Institutions and Capital Flight in the Global Economic Crisis[*]

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Abstract

This paper examines the political bases of portfolio investment by studying the changing global allocation of portfolio capital during the Global Economic Crisis of 2008-09. Using a unique cross-national dataset on net portfolio flows immediately following the collapse of Lehman Brothers in September 2008, it establishes that countries with "better institutions"—those with more (or less) democratic, more (or less) constrained, or more accountable political systems— were no less vulnerable to portfolio outflows than countries with "worse institutions." Instead, governance matters: countries that are rated as having better governance prior to the crisis—those with better regulatory apparatuses, rule of law, property rights, and those considered less politically risky—experienced a lower volume of net portfolio capital outflows after Lehman. Governance quality is in fact the strongest predictor of portfolio capital flows, while political institutions perform poorly. The findings have implications for literatures on the political economy of foreign investment, as well as for broader topics of institutions, governance, and economic performance.

Introduction

Countries with clear property rights regimes, competent regulators, and stable and representative political institutions attract more foreign investment than their counterparts without them. Investors in equity and bond markets, however, are highly sensitive to short term economic fluctuations, and they may have little regard to the political or institutional context in which their investment takes place over the relatively short time horizons relevant to them. The challenge for research on the politics of portfolio investment is that while the best cross-national data on portfolio flows captures flows at the year level, this coarse measure obscures much of the activity in equity and bond markets that should be of interest to scholars of portfolio investment. Moreover, aggregating portfolio flows to the country-year level makes it more challenging to distinguish between the effects of formal political institutions on portfolio capital flows (e.g. Cao 2009) and the effects of portfolio flows on political institutions (e.g. Li and Reuveny 2003).

Attuned to these concerns, this paper examines short term capital market responses to the Global Economic Crisis of 2008-09 to study how institutions shape portfolio capital flows. My research design exploits the fact that the collapse of Lehman Brothers in September 2008 created an immediate global demand for liquidity (Krishnamurthy 2010). The sharp increase in the premium on liquidity after Lehman led investors to rebalance their portfolios away from investments that they considered to be less liquid, which due to "home bias" resulted in a global repatriation of portfolio capital out of foreign markets and into the home countries in which funds were domiciled (Milesi-Ferretti and Tille 2010). Because the impetus for this flight to liquidity was an acute financial shock in the United States, political institutions and governance in other countries are exogenous to the short term responses of portfolio investors, providing a clean test of the effects of institutions and governance on portfolio capital flows. I use detailed

data on the short term (i.e, monthly) flows of portfolio capital in and out of a global sample of equity and bond markets to compare the behavior of portfolio investors across countries with different kinds of political institutions in the immediate aftermath of Lehman's collapse.

My findings question whether formal political institutions shape investor behavior during periods of financial upheaval. There is no evidence that countries with better *institutions*—those with more (or less) democratic, more (or less) constrained, or more accountable political systems—were less vulnerable to portfolio outflows after Lehman. However, my results do confirm that governance matters (Kaufmann et al. 2009). Countries that are rated as having better *governance* prior to the crisis—those considered to have better regulatory apparatuses, rule of law, and to be less politically risky—consistently experienced a lower volume of net capital outflows during this period when portfolio investors the world over sought liquidity. In fact, I find that these indicators of governance quality are the strongest predictors of portfolio flows following the collapse of Lehman, while political institutions perform poorly on these metrics.

The distinction between institutions and governance is critical for this paper. Williamson (1998) denotes the former as the "rules of the game" and the latter as the "play of the game." Institutions capture the formal political rules that structure the formation and maintenance of market relations: are political executives chosen through competitive popular elections? How many institutional veto players can obstruct economic policymaking? Governance captures the processes and outcomes of the interaction between politics and markets in practice: are bureaucracies efficient and effective? Are property rights regimes clear, and do politicians respect them? The right political institutions can promote good governance (see e.g. Adserà et al. 2003), but the two concepts are conceptually distinct. Various studies of foreign investment distinguish between governance and institutions as explaining the cross-national allocation of

4

portfolio capital flows, but due to the aggregated nature of the data and plausible identification concerns it is difficult to adjudicate among their disparate conclusions. Adopting a more precise research design, my results show that governance, rather than institutions, affects portfolio investors' behavior during periods of acute financial distress. It should be noted that in this paper, and following mainstream studies of political institutions and foreign investment, the term "institutions" refers to *formal political institutions* rather than some abstract conception of institutions.[1] Likewise, governance refers narrowly to *economic governance* rather than a broader conception of governance.[2]

Because this paper's research design examines portfolio investor behavior during global flights to liquidity, it cannot explain cross-national portfolio capital flows across all time periods. But existing theories hold that political institutions affect investor behavior because investors care about the stability and profitability of their investments when economic conditions are uncertain, the responses of portfolio investors to political institutions in the wake of the Lehman collapse are a critical test of the ways in which institutions affect portfolio investment. These findings do not indicate that political institutions are irrelevant to portfolio investors, but they do caution that institutional structures of receiving countries may be less important for investors with short time horizons than the way that these economies are governed.

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[1] The broadest definition of institutions is due to North: "Institutions are the humanly devised constraints that structure political, economic and social interaction" (North 1991). This broad a definition is much broader than the conception of "political institutions" in "institutional" approaches to foreign investment.

[2] The working definition of economic governance is "the norms of limited government that protect private property from predation by the state" (Kaufmann et al. 2007:555).

The paper proceeds as follows. The next section reviews existing work on political institutions and foreign investment, highlighting a divide among scholars who focus on governance itself and those who focus on institutions as the drivers of governance. The following section describes my research design in more detail, and walks through several important identifying assumptions that underlie my preferred causal interpretation of the evidence. The subsequent section presents the empirical results, and the final section concludes with a discussion of their implications for scholars of portfolio investment, comparative political institutions, and economic governance in a global economy.

The Political Economy of Portfolio Investment

Scholars of international investment agree that politics matters, but disagree as to how. The central intuition is that investment is sensitive to political factors in recipient countries because multinational investors (like all investors) seek investments that are both secure and profitable. Politics affects both the security of ownership claims (the direct effect of politics) and the receiving economy's overall economic performance (the indirect effect of politics). Broadly, research on the politics of foreign investment focuses on either formal political institutions—democracy, competitiveness, veto players, and related institutional variables—or the quality of governance—rule of law, property rights, regulatory effectiveness, and related governance variables.

Conceptually, the distinction between institutions and governance is straightforward. Political institutions capture the formal rules that structure political competition. Governance is a more nebulous concept, but for the purposes of this paper, the essence of *economic* governance is simply "the norms of limited government that protect private property from predation by the state" (Kaufmann et al. 2007:555). This definition of governance makes it clear why foreign

6

investors should care about it: investors who do not believe that their ownership claims are secure will not invest. They will likewise not invest if they believe that state predation can weaken the overall performance of the economy in which they are investing, regardless of whether they are the direct victims of that predation. That said, just as there are many types of formal political institutions, there are many dimensions of economic governance (contrast the rule of law with the effectiveness of the bureaucracy). Recent critiques of governance as a useful tool for explaining long-run economic development (see Kaufmann et al. 2007; Kurtz and Schrank 2007) serve as an important reminder that governance is a contested concept that can be used unreflectively.[3] In what follows, my goal is not to settle these debates, but more modestly to illustrate that economic governance and political institutions are different but related concepts which are central to political approaches to multinational investment.

