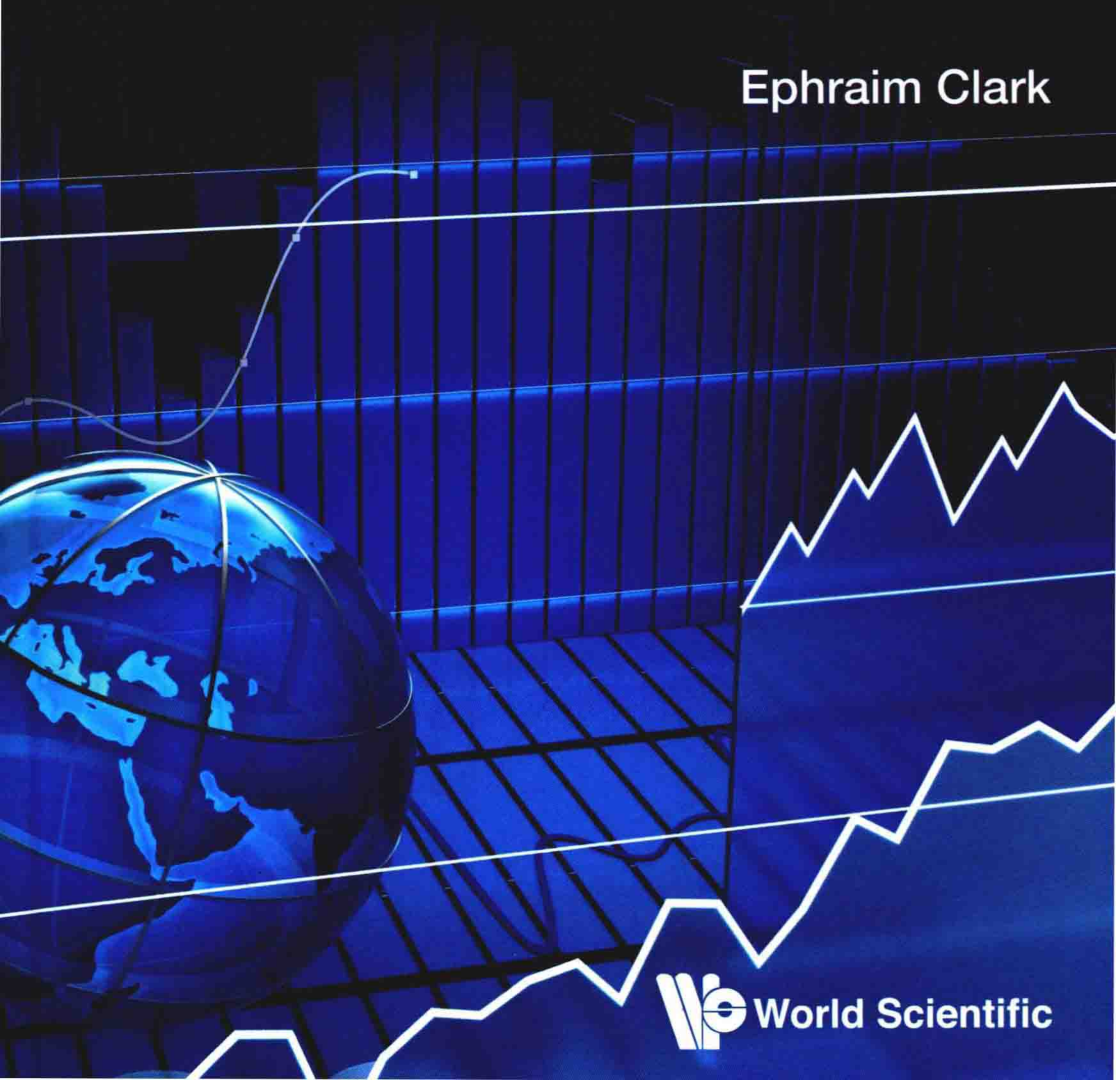
Evaluating Country Risks for International Investments

Tools, Techniques and Applications

Ephraim Clark



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Evaluating Country Risks for International Investments

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This unique volume presents a trailblazing project of country risk analysis for international investments. It develops an innovative range of tools and techniques on the cutting edge of financial theories and practices for assessing and incorporating country/political risk in cross-border investment strategies. These tools and techniques address the nature of country risk as a broad concept that comprises an underlying combination of economics, finance, geopolitics, sociology, and history.

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Preface

Country risk is a broad concept that comprises an underlying combination of economics, finance, geopolitics, sociology, and history. Given its breadth and diversity, country risk assessment tends to provide information that is extremely interesting and accurate but not readily adaptable to applications derived from established financial theory and practice. The book aims at reconciling this dichotomy. It develops a set of tools and systematic financial techniques for assessing and incorporating country-specific economic, financial and political risk in international investing. Risk analysis and forecasting are approached as management tools.

