Project Description

The International Monetary Fund (hereafter IMF) and its lending programs have been intensely studied by scholars in recent years. Recent scholarship in political science has made four key contributions to this literature – a more focused appraisal of the methodology of selection effects (Edwards 2005; Vreeland 2003; Stone 2002), a deeper understanding of the role of international political factors in shaping program selection and compliance (Copelovitch 2008; Oatley and Yackee 2004; Stone 2004; Thacker 1999), an appraisal of how political factors within states shape their ability to implement austerity measures (Nooruddin and Simmons 2006; Pop-Eleches 2008; Stone 2004), and finally, an improved understanding of the effects of IMF programs on international financial markets (Edwards 2005, 2006; Gould 2003; Jensen 2004; Mosley 2003).

While the above scholarship has focused on the politics and the effects of IMF lending, other roles of the IMF have received less scholarly attention. The Fund was originally created to exercise surveillance over country economies in a world of fixed exchange rates. The Fund’s original mandate was to ensure that countries adopted economic policies that were consistent with keeping currencies stable. With the end of the Bretton Woods system, the IMF has continued to perform this surveillance function as authorized under Article IV of the Articles of Agreement. This surveillance takes the form of annual meetings with countries (known as Article IV consultations) to ensure that countries are implementing economic and financial policies “toward the objective of fostering orderly economic growth with reasonable price stability.” While originally envisioned to focus on exchange rate policy, the breadth of issues covered in these consultations touch on fiscal and monetary policy, as well as trade policy and structural reforms (Boughton 2001; Pauly 1997). Surveillance activities take up approximately 42% of staff time (IMF 1999:23) and about 60% of the time of the Fund’s Executive Board, covering about 120-130 consultations per year (Van Houtven 2002:15).

With the onset of the global economic crisis, IMF surveillance of country economies has taken on greater importance. The G-20 London summit endorsed strengthening “candid, even-handed, and independent” IMF surveillance of member state economies as a means to strengthen the international monetary system. The IMF also has an important role, not only in managing country risks through surveillance, but also in providing know-how. Following its June summit, the G-8 finance ministers tasked the IMF to help member governments by providing the analytical work necessary to make decisions on scaling back the stimulus packages created by countries in response to the crisis.

Unfortunately, our knowledge about when IMF surveillance matters is scant. Functional IR theory (also known as neoliberal or neoliberal institutionalism) suggests that surveillance, even when not backed with lending, should be consequential. Information provision is part of the rationale for the IMF’s creation in the first place. Investors lack reliable information about the future course of a country’s economy, especially in developing countries (Keohane 1984; Mosley 2003; Rodrik 1995). Information provision takes on the properties of a public good that can be underprovided, and the countries that contribute this information have incentives to misrepresent it. Empowering the Fund to gather economic information about countries, then, ensures consistency and is a barrier against bias (Abbott and Snidal 1998). IMF surveillance, then, should be informative to external observers.

Observers note that Fund surveillance is far from impartial, suggesting that this is a barrier to its effectiveness. Volcker and Gyownten (1992:143) sum it up succinctly: “When the Fund
consults with a poor and weak country, the country gets in line. When it consults with a big and strong country, the Fund gets in line.” In this line of argument, the Fund does not treat all countries equally – and for larger countries, it cannot be as critical (Rogoff 2003). Developed countries don’t need IMF resources; as a result, they are free to discard its advice. Developing countries, however, especially those facing the possibility of needing to borrow from the IMF, might have greater incentives to listen to the Fund lest they complicate obtaining loans in the future (Lombardi and Woods 2008). Thus, it is no accident that Susan Strange referred to the IMF’s surveillance as a “pantomime” (1997:42).

This raises a question with important policy implications – what exactly is the problem with surveillance? Is it truly the case that the Fund isn’t “tough” when it needs to be? Alternatively, is it the case that the nature of the advice given by the IMF Article IV team to countries isn’t useful because it avoids issues of implementation (IMF 1999; Momani 2006)? Is it the case that the markets don’t find IMF surveillance of value, and don’t respond to it accordingly (following Mosley 2003)? Is it the case that external advice only matters after a prolonged period of time and only after crises happen (Broome and Seabrooke 2007)?

Recent moves to make Article IV reports transparent make it possible for us to better answer these questions. Following the arrival of the IMF Article IV team on the ground (which takes place annually in both developing countries and developed countries), a report is drafted. Since February 2004, the presumption is that this report is made public on the IMF website unless the country blocks publication. As I detail below, the incidence of release of information following the Article IV consultation has increased substantially. The fact that countries seek to suppress publication of these reports in about 20% of the cases, however, tells us something of note. If the skeptics are correct that IMF surveillance is utterly inconsequential, why would countries block publication of the report? Conscious attempts to delimit transparency can only mean that countries seek to limit the impact of the findings of the consultation, and can be interpreted as a sign that these reports actually are influential.

How has IMF bilateral surveillance changed over time?

