

# Political Risk, Development Banks and the Choice of Recourse in Syndicated Lending<sup>\*</sup>

Christa Hainz<sup>♦</sup>

Stefanie Kleimeier<sup>^</sup>

*Abstract:* How should loan contracts to finance projects in countries with high political risk be designed? We argue that limited-recourse loans and the participation of development banks in the loan syndicate help to mitigate political risk. We test these arguments in a sample of 4,978 loans made to borrowers in 64 countries. Our results show that if investment-related political risk is higher, the use of limited-recourse loans and the participation of development banks are more likely. For general political risk, the participation of development banks is most useful. We demonstrate that the terms of the loan contract depend on political risk as well as the legal and institutional environment.

*Keywords:* Project finance, syndicated loans, political risk

*JEL-Codes:* F34, G21, G32

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<sup>♦</sup> ifo Institute for Economic Research, Poschingerstraße 5, 81679 Munich, Germany, hainz@ifo.de

<sup>^</sup> Maastricht University, Tongersestraat 53, 6211 LM Maastricht, The Netherlands, s.kleimeier@maastrichtuniversity.nl

## 1. Introduction

How should a company finance a project located in a country where political risk is high and where investor protection is weak? Such a project will only be realized if the risk can be reduced to a bearable level. Coasian bargaining theory and a growing empirical literature on law, institutions, and finance clearly show that loan contracts can be designed to mitigate deficits in the legal and institutional environment and thereby provide the project with access to finance. The following case illustrates how a loan contract can help to mitigate political risk:

The South African petrochemical group Sasol opts for a unique hybrid project finance structure to finance a gas field project in Mozambique. Under this hybrid structure, lenders initially have full recourse to Sasol, which assumes almost all project related risks. The sole – but important – exception is the project’s political risk. The loan contract specifies that, if well-defined political risk events occur, the financing structure automatically changes from the full-recourse structure to a project-finance structure under which lenders have recourse only to the project but no longer have recourse to Sasol. Cadwalader (2004), the project’s legal consultant, emphasizes the role of development banks in actively mitigating political risk: “Sasol would like to maximize the influence that the political risk providers [...] bring to the deal – their ability to exert political pressure on, in this case, the Mozambican government to prevent or cure a political risk event. [...]”

This case shows that there are two important features of the loan contract for managing political risk. First, it is the degree of recourse that the lender has. We discriminate between full-recourse loans and non-recourse project finance loans.<sup>1</sup> Second, the inclusion of development banks in the syndicate granting the loan provides a so-called “political umbrella” as these banks can use their leverage to influence governmental decision and deter adverse events that would negatively affect the project’s outcome.<sup>2</sup>

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<sup>1</sup> In this study, we will use the terms ‘project finance’ and ‘non-recourse loan’ synonymously and contrast it with ‘full-recourse loan’.

<sup>2</sup> However, there are two arguments against a state-contingent financing structure, which may explain why this deal structure is not commonly used. First, it is not obvious how to define specific political risk events ex ante. Second, the switching provision limits the incentives of banks to mitigate political risk to

This paper analyzes the determinants of these two important features of the loan contract, that is, its recourse structure and the participation of a development bank in the loan syndicate. We base our tests on a sample of 4,978 loans raised by borrowers in 64 countries between 1996 and 2005. We run logit and multinomial logit regressions explaining how the two loan characteristics depend on political risk as well as the legal and institutional environment. The results clearly show that higher political risk renders the use of project finance loans and the participation of development banks in the syndicate more likely. We also show which type of development bank is actually able to mitigate political risk. Therefore, our study demonstrates that it is not only the legal and institutional environment but also *political risk* that determines the design of a loan contract.

