

The Company You Keep: How International Institutions Can Make Emerging Markets Look Less Risky

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Abstract

This paper tests an important claim of the literature on international institutions, namely, that joining strong institutions regularizes expectations about members' future behavior. Using the European Union as a test case, I argue that portfolio investors' expectations about countries improve when the EU endorses candidates' policy reform measures. Examining quarterly sovereign debt yields in 26 countries from 1970 to 2006, I show that different stages in European Union accession reduce point estimates of means as well as variances of bond yields for new members. I then test mechanisms behind this effect, using the post-communist countries as a natural experiment. First, to control for the possibility that the unobservable characteristics that drive countries to negotiate with the EU may also give them a propensity for lower bond yields, I specify a selection model using new instrumental variables—the level of domestic movie production and UNESCO World Heritage sites. Second, I show that policy reform undertaken at the same time does not drive yields substantially lower. By contrast, I demonstrate that closing negotiation chapters that have to do with domestic economic policy—in other words, receiving a seal of approval from Brussels that previously existing policy reform is acceptable to the wider EU—does make countries look less risky. Thus, EU signaling power makes candidates look less like emerging markets and more like developed countries to investors. This is an important finding in public policy as well as in the broader international relations literature about cooperation.

1 Introduction

In December 2004, the European Union set 17 March 2005 as the date to start accession talks with Croatia. Champagne flowed, politicians rejoiced, and Croatia was instantly touted as a model reformer that other post-communist countries should emulate. Earlier that year, EU Enlargement Commissioner Gunther Verheugen had claimed that “the economic position of Croatia ... is better than the majority of countries which will enter the European Union on 1 May [2004].”¹ Enthusiastic market analysis chalked up Croatia’s decrease in sovereign risk specifically to EU talks.²

But on 16 March 2005, the day before talks were scheduled to begin, the EU announced that accession would be suspended indefinitely, until Croatia surrendered Ante Gotovina, who was charged with war crimes against Serbs in the Balkan wars of the mid-1990s, to the International Criminal Tribunal for former Yugoslavia in The Hague. “Croatia is already living Europe, if you mean by that a set of democratic standards, a functioning democracy and free market ... [and] rule of law,” Croatian Prime Minister Ivo Sanader fumed. But financial markets saw it differently. Spreads on 10-year Croatian eurobonds jumped by 8 basis points by the next day and continued to climb over the next weeks, reaching increases by 23 basis points. In fact, Croatian eurobonds only returned to their previous levels after the EU announced the reopening of negotiations in October 2005. Croatia’s economy was in the exact same position as it had been the day before, but markets responded strongly to this exogenous event—membership in an international institution.

¹“EU or Bust,” *Transitions Online*, 26 April 2004

²For example, the Economist Intelligence Unit Country Risk Service noted “falling yields in the wake of the EU’s surprise decision to open membership negotiations with Croatia” (Croatia At a Glance, December 2004). “Croatia’s spread will narrow and will get closer and closer to the spreads of the Romanian and Bulgarian bonds,” Marina Purgaric, an analyst with the brokerage FIMA, told SeeNews on Sept 15. The pace of the narrowing would depend on Croatia’s progress in integrating with the EU, she added.

For researchers trying to measure the effects of membership international institutions, this may seem an obvious case. Markets would no doubt respond to the prospect of a recently war-torn country joining the politically as well as economically stable European Union. But the crucial question that remains is what the causal mechanism is behind this effect—that is, what exactly are markets reacting to? Some might argue that markets like the policy reform that countries must undertake to enter the EU, but such reforms are usually taken well in advance of EU negotiations. We might also expect that markets like the regulatory framework of the EU. But despite the stringent requirements for entry, the EU’s policy enforcement record is weak once countries become members. France and Greece have both been in breach of the Stability and Growth Pact’s budget limits since the early 2000s, and Hungary now exceeds the EU’s budget caps four times over—all without official penalty from the EU. Furthermore, EU governments are not always stable or market-friendly: voters in both Poland and Slovakia in 2006 put leaders in power with extremist, populist credentials, and the Czech Republic has been officially without a government for several months. Yet investor confidence has not been substantially shaken by those events; those countries’ sovereign debt yields remain relatively stable.

So how exactly does being in the EU—or being credibly on the road to join—confer such an enviable dose of confidence? I argue that the drop in investor risk is not attributable to policy reform that countries undertake prior to EU accession. Nor do a country’s intrinsic qualities drive them both to have lower bond yields as well as to be considered for EU accession (a so-called “selection effect”). Instead, the reduction in risk occurs most palpably during the negotiation stage, when Brussels sends clear signals that a candidate’s preexisting policy reform is on par with EU standards. When a country’s reform endeavors get the seal of approval from the EU, it can mean big drops in risk, such that countries essentially go from being treated as emerging markets to stable OECD countries, even if their previous levels of development remain more or less unchanged. Thus, it is not the things that countries have to do to join the EU that matter; it is the signal from the institution that makes the difference.

Additionally, after countries become full members, the variance in their bond performance shrinks, as a result of informal norm-enforcement mechanisms that encourage cooperative behavior. Even if the EU does not enforce its own rules directly, the transparency and frequency of reporting among members may inhibit deviation from norms. As one finance minister put it, “If a country has to send their finance minister regularly to the European Commission meetings to do reporting, and if every time he’s asked what the hell is going on, then peer pressure kicks in.”³

That guaranteed EU entry makes countries look less risky is perhaps not surprising. Researchers have already demonstrated convergence of various economic indicators for EU entrants (Brada and Kutan 2004; Cappelen et al 2003). The contribution here is in showing that the impact comes when Brussels sends unambiguous signals that policy reform in accession countries meets EU standards. Once the EU endorses a country’s policies, the information asymmetry about that country is reduced, and market expectations for that country’s performance converge. This has implications not only for the literature on institutional design but also for our understanding of how certain institutions confer expectations of regularized behavior.

Additionally, these findings offer insights for the growing literature on institutional variation, as prescribed nearly two decades ago (Keohane 1988). Examining how the EU has differing effects on investor risk in both its strong and weak economies, as well as across time, helps us understand how changes in member type might affect the institution as a whole. Scholars are increasingly attempting to measure change in international institutions, as well as those changes’ impact on various outcomes, either for cooperative environments or for members themselves.⁴

This paper proceeds as follows. In the first section, I argue that, given claims that institutions make behavior more predictable, we would expect investors’ perceptions of

³Interview, Laszlo Toth, Hungarian Ministry of Finance, 18 July 2006.

⁴On broader outcomes, see, for example, Acemoglu and Robinson 2006 on how regime change may or may not affect economic institutions; on how legalization of trade regimes produces asymmetrical outcomes for member nations, see Reinhardt (1999), who argues that the bureaucratization of the WTO has made it more difficult for developing countries with low administrative capacity to file complaints.

default risk to decrease when countries begin official negotiations with the EU, perhaps the most formalized international institution on offer today. Uncertainty decreases when expectations of countries' future behavior is regularized through membership in the EU. We can test these claims on market data on the pricing of government debt, which offer a useful shorthand for investment risk, a field that is increasingly of interest to political scientists.⁵ I then set up hypotheses for the possible mechanisms behind this effect: selection, policy reform, or seal of approval, as described below.

In the second section, I use quarterly data on twenty-six European countries from 1970 to 2005 to demonstrate that EU accession affects not just average levels of risk but also the degree of variance of sovereign debt. Using an ARCH-in-means model, which allows researchers to model the determinants of an asset's mean as well as its variance (Engle 1984), I show that, once countries start negotiation with the EU and ratify their treaties into law, they look not only less risky overall (the point estimates for risk levels fall), but also less volatile once they officially join the EU (the variance decreases).

