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Risky Business: The Social Construction of Country Risk Ratings

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Risky Business: The Social Construction of Country Risk Ratings

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An abstract of

A dissertation submitted to the Faculty of the James T. Laney School of Graduate Studies  
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## Abstract

### Risky Business: The Social Construction of Country Risk Ratings

By: Diogo Lemieszek Pinheiro

The objective of this project is to understand the origins and impact of Sovereign and Country risk ratings. These ratings were created by key financial agencies and serve as a way of guiding a significant part of investment in developing nations. This project focuses on three key issues related to these risk ratings: their adoption, their implementation, and their current impact on policy. The first issue addresses how an abstract idea (*i.e.*, how financial risks should be measured) gained support and spread throughout the world. The second issue concerns how this idea was implemented by numerous financial service agencies. Finally, the third issue is about the impact that these ratings have on a nation's ability to borrow money, therefore influencing policy. Theoretically, this project deals with one of the key debates in the social sciences: are markets rational and efficient, or does uncertainty lead to the adoption of certain measures and policies because they are culturally and politically legitimate? To answer this question, this dissertation employs quantitative analyses, looking at both the statistical trends and the substantive discussions that involve the creation of these ratings. More specifically, I use different statistical techniques to show that the spread of risk ratings are not solely driven by market factors, and that these ratings persist despite known inaccuracies in their methodology. They are measures of compliance with the existing policy paradigm, and fail to adequately capture investment risk. As such, they play a key role in the adoption of certain policies even in the face of financial crises worldwide.

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## Chapter 1- Theory and Historical Background

In our daily lives, measures of risk have become increasingly commonplace. We have our personal credit scores, which are supposed to signal to lenders the likelihood that we will repay our debts, we are aware of how certain actions we take and how certain parts of our history affect our perceived risk to insurers, with the accompanying changes in premiums we pay for certain protections, and so on. A similar process has also affected nation states and national governments. Investors, banks, and all other sorts of economic actors have tried to devise measures that allow them to evaluate and compare just how risky it is to invest in any particular nation. In an era of increased flows of capital globally, these measures are supposed to serve as a sort of measuring stick for different possibilities of investment, and can have a significant impact on a nation's prosperity. The objectives of this dissertation are to trace the emergence and diffusion of these risk ratings and to evaluate the impact that risk measures have on developing nations and the policies they adopt. More precisely, I am concerned with the adoption of certain practices common to credit markets by those involved in international and development finance, as well as the consequence such adoption has had on the spread of certain policy forms throughout the world.

The business of measuring risks associated with credit markets is big business – one now dominated by Credit Rating Agencies (CRAs). The latter include such well-known entities as Moody's and Standard and Poors. Those bond issuers seeking a rating from CRAs generally pay two to three basis points (each basis point being equal to one hundredth of a percent) of the face value of the bonds they are about to issue for a rating

(Partnoy 1999) – whether these issuers be corporations, municipalities, or national governments. With thousands of ratings issued each year, it is not surprising that one of the main CRAs, Moody's, had net profits in excess of \$700 million in 2007 (Fox 2008). Indeed, different sources have put the estimated operational profit margins for the main Credit Rating Agencies (CRAs) at somewhere between 40 and 50% (Fox 2008; Levich, Majnoni, and Reinhart 2002). These are sizeable profit margins that are supposedly payment to these CRAs to use their reputation to assuage (or warn) investors of potential risks in the credit market. The power of these agencies is such that they have even been written into regulations and laws holding the distinguished position of “Nationally Recognized Statistical Research Organizations” (Coskun 2008).

Despite their financial success, these CRAs have come under intense attacks from all sources: the popular press (Fox 2008; *The Economist* 1993; 1996), academics (Frost 2006; House 1995; Hunt 2008; Partnoy 1999; 2006), and even the International Monetary Fund (Luce 1999). According to the bulk of the criticism, these CRAs are agencies that effectively have a license to “print money” (Partnoy 1999) because of the role governments have established for them. This creates an oligopolistic market where agencies are given the power to decide what are acceptable risks, backed up by significant regulations that are not affected by hits to their reputations that are caused by inaccurate or bad ratings. Thus, not surprisingly, there is an extensive literature discussing the extent to which CRAs' success in the corporate bond market is driven by producing accurate information or by shoddy regulation (Becker and Milbourn 2008; Cantor and Packer 1995; Cantor and Packer 1997; Coskun 2008; Elkhoury 2007; Fox 2008; Frost 2006; Hunt 2008; Levich, Majnoni, and Reinhart 2002; Partnoy 1999;

Partnoy 2002; Tarullo 2008; The Economist 1993; 1996; White 2001). However, little research addresses the impact that these agencies have had on development economics and the policies of developing nations (Elkhoury 2007).

As late as 1981, the biggest agencies only rated a handful of countries – with most located in the developed world and all of them earning the highest ratings. It was only in the last couple of decades that these agencies have started to rate developing nations (The Economist 1993) –and thus becoming part of the larger trend of measuring “country risk.” Country based risk ratings are a weakly defined set of set of measures that intend to encapsulate the risks involved in a growingly interconnected world economy. Banks, institutional investors and financial news services like the Economist Intelligence Unit all have their own measures of country risk, either published or for internal use. The most basic definition of what they involve is that they include “all additional risks induced by doing business abroad, as opposed to domestic transactions.” (Bouchet, Clark, and Gros Lambert 2003 pg. 4). The key here is the *relative* aspect of country risk, with risk a way of ranking alternatives and helping determine the relative pay-out that makes it worthwhile. And while country risk often refers to two different measures of risk – global country risk and country credit risk – the latter tends to overshadow the former. A country’s credit risk is called Sovereign Risk. It refers to the risk of default by the central government of a given nation. The reason is that the Sovereign Risk rating, with a few exceptions, becomes the “ceiling” for all other entities located within that country – ranging from corporations to local governments (Canuto, Santos, and Porto 2004; Elkhoury 2007). As such, beyond the impact on a country’s access to credit markets, these ratings also affect all local corporations and local governments. And while some

raise the possibility that "...borrowing countries adopt policies that address the short-term concerns of portfolio investors, even when they are in conflict with long-term development needs" (Elkhoury 2007 pg 11), the issue has yet to receive any systematic, quantitative treatment. In other words, even as their use domestically comes under increased scrutiny, these ratings and the agencies that issue them have become increasingly more powerful in setting policy worldwide. As Thomas Friedman once famously said:

There are two superpowers in the world today in my opinion. There's the United States and there's Moody's Bond Rating Service. The United States can destroy you by dropping bombs, and Moody's can destroy you by downgrading your bonds. And believe me, it's not clear sometimes who's more powerful.(Friedman 1996)

Given their visibility and widespread usage by corporations and governments alike in explaining their decisions, it comes as a surprise that there is no unified theory of Sovereign Risk that sustains the practical efforts of so many agencies. The key notions used by these agencies come from standard financial theories. "Risk", "rewards", and the language of the models employed is familiar to those who have worked and studied financial markets more generally, but the measuring of "Sovereign Risk" is done in an ad-hoc manner, with significant, often undisclosed differences between agencies. The ratings are given in letter grades, and the agencies themselves do not provide any guidelines as to what these letter grades mean in concrete probability terms (Partnoy

1999). This is the case even as these ratings have been included into the latest attempts to create a set of international banking regulations through the Basel II accords of the Bank for International Settlements (Elkhoury 2007).

In this introduction, I will discuss the historical background of both the agencies and the international economic developments that have shaped the appearance of Sovereign Risk over the past century and a half. Then I will discuss how different theories about risk ratings have tried to explain the phenomena, before embarking into a discussion of how a sociological explanation of these issues helps shed light on how something so controversial has become so ingrained and influential in setting policy worldwide.

## ***Historical Background***

### *A Brief History of Credit Rating Agencies*

Credit ratings predate the appearance of Credit Rating Agencies. In the mid 1800s, Credit Reporting Agencies started to develop scores that encapsulated the bulk of the information contained in the reports. These Credit Reporting Agencies wrote extensive, qualitative reports on companies describing their credit history and trustworthiness. Cohen (1999) describes how the R.G. Dun and the Bradstreet's Commercial agency first developed credit rating scores for companies seeking loans in the mid 1800s. More than simply solving problems of lack of information in a growing economy, the assignment of specific, predetermined values to the creditworthiness of a company was a way to legitimize and confer objectivity to their analysis, even when the

information they had available was not enough to allow them to make such precise judgments. That is, such abstract and impersonal ratings were a reflection of the hostility the credit agencies faced, as external evaluators often do (Meyer and Rowan, 1977). The assignment of a letter grade at the end of the credit report was supposed to make the information seem more credible, scientific and commensurable. But that was still a relative minor part of a credit report, and of a credit reporting process. The CRAs that were to appear in the early 1900s, however, devoted themselves solely to estimating those letter grades.

The first organization devoted only to risk assessment – the initial CRA – only appeared in 1909, when John Moody published *Analysis of Railroad Investments* (Moody 1909). The idea behind it was simple. This CRA regularly publishing a statistical manual that contained most of the important data on railroad companies, as well as a rating designated to measure the likelihood that a certain company would default (Partnoy 1999; Sylla 2002). Other CRAs would soon emerge. Moody's Investor Services was incorporated in 1914 (Partnoy 1999) and in 1919 it started rating bonds issued by U.S. municipalities, marking its entrance in the field of rating government bonds (Sylla 2002). Poor's Publishing Company started in 1916, and Standard Statistics Company Inc. followed suit in 1922, with both companies merging and forming Standard and Poor's in 1941. Fitch Publishing Company, currently the third largest rater of bonds, started its own rating business in 1924 (Partnoy 1999).

Shortly after these companies started rating U.S. municipalities, they also began rating sovereign debt (Flandreau, Gaillard, and Packer 2009). In other words,

the origins of sovereign risk actually predate what will be the bulk of the analysis in this dissertation. By 1924, all four major rating agencies issued Sovereign Risk ratings. However, a wave of defaults and the Great Depression made this perhaps one of the best examples of “institutions forgetting” (Douglas 1986) something that was once institutionalized. That is, by the 1930s almost half of the nations rated had defaulted on their debt, and all agencies dropped their sovereign ratings by 1939. While these ratings marked the first time that CRAs rated nations, there are significant differences between these early ratings and the current ones – differences that justify a sustained focus on the ones recently created. The two most important differences involve who paid for those ratings and the relative importance of these ratings. Early on in their history, CRAs obtained most of their revenue from subscribers to their publications. That is, investors paid for the information collected by these agencies. As discussed below, the CRAs business model would switch to one where the entities being rated paid for those ratings. In practical terms, this means that, in the past, the entities being rated played a passive role in rating creation while, in the present, they actively seek out the CRAs and pay for those ratings. With regards to their relative importance, despite the liberalism of the pre-Depression era, most states were indebted to other states and not private investors (LiPuma and Lee 2004). So even though sovereign ratings existed before, it was not until the mid 1980s that they would assume the form and importance that we see today – as private investors now figure prominently in the debt of nations.

Interestingly enough, though, this initial failure of sovereign ratings would help prompt reforms that would lead to the current situation. Despite their failure in

predicting a number of defaults in the late 1920s, both sovereign and corporate, it was not until 1931 that any U.S. regulation in 1931 mentioned these ratings. In that year, the Comptroller of the Currency established a rule that bonds rated below investment grade were to be market-to-market (Cantor and Packer 1997; Partnoy 1999). That is, bonds with a rating lower than BBB/Baa<sup>1</sup> had to be entered into a company's books using the price at which they were trading that day rather than the face value of those bonds. Given that these bonds trade below their face value, this generated a significant incentive against investing in so-called speculative grade bonds, while also giving the rating agencies significant influence over issuers. For several years, this regulation was one of the few that explicitly dealt with CRAs. It was not until major changes in how risk was viewed and measured that they were included more explicitly into regulation.

One such major change occurred in 1952, when Harry Markowitz (1952) fully elaborated the strategy of portfolio management. Mixing advanced statistics and linear programming (i.e. forecasting), Markowitz helped create the modern perspective on risks and information, thereby generating both the modern branch of mainstream economics called "economics of information" (Hirshleifer and Riley 1992) and the trading and investing strategies that have been adopted by most major corporations (Fligstein 1985; 2001; Negus 1998). While its impact on corporate diversification has been well documented, another effect of this new perspective involved a more fundamental conception of risk. Markowitz developed the notion of "Value at Risk" (VaR) that basically estimated how much a certain portfolio stood to lose in a single day. If the creation of credit ratings reduced complex information to a number or a letter, this

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<sup>1</sup> See a discussion of the letter grade scale in the next chapter.



innovation further simplified things by reducing risk to volatility. Before this development, risk assessment was based on probabilistic enumerations of possible events – that is, probabilities of profits (or some other measure) going up or down. With the advent of portfolio management, risk assessment became concerned almost exclusively with volatility - it's not whether profits are going up or down, but how much they are fluctuating (Izquierdo 2000; LiPuma and Lee 2004). This is based on an assumption that markets will create a trade off between potential pay-offs and stability, so that the correct strategy can minimize risks while maintaining approximately the same returns.

Another major change occurred in the 1970s, as the VaR idea was further advanced by the option pricing models – more specifically, the Black and Scholes model (MacKenzie and Millo 2003). In a relatively short period, academic economists and financial analysts reduced problems associated with incomplete information and the unpredictability of future events to statistical measures of dispersion based on a given assumed distribution. This eliminated the once common distinction between uncertainty and risk (for opposing views on this, see Blyth 2002; Hirshleifer and Riley 1992). Once again, this development was not based purely on concerns about efficiency, but also on attempts to legitimize new and forming markets and ways of doing business (MacKenzie and Millo 2003). Risky investing was seen as no different from gambling in a casino, with several gambling houses around Chicago taking bets on future prices of commodities, future bankruptcies and other economic matters. By providing a sort of scientific basis to this type of investing, economists were also thinking about legitimizing such types of investing, eventually leading to the creation of derivatives and futures markets.

The growing influence of the portfolio view of the market (Fligstein 1985) resulted in pressures to change regulations on financial markets. In particular, market actors wanted regulators to recognize differences in risk related to different investments and to include those in regulations related to margins and collateral requirements (Millo and MacKenzie 2009). From the 1970s onwards, then, a number of changes in the regulatory schemes were introduced in response. In 1973, Rule 15c3-1 designated certain CRAs as Nationally Recognized Statistical Research Organizations (NRSROs). These included Moody's, Standard and Poor's and Fitch's – the three largest agencies in the field. This rule essentially created a barrier to entry in the ratings market, as the NRSRO designation referred to the agencies whose ratings could be used to satisfy regulatory requirements (Partnoy 1999; 2002). In 1975, the SEC amended that rule to make it so that capital "haircut"<sup>2</sup> requirements varied according to the risk grade assigned by NRSROs (Cantor and Packer 1997). In the 1980s, the role of the NRSROs was further strengthened, as changes in regulations now made disclosure requirements, margin lending, and exposure limits all dependent on those risk ratings.

These regulatory changes were accompanied by significant changes in how CRAs organized their business. Instead of charging subscribers for access to their ratings, all the main CRAs started charging those entities being rated for these ratings (Frost 2006; Partnoy 2006). The rationale for this change is based on the idea that these ratings suffered from similar problems as public goods (Partnoy 1999): as the agencies effectively reduced the important information about a potential debtor to a simple letter grade, investors would stop paying for statistical manuals and subscriber services. And as

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<sup>2</sup> "A 'haircut' is the percentage of a financial asset's market value a broker-dealer is required to deduct for the purpose of calculating its net capital requirement" (Partnoy, 1999, pg 691).

the entities that commission these ratings would then pass on the cost to the investors, such an arrangement would prevent any free riding. And while this can potentially generate significant conflicts of interest, an agency's concern about its reputation should, theoretically, keep any incentives to inflate ratings at bay.

These ratings reached the apex of their influence with the Basel II accords (Elkhoury 2007). These accords are a series of recommendations about banking regulations proposed by the Basel Committee on Banking Supervision, composed by members of the Bank for International Settlements (Baker 2002; Pinheiro forthcoming; Toniolo and Clement 2005). The latter bank for International Settlements is an intergovernmental organization (IGO) in which the members are the Central Banks of several nations. The Basel II accords, much like the existing American regulations, enshrines risk ratings issued by certain agencies as acceptable indicators of risk and, therefore, as acceptable benchmarks used to determine the maximum allowed risk exposure of financial institutions. And much like the American regulations, these accords also determine which agencies' ratings are acceptable through the creation of the External Credit Assessment Institutions (ECAIs) designation (Elkhoury 2007). As such, despite notable failures in the recent past regarding risk ratings (Luce 1999), these agencies now enjoy more power than ever before, as governments have essentially privatized the determination of risk for regulation purposes.

### *Global Financial Markets and the Rise of Neoliberalism*

The period that goes from the end of WWII until the early 1970s is commonly described as one of "embedded liberalism" (Blyth 2002). The source of this embedded

liberalism is the Bretton Woods accords. Bretton Woods refers to the New Hampshire town of the same name where 44 allied nations met in 1944 to discuss the international economic arrangements following the war. Key allied nations, especially the United States and Great Britain, thought that having a system that fostered economic liberalism, while at the same time preventing major crisis and fluctuations, would help prevent major wars and depressions (Block, 1977). The resulting accords were in large part influenced by the then ruling Keynesian<sup>3</sup> ideas (with the participation of Keynes himself, one of the main negotiators on behalf of the U.K.) The Bretton Woods System, as it was called, attempted to reconcile the liberalism that existed during the Gold Standard period with the expansionist policies that most countries adopted following the Great Depression. These accords led to the creation of the International Monetary Fund (IMF) and the International Bank for Reconstruction and Development (which later would become a part of the more encompassing World Bank), as well as set of very specific economic policies to be followed by its members. The IBRD would help finance different construction projects, while the IMF would serve as an international lender of last resort, helping to maintain the basic policies of the Bretton Woods System. Among these policies the main ones were the following (Block 1977):

1. Countries could maintain trade and transaction restrictions for up to five years after the implementation of these accords. However, even after these five years were up, the IMF could only demand that these restrictions be lifted under extraordinary circumstances.

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<sup>3</sup> By Keynesian, I am referring to expansive fiscal and monetary policies, domestically, coupled with a system of fixed exchange rates and mutual assistance, internationally.

2. While members should remove all restrictions on current transactions, members would be allowed to use capital controls to restrict the transfer of capital. As a matter of fact, it was stipulated that the IMF, under some circumstances, could actually require that countries adopt capital controls in order to have access to the resources of the IMF.
3. Member nations agreed to maintain a system of fixed exchange rates. The exchange rate of each country would be pegged to the dollar. The U.S. dollar became the international reserve currency, and, in turn was pegged to gold (\$35=1 ounce). Nations were supposed to maintain this fixed rate by buying and selling each other's currency, providing a compromise between government intervention and market forces. Countries could adjust the fixed exchange rate, but larger changes had to be approved by the IMF.
4. Countries with trade deficits were to finance these by using their reserves and buying the currencies needed from the IMF. However, once these deficits became chronic, a country could eventually lose its right to draw funds from the IMF. From this point on, the IMF could impose conditions for access to more funds.

The key aspect of these policies is that they allowed for stable international trading while at the same time allowing countries to use capital controls and expansionist monetary policy to pursue Keynesian goals of full employment and economic growth. The particular changes this system went through, and the main reasons for its collapse, are beyond the scope of this project. Yet, this much can be said. In February of 1973, the

United States, under the Nixon presidency, decided to devalue the dollar – a decision that was followed in March of the same year by the decision by European countries to allow their currencies to float (Block 1977; Widmaier 2004). Thus started an era marked by what Mundell (1968) called the “impossible trinity” (see also Quinn and Inclan 1997; Widmaier 2004). That is, countries could only pursue two of the following three policies at any given time: fixed exchange rates, free movement of capital, and expansionary monetary policy. Countries that decided to follow the old policies would have to control significantly the mobility of capital. The emphasis here is on the fact that, under the previous system, currency fluctuations were minimal, virtually eliminating one source of risk for those investing in other countries: the risk of currency fluctuations affecting the rate of return of investments. On top of this, currency fluctuations could lead to a government default on its debt, since countries that had debt tied to foreign currencies were faced with the risk that such debt would balloon overnight because of shifts in the exchange rate. All of the sudden, then, countries that pursued expansionist monetary or fiscal policies could see either speculative attacks against their currencies (if they still adopted a system of fixed exchange rates) or sudden fluctuations in their exchange rates (if it was allowed to float) that could lead to more devastating consequences, such as an exploding debt and withdrawal of external investment. This is especially important given the fact that bonds and securities have replaced loans by major international banks as the main borrowing instruments for governments of different countries, both in the developed and developing world. By 1976, 60% of all foreign debt was owed to private financial sources (Frenkel and O'Donnell 1994, 164).

With the end of the Bretton Woods accords in 1973, fluctuations that were once absorbed by central banks and diluted by capital controls were “privatized.” Now, fluctuating exchange rates and mobile capital could wipe out or generate profits in an instant. Risk ratings were eventually adapted to describe the movements of currencies, bonds, or interest rates instead of stocks, stock options and corporate bonds. Therefore, in order to understand the origins of country-risk ratings, we must understand the role that financial economists and analysts played in spreading and establishing these notions. As several sociologists have emphasized, professionals play an important role in the diffusion of certain frames of thinking and acting (DiMaggio 1997; DiMaggio and Powell 1983; Edelman, Fuller, and Mara-Drita 2001; Edelman, Uggem, and Erlanger 1999). They play a crucial role in institutional change by facilitating what some call “frame transpositions.” In other words, financial analysts and economists adapted ready-made models and ideas (“frames”) and applied them to a new situation. In order to document how this happened, I follow (Edelman, Fuller, and Mara-Drita 2001) by examining how key issues of country-risk ratings were first conceptualized in academic discourse. I argue that key professionals, through the process of *bricolage* (Douglas 1986), create a new way of framing reality by elements that are already available in their institutional environment. In this particular case, the rise of Chicago school economics is already well documented (Blyth 2002; Carruthers, Babb, and Halliday 1998; Dezalay and Garth 2002; Fourcade-Gourinchas and Babb 2002; Hall 1993). So instead of just looking at the rise of monetarism and its variations, the key development here is how certain economists used very specific notions legitimated by the rise of this particular way of doing economics to create this new way of talking about economic development.

*The Rise of Financial Economics*

In the post-war era, a number of economists close to the American and British governments became increasingly influential within the developing world (Dezalay and Garth 2002; Sikkink 1991). From the late 1940s to the late 1960s, figures like John K. Galbraith, Walter Rostow and Albert Hirschman held key positions within governments around the world and helped establish a number of different projects in the name of development. Funding for these projects generally came from foreign governments or organizations in the form of loans. The new institutions created in the wake of the World War all advocated some sort of “Big Push” Development<sup>4</sup> theories. Despite the numerous differences between them, the UN’s Economic Commission for Latin America, the World Bank and the American State Department all had a view of economic development that had a strong emphasis on the structural aspects of a country’s economy (Ascher 1996; Harberger 1996; Montecinos 1996). During this period, certain scholars who would become key figures in economic theory later on had very little influence on political advice and economic theory. One important example of this is that of Markowitz, one of the “fathers” of portfolio selection theory. His original dissertation on portfolio selection rejected by the economics department at the University of Chicago in the early 1950s (Barber 1996), as its detractors claimed that his work was mathematics, and not economics. It was not until 1955, three years after he published his most influential article, that he was allowed to qualify for the PhD.

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<sup>4</sup> “Big Push” refers to a particular view held by many economists, especially during this period, that the only way for a country to develop was to somehow increase production and industrialization across several sectors of the economy. Prosperity in just one sector would not lead to development, and so a “big push” from the government was required to generate this all around growth.



That would all change. Sometime around the 1970s, developmental economists were replaced by a new style of economics that emphasized the need for stability in order to attract private investors wary of risk. Markowitz, once ostracized, would not only win the Nobel Prize in 1990, but the methods he developed would become so widespread as to be used by regulatory agencies in the financial sector. Governments all around the world were now advised by neoclassical economists, generally associated with the University of Chicago<sup>5</sup>(Dezalay and Garth 2002; Loureiro 1996; Montecinos 1996).

### ***Theoretical Background***

Two related, but distinct, fields within economics focus on the problems that emerge whenever the assumptions related to the availability of perfect information are violated: the economics of information and the economics of risk (Hirshleifer and Riley 1992). The economics of information deals with the costs of obtaining information and the consequences of asymmetric information, while the economics of risk deals with how agents act in the face of uncertainty regarding future states of the world. The main shortcoming of mainstream economics, as we will see below, is that these theories ignore the possibility of true uncertainty and treat the interpretation of information as a process conducted individually and without efforts (but with costs). That is, pieces of information that are found in the outside world are instantaneously interpreted. As I discuss below, this is problematic because it ignores the fact that this process is inherently a social one, where opinions about how other investors are going to interpret certain pieces of

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<sup>5</sup> The economics department at the University of Chicago has been associated with a particularly strong and pro-market version of neoclassical economics. Besides the usual assumptions regarding rational choice theory, the “Chicago” version also includes certain key assumptions about expectations and opportunity costs. [add some cites for this footnote]

information are just as important, if not more, as the way any single investor interprets that information.

One of the first, and most influential, attempts by economists to deal with the problem of uncertainty can be found in Knight (1939). He distinguished between situations of risk and of uncertainty. Risk, according to him, is when individuals can calculate probabilities based on *objective* criteria (e.g. the probabilities involved in a fair coin toss). Uncertainty, on the other hand, is when no objective probability distribution can be inferred. Such a distinction has created the concept of *Knightian Uncertainty*, when individuals are so uncertain about the future that they cannot even know what is in their best interest. Contemporary theories in mainstream economics explicitly reject this distinction (Hirshleifer and Riley 1992). There are no instances, according to these theories, where an objective probability classification is known. Notions of probability are always subjective, according to them. But subjective is not used in the usual sense of being dependent on a particular individual's psychological or cultural dispositions. Whenever the incentive is strong enough, an individual's estimation of the probability of something happening will be very close to the actual probability, and the only reasons individuals would not act the same way would be the differences in their acceptance or aversion to risk. Two basic hypotheses associated with rational choice theory support this conclusion: expected utility (EU) and subjective expected utility (SEU). In EU, the utility of an agent facing an uncertain situation is given by calculating the utility derived from each possible outcome and creating an average weighted by the individual's estimation of the probability. The expected utility that a risk neutral agent has from a bet where the chance of winning is fifty percent and the payoff is \$100 dollars is the same as

that of a situation where the individual is guaranteed to win \$50. This hypothesis states that individual action will be based on an individual's estimation of probabilities and his or her aversion to risk (a risk averse individual will prefer the guaranteed \$50).

SEU further elaborated on the economist's view of the decision making process by individuals. It introduces a personal probability analysis based on Bayesian probability theory (Savage 1972; Wakker 1987). It also includes the added notion of an individual's confidence in any estimated probability distribution. That is, it adds another layer of probability to the decision making process, as now individuals have not only estimated probabilities for certain events and certain states, but also probabilities that such estimations are correct. So, for example, an individual might be 100% certain that the probability that his or her chances of winning a fair coin toss is 50%. But he or she might be less certain that that is his or her actual chance of winning a coin toss is 50% if it is a coin of unknown or uncertain origin. Therefore, we can see that the idea that probability distributions are subjective is based on a model of an individual who behaves much like a statistician fine tuning his or her estimations. The notion of Knightian uncertainty is rejected outright, and information is unproblematic. These hypotheses have been criticized from within economics from those who take a more behavioral approach, who have not been able to confirm these theories in experiments designed to test their reality (Camerer 1989; Machina 1987; Schoemaker 1982). Proponents of EU and SEU have replied that the failure of these theories in laboratory experiments is inconsequential, especially since in those situations individuals lack the proper incentives to estimate the correct probabilities. This leads us to the economics of information.