In this way, our study contributes to the growing literature on how *country-level risks* influence the design of loan contracts. Some studies investigate how law and institutions determine one particular feature of the contract. In particular, Esty and Megginson (2003) show that strong creditor rights and reliable legal enforcement are correlated with smaller and more concentrated syndicates. Other (more recent) studies emphasize that it is important to study more dimensions of the loan contract to capture its complexity. Qian and Strahan (2007) provide evidence that stronger creditor rights lead to a more concentrated syndicate structure, longer maturity, and lower interest rate. Bae and Goyal (2009) show that not only creditor rights but also the enforceability of contracts matters for loan size, maturity, and interest rate. However, none of these papers explicitly addresses the role of political risk. Only for the rating and pricing of corporate bonds is there evidence that political risk matters (Qi et al., 2010).

As the Sasol case shows, political risk is of outstanding importance for the design of the

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situations in which a predefined risk event occurs and thus does not exploit the political umbrella of the development banks.

loan contract, in particular in risky countries. Therefore, we add to the literature by investigating how political risk influences two important features of a loan contract. The first important feature is the recourse structure. Our paper is closely related to that by Subramanian and Tung (2009). They show that project finance loans are more often used in countries with weak creditor rights and poor protection against insider stealing. In contrast, we investigate political risk in more detail and do not solely explain the recourse structure but also the participation of development banks. This is the second important contractual feature because development bank are able to mitigate political risk. This feature has so far been not considered in the literature, apart from Esty and Megginson (2003), who use it as an explanatory variable when explaining the syndicate structure of project finance loans.

Our study yields three main results. First, we show that projects in countries with higher political risk are more likely structured as a project finance deal and development banks more likely participate in the syndicate. Second, when we disentangle different components of political risk, we discover differences between both risk management strategies. We distinguish between a country's investment-related political risk and general political risk. Our results show that project finance loans are used more often when investment-related political risk is high. This suggests that the more transparent structure of the project finance deal helps to reduce interventions by the government that are at the detriment of the firm's success. However, the use of project finance is not affected by general political risk. In contrast, the participation of development banks is more likely for both a higher level of investment-related risk and general political risk. Therefore, it seems that the leverage that the development banks have vis-à-vis the national governments can be exerted in many different circumstances. Development banks can use their power when investment-related risk occurs but some development banks, in particular the World

Bank, are influential when any other form of political risk materializes. Third, by controlling for legal environment we find that the probability that a project finance loan is used is lower if legal provisions regarding corporate governance are better and, for example, reduces the risk that a manager expropriates the firm. The use of project finance is higher for better creditor rights. However, the participation of development banks depends neither on creditor rights nor on corporate governance provisions.

Our study proceeds as follows. We present in section 2 our key country-level variables, in particular political risk and law and institutions, and argue how the risks involved can be addressed by either a project finance structure or the participation of a development bank. In section 3, we describe the data and methodology. In section 4, we discuss the results, and in section 5, we conclude.

## **2. The Impact of Political Risk and Law & Institutions on the Loan Contract**

### *2.1. Features of the loan contract*

When a firm applies for a loan, the riskiness of the project to be financed is evaluated. Depending on the results, different measures are taken to reduce the risk that the bank has to bear. As a result, each loan contract has many features that jointly reflect the riskiness of the project to be financed. Not only are the risk management measures different in nature, they also differ in the way that they are related to the project's riskiness. They can address the probability of default, the loss given default, or both at the same time. Two important measures are the decision of which legal entity receives the loan for a particular project, that is, how the contract is structured, and the participation of a development bank. When all these risk management tools

have been used in an efficient manner, other features, in particular the interest rate, will be adjusted such that the lenders are willing to bear the remaining risk and therefore grant the loan (Corielli et al., 2010; Nevitt and Fabozzi, 1995).

