0.07%	-0.02%	0.95%	-0.16%
		(-0.19)	(-2.21**)	(2.8***)	(-0.68)	(2.87***)	(-0.9)	(-0.15)	(-0.04)	(3.2***)	(-0.55)
	Financial	0.24%	-0.99%	0.32%	-1.24%	0.79%	-1.70%	-0.33%	-0.43%	0.29%	-1.08%
		(0.49)	(-1.82*)	(0.66)	(-2.27**)	(1.62)	(-3.12***)	(-0.68)	(-0.8)	(0.95)	(-3.24)
	Economic	1.07%	-2.13%	0.02%	-0.74%	0.28%	-0.15%	1.43%	-0.93%	0.59%	-0.52%
		(2.31**)	(-4.12**)	(0.04)	(-1.43)	(0.6)	(-0.29)	(3.12***)	(-1.8*)	(2.04**)	(-1.61)

Table 19. Event study analysis of the changes in the ICRG ratings using average returns over the period 1984-1996

This table reports the regression results for 47 countries using indices from both IFC and MSCI. The regressions involve event study model (14) for average monthly returns and model (15) for cumulative average monthly returns. The ICRG monthly ratings are used. "Up" and "Down" indicate upgrades and downgrades, respectively. The number next to them refers to the month measured: (-1) is the month preceding the change, and so forth. (0-1-2) refers to actual and the two following months. *, ** and *** indicate significance at the 0.10, 0.05 and 0.01 levels, respectively.

		Event Month									
		-1 Up	**-1 Down**	**0 Up**	**0 Down**	**+1 Up**	**+1 Down**	**+2 Up**	**+2 Down**	**(0-1-2) Up**	**(0-1-2) Down**
All Countries	**ICRG**	-0.40%	-0.42%	0.21%	0.57%	0.18%	0.26%	1.22%	0.64%	0.59%	0.54%
		(-1.36)	(-1.5)	(0.76)	(1.94*)	(0.64)	(0.9)	(4.35***)	(2.17**)	(3.42***)	(3.04***)
	Political	-0.46%	0.40%	0.25%	-0.22%	0.61%	-0.13%	-0.02%	-0.24%	0.29%	-0.21%
		(-1.93*)	(1.59)	(0.99)	(-0.94)	(2.38**)	(-0.55)	(-0.07)	(-0.99)	(1.81*)	(-1.41)
	Financial	-0.87%	-0.17%	0.21%	-0.15%	0.75%	0.02%	0.03%	-0.08%	0.41%	0.00%
		(-3.69***)	-(0.73)	(0.88)	(-0.64)	(3.16***)	(0.08)	(0.15)	(-0.35)	(2.72***)	(-0.02)
	Economic	-0.64%	0.19%	0.50%	-0.94%	-0.41%	0.30%	0.83%	-0.96%	0.33%	-0.49%
		(-2.48**)	(0.7)	(1.82*)	(-3.63***)	(-1.47)	(1.16)	(2.99***)	(-3.7***)	(1.95)	(-3.07***)
Developed	**ICRG**	0.09%	0.09%	-0.21%	0.53%	0.26%	0.13%	0.96%	0.85%	0.36%	0.50%
		(0.25)	(0.27)	(-0.62)	(1.54)	(0.78)	(0.37)	(2.9***)	(2.44*)	(1.77*)	(2.43***)
	Political	-0.35%	0.14%	-0.17%	-0.37%	-0.15%	-0.04%	-0.30%	0.18%	-0.17%	-0.07%
		(-1.27)	(0.47)	(-0.57)	(-1.34)	(-0.5)	(-0.13)	(-0.99)	(0.66)	(-0.92)	(-0.39)
	Financial	-0.73%	-0.18%	0.56%	0.51%	0.77%	0.42%	0.21%	0.45%	0.58%	0.54%
		(-2.7***)	(-0.67)	(2.05**)	(1.86*)	(2.81***)	(1.54)	(0.79)	(1.63)	(3.34***)	(3.1***)
	Economic	-0.04%	-0.18%	0.30%	(-1.12%	-0.44%	0.58%	0.11%	-0.46%	0.01%	-0.32%
		(-0.13)	(-0.56)	(0.93)	(-3.65***)	(-1.31)	(1.88*)	(0.33)	(-1.48)	(0.06)	(-1.7*)
Emerging	**ICRG**	-2.38%	-1.63%	1.98%	-0.64%	-0.41%	1.07%	1.68%	0.50%	1.27%	0.49%
		(-2.74***)	(-1.9***)	(2.31**)	(-0.74)	(-0.48)	(1.23)	(1.97**)	(0.57)	(2.43**)	(0.93)
	Political	-2.01%	0.62%	1.74%	0.47%	1.83%	-0.72%	0.75%	-0.84%	1.48%	-0.34%
		(-2.77***)	(0.93)	(2.55**)	(0.63)	(2.69***)	(-0.97)	(1.11)	(-1.14)	(3.42**)	(-0.74)
	Financial	-1.05%	0.21%	-0.25%	-2.18%	0.56%	-1.85%	-0.27%	-1.90%	0.08%	-1.90%
		(-1.4)	(0.31)	(-0.36)	(-2.88***)	(0.79)	(-2.42**)	(-0.38)	(-2.5**)	(0.17)	(-4.07***)
	Economic	-2.03%	0.86%	1.43%	-0.49%	0.04%	-0.25%	2.09%	-2.40%	1.26%	-0.88%
		(-2.73***)	(1.19)	(1.97**)	(-0.65)	(0.06)	(-0.33)	(2.88***)	(-3.21***)	(2.76***)	(-1.91*)

