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Country Risk and Stock Market in India

Shruthi M S[1], Dr Ramani[2]

[1]Research Scholar, Mother Teresa Women University
[2]Dean Research, Professor and Head of the Department of Commerce, Mother Teresa Women University

ABSTRACT:

The effects of country risk expenses on stock prices are examined in this analysis. As a result, the relationship between the variables of financial risk, political risk, financial risk, and country risk that are typically used and determined by the ICRG (International Country Risk Guide) and the BIST100 list has been examined, for the period of 2006-2018, by using the Beta Country Risk Model, which is based on a few macroeconomic indicators and was described by Erb, Harvey, and Viskanta (1996) and Andrade and Teles (2004) for Brazil. To determine which of these factors is most relevant, standard least squares relapse is applied to the repeating sound component of these factors. This helps to highlight the variation in nation danger. The analysis reveals that variations in FDI streams, financing costs (a financial strategy), trade rates, and the unemployment rate are all highly correlated with India's diversity in country risk. Furthermore taken into account is the effect that political risk has on overall national risk.

Key words: Stock prices, country beta model, risk model, and country risk.

1. Introduction

Worldwide lending, an unprecedented instantaneous and institutional enterprise, has developed quickly as a result of globalisation and growing monetary unification. As a result, economies all around the world are increasingly interconnected, and developments in one region have an impact on another. Given this, a country's specific risk associated with a venture can be better understood through the use of national hazard analysis. The term "nation risk" generally refers to the risk associated with those factors that determine or impact a sovereign state's or borrower from a particular nation's ability and willingness to fulfil their obligations to at least one foreign bank and/or financial backers; this is the definition and methodology used by both Abassi and Taffler (1982) and Bates and Saini (1984). This definition will also be applied in this work. The assessment of an acquiring country's or foreign direct investment's financial, political, and other aspects makes up the country risk inquiry. These factors indicate the stability and productivity of an economy. According to Harvey and Viskanta (1996), "non-diversifiable orderly danger" can also be addressed by country risk. This type of risk arises from factors that borrowers have little influence over.

According to Euler Hermes, experts are put to the test when it comes to Developing Markets country hazard investigation since the estimation of true qualities of the various boundaries based on documented returns may be misleading. Furthermore, trustworthy data isn't available for a while, especially in the distant past. Such information is unlikely to be meaningful since, in emerging economies, the past rarely reflects the present and, even less so, the future.

The difference between a country's value market earnings and the global value market is attributed to the country risk in the Country Beta Approach, a mathematical method for analysing country hazard. This contrast demonstrates that a nation's profits are specific to it and differ slightly from those of the rest of the globe. First published in the foundational study by Erb, Harvey, and Viskanta (1996b), this model was illustrated. Gangemi, Brooks, and Faff (2000) applied this model to Australia to examine the effects of unfamiliar obligation on country hazard; Verma and Sydermir (2006) applied it to Latin America to consider the monetary determinants of a period shifting nation beta; and Andrade and Teles (2004) applied it to Brazil to examine the impact of loan costs. For India, though, no such investigation has been completed recently. Through the advancement stage in the mid-1990s, India provided an intriguing case study for nation hazard and considering those factors impacting country risk in an emerging economy.

Using Ordinary Least Squares (OLS) relapse on the repeated sound of the components, this analysis examines the relationship between country hazard and macroeconomic factors and identifies those that have the most impact on country hazard. Similarly, the impact of political risk is also taken into consideration. It is evident that the factors that influence country hazard the most include trade rates, jobless rates, FDI inflows, and loan costs (financial arrangements). A brief history of the research in this area is provided in Segment 2. The country beta model, the method for determining the components' temporal order, and the most recent relapse are all shown in Area 3. Part 4 provides an analysis of the results obtained with this model. This examination's potential extension and some of its limitations are introduced in this section.