The subsequent sections take on the possible mechanisms underlying this effect. I take an innovative approach to the problem of selection by using previously overlooked variables to model first the probability that a country will be asked to open negotiations with the EU. The number of UNESCO World Heritage sites, the level of domestic-language movie production, and civil liberties proxy for a nation's cultural proclivity to join the EU. I then include that probability in the final analysis, along with the degree of correlation between the error terms in both equations. I find no significant evidence for a strong selection effect; in other words, the EU is not simply "picking winners," or countries that would already look less risky.

In the next section, I investigate whether markets are reacting only to policy reform undertaken in countries at around the time of EU negotiations. Using indices for economic policy reform from the European Bank for Reconstruction and Development, I show that controlling for policy reform does not detract substantially from the previously observed

⁵See Jensen and Schmith 2005 on stock market responses to elections in Brazil, Tomz (forthcoming) on sovereign debt and international cooperation, Stasavage 2002 on debt payments as signals of commitment.

drops in risk associated with EU negotiations.

Finally, I test the hypothesis that markets react primarily to a “seal of approval” from the EU, when it becomes public that the EU has validated country’s reform efforts. I argue that investors only take countries’ policy reforms seriously once they are endorsed by the EU. In fact, controlling for the percentage of economic chapters of the *acquis communautaire* that the EU has signed off on swamps the previous effects of advancing through stages of EU negotiation. This indicates that clear signals from the EU allow investors’ expectations to improve and converge. That effect does not attenuate even if countries do not subsequently perform well, as I illustrate through a brief look at the Hungarian budget excess in 2005-2006. Even in a budget crisis that provoked riots, investors seemed to believe that Hungary’s fiscal and economic crisis was “compensated for by the EU membership.”⁶ The final section concludes, with a discussion of avenues for future research.

2 Investor Risk and EU Membership

First, why should international relations scholars, and political scientists more generally, care about bond yields? I offer three main justifications for my choice of dependent variable: one is theoretical, the second is practical, and the third is the substantive implication. Theoretically, sovereign debt offers a summary of how markets rate government stability as well as the future levels of development in a country. Unlike other forms of investment, such as foreign direct investment in long-term plants and projects, bondholders have little interest in the promotion of any one good or in the factor endowments per se of any country. Bondholders seek profit, and they profit from trading other country’s debt by seeking relatively high rates of return in environments with varying degrees of risk. As such, the yields and spreads on bonds do not directly reflect any features of a country: they reflect perceptions of that economy, both in terms of other investors’

⁶“Hungary Cruises Back To Debt Markets Despite Protests,” Dow Jones, 20 September 2006.

assessments as well as in future returns on investment. Thus, they are themselves a measure of collective uncertainty about the ability of a country's government to uphold its obligations in servicing its debt. Sovereign yields are therefore an obvious theoretical choice in testing the claims about expectations of future behavior found in the literature on international institutions, which claims that institutions should regularize behavior and encourage cooperation.⁷

In practical terms, particularly in developing countries, where data are only as reliable as the governments that collect them, this type of financial market data offers significant benefits to researchers. For one thing, there is a lot of it, and at high levels of detail. Although trading of emerging-market sovereign debt only became widespread in the 1990s, the fifteen years for which data are available represent a full cycle of operations for bond investors, including the heady days of enthusiasm for emerging-market debt in the mid-1990s and the investment backlash following the Latin American and East Asian debt crises (Erb, Harvey and Viskanta 2000). Additionally, as the price of sovereign debt is determined by outside observers, it is not only effective as a third-party evaluation of many characteristics of a nation's economy, but it may also dodge some of the endogeneity issues discussed above. Certainly, many domestic economic and political conditions influence financial markets. However, because they do not necessarily translate into investment in a country—indeed, most sovereign bond instruments are traded in secondary markets—they have at best an indirect effect on other observable factors of a country. Furthermore, the prospect of gaining or losing significant sums of money no doubt concentrates the minds of debt traders, which makes their pricing of sovereign debt a value that they, at least, are willing to put their money behind. Political scientists and expert surveys may not do much better.

⁷The literature to this end is vast and well-known. See, for example, North 1990 on how institutions act as sets of formal and informal constraints that reduce transaction costs and enforce norms; Axelrod 1981, 1984 for a game-theoretic demonstration of how institutions ensure the repeated interaction necessary to prevent defection from future cooperation; Putnam 1988 for how constraining international institutions help executives push through policies that would otherwise be domestically unpopular; Moravcsik 1997 on how new democracies may be willing to relinquish sovereignty by adopting the restrictions of international human-rights regimes, which help internalize domestically norms of mutual respect and tolerance.

Finally, portfolio investment is increasingly important to countries that are moving from lower to middle stages of development. As countries become wealthier as a result of earlier competitiveness, and as prices of production and labor rise, their attractiveness to foreign direct investors may decrease. Many countries then shift to capital-market development as a form of financing. Yields on government debt often parallel with overall levels of stock-market activity, as more companies become listed and equity revenues increase. Lower yields signify a more stable investment and a better-developed capital market, which means that more households can have access to capital-market borrowing. Thus, yields on government debt are a substantive concern for countries that are trying to better develop their access to financing.

Unlike those who deal in greenfield investment and foreign direct investment, bond traders need not ever lay eyes on the capitals from which their securities are issued. They are buying assets whose returns reflect primarily the perceived likelihood that an issuing government will be unable to make scheduled interest payments on time or default on its debt altogether, as well as the supply of and demand for that asset. Debt instruments' levels change according to the issuer of that particular instrument, the risk of the currency in which the bond is issued, and —most crucially for the purpose of this paper—the risk associated with lending to the country itself.⁸ Higher yields on sovereign bonds indicates a higher perceived likelihood that a government will default on its debt. Though yields do not perfectly capture levels of risk on the ground in countries, they do reflect the perceptions of investors, which has an important feedback mechanism to countries' access to financing.⁹ Government securities are currently traded through numerous instruments covering a variety of time periods; the most common are fixed-interest rate instruments

⁸Credit ratings compiled by private agencies are another way of measuring investor risk. These measures are less widely available and, it should be noted, do not always correspond with market activity. In OECD countries credit ratings and bond yields tend to be very highly correlated; less so in developing countries, where market activity tends to break from the recommendations of creditors (Cantor and Packer 1996).

⁹The case of the East Asian financial crisis illustrates this point nicely. Those countries were neither as solid as investment activity might indicate in the run-up to the crisis, nor as abject as the subsequent capital flight might indicate. Indeed, investment is often driven by herd behavior; it can be as if not more profitable to invest in a healthy country than to invest in a country that other investors think is healthy.

such as treasury bills with maturities that span from over six months to ten years (Broker 1994). As developing countries mature, more and more of them have issued public debt as a means of financing—making these data ever more available for analysis. Since the 1990s, markets for government debt have stabilized, becoming more commercially oriented and more sophisticated. The volume of money traded in these instruments is huge; in 2005, non-bank credit flows, primarily bonds, reached a seven-year high of \$180 billion, according to the Institute for International Finance.

The literature on international institutions cited above offers theoretical expectations for why membership in certain international organizations might bring about decreased levels of uncertainty for developing countries. Additionally, if institutions that guarantee certainty—such as political stability and legal enforcement—are thin on the ground at home, they can perhaps be imported from abroad, through membership in constraining international institutions such as the European Union. The process of accession has often entailed extensive policy reform, as countries must comply with the rules and regulations set out in the *acquis communautaire*, which clocks in at some 80,000 pages. The benefits, however, include access to a rich common market and, for some, exchange-rate harmonization. Membership also provides a framework of regulation through which contracts can be enforced. Finance publications mention this phenomenon by name; a January 2003 Deutsche Bank emerging markets bulletin on Croatia notes that “EU membership will provide a greater degree of legal certainty for both investors at large and corporate direct investment. Therefore, the degree of country risk has decreased.”