Table 20. Event study analysis of the changes in the ICRG ratings using average returns over the period 1997-2003

This table reports the regression results for 56 countries using indices from both IFC and MSCI. The regressions involve event study model (14) for average monthly returns and model (15) for cumulative average monthly returns. The ICRG monthly ratings are used. "Up" and "Down" indicate upgrades and downgrades, respectively. The number next to them refers to the month measured: (-1) is the month preceding the change, and so forth. (0-1-2) refers to actual and the two following months. *, ** and *** indicate significance at the 0.10, 0.05 and 0.01 levels, respectively.

		Event Month									
		-1 Up	**-1 Down**	**0 Up**	**0 Down**	**+1 Up**	**+1 Down**	**+2 Up**	**+2 Down**	**(0-1-2) Up**	**(0-1-2) Down**
All Countries	**ICRG**	0.49%	1.06%	-0.04%	0.42%	0.81%	-0.05%	-0.01%	0.65%	0.25%	0.32%
		(2.02**)	(3.72***)	(-0.17)	(1.49)	(3.36***)	(-0.17)	(-0.04)	(2.38**)	(1.78*)	(2.00**)
	Political	-0.37%	-0.32%	0.27%	-0.96%	0.64%	-0.42%	-0.30%	0.11%	0.24%	-0.35%
		(-2.23**)	(-1.97**)	(1.66*)	(-5.75***)	(3.95***)	(-2.54**)	(-1.88*)	(0.67)	(2.43*)	(-3.34***)
	Financial	-0.29%	0.21%	0.44%	-1.23%	-0.18%	-0.58%	-0.07%	0.45%	0.11%	-0.44%
		(-1.51)	(1.00)	(2.08**)	(-6.4***)	(-0.84)	(-3.08***)	(-0.32)	(2.42**)	(0.82)	(-3.75***)
	Economic	-1.90%	0.73%	0.14%	-0.67%	0.55%	0.19%	0.18%	0.32%	0.36%	-0.04%
		(-10.33***)	(4.34***)	(0.83)	(-3.6***)	(3.33***)	(1.04)	(1.13)	(1.78*)	(3.54***)	(-0.38)
Developed	**ICRG**	0.83%	0.86%	0.34%	0.22%	1.09%	-0.46%	-0.22%	0.27%	0.34%	-0.05%
		(1.74**)	(2.2**)	(0.85)	(0.46)	(2.79***)	(-1.00)	(-0.57)	(0.58)	(1.44)	(-0.20)
	Political	0.03%	-0.38%	-0.45%	-0.87%	0.20%	0.16%	-0.11%	-0.15%	-0.05%	-0.27%
		(0.09)	(-1.41)	(-1.65*)	(-3.01***)	(0.74)	(0.55)	(-0.43)	(-0.54)	(-0.31)	(-1.53)
	Financial	0.17%	-0.56%	-0.18%	-1.23%	-0.57%	0.18%	0.10%	0.43%	-0.22%	-0.16%
		(0.54)	(-1.48)	(-0.48)	(-3.84***)	(-1.53)	(0.58)	(0.27)	(1.38)	(-0.98)	(-0.85)
	Economic	-0.48%	0.68%	0.72%	0.18%	0.94%	0.53%	0.29%	-0.18%	0.64%	0.16%
		(-1.66*)	(2.45**)	(2.61***)	(0.63)	(3.43***)	(1.85*)	(1.07)	(-0.65)	(3.81***)	(0.93)
Emerging	**ICRG**	0.30%	0.31%	-1.36%	0.66%	0.29%	-0.97%	0.45%	0.39%	-0.23%	-0.03%
		(0.4)	(0.4)	(-1.78)	(0.89)	(0.38)	(-1.34)	(0.59)	(0.54)	(-0.51)	(-0.08)
	Political	-0.63%	-0.32%	0.98%	-0.87%	1.01%	0.30%	-1.11%	0.12%	0.35%	-0.11%
		(-1.43)	(-0.69)	(2.11**)	(-1.98***)	(2.18**)	(0.70)	(-2.44**)	(0.29)	(1.22)	(-0.39)
	Financial	-0.88%	0.48%	1.13%	-0.83%	0.05%	-1.58%	0.18%	0.81%	0.51%	-0.51%
		(-1.64*)	(0.96)	(2.33**)	(-1.57)	(0.11)	(-3.00***)	(0.37)	(1.55)	(1.74*)	(-1.54)
	Economic	-2.56%	0.71%	-0.85%	-1.08%	-0.01%	-0.83%	0.25%	1.19%	-0.17%	-0.20%
		(-5.07***)	(1.57)	(-1.88*)	(-2.13**)	(-0.02)	(-1.64*)	(0.57)	(2.38**)	(-0.60)	(-0.65)