2. Literature Review

A rapid rise in international lending, unfamiliar direct speculation, and institutional speculation has been spurred by globalisation and growing monetary unification. As a result, economies all around the world are becoming more interdependent, and advancements in one region have an impact on another. Because of this, country hazard investigations provide insights into the specific risks associated with a given country. The term "nation risk" generally refers to the risk associated with those factors that determine or impact a sovereign state's or a borrower from a particular nation's ability and readiness to fulfil their obligations to at least one foreign bank and/or financial backers; this is the definition and methodology used by both Abassi and Taffler (1982) and Bates and Saini (1984). This term will also be applied in this paper.The nation-hazard, which pertains to a country's capacity to fulfil its international obligations, and its correlation with stock prices have recently gained attention in the financial writing community. Country risk keeps in mind a nation's credit obligations as well as all the risks that depend on economic, monetary, and social factors that could affect the bets made there (Hoti and McAleer, 2004:539). According to Tanriöven and Aksoy (2011):120, country hazard is defined as intentional risks that arise from political, economic, and natural conditions and that affect all units available in the economy continuously, albeit to varying degrees. These risks also occur outside the financial backers' control (Fabozzi and Modigliani, 1995:194).

Examining country risk has been defined and focused in a few distinct ways since the end of the previous century. In 2006, Ribeiro categorised some common financial variables that were often present in most of the various approaches used by rating agencies and financial institutions (such as Goldman Sachs, Merrill Lynch, S&P, and Fitch Ratings) into three categories: external variables (imports, exports, public obligations, direct ventures, advances, reimbursement of advances, outside obligations, and flow of unfamiliar stores); internal variables (loan costs, public obligations and their management, degree of speculation, spending balance, internal reserve funds, utilisation, GDP/GNP, growth rate, cash supply, and so forth); and other variables (population, future, unemployment rate, education level, and so forth) The determinant aspects of the country risk for selected developing business sectors were distinguished by Teixeira, Klotzle, and Ness (2008). Three models were used to assess country risk: the first model examined the relationship between country risk and critical financial factors; the second model included the outside world in the collection of informative factors; and the third model examined the relationship between specific country risk and the fundamentals of finance. The results for developing business sectors demonstrated that development rate, external obligation, public obligation, and global stores are the four domestic factors that are valid indicators of country risk and explicit country risk.

There are four types of procedures that are used for evaluating the hazards in a country: the Fully Qualitative Method, the Structured Qualitative Method, the Checklist Method, and Other Quantitative Methods. Nath (2008) highlights the common quantitative approaches used for analysing country hazards. A lot of fake neural networks are used to investigate national hazards. Yim and Mitchell (2004) investigated the possibility of two fake neural networks—the half-and-half organisation and the multi-facet perceptron—outperforming traditional quantifiable models in predicting the country risk rating. The results in the example show that the best results were produced by the half breed ANN, or ANN-Logit-Plogit. This supports the idea that half breed organisations would be beneficial for experts, legislators, and other interested parties regarding early notice regimes. The country beta model proposed by Erb, Harvey, and Viskanta (1996) is another epic model used for country hazard analysis. Andrade and Teles (2004) used this approach to evaluate Brazil's country risk between 1991 and 2002. Unknown stores, global oil prices, apparent loan fees, and public obligation are the four variables that the model takes into account. Three distinct aspects of the model were examined: one that encompassed all four components, one that had no public obligation, and one that had no loan cost. The ensuing conclusions were that: (1) forex holdings have very little effect now that the drifting conversion scale system has been adopted; and (2) an unanticipated rise in borrowing costs reduces country hazard.

This study breaks down India's nation risk using a model akin to the one used by Erb, Harvey, and Viskanta (1996) and Andrade and Teles (2004) to evaluate country risk in Brazil.

3. Model

Country Beta Model of Erb, Harvey and Viskanta (1996) is portrayed underneath. As expressed before, this is the model utilized in the investigation of Brazilian country risk and is likewise used to gauge India's country risk. The information period for the examination in the Indian setting is somewhere in the range of 1984 and 2008.

3.1 Country Beta Model

Erb, Harvey, and Viskanta (1996) have demonstrated that the national risk may be responsible for the difference in earnings between a nation's value market and the global value market. The following could be used to communicate this connection:

The assessment of a receiving country's political, economic, and financial aspects is part of the country risk investigation. These components indicate the strength and value of an economy. The elements over which borrowers have limited influence give rise to "non-diversifiable foundational hazard," as Harvey and Viskanta (1996) point out, and country risk may also address such "non-diversifiable methodical danger."

According to Euler Hermes, scientists are put to the test by the Developing Markets national hazard examination since the computation of factual attributes of the various boundaries based on genuine returns may be misleading. Furthermore, reliable information isn't available for a while, especially if it dates back a long way. Such information is unlikely to be meaningful since, in emerging economies, the past rarely reflects the present and, even less so, the future.