The EU has expanded its borders drastically since its inception. Belgium, France, Germany, Italy, Luxembourg and the Netherlands formed the original European Economic Community in 1958, with Denmark, Ireland and the United Kingdom coming aboard in 1973. Greece joined in 1981, and Portugal and Spain in 1986. What was by 1995 known as the European Union included Austria, Finland and Sweden. The year 2004 saw the most sizeable enlargement, with ten countries—the Czech Republic, Cyprus, Estonia, Hungary, Latvia, Lithuania, Malta, Poland, Slovakia, and Slovenia—becoming

new members. Currently, Romania and Bulgaria are in the accession stage, and official talks have been opened with Croatia and Turkey, with discussion underway on including Macedonia, Bosnia and Herzegovina, Serbia, and Montenegro. The perks are manifold, including access to the common market as well a strong external impetus for domestic policy reform (Schimmelfennig and Sedelmeier 2005, Vachudova forthcoming).

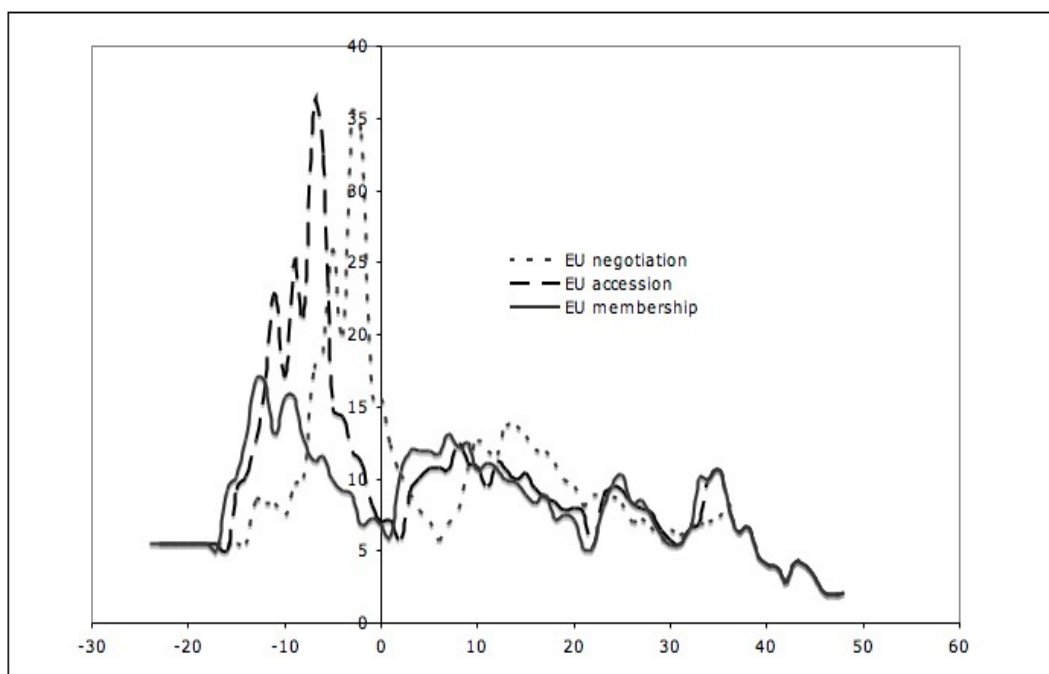
Opening serious negotiations with the EU entails a binding commitment, both for the countries in question as well as for the EU itself. Initially a facilitator of free trade, the EU has evolved into an institution of joint governance, setting common policies not only in economic areas including agriculture, fisheries, and trade policies, but also in spheres such as cultural programs, social standards, foreign policy, and human rights. Joining its ranks brings the expectation of not only policy harmonization but—at least for relatively poorer countries—future levels of growth and development delivered by the common market.

For most of the accession countries, the impact was immediate in at least one respect: investor risk premiums and yields on government bonds dropped almost as soon as Brussels announced their official candidacy. For example, from the time that Croatia signed the EU's Stabilization and Association Agreement in October 2001, to the time that it officially opened negotiations in October 2005, spreads on its Eurobonds against German notes dropped from 170 to 28 basis points. Central Bank officials credit the drop solely to credible entry into the EU; one claims that “yields were very much elastic toward positive signals from Brussels. ... Croatian bonds were almost junk bonds until the EU started taking us seriously.”¹⁰ Investors seem to think that EU negotiations provided a credibility boost to those countries and bet on relative future stability for government debt. Figure One, which graphs yields on three-year government bonds for EU candidates, shows that the time at which countries begin negotiations, accession, or membership with the EU (marked as Year 0) sees big drops in the level of default risk.

The pattern that emerges here is not only of sharp decreases in risk around the time

¹⁰Interviews, Ivan Huljak and Lidija Popovic, both of the Croatian National Bank, July 5 and 6, 2006.

Figure 1: Risk Drops for EU Candidates (Year 0=year of change)



of negotiation, ratification of the accession treaties, and full-on membership. We also see a marked narrowing of the bands within which bond yields fluctuate. Thus, getting through the barriers of EU accession not only leads to lower levels of default risk; there is also a decrease in volatility altogether.

For the European market more generally, the late 1990s saw a convergence in yields across maturities as well as across markets. Investors may have anticipated the abolishment of currency risk, a single monetary policy across participating countries, and the hope of increased fiscal discipline as a condition of remaining in the Eurozone. Yields on Italian debt, for example, traded at up to 650 basis points (6.5 percent) higher than German bonds. More recently, commentators have noted that the spreads between German bonds and those of poorer countries in the unions seem unnaturally low and do not reflect the actual differences of risk between the markets (Dullmann and Windfur 2000).¹¹ Nonetheless, as soon as countries begin official negotiation with the European

¹¹Most chalk up the lack of disparity to a combination of factors, both irrational (the market is inefficient in evaluating actual risk) and rational (Germany's economy itself has not performed well, driving its overall risk up, and since the European Central Bank treats any member national debt as

Union, eyeballing the data seems to indicate that yields on government debt decrease in terms of the point estimates of their means, and in their overall variance.

It is commonplace in the finance literature to assume that markets respond to news about the future.¹² But the central question of this paper is to investigate what aspect of EU enlargement markets are reacting to. There are several possible mechanisms behind the observed drop in risk levels. I put forward three plausible hypotheses, each of which will be tested in the upcoming sections.

- **H1** *Selection: The same countries that are likely to start the EU membership process are also the same countries that are likely to have low sovereign yields.* Here, the same observable or unobservable factors that drive countries to be asked to open EU negotiations, also influence countries to look less risky to investors. This is a commonly discussed problem in political science, where researchers falsely attribute the effect of one variable to an omitted variable or groups of variables that are driving both that independent as well as the dependent variable. If this were true, we would expect that modeling the selection process would cause any previously observed significance on the EU variables to disappear, once their effect was correctly attributed to selection.
- **H2** *Policy reform: Markets react to changes in economic policy undertaken outside EU negotiations.* Particularly in the run-up to EU accession, many countries underwent stringent periods of policy reform in order to be considered as candidates. Lower yields observed around the time of EU negotiations might be just a function of that preexisting reform. If this were the case, controlling for policy reform would obviate any presumed effects of EU entry.
- **H3** *Seal of approval: Markets react to signals from Brussels that countries are up to EU standards in economic areas.* Since markets operate on principles of uncertainty,

equal in terms of collateral, it makes sense to hold higher-yield ones). “Credit where credit is due,” *The Economist*, 28 September 2005.

¹²See Jaimovich and Rebelo 2005 on how news about future total factor productivity spurs recessions, Bussie and Mulder 2000 on how elections impact investment flows.

an unambiguous sign from the EU that countries' efforts in certain economic fields would be viewed by the majority of investors as a shift from one "peer group" to another; that is, countries that received such a signal from Brussels would have made a clear shift from a developing country to a developed country. Thus, we might expect that when the EU formally signs off on candidates' standing in various economic chapters of the *acquis* during the negotiation stage, point estimates of risk drop in a way that overwhelms previously observed effects.