Table 21. Event study analysis of the changes in the ICRG ratings using average monthly return over the period 1984-2003

This table reports the regression results for 56 countries using indices from both IFC and MSCI. The regressions involve event study model (14) for average monthly returns and model (15) for cumulative average monthly returns. The ICRG monthly ratings are used. "Up" and "Down" indicate upgrades and downgrades, respectively. The number next to them refers to the month measured: (-1) is the month preceding the change, and so forth. (0-1-2) refers to actual and the two following months. *, ** and *** indicate significance at the 0.10, 0.05 and 0.01 levels, respectively.

		Event Month									
		-1 Up	**-1 Down**	**0 Up**	**0 Down**	**+1 Up**	**+1 Down**	**+2 Up**	**+2 Down**	**(0-1-2) Up**	**(0-1-2) Down**
All Countries	**ICRG**	0.08%	-0.01%	0.22%	0.66%	0.47%	0.12%	0.90%	0.42%	0.54%	0.40%
		(0.32)	(-0.04)	(0.88)	(2.54**)	(1.91*)	(0.47)	(3.69***)	(1.6)	(3.59***)	(2.54***)
	Political	-0.26%	0.07%	0.23%	-0.39%	0.46%	-0.06%	-0.09%	-0.05%	0.54%	0.40%
		(-1.32)	(0.34)	(1.16)	(-2.01**)	(2.31**)	(-0.29)	(-0.44)	(-0.24)	(1.72*)	(-1.29)
	Financial	-0.73%	-0.09%	0.37%	-0.40%	0.63%	-0.12%	0.05%	0.11%	0.40%	-0.08%
		(-3.67***)	(-0.43)	(1.8)	(-2.01**)	(3.08***)	(-0.59)	(0.24)	(0.58)	(3.15***)	(-0.67)
	Economic	-0.73%	0.50%	0.37%	-0.64%	0.22%	0.37%	0.41%	-0.44%	0.34%	-0.20%
		(-3.53***)	(2.47**)	(1.81)	(-3.07***)	(1.05)	(1.76)	(2.04**)	(-2.13**)	(2.65***)	(-1.53)
Developed	**ICRG**	0.12%	0.29%	0.09%	0.60%	0.60%	-0.01%	0.64%	0.62%	0.44%	0.39%
		(0.4)	(1.01)	(0.31)	(1.98**)	(2.09**)	(-0.04)	(2.26**)	(2.04**)	(2.52**)	(2.15**)
	Political	-0.08%	0.00%	-0.08%	-0.38%	0.00%	0.12%	-0.08%	0.19%	-0.05%	-0.02%
		(-0.36)	(-0.02)	(-0.35)	(-1.65)	(0.00)	(0.53)	(-0.35)	(0.83)	(-0.31)	(-0.14)
	Financial	-0.57%	-0.15%	0.40%	-0.13%	0.51%	0.30%	0.15%	0.34%	0.39%	0.22%
		(-2.49**)	(-0.6)	(1.66)	(-0.57)	(2.07**)	(1.27)	(0.64)	(1.47)	(2.57***)	(1.53)
	Economic	-0.09%	0.15%	0.31%	-0.57%	0.22%	0.58%	0.10%	-0.31%	0.20%	-0.10%
		(-0.36)	(0.63)	(1.25)	(-2.36**)	(0.89)	(2.37**)	(0.41)	(-1.3)	(1.32)	(-0.67)
Emerging	**ICRG**	-0.79%	-0.77%	0.70%	0.20%	0.43%	0.66%	1.61%	0.30%	0.94%	0.43%
		(-1.18)	(-1.13)	(1.03)	(0.3)	(0.63)	(0.98)	(2.39**)	(0.45)	(2.32**)	(1.09)
	Political	-1.06%	-0.12%	1.34%	-0.30%	1.32%	-0.44%	-0.04%	-0.05%	0.96%	-0.17%
		(-2.24**)	(-0.27)	(2.85***)	(-0.64)	(2.83***)	-(0.93)	(-0.09)	(-0.11)	(3.25***)	(-0.57)