### *2.1.1. Limited recourse project finance loans*

The parties involved in the loan may decide to create a legally independent project company. It is financed with equity from one or more of the sponsoring firms but raises the bulk of its financing needs in the form of bank loans. This structure ensures that liability is limited so that lenders have no or only limited recourse to the sponsoring firms (Esty, 2004). In contrast, a traditional full-recourse loan allows the lender access to all the assets of the project *and* the sponsoring firm. Project finance loans are supported by a host of contractual arrangements geared toward risk management. In this way, project finance allows the allocation of specific project risks (i.e., completion and operating risk, revenue and price risk) to those parties best able to manage them. Ultimately, the contract structure reduces project risk and agency costs and increases transparency about the project (Corielli et al., 2010; Brealey et al., 2000). For example, financial transactions become transparent through cash waterfalls that summarize a project's cash flow and assign priority to each cash inflow and outflow. This implies that, in contrast to a loan to a diversified firm, cash flows cannot easily be shifted between different divisions or diverted by the management. Moreover, interventions from, for example, the government become easily observable.

### *2.1.2. Participation of development banks*

As Esty and Megginson (2003) show, the structure of the syndicate is used to manage risks. One particularly important member of a syndicate is a development bank. In contrast to commercial banks, the development banks (DBs) have a special status. Buiters and Fries (2002) argue that multilateral development banks' "(...) support for private sector projects can be instrumental in mitigating risks associated with government policies and practices." Therefore, multilateral development banks are also known as political umbrellas (Buljevich and Park 1999).<sup>3</sup> Among all lenders, multilateral development banks such as the International Financial Corporation (IFC), a member of the World Bank Group, have high bargaining power because, as they finance many projects and also provide financial aid, they frequently interact with the government.<sup>4</sup> Therefore, these two risk management strategies are instrumental in dealing with political risk and (most likely) other risks that arise on the country level.

## *2.2. Country-level risks*

### *2.2.1. Political risk*

Political risk in the host country is a very important factor influencing the probability that a loan is serviced as scheduled. In general, political risk can be divided into three broad categories: traditional political risk, regulatory risk, and quasi-commercial risk (Smith 1997). The tradi-

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<sup>3</sup> According to the World Bank's definition, multilateral development banks are "institutions that provide financial support and professional advice for economic and social development activities in developing countries." Multilateral financial institutions also lend to developing countries but have a more narrow country-membership structure and/or a focus on specific sectors or activities.

<sup>4</sup> As an example for bank influence, consider the Russian A.O. Volga project, financed by Dresdner Bank Kleinwort Benson and the IFC. When this project suffered due to the Russian crisis and the moratorium in 1998, bank influence was evident in the fact that "the IFC umbrella regarding transfer and convertibility risk has remained effective, since IFC's loans were explicitly exempted from the moratorium" (Lazarus, 2001, p. 119).

tional political risk category addresses risks relating to expropriation, to the convertibility and transferability of currency, and to political violence. The regulatory risk category covers risks arising from unanticipated regulatory changes. These risks include changes in taxation or foreign investment laws. The quasi-commercial risk category reflects those risks that arise when the project contends with state-owned suppliers or customers whose ability or willingness to fulfill their contractual obligations towards the project may become questionable.

This definition already shows that political risk comprises a broad range of different risks. Some of them are easy to identify *ex post*, such as restrictions on transferability, whereas others, such as changes in the tax law that may lead to creeping expropriation, are not.<sup>5</sup> Moreover, some risks can be very closely related to individual businesses, such as expropriation or regulatory changes. Others apply to the whole society, such as corruption, but may negatively impact a firm's performance. Accordingly, one could discriminate between investment-related political risk and general political risk.

We expect that a project finance structure helps to deal with political risk. Financial flows become highly transparent for project finance loans. In their model, Subramanian and Tung (2009) argue that project finance renders a project's cash flow verifiable. Thereby the incentive of a manager to default strategically disappears. This argument can be applied to government interventions as well. If cash flows are verifiable, government interventions affecting them become visible. However, this implies that the intervention potentially becomes public and the political costs of an intervention increase. Consequently, the government's incentive to intervene should be lower in the case of project finance. This argument applies in particular to investment-related political risk. For general political risk, the impact of government action on cash flow is

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<sup>5</sup> Actually, creeping expropriation has become much more common, whereas total expropriation has become relatively rare (Esty, 2003).



less direct; therefore, project finance may be less potent in deterring them.