Any number of political factors may shape the security of foreign ownership claims and the performance of foreign markets. In the case of FDI—in which the investor owns or controls assets in a receiving country—political volatility may hinder economic growth and discourage long term investment, which in turn indirectly suppresses FDI. Unaccountable executives may produce unpredictable investment policies, which again indirectly suppresses FDI. Property rights protections may ensure that foreigners need not fear the expropriation of their invested assets, which directly encourages FDI. These intuitions suggest that if, for example, democracies have better property rights regimes and more transparent political processes than dictatorships,

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[3] Rothstein and Teorell (2008:166), for example, propose a more encompassing conception of good governance as "impartiality in the exercise of public authority." Here, I follow the existing literature, which relies on Kaufmann et al.'s (2007:555) narrower conception of economic governance as the protection of private property rights.

then they should attract more foreign investment than dictatorships. Countries with unaccountable executives may be unable to commit to respecting the ownership rights of foreign direct investors, whereas countries with highly fragmented political systems may be unable to adapt to changing economic circumstances to maintain the macroeconomic stability needed to encourage long term investment. Each of these should discourage long term foreign investment.

The literature on political institutions and portfolio investment—that is, investment in equity and bond markets, which does not involve ownership of (or the acquisition of controlling stakes in) individual enterprises—emphasizes a key distinction between FDI and portfolio investment. The former involves the purchase or control of majority stakes in a foreign enterprise, while the latter does not; modern trading technology, moreover, makes portfolio investment faster, easier, and therefore potentially far more volatile than FDI. As a consequence, under normal circumstances portfolio investors have an easy and instantaneous response to policies or political events that they find distasteful: they divest. This does not imply that portfolio investors do not care about expropriation risk—portfolio investments are on the whole easier to expropriate than FDI (Albuquerque 2003)—but it does indicate that due to the short term nature of their investments and the fact that portfolio investors by definition have chosen not to acquire controlling or ownership stakes, they should be *relatively* more concerned with the profitability of their investments in the short term than the long term stability of their ownership rights. As a result, the direct effects of political factors such as democracy, accountability, or political stability on portfolio flows may be quite small over the time horizons relevant to most portfolio investors.

The indirect effects of institutions and governance may nevertheless be large. If poor economic governance impedes macroeconomic performance, then portfolio investors will either

refuse to invest, or when they do, be more likely to divest when a receiving country's short- or medium term economic prospects grow dimmer. If portfolio investors believe that certain national political institutions (such as competitive elections or executive accountability) provide a better platform for economic performance in the short to medium term, then they should be less likely to withdraw funds from foreign markets that have those institutions during periods of heightened concern about global market performance. To be clear, this paper does not attempt to decompose the indirect versus direct effects of governance and political institutions on portfolio flows. Nor does it explain why portfolio investment happens in the first place (the distribution of portfolio investment across countries and over time). Instead, it examines the response of portfolio investors to institutions and governance in the context of a discontinuous increase in their demand for liquidity, which will reveal whether political institutions condition investors' responses in ways that are consistent with the literature's theoretical expectations.

As it stands, empirical results on the effects of politics on foreign investment are mixed. Some have found that democratic accountability increases FDI (Jensen 2003, 2008), while other research holds that this relationship is actually driven by property rights, which should be separated conceptually and empirically from democracy (Li and Resnick 2003). Others argue that political constraints (Henisz 2000; Wright 2008) or government partisanship (Vaaler 2008) rather than democracy itself are the key political factors that shape cross-national patterns of FDI, while still others focus on governance-based measures such as bureaucratic quality and law and order as the political drivers of FDI (Busse and Hefeker 2007). Implicitly, these studies agree that the proximate factor to which FDI responds is some measure of how the economy is governed. But one strand of literature maintains that institutional structures produce the type of governance that investors desire, while another attempts to separate governance itself from the

institutions that may or may produce it. This mirrors broader debates in comparative political economy about the conceptual bases of quality of government as a set of institutions versus a collection of practices (see, recently, Rothstein 2011) and the causal relationship between institutions and governance outcomes (Adserà et al. 2003; Andrews and Montinola 2004; Ayyagari et al. 2008).

Empirical results on portfolio investment are similarly disparate, but are comparatively less well developed than those on FDI. This is partially as a consequence of the mismatch between the coarse nature of the cross-national data on portfolio capital flows, which are normally available only at yearly frequencies, and the short time horizons of portfolio investors, which should be measured in months, weeks, and in some cases days. Studying the effects of political institutions on portfolio investment is accordingly difficult using the preferred empirical strategy of this literature (time-series cross-section regressions) because this employs data measured country-year level. Even so, existing studies have uncovered suggestive patterns which mirror the divide between governance and institutions in the FDI literature. Ahlquist (2006) finds that yearly portfolio flows change in response to changes in political risk and macroeconomic fundamentals rather than to changes in political institutions. Cao (2009), by contrast, argues that democracies attract more portfolio investment because they have better property rights than dictatorships. Biglaiser et al. (2008) find that new democracies attract more portfolio investment, especially among lesser developed countries. Durnev (2011) finds that political stability leads foreign investors to choose portfolio investment over direct investment. Kho et al. (2009) link various governance indicators to higher levels of portfolio investment. As with the politics of FDI, there is disagreement about whether institutions or governance shapes portfolio investors' behavior.

For all theories of institutions, governance, and foreign investment, there is an implicit causal ordering from institutions to governance: most scholars believe if investment responds to institutions, it is because institutions affect international investment through some aspect of governance. In this recounting, the proximate causal factor to which investors respond is governance, but the deep causal factor is institutions. It is therefore challenging to distinguish empirically between the effects of institutions and governance on investment outcomes. Linking institutions directly to investment outcomes assumes that institutions promote good economic governance, which might not be correct. But controlling for governance can mask the power of institutions to shape investment, amounting to a form of post-treatment bias.

I discuss this paper's empirical strategy for addressing this challenge below; here, I note that studies of the effects of institutions on investment may be capturing the long term relationship between the two. But this is precisely why separating institutions from governance is important: if portfolio investors are indifferent to the long term effects of institutions on governance, but do care about governance, then we should take care not to conclude from the lack of a relationship between institutions and investment flows in the short term that investors are somehow unconcerned with politics. Moreover, the short term responses of portfolio investors are important for institutional theories if we believe—as most institutionalists do—that institutions constrain policymakers during periods of economic turmoil or uncertainty. If the effects of institutions on investment are only revealed over the long run (because institutions only shape governance over the long run) then this raises questions about how institutions constrain economic and political actors during the periods when their utility as constraints is most critical.

I focus in this paper on short term portfolio flows during a single period: the immediate aftermath of the collapse of Lehman. In addition to being intrinsically interesting due to the near catastrophic consequences of Lehman's bankruptcy for global financial stability (Bartram and Bodnar 2009; Mishkin 2010; Swedberg 2010; Zingales 2008), the Lehman event is useful because it generated an exogenous increase in the global demand for liquidity which is independent of the global distribution of political institutions and quality of governance in September 2008. This is crucial because a separate line of research argues that portfolio investment flows themselves affect both government policy choices (Maxfield 1998) and national political institutions (Li and Reuveny 2003). The collapse of Lehman, however, generates a strong research design: as investors withdrew funds from foreign markets in the months after Lehman's collapse for reasons associated with their beliefs about their need for liquidity *at home*, their behavior cannot have caused the political institutions and governance in those countries directly prior to Lehman's collapse.