	Financial	-1.00%	0.21%	0.37%	-1.15%	0.78%	-1.68%	-0.33%	-0.43%	0.31%	-1.04%
		(-1.86)	(0.44)	(0.76)	(-2.13**)	(1.6)	(-3.11***)	(-0.69)	(-0.8)	(1.02)	(-3.14**)
	Economic	-2.11%	1.07%	0.05%	-0.73%	0.27%	-0.24%	1.44%	-0.93%	0.61%	-0.54%
		(-4.11***)	(2.3**)	(0.11)	(-1.41)	(0.58)	(-0.46)	(3.15***)	(-1.81*)	(2.09**)	(-1.68*)

Table 22. Event study analysis for the changes in the IICCR ratings using average monthly returns over the period 1980-2001

This table reports the regression results for 50 countries using indices from both IFC and MSCI. The regressions involve event study model (14) for average semi-annual returns and model (15) for cumulative average monthly returns. The IICCR semi-annual ratings are used. "Up" and "Down" indicate upgrades and downgrades, respectively. The number next to them refers to the month measured: (-1) is the month preceding the change, and so forth. (0-1-2) refers to actual and the two following months. *, ** and *** indicate significance at the 0.10, 0.05 and 0.01 levels, respectively.

	Event Month									
	-1 Up	**-1 Down**	**0 Up**	**0 Down**	**+1 Up**	**+1 Down**	**+2 Up**	**+2 Down**	**(0-1-2) Up**	**(0-1-2) Down**
All Countries	3.84%	6.16%	-2.28%	-5.44%	-8.38%	1.86%	-2.55%	-7.90%	-4.39%	-3.71%
	(4.59***)	(4.62***)	(-2.8...)	(-4.08***)	(-10.22***)	(1.41)	(-3.11***)	(-5.93***)	(-9.22***)	(-4.91***)
Developed	1.75%	6.97%	0.26%	-3.00%	-1.91%	-2.97%	-1.38%	-2.40%	-0.76%	-2.86%
	(1.34)	(3.32***)	(0.2)	(-1.43)	(-1.48)	(-1.43)	(-1.07)	(-1.15)	(-0.99)	(-2.39**)
Emerging	10.31%	-5.80%	-2.63%	-5.68%	-21.49%	29.92%	-1.60%	-22.66%	-10.11%	0.36%
	(2.67***)	(-0.85)	(-0.68)	(-0.87)	(-5.57***)	(4.61***)	(-0.4)	(-3.49***)	(-4.44***)	(0.09)

Table 23. Event study analysis for the changes in the IICCR ratings using market-adjusted returns over the period 1980-2001

This table reports the regression results for 50 countries using indices from both IFC and MSCI. The regressions involve event study model (12) for average semi-annual returns and model (13) for cumulative average monthly returns. The IICCR semi-annual ratings are used. "Up" and "Down" indicate upgrades and downgrades, respectively. The number next to them refers to the month measured: (-1) is the month preceding the change, and so forth. (0-1-2) refers to actual and the two following months. *, ** and *** indicate significance at the 0.10, 0.05 and 0.01 levels, respectively.