The participation of development banks should help to mitigate both investment-related and general political risk. Development banks provide a political umbrella because they frequently interact with the different bodies of government. In case an adverse government intervention jeopardizes the success of a project, a development bank can use the leverage stemming from its special status. As the government knows about the negative effect such an intervention has on the loan (partially) granted by the development bank, it may recognize the negative effect the intervention has on its reputation at the development bank. Ultimately, this might deter government intervention.<sup>6</sup> The International Country Risk Guide (ICRG) provides various measures of political risk that fit our perception of these risk categories very well. These measures are bureaucracy quality, corruption, democratic accountability, ethnic tensions, external conflict, government stability, internal conflict, investment profile, law and order, military in politics, religious tensions, and socioeconomic conditions. We use these indicators in two different manners. First, we take the ICRG's overall Political Risk Rating as our main measure of political risk. Second, we differentiate "investment profile" as a measure for investment-related political risk from the other political risk measures. Investment profile captures as subcategories contract viability/expropriation, profit repatriation, and payment delays.<sup>7</sup>

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<sup>6</sup> Esty (2003, p. 9) supports this argument: "The historical record shows that governments gave higher priority to obligations from multilateral lending institutions such as the World Bank Group when they could not service all of their external debt. One of the main reasons why they have received preferential treatment was because they are often the only source of new lending to countries in financial distress."

<sup>7</sup> In the ICRG's original scale, the Political Risk Rating ranges from 0 to 100 and the subcategories range from 0 to 12, with higher values indicating lower risk. For comparability, we rescale the political risk proxies from 0 to 10, with higher values indicating more risk.

### *2.2.2. Law and Institutions*

The literature has highlighted the important role of legal and institutional provisions for the design of loan contracts. We expect that these risks can, in particular, be managed by the use of project finance. Here the two important characteristics of project finance, the high transparency of cash flows and limited recourse, are instrumental. First, the fact that the project is incorporated separately and heavily financed with debt can be employed by the headquarters to commit itself to monitoring the project. In this way, the project manager's incentives are aligned (Laux, 2001). Second, with project finance financial flows become transparent. Subramanian and Tung (2009) show in their model that with verifiable cash flows, the manager's behavior does not depend on the legal and institutional environment. Therefore, these two theoretical models would predict that a project finance structure can influence incentives if the legal and institutional environment is not able to shape them. Moreover, increased transparency renders some legal provisions more easily applicable. It allows, for instance, the use of off-shore accounts, which limits the convertibility risk and is more effective for projects than for diversified firms, where the assets of different divisions may be offset. However, limited recourse also implies that the lender only has access to the project's assets in the case of a default. If these assets are poorly protected, the lender's payoff in this case will be very low. This may render using a project finance loan unattractive.

In contrast to their ability to manage political risk, development banks find it more difficult to address problems in the legal and institutional environment. Legal provisions in corporate law cannot be as easily changed as, for instance, a particular tax rate and these changes often need a legal infrastructure, such as well-functioning courts, to be made. Moreover, besides the "law in the book", its implementation is important. However, it is even more difficult to address

the latter from “outside” because it is performed by the (potentially independent) judiciary.

We capture two different aspects of law and institutions in our analysis. The first is a country’s corporate governance system because it shapes the framework in which a firm operates. It is measured with Djankov et al.’s (2008) index of ex-post control over self-dealing transactions. This index reflects the legal protection of minority shareholders against expropriation by corporate insiders and measures the disclosure or approval of transactions as well as the scope for private litigation or public enforcement. Self-dealing includes “executive perquisites, excessive compensation, transfer pricing, appropriation of corporate opportunities, self-serving financial transactions such as directed equity issuance or personal loans to insiders, and outright theft of corporate assets” (Djankov et al., 2008, p. 431).