Since the end of the Bretton Woods system, IMF surveillance has moved from being a purely private exchange (in which all documents are private between the country and the Fund team) to a largely public exchange in which documents are increasingly released to the public via the IMF website. The initial step in this transformation took place in April 1997, when the IMF’s Executive Board allowed the creation of Public Information Notices (PINs). These notices are essentially press releases that contain both factual information as well as the Fund’s assessment of the state’s economic policies and prospects. PINs can be published by the Fund 5-10 days after the Executive Board’s review of the country’s consultation, following approval by the member country.

The original concerns about increasing transparency were based on the idea that revealing too much information to markets, specifically about exchange rate policy, would destabilize them (James 1996:274). After all, a strong public signal from the Fund that a country’s exchange rate is unsustainable is likely to produce a run on the currency and force a devaluation. Rather than discuss exchange rates directly, staff reports discussed whether monetary and fiscal policy was largely consistent with the exchange rate policy (Boughton 2001:90). The Fund moved to allow the release of PINs following country approval, since some countries were already releasing information from the Article IV team’s wrap-up meeting with country authorities (Boughton 2001:101).
The second step in the move toward greater transparency came in March 1999, when the Executive Board agreed to an 18 month pilot program for voluntary release of the Article IV staff reports. These staff reports are the documents generated by the Article IV team for the Executive Board’s review. Countries are allowed to delete information felt to be market sensitive prior to publication, and in countries in which the staff report was issued, a PIN would also be issued. The pilot program ran from April 1999 to December 2000. During that time, 61 countries released reports from a total of 77 consultations with their respective Article IV team.

The third step came in January 2001 following the expiration of the pilot program. At this time, the Executive Board made the release of Article IV staff reports voluntary. In addition, the Executive Board created an explicit policy regarding deletions from the reports, which limited them solely to information regarding exchange rates and interest rates that is market sensitive. Countries can refuse to have the staff report published, and they can also refuse to allow a PIN to be released. In this case, a brief press release stating that the consultation takes place is published by the Fund.

Finally, in February 2004, the Executive Board made the release of Article IV staff reports “voluntary but presumed.” In other words, countries have to stipulate if they do not approve of the release of the report, rather than if they wish the report to be released. In practice, this means that states that do not offer an opinion will have their report released by the IMF – as occurred in the case of China’s Article IV consultation in 2005. As above, states can continue to even prevent PINs from being released regarding the consultation.

Over time, the norm of making the findings of Article IV consultations public has strengthened. Between July 1999 and June 2001, 83% of country PINs were published, and 47% of the Article IV staff reports were published. Between November 2007 and December 2008, 97% of PINs were published, and 82% of Article IV staff reports were published. Not only has the norm of Article IV transparency strengthened, but the very meaning of transparency has changed, as countries are now releasing more information.

**Methodological Implications**

This brief overview of the evolution of IMF transparency has a clear implication for the conduct of inquiry on this topic. What transparency means is not constant over time. From April 1997 to March 1999, transparency means releasing a PIN. From March 1999 onward, transparency is a matter of degree: some countries release Article IV reports; some don’t. Some countries choose not to release PINs on their consultations. This means two things for the study.

It is easy to study the April 1997 to March 1999 time period, because the choice is simple – countries either release PINs or not. Following this initial time period, a country can only release a staff report if it releases a PIN as well. Without a better understanding of why countries choose to release PINs, we can’t know understand why some countries release their staff reports and others do not. Transparency is not a variable that takes on random values across countries. Methodologically, this means that statistical techniques for addressing selection bias will be employed for the post March 1999 time period. This is shown schematically in Figure One below.
Why is this question important?
As the above points out, IMF surveillance is understudied relative to lending. Moreover, calls for increasing the amount of surveillance demonstrate that this issue is not going away in the near future. Developing a deeper understanding of when and how surveillance matters is useful for three reasons.

First, it helps us to better understand the effectiveness of the IMF more generally. A better understanding of the sources of its dysfunctions helps contribute to a larger literature on IMF reform. For example, a policy implication of Stone’s (2002, 2004) work is that the presence of geopolitical biases in lending means that the Fund needs to be more independent from G-7 countries. Finding that surveillance is distorted by the prism of great power politics implies a similar conclusion.

Outside of adding to our knowledge of the IMF and its influence, this project helps advance a larger theoretical concern. Scholars study IMF lending because it is one of the most influential international organizations — if countries don’t implement the conditions outlined in their austerity programs, access to additional installments of the IMF loan can be suspended. In contrast, there is no direct enforcement by the IMF for failing to heed the advice offered in an Article IV consultation.