Information is only made problematic in the economics of information (Akerlof 1970; Geertz 1978; Hirshleifer and Riley 1992). The economics of information deals with a particular market problem: what happens when one of the parties in a given transaction has more information about a certain aspect of the good or service being exchanged than the other? Buyers will not be willing to pay the asked price for goods when they are unsure about the condition of those goods, for example. As such, trustworthiness becomes an issue in any transaction where information is distributed unevenly. The key way of solving this problem is to provide disincentives and penalties for cheating or providing misleading information. This can be achieved through several means – including establishing long-term relations, having outside actors certify those involved in the transaction as trustworthy or not, providing warranties (legal or otherwise) and so on. One particular way of doing this is to establish contracts or agreements where one side is severely penalized in case of noncompliance. In government finance, this can be seen as part of the “confidence game” (Martinez and Santiso 2003) which national governments seeking any sort of financing need to play. Potential investors may be unsure of the commitment of any government to stability or debt repayment, for instance. Certain policies, such as abolishing capital controls, are generally considered to be beneficial to these governments, not because they are inherently helpful but because, by relinquishing control over capital movements, the negative impact of pursuing “unsound” policies is potentially greater. These “disciplining” policies serve as a way of ensuring investors that a government is willing to maintain certain practices (Kim 2003).

These two fields within economics help form what is often called the “efficient market hypothesis” (Roy 1997; Zajac and Westphal 2004; Zuckerman 2004), or the idea

that markets are inherently efficient because of the incentives provided. In this case, actors use their confidence (or lack thereof) in their counterparts for any transaction to determine the probabilities of future events, and therefore determine the optimal, and eventually efficient, path to follow. A basic tenet of these theories is what Zajac and Westphal (2004) call “market learning,” which is the idea that reaction by actors in the market is shaped by a sophisticated statistical analysis that takes all publicly available information into account. Actors “learn” about the outside world quickly, forming expectations about future events that affect the valuation of different goods and services. In the case of financial instruments, the more efficient governments or corporations issuing bonds and/or stocks will be rewarded by the market, being able to raise more funds more cheaply. Investors will demand higher potential profits in order to invest in riskier countries or companies. Changes in the valuation of these assets should only happen whenever there is new information that changes expectations for the future. The investor demand curve for any financial instrument<sup>6</sup> is generally considered to be horizontal, or quasi horizontal, as there should be no variation in how much investors are willing to pay for any financial instrument (Zajac and Westphal 2004; Zuckerman 2004) and any fluctuations are supposed to be caused by events that cannot be anticipated, and therefore are random (Tarascio 1984). That is, whenever there are diverging opinions about the value of a financial instrument, the “incorrect” or inefficient valuation will be weeded out by the market, as any sort of disagreement cannot persist because those who are wrong will be severely penalized. As Zuckerman (2004, 408) puts it: “In short, it is a

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<sup>6</sup> This is peculiar to financial instruments because they are all evaluated (or at least the theory would say) by the same criteria, which involve profits and protection for their investments.

basic tenet of the EMH (as of noncooperative game theory) that investors cannot ‘agree to disagree’ when exposed to the same information”

Decisions about investing in other countries, especially decisions to finance a foreign government by purchasing their bonds, should be expected to be driven by the same mechanism outlined above. Investors first would decide about the risks of purchasing a given government’s bonds, for example. This should establish the amount of profit they should expect from that investment for it to be worthwhile. With these probabilistic notions in mind, trading in these bonds should follow the patterns described above: individuals would be constantly updating their perspectives on the risk of investing in any given country, which in turn should change the expectations of profits from that investment. Those who evaluate these risks incorrectly eventually will either adjust or succumb to the losses from that acting based on faulty evaluations. Country or sovereign risk ratings, to the extent that investor services agencies publish them, only exist because they would serve as a way to solve potential asymmetry of information problems (Canuto, Santos, and Porto 2004). That is, they would serve as a way of certifying a government’s willingness and capacity to maintain their obligations with investors. Demand would shape the creation of these ratings, and they would be efficient estimations of real risks, otherwise this demand would disappear.

*Criticisms from Within the Rational Actor Paradigm: the Regulatory License View*

Hunt (2008), Partnoy (1999; 2002; 2006), and others (House 1995; Sylla 2002) have criticized the view discussed above from within the existing economic paradigm by acknowledging the impact of financial regulations on CRAs. They call the view

discussed in the previous section the “Reputational Capital” view. It has received this name because the basic mechanism that explains the existence and continued success of CRAs is their accumulated “reputational capital.” That is, past performance would explain why corporations or governments would be willing to pay for rating services.

As a criticism of the “reputational capital” view, these authors point to the multiple times these CRAs failed to predict defaults and crises like the mid-1990s East Asian collapse (Partnoy 1999). According to these authors, the reason why these agencies are still so successful and profitable is their place in the current regulatory framework. This is the “Regulatory License” view. The NRSRO designation serves as a significant barrier to entry, and the ratings-based regulations mean that more than providing information, the ratings actually grant access to significant amounts of investment that would otherwise be out of reach. Absent regulations, CRAs would behave just like the “reputational capital” view predicts. But the regulations provide too much of an incentive to inflate artificially ratings to grant their clients access to certain investors, and with such significant barriers to entry, they can do so with little fear of losing profits due to a loss of reputation.

#### *The Emerging Sociological Perspective*

Several authors have found faults with the efficient market hypothesis, and the theories that inform it (Abolafia 1996; DiMaggio 1997; DiMaggio and Powell 1983; Dobbin and Dowd 1997; Fligstein 1996; 2001; Izquierdo 2001; LiPuma and Lee 2004; Machina 1987; Mirowski 1990; O'Barr and Conley 1992; Roy 1997; Zajac and Westphal

2004; Zuckerman 2004). One basic problem with this approach is that it ignores interactions between actors other than the relationship between buyers and sellers. That is, it ignores the fact that, within a market place, actors are concerned not only with the “objective” criteria used to evaluate any possible investment but also with the information others have and how they might interpret that information differently. And several authors (Anand and Peterson 2000; Fligstein 2001; Zajac and Westphal 2004; Zuckerman 2004) have demonstrated that there are significant differences in how similar information is interpreted across time and across units. With regards to financial markets Zuckerman (2004) has pointed out, the EMH fails to explain all the volatility that is present. After all, it is the differences in the valuation of stocks that drive this volatility. As such, even if a given agent believes he or she has complete information and the “correct” way of interpreting that information, the optimal path to follow is not obvious. As long as he or she is uncertain of how others might interpret such information, the “optimal” path of action might be different. But, if on one hand, volatility suggests that there is more to how agents interpret information than is acknowledged by the EMH, on the other hand, there is still enough serial correlation and stability to indicate some underlying process occurring (Zuckerman 2004). The fact that there are differences in interpretation does not imply that this is a random process. The fact that there are differences across times and across certain categories implies that there is some basic aspect of how individuals interpret the world that is shared between them.

A major source of criticism of both orthodox financial theories and neoclassical economics has been this social aspect of how agents interpret information.

Institutionalists, in particular, emphasize the importance of looking above the individual



level to understand cognitive processes (Commons 1931; DiMaggio 1997; Fligstein 1996; Hodgson 1994; Meyer and Rowan 1977; Mirowski 1990; Veblen 1898).

Individuals are not the “lightning calculators” (Veblen 1898) described by the orthodox atomistic theories, but they are driven in large part by habits. Habits of thought and action that, when shared, are called institutions (Hodgson 1994: 64). To say that individuals are driven by habits does not mean that action is not purposeful or that individuals are irrational. But it does mean that, in a world full of uncertainty, people are not constantly changing their beliefs about the world. There are shared, self reinforcing analytical frameworks that generate *relatively* stable patterns of interaction that guide how reality is interpreted and acted upon. The fact that these institutions are self reinforcing does not, however, paint a static world. Quite the contrary: institutionalist theories are powerful precisely because they can explain the variations in interpretation that orthodox theories ignore. Institutions change over time and space, and by focusing on these institutional differences, it is possible to explain why information is handled differently. By looking at the social construction<sup>7</sup> of institutions, it is possible to understand their evolution and change.

There are different versions of institutionalism, something that has led some (Blaug 1978) to claim that institutionalism is nothing more than unsystematic story telling. And while that might have been true of some early American institutionalists, that is certainly not the case now. For all the differences between the institutionalist camps, there is an emerging model of institutions and institutional change that provides a groundmap for systematic analysis. In this model, the mechanicism of orthodox theories is replaced by the biological notions of evolution and punctuated equilibrium (Hodgson

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<sup>7</sup> Saying that something is socially constructed does not mean that it is false or deliberately manipulated.

1994). Fligstein (1996), Swidler (1986), Hall (1993) and others all describe a three stage process of institutional evolution that starts with the struggles involved with the creation of new institutions, followed by long periods of stability and sudden moments of crisis. The metaphor of punctuated equilibrium is an apt one, as it emphasizes the fact that disturbances and discontinuities lead to new and different institutional arrangements, instead of moving towards the previous equilibrium point. Actors strive to come up with stable ways of thinking about the world, and so cognitive processes become stable habits.<sup>8</sup>

With regards to the country and sovereign risk ratings, the orthodox interpretation is that they serve a purpose of alleviating problems of asymmetric information, allowing individuals to better estimate the risks and probabilities involved in their investment decisions. These ratings should include all publicly available information, and they are supposed to describe accurately reality, as any inefficiencies will be noticed by the market and, thus, will leave the agencies involved with two choices: quickly adapt or lose credibility. Even if we relax some of the assumptions of the EMH, these ratings are still supposed to correspond a real state of the world; whenever new information is made available, these ratings are supposed to converge quickly on their “real” value.

Institutionalists, on the other hand, would tend to see these ratings as the institutionalized version of a set of ideas. More than reflect the world, these ratings would frame it, defining both what is right and wrong and what is success or failure. They would simplify the decision making process by condensing all sorts of information into one value, but they would also deeply change perceptions of reality. Institutionalists take the reflexive

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<sup>8</sup> I am referring to stability as it relates to these habits of thought. There might still be substantial change in performance, and sometimes this change can lead to changes in the way people think about the world. See chapter three for more on this.

aspect of economic knowledge seriously (Mirowski 1990), They argue that, more than simply bridging the gap between what investors and government agents know, this constructed knowledge heavily influences what is perceived as an appropriate course of action. The key issue here is that of how information is framed: these ratings end up defining which pieces of information matter and which do not, and they provide a guide of how to put these pieces together. And frames do not appear out of thin air, but they are the result of constant struggles between different groups who are trying to establish a certain worldview as the correct one. Therefore, to evaluate the explanatory power of these two theories, we must focus on two central concepts: frames and resources. Frames are organizing ideas that shape how an individual interpret reality. This is not meant to be an exhaustive definition, but suffice it to say that it is similar to Swidler's (1986) notion of tool kit, DiMaggio's (1997) notion of schemata and Douglas (1986) and Veblen's (1898) notions of institutions or habits of thought. Resources, in turn, can be tangible or intangible and are used to support these frames. Institutionalists emphasize that we must understand where the existing frames come from, as well as how resources are employed to favor one set of frames over another. If the orthodox theories are correct, we would expect that a certain way of framing the world would become institutionalized if it presented a way of analyzing information that was more economical, taking all available information into account. Incorrect frames would disappear and ratings would converge on their real value. They would only impact the world to the extent that they solved a problem of asymmetric information, allowing a market to exist<sup>9</sup>. If institutionalists are correct, however, we would expect that different ways of framing the world exist and that

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<sup>9</sup> That is, the ratings themselves would only allow the market to exist, but they would not alter preferences or the processes following the establishment of such market.

the process through which a particular frame became institutionalized was an inherently political one, where groups employed different resources to promote a particular frame. More than indicate the efficient path to follow, the institutionalized frame would create a particular notion of what is efficient. Actions and information will be judged according to their symbolic power (Meyer and Rowan 1977) and established myths will have a bigger impact on these risk ratings than “actual” information.

But why do the origins of the idea of country risk matter? Why is such a metatheoretical question so important? One of the main focus of institutionalist theories is to explain crisis and change (Abolafia 1996; Blyth 2002; Carruthers, Babb, and Halliday 1998; DiMaggio and Powell 1983; Dobbin and Dowd 1997; Dobbin and Dowd 2000; Dowd 2003; Fligstein 1996; 2001; Hall 1993; Hirsch 1986; Oliver 1992; Peterson and Berger 1975; Polanyi 1957; Yonay 1998). As they focus on institutions, the relevant questions are all related to how institutions appear and how they are replaced by new ones. But what determines when crises lead to new institutions or institutional change? This is the question I will attempt to answer in this dissertation. Throughout the 1990s, several financial crises led to political and economic crisis in certain developing nations (e.g. Mexico, Brazil, Argentina, Indonesia) and to the bankruptcy of some important institutional investors (e.g. Long Term Capital Management, which was managed by Nobel prize winners Merton and Scholes). Yet, we did not experience the sort of institutional change that we have seen in the past and would expect in such a situation (Fligstein 1996). Quite the contrary, most countries’ answer to the several crises of the 1990s was adopting “more of the same” (further tightening of monetary policy, privatization, budget cuts, etc.), while most agencies made only minor adjustments to

their methods. By looking at how each country and each agency reacted to these crises we can better understand the relationship between ideas, institutions and resources, and how these things affect institutional change.

When it comes to diagnosing crisis, most institutionalists revert back to a “realist” perspective. That is, even though institutions and ideas are supposed to be so all encompassing as to determine even interests themselves (Blyth 2002; Hall 1993), but when it comes to identifying a period of crisis, many institutionalists just take them for granted. Recent work on deinstitutionalization has attempted to correct that. One such example is Oliver’s (1992) work on deinstitutionalization. She distinguishes between organizational and environmental levels of analysis, and political, functional and social sources of pressure for institutional change. Changes in the environment – especially related to the allocation of resources, and organizational underperformance – might lead to a loss of legitimacy (political), of instrumental validity (functional), or of values (social), which in turn lead to crisis and change. The problem with such approach is that, in the end, it depends on a tautology: crises happen when one of these pressures increases substantially, but we can only know that one of these factors increased substantially when there is a crisis.

One way of improving on this problem is to look at Hall’s (1993) work on policy paradigms. In his seminal article, Hall adopts an explicitly Kuhnian view and distinguishes between three different levels of change in policy paradigms that can be extended to institutions. On the broadest level, we have the overarching structure that

informs what is relevant and what are the goals to be pursued<sup>10</sup>. Intermediately, we have the techniques and methods deemed appropriate to pursue those goals. And at the basic level we have the specific settings for those techniques. This distinction between multiple levels of cognition is recognized by DiMaggio (1997) and is implicitly included in his work on organizational institutionalism (DiMaggio and Powell 1983), where he recognizes different levels of change, ranging from the *drifts*, which would involve changes in the two lower levels of what we have just discussed, to crises and change, where we have a change in the overarching structure that guides action. With this in mind, we can extend Oliver's theory of deinstitutionalization to understand when change happens and at which level it will occur. That is, instead of being stuck in an all or nothing situation where we can only detect what impact certain changes have had on institutions after a significant crisis has led to institutional change, we can now focus on levels of institutional change. Finally, another important contribution to the work on crisis was made by Abolafia et al. (1988). If, by looking at the work of Oliver and Hall we gain insights into the sources and level of change, Abolafia et al. focus on the stages of a crisis. Particularly relevant to this dissertation is the notion that every crisis involves an "attribution phase." The fact that an institution is underperforming or that a policy is not yielding the expected results, by themselves, tell us nothing about the reasons behind that. It is only when such underperformance can be attribute to a specific cause or source that we should expect any action. By using the work of these three authors, we should be able to come up with hypothesis related to the source of pressures for institutional

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<sup>10</sup> He is talking about policy paradigm and governmental policy, but this certainly can be extended to institutions, especially since they, too, inform what are the appropriate goals to be pursued, the best venues to pursue them, and the best way to do so.

change, the struggles between actors to deal with those pressures and assign blame for underperformance or anomalies, and finally the resulting level of changes.

How have risk rating agencies dealt with economic crisis and how they adapted to them. This is crucial because at the same time it indicates how market actors located the sources of underperformance and economic crisis, and how they made specific changes, without abandoning the overarching perspective on economic matters. This played a crucial role in the attribution phase of the crises that took place in the 1990s, and I hope to show that one of the reasons we only experienced lower level changes, or “drifts,” was because these actors successfully placed the blame for such economic crisis on particular policies and their specific settings, avoiding the questioning of the overarching structure of the ruling policy and scientific paradigm. This is especially important when we are discussing risk – because as Douglas and Wildavsky (1982) have noted – it is always a matter of debate whether or not “enough” was done to avert any risk (Douglas and Wildavsky 1982).

Beyond establishing the empirical validity of institutionalism, the goal of this project is to improve on currently existing institutional theories. Therefore, the focus is on three stages of the evolution of institutions that are often dealt with separately by different versions of institutionalism. The first chapter in this dissertation is about the reemergence of Sovereign Risk ratings. Which countries get rated, and by which agencies? What explains the timing of these ratings? Beyond pointing to the demand for investment, both the reputational capital view and the regulatory license view are silent on this. The second chapter is on how these academic ideas became institutionalized into regularly published risk ratings. What determines which ratings are assigned? What is the

impact of political and non economic factors? And just how accurate are these ratings? In this case, while the regulatory license view might explain some of the inaccuracies and failings of the current CRAs, it also is silent on matters of potential ratings inconsistencies. That is, it predicts that the regulations and ensuing conflicts of interest may artificially inflate ratings, but it does not explain inconsistent ratings or ratings that fall below the minimum regulatory requirements. In the third chapter the emphasis is on the effect of these ratings on politics, their use as symbols, and the importance of symbolic actions on these ratings. What impact do these ratings have on policy adoption and policy spread? Do they play a role in the adoption of isomorphic (DiMaggio and Powell 1983) policies across the globe? In the next few chapters we will try to show empirically that, more than rating risks, Sovereign Risk ratings are about measuring compliance with the ruling policy paradigms of the day.



## Chapter 2 – The Origins of Sovereign Risk Ratings: the timing of their inception

Up until the mid 1970s, the sovereign risk rating business was virtually nonexistent (see figure 2.1). The three largest and most important agencies—Standard & Poor’s, Moody’s and Fitch Ratings—combined issued ratings for only a handful of nations, all of them highly developed and mostly on Europe or North America. The few exceptions to this were nations that were very highly rated, such as Venezuela, which received Moody’s and Standard and Poor’s highest grade in 1977 (Moody's Investor Services 2008; Standard & Poor's 2007). Fitch Ratings only issued Sovereign ratings after the interwar period in August 1994 (Fitch Ratings 2006). But the business of sovereign ratings soon flourished. In a period of 20 years, the number of nations rated increased tenfold, with over 100 individual nations rated by at least one agency in 2000 (see figure 2.1). Even the latecomer Fitch Ratings had rated over 60 nations less than six years after starting their sovereign rating business. This explosion in the issuance of ratings is often explained by an increase in demand that is compatible with the reputational capital view discussed in the preceding chapter. That is, the driving motor of the sovereign ratings industry is supposedly an increase in demand for better information. And yet these same ratings have come under strong criticism, to the point where one of the key figures at an investment bank claimed that agencies are “...way behind the curve...” and that their mistakes create “mispricings” that create opportunities for banks (House 1995 pp 248).

But even if we take at face value the explanation that these services are being provided because of demand, there is still the matter of the timing of their appearance.

Even if “market demand” is the ultimate explanation for the creation of any particular service, by understanding the timing of that creation we can get an insight into the institutional and organizational forces that shaped the appearance of that particular service or good (Peterson 1990). One of the key stages in the evolution of institutions is the phase in which ideas become institutionalized and reproduced, especially through the establishment of evaluative criteria (Blyth 2002; Sikkink 1991). These evaluative criteria form “market information regimes” (Anand and Peterson 2000). Such evaluative criteria are key in the formation of any institutional field because they serve as a way of focusing attention on certain aspects of reality (and not others) and because they help participants make sense of market activity, and because they are fraught with assumptions that are taken for granted. The question, then, is not whether these ratings are “correct” in their assessments, or whether they are “inventions” or not, but what factors had to be in place for agencies and private agents to generate risk ratings that reduce all the political, conjunctural and economic issues involving a country to a number or set of letters. That is, the key variable here is the timing of the emergence of country and/or sovereign risk ratings.

The traditional view on these risk ratings is a quasi-functional one that sees them as responding to a demand for solutions to information problems (e.g. J.P. Morgan 1999). The institutionalist view, on the other hand, emphasizes their role in reducing ambiguity in the face of an excess of information. The objective of this chapter is to understand how the changes described in the previous chapter became institutionalized. That is, the explananda here is how certain ideas that challenged the previous status quo became embodied in a new model, one that included this market information regime that framed

information and defined success. These shifts in “ruling frames”—to use another concept—are the result of power struggles, with the winner group redefining the ruling frames (Dobbin and Dowd 2000). More than just demand, an important aspect of these new ratings is that their spread is something akin to Fligstein’s (1990) “shareholder conception of control” applied to entire countries and government policies. In other words, similarly to the conception of firm control that sought to maximize investor returns and reduce principal agent issues in firms, ratings are also investor centered and focus on principal agent problems that might arise as nations get tempted to defaulting on their debt.

In the next subsection, I will discuss the particular history and characteristics of each of the major three CRAs. After that, I will discuss how the particular theories mentioned in the first chapter try to explain the timing of the appearance of credit risk ratings, and also suggest a few hypotheses based on each. After that, I will discuss the methods, data sources, and samples used in this chapter. Finally, I will present and discuss the results of our analyses.

### **The Rating Agencies**

Before going into depth about how different theories explain the timing of the emergence and spread of sovereign risk ratings, it is necessary to explain the choice of agencies that are included in our sample here and their rating methodology. Standard and Poor’s, Moody’s and Fitch Ratings are the world’s largest CRAs (Cantor and Packer 1995; 1997). More importantly, they were the first agencies to be granted the recognition

of Nationally Recognized Statistical Research Organizations (NRSROs)<sup>11</sup> and are the only agencies recognized by all nations that are part of the Basel Commission for Banking Supervision (Elkhoury 2007). These agencies do not publish discuss the particulars of their criteria, as that would theoretically undercut their market power, but they do provide a description of their methodology, to which I turn to later in this chapter. [Could you be more explicit here? These ratings are the way the agencies make money – that is, the ratings entail proprietary information. As a result, they’re not going to provide others with instructions on how to make their ratings.]

### *Moody’s*

As discussed in the introduction, Moody’s is the oldest Credit Rating Agency in existence. For nearly four decades it was a part of Dun & Bradstreet, but it was spun off as its own company in 2000. Being publicly traded and exclusively a CRA, the publicly available information offers much insight into the profitability of the business<sup>12</sup>. As in the case of the other two agencies discussed here, it provided sovereign ratings during the interwar period, but dropped out of the business entirely after the second World War, only to do so again in the late 1960s and early 190s70s, after which time its business expanded rapidly. Figure 2.2 has the geographic breakdown of the nations it rates. The regional classification scheme is the same one adopted by the World Bank and other

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<sup>11</sup> Duff and Phelps Credit Rating, a subsidiary of Duff and Phelps Corporation and also one of the first agencies certified NRSRO, was purchased by Fitch Ratings in 2000.

<sup>12</sup> The other companies mentioned here are subsidiaries of larger companies, and as such specific data on their financial performance is not publicly available. That is, companies are required only to divulge numbers about the overall results of the corporation, and not its particular lines. Since Moody’s is exclusively a CRA, its numbers refer exclusively to the rating and associated services they provide.

IGOs in their online databases (World Bank. and World Bank. International Economics Dept. 2010).

As Figure 2.2.shows, Moody's concentrates its ratings on Europe and Central Asian nations, but this changed a bit in the mid 1990s when— in the span of less than half a decade— the number of Latin American and Caribbean nations they rated more than doubled. Since then, Moody's has had a significant amount of business in two other regions: the “Middle East and North Africa” and “East Asia and the Pacific.”

In terms of ratings methodology, Moody's claims to evaluate not only a nation's likelihood of default but also the “expected loss” from that default (Elkhoury 2007; Moody's Investor Services 2006). More precisely, Moody's ratings are supposed to measure the expected loss, which are a function of not only the probability of a nation defaulting on its debt, but also the “loss given default.” So the assumption is that even in the case of a default, creditors can still recover at least part of their investment. It is particularly interesting that Moody's makes this sort of distinction because its published ratings do not refer to any specific probabilities or any other computational formulas. As such, even though it is supposed to make minute distinctions between nations that are equally likely to default based on the ability to recover losses, no specific data, details or probabilities are ever provided.

Regarding Moody's rating procedures, Moody's issues two distinct ratings for each nation. One rating is based on a nation's ability to repay debt in its own currency, and the other rating deals with a nation's ability to repay debts in foreign currencies. I focus here on their foreign currency ratings because that is the one that generally serves as the ceiling for local corporations and governments (cites?). Their rating procedures

claims to take into account the "... structures of social interaction, social and political dynamics, as well as the economic fundamentals" (Bouchet, Clark, and Gros Lambert 2003pg 99). The first three items basically refer to a government's *willingness* to repay its debt. The remaining items—the economic fundamentals—are supposed to show a country's *ability* to repay its debt. With these things in mind, Moody's stresses the importance of making subjective judgments. Ratings are agreed upon by a committee, whose members vote on those ratings. The idea is that the ratings are supposed to be qualitative because economic data and ratios are backward looking (Bouchet, Clark, and Gros Lambert 2003pg 100). That is, as economic statistics refer to past events, they do not take into account events that are currently happening or about to happen, such as likely election results, political changes and signs of internal turmoil.

The emphasis on qualitative ratings and the importance of the rater's opinions are evident in Moody's guide to their ratings: the word "opinion" is used 10 times in a 12 page document (Moody's Investor Services 2006). This serves two purposes: as a defense against litigation and as product differentiation (Partnoy 1999). With regards to litigation, in past instances in which CRAs were sued for issuing misleading ratings, they have been able to prevail in these cases by claiming that they simply offered (financial) opinions that are legally protected by the first amendment—even when the plaintiffs established that the agency knew the ratings it had issued were not based on current information (Frost 2006; Hunt 2008; Partnoy 1999; 2006). As for product differentiation, the key point is that a formal or well established rating mechanism would be easily replicable, thereby encouraging competitors to enter their line of business.

Regarding which countries to rate, like the other main agencies, Moody's rates national governments by request, charging it a fee that is proportional to the amount of debt that nation is looking to take on (Partnoy 1999). Once the rating is requested and issued, the national government involved can either appeal the rating or request it not to be published if they disagree with it. But if national governments have that power to prevent ratings from being disseminated when they initiated the request, Moody's, along with Standard and Poor's, also reserve the right to issue unsolicited ratings (Elkhoury 2007; Frost 2006; House 1995; Hunt 2008). That is, for nations it has already rated in the past, Moody's reserves the right to change its ratings unsolicited. This has led Fitch Ratings, and other agencies that do not do so, to accuse Moody's of the practice of "notching"—which is the threat of a potential downgrade in ratings in case that agency is not re-hired by a given nation for ratings in the future (Elkhoury 2007). While proposals are in place that would require agencies to disclose whether or not a certain rating was unsolicited (Elkhoury 2007; Frost 2006), currently no such regulation exists. But overall, first ratings are done by request. [SO—How many other companies offer ratings besides the 3 main ones? I ask because the sentence on notching suggests that there are quite a few.]