The specific impetus for the flight out of foreign portfolio investments after Lehman was "home bias," the phenomenon (most notably associated with French and Poterba 1991) that despite the benefits to holding an internationally diversified portfolio of equity and bond investments, most portfolios are dominated by equities and bonds in the country in which a particular fund is domiciled. Funds in the United States, for example, tend to have more United States-based equities than would be expected given the benefits of international portfolio diversification. The vast majority of large portfolio funds are domiciled in the United States, Europe, Japan, and some small offshore markets, which means that a flight to liquidity corresponded on average to net outflows of capital from nearly every country aside from the United States (Bartram and Bodnar 2009; Fratzscher 2011). As the world's main reserve

currency, moreover, the United States was a prime destination for global investors seeking liquidity (or more fundamentally, safety) (McCauley and McGuire 2009). It is the cross-national variation in these portfolio outflows that provides the empirical basis of this paper.

Data and Methods

Data on portfolio flows before and after Lehman come from the market research firm EPFR, via Fratzscher (2011). These data aggregate net bond and equity flows as a percentage of assets under management for a sample of emerging and advanced economies for two periods: the six months following September 14, 2008 (the date of Lehman's collapse), and a "normal," or pre-crisis period between October 2005 and June 2007. The data are constructed by EPFR from a large sample of individual fund managers, and have the benefit of including funds domiciled in both the U.S. and abroad and of measuring changes in allocations independently of exchange rate fluctuations and returns.[4] This means, for example, that the data on net portfolio flows to Turkey includes the sale of Turkish equities by a fund domiciled in Britain. If a portion of that sale goes to buy French bonds, then this will appear in the French data, and the remainder will appear in the British data. The EPFR data therefore provide a tight measure of the changing global allocation of equity and bond flows when investors were most concerned with protecting liquidity. Summary statistics for these and all variables in this paper can be found in the Reviewer's Appendix.

All analyses are conducted on two samples, a "full" sample and an "emerging markets" sample (see Table 1). The former includes all countries for which data are available with the

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[4] See Fratzscher (2011:5-6) for further detail on the data.

exception of the United States, for a total of 47 countries.[5] The latter omits any country with an

IFS code higher than 200, yielding a sample size of 25 countries. Despite its small size, the

emerging markets sample has good representation from emerging Asia, Latin America, and the

transition economies of Eastern Europe. It has poor coverage of sub-Saharan Africa and the

Middle East. However, this is consistent with the domination of global equity funds by Asian,

Latin American, and emerging European equities, so it is unlikely to affect inferences about the

relationship between institutions and capital outflows.

Measuring Institutions and Governance

Political influences on net portfolio flows are measured using a range of institutional and

political variables (for definitions and sources, see Table 2). The six institutional variables

capture various types of political institutions that the literature has identified as important drivers

of or constraints on multinational investment. These include political competitiveness as proxied

by the level of democracy (*POLITY*), an index of political accountability (*VOICE*), institutional and

political constraints on executive or government behavior (veto players, *CHECKS*; executive

constraints, *EXEC CONS*; and government fractionalization, *FRACTIONALIZATION*), and political

stability (*POL STAB*). The six indicators of governance include the World Bank's estimates of

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[5] The United States is excluded due to its disproportionate influence as a destination for capital

flight during the crisis. Including the U.S. would artificially strengthen my findings on

governance and institutions on capital flows. The U.S. scores highly on most indices of

governance quality and on most indicators of democracy, voice, and accountability, yet its

position as a global reserve currency and the home country for most portfolio capital flows in the

data means that it attracted far more net capital inflows than would otherwise be expected.

regulatory quality (*REG QUAL*), the rule of law (*RULE LAW*), and government effectiveness (*GOV EFFECT*); an index of Political Risk (*POL RISK*) derived from Political Risk Services' estimates of bureaucratic quality, corruption, and law and order; the Heritage Foundation's index of property rights (*PROP RTS*); and the World Banks "Ease of Doing Business" rankings (*DO BUSINESS*). All institutional and governance variables are measured as averages for the period 2004-2008; all results in this paper are robust to different ways of constructing these averages.

As an initial exploration of the interrelationships among these key independent variables and post-crisis capital flows, Figure 1 displays a scatterplot matrix of the dependent variable, *POST-CRISIS PORTFOLIO FLOWS*, and the twelve governance and institutional variables. Each panel contains both a bivariate scatterplot between two of these variables for the full sample of countries and a loess fit of this relationship. Looking down the leftmost column, it is clear the post-crisis outflows were greater (i.e., net flows were lower) in countries that scored lower on each of the first five indicators of governance quality (for each indicator, higher scores can be interpreted as "better" governance). The only exception is *DO BUSINESS*. Loess fits are nearly flat for most variables capturing political institutions; only voice and political stability appear correlated to post-crisis flows, and the slopes of the loess fits are closer to zero for these two indicators that for the five indicators of governance. These visual results are strong hints that governance matters for explaining post-crisis equity flows, but that various indicators capturing the institutional features of national politics do not.

Figure 1 also establishes the strikingly tight intercorrelations among most governance variables: regulatory quality, rule of law, government effectiveness, political risk, property rights are all highly correlated with one another (after standardizing these five variables, Cronbach's α > .98). The correlation is looser for sixth governance variable, the ease of doing business. This

suggests that either the first five variables capture a single latent dimension of governance quality, or alternatively that these factors are all so interrelated that they will be difficult to distinguish from one another empirically.

By contrast, most of the indicators of political institutions in Figure 1 are not strongly correlated with one another or with indicators of governance. There are some exceptions among institutional variables (*VOICE* and *POLITY*, and *VOICE* and *EXEC CONS*), and both *VOICE* and *POL STAB* appear to be correlated with most measures of governance in the full sample, but overall there are few patterns among the institutional variables as evident as the tight relationships among five governance variables.

Figure 2 narrows the focus to one indicator of governance quality, the rule of law, and post-crisis capital flows. The linear fits corresponding to both the full sample (solid line) and emerging markets only (dashed line) confirm that countries with better quality of governance experienced higher net portfolio capital outflows (that is, lower net inflows) in the six months after the crisis, supporting the relationships identified in Figure 1.