The difference between a country's value market earnings and the global value market is attributed to the country risk in the Country Beta Approach, a mathematical method for analysing country hazard. This differentiation highlights a nation's earnings that are specific to it and distinct from the rest of the globe. The initial illustration of this concept was shown in Erb, Harvey, and Viskanta's original work (1996b). Gangemi, Brooks, and Faff (2000) used this model to examine the effects of unfamiliar obligations on country hazard in Australia; Verma and Sydermir (2006) used it to analyse the financial factors of a period-shifting nation beta in Latin America; and Andrade and Teles (2004) used it to analyse the effects of loan costs in Brazil. Nevertheless, no similar analysis has been completed for India recently. During the mid-1990s, India provided an intriguing example of nation hazard and examined the factors determining country risk in an emerging economy.

Using Ordinary Least Squares (OLS) relapse on the repeated sound of the components, this analysis examines the relationship between country hazard and macroeconomic factors and identifies the elements that most affect country hazard. Similarly, the impact of political risk is also taken into account. It is evident that the factors that influence country hazard the most include trade rates, the unemployment rate, financing costs (a financial arrangement), and FDI inflows. A brief overview of the past research in this area is provided in Segment 2. The national beta model, the process for determining the variables' temporal order, and the most recent relapse are depicted in Area 3. Area 4 provides an analysis of the results obtained with this model. A few limitations and the scope of future research are discussed in this section.

$\alpha + \beta$ = REquity_CountryEquity_Global + et al. (1)

Since it shows the earnings in a country that are specific to it and distinct from the rest of the globe, β is the crucial component of country risk. As β increases, national risk decreases; that is, the country's earnings are impacted by variables that are common to the rest of the world, thereby making the risk non-diversifiable for that particular country.

Country risk is a variable that is impacted by certain macroeconomic conditions that are specific to the nation. In this sense, beta is shown as a direct combination of those variables:

$\beta = b0 + b.X$ (2), where X is a vector containing macroeconomic hints.

This was used in the context of India, and the model that goes with it was used to calculate nation hazard:

RIndia is the profit from the Indian value market, while RWorld is the profit from the global value market. $RIndia = \alpha + \beta RWorld + et$ (3). India's country risk is indicated by β. The risk of a country decreasing as it grows. The components of the vector of macroeconomic markers, X, are illustrated in Section 3.2. To determine which components affect β and, in turn, the country risk, condition (2) is substituted in (3) and put through an OLS relapse analysis.

Given the Efficient Market Hypothesis (Fama, 1965), nation hazard is influenced by only illustrative aspects that are left unexplained, since market assumptions are combined to form RIndia and RWorld. To sort through the typical portions, an Auto-Regressive Integrated Moving Average (ARIMA) model is applied to each of the components.

3.2. Data analysis

Relapse was tested on two distinct models that relied on the interpretation of logical elements. The factors' annual macroeconomic data was obtained from the Euromonitor International database. The following, which frame the underlying macroeconomic pointer vector, X, used in condition (2), are the factors used:

- GDP
- GDP deflator
- Public obligations
- Current Account Balance
- Interest rates
- foreign exchange holds
- Exchange Rate (against the USD)
- FDI Inflows
- Unemployment
- Political Risk Index (PRI)

Trade rates and financing costs indicate India's monetary structure, while public debt and current account balance reflect the country's monetary policy. FDI inflows reflect foreign economies' perceptions of the Indian economy. Data on the macroeconomic indicators 1 through 9 were collected between 1990 and 2019. For a few years between 2006 and 2018 (Table 1), the Economist Intelligence Unit provided the data for PRI (10). Its track record of "Political Stability and Absence of Violence" served as a stand-in for national security risk. This illustrates how non-commercial political events such as power struggles, psychological oppression, and assaults have an impact on an organization's ability to succeed.

Table 1: Political Risk Index

Year	Political Risk Index
2006	0.80
2008	0.75
2010	0.65
2012	0.35
2013	0.30
2014	0.35
2015	0.50
2016	0.50
2017	0.55
2018	0.60

RIndia was represented by the annual return on the BSE SENSEX index, while RWorld was represented by the return on the NYSE index.