### *Standard & Poor's*

As mentioned in the introduction, Standard & Poor's is the result of the merger of Poor and Standard Statistics in 1941. In 1966, Standard & Poor's was purchased by McGraw-Hill Companies (Bouchet, Clark, and Gros Lambert 2003) and, as such, specific

data on its financial performance is unavailable<sup>13</sup>. Along with Moody's, it (re) entered the Sovereign Risk Ratings market early on. Also, much like Moody's, it essentially rated mostly European and Central Asian nations. That started to change during the late 1980s and early 1990s, when Standard & Poor's started rating more East Asian & Pacific and more Latin American & Caribbean nations, respectively (see figure 2.3).

The pattern shown in Figure 2.3. is similar to that of Moody's (see Figure 2.2), where the rated nations are initially concentrated in Europe, but that eventually near universal coverage of Latin America & the Caribbean and East Asia & the Pacific are achieved. ]I I think that this sentence fits well at the end of the previous one.]

Regarding its methodology, Standard and Poor's ratings only measure the likelihood of default (Elkhoury 2007). That is, no estimations are made on recovery possibilities in case of default, although there are plans in place to include those in their estimations in the future (Beers and Cavanaugh 2006). Similar to Moody's, it provides ratings in terms of ability to repay debts in a nation's local currency and foreign currency. Unlike Moody's, S&P claims its sovereign ratings are not "country risk" ratings and therefore do not work explicitly as ceilings for local corporations and governments (Beers and Cavanaugh 2006). However, in practice, these ratings serve as benchmarks for other local ratings, as the latter are generally at or below the sovereign ratings (Bouchet, Clark, and Gros Lambert 2003pg 101).

As is the case with Moody's, Standard and Poor's ratings themselves are supposed to combine quantitative and qualitative elements, although no specific formulas

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<sup>13</sup> McGraw-Hill is not required to publish financial results for its specific subsidiaries and divisions, and as such it is not required to, and in fact does not, disclose information that pertains exclusively to Standard and Poor's.



or discussion of how the quantitative part plays a role are ever disclosed. Its analytical framework contains nine categories of items that are taken into consideration when assigning a rating: political risk, income and economic structure, economic growth prospects, fiscal flexibility, general government debt burden, offshore and contingent liabilities, monetary flexibility, external liquidity, and external debt burden (Beers and Cavanaugh 2006). A committee of analysts gives grades to each one of these categories that range from 1 to 6, with “1” being the best and “6” the worst. Interestingly enough, despite the fact that they outline this sort of quantitative grading procedure, Standard & Poor’s explicitly stresses the fact that there is no set weighing for those nine categories, and it does not disclose the scores for the individual categories that inform a rating. As such, much like the other agencies, what matters in the end are the votes of the committee rating a specific issuer. Thus, in the same way as Moody’s, Standard & Poor’s highlights that its ratings are heavily influenced by qualitative and subjective judgments.

Regarding which nations it rates, Standard & Poor’s also is similar to Moody’s because it rates those nations that specifically request its services, but it will also provide unsolicited rating changes if deemed necessary—though Standard & Poor’s claim not to have done so with sovereign ratings (Elkhoury 2007). As with Moody’s, it has also been subject to criticism by Fitch Ratings and others regarding the potential conflict of interest in providing unrequested ratings.

### *Fitch Ratings*

Fitch Ratings, after a string of mergers, is now part of the French conglomerate Fimalac. It is the latest entrant in the sovereign credit ratings market. It issued its first ratings on August 10, 1994 (Fitch Ratings 2006) (see figure 2.4). Unlike its competitors, Fitch Ratings is still heavily focused on European nations, and its coverage of Latin America & the Caribbean and East Asia & the Pacific is still far from complete.

Fitch Ratings methods are different from the other two agencies in that they stress the cooperative nature of their ratings process (Fitch Ratings 2002) and do not issue or change ratings unsolicited. When a rating is requested by a nation, Fitch's first step is to send questionnaires to key public officials asking for information that is not in the public domain. These questionnaires then serve as the basis for the next step in the process. Two analysts travel to the country requiring the ratings and interview officials for a period of up to a week. Following this, it claims to take into account economic indicators, political coherence, and political risk into account, with a country's external debt position figuring prominently. All in all, they have fourteen categories in their checklist of sovereign rating criteria. After these things are addressed by the traveling analysts, a draft of their report is sent to the officials of the nation being rated for comment. Then, after receiving such feedback from officials, a committee—consisting of the two lead analysts, other senior sovereign analysts and members from relevant financial institutions and corporate groups—votes on a rating, with the final decision belonging to the two lead analysts involved. Though Fitch Ratings heavily stresses cooperation and has a more comprehensive list of variables and ratios they include in their analysis than its competitors, they too do not disclose any weights or formal procedures used in the construction of its ratings. As with Moody's, Fitch's foreign currency rating serves as the

sovereign ceiling for a particular nation. As to which countries to rate, Fitch also rates nations on request, charging a fee from the issuers. Unlike the other agencies, Fitch disavows and condemns unsolicited ratings, which is not surprising given its emphasis on cooperation.

### **Competing Explanations for the Timing of a Nations First Rating**

#### *The Reputational Capital View*

The reputational capital view sees the demand for sovereign ratings as being driven by asymmetrical information (Akerlof 1970; Elkhoury 2007; Partnoy 1999; 2006). In credit markets, asymmetrical information leads to uncertainty over a debtor's true willingness and ability to repay its debts (Hirshleifer and Riley 1992). The basic logic behind a sovereign credit rating, therefore, is that any credit contract involves a "principal-agent" problem (Dittrich 2007). In this case, the country issuing the debt (the "agent") has more knowledge about its condition and intentions to repay its debt than the creditor who purchases or finances that debt (the "principle"). The agent by itself cannot convey information about its actual risk to the principal because it has a vested interest in understating its own risk. Left on its own, this additional uncertainty leads potential creditors to demand higher premiums, in the form of higher interest rates, for their investment. Without any sort of additional information, this would lead to markets settling on higher interest rates, and therefore higher costs for debtor nations, than if the market had some way of distributing truthful information. The role of the CRAs, then, as Dittrich (2007 pg 9) puts it, is to "...ease this dilemma by providing investors with a

screening instrument in order to reduce the informational asymmetry and reveal hidden information. This in turn lowers the risk premium required by the investors.” This leads us to our first hypothesis regarding the timing of a nation’s first rating, thus focusing on the motivation of the agents:

*Hypothesis 1- The higher the interest rate spread (the difference between what a nation is paying in interest in its new debt and the interest paid by a risk free investment), the more likely a nation is going to request an agency to rate its risk*

The reason for Hyp. 1 is that since the cost of the rating initially falls exclusively on the rated nation, it has to expect that the rating will convey enough information to the market so that the drop in interest payments to potential debtors is larger than the amount paid for the ratings. The closer the market is to a situation of perfect information, the less there is to be gained by being rated. Similarly, the closer a nation’s interest rates paid are to what is considered a risk free investment, the less there is to be gained by being rated. Therefore, in the reputational capital’s view, demand for ratings should depend significantly on their ability to lower interest rates by providing information that the market does not already have. If we consider existing interest rate spreads to reflect the view of the market regarding a given national government, then the higher the spread, the higher the potential incentives to being rated.

Our next hypothesis regarding the reputational capital view follows a similar logic regarding the motivation of agents:

*Hypothesis 2: The higher the risk free interest rate is, the more likely nations are to request to be rated by CRAs*

Even risk free interest rates fluctuate over time, as the result of business cycles and the availability of credit. Higher interest rates associated with generally risk free investments indicate a lack of liquidity in the market, and as such, debtor nations would have a harder time borrowing money. Tighter markets are a sign of increased competition for capital and greater risk aversion by investors, indicating a situation where national governments would be more willing to spend to assuage risk concerns.

These are the only two hypothesis that focus on the national government's motivations because the reputational view is quite clear on this: the only reason to get rated, according to this view, is to reduce problems of asymmetry of information that lead to higher costs in borrowing money from private agents by "using up" a neutral third party's reputation (Dittrich 2007). The next hypotheses, however, all deal with the core issue of reputations and CRAs. If, on the one hand, nations should have a financial interest in being rated, then on the other hand, the ratings themselves only would be worth anything if the CRA doing the rating actually had a reputation that was worth something. This leads to an interesting problem raised by Hunt (2008): how can an agency have a reputation for rating a financial instrument (in this case, bonds and debt issued by national governments) that it has never rated before? This leads to two related hypotheses:

*Hypothesis 3a: The more an agency has rated issuers in the past, the more likely a nation that has never been rated will choose it to rate its bonds.*

*Hypothesis 3b: The more an agency has issued problematic ratings in the past, the less likely a nation will choose it to rate its bonds.*

Hypothesis 3a deals with the amount of experience an agency has, while hypothesis 3b deals with its accuracy in the past. One would expect that agencies with a longer track record of rating sovereign risk would have a better reputation of doing so, and as such would be preferred by nations in general. Similarly, one would expect that agencies that have a better track record regarding how often the nations it rated defaulted would also enjoy a better reputation.

### *The Regulatory License View*

The distinction between investment grade and speculative grade ratings is at the center of the Regulatory License View. The breakdown of the different ratings and their grades is shown in Table 2.1 below. The cut off point between investment grade and speculative grade is similar in all three agencies, with BBB- (or Baa3 in the case of Moody's) being the lowest rating that still receives the investment grade distinction. As discussed before, more than just conceptual differences, these grades are also firmly entrenched into current regulations (Cantor and Packer 1995; Partnoy 1999). To list a few of regulations that place additional burdens on anyone willing to invest on speculative grade papers, the SEC requires that speculative grade bonds be marked-to-market (i.e., be entered into an investor's balance sheet with the value it had been trading on the market, and not its "face" value), have higher margin requirements, and greater disclosure requirements, while also preventing certain types of institutional investors (like Savings and Loans associations) from investing in below investment grade bonds. International accords have since incorporated these distinctions into banking supervision regulations

(Elkhoury 2007). As such, besides the inherent greater uncertainty related to being rated speculative grade, investors have to deal with other costs associated with regulations. And as these regulations simply establish minimum ratings required to be exempt from these restrictions, unrated nations face the same problems as speculative grade nations. Given the fact that national governments that request ratings generally have some input into the process and can either appeal or request a rating not to be published, they have a significant amount of knowledge about what their final rating is going to be. This leads us to the first hypothesis related to the regulatory license view:

*Hypothesis 4a: Nations that receive an “investment grade” rating will be more likely to be rated than nations that receive a speculative grade rating*

While this might seem temporally counterintuitive, national governments being rated generally have a very good indication of the rating they will receive ahead of time, as discussed in the particular methodologies employed by each agency. But, just in case there are potential conflicting factors, I also posit an alternative hypothesis that gets at the same issue:

*Hypothesis 4b: Nations that have a lower interest rate spread will be more likely to request ratings from CRAs*

Lower interest rate spreads have been found to be significantly associated with higher in the past ratings (Dittrich 2007). A nation that has low interest rate spreads is generally seen by the “market” as safer, and as such, it would make sense that officials in the nation in question would anticipate an investment grade rating. This hypothesis is especially interesting because it is diametrically opposed to the hypothesis behind the

reputational capital view. The regulatory license view posits that the main motivation behind getting rated is not actually to assuage asymmetry of information problems but to enjoy the benefits of more lax regulation that investment grade ratings afford (Partnoy 1999). According to this view, the national governments that are seen as particularly trustworthy, and that are seen as nearly risk free investments, are precisely the ones that would face the highest cost if left unrated.

And this leads us to a hypothesis related to the CRAs themselves: according to the regulatory license view, accuracy and reputation are largely secondary given the barriers to entry into this market and the importance of the regulation. The most important thing that the ratings are supposed to be doing is not relaying accurate information but providing access to new investors for all those nations rated highly enough. Therefore, we would expect that:

*Hypothesis 5: The higher the average rating an agency issues in comparison to its competitor CRAs, the more likely a nation will choose that agency to rate its bonds.*

That is, CRAs that inflate its ratings more than its competitors will be more successful in attracting new nations to rate than those that issue lower ratings on average. This, again, goes directly against what the reputational capital view would predict.

#### *The New Institutional/Political view*

A cursory glance at the types of ratings issued both in overall terms and by each agency raises questions regarding the two views discussed above. Looking at the graphs



contained in Figure 2.5, we see that there is a significant increase in the number of speculative grade ratings issued over the past 15 years:

Up until the mid 1990s, the sovereign rating business involved almost exclusively investment grade nations. As late as 1995, less than a third of all ratings issued were speculative grade ratings, something that would seem to confirm the suspicions of the Regulatory License view. Yet a decade later, speculative grade ratings make up almost half of all ratings issued. This sort of timing suggests a process of diffusion and institutionalization of certain ideas and practices. The spread of certain types of economic ideas and associated policies has been the focus of much academic research (Babb 2005; Blyth 2002; Campbell 2001; Carruthers, Babb, and Halliday 1998; Chwierothe 2007; Chwierothe 2008; Chwierothe 2009; Dezalay and Garth 2002; Fligstein 1996; Fourcade-Gourinchas and Babb 2002; Frenkel and O'Donnell 1994; Hall 1993; Halliday, Block-Lieb, and Carruthers 2010; Harberger 1996; Hay 2001; Helleiner 1994; Henisz, Zelner, and Guillén 2005; LiPuma and Lee 2004; Martinez and Santiso 2003; Montecinos 1996; Nooruddin and Simmons 2006; Polillo and Guillén 2005; Vreeland 2003). We can break down this scholarship into roughly two types of perspectives: Vreeland, Nooruddin and others focus on how certain local actors use the resources or prestige of foreign organizations to help push contested or unpopular policies over local opposition, while others, like Babb, emphasize the mimetic and isomorphic aspects of policy diffusion and emulation.

Vreeland's (2003) work, for example, is about the impact of the IMF on a number of different policy areas. But his key point is that the IMF's role in policy diffusion does not take place in a top to bottom fashion, forcing unwilling governments to adopt a

certain set of policies. Instead, national governments wanting to implement a certain set of policies seek out the IMF, as IMF support and loans alter the payoffs involved in political calculations. That is, involvement with the IMF allegedly increases the costs of opposing certain policies, as that opposition would mean the end of IMF support for a given nation. Similarly, Nooruddin et al. (2006) argue that the IMF has significantly larger impact on democracies than dictatorships for a similar reason. Given this line of argument, we could argue that CRAs could have a potentially similar impact on domestic politics. This leads us to the following hypotheses:

*Hypothesis 6a: Democracies will be more likely to request ratings than non-democracies*

*Hypothesis 6b: The more contested the political struggles within a certain nation, the more likely it will be rated*

These are 6a and 6b because they refer to the same sort of process, where the CRAs are used in contested situations to push policies over an unwilling opposition. If we accept the idea that CRAs have a preference for particular sorts of policies, and that CRA ratings have at least some potential costs and/or benefits for the rated nation, then there is a possibility that a CRA rating would play a similar role as the IMF in the examples described above. In fact, Martinez et al (2003) provide an example of such a thing, when in the 2002 election in Brazil the ruling party used the decline in ratings that resulted from the rise in the polls of the opposition party as an attack against that party. The increased uncertainty of hotly contested political struggles may be reflected in the ratings, and so the ruling party would have an incentive in being rated, as the opposition

would have to either conform to the existing policies in place or face the risk of being blamed for a deteriorating external credit situation.

To understand the timing of the creation of these published ratings, it is also necessary to look at other trends of the period. Two related trends that seem to be of special importance are the growing importance of financial markets (Dobbin and Dowd 2000; Fligstein 2001; Krippner 2005; O'Barr and Conley 1992; Vitols 2002) and the establishment of a new “policy paradigm” that prescribed certain actions as correct (Blyth 2002; Carruthers, Babb, and Halliday 1998; Fourcade-Gourinchas and Babb 2002; Hall 1993). The first trend of financialization refers to “... a pattern of accumulation in which profit-making occurs increasingly through financial channels rather than through trade and commodity production” (Krippner 2005, pg. 181). It is a trend that is also related to the growing importance of institutional investors (e.g., pension funds, hedge funds, finance divisions of major corporations). Large institutional investors—such as banks, pension funds and even the financial branches of large multinational corporations, but not individuals and families—are now the main holders of stocks, bonds and securities. These investors are controlled not by the “owners” of the capital themselves, but by professionals, trained by many of the same economists and institutions that we described in chapter 1, such as the University of Chicago and so on. As recent research has indicated, this is more of a change in frames than something driven by efficiency gains, which, according to existing evidence, is limited (Fligstein 2001; Lowry 1984). We would expect this growth in institutional investing to have a positive impact on the probability that major risk and credit rating agencies will start publishing country or sovereign risk ratings:

*Hypothesis 7a: as the importance of financial markets grow, it becomes more likely that investor services agencies and ratings agencies will create standard, regularly published measures of the risks associated with investing in a given country*

*Hypothesis 7b: the likelihood that investor services agencies and ratings agencies will create standard, regularly published measures of the risks associated with investing in a given country is directly related to the power of institutional investors.*

These two hypotheses are intimately related, but they refer to the growing importance of financial views on economic and political matters. That is, they refer to the emergence of the new policy paradigm that rests on the hypothesis and assumptions of neoliberal economists. We should expect institutional investors to be particularly influenced by the new ideas being developed within the financial world. Institutional investors were particularly receptive to the ideas being developed by financial economists (Dezalay and Garth 2002). This is so because of two reasons. On the one hand, institutional investors need to legitimize their decisions to their constituency (their shareholders, pensioners, etc.). On the other hand, their proximity to the financial market should make them particularly susceptible to the financial way of seeing the world. That is, \*\*\*\* [explain this proximity argument in the previous sentence] These two hypotheses should help establish that it was not the objective emergence of a type of risk, or even large losses associated with those risks, that were responsible for the creation of publicized ratings. Instead, the creation of these risk ratings is part of a larger development, the spreading of a certain worldview. The rise of financial markets and institutional investors, however, would tell only part of the story.

Another potential source of diffusion of the ideas that lead a national government to value sovereign ratings are the actions of those other nations with which it does business. Both Henisz et al (2005) and Polillo et al (2005) point to the importance of the policies of competing nations in the spread of certain neoliberal policies. Similarly, we should expect that a nation would be more likely to contract a CRA to rate its sovereign debt if nations it competes with have already done so. These authors call this source of influence “competitive mimicry.” This informs the following hypothesis:

*Hypothesis 8: The more a nation’s competitors are rated, the more likely the nation itself will be rated.*

Besides other nations and financial institutions, one could also expect a major source of diffusion of the ideas associated with sovereign risk ratings to be the international governmental organizations (IGOs)—especially those that deal with financial matters, like the International Monetary Fund and the World Bank, as those are often pointed to as “early converts” to the sort of worldview associated with modern financial markets (Chwieroth 2007; 2008; 2009). Halliday et al. (2010) for example, discuss the ways in which IGOs, in particular the IMF, rhetorically legitimate themselves and the policies and worldviews they are pushing by underlining the credentials of its experts and by extensively grounding its procedures on theory. And IGOs also affect the diffusion of certain perspectives through quite concrete ways, such as providing technical assistance and by evaluating nations according to a number of criteria that confirm a certain worldview. The IMF has considerable power in setting and enforcing policy prescriptions through the “conditionality” of its agreements (Dezalay and Garth 2002; Vreeland 2003). That is, since access to its funds is dependent on the adoption of a

number of different policies, the IMF has substantial power in establishing a policy paradigm. And the IMF's power extends beyond threats of cutting access to loans and credit. The IMF also influences policy through its many publications, such as the "Global Financial Stability Report" (where most risk ratings are normally reproduced), where they disseminate technical information and procedures that are drawn from the theories they espouse. Because of its power as an international financial authority, its outlook on policy has an enormous impact, and some observers (e.g. Stiglitz 2002) have noted a significant shift in its prescribed policies. This is especially important because many of the prescribed policies were implemented before there was empirical support for claims that they led to superior outcomes (e.g., there is little support for claims that central bank independence leads to higher rates of economic growth, Carruthers, Babb, and Halliday 1998). This leads to the following hypothesis:

*Hypothesis 9: Membership in a financial IGO (namely the IMF, World Bank, or BIS) makes a nation more likely to request ratings*

Just as IGOs have been portrayed as playing a crucial role in the spread of neoliberal ideas regarding financial markets, another set of organizations that have been described as instrumental in the creation of a global culture are the International Non-governmental Organizations (INGOs) (Boli and Thomas 1999; Frank, Hironaka, and Schofer 2000). The impact of INGOs on policy and their role as serious political actors has been generally noted by scholars (Haggard and Kaufman 2008 pp 195-199). World Polity/World Culture theorists (Boli and Thomas 1999) have stressed the importance of an organized international civil society in the spread of legitimate models of state action. The more closely tied with the international civil society a nation is, the more likely it is

to adopt legitimate policies. These ties are often measured as INGO presence in a given nation. As leading players in the “global theater of democracy” (Frank, Hironaka, and Schofer 2000), INGOs act as “receptor sites” that transmit cues from the world society to local actors and the state – cues that generally follow the globally institutionalized model of civil society. And even as the role that INGOs play in the spread of neoliberal reforms is unclear, recent scholarship has pointed to the growing professionalization of INGOs and the emergence of a more managerial conception of the organization, in part due to the need to attract donors (Laurie, Andolina, and Radcliffe 2003; Roberts, Jones Iii, and Fröhling 2005). This refers to two related processes: the professionalization of NGO members and the requests and requirements of donors. Laurie et al (2003), for example, discuss the increased pressures for leaders of indigenous INGOs in Andes to receive postgraduate training at institutions such as Faculty of Latin American Social Sciences and other institutions, many of them created with funding or technical support from the World Bank or American universities. They also discuss the importance of the negotiation over the purpose of the INGOs between their members and their donors. In the case of education in the Andes, for example, donors often had a view that was explicitly based on the human capital perspective on development. Major INGO donors, like the Ford Foundation, supported not only the INGOs but the efforts to increase education in certain areas tied to their INGO donations, like when they financed the creation of the heavily Chicago influenced economics departments at the Catholic universities in both Rio and Santiago. As such, we should expect that INGOs potentially play a role in the diffusion of the sort of conception of organization that is related to the

spread of notions of risk and portfolio management that play a central role in risk ratings.

This leads to the following hypothesis:

*Hypothesis 10: The more ties to INGOs a nation has, the more likely it will be rated by a CRA.*

## **Methods and Data**

The dependent variables in this chapter are binary variables that are 0 before a nation is rated for the first time and 1 for every year after the first rating. I use 4 different dependent variables, one for each agency and one that combines all three to create a variable that indicates whether a country has ever been rated by any of the three agencies. I use these three agencies because not only are they the largest agencies in the field, but they are also the only three agencies to be included in the regulatory framework used both by the SEC and the BIS. As for the sample, we use all nations for which a reasonable amount of data is available, starting in 1975 and ending in 2001. We end up with yearly data for 105 nations. The data is analyzed using Cox proportional hazard models. The key advantages of this type of model is the recognition of the shifting probability distribution over time, while at the same time leaving the particular distributional form of the hazard function unspecified (Box-Steffensmeier and Jones 2004).

### *Independent data*



To measure the interest rate spread and international liquidity, I use data from the Global Development Finance (World Bank 2010a). I use the average interest rate on new external debt commitments to private parties as a nation's interest rate. As for the reference interest rate, I use the London Inter Bank Offer Rate (LIBOR). More specifically I use the yearly average LIBOR for 3 month bills in US dollars. The spread is the difference between the interest rate paid by the individual nation and the LIBOR.

To measure an agency's experience and accuracy, I first turn the letter ratings into numbers as seen in table 2.1. An agency's experience is simply the total number of countries rated by that particular agency, and as such is a time varying variable. Its accuracy is measured in the following way. First, and most straightforward, way, I look at an agency's accumulated "mistakes." In this case, we are talking about a cumulative sum of the ratings given to a nation before that nation defaults on its credit. As such, downgrades anticipating defaults are taken into account. Then I average the yearly value of this measure by the total number of nations rated by that particular agency that year. I use the average as a way to control for the number of countries rated and have an indicator of the relative accuracy of each agency. I then use the negative value of this measure to make interpretation straightforward

Regarding an agency's average ratings, I construct an overall average for each agency for all the countries rated by all 3 agencies (2, before Fitch entered the market in 1994). This average is basically the difference between an agency's rating and the mean rating of all agencies that year. That way, we can get a measure that describes how each agency's ratings compared to the others without a problem of sample selection. It is necessary to highlight their conceptual difference: the accuracy variable measures the

mean rating for nations that defaulted, while this one captures the mean ratings in comparison to the other agencies. As such, the former measures whether agencies overrate debtors regarding the actual outcomes, while the latter measures whether agencies overrate debtors in comparison to other agencies.

For the institutional and political measures, I rely on the World Bank's Database of Political Institutions (Beck, Clarke, Groff, Keefer, and Walsh 2001). The two political measures we use here are an indicator of whether a nation is democratic and the number of "checks" in government that make the passage of legislation more difficult. As for a measure of financialization of a country, I use the World Development Indicator's variables on Portfolio Investment as a percentage of GDP and domestic credit to the private sector (World Bank 2010b). For the variable on whether competing nations are rated, I used the matrix on share of trade with certain given countries estimated by Henisz et al (2005) and used it as a weight in creating an average of the number of nations rated. That is, this variable is the vector multiplication between a vector with 0 and 1 values in case a nation was rated by each agency and a vector with the trade weights. Finally, data on IGO and INGO ties comes from Frank et al (2000) and the COW-2 international organizations dataset (Pevehouse, Nordstrom, and Warnke 2004). IMF, World Bank and BIS membership are all time varying, and though by the end of the period the World Bank and IMF have almost universal membership, with over 90% of the countries in our sample members, the figure for 1975 is much lower, at around 80%.

As control variables, I use several different measures estimated by the existing literature as having an impact on the ratings themselves (Cantor and Packer 1996; Elkhoury 2007), namely GDP per capita, Inflation, external debt, foreign currency

reserves and default history. GDP per Capita, external debt and foreign currency reserves are all indicators of a nation's current access to resources that can be used to repay debts, and the data used here comes from the World Bank's Global Development Finance (World Bank 2010a). Inflation is important because one of the ways that governments can finance their debt is by printing money, which leads to inflation and a net loss for investors. Finally, a history of past defaults often increases investor suspicions over a country. Tables describing the basic statistical information for these variables and their correlations can be found in the appendix.

## **Results**

Columns 1 and 2 in each of the tables provide varying degrees of support for the theories discussed in the introduction. Interest rate spread, LIBOR, the accuracy measure and the investment grade variables are always significant in the first column of all 4 models. Interestingly enough, experience has negative impacts on the two most experienced agencies, just as the mean difference in rating in relation to others is also only positive in the two more experienced agencies. This points to a situation where nations might be "rating shopping," looking around for the best ratings. In column two I present institutional models that point to the importance of domestic credit markets, the IMF, trading partners and INGOs.

The first remarkable thing about the results portrayed in the tables above is just how consistent they are. Fitch Ratings started in the sovereign ratings business about 2 decades later than the other agencies and yet the key determinants of who they rated are mostly the same as the two other agencies. There is mixed support for the reputational

capital view, some strong support for the regulatory license view, and certain key insights from institutional variables.