Second, we capture a country’s creditor rights because they specify what happens in the case of default. We measure the strength of creditor rights by Djankov et al.’s (2007) index of aggregate creditor rights. Following La Porta et al. (1998) “A score of one is assigned when each of the following rights of secured lenders is defined in laws and regulations: First, there are restrictions, such as creditor consent or minimum dividends, for a debtor to file for reorganization. Second, secured creditors are able to seize their collateral after the reorganization petition is approved, i.e., there is no automatic stay or asset freeze. Third, secured creditors are paid first out of the proceeds of liquidating a bankrupt firm, as opposed to other creditors such as government or workers. Finally, if management does not retain administration of its property pending the resolution of the reorganization” (Djankov et al., 2007, p. 303). In a separate proxy, we also measure the time needed to resolve insolvency in years taken from the World Development Indicators. A longer duration of the bankruptcy process leads to the creditors’ having a weaker position.

### *2.2.3. Other country level control variables*

Next to political risk, corporate governance, and creditor rights, there are other country features that explain the workings of the financial system and that might therefore affect the loan contract with respect to the choice of recourse and participation of development banks. Studies into the determinants of loan contract design consider, for example, various aspects of legal enforcement and the rule of law, shareholder rights, country risk, corruption, financial or economic development (Bae and Goyal, 2009; Esty and Megginson, 2003; Qian and Strahan, 2007; Subramanian and Tung, 2009). Including these or other country features can improve the empirical model by reducing the potentially omitted variables problem. However, including many country features introduces multicollinearity, which in turn leads to model instability. To find a balance between the omitted variables problem and model instability, we consider the following four additional country features.

First, we use Euromoney’s “Economic Performance Index” as our proxy for the economic development of the borrower’s country. This annual index is based on the current GDP per capita figures and on a poll of economic projections. Therefore, it contains not only current but also forward-looking information, which is especially useful to us when we consider the medium- to long-term nature of loan finance.<sup>8</sup> Second, we obtain two proxies for financial development from the World Development Indicators: Domestic credit provided by the banking sector in percent of GDP and the percent of adults covered by a private credit bureau. As we focus on loans, measures of banking sector development better capture financial development than stock market-based proxies. Similarly, we prefer our domestic bank credit proxy over, for example, the alternative proxy of domestic credit to the private sector because it measures loans by banks and

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<sup>8</sup> Similar to political risk, we scale our three country-level control variables from 0 to 10, with higher values indicating stronger corporate governance, stronger creditor rights or stronger economic performance.

not all types of financial institutions. Moreover, it captures different types of borrowers and this mirrors very well what happens in our sample in which infrastructure projects are often associated with the public sector. Third, we want to control for loan demand and follow Berger and Hannan (1989) and Neuberger and Zimmermann (1990) who propose the annual growth rate of a banking product as a proxy for demand and supply conditions in this market segment. Therefore, we measure the annual growth rate of bank lending based on the World Development Indicators' local currency volume of domestic credit provided by banking sector. Finally, we include dummies for the country's legal origin as British, French, German, and Scandinavian from La Porta et al. (1999, 2008). La Porta et al. (2008) show that legal origin influences a country's regulations, institutions, and economic outcomes including, for example, procedural formalism, corruption, unemployment, stock market development or private credit. Consequently and in line with Qian and Strahan (2007) we include legal origin dummies as proxies for possible omitted variables.

### **3. Data and Methodology**

We obtain our sample from the Dealscan database, which provides a comprehensive record of global syndicated loan transactions. From Dealscan we collect a sample of asset-based loans signed between January 1, 1996, and December 31, 2005. Dealscan classifies loans according to purpose (e.g., trade finance, working capital, and general corporate purpose) and type (e.g., term loan, bridge loan, and credit line) and includes information about the size of each loan and the overall size of all loans belonging to the same deal. We differentiate between project finance loans and full-recourse loans based on loan purpose. To ensure that we focus on invest-

ments for which the firm truly has a choice between a project finance and a full-recourse loan, we consider only asset-based loans whose purpose is “project finance” and contrast them with loans whose purpose is “capital expenditure”, “equipment purchase”, “telecom build-out”, “aircraft and ship finance”, “leasing”, “real estate” or “corporate purposes”. Loans with the latter purpose might not necessarily be asset based. We therefore impose two additional requirements for these loans. First, these loans have to be of a sufficient size; that is, they have to be larger than the smallest project finance loan. Second, the deal to which this loan belongs has to include at least one term loan.<sup>9</sup>