For many international organizations, enforcement is not an option. Soft law is an increasingly important regulatory tool in the world economy, yet we lack a theoretical understanding of when and how it matters. For realists, rules such as Article IV are epiphenomenal and merely encapsulate extant preferences rather than alter behavior. For constructivist scholars (Finnemore 1993, Barnett and Finnemore 1996) international organizations have influence even if they have no enforcement power because they have expertise. This allows IOs to socialize states by diffusing norms, but the microfoundations of the socializing or persuading power of international organizations have yet to be fully explicated (Checkel 2001). For functional IO scholars, information provision is part of what international organizations do, but this does not tell us when and how such information is viewed as

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1 Soft law is a term often reserved for international rules that lack enforcement. As Abbott, Keohane, Moravcsik, Slaughter, and Snidal (2000) note, Article IV creates weak legal obligations on countries, and the force of these obligations is not precise.
consequential. One of the key insights of Simmons’ (2000) work on Article VIII of the IMF (which is a rule forbidding countries imposing restrictions on foreign exchange) was that enforcement does not need to be centralized to be consequential. The idea that international organizations can work as coordination devices suggests that their influence is often indirect. For Simmons, the IMF stipulates whether or not states have met Article VIII. Recent reanalyses of her work suggest that countries that have not met Article VIII experience higher risk premia on their sovereign debts as a result (Nelson 2008). Similarly, in the field of human rights, countries investigated by the UN Human Rights Commission are less likely to receive loans from the World Bank (Lebovic and Voeten 2009). These papers thus suggest that neglecting the signaling effects of international organizations leads one to overlook their considerable effects. International organizations that lack enforcement power can be consequential because their signals are used by third parties.

A third issue that this project touches on is the politics of transparency. The strengthening of norms of Article IV transparency is part of a broader policy shift across countries toward greater government openness (Florini 2007). Understanding when countries make their reports publicly available is part of this broader shift. International organizations, by revealing information, are viewed as essential providers of transparency (Keohane 1984). However, we know that the IMF is prone to biases in its lending practices – it tends to treat US allies and large borrowers differently (Copelovitch 2008; Oatley and Yackee 2004; Stone 2004; Thacker 1999). These biases also affect its forecasting procedures, as inflation and growth targets are differ systematically between favored countries and those that are not close to the US (Dreher, Vreeland, Marchesi 2008). This raises an important question – to what extent does the Fund accurately reveal information? Understanding the effectiveness of Article IVs in this light (when the IMF has incentives to dissemble) tells us a great deal about the influence of international capital flows.

This project suggests that more transparency has altered the IMF’s job. In a nontransparent world, the responses of international capital markets to IMF surveillance were not a concern for the Fund. Now that 80% of countries are releasing these reports, the Fund has to consider the response of international markets in devising its message. Not only does this create greater incentives to distort information, this also means that the temptation to understate the problem in developing countries may harm the Fund’s reputation as an impartial provider of information (Rogoff 2003). Thus, in an important sense, transparency has been a double-edged sword for the IMF. While publishing Article IV staff reports has surely been informative, the presence of transparency means that the IMF has to choose its words carefully.

This suggests that a research strategy aimed at understanding bilateral IMF surveillance should proceed by understanding both state incentives to suppress reports and IMF incentives to distort information, and then use this as a basis to understand both how capital markets respond to these signals and how states respond to the impending arrival of the Article IV consultation team. Below I outline the research design for this project, which follows each of these questions in order.

**Research Design**

As noted above, my approach to the puzzle of bilateral IMF surveillance consists of answering several interrelated questions: When do states release their Article IV reports? When does the IMF have incentives to distort information? How does transparency affect international capital markets? How do states respond to the approaching date of an Article IV consultation?
discuss in detail below exactly how I propose to study each of these questions. The research design for the project can be viewed schematically. This is shown in the figure below.

**Question 1:** Country Incentives to Reveal Information

**Question 2:** IMF Incentives to Distort Information

**Question 3:** Effect of Article IVs on International Capital Markets and Policy Variables

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**Figure 2**

*Question One: When do states release information about their Article IV reports?*

As the above discussion suggests, what constitutes transparency has changed over time. From April 1997 to March 1999, the only option that countries had was whether or not to have the Fund release a PIN following completion of the Executive Board’s review of the consultation. From March 1999 on, countries had a second option to release the staff report as well in addition to the PIN. As noted above, because this reform complicates the choice structure, it poses a slight wrinkle to estimating variations in cross-country transparency.

As noted earlier, because countries only release staff reports if they had already agreed to release a PIN, this means that the decision to release staff reports is a nonrandom selection issue. Fortunately, situations with choice structures such as these can be estimated simply using standard maximum likelihood procedures – such as the Heckman probit estimator found in Stata. In this case, because a staff report release only occurs if states agree to release a PIN, this statistical routine jointly estimates the probability that a PIN is released (or not) as well as whether or not a staff report is released.\(^2\)

Answering this question requires creating a cross-national dataset from 1997 to 2008. Including all IMF members (186 as of July 1, 2009) means that this dataset will have

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\(^2\) Related applications include individual decisions to go to the polls and vote for the incumbent or not (Dubin and Rivers 1989) and whether or not to escalate a crisis to war (Reed 2000). I used a similar approach to estimate the effects of entering an IMF program and complying with it on portfolio investment flows (Edwards 2005).
approximately 2,046 observations. I will use simple dichotomous codings for the dependent variable (zero-one) for whether or not a PIN or staff report is released. Information on who has or has not released staff reports and PINs is available in the Annual Reports of the IMF as well as its Triennial Reviews of Surveillance and through the IMF website. Analysis, then, will be a simple logit/probit of PIN release from April 1997 to March 1999, and a Heckman probit of PIN and staff report release from March 1999 to the end of 2008. The empirical study analysis will be appropriate to the structure of the data (probit with fixed/random effects and controls for autocorrelation ala Beck, Katz and Tucker 1998 where needed).