The book has three specific goals. The first is to understand the multi-faceted dimensions of cross-border risk with respect to portfolio investment, foreign direct investment, and cross-border borrowing and lending. The second is to identify the main sources of risks and opportunities arising from the growing integration of international financial and product markets. The third is to develop a range of tools and techniques on the cutting edge of financial theory and practice for assessing and incorporating country/political risk in cross-border investment strategies.

This book is divided into five parts. Part 1 includes two chapters. Chapter 1 traces a brief history of country risk. It discusses how the concept of country risk has evolved over the years and presents an overview of the terminology. Chapter 2 presents and discusses the major methodologies for country risk assessment.

Part 2 deals with portfolio investment. It is comprised of Chapters 3–6. Chapter 3 uses an innovative theoretical framework to construct the international "market index" for estimating systematic country risk. It shows that this index provides explanatory information incremental to what is available in traded asset prices and that the significance of this information is robust with respect to diversification strategies and model specifications.

Chapter 4 presents a model that measures the impact of political risk on portfolio investment when the political risks are multivariate and correlated across countries. The multivariate approach generalizes the single-country model but retains most of its characteristics in terms of its ability to price political risk based on the stochastic process of exposure to loss and the expected frequency of loss causing events.

Chapter 5 develops a methodology for estimating the country-specific macroeconomic financial risk premium. It shows that the macroeconomic financial risk premium is a significant explanatory variable that accounts for about 12% of annual variations in the stock market indices of the five Latin American countries with the largest stock markets.

Chapter 6 uses the concept of marginal conditional stochastic dominance (MCSD) to re-examine the role that diversification opportunities play in the determination of international equity flows. MCSD makes it possible to incorporate the effects of the moments higher than the mean and the variance on diversification opportunities. Our results provide strong evidence that when diversification opportunities are measured against all the moments of asset return distributions, they are significant determinants of international equity flows. Capital flows into dominant markets and flees markets that are dominated.

Part 3, comprised of Chapters 7–11, looks at how political risk can be incorporated into the capital budgeting process for foreign direct investment (FDI). It addresses one of the most difficult aspects of political risk, the reality that political risk is an ongoing process that evolves through time. To this end, a distinction is made between ongoing change in the political environment and explicit political events. Ongoing change in the political environment affects the amount that could be lost if a political event occurs. Explicit political events trigger actual losses.

Chapter 7 develops a model that shows how the effects of political risk on the outcome of an FDI project can be measured as the value of a hypothetical insurance policy that reimburses all losses resulting from the political event or events in question. The evolutionary process of political risk is explicitly defined and includes a stochastic element as well as the timing of the political events that trigger losses. All parameters can be estimated from current data, which eliminates the difficulty of forecasting political events far into the future. Valued in this way, political risk enters the capital budgeting process directly as a cost.

Chapter 8 extends the model given in Chapter 7 to include incremental political risk as a jump to a higher political risk level. The model is then applied to show how the risk associated with FDI in the prosperous, liberal economies of Hong Kong and Taiwan is affected by the prospect of reunification with the poor and politically and economically backward mainland.

Chapter 9 further extends the model in Chapter 7 by introducing a conditional Poisson process for measuring the effect of a countable number of mutually dependent political risks on the outcome of a FDI. It also includes a Bayesian updating process for re-estimating the model's parameters as new information becomes available. We then provide a detailed example to illustrate how the model can be applied in practice.

Chapter 10 shows how the framework developed in Chapters 7–9 can be implemented to include currency crises. The model incorporates the fact that loss-causing events surrounding these crises, such as interest rate hikes, devaluation, currency controls, multiple exchange rates, import tariffs, credit restrictions, resource rationing, etc., are multivariate with different arrival rates and often mutually dependent. It also incorporates the fact that the size of a loss when an event occurs can vary depending on the economic, social and political conditions when it occurs. Finally, it includes the updating mechanism developed in Chapter 9, whereby expectations of loss-causing events can be revised to take into account the most recent information.

Chapter 11 examines a firm's cost of expropriation risk in a framework that links it to the government's incentive to expropriate. It develops a pricing model for the firm's cost of expropriation risk that includes the positions of both government and firm. The government's decision to expropriate is modeled as an American-style call option. The cost of expropriation risk is modeled according to the framework developed in Chapters 7–10 as the value of a hypothetical insurance policy that pays off all losses resulting from expropriation. The firm's cost of expropriation risk is determined by the government acting to optimize the value of its option to expropriate. Finally, the parameters that link the government's option to expropriate to the firm's cost of expropriation risk are identified, and the model is operationalized for use in capital budgeting decisions and the ongoing management of expropriation.

