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Country-risk measurement and analysis: A new conceptualization and managerial tool

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ABSTRACT

Country risk analysis has been a topic of investigation for decades, often focused on forecasting the risks to business profitability and assets when investing in a country. While there have been gradual improvements in the analytic techniques and overall breadth of the research, many scholars and practitioners continue to focus on limited conceptualizations of risk, measures with a relatively small number of variables, and/or expert analysis. Others point to the need to expand the inquiry, produce better tools and models, take advantage of the greater availability of data and enhanced computing techniques, and tackle puzzles differently. Advancing this discussion, we make the case for a new conceptualization and measurement of country-level risk and introduce the Robinson Country Risk Index (RCRI), a tool which incorporates four broad dimensions—Governance, Economics, Operations, and Society (GEOS). Within this holistic macrostructure, the RCRI encompasses 70 sub-dimensions, 126 countries, and, at present, 8 years of data. Its ecological conceptualization, multifaceted goals, and embedded functionalities complement and offer advantages over other risk indexes. The RCRI addresses concerns surrounding the conceptualization and measurement of country risk and provides a dynamic new instrument for educators, researchers, and practitioners.

1. Introduction

> "Keynes... used to say that his best ideas came to him from 'messing about with figures and seeing what they must mean.' He could be as excited as any economist at discovering correlations in the data. Yet he was famously skeptical about econometrics—the use of statistical methods for forecasting the future. He championed the cause of better statistics not to provide material for the regression coefficient, but for the intuition of the economist to play on. He believed that statistical information in the hands of the philosophically untrained was a dangerous and misleading toy."
>
> Robert Skidelsky, "The Return of the Master"

It is now commonplace to theorize and examine how 21st century globalization is changing the playing field for businesses, governments, and non-governmental organizations (see, for example, Atsmon, Child, Dobbs, & Narasimhan, 2012; Cusimano, 2007; Friedman, 2008; Isdell, 2009; Khanna, Palepu, & Sinha, 2005; Perez-Aleman & Sandilands, 2008; Porter & Kramer, 2011; Reich, 2007). Strategic thinkers can be overwhelmed by the many different types of state-level and other challenges they face as they try to plan, carry out operations, invest, or achieve a wide range of other goals. Intertwined with the multitude of state-level risks leaders must consider are vast differences among countries in such areas as history, size, geography, culture, language, ethnic diversity, and other contextual dynamics. To be sure, assessing country risk has been a topic of academic investigation for decades, often focused on the risks to business profits and assets when investing in a country. Yet, while there have been gradual improvements in the analytic techniques and overall breadth of the research, many researchers and practitioners continue to focus on limited conceptualizations of risk, measures with a relatively

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small number of variables, and/or expert analysis (Bouchet, Clark, & Groslambert, 2003; Coccia, 2007; Cruces, Buscaglia, & Alonso, 2002; Funston & Wagner, 2010; Nath, 2008; Oetzel, Bettis, & Zenner, 2001).

More recently, Nath (2008) has focused on the urgency and opportunities to expand the inquiry, produce better models, and tackle new puzzles, pointing specifically to the changing global environment, greater availability of data, and enhanced computing techniques. Cukier and Mayer-Schoenberger (2013) point to the new abilities of researchers to use "all the data", not small subsets, as well as the opportunity "big data" offers to drill into the data, find nuances, and "unlock new forms of value." Cavusgil, Kiyak, and Yeniyurt (2004) and Coccia (2007) address the challenges, and yet utility, in building taxonomic schemes for countries and variables. Ravallion (2012) assesses existing composite or "mash-up" indices and argues for stronger theoretical clarity and recognition of the "tradeoffs" conceptual foundations embody. He points to the sensitivity of indices to weighting and structural changes, as well as data quality, and the ongoing importance of country-specific contextual factors.

The present research seeks to advance this discussion by addressing existing conceptual issues in understanding and measuring country risk, while making the case for a new comprehensive tool, the Robinson Country Risk Index (RCRI), which puts a unique, dynamic, and integrated mix of functionalities in the hands of the user. By striving to be uniquely holistic, integrated, and interactive, the RCRI is complementary with many existing services and tools. Yet, by shifting the emphasis away from forecasting and prediction and toward dynamically leveraging extensive data at the country level to foster diverse strategic thinking and academic goals, the RCRI helps craft new forms of value (see comparative Table 1 in Section 2 and the discussion of results and uses to date in Section 5). The RCRI's conceptualization rests on four broad dimensions—Governance, Economics, Operations, and Society (GEOS)—across 70 sub-dimensions, 126 countries, and, at present, 8 years of data. Countries are ranked according to their overall aggregate level of risk across a wide range of factors; the investigator is actively able to "drill down" and focus on any of the 273 variables; time-series variable and country cross referencing, weighting manipulation, and other functionalities are put at the user's fingertips; countries are clustered by region (Africa, East Asia, Europe, Former Soviet Union, Latin America, Middle East, North America, Oceania, and South Asia) and perceived level of development (Advanced, Developed, Emerging, Frontier, and Least Developed); and a number of embedded or otherwise available modeling and statistical techniques allow the user to transform the index given a specific strategic construct or academic investigation.