If the latter hypothesis were true, it would imply that one of the EU's strongest market effects may rest on its ability to signal publicly its commitment to taking on new members, and that those members meet EU standards. Much of the classical work on realism, as well as studies on signaling in diplomacy (Fearon 1994, Schultz 2001), argues that states act in a way to convey information about their "type" to international audiences and thus increase their credibility in diplomacy. The importance of prior beliefs in a world of incomplete information is also widely used in economics, particularly with respect to economic policies, such as central-bank independence and pegged exchange rates, where publicizing a commitment to fiscal discipline is an important psychological component of that policy's effectiveness (Posen 1994, Lohmann 1996). The ability of an international institution to signal the types of candidates could also increase the credibility of new members in the eyes of financial markets.

In the next section, I set up empirical tests of these hypotheses, using data on sovereign yields in Europe, as well as several different models appropriate to each hypothesis.

3 Data Analysis

This section tests the hypotheses laid out above, with the countries that are acceding to the European Union. To this end, I gathered quarterly data from the first quarter of 1970 to the first quarter of 2006 for 37 countries, including the Mediterranean countries that

joined the EU in the early 1980s, Austria and the Scandinavian countries that acceded in the early 1990s, and the post-communist countries, plus Cyprus and Malta, that joined in 2004. I also included Eastern European countries that are formally or informally on the dockets for EU talks.¹³ The dataset covers twenty-six European countries from the first quarter of 1970 to the fourth quarter of 2005.

What control variables are necessary to explain variation in perceptions of risk over time? Unsurprisingly, the most exhaustive studies on the determinants of sovereign bond spreads come from the literature on finance.¹⁴ Those studies are targeted primarily toward investors and are concerned with finding the specification with maximum explanatory power, not necessarily with parsimonious or theoretically based models. Thus, most include no fewer than 30 explanatory variables, many of which are highly collinear, including total debt as a ratio of gross domestic product, real exchange rate misalignment, fiscal balance, the current- and capital account balances, exports as a ratio of total GDP, a country's default history, and its external amortization. For simplicity of the model, I include only those variables that most common in specifications of sovereign debt. I use inflation rates, which signify a structural inability of a government to generate revenue by any other means than running the printing presses, and debt service payments as a proportion of overall GDP. Controlling for *inflation*, or changes in consumer prices, takes into account not only the fundamental stability of the economy but also the government's ability to effectively leverage monetary policy. As such, drastic changes in consumer prices indicate uncertainty not only in an economy's present but also in its medium-term future, since policy measures such as currency revaluation may be necessary to keep inflation under control. Additionally, high amounts of hard-currency *reserves* means that a country will be able to service its foreign-currency-denominated debt. Total *debt liabilities* indicate a country's past loan activity and the depth of their lending market. A higher level of

¹³Countries included are Albania, Austria, Belarus, Bulgaria, Croatia, Cyprus, the Czech Republic, Estonia, Finland, Greece, Hungary, Latvia, Lithuania, Macedonia, Malta, Moldova, Norway, Poland, Portugal, Romania, Russia, Slovakia, Slovenia, Spain, Sweden, and Turkey.

¹⁴See, for example, Cantor and Packer 1996 for work on determinants of credit ratings; Edwards 1983 on loans to developing countries; Hilscher and Eichengreen and Mody 1998, as well as Min 1998, on issue spreads for emerging-market sovereign bonds.

exports in a country's *current-account balance* indicates that a country is receiving hard currency for its goods, which increases liquidity in that market.¹⁵ Controlling for *yields on German sovereigns* takes into account not only overall market fluctuations but also Europe-level shocks, such as the ERM crisis of the early 1990s and the Russian rouble crisis of 1998, both of which impacted German yields.¹⁶

I also include variables for the stage at which countries are invited to apply for EU membership (*EU apply*); the official opening of negotiations, during which chapters of the *acquis communautaire* are closed (*EU negotiate*); the accession stage, at which countries ratify EU legislation into their own domestic legal systems (*EU accession*), and full membership (*EU membership*). The EU variables are coded 1 for each country and quarter when a particular stage is instigated, and for years thereafter, such that coefficients on each variable represent the added effect of each new stage of membership, given advancement from a previous stage.

Pooled time series datasets such as this one pose immense challenges for researchers, as such data violate the Gauss-Markov assumptions for linear estimation. The presence of relationships within countries and in particular time periods means that there will be serial correlation among observations, as well as structure in the error terms. Though there are many fixes, no one method will work for all types of data (Wilson and Butler 2004). To correct for serial correlation while avoiding the downward bias caused by including lagged dependent variables (Achen 2004), I use autoregressive and moving average terms in the model, a common way of dealing with time trends in historical asset data. I include country fixed effects to allow for different intercepts for different countries in Europe, while controlling for country-specific factors or events that are not otherwise captured in the model.

The first task is to establish conclusively that markets are reacting to EU member-

¹⁵Bond traders pay a lower price for assets that are illiquid, meaning that they cannot be resold on secondary markets, making it more difficult to hedge risk; see Amihud and Mendelson 1986; Glosten and Milgrom 1984; Lo, Mamaysky, and Wang 2004.

¹⁶Inflation is measured in percentage points; hard-currency reserves are incremented by orders of magnitude of USD10,000; debt liabilities are incremented by USD100,000; and current-account balances by USD100,000.

ship, and to specify the stages at which that reaction is strongest. In keeping with the expectation that different stages of EU accession should reduce not just the levels of risk but also the variance, I use an ARCH-in-means model, as described by Engle, Lilien, and Robins (1987). In this model, a variant of the autoregressive conditional heteroskedasticity (ARCH) model, the determinants of both the mean and the variance of an asset can be specified, and the point estimates of the mean are a function of the conditional variance σ_ε , or the standard deviation of the error term, as well as other covariates.¹⁷ This is in accord with the literature in international finance on sovereign debt yields; investors often demand higher yields as a function of an asset’s past volatility. ARCH-in-means models assume serial correlation in the variance of the series, which is addressed by the inclusion of a term for past squared realizations of the error (the ARCH(1) term, ε_{t-1}^2) as well as of the variance (the GARCH(1) term, or σ_{t-1}^2). Thus, the equation for the point estimate of the mean is $\mu_t = \beta_0 + \beta\sqrt{Var[\varepsilon_t|\varepsilon_{t-1}]}$, where $Var[\varepsilon_t|\varepsilon_{t-1}] = \gamma_0 + \gamma_1\varepsilon_{t-1}^2$.¹⁸

Table One shows the effects of each stage of EU membership for subsamples of the data. I have broken down the results into four groups in an attempt to investigate whether EU candidacy might have had different effects in different times, regions, or types of countries. First is the full sample. Second are Greece, Portugal, and Spain, which joined in the mid-1980s. Third are Austria, Norway, Finland, and Sweden, which opened EU talks in the early 1990s.¹⁹ Third are the countries that were part of the “big bang” of expansion in 2004, including the Czech Republic, Cyprus, Estonia, Latvia, Lithuania, Malta, Hungary, Poland, Slovakia, and Slovenia.

[TABLE ONE ABOUT HERE]

When reading the coefficients, recall that positive values indicate higher levels of investor risk (higher yields), whereas negative values indicate factors that decrease risk (lower yields). As predicted in most of the literature on emerging-market assets, the debt yields of the economy to which that country is most linked—in this case, Germany—

¹⁷See Leblang and Bernhard 2006 for political-science applications of ARCH and GARCH models.

¹⁸Notation taken from Stasavage 2006.