The first consistent finding we get is that interest rate spreads are always positive and significant, in all models and all specifications. A unit increase in interest rate spreads increases the chances of a nation being rated by between 5 and 10% in most models, always significant at least the .05 level. This confirms the hypothesis that one of the key factors that drive a nation to seek out an agency to have its new debt rated is a desire to decrease its interest rate. This means that the riskier the “market” considers a nation to be, the more likely that nation will be rated, which lends credence to the hypothesis that the demand for ratings is driven in part by a belief that the market rates are suboptimal.

There is also some support for the hypothesis that the creation of ratings is driven by increased competition for credit. The LIBOR rate is generally used as a benchmark measure for the international financial markets, and here it is significant in the simplified models and in the overall model for Moody’s. This points to a countercyclical aspect of the sovereign risk ratings industry: nations are more likely to be rated for the first time when the LIBOR is higher, which tends to be the case during recessions. Credit is scarcer and investors are likely more risk adverse in recessions, which would explain why there would be more nations being rated in these situations.

While the two variables discussed above provide some support for the reputational capital view with regards to why a nation would want to get rated, when we look at the remaining variables it becomes clear that “reputation” has very little to do with an agency’s success in this field, as the variables that deal with an agency’s accuracy

and experience show. Sheer experience, as measured by the total number of countries agencies have rated, either individually or overall, is either insignificant or negatively associated with the likelihood of an agency rating a country. On top of that, our measure of accuracy is consistently negatively associated with the likelihood of a nation being rated. This means that the more an agency (or, in the overall model's case, all agencies) gets it wrong, the more likely will be chosen to rate a nation (or, in the case of the overall model, the higher the collective mistakes of all agencies, the more likely a nation will be rated by someone). While this might be counterintuitive at first, this signals that the more an agency overrated debtors regarding their actual risk, the more likely it will do business with nations, pointing to one of the key insights of the regulatory license view. In other words, nations "shop" around for better ratings, and are drawn to agencies that in the past issue overly positive ratings.

The regulatory view is further supported by the coefficients for the investment grade binary variable and the Mean difference in Ratings to other agencies. The mean difference in ratings to other agencies is only significant in the case of Moody's. Moody, on average, gives lower ratings than the two over agencies (see table 2.6). In other words, Moody's lower ratings are in part responsible for Fitch and S&P catching up to it in number of nations rated. It is important here to differentiate this variable from the accuracy one. First, it is noteworthy that these two variables have a very low correlation ( $<0.11$ ). The overall model obviously doesn't include a mean difference variable, but it includes a mean overall rating variable, which is significant at the 0.01 level. So nations are more likely to get rated the more optimistic the credit ratings industry is overall.

The investment grade binary variable is always significant at the 0.01 level. This lends strong support to Partnoy's (1999; 2006) argument regarding regulatory licenses: getting an investment grade rating seems to be quite significant in motivating a nation to get rated. Looking at these findings, it is possible to argue that while tight credit markets and higher spreads are indeed significant factors in driving the sovereign credit ratings industry, it is also clear that agencies face no repercussions or sanctions for getting things wrong or for overrating nations<sup>14</sup> and that the certainty of an investment grade rating is a significant incentive to get rated. Whether or not that would be the case without regulations that serve as de facto barriers to entry into this field is beyond the scope of this chapter, but given the fact that Fitch, the latest entrant into the field, gets an even bigger "boost" from being wrong, given the difference in the magnitude of its accuracy variable, it seems unlikely that the lack of competitiveness of the field is the only thing driving this dynamic.

This leads us to the institutional variables included in the Model 4 variables are particularly significant: IMF membership, INGO ties, trading partners being rated, and domestic credit market strength. All four point to the importance of the diffusion of certain modes of thinking about risk. IMF membership effects are particularly strong. Overall, IMF members are a bit over five times more likely to be rated than non members. IMF membership was already significantly high in 1975, when about 80% of the nations in our sample were members. But by 2004, this figure had reached over 95%. The main reason for that is the expansion of the IMF into Sub Saharan Africa and Eastern Europe. Countries like Poland, Bulgaria, Hungary, Mozambique and Cape Verde all

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<sup>14</sup> No claims are made here about the overall accuracy of these agencies, which is the subject of a chapter below.

joined the IMF after the start date of our sample and are currently rated by at least one agency. This confirms much research about the IMF's role in spreading neoclassical conceptions of the market around the world that end up bolstering neoliberal reforms (Chwieroth 2007; 2008; 2009; Halliday, Block-Lieb, and Carruthers 2010; Vreeland 2003). One potential limitation of this finding is that given the relatively small number of nations that were not a part of the IMF at the start of our sample, that joining the IMF and being rated are all part of the same process of becoming more market friendly, and that as such there would be no causal relationship between the two, and while that is certainly a possibility, there is generally enough time between joining the IMF and being rated to dismiss it as being a result of the same process.

I also find significant evidence that whether a nation's trading partners are rated affects the likelihood of a particular nation being rated. This variable has values that range from 0 to 1, with 1 being given if all a nation's trading partners are rated. The overall model results show that a nation that has all its trading partners rated is 18 times more likely to be rated than a nation that has none, and that changes of 0.01 in the variable lead to an increase of about 18% in the likelihood of being rated. This not only confirms existing research on the importance of trade networks in the spread of certain economic ideas (Henisz, Zelner, and Guillén 2005; Polillo and Guillén 2005), but it also points to a how these networks affect more than policy directly related to trade. Modern international trade depends on the development of language and rules regarding derivatives, futures contracts and other instruments that at its core subscribe to this new financial conception of risk (MacKenzie 2006).

Regarding the role that local financial markets play in the spread of sovereign risk ratings, I find no evidence that international portfolio investment in a given nation plays any role in any of the models. But I do find evidence that the strength of the domestic credit market, measured by domestic credit to the private sector as a share of GDP, significantly impacts the likelihood of a nation being rated. This is an interesting finding given our previous finding that public interest rate spreads also have a positive impact on the likelihood of being rated. Higher interest rate spreads for the public sector lead to a greater likelihood of being rated point that on the public side of the equation a relative scarcity of credit leads to nations being rated, but this finding here also points to the inverse relationship on the private side, as a larger credit market domestically also leads to a greater likelihood of being rated. But from an institutional perspective this is not surprising, as a stronger credit market also points to a greater potential influence of the financial ideas associated with risk ratings. [explain why – a sentence or two]

Finally, I also find that INGOs have a significant positive impact on the likelihood of a nation being rated, especially in the overall model. In the overall model, an increase of one standard deviation in the number of INGOs makes a nation about 2.5 times more likely to be rated by any agency. This is not surprising given the documented effect of INGOs on accounting and management practices, standardization, professionalization and so on (Botzem and Quak 2006; Djelic and Sahlin-Andersson 2006; Jang 2005; McNichol 2006). As modern conceptions of risk and as these agencies become embedded in the regulatory apparatus that shapes a lot of accounting, standardization and norm setting organizations, it is no wonder INGOs also have this sort of impact on sovereign risk ratings. Perhaps the best example is the emergence of technical manuals (Holtmann



and Mommartz 1996) associated with the increasingly visible INGOs that help set up micro-credit organizations in developing nations (Amin, Becker, and Bayes 1998; Rahman 1999). So we can imagine a causal mechanism where INGOs help both spread the basic conceptual apparatus that serves as the foundation of credit ratings and the accounting practices that make the ratings necessary.

## **Discussion**

Before I discuss the implications of our findings here, it is important to note a few limitations that will be further explored in the next few chapters. In a sense, our findings in this chapter are almost commonsensical: there are institutional factors that shape the spread of country risk ratings (here discussed in its particular sovereign rating variety). Even if these factors affect which nations are rated, if the ratings are efficient measures of risk in the end they should behave much like standard economic theory predicts. To the extent that I addressed their efficiency in this chapter, I only did so in relative terms and not absolute ones. But this chapter is necessary even if the results regarding institutional matters are somewhat uncontroversial. First because while Cantor et al (1997) address the issue of sample selection issues with regards to corporate bonds, most, if not all, of the articles that deal with the determinants and impact of sovereign risk ratings ignore the issue. By understanding the determinants of being rated in the first place, I can start to form a picture of how they end up affecting polity.

Regarding our specific findings here, there are three overall conclusions: nations are in part driven by scarce credit and high interest spreads in seeking out CRAs to rate their risk. Besides that, the regulatory license finds substantial support. There is no evidence that past performance or reputation helps an agency rate more nations. In fact, an alternative form of reputation seems to be key: a reputation for relatively overrating nations, especially the ones that end up defaulting on their debt. But while Partnoy and others seem to be right with regards to ratings as regulatory licenses, there is little to no evidence that increased competition would mitigate these processes, as even the latest entrant to the field seems to follow the same pattern, and most of the competition between the existing agencies seemed to point towards nations shopping for “ratings” by those agencies deemed more generous and positive, as opposed to accurate.

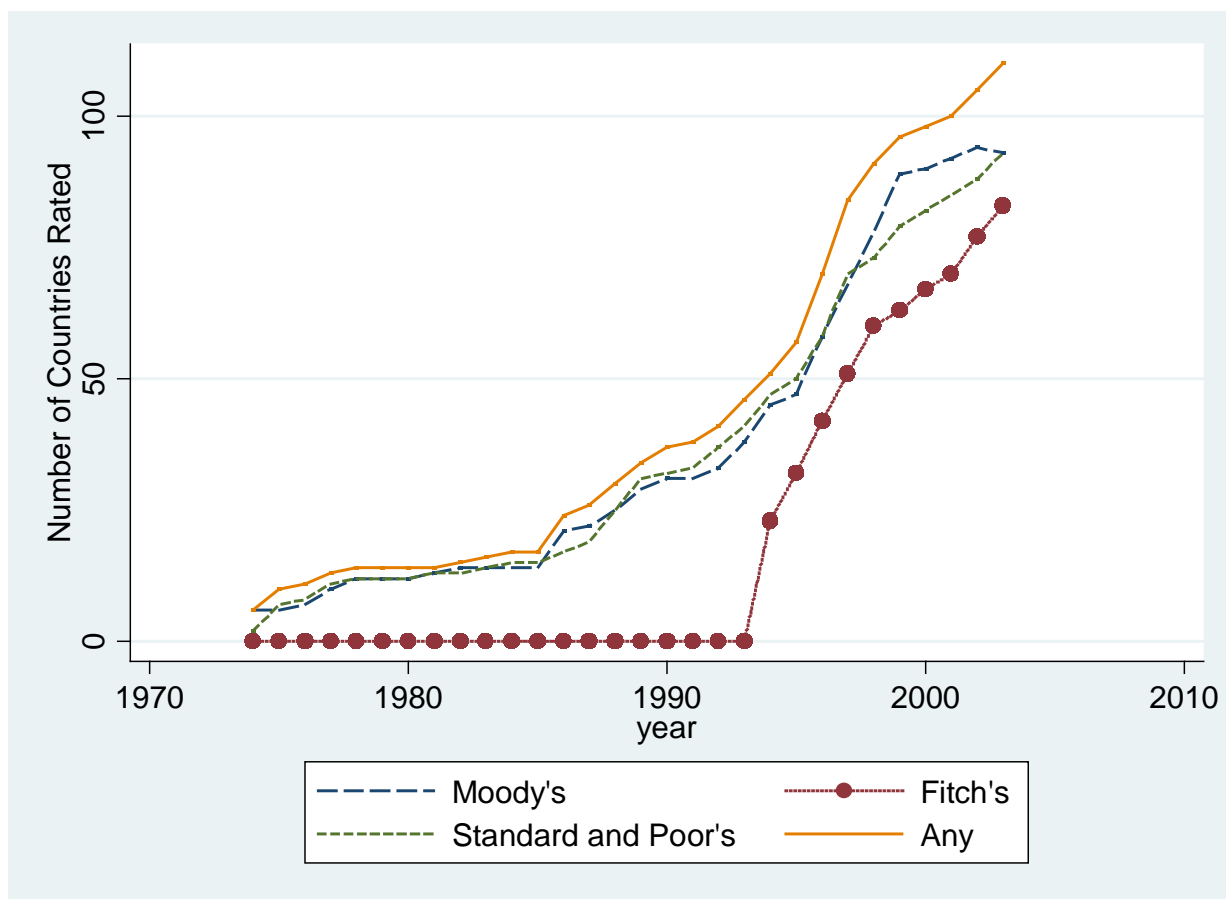
Finally, we also have confirmed past research that have pointed to the IMF, trade partners, and INGOs as key actors in the diffusion of certain practices and ideas. The novel finding is that even domestic creditors seem to incorporate and push for sovereign risk ratings, while foreign institutional investors seem rather ineffective. Domestic actors that have incorporated these foreign scripts and ideas can affect a great deal of change. The precise mechanism through which actors in domestic credit markets incorporate these new conceptions of risk is unclear, and beyond the scope of this project.

In the next two chapters, I will address the determinants of country risk ratings, their accuracy, and their impact on policy. I hope to show that what explains the importance of these sovereign ratings, even as they are often disparaged by market actors, is that institutional factors drive nations to seek out these ratings, and that once enough nations are rated, the particular political biases of these ratings help spread certain

policies even if they ultimately prove inefficient, ultimately transforming these ratings into measures of acceptance of certain political paradigms.

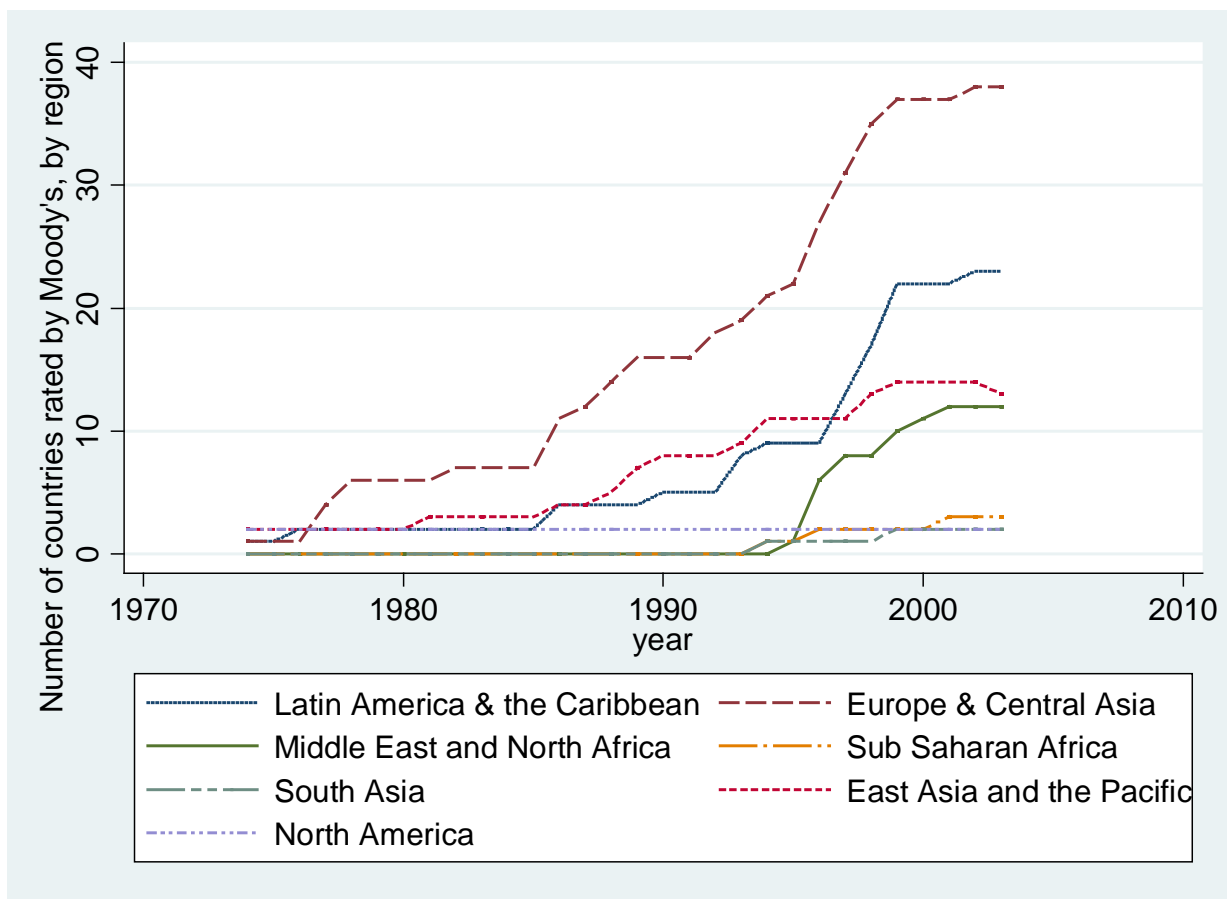
### Tables and Figures:

Figure 2.1: Number of countries rated by each agency, and total number of countries rated by any of the 3 agencies



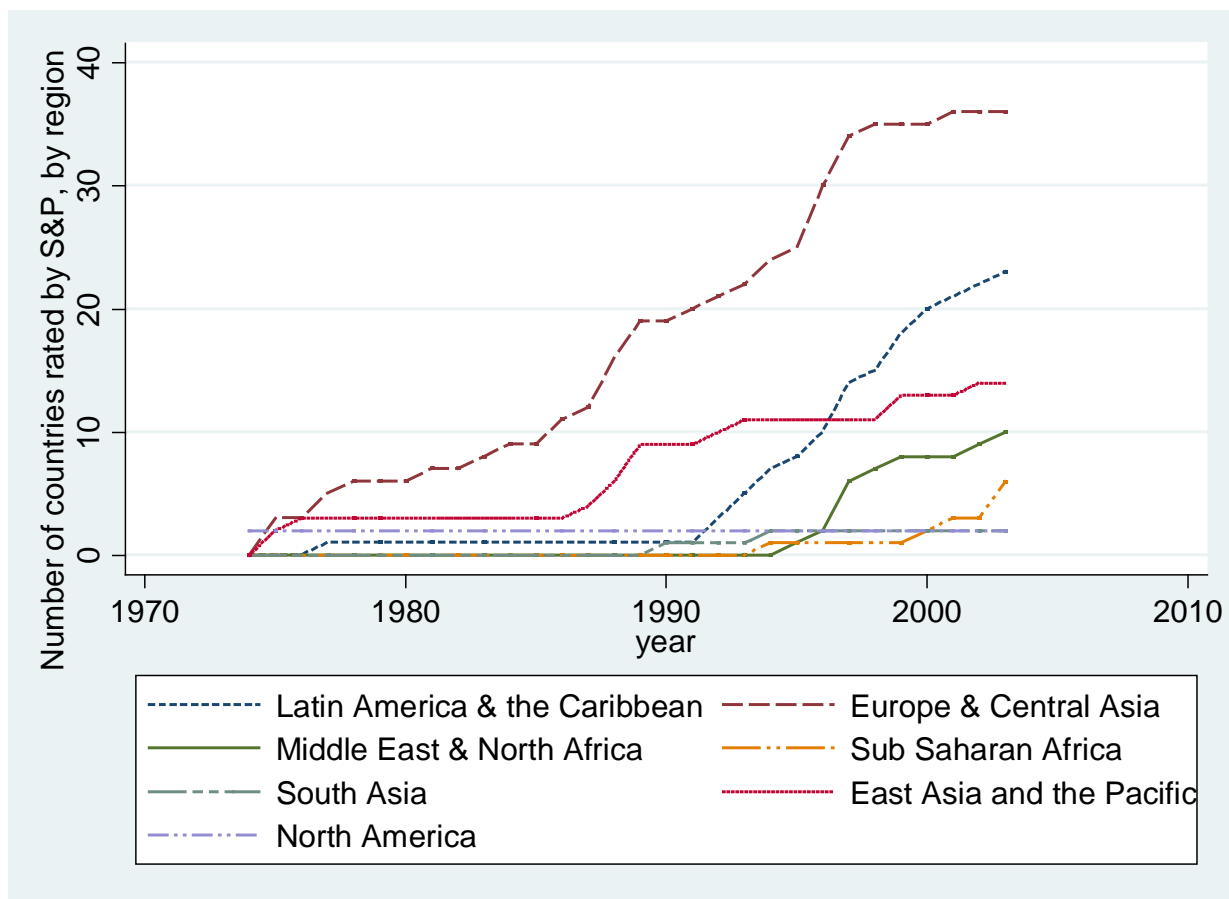
Sources: (Fitch Ratings 2006; Moody's Investor Services 2008; Standard & Poor's 2007)

Figure 2.2: Number of countries rated by Moody's; regional breakdown.



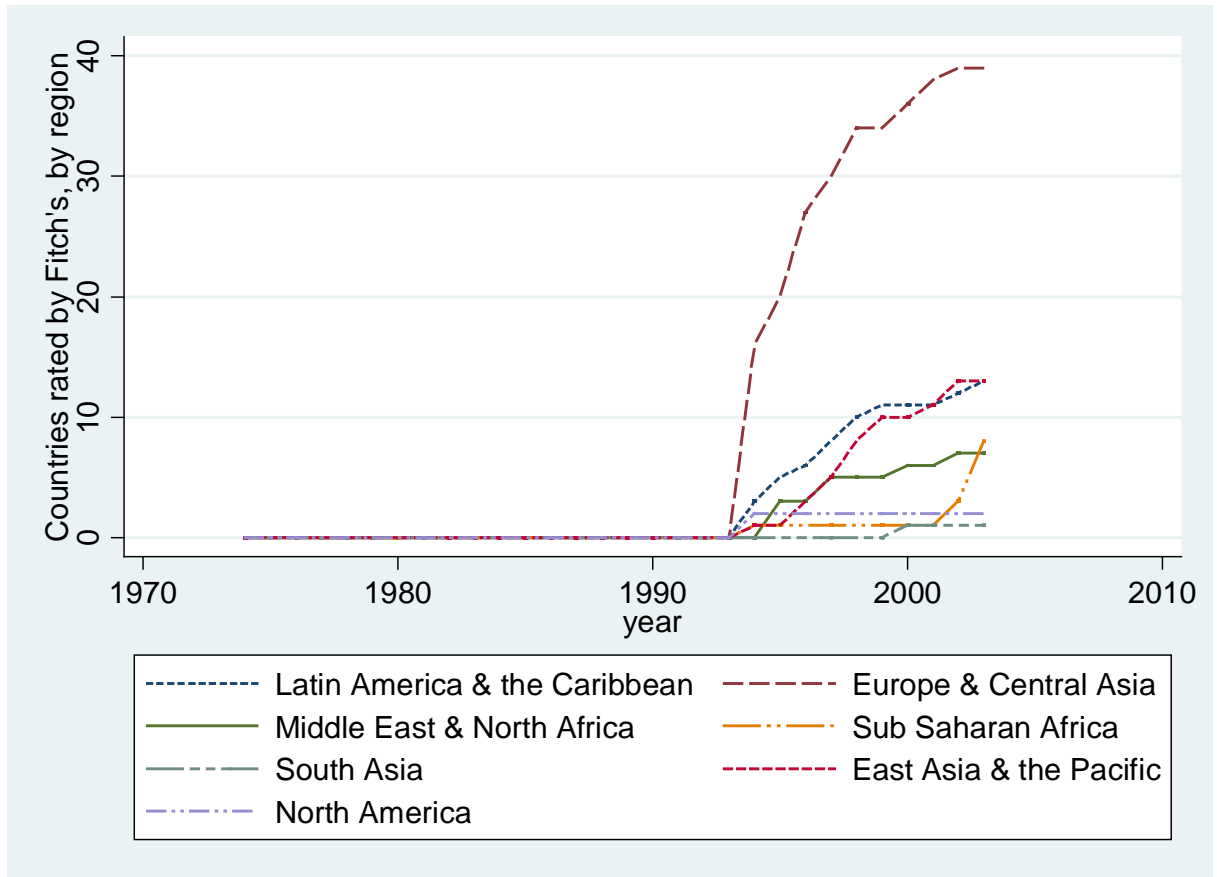
Source: (Moody's Investor Services 2008)

Figure 2.3: Number of Countries rated by Standard &amp; Poor's; by region



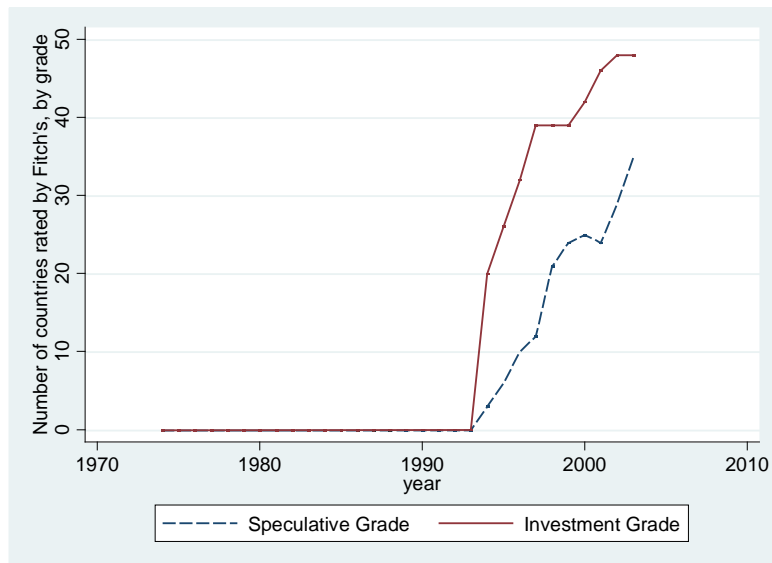
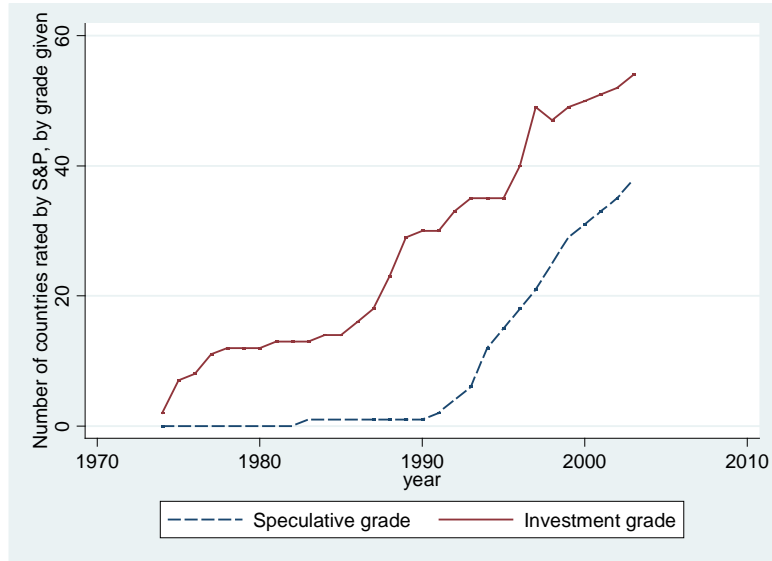
Source: (Standard & Poor's 2007)