	Event Month									
	-1 Up	**-1 Down**	**0 Up**	**0 Down**	**+1 Up**	**+1 Down**	**+2 Up**	**+2 Down**	**(0-1-2) Up**	**(0-1-2) Down**
All Countries	2.85%	4.80%	-6.14%	-4.03%	-9.54%	0.51%	-4.83%	-7.66%	-6.81%	-3.63%
	(3.9***)	(3.83***)	(-8.58***)	(-3.22***)	(-13.3***)	(0.41)	(-6.71***)	(-6.11***)	(-16.39***)	(-4.95***)
Developed	2.57%	7.39%	-2.70%	-1.66%	-4.52%	-2.20%	-1.80%	-3.08%	-2.76%	(-2.18%
	(2.17**)	(3.58***)	(-2.25**)	(-0.8)	(-3.82***)	(-1.08)	(-1.52)	(-1.5)	(-4.04***)	(-1.83*)
Emerging	1.77%	-12.82%	-7.71%	-4.31%	-18.33%	20.86%	-10.35%	-15.73%	-12.47%	-0.25%
	(0.54)	(-1.91*)	(-2.4**)	(-0.65)	(-5.61***)	(3.15***)	(-3.03***)	(-2.37***)	(-6.67***)	(-0.06)

Table 24. Time series and cross-sectional augmented and non-augmented prediction models for various samples and time periods using S&P ratings as the risk proxy

This table reports the coefficient estimates and their corresponding t-values in parenthesis, and the adjusted R^2 values of the regressions for the prediction models of EHV (1996) that are referred to as equations (3) and (4) in the text, respectively. The regressions use S&P Sovereign ratings and are for the period 1984-2002.

Sample Period	Prediction Model	Intercept	All Countries	Developed	Emerging	Adj. R^2
1984-2003	Full Sample	0.0084 (0.53)	-0.0013 (-0.08)			0.00%
	Split Sample	0.033 (1.65)		-0.0242 (-1.18)	-0.0350 (-1.52)	0.16%
1984-1996	Full Sample	0.0034 (0.14)	0.0093 (0.37)			0.00%
	Split Sample	0.026 (0.83)		-0.0128 (-0.40)	-0.0192 (-0.55)	0.00%
1997-2003	Full Sample	0.0193 (0.98)	-0.0187 (-0.89)			0.02%
	Split Sample	0.0358 (1.49)		-0.0320 (-1.32)	-0.0410 (-1.52)	0.14%

Table 25. Event study analysis of the changes in the S&P ratings using market-adjusted returns for the period 1984-2003

This table reports regression results for 48 countries using indices from both IFC and MSCI. The regressions involve event study model (14) for average semi-annual returns and model (15) for cumulative average monthly returns. The S&P Sovereign ratings are used. "Up" and "Down" indicate upgrades and downgrades, respectively. The number next to them refers to the month measured: (-1) is the month preceding the change, and so forth. (0-1-2) refers to actual and the two following months. *, ** and *** indicate significance at the 0.10, 0.05 and 0.01 levels, respectively.

	Event Month									
	-1 Up	**-1 Down**	**0 Up**	**0 Down**	**+1 Up**	**+1 Down**	**+2 Up**	**+2 Down**	**(0-1-2) Up**	**(0-1-2) Down**
All the period	0.58%	-0.86%	-0.30%	-1.68%	-0.26%	-2.08%	-0.59%	-1.41%	-0.37%	-1.73%
	(0.81)	(-0.93)	(-0.41)	(-1.82)	(-0.36)	(-2.25**)	(-0.81)	(-1.52*)	(-0.89)	(-3.24***)
Period 1984-1996	0.19%	-5.21%	-1.00%	-0.44%	-0.98%	-1.55%	-1.72%	1.00%	-1.21%	-0.40%
	(0.24)	(-3.16***)	(-1.23)	(-0.27)	(-1.21)	(-0.94)	(-2.11**)	(0.61)	(-2.57***)	(-0.43)
Period 1996-2003	1.53%	1.11%	3.16%	-3.54%	0.95%	-4.28%	2.66%	-2.23%	2.17%	-3.36%
	(2.25***)	(1.90**)	(4.66***)	(-6.11***)	(1.42*)	(-7.38***)	(3.99***)	(-3.85***)	(5.74***)	(-10.18***)

REFERENCES

Bekaert, Geert; Harvey, Campbell R; Time-varying world market integration The Journal of Finance; New York; June 1995.