I propose to test three categories of alternative explanations for variations in cross-country transparency. First, there might be country-level political correlates that account for why some countries release information and not others. Based on work on democracy and the credibility of commitments (Gaubatz 1996; Saiegh 2005; Schultz and Weingast 2003), I will include variables for regime type. Building on the literature on political and partisan business cycles (Franzese 2002; Alesina, Roubini and Cohen 1997), I will include variables for approaching elections and partisanship. Second, there might be country-level economic correlates accounting for variations in transparency. These would include trade dependence, the state of the economy, the type of exchange rate system (i.e. flexible or fixed) and the level of missing data in their economic record more generally. There might also be attributes of the country’s relationship with the IMF that might explain patterns of data release: specifically, whether or not a country is under a loan arrangement and the extent of a country’s borrowing privileges with the Fund. Finally, following Simmons (2000), I will also test for regional relationships in order to ascertain if a country’s information release is conditioned on what major trading partners or contiguous states do.

**Question Two: When does the IMF distort those country reports that are public?**

One of the problems with studying surveillance is that it is difficult to assess whether countries are performing up to par when the meaning of par itself is contested. In this case, we cannot rely on a comparison of forecast data to actual outcomes since the process of Article IV surveillance is distinct from the production of the World Economic Outlook. This means that the research design needs to proceed differently from the work on forecasting (Dreher, Vreeland, and Marchesi 2008). The notion that reports are subject to “distortion” could refer to two distinct phenomena altogether. It could mean something about the tone of the report – the Fund is too positive when it should be more negative (Boughton 2001:42; Rogoff 2003). The literature on central bank transparency suggests a different angle altogether, as scholars note that central bankers who operate transparently sometimes deliver messages that are intentionally unclear (Stein 1989; Geraats 2002, 2007). On this track, then, Article IV reports could merely be intentionally ambiguous to avoid destabilizing financial markets. The persistence of recommendations to strengthen surveillance implies that at least one, if not both, of these biases are operating in the Fund’s Article IV reports. For our purposes, understanding what shapes the content of Article IV reports then requires an assessment of both the tone of the report as well as its clarity.

To do this, I will generate a random sample of Article IV reports that were conducted in a given year. A danger here is selection bias – if a country’s report was both negative and candid, a country might not choose to publish it. The possibility exists then, that the sample of published reports might look different from the total population of reports that are generated. The danger of selection effects is not trivial here, as 25% of the Article IVs were not published between July 2003 and February 2005 (IMF 2005). I will address this issue by using reports from the IMF
archives during 2004. Because Article IV reports are embargoed for five years, assuming that I make a trip to the IMF archives in 2010, 2004 reports will be the first year available.³

To build the sample of reports, I will use the annual database developed to answer Question 1 to build the universe of reports discussed by the Executive Board between January 1, 2004 and December 31, 2004. I will stratify the Fund membership by region (as there are five regional departments at the Fund: Africa, Asia and the Pacific, Europe, Middle East, and Western Hemisphere). I will further stratify the countries within each region by income level (Advanced, Emerging Market, and Developing) using the classification criteria used in the IMF’s World Economic Outlook. This will produce a target number of reports needed for each strata. I will then randomly draw countries from these strata and request their Article IV staff reports from that year from the IMF archives. The sample here will be approximately 50-60 countries subject to the above stratification.

I will draw a second sample comprised solely of 27 emerging markets – this will be used in Question 3 to assess the effects of differences in report content on capital markets. I will discuss the composition of this second sample and its role further below.

Having drawn a sample of Article IV reports, the task is to code the tone and the clarity of each country’s report. Given that Article IV by definition encompasses a wide variety of issues, I will focus on fiscal policy, monetary policy, exchange rate policy, structural reforms related to the above (including changing budgetary procedures, making the central bank more or less independent, and altering the exchange rate) and other structural reforms (including safety nets and labor rules). For each of these five areas, the findings of each report will be coded in terms of its tone (positive, negative, or neutral) and its clarity (high, medium, or low). Applying the same criteria across these areas allows me to generate composite scores for the tone and clarity for each report. These will become dependent variables in the analysis.

To ameliorate concerns about reliability, my role in this will be to gather the reports and develop the coding criteria. I will use a third sample of consultations conducted in 2004 to build the coding criteria. Having put the procedures in place, I will turn this over to my student researchers, who will actually code the reports.

To understand whether the Fund makes Article IV reports less candid or more positive, I build on published work on IMF forecasts (Dreher, Vreeland, and Marchesi 2008). Using the scores for tone and clarity of each report as distinct dependent variables, I include the variables for current economic conditions used for Question One, but also add the variables for US and G-7 influence (foreign aid and bank exposure), the type of exchange rate regime (fixed or flexible), and whether or not the report was released.