Each and every financial component was reliant on the ARIMA smoothing using the Box-Jenkins Methodology, as demonstrated by Box and Jenkins (1970), wherever applicable. The factual programming of SPSS 16.0 was used to execute all relapse analyses.

3.3 Whiting the Time Series (ARIMA)

A thorough analysis and information diagram revealed that many of these characteristics were included, meaning they were not fixed. According to Andrade and Teles's (2004) demonstration, the Efficient Market theory casts doubt on the notion that returns are influenced by anything other than unforeseen shocks to a factor. In essence, this suggests that the information would need to be fixed or made stochastic for this circumstance. There should be an end to the predictable pattern in these factors. Given this, the econometric model should only include the non-expected parts of the linked arrangement. In this way, the Box-Jenkins (B-J) method was used to calculate and a univariate ARIMA measure was obtained for every macroeconomic configuration.

The autocorrelation work (ACF), imperfect autocorrelation work (PACF), and the ensuing correlograms—plots of ACFs and PACFs versus the slack length—are the primary tools in differentiating evidence; the methodology used is the one illustrated in Gujrati (2007). To set the 'I' component of ARIMA, simply search for autocorrelation using the SPSS equipment. ID of ARMA is carried out in accordance with the table that is attached, which addresses design acknowledgment.

Table 2: Theoretical patterns of ACF and PACF

Type of model	Typical pattern of ACF	Typical pattern of PACF
AR(p)	Decays exponentially or with damped sine wave pattern or both	Significant spikes through lags q
MA(q)	Significant spikes through lags q	Declines exponentially
ARMA(p, q)	Exponential decay	Exponential decay

The ACF and PACF capacities for each piece of time arrangement data were calculated and analysed in order to align with one of the typical instances shown in Table 2. Following the fitting of a speculative Box-Jenkins model, it is subjected to various demonstrative checks (considering ACF and PACF) as figured by Box and Jenkins (1970) and Box and Pierce (1970) in order to assess its ampleness as a stochastic representation of the interaction under study. In the unlikely event that the model proves to be inadequate, a study of the model residuals suggests methods for modifying the model's architecture to produce a different, provisional model that will likely do a better job of addressing the interaction. Various combinations of (p, q) were tried to isolate the ARIMA cycle at the core of the configuration. The most recent ARIMA model used for each of the macroeconomic components is provided in the accompanying Table 3.

Table 3: ARIMA Models for the Macroeconomic Series

Macroeconomic Variable	ARIMA (p,d,q)
GDP	(1,1,0)
GDP Deflator	(1,1,0)
Public Debt	(1,0,0) on square of first difference
Forex Reserves	(3,1,0)
Exchange Rate	(1,1,0)
Unemployment	(1,1,0)
FDI Inflows	(2,1,0)
Current Account Balance	First Difference – No correlation
Short Term Interest Rate	No correlation

After sorting the deterministic segments, the arrangement obtained has to do with "background noise," the stochastic segments, or unanticipated stuns in the business sectors. Therefore, in order to avoid "deceptive relapse," our investigation would only use fixed facts. Exhibit 1 illustrates the differences between the actual time arrangement and the one created using ARIMA.

The corresponding macroeconomic logical considerations are implied by the beta for the country risk assessment. The ARIMA aftereffects of these assessors are shown in the table below. As the ARIMA results show, the final attributes used in the Beta evaluation are obtained by shifting the information's focal points.

3.2. Regression Results

Several relapses were hurried to find the model that best fits the data using the ARIMA-smoothed time arrangement from above. The two models that are attached yielded the highest R2 (modified) and the most logical interpretation of the factors. The following is a summary of the two relapses' results.

Table 4: Model 1

Variables	Coefficient	p-value (t test)	Model R-square	D-W test	p-value (F test)
Exchange Rate	-0.500	24.2%	0.165	1.906	19.6%
Unemployment	-0.874	21.7%			
FDI Inflows	-4.64E-6	9.6%			
Constant	0.374	13.2%			

Table 5: Model 2

Variables	Coefficient	p-value(t test)	Model R-Square	D-W test	p-value(F test)
ST Interest Rate	0.08	19.2%	0.064	2.093	21.8%
FDI Inflows	-6.04E-6	16.3			

It is generally observed that the two models produce results that are similar, especially after 2002. Therefore, to the extent that a numerical model can, it may be argued that the models appropriately estimate nation hazard for the years 2006 to 2018.