Of course, there are other factors which shape the cross-national pattern of capital flows after the Lehman collapse. A basic empirical model of cross-border international financial flows drawn from Papaioannou (2009) should hold that in addition to governance, various economic factors may shape investors' decision to divest from an economy in search of liquidity. Specifically, economic size, economic development, economic performance, and historical patterns of capital inflows should each be associated portfolio flows. Following standard practice, I measure the side of an economy as the log of real GDP (*SIZE*), economic development as the log of per capita real GDP (*DEVELOPMENT*), and national economic performance as yearly growth in real GDP per capita (*GROWTH*). Larger, more developed, and more rapidly growing

economies should experience lower net portfolio outflows than smaller, less developed, and poorer performing economies. As with the institutional and governance variables, these controls are measured as 2004-2008 averages to smooth out year-specific shocks. Historical patterns of capital inflows are measured as cumulated net inflows for the 21 months prior to the onset of the global economic crisis (that is, October 2005 until July 2007) (*HISTORY*). Including historical capital flows as a control variable not only sets a baseline against which to gauge the size of post-crisis portfolio outflows, it also helps to capture unobservable components of investors' beliefs about the likely profitability of these economies in the short term (under the assumption that portfolio investors would not have channeled funds to countries that they considered risky for unobservable reasons). As a result, the preferred model of post-crisis equity flows takes the following functional form:

$$POST\text{-}CRISIS\ EQUITY\ FLOWS = \\ \beta_1 * HISTORY + \beta_2 * SIZE + \beta_3 * DEVELOPMENT + \beta_4 * GROWTH + \beta_5 * POLITICS \tag{1}$$

where *POLITICS* represents one of the twelve indicators of governance and political institutions. The main results include all four control variables to ensure that the relationship between governance and capital flows that I uncover is not driven by the possibility that governance ratings simply capture large and high-performing economies that had absorbed large sums of portfolio capital prior to the crisis.

Identifying Assumptions

There are several assumptions that underlie a causal interpretation of the results below. The first is that governance and institutions are not the results of portfolio capital flows. The measures of institutions and governance that I employ are constructed from data that are measured prior to the onset of the crisis. Moreover, the dependent variable captures capital flows

17

over a short time period after Lehman, a period during which national political institutions and national governance indicators are highly unlikely to have changed appreciably. Note again, however, that as a consequence of this empirical approach, the results here do not identify the effects of institutions and governance on portfolio investment across time and across countries, but rather the effects of institutions and governance conditional on the global flight to liquidity following the Lehman event.

A second assumption is that seasonal patterns of portfolio investment are orthogonal to the estimated relationship between politics and post-crisis flows. While financial market activity measured at higher frequencies than the year may display regular fluctuations associated with the yearly calendar (including end-of-year effects, tax deadline effects, etc.), this assumption is quite innocuous for two reasons. First, it is well established that there are seasonal patterns in portfolio fund *performance* (Lakonishok and Smidt 1988; Rozeff and Kinney 1976), but there is no evidence that cross-national patterns of portfolio *flows* display similar seasonal patterns. Second, and more importantly, the empirical analysis here does not rely on inference *across* seasons, but rather on inferences *within* seasons. Seasonality in portfolio flows, if it existed, would only threaten the inferences in this paper if it took the form of "politics-conditional seasonal portfolio flow effects," meaning that portfolio investment flows at the end of the calendar year regularly differed across recipient countries according to political factors such as those that I identify here.

Third, I do not include an exhaustive set of economic control variables in the baseline specifications (factors like government debt service, exchange rate volatility, etc.). The main reason for this is to maximize the degrees of freedom in models which already have very small sample sizes—with only 47 observations, parameter estimates on model with more than five independent variables become unstable. I explore this issue further in the following section and

18

in the Reviewer's Appendix; to preview, despite the very small sample size, my findings remains largely unchanged when exploring models that include these and other additional control variables.

Fourth, the methodology through which some of the governance indicators were created—in which expert surveys play an important role (Kaufmann et al. 2009)—raises the possibility that the same fund managers who provide the data on post-crisis capital flows are also the experts who rate countries. If so, then if the expert surveys were fielded after Lehman, perhaps survey respondents rate countries poorly *because* they have decided to withdraw from their equity and bond funds after the Lehman event. It is impossible to gauge the extent to which the same individuals provided governance ratings and portfolio flow data because the identities of survey respondents are confidential, and it is not possible to tell from publicly available data if the 2008 governance rankings preceded or followed the Lehman event. But while some fund managers may have contributed to the country rankings, the large sample of experts from which the governance rankings were drawn is unlikely to overlap very much with the large sample of fund managers who provide fund flow data. Moreover, averaging the governance indicators from 2004-2008 will place greater weight on rankings prior to the Lehman event 2008, which cannot have been driven by post-Lehman investment choices.[6]

Additionally, Kurtz and Schrank's (2007) recent critique of governance as an explanation for long-run development raises questions about whether or not the governance indicators measure anything fundamental about economic management (as opposed to experts' biases or subjective opinions). While it is probably not true that governance rankings are nothing more

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[6] And again, using a different period average (extending only to 2007, and omitting 2008 altogether) has no effect on the substantive conclusions derived in this paper.

19

than the aggregated biases of self-described experts, the goal of this paper is to estimate the relationship between various indicators of governance quality and investor behavior in times of crisis, which is meaningful even if the governance indicators are noisy proxies of "objective" governance quality. We must be careful not to conclude that economic governance cannot affect short-term investor behavior simply because governance indicators may not be proper foundations for explaining long-run economic development.

Finally, the implicit causal ordering from institutions to governance to outcomes necessitates care in the specification of any empirical model of how institutions and governance affect capital flows. For researchers interested in the effects of institutions, a model of institutions' effects on capital flows that controls for governance may generate misleading inferences about the effects of institutions, "disguising" the positive effects of institutions if institutions affect capital flows through governance. There are no easy solutions to this potential problem of post-treatment bias (King 2010). The strategy adopted here is to be as flexible is possible, both by omitting potential post-treatment confounders like governance in empirical models that include institutional variables, and by searching across the space of possible functional forms to estimate the posterior probability that the coefficients on institutional variables differ from zero across all possible combinations of independent variables.

Results

The main results appear in Table 3 (for the full sample) and Table 4 (for the emerging markets sample). Each model follows the specification in (1), replacing *POLITICS* with one of the twelve indicators of governance or political institutions. The results give strong support to the conclusions derived from the bivariate scatterplots in Figure 1. Each of the first five indicators of governance is strongly associated with post-crisis portfolio flows: countries rated as having

better governance prior to Lehman experienced higher net portfolio inflows (that is, lower outflows) after Lehman. The results hold even when discarding advanced industrial economies from the analysis. By contrast, among the six indicators capturing political institutions, only political stability is associated with lower post-crisis outflows, and this effect is only marginally statistically significant ($p = .08$) in the full sample. These results indicate that in the context of a global flight to liquidity, when portfolio investors use the long term tools at their disposal to address immediate concerns about liquidity, they do not respond to political institutions, but they are quite sensitive to governance, however it is measured.

One might wonder if these findings simply reflect the fact that (1) portfolio investors tend to be domiciled in advanced economies, (2) these investors repatriated capital to cover losses, and (3) advanced economies tend to have better governance. But note that the findings remain identical for the emerging markets only sample. Moreover, as Fratzscher (2011) discusses, post-Lehman capital flight was overwhelmingly to the United States, not to all advanced economies; it is for this very reason that the United States was excluded from the analysis (see footnote 5).

Estimates on control variables give surprisingly few consistent results concerning economic fundamentals and post-crisis portfolio flows. *HISTORY* and *SIZE* are associated with higher post-crisis portfolio flows, as expected, but the size and significance of this relationship varies across specifications in the two samples. Based on these results, in fact, governance is the most consistent predictor of post-crisis portfolio outflows across specifications and samples.