The range of each of these composite variables will be bounded. For clarity, if findings of high clarity are scored a 3, medium a 2, and low a 1, this means that summing up across the five areas noted above produces a composite score of 5 to 15. Similarly for tone, if positive findings score +1, neutral findings score a 0, and negative findings score a -1, then summing up across the five areas produces a composite score of -5 to 5. The statistical technique used here (known as tobit) will address this upper and lower truncation.

³ I have been to the IMF Archives in 2000 to obtain the data in my dissertation, and I used information from Article IV reports found in the archives to code compliance with IMF lending arrangements (Edwards 2003:104-113).
Question Three: Do Article IVs matter? Understanding the link between transparency and the cost of capital

The acid test of transparency is to assess if country variations in transparency systematically affect the response of international capital markets. Not only does such a test address the value of bilateral surveillance, but it also clarifies exactly how and to what extent transparency matters.

I will follow a two-fold strategy to estimate the effects of Article IVs. First, I will estimate the effects of Article IVs on cost of capital by evaluating spreads on sovereign debt incurred by emerging market economies. I will approach this part of the question by looking at both quarterly and daily spread data. This ensures the strongest possible test that transparency matters. Second, I will directly assess the effect of surveillance on policy variables using the quarterly dataset.

Question Three – Part One: Direct effects of variations in Article IV transparency on cost of capital – quarterly spread data

One of the problems that must be confronted in studying transparency is that it is not exogenous (Alt and Lassen 2006; Chortareas, Stasavage, and Sterne 2002). Countries choose to be transparent or not, and neglecting this complicates attempts to assess its effects. This is a point that has even eluded some IMF economists that study the effects of transparency (Christofides, Mulder, and Tiffin 2003; Cady and Pellichio 2006). In this project, however, the timing of Article IV consultations is an aid to our work rather than a hindrance. The timetable for these consultations is set in advance. While countries might refuse to publish findings in some form, or they might work with the Fund to delay when the consultation takes place, they can’t block a consultation from taking place. States then will have opportunities to release information or not based at set times following the conclusion of their consultations by the Fund Executive Board. I will address the endogeneity of transparency by setting up a treatment model. Since countries choose to be transparent for specific reasons, controlling for this is essential to have an unbiased estimation of the effects of transparency.

The simplest approach to address the selection bias problem caused by transparency is to use the results from the statistical model in Question One, form hazard rates to control for PIN release and staff report release and enter these into a model of cost of capital. This is the conventional approach used in works on regime type and growth, for example (Przeworski 2007). I’ve also used a similar approach in my own work (Edwards 2005, 2006). However, there are three problems that such an approach would create. First, the use of annual data here is far too coarse. As Stone (2002) and Pop-Eleches (2008) note, the use of quarterly data reveals many insights about the behavior of the Fund that are obscured in annual data. More fundamentally, though, since I want to assess how capital markets respond to country decisions on transparency, work at levels of measurement below country-year makes sense. Second, countries choose whether or not to allow the Fund to release information regarding the consultation following the consultation. It is important to be judicious about when transparency happens in this case, since this information can’t merely be released at any time. As Glennerster and Shin note (2003, 2008) the timing of information release is exogenous, but the decision to release information is not. In other words, the selection bias issue is that some countries choose to be transparent and some do not – which is not the same thing as when the consultation happens. Third, since the meaning of transparency has changed over time, the April 1997-March 1999 time period should be separated from later years. After all, countries could only choose to release a PIN or not during this initial time period. Only later could they choose to release the staff report.
The first stage of this project then, is to estimate for when transparency happens. The dependent variable then is a quarterly version of the dummy dependent variable in Question One (in which a 1 is coded for the quarter in which a PIN or staff report is released and for the quarters following) covering the 1997-2008 timeperiod. The independent variables are more complicated with the quarterly data design. In the case of the United States, the Executive Board discussed the US Article IVs every year within a few days of July 23 (www.imf.org). Because the consultations don’t take place in every quarter, the release of data cannot happen in every quarter. Every four quarters (12 months) following the conclusion of the previous Executive Board discussion represents an opportunity for a country to publish documents from its consultation. A dummy variable for the fourth quarter from the previous consultation, then, marks the window for data release.

The other regressors used for this first stage will be similar to those used in Question One. I will focus on country economic conditions such as debt service, inflation, growth and per capita GNP. I will also include variables such as regime type and approaching elections, the type of exchange rate regime, and regional dummies since some regions are more prone to release data than others. Because I am assuming that these other variables lead to data release in combination with when a consultation happens, I will include interactive terms to test for conditional relationships between the fourth quarter dummy and the other independent variables. Put another way, then, this approach is what economists call a differences-in-differences estimation (Bertrand, Duflo, and Mullainathan 2004).