3.4.1. Adding Political Risk

The political danger information was not included in the primary relapses since it was only available for ten years, between 2006 and 2018. To determine how much this file effects country hazard, another regression analysis was conducted using the example for the ten years that the political threat information was available. Below is a summary of the results.

When the political threat list is included to Model 1, high R2, low factor meaning, and high difference expansion factors indicate substantial multicollinearity. It follows that political threat in general may be determined by the logical components (exchange rate, unemployment rate, and FDI inflows). Therefore, for this model, it is not necessary to keep in mind political threat.

The differential swelling coefficient of the ST financing cost is found to be large once the political danger list is added to Model 2, indicating a strong correlation with political danger. The model's remaining components still have the same significance as before, thus adding political threat doesn't improve the evaluation. This is apparently due to the fact that several factors, such as loan costs and FDI inflows, now reflect the political risk. These results might be the result of the small example size; increasing the example size could produce better results.

Table 6: Model 2 with Political risk index

Variables	Coefficient	p-value (t test)	Model R^2	D-W test	p-value (F test)	VIF
ST Int Rate	-0.073	33.2%	0.267	1.800	21.9%	8.839
FDI Inflows	-6.545E-6	8.2%				1.069
PRI	1.792	49.0%				8.704

4. Interpretation of the Results

This section handles the explanation of the meaning of a few macroeconomic variables. The primary variables are the rate of unemployment, exchange rates, FDI inflows, and short-term loan fees.

4.1. Explaining Variation in Beta

Higher â in the model denotes a reduced country danger. Since we are trying to evaluate how macroeconomic markers influence a change in β, the degree of β is not as important as the level adjustment.

Figure 3 clearly shows that, following 2006—the aftermath of India's progress—the variation in country hazards increases significantly, especially in Model 2. During the website bubble, there was an expansion of β, or a drop in country hazard, from 2006 to 2011. The country's risk increased after this time until 2013 when the air pocket exploded. This is typical for a country such as India, where the IT industry employs over 2.3 million people and accounts for 5.9% of GDP as of 2018. Following the IT bubble, India found its footing once more, and national risk decreased until roughly 2017 before increasing once more amid the sub-prime crisis.

4.2 Relevance of the Variables Chosen by the Model

4.2.1 FDI Inflows

Arrivals are a clear indication of the confidence foreign countries have in our economy's performance. It is extremely possible to argue that the rise in FDI and FII rates in our financial exchanges indicates a progress in our economy. They support the internal policies and procedures. Undoubtedly, a generally safe economy will attract more capital inflows. We observe a strong inverse link between inflows and hazards.

4.2.2 Exchange Rate

Trade rates are primarily managed in India through professional career exercises. Determining the accurate cost of cash popular stock phrases is essential when assessing a nation's stability and progress. The behaviour and decisions made by financial experts and associated with the great majority of macroeconomic boundary alterations have a significant influence on the switching scale. It is a representation of the value levels, exchange rates, yield, and pay distribution of a nation. In fact, even a little variation in the rate can be interpreted as a difference in returns across venture choices that are optional.

It also illustrates how best assets should be distributed in the economy to maximise gains. In response to its requests for guaranteed macroeconomic improvements and the highly unpredictable character of its capital flows, India has adopted an adaptive swapping scale system. For this reason, governments inflate fictitious rates in order to implement necessary reforms. It would also have an impact on many other macroeconomic variables.

4.2.3 Jobless

Lower wage rates correspond with higher unemployment rates, indicating that there may be a sizable pool of unemployed workers in the nation. Workplace risk, or the difficulty in locating skilled labour at fair wages, plays a fundamental role in the growth of a country. There is less of a risk at work when unemployment is higher. Still, this is more effective than causative. The GDP growth that lowers the unemployment rate may have been attributed to a variety of factors, including FDI inflows and exchanging size.

4.2.4 Short Term Interest Rate

The market largely determines loan fees, but the government sometimes regulates them in order to use financial arrangements to restore the nation's financial equilibrium. The necessity to restore economic stability leads to government intervention. As so, they can act as a buffer between unexpected shocks to the economy.