This finding warrants further scrutiny. It is reasonable to worry about the role that functional form assumptions play in generating the positive findings for governance and the non-findings for institutions, especially given the inconsistent results for the control variables across models. Perhaps most worryingly, in the emerging markets only sample, the models including

institutions as the explanatory variable perform extremely poorly—in these six cases no variables are statistically significant at conventional levels. This could indicate that the preferred specification is so misspecified that by imposing the functional form in (1) these models are generating misleading results about the effects of institutions and governance post-crisis capital flows (either failing to reject the null that institutions have no relationship with post-crisis flows, or incorrectly rejecting the null that governance does have a relationship with post-crisis flows).

To ensure that this is not the case, I turn to a statistical technique known as Bayesian model averaging, searching across the parameter space defined by all possible combinations of independent variables to generate inferences, conditional on the observed data, about the posterior probabilities that any particular combination of independent variables (with or without the governance and institutional variables) is the "true" model. As Montgomery and Nyhan (2010:250) explain, this enables me to answer two related questions about the effects of governance and institutions on post-crisis portfolio flows. First, does the inclusion of any individual indicator of governance or institutions "contribute to the model's explanatory power?" Comparing estimates of the posterior probability that governance and institutional indicators are different from zero with the posterior probability that the control variables are different from zero can provide a gauge of the relative explanatory power of the independent variables. Second, when an institutional or governance indicator is included, is it "correlated with unexplained variance?" which would indicate that the variable helps to explain post-crisis outflows. This will illustrate whether the positive findings for governance (or the non-findings for institutions) can be attributed to the erroneous inclusion of some or all of the controls in the preferred, baseline specification.

Using these techniques, I can also add variables to the baseline specification. Doing so

with such a small sample size quickly absorbs the few remaining degrees of freedom that remain.

Nevertheless, in separate results (presented in the Reviewer's Appendix) I have included six

additional economic controls that capture various other economic policy variables: government

debt service, government expenditure, exchange rate volatility, a measure of capital account

openness, the real interest rate, and stock market capitalization. The substantive conclusions that

I outline below remain unchanged when including these additional economic controls.

I follow the graphical techniques introduced by Clyde (2010) and discussed for political

science applications in Montgomery and Nyhan (2010) to answer these two questions. I estimate

twenty-four separate models, corresponding to twelve political variables and two different

samples. Following Montgomery and Nyhan's (2010) suggestions, I do not allow any

combination of institutional or governance variables to enter any model jointly. This guards

against both post-treatment bias and the highly collinear nature of most governance indicators.[7]

Prior probabilities in for each parameter are set from the "hyper-g" prior (Clyde et al. 2011;

Liang et al. 2008). For each result, I plot first the posterior probability of the models in which

each independent variable is included; this compares the extent to which each independent

variable contributes to the model's explanatory power. I also plot the posterior probability that

each coefficient is greater than zero, conditional on that independent variable having been

included in the model. These plots appear in Figure 3. These two collections of plots reveal that

in models where the five governance variables that were identified as statistically significant in

the preferred specification are included, these variables have the highest posterior probability of

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[7] In other words, in all models in which, for example, $\beta_{RULE\ LAW} \neq 0$, I impose that $\beta = 0$ for the

eleven other institutional and governance variables.

inclusion of any of the independent variables. Conditional on having been included, the probability of their being greater than zero is always highly statistically significant. (The single exception is *REG QUAL* in the emerging markets sample, which has the second-highest posterior probability of inclusion and which is statistically significant at the $p < .13$ level.) *DO BUSINESS*, statistically insignificant in the preferred specifications, has a low posterior probability of inclusion, as do all institutional variables. This is strong evidence that the earlier conclusion—that governance is the best predictor of post-crisis portfolio flows—is not an artifact of functional form assumptions. Nor is the non-significance of institutional variables a consequence of having included various historical and economic determinants of post-crisis flows in the baseline specification. A strict interpretation of the low posterior probabilities of inclusion for the institutional variables is that they do not belong in a model of post-crisis portfolio flows.

Next, I plot the conditional posterior distribution of each indicator of institutions or governance for the models in which the variable is included in the model $p(\beta \mid \beta \neq 0 , Y)$. These appear in Figure 4. If the substantive conclusions identified from the results in Table 3 and Table 4 are to hold, the mass of these conditional posterior distributions should lie to the right of zero for plots of the conditional posterior distribution of governance variables, and the mass of these distributions should straddle zero for plots of the conditional posterior distribution of institutional variables. That is what the results in Figure 4 show. On the whole, the mass of the conditional posterior density for governance indicators is further from zero in the full sample than in the emerging markets sample, but this is not surprising given the sample size of just twenty-five observations, and its location is consistent with the earlier conclusions that quality of governance explains post-crisis portfolio flows.

Conclusion

This paper has used the global flight to liquidity during the Global Economic Crisis to study an enduring question in international political economy: the role of domestic politics in shaping cross-national investment flows. Unlike foreign direct investors, portfolio investors do not own or control foreign enterprises, and modern technology makes divestment of portfolio assets easy and instantaneous. Consequently, portfolio investors often have shorter time horizons than direct investors, and national political institutions may not figure as prominently in portfolio investment decisions as do factors such as the rule of law, property rights, political risk, and related indicators of economic governance. Using data that directly captures the long term responses of portfolio investors to the sharp increase in global liquidity premiums after the collapse of Lehman, this paper shows that governance, not institutions, explains cross-national variation in portfolio capital flows during this period of global financial instability.

Throughout this paper I have been careful to emphasize that these findings cannot be used to adjudicate the effects of political institutions or on portfolio investment flows across all time periods, or when the latter are measured at the country-year level. Rather, the purpose of this paper is to provide a close examination of the relationship between institutions, governance, and portfolio flows during a single important period, using fine grained data on short term flows in an empirical design that allows for a causal interpretation of the correlation between governance and capital flows. These findings are nevertheless important for studies of the long term dynamic relationships between political institutions and cross-border portfolio investment. This paper finds overwhelming evidence that when investors need liquidity, they respond to economic governance, not political institutions like regime type, political accountability, or

political stability. Following Williamson's conceit, when the chips are down, portfolio investors care more about how the investment game is played than what the formal rules are.

These findings have implications for how to think about the relationship between political institutions and economic outcomes more generally. Measured over the long term, the effects of political institutions on economic performance are well established (Acemoglu et al. 2005). However, these same institutional explanations for long term economic performance need not explain the short term consequences to important economic events. "Bad" institutions can govern the economy "well" in the short run, and facing acute economic shocks, investors with shorter time horizons should care primarily about the extent to which governments will protect their immediate profitability and the security of their investments. It makes sense that most portfolio investors do not respond to the institutions that promote long term economic growth during periods of financial distress, because economic performance over the long term is not directly relevant to them under those conditions. Foreign direct investors, who by necessity must take a longer view of their investments, are probably more likely to take political institutions into account when adjusting to economic shocks. In all, these results caution scholars of institutions that the drivers of long term economic outcomes are unlikely to be relevant to all economic actors facing acute economic crises.