For the April 1997-March 1999 period, the dependent variable is whether or not a PIN is released. Following March 1999, countries can release a PIN (or not) and release a staff report (or not). For this first period, the goal is to estimate a model of data release, and then form a variable known as a hazard rate. Once I insert the hazard rate into a model of cost of capital, this effectively controls for selection bias. In the second timeperiod (following March 1999), we insert the hazard rate from the PIN release model into a model of staff report release, and the hazard rate from this regression effectively controls for the selection bias for the cost of capital (following Heckman 1979). Thus, forming these hazard rates allows me to estimate counterfactual values for each of the nodes in Figure 1, and comparing these then tells us about the effects of transparency.

Having addressed the selection bias issue, the dependent variable in the cost of capital model is the quarterly spread on sovereign debt. To best measure cost of capital in developing countries, a price measure is preferable to a measure of capital flows. As a result, I will use information from the JP Morgan Emerging Market Bond Index (EMBI+) as the dependent variable. Specifically, I will look at the spread, which refers to the difference between the yield on a country’s foreign-currency-denominated securities and an equivalent US government bond. For each country, the yield is a composite of the daily return on individual securities traded on the secondary market. Thus, these spreads are available at all times, and not just when bonds are issued. I will use information on sovereign debt instruments only for each country’s spread. The spread is calculated in basis points (1/100 of a percentage point). The list of countries covered in the EMBI from 1997 to 2008 is in the table below.

<table>
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<th>Country Coverage in JP Morgan EMBI (27 Countries)</th>
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<tbody>
<tr>
<td>Algeria</td>
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<td>Argentina</td>
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<td>Brazil</td>
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A strength of this longitudinal research design is that this includes observations of emerging markets in both good and bad times – including events like the East Asian Currency Crisis and its aftershocks in Brazil, Russia, and Argentina. One possibility is that transparency has different effects in good and bad times (following Tomz 2007), but whether this is actually the case requires an appraisal of the data.

It bears noting that I am intentionally not looking at developed countries. One could look at the quarterly interest rate on long term government debt, as Mosley (2003) did. My hunch is that the informational contribution of IMF consultations (and consequently their effects on interest rates) would be much smaller, since developed countries are in much less need of the credibility effects of IMF surveillance.

In this field, the applications of Heckman-style treatment methods have been a source of scholarly debate. In the case of studies of variations in regime type and economic growth, differences in results exist between Heckman and matching models. These differences are traceable to distinctions in how each technique forms counterfactuals (Przeworski 2007). The debate between Von Stein (2005) and Simmons and Hopkins (2005) turns on the type of model used to estimate the effects of Article VIII on capital control restrictions. Similarly, Atoyan and Conway (2006) note that estimations of the effects of IMF programs on growth can differ from estimations using Heckman techniques. Because some countries in economic crisis seek IMF programs and some don’t, and some countries that aren’t in economic crisis seek IMF programs, how we account for participation can affect the outcomes. Matching samples are based on building a sample of countries based on their likelihood of program participation. As a result, those countries certain to enter programs and those unlikely to enter programs are discounted. Heckman methods, by contrast, count all countries equally in forming the control for selection bias. Differences in how participation is controlled for, then, can produce different estimates of program effects.

The existence of these model-dependent results in a number of different studies necessitates a double-check of the results in this project. Thus, I will verify the results from the Heckman models by using matching methods to generate a dataset to estimate the effects of transparency on spreads (Ho, Imai, King and Stuart 2007).

Whether the published results are based on Heckman or matching, I will need a set of control variables to predict variations in country spreads. I will use the political variables outlined in Question Two (regime type, partisanship, and approach elections), and controls for whether or not a country is under an IMF program. In addition, I will use controls for inflation, the current account, per capita debt, and a country’s default history (following Mauro, Sussman, and Yafeh 2006).

**Question Three – Part Two: Direct effects of variations in Article IV transparency on cost of capital – daily spread data**

A significant coefficient linking transparency to sovereign debt spreads raises the question of what countries are responding to. The ‘signal’ sent in the release of a PIN or Article IV report is two-fold; not only is it information which previously didn’t exist, but it is also an assessment of
the future evolution of a country’s economy. This means that the strongest possible test that transparency matters links the content of the report, not merely whether it was published, to market behavior.

To answer this question, then, I build on the existing literature on news effects for IMF announcements (Evrensel and Kutan 2008; Kutan and Sudjana 2003). I will analyze the impact of the release of an Article IV report on the daily change in the spread from the Emerging Markets Bond Index.

Recall that in Question Two I address the role of geopolitical factors in shaping the tone and clarity of Article IV reports. To study the impact of these factors, I will select four countries from the EMBI sample. Ideally, I will select a pair of countries with high and low values for tone and high and low values for clarity. Evaluating these pairs using daily data for a whole year then tells us something about the informational content of the Article IV report and the extent to which the market responds to good and bad news as well as clear and opaque news. Understanding the market response to release of the Article IV report tells us something about Rogoff’s critique of Fund surveillance. If it is the case that spreads change by a similar amount and in a similar direction regardless of whether the report is good or bad, this suggests surveillance is not efficiently revealing information, and markets are discounting it. Similarly, if spreads change by the same amount and in the same direction if reports are clear and opaque, this suggests markets are able to ‘read between the lines’ and move accordingly. If this the case, then the recurring calls for more candor in surveillance may not in fact be necessary.