Bekaert, Geert; Harvey, Campbell R; Emerging equity market volatility Journal of Financial Economics; Amsterdam; January 1997.

Cho, D. Chinhyung; Eun, Cheol S.; Senbet, Lemma W.; International Arbitrage Pricing Theory: An Empirical Investigation The Journal of Finance; Cambridge; June 1986.

Ederington, Louis H; Goh, Jeremy C. Bond rating agencies and stock analysts: Who knows what when? Journal of Financial and Quantitative Analysis; Seattle; December 1998.

Erb, Claude B; Harvey, Campbell R; Viskanta, Tadas E; Country risk and global equity selection Journal of Portfolio Management; New York; Winter 1995.

Erb, Claude B; Harvey, Campbell R; Viskanta, Tadas E; Expected returns and volatility in 135 countries Journal of Portfolio Management; New York; Spring 1996.

Erb, Claude B; Harvey, Campbell R; Viskanta, Tadas E; The influence of political, economic, and financial risk on expected fixed-income returns The Journal of Fixed Income; New York; June 1996.

Erb, Claude B; Harvey, Campbell R; Viskanta, Tadas E; Political risk, economic risk, and financial risk; Financial Analysts Journal; Charlottesville; November/December 1996.

Erb, Claude B.; Harvey, Campbell R; Viskanta,Tadas E. Country Risk in Global Financial Management, AIMR, 1997.

Erb, B. Claude; Harvey, Campbell R.;Viskanta, Tadas E.; New perspectives on emerging market bonds Journal of Portfolio Management; New York; Winter 1999.

Errunza, Vihang; Losq, Etienne; Padmanabhan, Prasad; Tests of Integration, Mild Segmentation and Segmentation Hypotheses; Journal of Banking & Finance, Amsterdam; Sepember 1992.

Fama, Eugene F.; French, Kenneth R.; The Cross-Section of Expected Stock Returns The Journal of Finance; New York; June 1992.

Fama, Eugene F; French, Kenneth R; Common risk factors in the returns on stocks and bonds Journal of Financial Economics; Amsterdam; February 1993.

Fama, Eugene F; French, Kenneth R; Multifactor explanations of asset pricing anomalies The Journal of Finance; Cambridge; March 1996.

Eugene F Fama; Kenneth R French; Value versus growth: The international evidence The Journal of Finance; Cambridge; December 1998.

Ferson, Wayne; Harvey, Campbell R. The Risk and Predictability of International Equity Returns, Review of Financial Studies; 1993 .

Ferson, Wayne E; Harvey, Campbell R; Sources of risk and expected returns in global equity markets Journal of Banking & Finance; Amsterdam; September 1994.

Ferson, Wayne E; Harvey, Campbell R; Fundamental determinants of national equity market returns: A perspective on conditional asset pricing Journal of Banking & Finance; Amsterdam; December 1997.

Ferson, Wayne; Harvey, Campbell R. Economic, Financial and Fundamental Global Risk In and Out of the EMU", Swedish Economic Policy Review; 1999.

Ferson, Wayne; Harvey, Campbell R.; Conditioning variables and the cross section of stock returns The Journal of Finance; Cambridge; August 1999.

Griffin, John M; Another look at the role of the industrial structure of markets for international diversification strategies; Journal of Financial Economics, Amsterdam; December 1998.

Griffin, John M; Are the Fama and French Factors Global or Country Specific? Review of Finacial Studies; New York; Summer 2002.

Gultekin, M; Gultekin, B; Penati, A; Capital controls and international capital market segmentation: the evidence from the Japanese and the American stock markets The Journal of Finance; Cambridge; June 1986.

Hand, John R. M.; Holthausen, Robert W.; Leftwich, Richard W.; The Effect of Bond Rating Agency Announcements on Bond and Stock Prices The Journal of Finance; New York; June 1992.