Table 1: Country Sample

Full Sample Only	Emerging Economies Sample
Australia	Argentina
Austria	Brazil
Belgium	Chile
Canada	China
Denmark	Colombia
Finland	Czech Republic
France	Egypt
Germany	Hungary
Greece	India
Ireland	Indonesia
Italy	Israel
Japan	Kazakhstan
Netherlands	Lithuania
New Zealand	Malaysia
Norway	Mexico
Portugal	Peru
South Africa	Philippines
Spain	Poland
Sweden	Romania
Switzerland	Russia
Turkey	Saudi Arabia
United Kingdom	Singapore
	South Korea
	Thailand
	Vietnam

Table 2: Variables and Definitions

Name	Definition	Period/Averages	Source
Dependent Variable			
POST-CRISIS PORTFOLIO FLOWS	Cumulated net capital inflows / Total assets under management	September 14, 2008-March 14, 2009	Fratzscher (2011)
Governance Variables			
REG QUAL	Index of regulatory quality	2004-2008	Kaufmann et al. (2009), Teorell et al. (2011)
RULE LAW	Index of the rule of law	2004-2008	Kaufmann et al. (2009), Teorell et al. (2011)
GOV EFFECT	Index of government effectiveness	2004-2008	Kaufmann et al. (2009), Teorell et al. (2011)
POL RISK	Index of political risk	2004-2008	PRS Group (2011), Teorell et al. (2011)
PROP RTS	Index of property rights	2004-2008	Heritage Foundation (various years)
DO BUSINESS	Ease of doing business (survey estimate)	2008	World Bank (2011), Teorell et al. (2011)
Institutional Variables			
POL STAB	Index of political stability	2004-2008	Kaufmann et al. (2009), Teorell et al. (2011)
POLITY	Polity IV combined score	2004-2008	Marshall and Jaggers (2002), Teorell et al. (2011)
VOICE	Index of voice and accountability	2004-2008	Kaufmann et al. (2009), Teorell et al. (2011)
CHECKS	Number of veto players	2004-2008	Keefer (2009), Teorell et al. (2011)
EXEC CONS	Constraints on executive authority	2004-2008	Marshall and Jaggers (2002), Teorell et al. (2011)
FRACTIONALIZATION	Government fractionalization	2004-2008	Keefer (2009), Teorell et al. (2011)
Control Variables			
HISTORY	Cumulative net capital inflows / Total assets under management	October 2005-July 2007	Fratzscher (2011)
SIZE	Log of GDP	2004-2008	World Bank (2011)
DEVELOPMENT	Log of GDP per capita	2004-2008	World Bank (2011)
GROWTH	Economic Growth	2004-2008	World Bank (2011)

Table 3: Political Institutions and Post-Crisis Portfolio Flows, Full Sample

		Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7	Model 8	Model 9	Model 10	Model 11	Model 12
CONTROLS	CONSTANT	-28.846 (27.553)	-17.944 (25.949)	-15.654 (26.207)	-34.330 (27.309)	-26.894 (26.779)	-36.203 (29.718)	-31.096 (28.697)	-41.017 (29.215)	-39.565 (28.638)	-40.974 (29.252)	-42.973 (29.552)	-42.699 (30.130)
	HISTORY	0.166+ (0.085)	0.169* (0.079)	0.116 (0.081)	0.146+ (0.087)	0.144+ (0.084)	0.188* (0.091)	0.190* (0.087)	0.195* (0.091)	0.205* (0.089)	0.197* (0.092)	0.201* (0.091)	0.197* (0.091)
	SIZE	1.590+ (0.816)	1.433+ (0.737)	1.549* (0.745)	1.305 (0.794)	1.271 (0.767)	1.198 (0.871)	1.314 (0.831)	1.024 (0.844)	1.137 (0.833)	1.013 (0.869)	1.025 (0.842)	1.060 (0.861)
	DEVELOPMENT	-2.740 (1.985)	-3.425+ (1.731)	-3.994* (1.849)	-2.027 (1.810)	-2.910 (1.838)	-0.096 (1.920)	-1.145 (1.832)	0.778 (1.522)	0.007 (1.614)	0.782 (1.526)	0.772 (1.518)	0.811 (1.529)
	GROWTH	-0.606 (0.571)	-0.511 (0.519)	-0.640 (0.511)	-0.855 (0.542)	-0.483 (0.559)	-1.136+ (0.563)	-1.135* (0.546)	-1.176+ (0.607)	-0.797 (0.629)	-1.166* (0.566)	-1.092+ (0.600)	-1.150+ (0.570)
GOVERNANCE	REG QUAL	5.508* (2.182)											
	RULE LAW		5.609*** (1.505)										
	GOV EFFECT			5.912*** (1.607)									
	POL RISK				17.661* (7.098)								
	PROP RTS					0.199** (0.066)							
	DO BUSINESS						-0.024 (0.033)						
INSTITUTIONS	POL STAB							2.615+ (1.495)					
	POLITY								-0.009 (0.199)				
	VOICE									1.864 (1.491)			
	CHECKS										0.023 (0.444)		
	EXEC CONS											0.241 (0.659)	
	FRACTIONALIZATION												0.728 (3.498)
	N	47	47	47	47	47	47	47	47	47	47	47	47
	adj. R^2	0.295	0.392	0.388	0.293	0.334	0.196	0.242	0.186	0.216	0.186	0.189	0.187
	F	4.856	6.930	6.831	4.807	5.618	3.250	3.944	3.101	3.531	3.101	3.137	3.112
	p	0.001	0.000	0.000	0.002	0.000	0.015	0.005	0.018	0.010	0.018	0.017	0.018

$+ < .1$, $* < .05$, $** < .01$, $*** < .001$. The dependent variable is *POST-CRISIS PORTFOLIO FLOWS*. The F test is a test of the joint significance of all independent variables. See text and Table 2 for data descriptions and sources.

Table 4: Political Institutions and Post-Crisis Portfolio Flows, Emerging Markets Only

|		Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7	Model 8	Model 9	Model 10	Model 11	Model 12
CONTROLS	CONSTANT	-64.607	-49.563	-39.830	-62.858	-44.684	-60.098	-58.714	-63.317	-64.798	-66.398	-64.451	-62.222
		(43.994)	(39.924)	(42.038)	(42.200)	(41.070)	(47.641)	(48.053)	(49.005)	(48.866)	(49.355)	(49.910)	(50.372)
	HISTORY	0.153	0.191+	0.120	0.150	0.128	0.154	0.183	0.169	0.179	0.161	0.174	0.170
		(0.109)	(0.098)	(0.103)	(0.105)	(0.101)	(0.119)	(0.118)	(0.122)	(0.122)	(0.128)	(0.122)	(0.122)
	SIZE	2.910+	2.516+	2.450+	2.317+	1.946	2.545	2.198	1.906	1.952	2.071	1.910	1.891
		(1.425)	(1.227)	(1.271)	(1.299)	(1.238)	(1.566)	(1.487)	(1.492)	(1.501)	(1.593)	(1.496)	(1.498)
	DEVELOPMENT	-3.186	-3.394	-4.299+	-2.994	-4.053+	-1.730	-1.042	0.192	0.085	0.052	0.210	0.088
		(2.534)	(2.107)	(2.439)	(2.262)	(2.316)	(2.776)	(2.479)	(2.182)	(2.228)	(2.244)	(2.196)	(2.291)
	GROWTH	0.003	-0.238	-0.301	-0.641	0.512	-0.408	-0.750	-0.563	-0.425	-0.488	-0.492	-0.525
		(0.873)	(0.762)	(0.789)	(0.809)	(0.847)	(0.911)	(0.948)	(0.974)	(0.970)	(0.933)	(0.959)	(0.950)
GOVERNANCE	REG QUAL	6.516*											
		(3.074)											
	RULE LAW		7.102**										
			(2.254)										
	GOV EFFECT			7.054*									
				(2.512)									
	POL RISK				32.968*								
					(12.893)								
	PROP RTS					0.274**							
						(0.093)							
	DO BUSINESS						-0.055						
							(0.051)						
INSTITUTIONS	POL STAB							2.193					
								(2.228)					
	POLITY								-0.061				
									(0.250)				
	VOICE									0.553			
										(2.072)			
	CHECKS										-0.185		
											(0.640)		
	EXEC CONS											0.014	
												(0.859)	
	FRACTIONALIZATION												-1.012
													(5.945)
	N	25	25	25	25	25	25	25	25	25	25	25	25
	adj. R^2	0.202	0.351	0.302	0.265	0.322	0.070	0.061	0.016	0.016	0.017	0.013	0.014
	F	2.212	3.601	3.080	2.735	3.284	1.361	1.310	1.077	1.080	1.083	1.062	1.069
	p	0.096	0.018	0.033	0.050	0.026	0.283	0.302	0.404	0.403	0.401	0.412	0.408