Daily financial data, as Bernhard and Leblang (2006:180) note, exhibit many properties that make statistical inference problematic. Because this data is often skewed and the variance clusters over time (meaning periods of calm and periods of positive or negative swings), this means that traditional least squares regression biases results toward detecting news effects (Brown and Warner 1985). To address these concerns, scholars traditionally use ARCH (Autoregressive Conditional Heteroskedasticity) models, which model the mean level of the dependent variable and its volatility over time separately. A nice property of this type of model then, is that it allows us to ascertain how the release of the report matters – does it raises prices (by affecting the spread directly) or does it affect volatility in prices (by altering the variance in the spread). I will operationalize the release of data by focusing on the day that the report appears on the IMF website – though it might be necessary to include the following day as well if the information is released when markets are closed.

An advantage of a research design with daily data is that it is easier to establish that the choice for or against transparency is exogenous. Publishing reports on a Monday or a Wednesday is determined by the Executive Board’s schedule, rather than by events within the country. As a result, I don’t need to worry about the implications of selection bias with data of this frequency.

Question Three – Part Three: Direct Effects of Surveillance on Policy Variables

The focus on financial market responses to variations in transparency raises the question of whether transparency also affects state policy choices. One strategy to understand if Article IVs change state policy is to look at anticipatory behavior. In the literature on why states enter IMF programs, lagged levels of spending (Vreeland 2003), lagged changes in the level of government expenditure (Knight and Santaella 1997) and levels of inflation (Pop-Eleches 2008) are often significant variables. The intuition behind these results, particularly those of Knight and Santaella, is that the country facing a balance of payments crisis is trying to lower its level of
expenditure in advance of the arrival of the Fund negotiating team to secure a better deal with the Fund that won’t involve dramatic levels of austerity. Thus, those countries that have made expenditure cuts are more likely to have their requests for loan programs approved by the Fund negotiating team.

In this context, the question is slightly different, since the goal is not to predict when Article IV consultations happen. These are scheduled well in advance, and we know they happen annually. The issue of anticipatory behavior, however, remains the same – if politicians seek to control the message by improving the state of the economy prior to the arrival of the negotiating team, then one would expect that the shadow of the consultation would have effects on policy variables.

Using the quarterly dataset developed above, I will estimate whether the approach of a consultation has independent effects on fiscal policy (changes in expenditure/GNP), monetary policy (changes in inflation), and the exchange rate (changes in the real effective exchange rate). This allows us to see if the shadow of an approaching consultation leads politicians to put their proverbial economic houses in order. I am preliminarily assuming that the timing of when consultations happen is exogenous. If the data suggests that assumption is not tenable, then I will approach this question through a treatment regression as in the first part of Question Three and verify the results using matching methods. It should be stated that these two questions are distinct, as when the report is released is a different matter from when the consultation takes place, which is the focus here.

Lastly, the findings from Question Two will also be relevant in answering this question. It could well be that the extent of anticipatory effects here is conditional, since politicians might only take anticipatory steps if they surmise that their report will be candid. Since I will have a sample of all of the Article IV reports for the countries in the EMBI sample, and I will have scores for the tone and clarity of the reports, I will conduct a separate analysis to see if the degree of candor in Article IV reports shapes the degree of anticipatory behavior.

**Value Added of Proposed Project as RUI:**

For a project submitted under the Research at Undergraduate Institutions designation, how the work will be completed is as important as what the actual project is. Below, I address how student researchers will be involved in the research project and how the research will be integrated with the students’ education.

Student researchers will be deeply involved in all three phases of this project from the very outset. I will employ three cohorts of student researchers; one for each year of the project. In a given year, student researchers will be employed during the summer months in assembling datasets necessary for completing each phase of the project (explaining data release, explaining IMF decisions to distort reports, and effects on capital markets and policy variables). In addition, they will be responsible for presenting the findings of the project to date on campus. I will invite students to present the preliminary findings from the work that they’ve done on the project at the Whitehead Faculty Seminar in the late fall. In addition, they will present the work at the Petersheim Academic Exposition, which is a university wide colloquium on student and faculty research held in the Spring. Finally, I intend for them to present their findings at the annual meetings of the Midwest Political Science Association in the Spring.

The student research will be closely linked to their education at the Whitehead School. Because we are a professional school of international affairs, I will have no shortage of students with a semester of Research Methods and International Political Economy already under their
belts. It should be noted that I’ve taught Methods at the undergrad level for the past year and have taught IPE at the undergrad level for five semesters at Seton Hall, Texas Tech and Michigan. We offer a senior research project class, and I will make the project data available to these students for the completion of their own independent project. I will take the lead on writing up the research (see dissemination below) and will consider making the student researchers co-authors on the results from the project should their contribution warrant. This was exactly the approach that I followed with involving an undergrad in what became my *Political Research Quarterly* paper.