¹⁹All but Norway became full members; Norway officially opened negotiations but later withdrew.

has a strong and significant effect on yields for the subsidiary economy; higher German yields are associated with higher yields in EU entrants. Inflation also has a strong and statistically significant effect on candidate country yields; more inflation makes a country look less risky. The coefficient on reserves varies across the specifications; in the full model, higher levels of reserves are associated with drops in lending risk, a statistically significant effect. However, that effect is lost when considering the individual rounds of selection; in some cases the sign even reverses. Similarly, the coefficients on overall volumes of debt and on current-account balances are not statistically significant in any of the models, with the sign switching in different specifications.

Note, however, the equation for point estimates of the mean of an asset, the variables for each of the stages of EU entry. Unsurprisingly, the variable for EU application is insignificant in all of the models: Turkey, for example, languished in the application stage since 1987. The statistically significant effects begin at the EU negotiation stage, which thus far has meant the start of an irreversible process of EU entry. Additional effects are seen at the accession stage. EU membership is not associated with the mean equation (which gives point estimate for yields) but rather with the variance of yields. Thus, once countries experience the drops in risk at the accession and negotiation stages, they see little further decrease in their levels of risk, but decreases in variance once they become members in the full sample.

To make comparisons across variables easier, since all are measured in different units, Table Two shows the expected results of a change in one standard deviation of each of the independent variables. The stages of EU talks, however, are measured as a change from 0 (not active) to 1 (active).

[TABLE TWO ABOUT HERE]

Across time, the different rounds of enlargement had strikingly different effects. For the Mediterranean countries, the biggest effect was seen once they became full members, with drops in risk substantively far greater than any of the non-EU independent variables. The effect of joining the EU is about three times the magnitude of changes in the market

for German securities. The total effect of joining, from start to finish, is a decrease in yields by 10.70.

Additionally, the round of enlargement in the early 1990s, where Austria, Sweden, and Finland joined, sees the smallest effects—in total, the effects added together from the time of negotiation add up only to an *increase* in yields by 0.69. This could be a function of the relatively low yields in those countries even prior to their dealings with the EU. Since they were less risky at the outset, they also had less far to fall in terms of their risk assessment.²⁰

The effect is greatest by far in the post-communist countries. Starting with the negotiation stage, advancing along the road to the EU sees big drops in risk – the whole process after negotiation is associated with decreases in yields by 30.61, a huge drop for investment data. To compare, during the onset of the Russian rouble crisis in 1998, yields went from 16.51 in July to 48.62 in August, a change in almost-identical magnitude (though in the opposite direction). Next to changes in German yields, advancing in the stages of negotiation with the EU has a stronger substantive impact on risk than any other economic fundamental. For Bulgaria, a country with around average economic fundamentals as well as on risk, opening negotiations with the EU gives it the same risk rating as Portugal's today.

3.1 Test of Selection Mechanism

I now turn to the possible mechanisms behind this effect, through an examination of the former command economies of Eastern Europe. The postcommunist countries are a particularly good test case for examining the engines behind the impact of EU negotiations. First, though all of them had varying levels of wealth and economic conditions, they emerged from the command economies with a need to undertake similar policy reforms

²⁰I also tested whether opening EU negotiations with new countries is associated with jumps in yields in the sovereign debt of Germany, the anchor economy in the EU and the main architect of its central bank. This effect seems to increase with the number of countries negotiating at any given time. Thus, enlargement has effects that cut both ways, depending on the type of country: it increases sovereign risk for previously more stable (or certain) countries and decreases risk for less stable (or uncertain) countries.

at around the same time (Svejnar 2000). Secondly, the time at which many of them were applying to the EU coincided with a consolidation of opinion in Brussels of the need to exercise stronger conditionality on accession countries—indeed, this decision was spurred in large part by the number of politically diverse and poorer countries lining up for EU admission (Vachudova 2006). EU accession in the late 1990s meant something very different than in previous rounds. Brussels very vocally applied *ex ante* conditionality to the accession states, with constant public pronouncements about candidates’ readiness to join at different times. Additionally, the requirements for entry became more stringent, with the number of *acquis communautaire* chapters increasing from 31 to 35. Thus, unlike the quieter previous rounds of expansion that included the Mediterranean and Scandinavian countries, all the candidate countries in the late 1990s were subject to a negotiation regime where policy reforms were expected to meet stringent criteria.

Let us return to the possible mechanisms behind this effect as laid out in the hypotheses above. It may be the case that countries that end up negotiating with the EU are inherently more stable and prosperous than those who do not, and that the EU is simply selecting prospective members through the same logic that investors might use (although even if that were true, negotiations could still have an impact on market perceptions). This model takes into account the potential endogeneity of EU negotiations by measuring and controlling for the unobservable factors that drive states to negotiate with the EU and that also affect market perceptions. These types of problems have been under examination in political science in recent years.²¹

In the case under study here, selection bias could occur when the same attributes that would lead to lower yields also lead to EU accession. This conflation is widespread in reports about particular countries. Analysts, for example, speculate as to “whether Albania can curb its reputation for lawlessness and secure a place in the queue for mem-

²¹See von Stein 2005 on how, once controlling for selection, signatories to IMF agreements look no more likely to comply with the provisions than before; or Vreeland 2003 on how modeling the preexisting factors that make countries more likely to receive international aid attenuates the previously observed effects of lending.

bership of the EU.”²² But if we saw yields fall in the event that Albania opened EU talks, would they be a result of improved conditions in the country, such as corruption reform and strengthening of the judiciary, or of EU negotiation itself?

To address this source of potential bias, it is possible to model first a country’s propensity to undergo a particular dichotomous treatment (here, the “treatment is the opening of EU negotiations) and then include that probability in the final analysis. One first specifies a selection, or treatment, equation in which the dependent variable is the absence or presence of EU negotiations. Ideally, one would want these variables to be uncorrelated with the second, outcome, equation, though in practice this becomes a matter of degree, as there is a tradeoff between the correlation between the two equations and the fit of the selection equation to the treatment variable.

To find variables that correlate with opening EU negotiations but not with investor risk, I turn to chapters of the *acquis communautaire*. As mentioned, the *acquis* describes in exhaustive detail all the issue areas on which potential new members must have EU-compliant legislation. Though many of these areas are of potential interest to portfolio investors, some concern cultural areas that would not be of direct relevance to bond yields. Although they might be correlated with other things investors care about, such as overall levels of wealth in a country, it is difficult to imagine how cultural issue areas would directly affect investor risk. Nonetheless, they are crucial steps in EU integration and thus are theoretically distinct from any outcome equation modeling determinants of bond yields.

For the selection equation, I create two new variables that proxy for the cultural factors driving countries to join the EU. The first, *movies*, is a measure of the number of native-language movies released in a country in a given year. Local movie production is explicitly mentioned in Chapter 20 of the EU’s *acquis communautaire*, on culture and audiovisual policy.²³ A high number of domestically produced movies indicates government efforts

²²“A bright future around the corner,” April 12, 2005 *Financial Times*

²³Specifically, “What are (if any) the financial support systems in place for the audiovisual sector (including cinema)?” Source: www.europa.eu.int/enlargement/Chapter20

toward promoting at least one form of local culture, which the EU explicitly values but should be of no particular interest to investors. Relatively closed Albania, Bosnia and Herzegovina, and Belarus, for example, produced an average of three domestic films a year, on par with Slovakia, the regional leader in foreign investment. Thus, there is little reason to believe that portfolio investors would be concerned with domestic movie production. I weigh this variable by population size, to take into account the potential audience for locally produced films.