5. Conclusion

The biggest test of the exam was most likely the lack of sufficient data to support an OLS relapse. If monthly data on macroeconomic limits can be obtained, the model can be predicted with a higher degree of accuracy. We restricted our analysis to 30 data sets (1978-2008). When there are more than ten logical components, the opportunities are drastically reduced. Moreover, world return RWorld was connected through the NYSE composite return. A record that is the sum of a few stock trades from different parts of the world could yield better results. Use of fluctuating coefficients (time-varying beta using Kalman Filter) may be beneficial due to the strong concept of the elements and the causes of country risk themselves. Subjective parameters, such as the political danger record, may be established for the duration of the arrangement and kept in mind for the relapse in order to symbolise non-quantifiable factors contributing to changes in national hazard. Instead of testing a relapse on a single country, a board of comparable economies might be used to counteract typically quantitatively unexplained aspects in the relapse.

References:

1. Ang, Andrew, and Geert Bekaert. 2004. How do regimes affect asset allocation? Financial Analyst Journal 60: 86–98
2. Banerjee, Anindya, Juan Dolado, and Ricardo Mestre. 1998. Error-correction mechanism tests for cointegration in a single-equation framework. Journal of Time Series Analysis 19: 267–83.
3. Bekaert, Geert, and Campbell Harvey. 1997. Emerging equity market volatility. Journal of Financial Economics 43: 29–77.
4. Box, G.E.P., and D.A. Pierce(1970), "Distribution of Residual Autocorrelations in Autoregressive-Integrated Moving Average Time Series Models," Journal of the American Statistical Association, Vol. 65, No. 332, p. 1509-1526.
5. Box, G.E.P. And G.M. Jenkins (1970), "Time series analysis: Forecasting and control", San Francisco: Holden- Day.
6. C. B., Harvey, C. R., and Viskanta, T. E. (1996b). "Expected returns and volatility in 135 countries", Journal of Portfolio Management Spring: 46–58
7. Damodar N. Gujarati, Sangeetha, Basic Econometrics, Fourth edition, 2007, p. 864
8. E. F. Fama (1965), "The Behavior of Stock-Market Prices," Journal of Business.
9. Erb, C., Harvey, C., Viskanta, T. (1996a), "Polotical risk, economic risk and financial risk", Financial Analysis Journal 52:28-46
10. Forbes, Kristin, and Roberto Rigobon. 2002. No contagion, only interdependence: Measuring stock market comovements. The Journal of Finance 57: 2223–61.
11. Joaquim P Andrade, Vladimir Kuhl Teles (2004), "An Emperical model of the Brazilian Country Risk- An extension of the Beta country risk model", Unversidade de Brasilia, p.5
12. M. A.M. Gangemi, R.D. Brooks and R.W. Faff (2000), "Modeling Australia's country risk: A country beta approach", Journal of Economics and Business 52, pp. 259–276
13. Micheal Pokorney (1987), An Introduction to Econometrics, Basil Blackwell, New York, p.343.
14. Nath, H. K. (2008),"Country Risk Analysis: A Survey of the Quantitative Methods", SHSU Economics & Intl. Business Working Paper No. SHSU_ECO_WP08-04
15. R. Verma and G. Soydemir (2006), "Modeling country risk in Latin America: A country beta approach", Global Finance Journal 17, pp. 192–213
16. Ribeiro, Renato D (2001), "Country Risk Analysis", GWU- IBI- MINERVA Program, at www.gwu.edu/~ibi/minerva/spring2001/renato.ribeiro.pdf
17. Saini, G. K. and Bates, P. S. (1984), "A Survey of the Quantitative Approaches to Country Risk Analysis", Journal of Banking and Finance, pp 341-356
18. Schorderet, Yann. 2001. Revisiting Okun's Law: An Hysteretic Perspective. San Diego: University of California, Mimeo.
19. Shin, Yongcheol, Byungchul Yu, and Matthew Greenwood-Nimmo. 2014. Modelling asymmetric cointegration and dynamic multipliers in an ARDL framework. In Festschrift in Honor of Peter Schmidt. Edited by William C. Horrace and Robin C. Sickles. New York: Springer Science & Business Media.
20. Sousa, Ricardo M., Andrew Vivian, and Mark E. Wohar. 2016. Predicting asset returns in the BRICs: The role of macroeconomic and fundamental predictors. International Review of Economics and Finance 41: 122–43.