Harvey, Campbell R; Term structure forecasts economic growth Financial Analysts Journal; Charlottesville; May/June 1993.

Harvey, Campbell R.; Zhou, Guofu; International Asset Pricing with Alternative Distributional Specifications, Journal of Empirical Finance, 1993.

Jorion, Philippe; Schwartz, Eduardo; Integration Vs. Segmentation in the Canadian Stock Market The Journal of Finance; Cambridge; July 1986.

Koutoulas, George; Kryzanowski, Lawrence; Integration or segmentation of the Canadian stock market: Evidence based on the APT The Canadian Journal of Economics; Toronto; May 1994.

Roll, Richard; Ross, Stephen A; The arbitrage pricing theory approach to strategic portfolio Financial Analysts Journal; Charlottesville; January/February 1995.

Solnik, B. H.; The International Pricing of Risk - An empirical investigation of the world capital market structure; The Journal of Finance, Cambridge; May 1974.

Solnik, B. H.; Why not Diversify Internationally rather than domestically? Financial Analysts Journal, Charlottesville; July/August 1974.

Solnik, Bruno; The Relation Between Stock Prices and Inflationary Expectations: The International Evidence The Journal of Finance; Cambridge; March 1983.

APPENDIX

Data Source of Macroeconomic Variables

Table 26. Data sources for the exchange rates series

This table summarizes the series and their codes used in the conversion of GDP of different countries into US dollars.

Country	Database	Series code	Description
Australia	IFS	193..AG.ZF...	US Dollars per National Currency
Austria	IFS	122..AG.ZF...	US Dollars per National Currency
Belgium	IFS	124..AG.ZF...	US Dollars per National Currency
Canada	IFS	156..AG.ZF...	US Dollars per National Currency
Denmark	IFS	128..AG.ZF...	US Dollars per National Currency
Finland	IFS	172..AG.ZF...	US Dollars per National Currency
France	IFS	132..AG.ZF...	US Dollars per National Currency
Germany	IFS	134..AG.ZF...	US Dollars per National Currency
Ireland	IFS	178..AG.ZF...	US Dollars per National Currency
Italy	IFS	136..AG.ZF...	US Dollars per National Currency
Japan	IFS	158..AG.ZF...	US Dollars per National Currency
Korea	IFS	542..AG.ZF...	US Dollars per National Currency
Netherlands	IFS	138..AG.ZF...	US Dollars per National Currency
New Zealand	IFS	196..AG.ZF...	US Dollars per National Currency
Norway	IFS	142..AG.ZF...	US Dollars per National Currency
Portugal	IFS	182..AG.ZF...	US Dollars per National Currency
Spain	IFS	184..AG.ZF...	US Dollars per National Currency
Sweden	IFS	144..AG.ZF...	US Dollars per National Currency
Switzerland	IFS	146..AG.ZF...	US Dollars per National Currency
United Kingdom	IFS	112..AG.ZF...	US Dollars per National Currency
Euro Area	IFS	163..AG.ZF...	US Dollars per National Currency

Table 27. Data sources for the GDP series for the different countries

This table summarizes the quarterly GDP series and their codes for each of the developed countries