$+ < .1$, $* < .05$, $** < .01$, $*** < .001$. The dependent variable is POST-CRISIS PORTFOLIO FLOWS. The F test is a test of the joint significance of all independent variables. See text and Table 2 for data descriptions and sources.

Figure 1: Scatterplot Matrix, Post-Crisis Portfolio Flows, Governance, and Institutions

This matrix of scatterplots illustrates the bivariate relationship between net portfolio capital flows and various indicators of governance and political institutions. The black and dotted lines denote bivariate loess fits. See text for variable definitions.
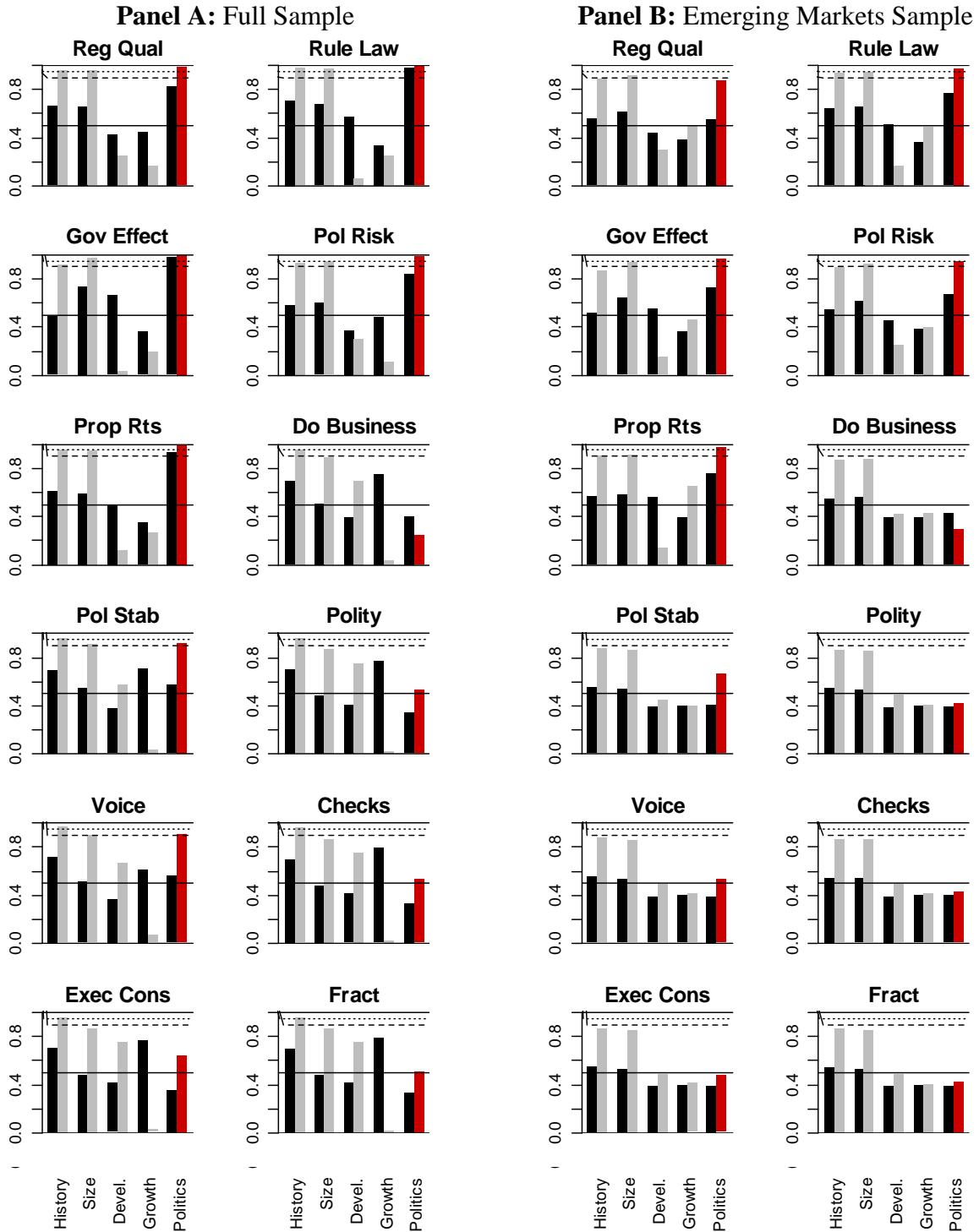
Figure 2: Post-Crisis Portfolio Flows and Rule of Law
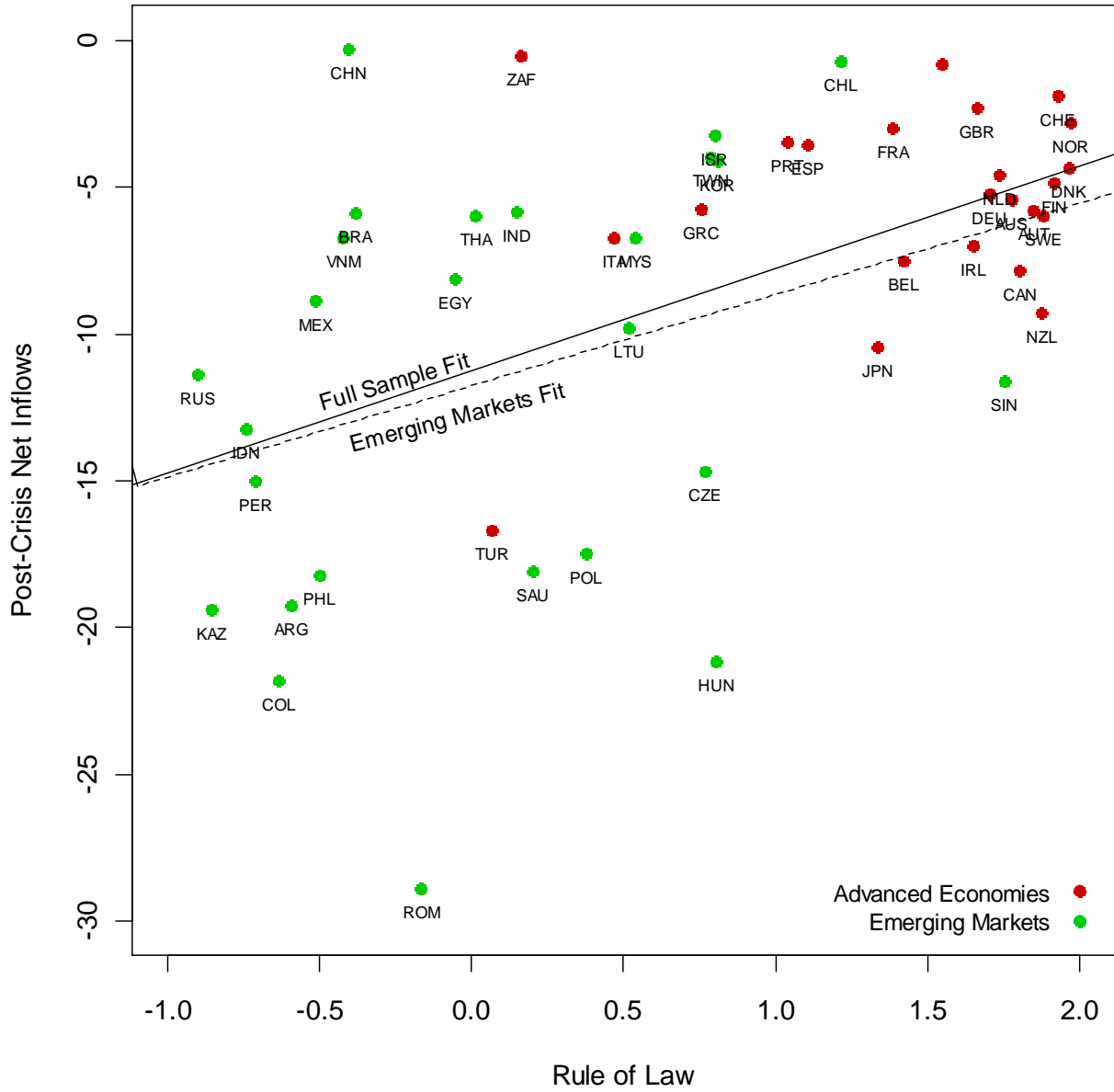
This scatterplot focuses on the relationship between post-crisis portfolio flows (more negative values for flows indicate higher outflows) and the rule of law. See text for sample definitions.