Part 4 of this book deals with sovereign debt. It includes Chapters 12–14. Chapter 12 studies the effect of a government's willingness to honor its external financial obligations on sovereign debt discounts. Many studies show relationships between sovereign debt discounts and various structural, financial and other economic and qualitative phenomena. Although many of them explicitly mention the importance of the willingness to pay, they typically exclude it from the testing because the variable itself is not directly observable. In this paper we model the willingness to pay as an American style option and develop a methodology for an empirical estimation of its value. We then test the significance and explanatory value of this variable from 1986–1994 for 21 countries when standing alone and when combined with the other explanatory variables mentioned in the literature. We find the unwillingness to pay variable is highly significant when standing alone and when combined with the other variables.

Chapter 13 investigates the explanatory and forecasting power of macroeconomic fundamentals on emerging market sovereign credit spreads. It pays special attention to a new set of macroeconomic factors related to market values that reflect investor expectations concerning future economic performance. The model we propose captures a significant part of the empirical variation in spreads. Importantly, it also includes a powerful forecasting component that extends up to 12 months outside the sample period. The forward-looking variables that we construct are significant and complement and enhance the explanatory content of the conventional variables found in the extant literature.

Chapter 14 studies the pricing of sovereign Eurobond spreads. It looks at the problem of asymmetric information associated with issues of transparency, governance and the country's financial, economic and political organization that make it difficult to price bonds issued by sovereign entities. Following the literature on asymmetric information and corporate debt, we test the effect of factors such as ratings, listing exchange, issuer type, lead manager, number of dealers and influential dealer on Indian eurobond prices over the period 1990–1992. We find that none of these factors contributes to explaining secondary market Indian bond prices over the period. It is the expected change in the risk-free term structure that drives price changes.

Part 5 of this book deals with foreign currency risk, its effect on firm value and how it can be hedged. Chapter 15 compares the effect on firm value of different FC financial hedging strategies identified by type of exposure (short or long term) and type of instrument (forwards, options, swaps and foreign currency debt). The results indicate that hedging instruments depend on the type of exposure. Short-term instruments such as FC forwards and/or options are used to hedge short-term exposure generated from export activity while FC debt and FC swaps into foreign currency (but not into domestic currency) are used to hedge long-term exposure arising from assets located in foreign locations. Our results also show that foreign currency derivatives use increases firm value, but there is no hedging premium associated with foreign currency debt hedging, except when combined with foreign currency derivatives.

Chapter 16 studies the sensitivity of stock returns of French firms to exchange rate risk and the effect of FC derivative use in alleviating this risk. The results show that FC exposure is frequently asymmetric and differs with respect to individual currencies. Across-sectional analysis provides evidence that FC derivatives use has a significant effect on reducing FC exposure to appreciations and depreciations of non-USD currencies and depreciations of the USD, but not to appreciations of the USD.

Chapter 17 investigates the effect of FC derivatives use on shareholder value. Exposures are broken down by currency, by whether the currency is appreciating or depreciating and by whether exposures are symmetric or asymmetric. The results show that although derivatives are effective in reducing overall FC exposure, there is no evidence that their use creates value.

Chapter 18 uses UK data to investigate the effect of financial distress on the demand for corporate hedging. The results show that when FC hedging firms are partitioned into firms that use and firms that do not use foreign debt, leverage variables have a significant effect on the FC hedging decision for firms that use FC debt but not for firms that only use FC derivatives. This suggests that FC debt users are influencing these results. However, we also find that other financial distress cost proxies with no obvious link to FC debt use are significant determinants in the corporate demand for FC hedging, including derivatives use.

About the Author

Ephraim Clark is Professor of Finance at Middlesex University. He has authored or co-authored eight books and over 90 academic and professional papers in journals such as *Management Science, Journal of International Money and Finance, Journal of Banking and Finance, European Journal of Operational Research, Journal of Financial Markets, Journal of Financial Research, Review of International Economics, Garp Risk Review, Euromoney, Global Investor, Wilmott, Revue Banque, etc.* He has been elected president of the Multinational Finance Society, president of the International Society for the Intercommunication of New Ideas, vice-president of the International Association of Finance and Banking and is currently serving as vice-president of the International Society for the Advancement of Financial Economics (ISAFE). He is also a member of numerous professional organizations and is a permanent member of the ***Académie Européenne***. He is the founding editor of the ***European Journal of Finance*** and was formerly editor-in-chief of *Annals of Financial Economics.* He currently is editor of *Frontiers in Finance and Economics* and serves on the editorial boards of a number of scholarly journals. Professor Clark has also served as consultant to many major financial institutions.

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