Dealscan also contains detailed information about the loan syndicate including the names of all lenders. We use this information to identify whether a development bank participates in a deal or not. We classify lenders as development banks based on the World Bank’s definition of multilateral development banks (MDBs) and multilateral financial institutions (MFIs) but also consider prominent national development banks (NDBs), such as export-import banks. We include these latter lenders if they have a substantial share in the syndicated loan market and might therefore have substantial influence over the host government. In particular, we select national development banks that fund asset-based loans worth at least \$500 million in real terms between 1991 and 2005.

As outlined above, we explain the choice of project finance and the participation of development banks by country characteristics. The result of Doidge et al. (2007) that country characteristics explain much more (39%-73%) of the variance of governance ratings than observed firm characteristics (4%-22%) justifies this approach. Although borrower-specific proxies, for example, regarding corporate governance might nevertheless be preferable, only some corporate governance provisions can be obtained on the firm level and only for full-recourse loans. The

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<sup>9</sup> Subramanian and Tung (2009) use a similar approach.

borrower of a project finance loan is a newly established company for which financial statements or other records are neither available at the time of loan signing nor afterwards, as project finance companies are usually not publicly listed. Nevertheless, we control for investment characteristics. Based on the Dealscan record of each loan, we can use the total size of all loans that finance a given deal (in billions of real 2005 US\$) as an indicator of the size of the investment. Similarly, we measure the life of the investment with the maximum maturity in years among all loans that finance a given asset. Additionally, we can identify the borrower's industry as a rough proxy for the asset's technology. Based on the borrower's 2-digit SIC code, we create six industry groups: Mining including oil and gas (10-14), construction (15-19), manufacturing (20-39), transportation and public utilities (40-49), and 'other' for the remaining SIC codes, which cover agriculture, trade, financial services, and public administration. To nevertheless capture some further borrower characteristics in an indirect manner, we apply a two-stage regression approach as in Esty and Megginson (2003). First, we regress the loan spread on loan features that might influence the spread (loan size and maturity, dummies indicating whether the loan is priced over LIBOR, is guaranteed, has financial or general covenants, or is denominated in a currency different from home currency of borrower) and on our country and investment proxies. The error term of this regression reflects unexplained, residual borrower risk. It is uncorrelated with the other independent variables and can be included as an indirect measure of borrower characteristics.

Overall, we have complete information for 4,978 asset-based loans signed by borrowers from 64 countries (excluding the US) during our sample period of 1996 to 2005.<sup>10</sup> Of these, 1,549 are project finance loans, and 3,429 are full-recourse loans. Development banks are part of the syndicate for 545 of these loans. We define our dependent variables as 0/1 dummies. The

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<sup>10</sup> In line with the literature, we exclude loans to US borrowers (see Qian and Strahan, 2007). The results with US borrowers are discussed in section 4.3. on robustness.

loan dummy takes the value of one for a project finance loan and zero for a full-recourse asset-based loan. The bank dummy takes the value of one if a development bank participates and zero otherwise. We first model the loan and bank choice in a reduced form by estimating two separate logit regressions. In line with Qian and Strahan (2007) we recognize that the loan and bank choice might be jointly made. If this is the case, our regressions are no pure reduced forms, and conclusions should be carefully drawn focusing on the relationship between financing structure and political risk or law and institutions rather than on causality. Next, we explicitly consider this joint decision of loan-bank choice and estimate a multinomial logit model. Instead of defining two separate dummies, we now consider an indicator that takes the value of one for a project finance loans with development banks, the value of two for a project finance loan without development bank, the value of three for a full-recourse loan with development bank, and the value of four for a full-recourse loan without development bank. Although the interpretation of the regression coefficients is more complex, the multinomial logit model has the advantage of taking the jointness of the loan and bank choice into account. Finally, as many of our proxies vary only on the country and year levels and not on the loan level, we cluster standard errors by country. This results in more conservative estimates of the significance of the independent variables.