Figure 3: Posterior Probabilities of Inclusion

The black bars in correspond to the posterior probability that the coefficient on each variable is not equal to zero—$p(\beta_i \neq 0 \mid Y)$. The gray bars (red for each governance or institutions variable) correspond to the posterior conditional probability that the parameter is greater than zero in models where it is included—$p(\beta_i > 0 \mid \beta_i \neq 0 \mid Y)$. The reference lines are drawn at .5 (solid line), .9 (dashed line), and .95 (dotted line). See text and Montgomery and Nyhan (2010:249-51).

Figure 4: Conditional Posterior Probabilities

Panel A: Full Sample **Panel B:** Emerging Markets Sample
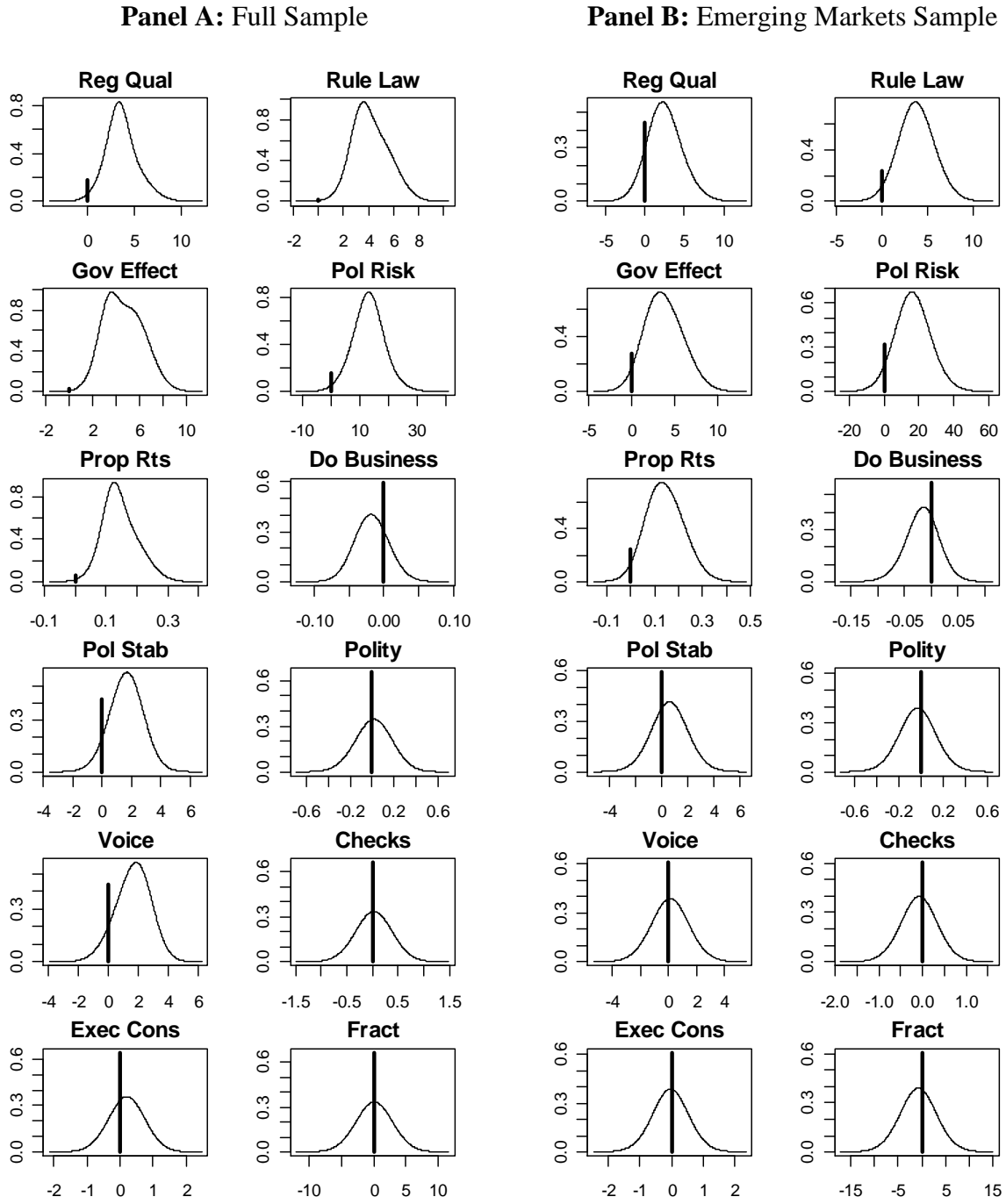
The solid vertical line in each plot corresponds to the posterior probability that the coefficient on each indicator of governance or institutions is zero—$p(\beta = 0 \mid Y)$. The density plot corresponds to the distribution of estimated coefficients for that indicator when it is not assumed to be zero—$p(\beta \mid \beta \neq 0 , Y)$. See text and Montgomery and Nyhan (2010:249-51).

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