The second new variable counts the number of UNESCO World Heritage sites in any country in a given year. Chapter 8 of the *acquis* refers to such sites explicitly.²⁴ UNESCO recognizes World Heritage sites on a rolling basis; Croatia went from having three in 1990 to 6 by 2004, and the Czech Republic started 1990 with no recognized sites at all, but advancing to 12 by the end of 2006. As above, though a high number of World Heritage sites might promote tourism, which would indicate a greater openness to the world economy that might be associated with lower risk premia, it is not necessarily the case; Belarus has four such sites, twice as many as economically open Estonia. Thus, it is reasonable to assume that this variable will do a good job in predicting EU accession and not investor yields. To factor in country size, I weigh this variable by the total land area of each relevant country.

Finally, I use Freedom House's measure of civil liberties, which serves as a third-party assessment the strength of civil liberties such as freedom of speech and expression in a country. Again, this should be positively correlated with EU accession, since human rights and respect for civil liberties appears in several different chapters of the *acquis*.²⁵ However, civil liberties should at best be of indirect concern to investors.

As such, the selection equation is as follows:

$$EU\ Negotiations = \alpha + \beta[movies]_i + \beta[UNESCO]_i + \beta[civil\ liberties]_i + \mu_i + \varepsilon \quad (1)$$

where *UNESCO* is the cumulative number of UNESCO World Heritage sites in a

²⁴The relevant portions are under the subheadings: "What, if any, are the support programmes in the field of cultural heritage?" and "What legal regime applies to the preservation of cultural heritage?"

²⁵See, for example, the chapter on minorities as well as the chapter on the judiciary.

country, weighted by the land area; *movies* counts the number of domestically produced, native-language movies in a given country year; and *civil liberties* measures the degree of civil liberties present in a given country and year, as assessed by Freedom House.²⁶ Because the treatment must be binary (either a country receives the treatment, or it does not), I use the stage of entering into EU negotiations and time periods thereafter, since that is the stage at which the first impact of lower yields was previously observed.

I then specify the outcome equation in which the dependent variable and the control variables are the same as those employed in previous analyses:

$$Risk = \alpha + \beta[\text{Controls}]_i + \delta[\text{EU Negotiations}]_i + \varepsilon_i + \rho \quad (2)$$

where $\varepsilon \sim N(0, \sigma)$

$\mu \sim N(0, 1)$

and $\rho = \text{corr}(\varepsilon, \mu)$

Note that the parameter ρ is included in equations (1) and (2). This measures the correlation of μ (the error term of the selection/treatment equation) and ε (the error term of the outcome equation). If ρ approaches -1 or 1, then standard statistical techniques will produce biased estimates of δ . Any part of ε that is correlated with μ will in this case be attributed to δ ; in other words, standard techniques would attribute to being in EU negotiations the unobservable shocks that affect both market ratings and the propensity to enter into negotiations (von Stein 2005). If, however, ρ is close to 0, then μ and ε are independently and identically distributed. As a result, δ would be unbiased, and one could be confident that δ represented the true independent effect of EU negotiations on market perceptions.

[TABLE THREE ABOUT HERE]

Table Three displays the results of the above analysis controlling for selection effects.

²⁶This measure is coded such that high values indicate a higher degree of civil liberty. To make expectations consistent with the other variables, where we would expect more movies and more UNESCO World Heritage sites to be associated with a higher tendency to open negotiations with the EU, I invert the *civil liberties* variable.

For μ , we would expect ρ to have a negative sign, which would indicate that the same unobservable factors that lead countries to have low bond yields (a negative effect on *EU negotiations* in the outcome equation) would also make them more likely to enter into EU negotiations (positive coefficients on the variables in the selection equation). Here we observe a positive sign on ρ , although the magnitude of the coefficient is small, and not statistically significant. Were that parameter closer to 1 and of high statistical significance, it would indicate the presence of selection bias, which would mean that standard estimation techniques would understate the impact that opening EU negotiations—our main variable of interest—has on market perceptions. Although selection models are highly sensitive to model specification, the relatively low magnitude (.23) of any selection effect indicated by the low and insignificant values of ρ should alleviate concern about omitted variable bias; namely, that the specification has left out some explanatory variable that predicts movements in both EU negotiations and sovereign yields.

Additionally, that the coefficient on the *EU negotiations* variable is still strong and significant below the .10 level indicates that, even when modeling and controlling for the selection process, opening EU negotiations still is associated with drops in yields on sovereign debt. This should give us confidence that the effect of EU accession on investor risk is not mistakenly attributed to any underlying characteristics that drives both risk and EU accession.

3.2 Test of Hypothesis 2: Policy Reform

I turn now to the question of whether policy reform, either undertaken prior to EU negotiation or after the time that negotiations begin, is a substantial part of the observed effect of EU negotiations. This is in some sense measured by the economic controls; high levels of inflation, for example, and unemployment are of course partially the result of government's policy choice or a lack thereof. However, they are also an indicator of the composition of a particular economy, which is a result of factor endowments as well as geography. Particular reform policies may be enacted—say, attempts at privatization or

of boosting employment—that may stall or be altogether ineffective. Thus, in addition to those controls, it may be worthwhile to disentangle an actual government policy from the way it plays out on the ground.

To test whether markets are simply responding to policy reform enacted by governments, I use reform indices provided by the European Bank for Reconstruction and Development’s annual Transition Reports, which ranks liberalization on three fronts: banking, capital- and current accounts, and prices. The indices rank policy reform in these areas on a scale from -4 (lowest degree of liberalization) to 4 (highest). Though the EBRD may well have motivation to inflate scores of liberalization for its member countries, since it itself brokers loans to transition economies, these are the most comprehensive indicators of policy reform for that part of the world in that period of time. It should be said, however, that they do not measure the effectiveness of policy reform (the economic indicators already included in the specifications probably are a better proxy for effectiveness), but rather the degree of reform that a government has pursued.²⁷ Table Four includes these variables in the base specifications.²⁸

[TABLE FOUR ABOUT HERE]

If EU entry simply sent markets information about the existence of policy reform, we would expect the effects of the EBRD policy reform variables to be more or less swamped by the introduction of an EU variable to the base model controlling for policies. Notice, however, that negotiating with EU has effects that operate more or less independent of policy reform. Except for one—banking reform, which has a strong and significant effect toward reducing yields on sovereign bonds—the policy variables do not have statistical significance. Again, this may say more about the quality of these particular policy mea-

²⁷Other indicators exist but have regrettably spotty coverage. Kostadinova (2005) coded a list of reforms in similar areas as the one listed above, but her dataset is less comprehensive across time, only extending from 1990 to 2000, in contrast to the EBRD variables’ span from 1990 to 2004. Similarly, Brune (2005) has compiled measures of capital-account liberalization and revenues from privatization, but the former duplicates to some extent the EBRD variable, and the latter is not necessarily indicative of policy reform per se. Even the EBRD’s relatively broad coverage results in high levels of missingness.

²⁸In order to preserve degrees of freedom, I collapse the EU entry variables into one scaled variable, where 0 is no official EU activity, 1 is EU application, 2 is negotiation, 3 is accession, and 4 is full membership.

surements than about the actual effects of policy reform. Additionally, policy reform can have weak or mixed effects—simply enacting legislation on capital adequacy requirements for banks, for example, does not ensure compliance with those standards; so too can removing capital controls have destabilizing effects on a country’s currency.

When EU negotiation enters the model, we see almost no attenuation of the coefficient on banking reform. This indicates that the two are not collinear, and that portfolio investors price banking reform into their expectations of a country’s default risk independently of that country’s dealings with Brussels. The number of observations is much smaller in this model due to missingness across different variables, so it would be more desirable to have policy variables that had better coverage of the countries and years under study here. Importantly, however, EU negotiation still has a consistently strong negative effect on interest rates across specification. This again points to an effect of negotiating with the EU that is independent of policy reform.