The datasets in this project will also aid in undergraduate education more broadly via another avenue, as they will be used in my teaching Research Methods as examples and homework assignments.

**Broader Impacts of Project**

This project addresses four of the five NSF broader impact criteria. Criteria 1 and 3 are discussed in the RUI Impact Statement, which is attached as a separate document. Criteria 4 and 5 appear below.

**Benefits of Project**

The proposed project is the first to systematically examine the effects of Article IV consultations on states and financial markets. It makes three important contributions. It advances our knowledge of the effectiveness of the IMF by studying its activities in an area distinct from lending. Second, the findings help us to understand when and how international organizations matter, especially when the findings of the organizations are not backed by enforcement. This has broader implications for other forms of international regulation. Third, it helps us to understand why states make choices for and against greater transparency and how the emergence of a global norm of transparency has complicated the IMF’s mission.

**Dissemination of Findings**

The PI will first create a website dedicated to this project, building off my present one (http://pirate.shu.edu/~edwardmb/). The website will host text with the project background and all of the research produced by this project. This will include data and codebooks, powerpoints for student presentations, and the working papers produced by the project. I will also deposit the data at ICPSR.

Each of the empirical questions outlined will form the basis for peer reviewed articles. I will top international relations journals (*International Organization, International Studies Quarterly*). At the close of the project, I will develop a book manuscript.

In addition to the scholarly publications, I will also develop a series of three parallel policy articles. My target for these policy briefs are journals such as *World Economy, Foreign Policy, Foreign Affairs*, and *Finance and Development*. I will also use electronic media to disseminate findings through fora such as *Foreign Policy In Focus, Vox, The Globalist, Policy Innovations.com*, and *Project Syndicate*.

**Work Plan**

The tentative work plan for this project appears below. I’ve divided the task list between the student researchers and myself in the rightmost and middle columns.
<table>
<thead>
<tr>
<th>Quarter</th>
<th>Edwards</th>
<th>Student Researchers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Spring 2010</td>
<td>1/3 time: Project Startup, Hire and train student researchers, Build Project Website</td>
<td></td>
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<tr>
<td>Summer 2010</td>
<td>Full Time: Supervise student researchers, Work on literature review for Q1 paper</td>
<td>Build Annual Dataset for Q1</td>
</tr>
<tr>
<td>Fall 2010</td>
<td>1/3 time: Present preliminary findings at APSA, Update Project Website</td>
<td></td>
</tr>
<tr>
<td>Winter 2010-2011</td>
<td>1/3 time: Revise Q1 paper and submit to journals, Develop policy brief on Q1 findings</td>
<td>Present findings at Whitehead Faculty Colloquium</td>
</tr>
<tr>
<td>Spring 2011</td>
<td>1/3 time: Present findings at ISA, Hire and train student researchers, Update Project Website, Trip to IMF archives to gather samples of Article IV reports.</td>
<td>Present findings at Petersheim, Present findings at Midwest</td>
</tr>
<tr>
<td>Summer 2011</td>
<td>Full Time: Supervise student researchers, Work on literature review for Q2 paper</td>
<td>Conduct Content Analysis for Q2, Build Dataset for Q2</td>
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<tr>
<td>Fall 2011</td>
<td>1/3 time: Present preliminary findings at APSA, Update Project Website</td>
<td></td>
</tr>
<tr>
<td>Winter 2011-2012</td>
<td>1/3 time: Revise Q2 paper and submit to journals, Develop policy brief on Q2 findings</td>
<td>Present findings at Whitehead Faculty Colloquium</td>
</tr>
<tr>
<td>Spring 2012</td>
<td>1/3 time: Present findings at ISA, Hire and train student researchers, Update Project Website</td>
<td>Present findings at Petersheim, Present findings at Midwest</td>
</tr>
<tr>
<td>Summer 2012</td>
<td>Full Time: Supervise student researchers, Work on literature review for Q3 paper</td>
<td>Build Quarterly Dataset for Q3</td>
</tr>
<tr>
<td>Fall 2012</td>
<td>1/3 time: Project Wrapup, Present preliminary findings at APSA, Update Project Website</td>
<td>Present findings at Whitehead Faculty Colloquium</td>
</tr>
</tbody>
</table>

Qualifications of PI:

It bears stressing that the proposed project builds on my own extant research. My dissertation was on compliance with IMF lending programs, and I have published two papers from it on the effects of IMF programs on portfolio investment flows (Journal of International Relations and Development and Social Science Quarterly). A paper in Political Research Quarterly deals with membership in international organizations (whether or not countries join the UN Human Rights Commission). A paper published in Review of International Organizations addresses how national and individual level factors affect opinions of the IMF, World Bank, and WTO. Finally, my work published in Comparative Political Studies and Electoral Studies address the effects of domestic institutions on fiscal policy (both levels of spending and composition). All of these papers are industry-standard quantitative treatments dealing with discrete choice models, selection bias models, and cross-sectional and time-series issues in panel data.