Extant indices include portions of the conceptualizations or functionalities found in the RCRI. However, we argue that the RCRI helps address the concerns and opportunities outlined above, offers a new instrument for researchers, educators, and organizational leaders, and serves as a robust and comprehensive alternative measure of country development. In harmony with the introductory quote about John Maynard Keynes above, this tool is best used in conjunction with comparative-historical and qualitative approaches, such as those found throughout the development and comparative political economy literature (see, for example, Acemoglu & Robinson, 2012a; Gourevitch, 1986; Haggard, 1990; Hall, 1989; Katzenstein, 2005; Kohli, 2004; Moore, 1966; Park, 1984; Rapley, 2007; Sachs, 2005; Sen, 1999) and in some existing risk services (see a sampling in Table 1).

In the remainder of this paper, we first address the relevant background and literature on country risk and discuss why we believe the RCRI adds to the understanding of country risk conceptualization and measurement. As we progress, we examine issues surrounding the holistic approach, dynamic interactivity, variable and country clustering, rank ordering, and parsimony in the age of big data. We conclude by discussing RCRI results and use to date, as well as implications and future avenues for investigation.

2. Country risk and taking a holistic, big data approach

Country risk can be broadly defined as the probability of particular future events within a state that could have an adverse effect on the functioning of a given organization (or, for that matter, an individual), whether that organization be a business, government agency, non-governmental organization (NGO), or other type of body (see, for example, Bouchet et al., 2003; Fitzpatrick, 1983; Harland, Brenchley, & Walker, 2003; Jensen & Young, 2008). The multidimensionality inherent within this definition suggests that the specific factors underlying risk change with the context of the organization involved and the specific operationalization of the dependent variable. What is a significant risk factor to one business or agency, for example logistics bottlenecks for an NGO such as CARE, might be an opportunity for another, for example a logistics supplier such as UPS. A certain type of risk, such as a prevalence of malaria or water scarcity, may be much more important to one organization than it is to another, and possibly an opportunity for yet another. A risk might be a concern because of potential short-term profit losses for one organization, because of human suffering for another, and because of national security threats to yet another. This lack of specificity has posed challenges for those seeking to conceptualize and measure country risk, both broadly as well as with respect to specific organizational profiles (Oetzel et al., 2001).

Taleb, Goldtein, and Spitznagel (2009) and Funston and Wagner (2010) point out that broad-based risk intelligence and management are key means to the end of not just organizational survival, but also organizational value creation. As such, researchers and risk services have worked to tackle the conceptual issues surrounding country risk. Broadly, these efforts can be categorized as qualitative and quantitative, though there is often overlap (Bouchet et al., 2003; Coccia, 2007; Nath, 2008). Qualitative assessments generally attempt to tackle head on the complexity of the political, economic, and social aspects of risk without sacrificing granularity and context, often weaving key statistics into their analysis. They generally rely on the perceptions of expert analysts and can sometimes lack a structured format, making it difficult for users to compare countries. Still, whether the format is structured or unstructured, the fullness of each country can be examined in extensive detail. The *Economist Intelligence Unit* (EIU), *Stratfor*, and *Business Environment Risk Intelligence* (BERI) offer risk analyses which fit in this category. Also in the qualitative grouping are services, such as the *World Economic Forum's* Global Competitiveness Report (GCR), which ask for expert, Likert-scale, perceptive scoring from lowest to highest across a menu of variables. The benefit here is that the final average scores lend themselves to quantitative analysis.

Some quantitative measures and services, such as those provided by *Political Risk Services'* (PRS), *Maplecroft*, and *Roubini Global Economics*, attempt to rank order countries relative to each other or otherwise give them a risk rating. Rank ordering can be broad across all countries, with respect to clusters of countries (such as "Latin America" or "Emerging Markets"), or at the micro-risk level (such as "infectious diseases" or "transportation infrastructure"). Risk Ratings can be through qualitative expert perceptions (noted above) or based on hard data (or both). This field of inquiry includes a variety of methodologies, which vary given the different goals and conceptualizations of the investigation involved. Some rank orderings are not necessarily focused on