3.3 Test of Hypothesis 3: Seal of Approval

Finally, I turn to the possibility that market expectations about a country’s risk levels converge when Brussels officially claims that candidate countries’ policies are up to EU standards. As mentioned above, the path to the EU requires substantial policy harmonization, not least in economic policy; out of its 31 issue areas, the *acquis* includes 13 chapters on economic matters. These range from fiscal policy to budget deficits to exchange-rate stability. Closing these chapters indicates that the EU considers not only a country’s legislation but also its existing economic indicators to be compatible with the broader EU. We might expect here that investors would pay close attention to such a signal from Brussels, not just in terms of the substantive content of the message (that countries are up to snuff) but also the highly public nature of such an announcement. Much of the risk (as well as the potential profit) in investment lies in asymmetric information, and when such a clear indication of progress is made, we could expect investors’

expectations to align.²⁹

To test this hypothesis, I created a separate variable (Economic Chapters Closed) that indicates the percentage of those 13 issue areas on which a country had closed negotiations.³⁰ To return to the possible mechanisms delineated above, if negotiations with the EU simply communicated Brussels’s approval of candidate countries’ progress in policy reform, we might expect coefficients on policy variables to cancel out the effects of the negotiation variables. Table Five examines the results of EU’s “seals of approval” on countries’ legislation in economic policy reform within the time period that countries were negotiating with the EU, indicated by closed economic chapters of the *acquis*.

[TABLE FIVE ABOUT HERE]

Notice here that, on its own, the percent of economic chapters closed has a greater magnitude than any one of the stages of EU entry. Similarly, once those other EU variables are introduced in the model, the strength of the *Chapters* coefficient decreases only slightly, indicating a surprisingly small degree of collinearity between those variables. The proportion of chapters closed has a strong substantive effect as well—it is associated with drops in risk of 1.98, nearly as much as all four of the EU stages combined. This indicates that the formal channels of EU approval are the part of EU integration that matter most to portfolio investors.

Why does this variable perform better than the EBRD policy indices? Markets may observe policy reform in developing countries, but are unsure of its durability until it is endorsed by the EU. Information is often poor and asymmetric in emerging markets, and the EU blessing may make markets more confident in a country’s trajectory. Furthermore, the EU negotiation process involves extensive high-level vetting, as officials from Brussels

²⁹This recalls the paradigm set out by Keynes (1964), who likened investor sentiment to a beauty contest in which “it is not a case of choosing those which, to the best of one’s judgment, are really the prettiest, nor even those which average opinion genuinely thinks the prettiest. We have reached the third degree where we devote our intelligences to anticipating what average opinion expects the average opinion to be. And there are some, I believe, who practise the fourth, fifth, and higher degrees.”

³⁰Those chapters include Chapter One Free Movement of Goods; Chapter Two, Free Movement of People; Chapter Three, Free Movement of Services; Chapter Four, Free Movement of Capital; Chapter Five, Competition Law; Chapter Six, Competition Policy; Chapter Ten, Taxation; Chapter 11, European Monetary Union; Chapter 14, Unemployment; Chapter 16, Small- and Medium-Sized Enterprises; Chapter 25, Customs Union; Chapter 28, Finance; and Chapter 29, Budget.

spend months poring through the records in candidate countries' finance ministries and central banks. The information-gathering process undertaken by the negotiators is far more exhaustive than what bond traders at their desks can muster.

Interestingly, there is little indication that, once countries receive that approval, markets waver in their assessment of that country. Take, for example, the case of Hungary, which joined the EU in 2004 as part of the “big bang” of enlargement. In October 2005, Eurostat, in an investigation of public spending in Hungary, publicized the fact that the Hungarian government had left highway construction out of their calculations for government spending. Once that budget line was included, it put the share of government deficit to GDP at 9 percent—flagrantly above the 3 percent cap set by the Stability and Growth Pact. The EU Treaty (Article 104) allows the ECOFIN Council to impose sanctions, possibly as a fine, should a member state exceed the 3 percent limit for its government deficit.

Though the EU called attention to this fact publicly, there was never any serious talk of imposing sanctions on Hungary. The EC could have withheld structural funds from Hungary on account of their overspending. Hungary then would have had recourse to invoke the equal treatment clause, which would require the Commission to invoke similar punishment on Germany and Greece, who also extended their budget cap. There is also a section of the Stability and Growth Pact that cites a fine for breaching the Pact's rules, but no serious mention of this has ever been made with respect to Hungary.³¹ Talk of postponing Hungary's date for adopting the euro was always framed in terms of other structural problems, not the breaking of the Stability and Growth Pact per se.

Hungarian officials were casual about the prospect of EU penalties. Finance minister Tamas Katona was casual about his government's breach, saying that, after all, “the views of the [finance] ministry and the Commission did not differ fundamentally.”³² A

³¹There had been some discussion of the German case; the European Commission was pushing for Germany to be fined for exceeding the 3 percent budget deficit, but the European Council refused. The Commission then took the case to the European Court of Justice, which ruled that the Council could refuse to vote fines but could not scrap basic rules of the Stability and Growth Pact without due process.

³²“Hungary Finance Ministry shrugs off EU budget warning,” portfolio.hu, 20 October 2005

Central Bank official dismissed the notion of actual sanctions being imposed, saying that “we’d just bring up the equal-treatment directive, and then neither Greece nor Germany would be safe, and they don’t want that to be publicly brought up.”³³ A local pundit Hungarian government’s stance as one that doesn’t even seem designed to bamboozle the EU—sort of like when a kid fails a class and lamely denies to his parents that he failed, even though he knows that his parents know that he knows that they know he flunked.”

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What is striking is that there was relatively small markets reaction to these events; yields on 10-year maturities, for example, only increased in the month of October by 15 basis points. Finance Ministry officials acknowledged that “markets [were] giving Hungary a break because of the membership in the EU.”³⁵ The National Bank of Hungary attributed the relative lack of market reaction to the fact that “we’re part of the EU now, and investors know that the EU governments aren’t [like those in] Latin America. We’re not going to run away with the money in coffins.”³⁶

Even after Prime Minister Ferenc Gyurcsány was caught on tape admitting that the government had lied “morning, noon, and night” about its financial position, sparking a week of riots in late September, markets barely slid.³⁷ In fact, during the third day of the riots, Hungary brought a new type of government bond to credit markets, with spreads at 25 basis points over European bonds — only slightly more risky than the initial price guidance. Though some investors complained that the bond was too expensive, it sold briskly, with various Western European funds buying up 80 percent of the issue. “It just shows that investors are wearing rose tinted glasses as long as you are a EU-member country, regardless of the real quality of your credit,” said one investor.³⁸

³³Interview, Andras Inotai, 30 October 2005

³⁴“EU Warns Again on Deficit; Official Mumbles Bullshit Back,” pestiside.hu

³⁵Interview, Marton Szili, 25 July 2006.

³⁶Interview, András Inotai, 30 October 2005.

³⁷The credit agency Fitch downgraded its rating from stable to negative, but other credit agencies, including Standard and Poors and Lehman Brother’s, called the move “premature ... Gyurcsány does not seem to have any intention of resigning or derailing the reform package. “Fitch Cuts Hungary Outlook,” Goldman Sachs report, 21 September 2006.

³⁸“Hungary “Hungary Cruises Back To Debt Markets Despite Protests,” Dow Jones, 20 September 2006.

Thus, even though there were no short-term sanctions imposed on Hungary for breaking the Stability and Growth Pact, “in the longer term, the peer pressure in the EU works. ... If Hungary is a cause for concern [at regular meetings of finance ministers in Brussels] every time, it is heavily publicized in the Hungarian press, then taken up by the opposition, then it shows up in parliamentary debate, and finally ends up in public perceptions [of a government’s performance].”³⁹ Thus, even if governments suffer no immediate consequences from breaking EU rules, in the medium term they may pay at the ballot boxes.