Country	Database	Series code	Description
Australia	IFS	19399B.CZF...	GROSS DOMESTIC PRODUCT SA
Austria	IFS	12299B..ZF...	GROSS DOMESTIC PRODUCT (GDP)
Austria	IFS	12299B..ZW...	GROSS DOMESTIC PRODUCT (IN EUROS)
Belgium	IFS	12499B..ZF...	GROSS DOMESTIC PRODUCT (GDP)
Belgium	IFS	12499B..ZW...	GROSS DOMESTIC PRODUCT (IN EUROS)
Canada	IFS	15699B.CZF...	GROSS DOMESTIC PRODUCT SA
Denmark	IFS	12899B..ZF...	GROSS DOMESTIC PRODUCT (GDP)
Finland	IFS	17299B..ZF...	GROSS DOMESTIC PRODUCT (GDP)
Finland	IFS	17299B..ZW...	GROSS DOMESTIC PRODUCT (IN EUROS)
France	IFS	13299B.CZF...	GROSS DOMESTIC PRODUCT SA
Germany	IFS	13499B.CZF...	GROSS DOMESTIC PRODUCT SA
Italy	IFS	13699B.CZF...	GROSS DOMESTIC PRODUCT SA
Japan	IFS	15899B.CZF...	GROSS DOMESTIC PRODUCT SA
Korea	IFS	54299B..ZF...	GROSS DOMESTIC PRODUCT (GDP)
Netherlands	IFS	13899B.CZF...	GROSS DOMESTIC PRODUCT SA
New Zealand	IFS	19699B.CZF...	GROSS DOMESTIC PRODUCT SA
Norway	IFS	14299B..ZF...	GROSS DOMESTIC PRODUCT (GDP)
Portugal	IFS	18299B..ZF...	GROSS DOMESTIC PRODUCT (GDP)
Portugal	IFS	18299B..ZW...	GROSS DOMESTIC PRODUCT (IN EUROS)
Spain	IFS	18499B.CZF...	GROSS DOMESTIC PRODUCT SA
Sweden	IFS	14499B..ZF...	GROSS DOMESTIC PRODUCT (GDP)
Switzerland	IFS	14699B.CZF...	GROSS DOMESTIC PRODUCT SA
United Kingdom	IFS	11299B.CZF...	GROSS DOMESTIC PRODUCT SA
United States	IFS	11199B.CZF...	GROSS DOMESTIC PRODUCT SA

Table 28. Data sources for the population series

This table summarizes the population series and their codes that are used in the conversion of macroeconomic data.

Country	Database	Series code	Description
Australia	IFS	19399Z..ZF...	POPULATION
Austria	IFS	12299Z..ZF...	POPULATION
Belgium	IFS	12499Z..ZF...	POPULATION
Canada	IFS	15699Z..ZF...	POPULATION
Denmark	IFS	12899Z..ZF...	POPULATION
Finland	IFS	17299Z..ZF...	POPULATION
France	IFS	13299Z..ZF...	POPULATION
Germany	IFS	13499Z..ZF...	POPULATION
Ireland	IFS	17899Z..ZF...	POPULATION
Italy	IFS	13699Z..ZF...	POPULATION
Japan	IFS	15899Z..ZF...	POPULATION
Korea	IFS	54299Z..ZF...	POPULATION
Netherlands	IFS	13899Z..ZF...	POPULATION
New Zealand	IFS	19699Z..ZF...	POPULATION
Norway	IFS	14299Z..ZF...	POPULATION
Portugal	IFS	18299Z..ZF...	POPULATION
Spain	IFS	18499Z..ZF...	POPULATION
Sweden	IFS	14499Z..ZF...	POPULATION
Switzerland	IFS	14699Z..ZF...	POPULATION
United Kingdom	IFS	11299Z..ZF...	POPULATION
United States	IFS	11199Z..ZF...	POPULATION

Table 29. Data sources for the consumer price index series

This table summarizes the consumer price index series and their codes for each country.

Country	Database	Series code	Description
Australia	IFS	19364...ZF...	CONSUMER PRICES
Austria	IFS	12264...ZF...	CONSUMER PRICES
Belgium	IFS	12464...ZF...	CONSUMER PRICES
Canada	IFS	15664...ZF...	CONSUMER PRICES
Chile	IFS	22864...ZF...	CONSUMER PRICES
Denmark	IFS	12864...ZF...	CONSUMER PRICES
Finland	IFS	17264...ZF...	CONSUMER PRICES
France	IFS	13264...ZF...	CONSUMER PRICES
Germany	IFS	13464...ZF...	CONSUMER PRICES
Ireland	IFS	17864...ZF...	CONSUMER PRICES
Italy	IFS	13664...ZF...	CONSUMER PRICES
Japan	IFS	15864...ZF...	CONSUMER PRICES
Korea	IFS	54264...ZF...	CONSUMER PRICES
Netherlands	IFS	13864...ZF...	CONSUMER PRICES
Portugal	IFS	18264...ZF...	CONSUMER PRICES
South Africa	IFS	19964...ZF...	CONSUMER PRICES
Spain	IFS	18464...ZF...	CONSUMER PRICES
Sweden	IFS	14464...ZF...	CONSUMER PRICES
Switzerland	IFS	14664...ZF...	CONSUMER PRICES
United Kingdom	IFS	11264...ZF...	CONSUMER PRICES
United States	IFS	11164...ZF...	CONSUMER PRICES