## **4. Results**

### *4.1. The Use of Project Finance and the Participation of Development Banks*

Between January 1996 and December 2005, companies raised \$982,035 million in real terms in the global syndicated loan market to finance asset-based projects. As Panel A of Table 1



shows, about one third of these are project finance loans worth \$287,037 million on a real basis. Borrowers in industrialized countries raise most asset-based syndicated loans. Western Europe and Canada alone account for 56% of the total loan volume. Looking at a country's project finance share indicates that this financing structure is least important in Western Europe but most important for borrowers from Africa and the Middle East. Regarding development banks, Panel B shows that development banks participate in 545 asset-based loans worth \$124,870. About 85% of these asset-based loans are funded by national development banks with the Kreditanstalt für Wiederaufbau (KfW) and Korea Development Bank (KDB) as the most active lenders. The most active multilateral financial institution is the European Investment Bank who participates in 31 loans worth \$9,550 million. Among the MDBs, the European Bank for Reconstruction and Development (EBRD, 41 loans worth \$ 5,598 million) and World Bank (55 loans worth \$ 3,873 million) dominate.

[Insert Table 1 about here]

Table 2 provides a closer look at the loan and bank choice in relation to the borrower country and investment characteristics. Panel A shows that in comparison to full-recourse loans, project finance loans fund assets in countries that are politically riskier and have weaker corporate governance systems. Project finance is associated with stronger creditor rights. Moreover, the use of project finance increases with longer time to resolve insolvencies, less developed banking markets, and better credit bureau coverage. It is also more widely used if economic performance is weak and loan growth is strong. Project finance loans are more prominent in countries with a French legal origin, reflecting in part the importance of project finance for African countries as documented in Table 1. In contrast to other lenders, development banks can be associated with investments in countries that have higher political risk and weaker corporate gover-

nance. They are also more likely to participate in countries with lengthier insolvency resolution, poorer economic performance, less developed banking markets, and stronger loan growth. Development banks are also lending more to countries of German legal origin.<sup>11</sup> This is mostly driven by the Korean Development Bank. A total of 80% of its loans funds investments in countries with German legal origin including South Korea, Taiwan, and China. To a lesser extent, the EBRD (44%) and KfW (65%) also matter in aggregate, as they have a geographic focus in Europe. These patterns are confirmed when looking at the combination of loan and bank choice. In comparison to the three other financing choices, full-recourse loans without development banks fund investments in countries that are politically safer, have stronger governance, equal or poorer creditor rights, shorter insolvency resolution, stronger economic performance, larger banking markets, and weaker loan growth. With 3,135 loans, full-recourse loans without development banks account for the largest financing type in our sample. The 545 loans with development banks are about equally split into project finance and full-recourse loans indicating that as a group, development banks have no preference for project finance loans over full-recourse loans or vice versa. Regarding investment features, Panel B shows that both project finance loans and development bank participation are associated with larger, riskier longer-term investments, with many loans going to the transportation sector and public utilities. Project finance loans are furthermore more frequent in the mining and construction industries but less frequent in manufacturing. Overall, these observations from Table 1 and 2 give us a first indication that managing political risk and risks stemming from the legal and institutional environment influence the preference for project finance loans and development bank participation.

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<sup>11</sup> On the one hand, British common law is more oriented towards market institutions. On the other hand, French civil law is more oriented towards state intervention. German and Scandinavian civil law can be categorized in-between with somewhat less orientation to state intervention. For details see Beck et al. (2003).