This illustrates one of the strongest elements at work in the EU: group enforcement of norms. Official enforcement mechanisms seem less important than the expectation that all members will end up converging around a certain economic standard. Consistent with the findings from the ARCH-in-means model, Hungary’s lack of penalty from investors shows that, once a country has joined the club, investors regard it as relatively stable.

4 Conclusion

This paper has delineated three mechanisms through which markets view the process of EU entry. The drops in risk that we see are not a function of selection, where the EU picks the countries that already have the best policies and the highest level of development. Nor are markets responding to the policy reform that candidate countries undergo in order to be in line with the EU. Instead, candidates feel the most forceful drops in market risk when the EU looks favorably on policy reform.

It is interesting to note that this effect is strongest in the stages before countries actually become members. When countries have incentives to reform, in order to be deemed acceptable for membership, the EU leverage may be strongest. Once countries actually become members, Brussels has far less direct influence on countries’ behavior. The trick is that this may not matter to financial markets: the initial strides of reform

³⁹Interview, Laszlo Toth, July 2006.

may be enough to move a country from one peer group to another.

An obvious avenue of future research is to consider whether this effect will attenuate as the EU grows larger and more diverse. For example, will Turkey, Macedonia, and Bosnia see similar boosts in investor confidence, since the EU they are signing onto is very different than the rich-country club of the early 1990s? Additionally, if more countries break the rules of the EU, Brussels's approval of market reforms may lose its luster.

Nonetheless, this is an important finding for the literature not only on international development, but also on international institutions. I have shown that institutional membership can signal credible commitments to future stability in a way that goes beyond present economic reform and initial conditions. This should not only be good news for champions of institutions, but could also offer a point of consideration for governments hoping to attract capital. Institutions may help them signal their attributes and intentions in a way that policy reform cannot.

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Table 1: ARCH-in-Means and Autoregressive Models *

Variable	Base	Full	1980s	1990s	2004
Constant	2.08 (.17)	1.86 (.18)	1.94 (.17)	1.94 (.32)	1.41 (.30)
German debt	.08 (.008)	.09 (.008)	.07 (.10)	.06 (.006)	.21 (.04)
Inflation	.003 (.001)	.002 (.001)	.01 (.003)	.01 (.003)	.0009 (.0004)
Reserves	-.03 (.01)	-.04 (.01)	.42 (.19)	-.04 (.19)	.02 (.14)
Debt liabilities	-.002 (.002)	-.003 (.002)	.002 (.008)	.01 (.02)	.30 (.11)
Current account	-.004 (.008)	-.001 (.008)	.004 (.02)	-.03 (.02)	-.25 (.18)
EU application	-	-.03 (.03)	.03 (.03)	.001 (.09)	-.15 (.11)
EU negotiation	-	-.09 (.04)	-.07 (.06)	-.02 (.09)	-.40 (.02)
EU accession	-	-.10 (.05)	-.05 (.08)	.06 (.10)	-.51 (.18)
EU membership	-	-.01 (.01)	-.03 (.10)	.01 (.04)	-.04 (.05)
σ	-	-.01 (.03)	-.35 (.29)	9.69 (2.46)	-.05 (.25)
EU negotiation	-	-.28 (.62)	-3.76 (.60)	-2.84 (4.13)	-1.37 (.60)
EU accession	-	.61 (.88)	-3.73 (2.29)	-17.73 (1.45)	-2.40 (1.11)
EU membership	-	-1.77 (.71)	-.24 (2.25)	19.85 (12.14)	-.04 (.05)
cons	-	-5.6 (.69)	-1.66 (.59)	-10.95 (1.40)	-3.75 (.54)
ARCH(1)	1.31 (.26)	1.21 (.27)	.69 (.13)	.16 (.04)	.34 (.22)
GARCH(1)	.27 (.10)	.25 (.08)	-.02 (.02)	.86 (.03)	.44 (.14)
AR	.97 (.01)	.97 (.01)	.98 (.007)	.98 (.008)	.95 (.02)
MA	.25 (.04)	.25 (.04)	.37 (.62)	.33 (.06)	.20 (.09)
N	1879	1879	291	413	342
LL	1389.78	1393.77	328.34	537.68	42.78
χ^2	12481.51	21701.48	26768.15	15035.01	4014.97
Prob χ^2	0.0	0.0	0.0	0.0	0.0

*Dependent variable is the natural log of yields on government bonds, quarterly from 1970 to 2005. ARCH-in-means regressions with robust standard errors in parentheses; region fixed effects.

Table 2: **Effects of One SD change of Independent Variables on Bond Yields**

Variable	Full Sample	Mid80s	Early 90s	2004
Debt liabilities	-0.01 0.01	0.02	0.24	
Reserves	-0.12	-0.11	0.06	0.07
Current account	0.00	0.02	-0.07	-0.41
Inflation	14.44	-0.34	-0.19	1.47
German yields	-4.32	-3.45	-2.77	-11.29
EU apply	-0.42	-0.81	0.01	-2.41
EU negotiate	-1.47	-1.31	-0.27	-7.40
EU accession	-2.53	-1.62	0.42	-11.49
EU membership	-2.67	-7.78	0.53	-11.72

Table 3: **Treatment Effects** *

Variable	Full
Constant	2.01 (.37)
German debt	.33 (.05)
Inflation	.002 (.0003)
Reserves	.01 (.01)
Debt liabilities	.12 (.11)
Current account	.15 (.058)
EU negotiation	-.39 (.21)
Selection	Equation
Constant	3.98 (1.13)
Movies	-.03 (.04)
UNESCO sites	.01 (.004)
Civil liberties	-2.01 (.55)
ρ	.14 (.26)
σ	.42 (.03)
λ	.05 (.11)
N	124

*Dependent variable is the natural log of yields on government bonds. Treatment-effects regression, with country and year dummies repressed. Likelihood ratio test of independent equations ($\rho = 0$) : $\chi^2(1) = 0.26$ $Prob > \chi^2 = 0.61$.

Table 4: **Test of Policy Reform** *

Variable	Base	With EU
Constant	3.09 (1.71)	6.07 (2.10)
German debt	.27 (.11)	-.10 (.26)
Inflation	.001 (.001)	.0003 (.003)
Reserves	-.02 (.01)	-.014 (.01)
Debt liabilities	-.003 (.01)	-.003 (.01)
Current account	.03 (.08)	.014 (.009)
Bank reform	-.11 (.05)	-.11 (.05)
Price liberalization	.14 (.34)	.07 (.23)
Account liberalization	.17 (.18)	-.006 (.22)
EU stage	-	-.61 (.32)
Constant	.15 (.15)	.12 (.04)
ARCH(1)	-.11 (.03)	-.15 (.10)
N	39	39

*Dependent variable is the natural log of yields on government bonds, from 1989 to 2005. ARCH regressions with robust standard errors in parentheses; country fixed effects (coefficients suppressed).

Table 5: **Test of EU Seal of Approval** *

Variable	Base	Full
Constant	2.65 (.26)	2.39 (.48)
German debt	.17 (.03)	.24 (.06)
Inflation	.002 (.0003)	.001 (.0002)
Reserves	-.02 (.01)	-.014 (.01)
Debt liabilities	-.004 (.06)	-.001 (.007)
Current account	.04 (.06)	-.08 (.05)
Economic chapters	-.65 (.09)	-.58 (.24)
EU apply	-	.30 (.15)
EU negotiate	-	.15 (.14)
EU access	-	-.18 (.46)
EU member	-	.05 (.39)
Constant	.44 (.01)	.15 (.04)
ARCH(1)	1.21 (.07)	-.43 (.17)
GARCH(1)	-.36 (.04)	-.39 (.21)
AR1	.95 (.03)	.82 (.09)
MA1	-.57 (.08)	-.20 (.14)
N	124	122

*Dependent variable is the natural log of yields on government bonds, from 1989 to 2005. ARCH regressions with robust standard errors in parentheses; country fixed effects (coefficients suppressed).