Figure 2.4: Number of Countries rated by Fitch Ratings; by region

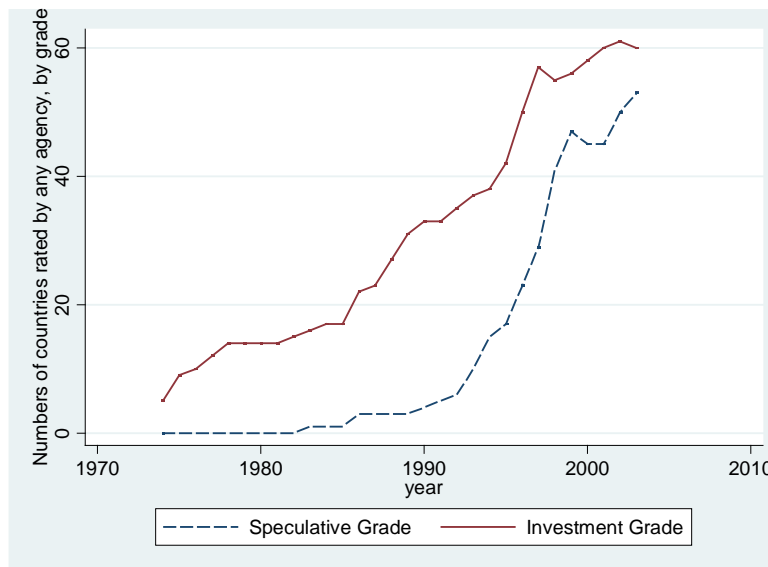
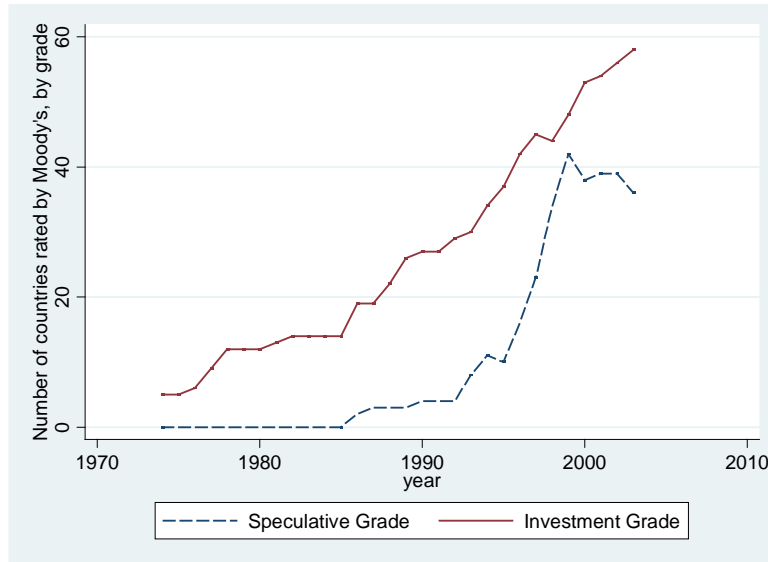


Source: (Fitch Ratings 2006)

Figure 2.5: Number of countries rated speculative grade and investment grade, by agency and overall







Source: (Fitch Ratings 2006; Moody's Investor Services 2008; Standard & Poor's

2007)

Table 2.1: Rating Scales for each of the Big Three CRAs and their numerical conversion

S&P		Fitch		Moody's				
AAA	23	AAA		24 Aaa	21			
AA+	22	AA+		23 Aa1	20			
AA	21	AA		22 Aa2	19			
AA-	20	AA-		21 Aa3	18			
A+	19	A+		20 A1	17			
A	18	A		19 A2	16			
A-	17	A-		18 A3	15			
BBB+	16	BBB+		17 Baa1	14			
BBB	15	BBB		16 Baa2	13			
BBB-	14	BBB-		15 Baa3	12			
BB+	13	BB+		14 Ba1	11			
BB	12	BB		13 Ba2	10			
BB-	11	BB-		12 Ba3	9			
B+	10	B+		11 B1	8			
B	9	B		10 B2	7			
B-	8	B-		9 B3	6			
CCC+	7	CCC+		8 Caa1	5			
CCC	6	CCC		7 Caa2	4			
CCC-	5	CCC-		6 Caa3	3			
CC	4	CC		5 Ca	2			
C	3	C		4 C	1			
D	2	DDD		3				
SD	1	DD		2				
		D		1				

Investment  
gradeSpeculative  
grade

Table 2.2: Results for Moody's hazard models

	(1)	(2)	(3)
	md1	md2	md3
VARIABLES	_t	_t	_t
Interest rate Spread	0.164*** (0.0276)		0.104** (0.0421)
LIBOR	0.481*** (0.0349)		0.266*** (0.0851)
# of countries ever rated	-0.0243*** (0.00708)		-0.0256*** (0.00731)
Accuracy Measure	-4.668*** (1.285)		-3.377*** (1.166)
First Rating Investment Grade	1.152*** (0.227)		0.560** (0.260)
Mean difference in ratings to other agencies	0.716*** (0.168)		2.403*** (0.634)
Checks		0.00513 (0.0516)	0.0171 (0.0460)
Democracy		0.00618 (0.00575)	0.00354 (0.00588)
Portfolio Investment		5.689 (7.882)	6.950 (7.589)
Domestic Credit Market Strength		0.00575** (0.00230)	0.00404 (0.00248)
Trading Partners Rated by Agency		2.815***	3.204***

		(0.357)	(0.715)
BIS membership		-0.374	-0.134
		(0.295)	(0.296)
IMF membership		31.70***	20.42***
		(1.034)	(1.022)
World Bank Membership		-1.342***	-0.893*
		(0.456)	(0.500)
ln(INGO)		0.806***	0.459*
		(0.234)	(0.269)
ln(GDP per capita)	0.166	0.230	0.0945
	(0.136)	(0.160)	(0.155)
ln (inflation)	-0.186***	-0.223***	-0.164***
	(0.0438)	(0.0408)	(0.0486)
External debt as % of exports	-0.000447	-0.000331	-0.000727
	(0.000397)	(0.000575)	(0.000692)
Cumulative years in default	-0.0561**	-0.0716**	-0.0624*
	(0.0235)	(0.0341)	(0.0360)
Observations	2,745	2,181	2,181

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Robust standard errors in parentheses

\*\*\* p<0.01, \*\* p<0.05, \* p<0.1

Table 2.3: Results for Standard & Poor's hazard models:

	(1)	(2)	(3)
	sp1	sp2	sp3
VARIABLES	_t	_t	_t

---

Interest rate Spread	0.187*** (0.0251)	0.162*** (0.0325)
LIBOR	0.460*** (0.0415)	0.123 (0.101)
# of countries ever rated	-0.0191*** (0.00632)	-0.0281*** (0.00673)
Accuracy Measure	-4.482*** (0.658)	-2.893*** (0.651)
First Rating Investment Grade	1.403*** (0.185)	0.869*** (0.262)
Mean difference in Ratings to other agencies	-0.0639 (0.270)	-0.128 (0.309)
Checks		0.00466 (0.0380)
		-0.00779 (0.0305)
Democracy		0.0101 (0.00764)
		0.00906 (0.00986)
Portfolio Investment		6.471 (7.504)
		7.038 (8.354)
Domestic Credit Market Strength	0.00680*** (0.00223)	0.00609** (0.00251)
Trading Partners Rated	3.181*** (0.401)	3.024*** (0.646)
BIS membership	-0.453* (0.264)	-0.0992 (0.215)
IMF membership	1.847*** (0.192)	1.323*** (0.222)
World Bank Membership		-0.166 0.203

		(0.303)	(0.337)
ln(INGO)		1.090***	0.340
		(0.272)	(0.265)
ln(GDP per capita)	0.0422	0.0376	-0.0957
	(0.115)	(0.157)	(0.147)
ln (inflation)	-0.229***	-0.230***	-0.237***
	(0.0588)	(0.0556)	(0.0647)
External debt as % of exports	-0.000427	-0.000579	-0.000603
	(0.000428)	(0.000556)	(0.000563)
Cumulative years in default	-0.00794	-0.0385*	0.00126
	(0.0236)	(0.0199)	(0.0239)
Observations	2,745	2,181	2,181

---

Robust standard errors in

parentheses

\*\*\* p<0.01, \*\* p<0.05, \* p<0.1

Table 2.4: Results for Fitch Ratings hazard models:

	(1)	(2)	(3)
	ft1	ft2	ft3
VARIABLES	_t	_t	_t
Interest rate Spread	0.164***		0.133***
	(0.0280)		(0.0354)
LIBOR	0.461***		0.0324
	(0.0489)		(0.0758)
# of countries ever rated	-0.0126		-0.0165*
	(0.00773)		(0.00904)

Accuracy Measure	-6.843***		-6.430***
	(0.979)		(1.257)
First Rating Investment Grade	1.170***		0.862***
	(0.187)		(0.184)
Mean difference in Ratings to other agencies	-0.378		-0.103
	(0.403)		(0.542)
Checks		-0.0376	-0.0150
		(0.0460)	(0.0398)
Democracy		0.00329	0.00206
		(0.00747)	(0.00787)
Portfolio Investment		5.684	13.58
		(11.09)	(9.327)
Domestic Credit Market Strength		0.00388	0.00484**
		(0.00240)	(0.00209)
Trading Partners Rated		3.869***	3.601***
		(0.488)	(0.672)
BIS membership		0.260	0.721***
		(0.245)	(0.231)
IMF membership		1.144***	0.710***
		(0.229)	(0.226)
World Bank Membership		-0.916**	-0.324
		(0.402)	(0.529)
ln(INGO)		0.891***	0.285
		(0.332)	(0.364)
ln(GDP per capita)	0.180	0.122	0.0566
	(0.132)	(0.140)	(0.125)
ln (inflation)	-0.279	-0.154	-0.116

	(0.209)	(0.193)	(0.139)
External debt as % of exports	-0.000766	-0.000239	-0.000702
	(0.000651)	(0.000531)	(0.000603)
Cumulative years in default	-0.00445	-0.0528**	-0.0200
	(0.0265)	(0.0214)	(0.0235)
Observations	1,177	899	899

---

Robust standard errors in

parentheses

\*\*\* p<0.01, \*\* p<0.05, \* p<0.1

Table 2.5: Results for hazard models regarding being rated by any agency

	(1)	(2)	(3)
	total1	total2	total3
VARIABLES	_t	_t	_t
Interest rate Spread	0.108***		0.0592**
	(0.0225)		(0.0277)
LIBOR	0.295***		0.0188
	(0.0356)		(0.0599)
# of countries ever rated	0.00670		0.0152
	(0.00801)		(0.0115)
Accuracy Measure	-7.271***		-6.630***
	(0.552)		(0.628)
First Rating Investment Grade	1.218***		0.620***
	(0.181)		(0.166)
Mean Ratings	1.282***		1.815***
	(0.177)		(0.257)



Checks		0.0109	-0.00921
		(0.0385)	(0.0283)
Democracy		0.0100	0.00764
		(0.00670)	(0.00776)
Portfolio Investment		6.146	3.692
		(7.649)	(7.078)
Domestic Credit Market Strength		0.00543**	0.00381*
		(0.00215)	(0.00219)
Trading Partners Rated		2.937***	3.043***
		(0.352)	(0.509)
BIS membership		-0.402	-0.0187
		(0.249)	(0.172)
IMF membership		2.112***	1.675***
		(0.180)	(0.171)
World Bank Membership		-1.100**	-0.693
		(0.428)	(0.435)
ln(INGO)		0.695***	0.397**
		(0.198)	(0.193)
ln(GDP per capita)	0.0801	0.0889	0.0129
	(0.125)	(0.140)	(0.130)
ln (inflation)	-0.177***	-0.228***	-0.145***
	(0.0395)	(0.0427)	(0.0472)
External debt as % of exports	-0.000476	-0.000564	-0.000698
	(0.000425)	(0.000541)	(0.000608)
Cumulative years in default	-0.0304*	-0.0619**	-0.0363
	(0.0182)	(0.0266)	(0.0227)
Observations	2,745	2,181	2,181

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Robust standard errors in

parentheses

\*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.1$

Table 2.6: Mean difference in rating for the 3 agencies when the same nation is rated by all available agencies:

Variable	Mean	Std. Dev.	Min	Max
Moody's	-2.21759	0.943011	-7	-1.14286
S&P	1.405084	0.803874	0.248032	3.5
Fitch	2.062507	0.457278	1.383333	3.5

## APPENDIX A

Table A.1: Basic descriptive statistics:

Variable	Mean	Std. Dev.	Min	Max
Ever Rated by Moody's	0.211829	0.408698	0	1
Ever Rated by S&P	0.204493	0.403423	0	1
Ever Rated by Fitch's	0.133884	0.340605	0	1
Ever Rated by Any	0.252178	0.434362	0	1
Checks and balances	2.414947	1.684723	1	18
Democracy	0.711142	16.80119	-88	10
Portfolio Investment	0.000792	0.004281	-0.0458	0.067584
Domestic Credit/GDP	26.83258	24.11395	0.557351	210.4178
Trading Partners Rated	0.347955	0.382896	0	0.985944
BIS membership	0.075653	0.264503	0	1
IMF membership	0.986245	0.1165	0	1
World Bank Membership	0.973865	0.159573	0	1
ln(INGO)	5.935224	0.822261	0	7.807999
ln (GDP per Capita)	6.690328	0.99244	4.449002	9.021678
ln (inflation	3.677291	3.438787	-23.0814	18.88024
External Debt as % of Exports	286.3924	400.5369	0	4224.243
Total number of years in Default	2.688675	4.725861	0	26
irspread2	0.485266	3.00332	-14.87	13.61
LIBOR	6.816887	3.604693	1.22	16.87
Total Number of Countries rated by any	53.94865	36.60889	4	118

Total rated by S&P	45.69326	30.68608	4	100
Total rated by Moodys	46.2265	31.90965	3	96
Total rated by Fitch's	27.50344	33.51331	0	92
Overall accuracy	-0.1553	0.146424	-0.55265	0
Moody's accuracy	-0.29112	0.307841	0	-1.04
S&P Accuracy	-0.08903	0.13984	0	-0.50725
Fitch's accuracy	-0.08576	0.154479	0	-0.56863
Investment grade (non time varying)	0.211371	0.408375	0	1
Moody's difference from mean	-2.08631	0.45151	-7	-1.14286
S&P Difference from Mean	1.262961	0.734952	0.248032	3.5
Fitch's Difference from Mean	1.997479	0.128276	1.383333	3.5

### **Chapter 3 – The Determinants of Country Risk Rating in Latin America**

The last chapter was about what determined the timing of the spread of risk ratings, where I established that there are factors that go beyond the merely economic driving the expansion of the business of rating sovereign risk. But even if we accept that institutional factors shape the diffusion of these risk ratings, that still does not say anything about their impact on policy. This chapter is concerned precisely with the relationship between sovereign risk ratings and policy. In particular, I am concerned with the impact these ratings have on the spread of certain policy forms across the globe. Policy and political factors are at the heart of sovereign risk ratings. In fact, all three agencies use that as a selling point for their ratings (Beers and Cavanaugh 2006; Fitch Ratings 2002; Moody's Investor Service 1999; 2006). One of their claims is that their experts and their inclusion of “qualitative” information in their ratings process allows them to be forward looking and identify potential risky situations that the nuts and bolts of data analysis cannot. And yet, the impact that these ratings have on policy remains underanalyzed (Elkhoury 2007).

Not that scholars have not tried to understand just what determines sovereign ratings. But to the extent that they have, they have treated them as a mostly economic variable, with little if any political implications. There is a vast literature that attempts precisely to pinpoint what factors affect them (Afonso 2003; Cantor and Packer 1996; Eichengreen and Mody 1998; Flandreau, Gaillard, and Packer 2009; Haque, Kumar, Mark, and Mathieson 1996; Haque, Mark, and Mathieson 1998; Jüttner and McCarthy 2000; Reisen and Von Maltzan 1999), but it rarely, if ever, focuses on policy and political

issues. The few exceptions to this can be found in the work of Glen Biglaiser and colleagues (Archer, Biglaiser, and DeRouen 2007; Biglaiser, Hicks, and Huggins 2007; Biglaiser and DeRouen 2007) and, for a more historical account, the work of Sinclair (2005). The existing literature focuses on a limited number of economic variables that have been found to impact sovereign risk ratings: GDP per capita, GDP growth, inflation, foreign exchange reserves, current account balance and a history of default. Surprisingly enough, levels of indebtedness have been found to have little or no impact in most studies. In the studies that measure policy impact, the key finding is that the adoption of neoliberal reforms regarding international trade have a significant and positive impact on sovereign ratings, but no other type of neoliberal reform has a significant positive impact on ratings (Biglaiser and DeRouen 2007).

This chapter seeks to expand on research on the impact of policy on ratings (and vice versa) by adding three new factors on the sorts of analyses that have already been done. The first, and most important, is that beyond estimating the impact of policy adoption on the ratings, I will also estimate the determinants of the likelihood of a nation defaulting on its debt. That is, the fact that the adoption of different economic policies might have an impact on sovereign risk ratings by itself does not indicate that they promote any sort of policy diffusion. After all, if the policies themselves have a measurable impact on the likelihood of a nation defaulting on its debt, it is to be expected that these agencies would accurately reflect that. However, if these policies have no measurable effect on that likelihood, then the possibility that the ratings are a part of a larger struggle in a political arena, one where they capture and become measuring sticks

of acceptance of certain ideas, gains credence. So the last section in this chapter contains an estimation of the determinants of sovereign default.

The second and third innovations are more methodological in nature. Sample selection bias in analyzing the credit ratings industry is a real possibility, as the last chapter has led us to believe. That is, if the ratings are related to policy, getting rated might also be related to policy. Yet that is something that the research on sovereign risk ratings has ignored for the most part. Studies on corporate ratings have dealt with this (Cantor and Packer 1997) in the past, but to our knowledge no paper on the determinants of sovereign risk include this possibility in the methodological choices. On top of dealing with sample selection issues, I will also deal with problems that arise from the significant colinearity (see appendix) of policy measures by creating one general index of the adoption of neoliberal policies. As we will see below, once I take care of that a greater number of neoliberal policy adoptions have a positive impact on sovereign risk ratings.

Finally, as I will discuss in a subsection below, our focus here is on developing nations. More precisely, I will focus on Latin America, as a number of studies on the spread of neoliberalism have done in the past (Babb 2005; Dezalay and Garth 2002; Fourcade-Gourinchas and Babb 2002). The chapter is organized in the following manner: in the next subsection, I discuss the theoretical underpinnings of the analysis I conduct here; following that, I explain why I focus on Latin America, and why that is important and significant; I then describe the measures used in this chapter, and the methods I use in estimating the likelihood of a nation being rated (therefore entering our sample), the determinants of sovereign risk ratings, and the determinants of a nation's likelihood of default; I then discuss our findings.

### **Theoretical Background**

Of three views we have discussed so far in this dissertation, the reputational view and the regulatory license view have different expectations as to the relationship between the ratings and economic policies adopted by the nations rated than the institutional view. The reputational view of the determinants of sovereign risk ratings is straightforward: the only things that systematically affect what ratings are given to nations are things that systematically affect the likelihood of a nation defaulting. Anything that in the long term does not impact defaults should not affect risk ratings, as that would be a source of bias that would reduce the informational value of those ratings. The consequences of having irrelevant variables influence ratings would be the eventual irrelevance of the credit rating agencies (CRAs). If there is a systematic bias (in the sense of affecting the specific letter grade being given) in the ratings that “fools” some of the investors who make use of those ratings, more rational investors would be able to take advantage of that, striking deals that over time have great costs to those fooled by the biased ratings. This would drive the “fools” out of business and lead to a complete loss of reputation, and relevance, for those agencies that have those biases.

The regulatory view not only accepts the possibility of biases, but also predicts them. As discussed previously, the regulatory license view expects CRAs to have a systematic positive bias for all nations. But in concrete terms, this bias should only be “visible” in the constant term of whatever model equation predicts those ratings. Because the regulatory license view is silent as to what drives the specific ratings themselves, and for the most part operates within the same analytical framework of the reputational



capital view, I would expect that even if agencies underestimate the risk of a default (which is difficult, if not impossible, to ascertain, as the ratings themselves carry no numerical value or probabilistic distribution), they would still be consistent in terms of the ordinal rankings of the ratings. As overrated as a nation might be, a lower ranked nation still would be more likely to default than a higher ranked one. Because of this consistency between theories when it comes to the ordinal ranking themselves, I posit the two following hypothesis as applying to both theories:

*Hypothesis 1- The factors that significantly impact sovereign risk ratings should also significantly impact the likelihood that a nation will default on its debt.*

*Hypothesis 2- Nations rated higher should consistently be less likely to default on their debt than lower rated nations.*

The new institutional perspective on sovereign risk, on the other hand, would predict a very different set of results from an analysis of what drives those ratings. To understand the new institutional perspective, we must go back to the Knightian distinction between risk and uncertainty. As I discussed in the introduction, the standard neoclassical theoretical apparatus denies a distinction between (quantifiable and probabilistic) risk and (unquantifiable) uncertainty. New institutionalism focuses on uncertainty, and emphasizes how the reduction of uncertainty into risk depends on certain mental schema or frameworks (Blyth 2002; Douglas and Wildavsky 1982; Heap 1986; Sinclair 2005). That is, as Heap (1986 pg 268-9) puts it, "... uncertainty has an architecture which is drawn from the institutions of society... Expectations under uncertainty are patterned by and vary with the choice of social institution." So each

institutionalized “policy paradigm” (Hall 1993) has its own prescriptions about how to measure performance and how to deal with uncertainty.

In our case, that paradigm results the policies of the so-called “Washington Consensus.” This has already been discussed at length in the introduction, but to review it here, it refers to a set of policies that posit that the most efficient way to deal with markets is to provide stability and the protection and enforcement of contracts and property rights (Babb 2005; Fourcade-Gourinchas and Babb 2002). Any “activist” policy where the state tries to “nudge” the market in any direction might have short term benefits, but as investors become confused about what are “real” shifts in demand and what are short term changes in market conditions, they will decide to invest less, leading to an overall decrease in well being. The paradigm, then, values deregulation and the adoption of other pro market policies, including the easing of restrictions and taxation on the movement of capital across national boundaries, the elimination of hard rules regarding interest rate and deposit requirements for banks, privatization of private enterprises and financial institutions, and the elimination or reduction of trade barriers, both in terms of tariffs and qualitative restrictions.

In the new institutionalist perspective, whether or not these policies are efficient in achieving their goals is less important in their maintenance than whether they conform to the myths and mental frameworks that create a narrative that explains their purpose and grant them legitimacy (Meyer and Rowan 1977). As with scientific paradigms (Kuhn 1962), policy paradigms are very robust to “anomalies.” There is a sort of corollary to the Duhem-Quine thesis that applies to economic ideas (Cohen 2010): just as it is hard to disprove a theory empirically because every test is also a test of the methods and data

used, it is also hard to disprove a policy prescription because every failure also involves a myriad of factors beyond just the policy in question itself. This leads us to the following hypothesis:

*Hypothesis 3: The adoption of policies consistent with the existing neoliberal paradigm will lead to more positive evaluations by CRAs even when the adoption of these policies do not lead to a reduced likelihood of default.*

That is, CRAs will consistently rate nations that adopt neoliberal policies higher even when there is no evidence that the adoption of these policies lead to a reduced chance of a nation defaulting on its debt. The point is not to argue that these ratings are false or wrong, or that they are inherently manipulated. The point is to show that, much like scientific paradigms, policy paradigms provide the roadmap that actors use to evaluate the paradigm itself. This reverts to the distinction discussed in earlier chapters between uncertainty and risk. As the reputational capital and the regulatory license views still operate within a neoclassical view, they reduce the issue to one of risk, where incorrect predictions are damaging to agencies, which either disappear or are protected by regulations. Meanwhile, as the institutional view not only accepts, but embraces the distinction between uncertainty and risk, with agencies turning to the existing, legitimized paradigm in moments of crises where risk assessment becomes difficult.

### **Why Latin America?**

In this chapter I focus on the CRA issued sovereign ratings for Latin America. The region has been the subject of significant academic (Babb 2005; Biglaiser and DeRouen 2007; Dezalay and Garth 2002; Fourcade-Gourinchas and Babb 2002;

Harberger 1996; Martinez and Santiso 2003; Montecinos 1996; Simmons and Elkins 2004). The main reasons for this sort of attention are the relative fast shift from an established policy paradigm (in this case, Import Substitution Industrialization, or ISI) to a new one (the Neoliberal paradigm); a long history of economic crises and political shifts; and the availability of data necessary to perform statistical analyses. On top of that, for our own particular purposes it is also an important region due to large number of defaults that have taken place there. It is one of the most widely covered regions by the CRAs. And, methodologically, it serves as a way of controlling for internal agency issues, as many have noted that agencies have their own sorts of regional biases given that it is not uncommon for analysts to specialize in particular regions (House 1995).

For a very long period, most Latin American nations adopted Import Substitution Industrialization as a development strategy (Baer 1972). Import Substitution Industrialization posits that greater protectionism in international trade is desirable as a way of promoting domestic industries and generating self-sustaining long-term growth. It is a paradigm that has at its basis the so called Prebisch-Singer thesis (Sapsford, Sarkar, and Singer 1992). That thesis posits that, in the long run, growing global inequality can be explained by the declining terms of trade of primary products. That is, nations that specialize in the export of agricultural or mineral commodities are bound to stagnate in the long run, as there is a tendency for these commodities to decline in price relative to manufactured goods. Consumption of cars, computers and so on would increase more, given a certain increase in global income, than the consumption of food and other primary goods. Import Substitution then was adopted as a way of protecting and giving additional incentives for national industries in certain strategic sectors. And for a very

long time this strategy seemed very successful: from 1960 to 1980, Latin America as a region averaged a Gross Domestic Product real growth rate of over 5.5% a year (World Bank 2010b).

The external debt crisis of the early 1980s, however, led to an accelerated change in policies that saw Latin America become one of the most liberalized regions on earth. Though global measures of neoliberal policy adoption are somewhat limited in scope, if we look at existing measures of adoption of policies prescribed by the neoliberal paradigm it is striking how quickly Latin America underwent changes to its economic policies. Figure 3.1 shows how Latin America has fared in comparison to the rest of the world when we look at Abiad's index of financial deregulation and reform (Abiad, Detragiache, and Tressel 2010) and Chinn and Ito's measure of capital account liberalization (Chinn and Ito 2008)<sup>15</sup>.

According to both measures, Latin America went from being one of the least liberalized regions on earth to one of the most in the span of two decades. In terms of financial deregulation, it surpassed East Asia and the Pacific in the mid 2000s, staying behind only Europe and Central Asia and the nations of North America. This sort of extreme variation makes it an interesting subject of study, and if we are trying to look at the impacts of policy adoption on ratings, it is a prime target for analysis.

On top of being the region that liberalized the most over the period in question, there is another aspect that sets it aside from other regions: despite receiving mostly speculative grade ratings, it is still one of the most widely covered areas on the planet.

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<sup>15</sup> The differences between the two sets of data will be discussed below, but for now it is important to note that Abiad et al's data also include ( a number of measures on the deregulation and privatization of domestic financial and credit markets, while Chinn and Ito's focus more exclusively on capital account (that is, transnational) regulations.

For all the support that the regulatory license view received in the last chapter, it cannot explain why so many Latin American nations would be willing to be rated speculative grade. Figure 3.2 shows the number of nations receiving a speculative grade rating, per region.

As we can see, almost half of all nations rated speculative grade are in Latin America. Given that our interests here are on the impact of sovereign risk ratings on the diffusion of certain types of policies, it makes sense to focus on the region that has experienced the biggest shift in policies while also presenting itself as one of the biggest puzzles regarding the diffusion of the ratings.

Finally, defaults are relatively rare events, which makes attempts to verify the accuracy of ratings that try to predict them difficult. Therefore, it makes sense to focus on Latin America, since, as Table 3.2 shows, the vast majority of default events<sup>16</sup> by rated nations have taken place in that region:

So while the East Asian financial crisis brought renewed attention to the issue of sovereign ratings, and is usually mentioned whenever people criticize CRAs (Partnoy 1999), that crisis only involved one default by a rated nation, Indonesia. And though that was significant, as just the year before Indonesia had been rated investment grade, it is not the highest rated nation to ever default. The highest rated nations ever to default are all in Latin America, with Venezuela defaulting on its debt in 1983 after receiving a Aaa rating in 1976 and a Aa in 1983 rating from Moody's, and Panama, which had been rated Aa slightly more than 7 years before its 1986 default. As such, the region contains both

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<sup>16</sup> We are talking about events because a nation can remain in default for several years, so we distinguish the two references to default by talking about default events (with each event possibly taking place over a number of years) and default years (total number of years in default).

enough variation in terms of policy and in terms of default history to be able to analyze the relationship between both and the sovereign ratings assigned to them.

While it is unclear just how representative what happens in Latin America is for all developing nations, there are also significant methodological reasons to focus on the region. First and foremost, many observers of CRA have discussed how different agencies have different regional biases (Elkhoury 2007; House 1995; Hunt 2008; The Economist 1993; 1996). This is not surprising, given that there is a degree of regional specialization within the agencies themselves, and that the outside analysts and experts they usually confer with are also associated with particular regions. As such, by focusing on one specific region I am able to control this sort of unobservable issues.

Additionally, there is a matter of data availability and consistency. While most of the macroeconomic data are available for a larger sample, measures of policy and policy adoption are harder to come by for a global sample. Two exceptions are the data collected by Abiad et al. and Chinn and Ito (Abiad, Detragiache, and Tressel 2010; Chinn and Ito 2008), but for the most part policy variables have been constructed on a region by region basis. In this case, Latin America has been well covered by scholars willing to code policy adoption measures (Lora 2001; Morley, Machado, and Pettinato 1999). These data provide ample coverage for the region and allows me to explore more aspects of neoliberal reforms than focusing on the data available for all nations alone could.

### **Methods and Data**

There are three distinct analyses in this chapter, each using its own methodological tools. Our first step here is to estimate the timing of the coverage of each

nation by CRAs and their ratings. Like in the second chapter I use Cox proportional hazard models (Box-Steffensmeier and Jones 2004), with some minor differences in the variables used. Most notably, I include a variable on the adoption of Neoliberal policies in this model<sup>17</sup>. The main reason for why I do this analysis here is to control for sample selection bias. Once I have the estimates from this model I can obtain an Inverse Mills Ratio that serves as a selection instrument in the outcome models, as Heckman suggests (Heckman 1979).

The outcome models here are the ones where I estimate the determinants of sovereign risk ratings. Here I use the Beck and Katz method of least squares with panel corrected standard errors (Beck and Katz 1995) which have become so widely accepted in the social sciences, as it corrects the violations to the standard OLS model regarding panel data and the different error structures by nation. And while the models I will present here include just the numerical transformation of the ratings themselves as the dependent variable, our results are consistent when I use the first difference of the ratings as a dependent variable and when I use the natural log of the ratings variable itself.

Our last set of models presented in this chapter estimate the determinants of the likelihood that a nation will default on its debt. Here I use logit models with fixed effects, though our results are consistent when use probit or other similar models. In the next subsection I will describe the variables I use in each of these models.

### *Dependent Variables*

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<sup>17</sup> The measure we use is the result of a number of indexes, as we will discuss below. While data availability makes it impossible to replicate this variable for a global sample, an alternative variable we created using the limited data available was not significant in the global sample and therefore not included in the previous chapter.



Because I have three sorts of models here, I have three sorts of dependent variables. The variable for the selection model is straightforward: a binary variable indicating whether or not a particular nation has been rated by a particular agency (or, in case of the overall model for all agencies, rated by any agency). For the outcome models on the determinants of the ratings themselves, I use the same numerical transformation employed in the previous chapter, here presented again in Table 3.2.

While in our results I present the models that use the numerical values above to make interpretation straightforward, I also conducted models using the first differences of the ratings and a natural log transformation of the ratings, and they were all consistent with the results presented here.

Finally, for our last set of models I use Detragiache et al.'s conceptualization of default (Detragiache and Spilimbergo 2001): nations with more than 5% of their external debt in arrears for a particular year or when a nation reschedules its total external debt. This conceptualization has the advantage of capturing de facto defaults where the nation has stopped payments on a significant amount of its debt even if it has not officially declared a default or entered in an agreement to reschedule or defer payment on its total debt. Other definitions of default exist (see De Paoli, Hoggarth, Street, and Street 2006), but this one is both widely cited and more straightforward to construct. In order to construct this variable, I used data on external debt, especially on principal and interest in arrears, from the World Bank's Global Development Finance (World Bank 2010a). On top of using data on external debt in arrears, I also use data on defaults and rescheduling of total external debt from Standard & Poors (Beers and Chambers 2004). I use two different variables in our models: one which includes every single default year coded as

1, and one that only codes the first year that a nation enters into default. I do so because “predicting” the second year of a default can potentially be different from predicting the first year of a default.

### *Independent Variables*

Our macroeconomic variables come from two sources, the World Bank’s Global Development Finance and World Development Indicators (World Bank 2010a; 2010b). GDP per capita and GDP growth are indicators of a nation’s ability to produce resources, with richer nations able to repay debt more easily. Inflation increases uncertainty and points to the possibility that a government is repaying debt by printing money. I also use reserves as a percentage of exports and external debt as a percentage of Gross National Income to measure a nation’s indebtedness and foreign currency availability. Trade is also included, as is the current account balance (exports minus imports as a percentage of GDP). Current account deficits can lead to pressures on exchange rates and therefore pressures on the debt that is indexed in foreign currency. I also use portfolio investment as a share of GDP to measure foreign investment in a nation. Finally, I also included a measure of how much of a nation’s debt is due to be repaid in the short term.

Our political variables come from the World Bank’s Database of Political Institutions. I used a binary variable that codes for a left wing executive, as well as a democracy dummy. Also, in accordance with the existing literature on sovereign ratings, I included a measure of how many years the current executive leader has been in office. The reason for that is that leaders with a longer “track record” should face lower uncertainty from markets.

Our key variables here, however, are the ones that measure the adoption of neoliberal policy. No single dataset is perfect, so I used information from three distinct sources: Morley et al. (1999), Abiad et al. (2010) and Chinn and Ito (2008). Morley et al provide several indexes of the adoption of neoliberal reforms. They include trade, financial reform, capital account liberalization, privatization and tax reform. Here I use two of those indexes: trade reform and privatization. Their trade reform measure is formed by two components: tariff dispersion and average tariffs. As the authors recognize, this measure has a shortcoming in that it does not include non tariff barriers, but information for those is limited, and since this sort of limitation also applies to other existing indexes (eg Lora 2001). Their measure of privatization is “one minus the ratio of value-added in state owned enterprises to non-agricultural GDP.” In other words, their index measures how much of non-agricultural GDP comes from non-state owned enterprises. It is a superior measure to that used by Lora (2001) and others in that the latter authors use the total amount a nation state has earned in their privatization process, which is potentially misleading in cases where nations had few state owned enterprises to begin with. Morley et al.’s index originally only covered until 1995, but those indexes have since been updated until 2003 by Biglaiser et al. (Biglaiser and DeRouen 2007).

With regards to capital account liberalization, however, I decided to use Chinn and Ito’s index. Chinn and Ito’s index has been widely used in the literature, has a more extensive coverage in terms of years and nations, and, more importantly, is more comprehensive in terms of the information it uses than Morley et al.’s capital account liberalization. While both use *de jure* information on capital account controls, Chinn and Ito include information on the existence of multiple exchange rates, which is not included

in Morley's et al index. This is an important factor on capital account regulations, as one of the main ways ISI regulated international monetary flows was through the different exchange rates depending on the transaction.

With regards to regulation of domestic financial markets, I use components from Abiad et al.'s financial reform dataset. Abiad et al.'s dataset contains more detailed variables on several different components of regulation and privatization of domestic credit markets. Morley et al.'s index of domestic financial reform only includes information on the regulations on borrowing and lending rates and the deposits to assets ratio. I prefer to use two different variables from Abiad et al.'s dataset. The first is an index of regulations regarding credit controls and reserve requirements (higher values means more liberalized). This is in many ways similar to Morley et al.'s variable. The second index I use is an index that reflects the existence and importance of state owned commercial banks. This is the main reason I chose Abiad's dataset to account for domestic financial reform, as even in the absence of regulations states still play a major role in credit markets in nations where it owns major commercial banks. This index is constructed in such a way that higher values indicate that state owned banks have a smaller market share, if any at all.

Finally, because all these indexes are highly correlated, I have also created a single index to reflect overall adoption of neoliberal policies. I obtained the principal component factor of these indexes discussed above through a factor analysis and called it a Neoliberalism Index. As I will show, one of the reasons the existing literature finds that only trade liberalization affects sovereign ratings is that the correlation between all these

indexes makes it so that by including them all at once the multicollinearity makes a few of them seem insignificant.

### **Results for the Selection Equations:**

Table 3.3 contains the results for our model selection equations. That is, they contain the results of the models that measure the timing of the ratings specifically to Latin America.

It differs from the one presented in the previous chapter in several important ways. First, I dropped the variable regarding investment grade ratings because only two nations in the region ever started out with an investment grade rating, Panama and Venezuela. Second, I also dropped the IGO variables as membership in any of the three used in the last period remains virtually unchanged for the entire period in question here. Finally, I also dropped the checks variable as it was insignificant and missing data reduced the sample needlessly.

The results for the most part are unsurprising, though a number of variables significant in the overall model become insignificant here. The main finding I want to focus on is that our Neoliberalism index has a negative impact on the likelihood of being rated. That is, nations that had already adopted significant neoliberal reforms before the start of the period in question in our sample were less likely to be rated, or at least were rated later on average. This underscores not only the importance of the sample selection model here, but it also points to the possibility mentioned before that national governments might seek out these ratings in order to help pass neoliberal reforms. That, is, if the adoption of neoliberal policies is seen as a positive step by CRAs, which would

then change their ratings accordingly, it would make sense that nations who have yet to adopt those policies would seek out ratings so as to increase the cost of those opposing the implementation of those policies and increase the potential rewards associated with them. I will now turn to the full outcome models.

### **Determinants of Sovereign Risk Ratings:**

Tables 3.4 through 3.7 present the results of our models for each agency, as well as for the overall mean rating for each nation.

The first thing to note is that the values in parentheses are standardized coefficients. They are presented since so many of our variables are indexes without actual metrics. The results for all agencies are remarkably robust. The most important determinant of risk ratings in all models is the sum of years in default in the past. Several of the macro economic variables are also significant, though external debt itself is not. Considering these are the long-term ratings I am talking about, that is somewhat surprising. The other surprising finding is that current account balance has a negative impact on ratings, but as I will discuss below I believe that is because of the impact of trade reform on the ratings themselves.

With regards to the variables related to policy adoption, our results for the first model in each table look remarkably close to the results obtained by Biglaiser et al (2007). Trade reform is significant and has a very large impact on ratings for all agencies and for the mean ratings model, while most of the other variables are not significant. However, when I include each variable one at a time, almost all of them become

significant in most tables. That points to a potential issue where the trade reform variable, because it seems to have such a significant impact on the ratings, “captures” the overall effect of neoliberal reforms making the rest seem insignificant.

This is borne out of our models with the neoliberal index, which captures the principal component factor of all the individual reform indexes used in the other models. The neoliberal index is significant for two out of three agencies, and for the mean ratings model. Its insignificance in the model for Fitch ratings may be due to timing effects, as Fitch only started rating nations in 1994, after several Latin American nations had already implemented sweeping reforms. Moody’s, in particular, seems to be specially influenced by the adoption of Neoliberal reforms, as the neoliberal index has a standardized coefficient only smaller than the coefficient for default history.

### **Modeling Defaults**

The fact that neoliberal reforms have a strong positive impact on Sovereign Risk Ratings by itself does not tell us much. It is only by comparing their impact on the likelihood of default that we get a better picture of this relationship. Table 3.8 shows how good a predictor of defaults the ratings are for Latin America.

As we can see, in the case of Latin America the ratings are terrible predictors of default. The pseudo  $r^2$  for the models above are mostly under 0.01, and the ratings themselves are all insignificant (but the sign is in the right direction). Table 3.9 presents further evidence by comparing the average rating for the 5 years that precede a nation’s default and the ratings for nations that will not default within 5 years.

So what are good predictors of a nation's likelihood to default? Table 3.10 presents the results of fixed effect logit models. I use fixed effects to control for country effects.

The main finding here is that the Neoliberal index is not significant, and, with a p value of 0.803, does not seem to influence a nation's likelihood of default one way or the other.

### **Discussion**

This chapter has three main findings: that countries with lower neoliberalization scores are more likely to request ratings earlier; that neoliberalization scores have a positive impact on sovereign risk ratings; and that sovereign risk ratings are very poor predictors of default, in no small part because of the role it sees neoliberal policies playing in a nation's likelihood of default. This points to a clear case of decoupling, where "the assumption that formal structures really are working is buffered from the inconsistencies and anomalies involved in technical activities" (Meyer and Rowan 1977 pg 357). That is, because the worldview that generates the sovereign risk ratings and places an importance on them is precisely the same worldview that informs neoliberal policy, efficiency is assumed and not hypothesized. The regulatory license view and the reputational capital view are silent on the possibilities of this sort of thing happening, and cannot explain how an insignificant variable plays such a role, because they also operate from within that same paradigm. There is no uncertainty, only better and worse predictive risk models, with the regulatory license view accepting a greater degree of failure due to regulations that protect inefficiency. It cannot contemplate a sort of systematic bias

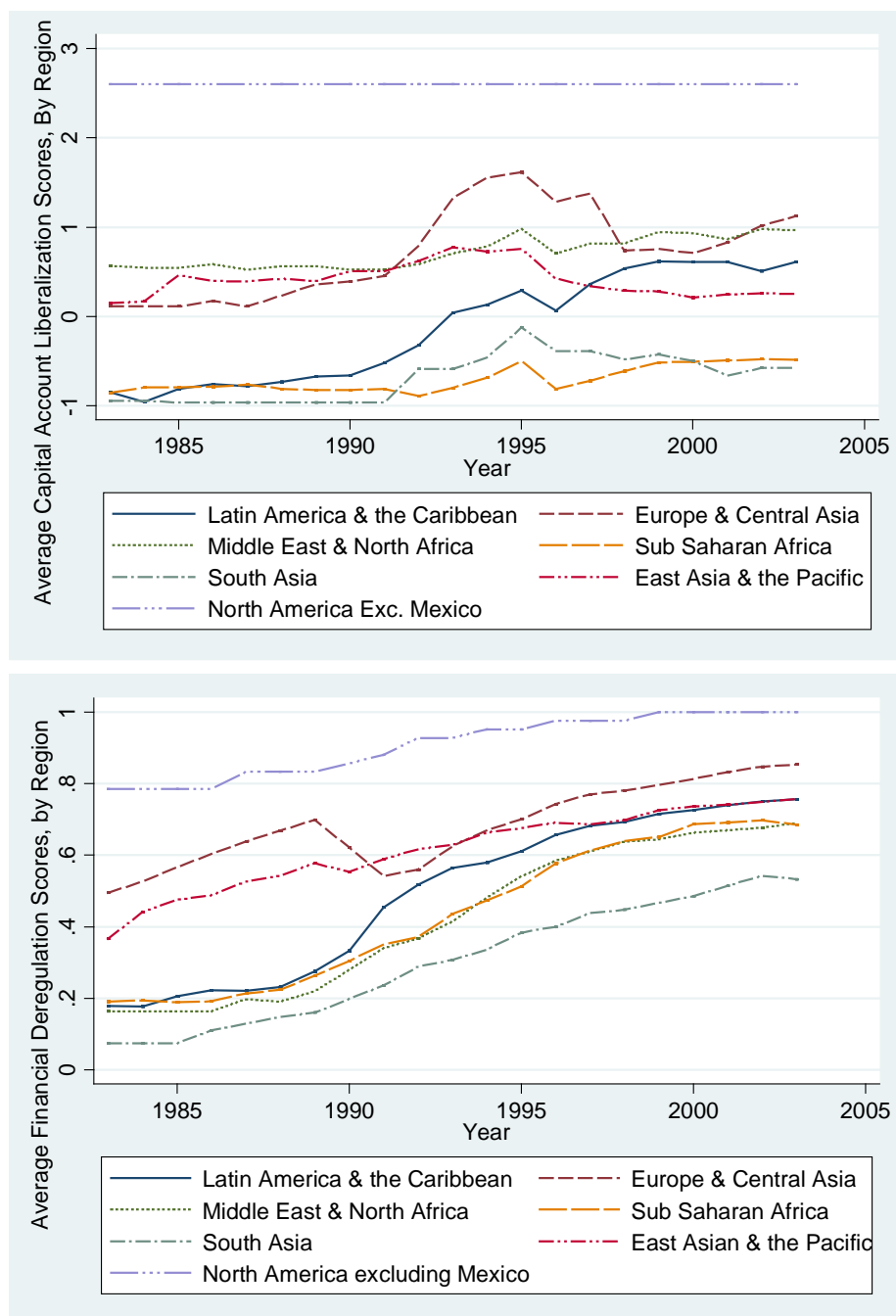


because that is something that is outside its perspective, as any sort of thing would be weeded out in the marketplace. The institutional view, on the other hand, can explain both the sample bias we detected and the actual bias in the ratings. Nations that have the furthest to go in terms of adopting the existing policy paradigm would be the first ones to submit to the scrutiny of the raters, and the raters would be the ones who would be more concerned with cohesion with the existing policy paradigm. The key explanation here centers on the idea of uncertainty. The nations facing the most uncertainty are the ones that are further from the existing policy paradigm, and the uncertainty also explains why raters are so concerned with adoption of these policies.

So far I have shown that there is a path that these ideas follow to become internationally institutionalized: markets, INGOs and IGOs spread technical ideas about the economy and its functioning; once these are in place, ratings serve as a sort of measuring stick for adoption of the ideas that have become institutionalized. The missing piece is discussing the rewards and punishment for compliance. This is the subject of our next chapter.

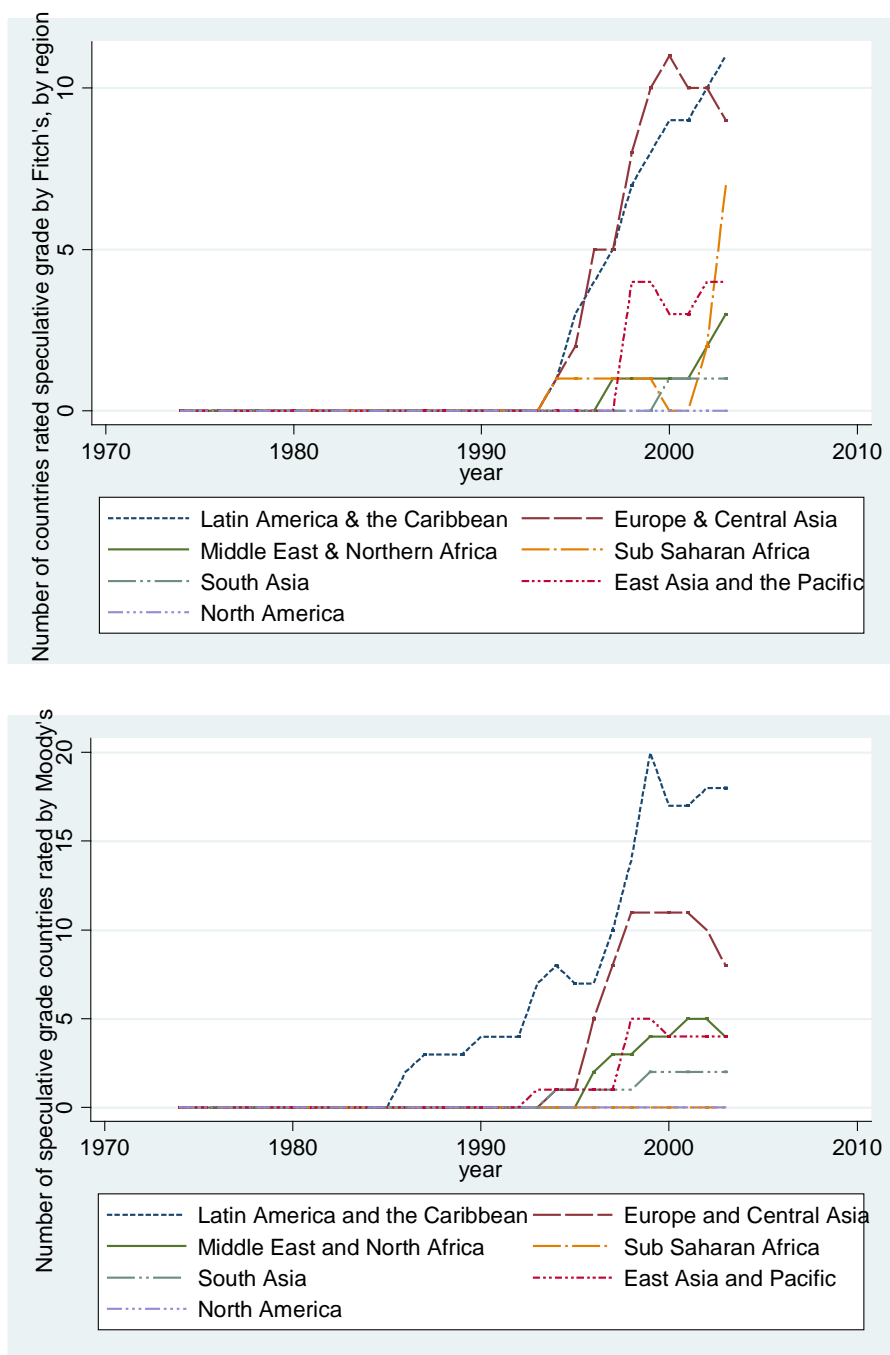
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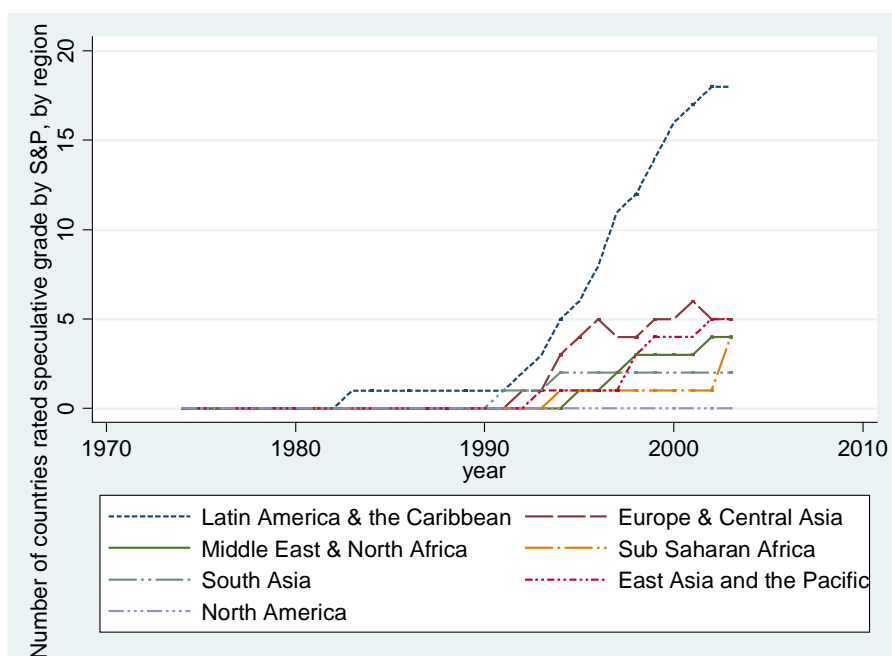
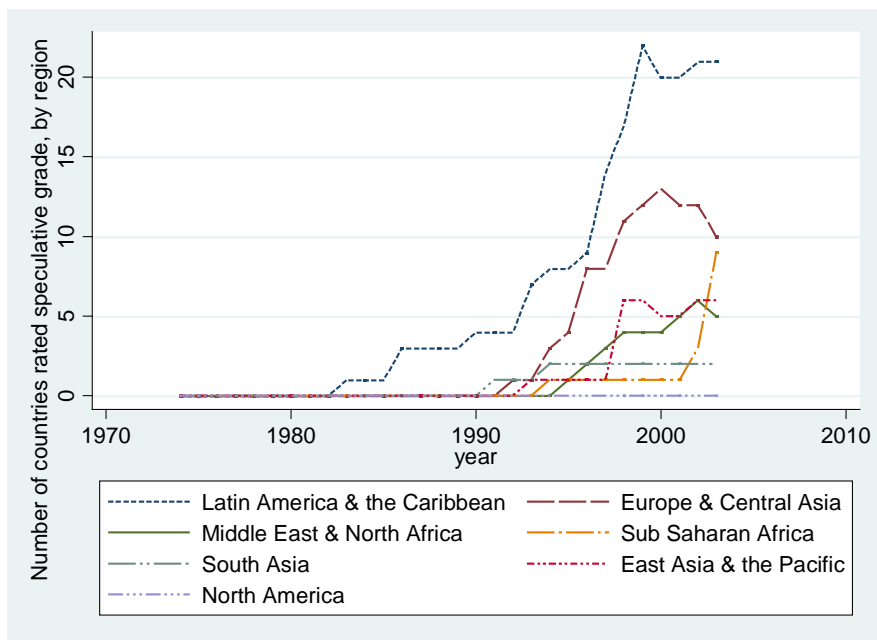
Figure 3.1: Mean Regional Scores for Abiad et al.'s Measure of Financial liberalization and Chinn And Ito's Measure of Capital Account Liberalization



Source: (Abiad, Detragiache, and Tressel 2010; Chinn and Ito 2008)

Figure 3.2: Number of nations receiving a speculative grade rating, per region:





Source: (Fitch Ratings 2006; Moody's Investor Services 2008; Standard & Poor's 2007)

Table 3.1: Number of unique default events, by region for all rated nations:

Region Classification		
WB	Freq.	Percent
Latin America & Caribbean	17	58.62
Europe & Central Asia	7	24.14
Sub-Saharan Africa	2	6.9
South Asia	2	6.9
East Asia & Pacific	1	3.45
Total	29	100

Source: (World Bank 2010a)

Table 3.2: Numerical transformation of the letter grade ratings

S&P		Fitch		Moody's	
AAA	23	AAA	24	Aaa	21
AA+	22	AA+	23	Aa1	20
AA	21	AA	22	Aa2	19
AA-	20	AA-	21	Aa3	18
A+	19	A+	20	A1	17
A	18	A	19	A2	16

A-	17	A-	18	A3	15
BBB+	16	BBB+	17	Baa1	14
BBB	15	BBB	16	Baa2	13
BBB-	14	BBB-	15	Baa3	12
<hr/>					
BB+	13	BB+	14	Ba1	11
BB	12	BB	13	Ba2	10
BB-	11	BB-	12	Ba3	9
B+	10	B+	11	B1	8
B	9	B	10	B2	7
B-	8	B-	9	B3	6
CCC+	7	CCC+	8	Caa1	5
CCC	6	CCC	7	Caa2	4
CCC-	5	CCC-	6	Caa3	3
CC	4	CC	5	Ca	2
C	3	C	4	C	1
D	2	DDD	3		
SD	1	DD	2		
		D	1		

Table 3.3: Results for the Cox Hazard selection equation models

	(1)	(2)	(3)	
	Moody's	S&P	FT	ALL
VARIABLES	_t	_t	_t	_t

Interest rate Spread	0.983	1.008	1.070**	1.004
	(0.0312)	(0.0253)	(0.0354)	(0.0211)
LIBOR	1.795***	2.096**	5.114***	1.325**
	(0.123)	(0.628)	(0.790)	(0.155)
Accuracy Measure	0.0937*	0.113**	1.088	0.00388***
	(0.124)	(0.105)	(1.632)	(0.00403)
Mean Ratings	11.90***	18.64***	0.00195***	8.821***
	(7.808)	(14.33)	(0.00264)	(3.299)
Cumulative years in default	1.032	0.996	0.916***	1.025
	(0.0291)	(0.0186)	(0.0310)	(0.0242)
ln (inflation)	0.866	0.968	0.753	0.910
	(0.0784)	(0.0476)	(0.304)	(0.0628)
ln(GDP per capita)	3.036***	1.925**	2.661***	2.201***
	(1.103)	(0.576)	(1.004)	(0.667)
Domestic Credit Market Strength	1.001	1.005	0.989	1.010
	(0.00772)	(0.00596)	(0.00677)	(0.00704)
Trading Partners Rated	7.839***	2.522*	1.278	7.906***
	(4.808)	(1.406)	(0.868)	(4.207)
ln(INGO)	0.507	0.709	0.496	0.641
	(0.212)	(0.229)	(0.232)	(0.293)
Neoliberalism Index	0.568***	0.681	0.727	0.694***

	(0.119)	(0.177)	(0.259)	(0.0930)
Observations	427	427	135	427

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Robust S.E. in

parentheses

\*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*

$p < 0.1$



Table 3.4: Determinants of Moody's Sovereign Risk Ratings

VARIABLES	(1) md1	(2) md2	(3) md3	(4) md4	(5) md5	(6) md6	(7) md7
Sum of years in default	-0.280*** (-0.595) 0.0337	-0.260*** (-0.553) 0.0247	-0.188*** (-0.400) 0.0247	-0.213*** (-0.454) 0.0285	-0.240*** (-0.511) 0.0253	-0.178*** (-0.380) 0.0221	-0.218*** (-0.464) 0.0240
ln(External Debt as a share of exports)	-0.970** (-0.228) 0.464	-0.281 (-0.0661) 0.468	-0.647 (-0.152) 0.507	-0.530 (-0.125) 0.508	-0.932** (-0.219) 0.469	-0.337 (-0.0793) 0.475	-0.745 (-0.175) 0.467
Reserves as % of external debt	0.117*** (0.529) 0.0141	0.132*** (0.593) 0.0142	0.123*** (0.554) 0.0150	0.133*** (0.599) 0.0150	0.130*** (0.587) 0.0144	0.119*** (0.537) 0.0140	0.124*** (0.560) 0.0140
Short term debt as % of external debt	-0.0659*** (-0.184) 0.0211	-0.0388** (-0.108) 0.0183	-0.0640*** (-0.179) 0.0229	-0.0594*** (-0.166) 0.0201	-0.0564*** (-0.158) 0.0184	-0.0434** (-0.121) 0.0190	-0.0626*** (-0.175) 0.0187
ln(inflation)	-0.300*** (-0.406) 0.0973	-0.122*** (-0.166) 0.0413	-0.231** (-0.313) 0.0913	-0.0797* (-0.108) 0.0421	-0.0730* (-0.0987) 0.0435	-0.110*** (-0.149) 0.0418	-0.139*** (-0.188) 0.0446
ln(gdp per capita)	0.342 (0.0779) 0.378	0.616** (0.140) 0.266	1.059*** (0.241) 0.283	0.786*** (0.179) 0.300	0.270 (0.0613) 0.294	1.343*** (0.306) 0.279	0.764*** (0.174) 0.267
Annual GDP growth	0.0646* (0.0977) 0.0340	0.0666* (0.101) 0.0343	0.0803** (0.121) 0.0347	0.0845** (0.128) 0.0358	0.0710** (0.107) 0.0349	0.0826** (0.125) 0.0353	0.0807** (0.122) 0.0356
Left executive	0.321 (0.0531) 0.331	0.318 (0.0525) 0.333	-0.267 (-0.0441) 0.336	-0.0838 (-0.0139) 0.338	-0.0850 (-0.0140) 0.346	-0.0698 (-0.0115) 0.334	-0.0113 (-0.00187) 0.343
Democracy	-0.00311 (-0.0105) 0.00654	-0.00707 (-0.0238) 0.00809	-0.00733 (-0.0246) 0.00749	-0.00482 (-0.0162) 0.00610	-0.00143 (-0.00481) 0.00561	-0.000872 (-0.00293) 0.00576	-0.000437 (-0.00147) 0.00559
ln(trade)	-0.350 (-0.0744) 0.622	0.870* (0.185) 0.486	0.480 (0.102) 0.518	0.304 (0.0648) 0.584	-0.741 (-0.158) 0.602	0.776 (0.165) 0.481	-0.109 (-0.0232) 0.541
Ln(Portfolio Investment)	-2.297 (-0.00549) 21.73	-0.0960 0.000229) 20.75	-13.85 (-0.0331) 20.92	-10.02 (-0.0239) 20.87	-4.510 (-0.0108) 21.01	-17.89 (-0.0427) 21.55	-11.82 (-0.0282) 21.43
current account balance as % of gdp	-0.0473 (-0.0516) 0.0508	-0.0710 (-0.0774) 0.0517	-0.0864 (-0.0942) 0.0558	-0.0880 (-0.0959) 0.0555	-0.0789 (-0.0861) 0.0560	-0.0522 (-0.0569) 0.0545	-0.0668 (-0.0729) 0.0537
Bank Privatization (Abiad et al)	0.0277 (0.0117) 0.174					0.525*** (0.222) 0.136	
Credit Regulations (Abiad et al)	0.334* (0.159) 0.191				0.587*** (0.281) 0.150		
Capital Account Liberalization	0.0513 (0.0291) 0.144			0.195 (0.110) 0.125			
Trade reform index (Morley et al)	10.69** (0.304) 4.826		8.787* (0.250) 4.609				
Privatization Index (Morley et al)	6.708*** (0.262) 1.883	7.150*** (0.279) 1.599					
Selection Instrument	-0.257	-0.222	-0.138	-0.183	-0.100	-0.304	-0.252

Table 3.5: Determinants of S&amp;P Sovereign Risk Ratings

VARIABLES	(1)	(2)	(3)	(4)	(5)	(6)	(7)
	sp1	sp2	sp3	sp4	sp5	sp6	sp7
	F.sprating	F.sprating	F.sprating	F.sprating	F.sprating	F.sprating	F.sprating
Sum of years in default	-0.347*** (-0.613)	-0.263*** (-0.464)	-0.250*** (-0.441)	-0.272*** (-0.481)	-0.310*** (-0.548)	-0.252*** (-0.445)	-0.266*** (-0.470)
	0.0434	0.0314	0.0308	0.0337	0.0348	0.0310	0.0314
ln(External Debt as a share of exports)	-1.036 (-0.197)	1.205* (0.229)	-0.00613 (-0.00117)	1.144* (0.218)	-0.0266 (-0.00505)	1.158* (0.220)	0.709 (0.135)
	0.645	0.624	0.611	0.599	0.634	0.602	0.605
Reserves as % of external debt	0.114*** (0.478)	0.141*** (0.588)	0.107*** (0.449)	0.147*** (0.613)	0.132*** (0.554)	0.139*** (0.580)	0.135*** (0.566)
	0.0176	0.0172	0.0170	0.0169	0.0169	0.0175	0.0168
Short term debt as % of external debt	-0.115*** (-0.262)	-0.0770*** (-0.176)	-0.104*** (-0.238)	-0.0959*** (-0.219)	-0.0687*** (-0.157)	-0.0772*** (-0.176)	-0.0812*** (-0.185)
	0.0277	0.0239	0.0252	0.0258	0.0211	0.0239	0.0231
ln(inflation)	-0.457* (-0.111)	-0.221 (-0.0535)	-0.445* (-0.108)	-0.307 (-0.0745)	-0.107 (-0.0259)	-0.199 (-0.0482)	-0.232 (-0.0562)
	0.237	0.220	0.229	0.215	0.225	0.218	0.216
ln(gdp per capita)	-0.149 (-0.0281)	1.316*** (0.248)	1.452*** (0.273)	1.226*** (0.230)	0.116 (0.0219)	1.392*** (0.262)	1.144*** (0.215)
	0.522	0.316	0.315	0.334	0.427	0.361	0.327
Annual GDP growth	0.00615 (0.00720)	0.0213 (0.0249)	0.0145 (0.0169)	0.0357 (0.0418)	0.0132 (0.0154)	0.0240 (0.0281)	0.0298 (0.0349)
	0.0481	0.0556	0.0540	0.0539	0.0503	0.0557	0.0535
Left executive	1.096** (0.141)	0.736 (0.0948)	0.712 (0.0917)	0.886** (0.114)	0.900** (0.116)	0.674 (0.0868)	0.920** (0.119)
	0.445	0.465	0.455	0.448	0.453	0.455	0.462
Democracy	-0.00626 (-0.0173)	-0.00745 (-0.0206)	-0.0118 (-0.0325)	-0.00465 (-0.0129)	0.000797 (0.00221)	-0.00684 (-0.0189)	-0.00146 (-0.00404)
	0.0100	0.0124	0.0138	0.0102	0.00978	0.0121	0.00999
ln(trade)	-2.325** (-0.370)	1.255* (0.200)	-0.0420 (-0.00668)	0.936 (0.149)	-1.097 (-0.175)	1.193* (0.190)	0.410 (0.0652)
	0.967	0.676	0.673	0.687	0.932	0.661	0.741
Ln(Portfolio Investment)	-15.35 (-0.0335)	-28.74 (-0.0627)	-30.22 (-0.0660)	-23.98 (-0.0523)	-24.39 (-0.0532)	-30.94 (-0.0675)	-25.69 (-0.0561)
	30.07	34.46	33.30	32.54	31.22	33.85	32.69
current account balance as % of gdp	-0.385*** (-0.327)	-0.445*** (-0.379)	-0.392*** (-0.333)	-0.445*** (-0.378)	-0.404*** (-0.344)	-0.443*** (-0.376)	-0.410*** (-0.349)
	0.0726	0.0814	0.0772	0.0758	0.0710	0.0848	0.0763
Bank Privatization (Abiad et al)	-0.401* (-0.128)					0.0608 (0.0195)	
	0.219					0.160	
Credit Regulations (Abiad et al)	0.761*** (0.264)				0.809*** (0.281)		
	0.242				0.209		
Capital Account Liberalization	0.227 (0.105)			0.298** (0.137)			
	0.155			0.141			
Trade reform index (Morley et al)	31.33***		31.24***				

Table 3.6: Determinants of Fitch's Sovereign Risk Ratings

VARIABLES	(1)	(2)	(3)	(4)	(5)	(6)	(7)
	f1	f2	f3	f4	f5	f6	f7
	F.frating	F.frating	F.frating	F.frating	F.frating	F.frating	F.frating
Sum of years in default	-0.156* (-0.248)	-0.161*** (-0.256)	-0.169*** (-0.268)	-0.186*** (-0.295)	-0.191** (-0.304)	-0.177*** (-0.281)	-0.188*** (-0.298)
	0.0939	0.0617	0.0517	0.0654	0.0845	0.0579	0.0693
ln(External Debt as a share of exports)	-1.622* (-0.300)	-0.349 (-0.0646)	-1.817** (-0.336)	-0.106 (-0.0196)	-0.197 (-0.0364)	-0.170 (-0.0314)	-0.129 (-0.0239)
	0.915	0.969	0.917	0.929	0.922	0.992	0.936
Reserves as % of external debt	0.0600** (0.240)	0.119*** (0.475)	0.0763*** (0.305)	0.124*** (0.497)	0.123*** (0.493)	0.122*** (0.490)	0.123*** (0.490)
	0.0264	0.0249	0.0241	0.0243	0.0246	0.0256	0.0248
Short term debt as % of external debt	-0.123*** (-0.269)	0.0662** (-0.145)	-0.103*** (-0.224)	0.0709** (-0.155)	0.0637** (-0.139)	-0.0626** (-0.137)	0.0655** (-0.143)
	0.0380	0.0274	0.0290	0.0321	0.0274	0.0276	0.0282
ln(inflation)	-1.623** (-0.279)	-1.447** (-0.249)	-2.000*** (-0.344)	-1.361** (-0.234)	-1.308 (-0.225)	-1.413* (-0.243)	-1.289 (-0.222)
	0.740	0.607	0.575	0.643	0.820	0.736	0.792
ln(gdp per capita)	0.824 (0.126)	0.192 (0.0292)	0.258 (0.0393)	0.223 (0.0340)	0.142 (0.0217)	0.246 (0.0376)	0.238 (0.0363)
	0.704	0.448	0.405	0.434	0.533	0.572	0.442
Annual GDP growth	0.0232 (0.0277)	0.0487 (0.0583)	0.0201 (0.0241)	0.0446 (0.0533)	0.0432 (0.0518)	0.0437 (0.0523)	0.0430 (0.0514)
	0.0658	0.0687	0.0667	0.0698	0.0698	0.0699	0.0698
Left executive	-0.200 (-0.0267)	-0.631 (-0.0844)	-0.293 (-0.0392)	-0.387 (-0.0517)	-0.357 (-0.0477)	-0.439 (-0.0587)	-0.345 (-0.0462)
	0.676	0.628	0.587	0.616	0.675	0.613	0.629
Democracy	0.0114 (0.0386)	0.00886 (0.0300)	0.00608 (0.0206)	0.00917 (0.0311)	0.00871 (0.0295)	0.00847 (0.0287)	0.00914 (0.0310)
	0.0104	0.0113	0.0129	0.0102	0.0107	0.0108	0.0104
ln(trade)	0.102 (0.0149)	1.345 (0.196)	0.00513 (0.000748)	1.409 (0.206)	1.229 (0.179)	1.470 (0.214)	1.352 (0.197)
	1.436	0.926	0.883	0.940	1.376	0.930	0.987
Ln(Portfolio Investment)	-1.854 (-0.00346)	-7.752 (-0.0145)	-6.391 (-0.0119)	-0.868 (0.00162)	-3.221 (0.00601)	-4.415 (0.00823)	-2.256 (0.00421)
	47.86	48.24	45.83	50.51	49.98	49.47	50.41
current account balance as % of gdp	-0.303*** (-0.222)	-0.347*** (-0.254)	-0.301*** (-0.220)	-0.368*** (-0.269)	-0.357*** (-0.261)	-0.360*** (-0.263)	-0.363*** (-0.265)
	0.107	0.113	0.108	0.120	0.113	0.116	0.118
Bank Privatization (Abiad et al)	0.411 (0.127)					0.0191 (0.00592)	
	0.322					0.235	
Credit Regulations (Abiad et al)	-0.122 (-0.0424)				0.0859 (0.0298)		
	0.401				0.356		
Capital Account Liberalization	0.188 (0.0877)			0.0793 (0.0369)			
	0.193			0.180			
Trade reform index (Morley et al)	44.51***		38.52***				

Table 3.7: Determinants of average Sovereign Risk

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
default	-0.317*** (-0.540)	-0.229*** (-0.390)	-0.295*** (-0.503)	-0.262*** (-0.445)	-0.241*** (-0.410)	-0.286*** (-0.487)	-0.264*** (-0.450)
as a share of exports)	0.0368 (-0.0492)	0.0251 (0.0934)	0.0276 (-0.0505)	0.0279 (0.0736)	0.0249 (0.00600)	0.0259 (0.118)	0.0258 (0.0244)
if external debt	0.476 (0.617)	0.465 (0.630)	0.462 (0.657)	0.474 (0.686)	0.484 (0.616)	0.474 (0.675)	0.458 (0.649)
as % of external debt	0.141*** (0.0138)	0.144*** (0.0132)	0.150*** (0.0129)	0.157*** (0.0134)	0.141*** (0.0134)	0.154*** (0.0132)	0.148*** (0.0129)
	-0.0697*** (-0.160)	-0.0510*** (-0.117)	-0.0548*** (-0.126)	-0.0653*** (-0.150)	-0.0731*** (-0.168)	-0.0506** (-0.116)	-0.0654*** (-0.150)
	0.0221 (-0.242** (-0.248)	0.0198 (-0.0150 (-0.0154)	0.0187 (0.00438 (0.00450)	0.0218 (8.75e-05 (8.99e-05)	0.0216 (-0.217** (-0.222)	0.0196 (-0.0252 (-0.0258)	0.0197 (-0.0543 (-0.0557)
)	0.112 (0.102)	0.0555 (0.287)	0.0556 (0.0783)	0.0545 (0.201)	0.103 (0.237)	0.0559 (0.193)	0.0573 (0.195)
	0.571 (0.102)	1.612*** (0.287)	0.440 (0.0783)	1.131*** (0.201)	1.328*** (0.237)	1.083*** (0.193)	1.097*** (0.195)
with	0.452 (0.0525)	0.301 (0.0715)	0.314 (0.0604)	0.278 (0.0792)	0.264 (0.0733)	0.261 (0.0634)	0.265 (0.0699)
	0.0363 (0.0890)	0.0388 (0.0525)	0.0368 (0.0543)	0.0389 (0.0522)	0.0373 (0.0272)	0.0397 (0.0837)	0.0375 (0.0629)
	0.701* (0.0890)	0.414 (0.0525)	0.428 (0.0543)	0.411 (0.0522)	0.215 (0.0272)	0.659* (0.0837)	0.496 (0.0629)
	0.406 (-0.00589 (-0.0150)	0.395 (-0.00430 (-0.0109)	0.407 (-0.00357 (-0.00906)	0.397 (-0.00703 (-0.0179)	0.398 (-0.00952 (-0.0242)	0.398 (-0.00898 (-0.0228)	0.403 (-0.00308 (-0.00782)
	0.0102 (-0.490 (-0.0844)	0.00865 (0.853* (0.147)	0.00776 (-0.819 (-0.141)	0.00917 (0.476 (0.0819)	0.0117 (0.346 (0.0595)	0.0114 (0.960* (0.165)	0.00765 (0.0852 (0.0147)
	0.690 (-0.0844)	0.499 (0.147)	0.636 (-0.141)	0.552 (0.0819)	0.522 (0.0595)	0.509 (0.165)	0.542 (0.0147)
stment)	-11.38 (-0.0229)	-23.54 (-0.0474)	-15.61 (-0.0314)	-14.41 (-0.0290)	-23.87 (-0.0480)	-10.83 (-0.0218)	-17.07 (-0.0343)
	22.86 (-0.193*** (-0.163)	23.20 (-0.201*** (-0.170)	21.97 (-0.209*** (-0.177)	23.37 (-0.229*** (-0.194)	22.23 (-0.221*** (-0.187)	24.00 (-0.221*** (-0.187)	22.30 (-0.206*** (-0.175)
balance as % of gdp	0.0569 (-0.0438 (-0.0148)	0.0621 (0.439*** (0.148)	0.0600	0.0616	0.0604	0.0606	0.0590
n (Abiad et al)	0.199	0.146					
ns (Abiad et al)	0.451** (0.170)		0.610*** (0.230)				
	0.201		0.161				
Liberalization	0.0252 (0.0117)			0.181 (0.0844)			
	0.127			0.118			
ex (Morley et al)	12.60** (0.275)				12.91** (0.282)		
	5.274				5.047		
ax (Morley et al)	5.026*** (0.151)					4.984*** (0.150)	
	1.940					1.692	

Table 3.8: Reduced form equations measuring the predictive power of Sovereign

## Ratings

VARIABLES	Latin America Default	Latin America Default	Latin America Default
Moody's	0.946 (0.0600)		
S&P		0.952 (0.0420)	
Fitch			0.905 (0.101)
Constant	0.0969*** (0.0576)	0.0803*** (0.0396)	0.0841** (0.103)
Observations	284	229	121
Pseudo R2	0.00555	0.00379	0.0147

Robust S.E. in parentheses

\*\*\* p&lt;0.01, \*\* p&lt;0.05, \* p&lt;0.1

Table 3.9: Comparing average ratings

Agency\Default Condition	5 years preceding default	No Default for 5 year period
Moody's Mean Rating	10.70	10.14
S&P Mean Rating	11.78	11.71
Fitch Mean Rating	12	12.72

Table 3.10: Logit models of the predictors of default

VARIABLES	default7 F.defaultwdi2
ln(External Debt as a share of exports)	143.7*** (137.1)
Reserves as % of external debt	0.948** (0.0227)
Short term debt as % of external debt	1.108*** (0.0349)
ln(inflation)	1.028 (0.0544)
ln(gdp per capita)	1.751 (1.549)
Annual GDP growth	1.065 (0.0445)
Left executive	1.512 (0.744)
Democracy	1.046** (0.0191)
ln(trade)	5.321* (5.201)
Executive Years in Office	0.939 (0.0387)
Ln(Portfolio Investment)	7.347e+11 (3.165e+13)
current account balance as % of gdp	1.216*** (0.0704)
Sum of years in default	1.036 (0.100)
Neoliberal Index	0.887 (0.425)

Observations	350
Number of wdinumber	13

---

seEform in parentheses

\*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.1$

## APPENDIX:

Table A3.1: Correlation Matrix for Neoliberal Policy Variables:

	Bank Privatization	Credit Regulations	Capital Account Liberalization	Trade reform index	Privatization Index
Bank Privatization (Abiad et al)	1				
Credit Regulations (Abiad et al)	0.4829	1			
Capital Account Liberalization	0.4934	0.505	1		
Trade reform index (Morley et al)	0.3387	0.5851	0.3901	1	
Privatization Index (Morley et al)	0.1486	0.1398	0.0577	-0.0314	1

Table A3.2: Summary statistics:

Variable	Mean	Std. Dev.	Min	Max
Moody's rating	8.973913	2.504245	2	14
Fitch Rating	13.32895	3.039246	3	18
S&P Rating	11.86364	2.894085	1	17
Mean Rating	10.77068	3.120517	2	17.5
Years in default	6.123288	5.436645	0	18
Ln(external debt)	5.185554	0.627988	3.884781	6.544679
Total reserves as % of exports	27.29817	13.97007	4.649302	67.42697
Short Term debt as % of Total debt	18.01213	7.325115	5.3723	37.8416
Ln(inflation)	3.692611	3.280422	-16.6206	6.094321
Ln(GDP per capita)	7.995486	0.569277	6.809432	9.021678
GDP annual Growth	2.758105	3.921516	-11.0319	12.66971



Left executive	0.20548	0.405442	0	1
Democracy	6.958904	8.11714	-10	10
Ln(trade)	3.720546	0.550113	2.621261	4.87272
Portfolio Investment	0.001962	0.00643	-0.038	0.026578
Current Account balance	-2.455	2.704738	-9.01954	8.591312
Privatization Index (Morley et al)	0.865038	0.096037	0.635	1.025257
years in office	3.5	2.467024	1	12
Bank Privatization (Abiad et al)	1.616438	1.078059	0	3
Credit Regulations (Abiad et al)	1.986301	1.203365	0	3
Capital Account Liberalization	0.446644	1.487557	-1.77	2.6
Trade reform index (Morley et al)	0.937599	0.069856	0.485	1.011263
Neoliberalism Index	0.879994	0.718526	-1.27942	1.917924

## Chapter 4 – The Impact of Sovereign Risk Ratings on Economic Performance

If the two preceding chapters focused on the when and how of the risk ratings, this chapter focuses on the “so what” of sovereign risk ratings. That is, do these ratings have real world costs and benefits? After all, given their inefficiency in a strict economic sense, the efficient market hypothesis would predict their irrelevance in affecting real world economic indicators. Their relevance, as such, would help explain why there is any sort of institutionalization of a paradigm. That is, just like explaining the existence of inefficient ratings is an issue, so is explaining the maintenance of a certain policy paradigm. That is, how can we explain paradigm “stickiness?” How can we explain the maintenance of a certain set of policies even in the face of crises? By looking at the costs and benefits associated with country risk rating it is possible to start to see part of an answer.

If they do have a real world impact, however, that could also be explained by the sort of distortion that is introduced to the market by regulations such as the ones discussed earlier in the cases where they apply. But what about the cases where they do not apply for the most part? What about developing nations? Do they have an impact? The answer so far has been yes. Ferri et al, for example, have claimed that Sovereign Risk ratings actually accentuate business cycles, overrating nations during expansions and underrating them in recessions (Ferri, Liu, and Stiglitz 1999) and Biglaiser et al have argued that ratings have a significant impact on a nation’s ability to attract portfolio investment (Biglaiser, Hicks, and Huggins 2007). The last paper is especially important

as it focuses on developing nations, and as such should be about mostly nations that are not rated investment grade.

The existing literature, however, still has not addressed an important point raised in Wibbels (2006) and others that there is a significant difference in how markets operate in expansions and recessions for developing and developed nations. While on developed nations government bonds are seen as close to riskless investments, leading to lower interest rates and a greater ability of central governments to enact counter cyclical spending measures to dampen recessions, in developing nations government bonds are seen as riskier investments, a risk that is compounded by deficit spending during recessions. So while developed nations are able to enact more significant fiscal expansionary measures in recessions, developed nations have to reduce deficits and cut spending, potentially deepening recessions. Given this, I could expect sovereign risk ratings to have especially acute impacts on developing nations during recessions. As I will discuss below, this might help explain why periods of crisis in developing nations often lead to a greater adoption of neoliberal policies, helping explain why prolonged crisis do not lead to policy paradigm shifts.

### **Risk Ratings and the Business Cycle**

The efficient market hypothesis already has significant difficulty in explaining the existence of relatively regular boom and bust economic cycles (Mankiw 1990; Shiller 2003), with its traditional explanation involving somewhat regular shifts in technology and regulations. After all, if market prices perfectly reflect all available information and

market participants correctly discount expected future prices, how can one explain recessions (when the prices of most assets are undervalued) and expansions (where the reverse is true)? But beyond that, if Risk Ratings are valued at all by market participants, one would expect that their impact would be relatively homogeneous. Given the findings from the last chapter that sovereign risk ratings are poor predictors of defaults in our Latin American sample, I would expect that Sovereign Risk ratings will have no impact on credit related measures, but if they do, I would expect that:

*Hypothesis 1: The impact of sovereign risk ratings should be the same in expansions and recessions.*

In other words, I would expect that, however small an impact sovereign risk ratings should have on economic measures given the insignificant results of the last section, they would at least be consistent during expansions and recessions. One possible reason we could expect significant differences in downgrades during recessions would be in cases where the country is about to cross the investment grade/speculative grade threshold, but in our current sample I do not have any cases of that, so that should not be an issue and is therefore not hypothesized.

Alternatively, an institutional perspective expects different reactions in periods of crisis (Abolafia and Kilduff 1988; Blyth 2002; Hall 1993). In this particular case, increased uncertainty could lead to an aversion to risk and uncertainty that would be particularly acute for developing nations. This leads us to the following hypothesis:

*Hypothesis 2: Ratings will have different impacts on expansions and crises.*

The hypothesis above has significant implications for institutional theory and the idea of policy paradigms. More specifically, it could help explain why crisis in certain

contexts lead to a questioning and eventual replacement of the existing paradigm, while in others leading to a greater adherence to the existing paradigm. If, as I argued last chapter, sovereign risk ratings are influenced by adherence to the neoliberal policy paradigm, and if, as I expect here, the impact of sovereign risk ratings on economic conditions is magnified during crisis, the costs of switching policy paradigms during crises in the developing world would be significantly higher. The threat of potential downgrades during a crisis would make a nation less likely to enact significant policy changes that would lead to a reversal of the so called structural reforms.

## **Methods and Data**

### *Measuring the Business Cycle*

The first step in our analysis is determining when, exactly, business cycles start and end. In order to do so, I employ widely used techniques employed in economics. Our first step is to estimate the potential GDP for a nation. In this case, I use a traditional approach where I estimate the long term trend for the natural logarithm of a GDP measure (in this case, GDP per capita) (Arnold 2004; Prachowny 1993; Yoshio 1984). I make no claims as to the validity of the existence of a long term “equilibrium” rate of economic growth, and I use this measure solely to be able to determine, for the period at hand, the years where the economies of Latin America grew above or below the estimated long term rate. In order to obtain business cycle information, I used a Hodrick Prescott Filter (Hodrick and Prescott 1997). The Hodrick Prescott filter is a mathematical

procedure that “smooths” a time series, separating the cyclical component from short term fluctuations. I use this filter on the same logged GDP per capita series as above. I then obtain business cycle data by looking at the difference between the measured cyclical component of the series and the potential GDP. In our specific sample, I called those years where the regional average was above 0 (i.e., the series smoothed by the Hodrick Prescott filter had higher values than the potential GDP series) as expansion years, and those values below 0 as recessionary years. Before going into our sample of rated countries and the impacts of risk ratings on performance in different parts of the business cycle, it is important to note that rated nations experience more accentuated business cycles than non-rated ones, as figure 4.1 shows. As we can see, the peaks are higher and the valleys lower for rated nations, potentially confirming the findings by Ferri et al (Ferri, Liu, and Stiglitz 1999).

### *Dependent Variables*

In this chapter I use two dependent variables, both reflecting precisely the indicators I would expect that Sovereign Risk ratings would affect more directly. I used data from the World Bank’s Global Development Finance (World Bank 2010a) to estimate interest rate spreads for government debt and portfolio investment on bonds in a given year as a percentage of GDP. As I discussed previously, interest rate spreads are often considered to measure the market’s view of how risky an investment is. As such, changes in interest spreads signal changes in risk perceptions. If the sovereign risk ratings have an impact on market views, it would be seen here. Similarly, portfolio investment

on bonds should also be directly affected by the sovereign risk ratings that measure how risky these bonds are.

Interest rate spreads for a government's debt is a relevant measure because it shows the actual cost for the government of borrowing money. That is, it is the difference between the interest rates of what is considered a risk free investment (and therefore generally the lowest available interest rate) and the interest rate a given country had to pay investors. As such, it is a market determined interest rate spread, or difference. The higher the spread, the more money a government has to pay out. This is intimately related to perceptions of risk, as the riskier an investment is, the bigger the return investors will demand. It is natural, then, to expect that if sovereign risk ratings are relevant at all, they will have an impact on interest rate spreads by affecting the perceived risk associated with a given government.

If interest rate spreads measure the cost of borrowing money, the other dependent variable, portfolio investment in bonds as a share of GDP, measures the actual quantity of money a nation was able to attract. It is important to check the impact of sovereign risk ratings on both measures as interest rate spreads do not actually capture the volume of transactions involved. By looking at both interest rate spreads and portfolio investment in bonds, we are able to check the impact of sovereign risk ratings on both the price (the interest rate) of money and the quantity of money a nation was able to attract.

### *Independent Variables*

Here I use a mixture of variables that were significant in the past chapter with additional variables that were also used in the output models in Biglaiser et al (Biglaiser,

Hicks, and Huggins 2007). Our economic variables come from the World Bank's Global Development Finance and the World Bank's World Development Indicators (World Bank 2010a; World Bank 2010b). I use the natural log of inflation, natural log of external debt, reserves, short term debt, the natural log of GDP per capita and annual GDP growth as these have proven significant in past chapters.

Additionally, I use two political variables that, though they were not significant before, have been shown to be significant elsewhere (Biglaiser, Hicks, and Huggins 2007): left wing executive and democracy, both from the World Bank's Database of Political Institutions (Beck et al. 2001). The rationale is that crisis might bring additional political instability in democracies, compounding the economic problems, and investors might be skeptical of the willingness of left wing governments to repay its debt.

Finally, our key independent variable is the first order difference in the mean ratings for each nation. I use the mean ratings as I am interested in the broader view of the CRAs. And I use the first order difference in order to be able to focus on specific instances of upgrade and downgrades, which are especially important in our analysis of how the ratings affect the dependent variables during expansions and recessions. I would expect nations to be lower rated during expansions, and so by using the first order difference I can isolate the impact of the timing of the downgrade as opposed to the general lower ratings. All variables are lagged one time period with the exception of the yearly change ones, and I also include the selection variables from the last chapter to control for selection biases in our models.

## **Results**



Tables 4.1 and 4.2 contain the results of our models. The full models confirm what previous research has shown regarding risk ratings: that is, that they effect on the variables that should be more closely related to them is significant and positive. Other than that the only key variables that were significant in the full models were the ones related to GDP: GDP growth in the case of portfolio investment and GDP per capita in the case of the interest rate model. These are not surprising given the fact that they indicate the sort of overall availability of resources in a nation which can help predict ability to repay its debt. Short term debt was also significant in the portfolio models, though the sign of the coefficient is counterintuitive at first sight. That is, short term debt leads to an increase in portfolio investment in bonds. Such a result could be caused by an attempt by governments to extend the time horizon of the debt by offering new bonds or swaps. Since this data does not measure the relative price of the bonds or their relative cost in terms of interest, the overall amount of money might have increased even as the national government had to pay higher interest.

But the key finding of this chapter is on columns 2 and 3 in each table. It is interesting to note that, at least in the portfolio investment models, a number of otherwise insignificant variables become significant. Inflation, left executive, reserves and sum of years in default all become significant at varying levels. The inflation finding is somewhat surprising in that it indicates that, at least in the short term, it has a positive impact on portfolio investment. A few reasons for this surprising finding could include that in recessions those investors with money in developing nations might switch over to government bonds if those are indexed in foreign currency in order to hedge against

inflation in those nations, or that higher inflation might mean more expansionary policies in place, which could attract investors. The reserves finding is also somewhat unexpected, in that nations with lower reserves seem to attract more portfolio investment than those with more. Again, this might be explained the same way the short term debt variable was explained above: since this result does not hold for interest rate spreads, it might be that nations with low reserves, which are in special need of capital to finance their international transactions simply offer more bonds at higher interest rates during these recessions. The other two variables above all have coefficients with signs in the expected directions during recessions. While these things do not seem to have a significant impact during economic expansions, during recessions investors seem to be particularly weary of nations with a history of default or with left wing governments in place.

But our key finding here is that changes in sovereign risk ratings behave very differently during expansions and recessions. In both models changes in the mean rating of a nation have more significant and larger magnitude impacts during recessions than expansions. That is, during periods of economic prosperity and expansion, risk ratings are less relevant to investor decision making. Its impacts are limited and mostly insignificant. But on recession periods, investors pay close attention to ratings, and they have a large and significant impact on a government's ability to finance itself. Since both dependent variables here measure the cost (interest rate spreads) and the quantity (portfolio investment in bonds) of money that a nation can borrow during periods of economic downturn, this finding both confirms and expands on the findings by Wibbels (2006).

## Testing for Causality

One of the potential problems of our analysis is that the changes in mean risk ratings might be capturing unobservable aspects of economic performance during downturns. Additionally, given the fact that recessions have been rather deep in Latin America over the period in question here, even the fact that I am using yearly changes might not be enough to account for the direction of the causal mechanism. That is, the change in ratings in from period  $Y_{t-1}$  to period  $Y$  might be codetermined by unobserved business cycle variables that also affect interest rate spreads and portfolio investment. To test for the direction of causality, I employ a pairwise Granger Causality test. This test has been used extensively in economics, sociology and political science to determine the validity of hypothesis of causal directions between variables (De Soysa and Oneal 1999; Freeman 1983; Thornton and Batten 1985). This test estimates the relationship between different lagged values of one variable on the other in order to establish causality. While true causality is not necessarily established by Granger causality tests, it can at least paint a picture of the temporal precedence of changes in one variable over the other.

Here I look at a Granger causality test between the magnitude of business cycle variations in a given nation and changes in mean sovereign ratings. The magnitude of the business cycle variation is measured by the deviation from the Hodrick Prescott filtered variable from the potential GDP variable. This way we can see if, at least in terms of temporal precedence, we are not dealing with a spurious relationship between the variables used in our models.

The results of our Granger causality test is shown on table 4.3. Here I present the results for a Granger causality test with 2 lags. While Granger causality tests are very sensitive to the specified lag structure (De Soysa and ONeal 1999), in our case the results are also consistent if I choose a 1 lag structure (tests with a greater number of lags start having problems with degrees of freedom and too many nations dropped). The results here paint a complex picture. Changes in mean ratings both Granger cause and are Granger caused by the magnitude of the business cycle. That is, while changes in mean ratings tend to exacerbate the magnitude of business cycles, the reverse also seems to be true. This confirms both the findings by Ferri et al and suggest that the findings above are more than just an artifact of the business cycle.

### **Discussion**

This chapter had fewer theoretical considerations in place because it dealt with an empirical question that, by itself, is not enough to differentiate the competing theories being discussed in this dissertation. The idea that risk ratings have a real world impact is only anomalous to the existing efficient market hypothesis if I consider the findings from the last chapter, where I found that risk ratings were very poor predictors of default in our current sample. To the extent that our findings speak to our theoretical considerations here, it is because of the differences I have been able to detect between expansions and recessions. Such a finding points to the relevance of business cycles that are ignored by the efficient market hypothesis. But beyond that, the chapter does not have any significant anomalous findings regarding the EMH.

And yet, the findings in this chapter are crucial in that they help paint the big picture that is important in this dissertation. Perhaps the most important question I ask here is if, as many (Ferri, Liu, and Stiglitz 1999; House 1995; Partnoy 2006) have argued, there are significant issues with sovereign risk ratings and the credit rating agencies that issue them, why are they still around? Beyond that, if as yet others (Block 1977; Blyth 2002; Stiglitz 2002; Vreeland 2003) have also argued, there is evidence that neoliberal policies have potentially negative impacts on all sorts of social indicators, why is it still the ruling paradigm, continuously expanding despite several crises (Babb 2005; Blyth 2002; Campbell 2001; Carruthers, Babb, and Halliday 1998; Chwieroth 2009; Fourcade-Gourinchas and Babb 2002; Haggard and Kaufman 2008; Hall 1993)? This chapter points to the existence of significant costs to changing a policy paradigm at precisely the moment such a change would be more likely, which are during crisis that expose the potential drawbacks of the ruling ideas. If, as I have shown, CRAs are heavily influenced by the adoption of neoliberal policies, and if, as I have shown, CRAs are particularly influential during economic downturns, then any large scale policy reversal can potentially lead to the ratings downgrades that would make a nation face significant additional difficulties in obtaining capital to implement alternative policies.

It is important, however, to keep in mind that such a role is not exclusive to CRAs. They are not the only, or even main, sources of pressure for conformity with the ruling policy paradigm of the day. Different authors have pointed to the role played by US government and its agreements (Grinspun and Kreklewich 2009), trade relations (Henisz, Zelner, and Guillén 2005; Polillo and Guillén 2005) and the IMF (Chwieroth 2007; 2008; 2009) in helping not only spread, but maintain neoliberal policies in place.

The IMF, in particular, plays a crucial role in downturns with its conditional agreements.

As such, I make no claims regarding the relative importance of CRAs vis a vis these other factors in the maintenance of existing policy paradigms, only to its significant.

Tables and Figures:

Figure 4.1: Average Business Cycle Magnitude for Rated and Unrated Nations in Latin America:

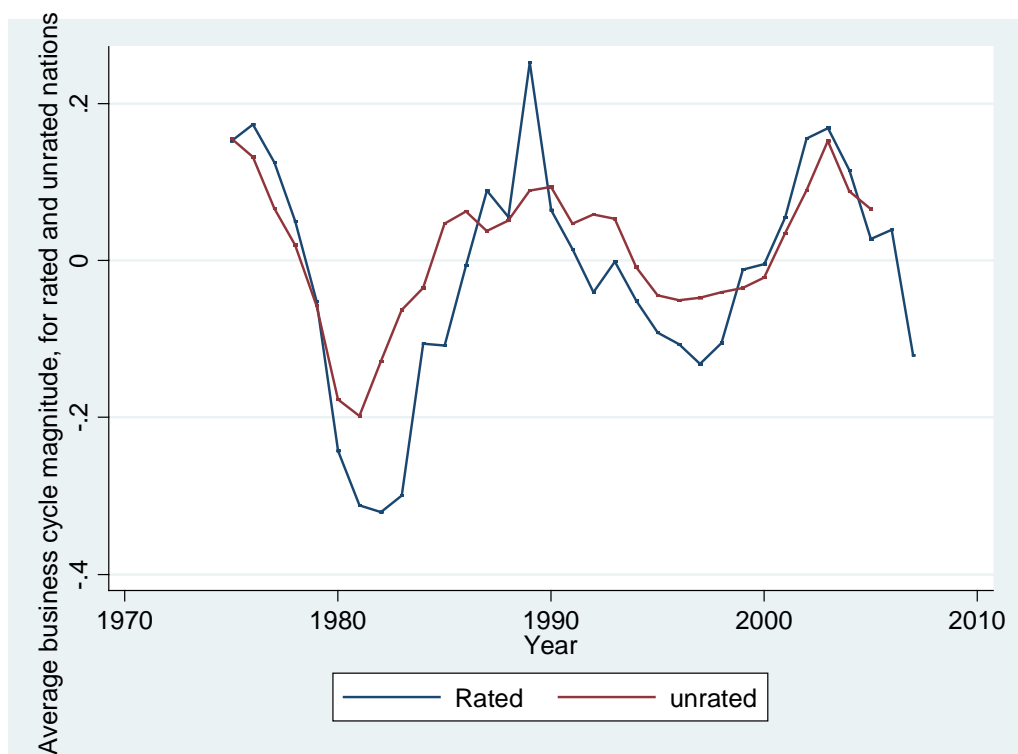


Table 4.1: Panel Corrected Results for the Portfolio Investment on Bonds Models

	(1)	(2)	(3)
	port1	port2	port3
VARIABLES	Full Model	Recessions	Expansions
Ln(GDP per Capita)	0.258	0.454**	-0.132
	(0.185)	(0.193)	(0.277)
Annual GDP growth	0.0353*	0.0376	0.0308
	(0.0199)	(0.0278)	(0.0254)
ln(inflation)	0.0521	0.471***	0.0180
	(0.0372)	(0.134)	(0.0412)
democracy	0.00225	0.00116	-0.108
	(0.00961)	(0.00533)	(0.0855)
Left executive	-0.0545	-0.498*	-0.269
	(0.216)	(0.269)	(0.371)
Change in mean rating	0.140**	0.311***	0.0629
	(0.0611)	(0.102)	(0.0745)
Short term debt	0.0218**	0.0184	0.0437**
	(0.0109)	(0.0145)	(0.0189)
Ln(external debt)	0.0968	0.215	0.165
	(0.164)	(0.177)	(0.267)
Total reserves	0.000232	-0.0206**	0.00253
	(0.00446)	(0.00916)	(0.00675)
Sum of years in default	-0.0230	-0.0680***	-0.0263
	(0.0205)	(0.0230)	(0.0364)
Selection instrument	0.0308	-0.0948*	0.0492
	(0.0308)	(0.0512)	(0.0478)



Constant	-2.914*	-4.203**	0.169
	(1.713)	(1.945)	(2.781)
Observations	168	89	79
R-squared	0.143	0.341	0.183
Number of wdinumber	15	15	15

---

Standard errors in

parentheses

\*\*\* p<0.01, \*\* p<0.05, \* p<0.1

Table 4.2: Panel Corrected Results for Interest Spread Models:

	(1)	(2)	(3)
	is1	is2	is3
	Full		
VARIABLES	Model	Recessions	Expansions
Ln(GDP per Capita)	1.332*** (0.478)	1.548*** (0.547)	1.556** (0.749)
	-		
Annual GDP growth	0.00673 (0.0489)	-0.103 (0.0742)	0.0752 (0.0661)
ln(inflation)	-0.0738 (0.111)	0.566 (0.359)	-0.0653 (0.122)
democracy	0.0576 (0.0406)	0.0387 (0.0342)	0.170 (0.178)
Left executive	0.636 (0.498)	0.289 (0.622)	1.283 (0.992)
Change in mean rating	0.371** (0.173)	0.575** (0.279)	0.340* (0.202)
Short term debt	-0.0257 (0.0242)	-0.0501 (0.0438)	0.0136 (0.0309)
Ln(external debt)	0.317 (0.398)	-0.0153 (0.482)	0.426 (0.621)
Total reserves	0.0109 (0.0120)	-0.0199 (0.0241)	0.0107 (0.0136)
Sum of years in default	-0.0536 (0.0571)	-0.0871 (0.0786)	-0.0788 (0.0809)

Selection instrument	0.267*** (0.0795)	-0.141 (0.128)	0.361*** (0.104)
	-		
Constant	13.40*** (4.721)	-9.668* (5.260)	-17.82** (7.667)
Observations	168	89	79
R-squared	0.193	0.251	0.282
Number of wdinumber	15	15	15

---

Standard errors in

parentheses

\*\*\* p<0.01, \*\* p<0.05, \* p<0.1

Table 4.3:

## Pairwise Granger Causality Tests

Lags: 2

Null Hypothesis:	Obs	F-Statistic	Probability
D. Meanrating does not Granger Cause Business Cycle	231	2.97031	0.05329
Business Cycle does not Granger Cause D.Mean Rating		2.48349	0.08573

## Chapter 5- Conclusion

The explanation for the existence and relevance of credit ratings agencies and sovereign risk ratings provided by the economics of information and of financial markets and the efficient market hypothesis have been very successful in gaining adherents because of the power of its counterfactual claims (MacKenzie 2006; MacKenzie and Millo 2003). That is, if market outcomes are systematically inefficient, or if market predictions are systematically wrong, why aren't investors taking advantage of that and exploiting these observed inefficiencies for personal gain? In a world with rational actors, the existence of any such visible arbitrage opportunities should be immediately exploited to the point that they disappear almost instantly, and any variations in market indicators are a result not of systematic inefficiencies or stickiness in indicators, but of actual economic changes that are reflected on investors opinions (Fama 1970). The existing explanation for the anomalies that many have encountered in the past with regards to CRAs point to existing regulation as the culprit for their increasing economic inefficiency (Frost 2006; Hunt 2008; Partnoy 1999; 2006). That is, in the absence of regulation, investors would either shun sovereign risk ratings when they make investment decisions, or they would exploit perceived inefficiencies for gain. In the former case, as investors ignored sovereign risk ratings, the reduction in interest rates that they provide to nations willing to pay for the ratings would decrease and eventually make it not worthwhile for nations to request them, eventually driving the inefficient raters out of business. In the latter, investors could exploit misguided expectations regarding defaults to profit from interest rate spreads. Nations that are underrated because CRAs included irrelevant information in their ratings procedure would initially have to offer higher interest

payments to those willing to buy their bonds, and that higher interest rate would increase demand for them as investors learned of the true likelihood of default. Eventually, even wrongly rated nations would drift back to market based efficient interest rate spreads, making ratings, if they were still issued at all, irrelevant with regards to their impact on economic performance. The problem of this perspective, however, is that it cannot explain where these regulations came from. Table 5.1 shows what each of the 3 perspectives here would predict in terms of the spread, relevance, accuracy and impact of sovereign risk ratings.

We believe that an institutional explanation for the sovereign risk rating phenomenon fits the issues outlined through this dissertation. Instead of the Cartesianism and mechanicism of neoclassical economics, institutional perspectives point to the possibility of “lock-in with positive feedback which prevent progressive change” (Hodgson 1993 pg 6). Instead of a world where the status quo is maintained by a mechanistic approach where self interest guides conditions back to its efficient equilibrium, a number of institutional approaches in different fields point to a world where cognitive and material characteristics shape the world in ways that equilibrium, if it exists at all, is not predetermined by an absolute notion of efficiency, but it is socially constructed. Much like a scientific paradigm validates itself by providing its own tools for the measurement of its accuracy (Kuhn 1962), economic efficiency ends up being constructed by the own perspective that generated the notion of efficiency. Just like models that estimated the “efficient” price of options became more accurate as more people adopted the model (MacKenzie and Millo 2003), the notion of the efficiency of the neoliberal policy paradigm is validated by the measures of risk that it itself has

created. The same approach can be seen with regards to economic crisis and policies elsewhere (Abolafia 1996; Abolafia and Burk 1991; Abolafia and Kilduff 1988).

At the basis of the institutional perspective is the idea that there is no teleology involved in the selection and maintenance of institutions. Mary Douglas (Douglas 1986) describes the sort of thinking present in rational actor models as causal plus intentional. Institutionalism, however, is more functionalist in its theory design. She emphasizes two particular aspects of functionalism that she sees as useful for social science, the ideas of a causal loop and that this causal loop goes unrecognized by the members of society (Douglas 1986; Fardon 2002). In an evolutionary metaphor, we might follow Hodgson (1993) and use a biological metaphor, that of the peacock's tail: the peacock's tail brings no discernible benefit to the animal, and yet it is locked in given its importance in mate selection, becoming locked in this causal loop. Likewise, institutionalism is marked by a similar process where legitimacy (DiMaggio and Powell 1983; Meyer and Rowan 1977), coercion (DiMaggio and Powell 1983) and habits of thought and other mimetic exercises (DiMaggio and Powell 1983; Veblen 1898) help certain forms of social order and interaction get "locked in" and replicated.

The process of institutionalization is as follows: through a process of abduction (Hodgson 1993) and bricolage (Douglas 1986; Hodgson 1993) new potential cultural or institutional forms appear. Abduction and bricolage refer to similar processes of metaphor and analogy transposition through which ideas and culture are transported from one field or subculture to another. Peirce's (Peirce 1955) ideas regarding abduction specially emphasize the notion of the transfer of metaphors from one field of scientific enquiry into another. Similarly, Douglas' notion of bricolage points to the use of

analogies from existing ideas in the cultural stock as a way of supporting the existing social order and the existence of institutional creation from the outset of cognition. That is, both concepts point to the use of metaphors and analogies from socially established and legitimized knowledge in the creation of new institutions or the maintenance of social order. In the event of crisis or major distress within the social order, new institutional forms might emerge, depending on the interplay of resources, symbols and social groups (Blyth 2002). If a new social order or paradigm appears (Hall 1993), it will have a tendency to self preservation and self reinforcement. As it shapes cognition and determines what people should pay attention to, what are the significant risks and dangers that must be addressed (Douglas 1991; Douglas and Wildavsky 1982) and so on, only a major crisis would overturn the existing order. The possibility of decoupling is real, and the legitimacy of institutions reinforce their continuity even when it becomes clear that the stated goals or objectives of that particular institutional form are not being followed and/or achieved (Meyer and Rowan 1977).

This trajectory fits with the analysis we've presented in this dissertation. Sometime during the 1950's, a new form of financial economics emerged. Borrowing metaphors from mathematics (McCloskey 1998) and physics (Mirowski 1991), a new sort of economics once dismissed as concerned with inferior practical matters soon gained prominence within the profession. With that methodological apparatus in hand, economists set out to legitimize their theories and establish institutions that reflected the ideas contained in them (MacKenzie 2006; MacKenzie and Millo 2003). With the scientific legitimacy gained by borrowing metaphors from the hard sciences, they set out to distinguish the practices prescribed by their theories from similar forms of gambling,



and as a result, as MacKenzie and Millo describe, helped create the Chicago Board of Exchange and the derivatives markets. Subsequently, they used that legitimacy to create a new language that could transpose field barriers and communicate economic ideas to people in distant fields (Millo and MacKenzie 2009). Thus the language of risk measurements was created, in a specific attempt to communicate to regulators differences and distinctions that were not made in the past. Millo and MacKenzie describe how the creation of this boundary object, the risk rating, made its way into the existing regulatory apparatus.

Given the rise in the financialization of economies (Krippner 2005), it is not surprising that this perspective made its way into the fields of economic development and international finance. As the IMF and other IGOs adopted these ideas, they started to spread around the world (Chwioroth 2007; Chwioroth 2009). This is where our story begins. As we showed on chapter 1, the IMF and INGOs played a significant role in the spread of sovereign risk ratings. Through their roles in the diffusion of national and corporate accounting practices, of sharing of technical expertise, and through the diffusion of a common world view more and more nations turned to bond markets and the CRAs that rated bonds. With the diffusion of sovereign risk ratings through these mimetic and normative processes, more national governments were under the increased scrutiny of CRAs and the ideas they embodied.

Given that CRAs were embedded in the paradigm that established their creation, they were particularly sensitive to the adoption of policies that fit that paradigm, as we showed in chapter three. CRAs valued the adoption of neoliberal policies even in the instances where it was clear that those policies might have a different effect than the one

the existing paradigm predicted. There was a clear decoupling between economic performance and the predicted effects of the policies that made up the ruling paradigm. And yet in periods of expansion such decoupling didn't matter.

During recessions, however, CRAs helped strengthen the process of lock in of existing institutional arrangements. In a situation of greater uncertainty, like a crisis, investors and CRAs reemphasized the importance of adherence to the existing policy paradigm. As we saw in chapter 4, the greater importance of sovereign risk ratings during crisis indicate that paradigm shifts are particularly costly during those periods, thus helping keep the current international economic order and its associated ideas in place.

While we believe that we have provided enough evidence to support our contention that an institutionalist perspective is better able to explain the development of Sovereign Risk Ratings than the existing neoclassical perspective, this study is not without its limitations. The first is that while we provide quantitative evidence for three links in the causal chain we have just described, we didn't deal with the direct and indirect effects of one on the other. That is, we didn't discuss specific instances of costly downgrades due to policy reversals, instead relying on different models to establish both that neoliberal policies have an impact on ratings and that ratings have an impact on economic indicators. This problem is compounded by the fact that a significant amount of rhetorical struggles might take place that are not captured by economic data. That is, our data only includes observed policy shifts, and not debates over policy shifts or failed attempts at changing policy. These are potentially more significant for our study as they can illuminate the rhetorical use of sovereign risk ratings in the political struggles throughout the developing world. As such, the next steps in our research will be to

complement the existing quantitative analysis with qualitative analysis of archival data regarding political debates and the use of risk ratings as rhetorical devices during politically contentious periods.

Tables:

Table 5.1: The Three Theoretical Perspectives and their Predictions regarding Sovereign Risk Ratings

Issue\Theoretical perspectives	Reputational Capital View	Regulatory License View	Institutionalism
Origins of Risk Rating	Solving Problems of Information Asymmetry	Solving Problems of Information Asymmetry	Dealing with uncertainty in accordance to ruling policy paradigm
Why a nation would choose to get rated?	Reduce cost of borrowing money	Reduce cost of borrowing money/ get a “regulatory license” reducing the cost of regulations	Institutionalization/spread of a certain world view. Communicating compliance with existing policy paradigm.
Influence of political variables on actual ratings	Political variables are only relevant to the extent that they improve the accuracy of country risk ratings	Political variables are only relevant to the extent that they improve the accuracy of country risk ratings	Political variables relevant even when they are irrelevant or detract from the accuracy of country risk ratings

Predictive power of ratings	Ratings are supposed to be highly accurate and informative on average, lest the rating agency lose customers	Nations are overrated due to barriers to entry in ratings market. Ratings are still supposed to be coherent, though, especially those which are speculative grade	Ratings accuracy is irrelevant as they actually measure compliance with the ruling policy paradigm
Impact of ratings on market variables	Ratings are supposed to have an impact only to the degree to which they are accurate	Ratings are supposed to have an impact around the “speculative grade/investment grade threshold”	Ratings are supposed to have an impact regardless of accuracy, and that impact is supposed to be greater specially in times of actual uncertainty.

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