Finally, Panel C of Table 2 provides descriptive statistics for our explanatory variables for all 4,978 asset-based loans. As shown, there is substantial variation in political risk, corporate governance, creditor rights, insolvency resolution, economic performance, and banking market characteristics despite the fact that these proxies only vary across countries and years. To illustrate, Italy in 2005 reflects the average level of political risk (2.25), corporate governance (6.75), and creditor rights (5.00) relatively well. One standard deviation more political risk can be found in Peru in 2001, whereas Germany in 2002 and Australia in 1999 show one standard deviation less political risk. The highest level of political risk can be found in Nigeria followed by Colombia and Pakistan. Compared to Italy in 2005 one standard deviation away are UK in 2004 with better corporate governance and The Philippines in 2004 with weaker corporate governance as well as Australia in 1999 with better creditor rights versus The Philippines in 2004 with weaker creditor rights. Panel C also shows that the standard deviations of our proxies differ substantially. When interpreting our regression results in the next section, we will therefore focus not only on the sign and significance of the coefficients but also on the effect that a *one-standard-deviation change* in the explanatory variable has on the likelihood of an investment being financed with project finance and/or development banks. For all dummy variables, we consider a change from 0 to 1. In this way, the effects of our proxies become comparable. We report odds ratios and marginal effects for completeness. Marginal effects are calculated for the average loan; that is, we assume that all independent variables are at their mean values. As we believe that project finance and development banks are most useful for highly politically risky investments, the marginal effects might understate the importance of political risk.

[Insert Table 2 about here]

#### 4.2. The Relevance of Political Risk and Law and Institutions

We argue above that project finance is more valuable when the political risk is higher and law and institutions are weaker. We also expect that development banks are more likely to participate when political risk is higher. The results in Table 3 confirm these expectations. The correlation between project finance and political risk and our other explanatory proxies is found in regressions (1) to (3) of Panel A. We first run a regression including only political risk and investment characteristics. We then add country characteristics in regression (2) and finally legal origin and industry dummies in regression (3). The coefficient of political risk is significant and positive and stable across these three specifications indicating that our results are not driven by multicollinearity. Our preferred specification is regression (3). Here, for the average asset-based loan, the predicted probability of being a project finance loan is 27.3%, which is close to the sample frequency of 31.1%.<sup>12</sup> For this average loan, the results indicate that the marginal effect of an increase in political risk is 0.0784 or 7.84%. A one-standard-deviation discrete increase in political risk is associated with an increase in the probability of a loan being financed with project finance by 7.30%.<sup>13</sup> Finally, a one-standard-deviation increase in political risk is associated with an increase in the odds of project finance by a factor of 1.45 or 45%.<sup>14</sup> All three

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<sup>12</sup> The predicted probability of a loan being a project finance loan is calculated as  $\hat{\pi} = \frac{1}{1 + e^{-(\hat{\alpha} + \sum_i \hat{\beta}_i Z_i)}}$ , where

$\hat{\alpha}$  and  $\hat{\beta}$  are the estimated coefficients of the intercept and independent variables  $Z_i$  of regression (1).

<sup>13</sup> More specifically, we consider an increase in political risk by one standard deviation from 1.77 to 2.70, measuring an increase from a level half a standard deviation below the mean to a level half a standard deviation above the mean. In this case, the probability of a loan being financed as project finance increases by 7.30% from 23.79% to 31.09%. All other variables are held at their mean values. Panel B of Table 3 reports these detailed results. Throughout the paper, we apply this one-standard-deviation change centered on the mean to continuous independent variables when we report discrete changes in predicted probabilities. For dummy independent variables we consider a change from 0 to 1.

<sup>14</sup> An odds ratio is defined as the probability of a loan being structured as a project finance loan divided by the probability of a loan being structured as a full-recourse loan. The odds ratio reflects a factor change

measures indicate an economically significant effect of political risk. Among the other country characteristics, the results imply that the use of project finance is correlated with corporate governance and creditor rights. A one-standard-deviation improvement in corporate governance and creditor rights is associated with a change in the predicted probability of project finance by -6.01% and +6.28% for the average observation, respectively. In this sense, project finance is most sensitive to political risk but is slightly less sensitive to creditor rights and corporate governance. The higher likelihood of project finance under poor corporate governance is consistent with an interpretation that the contractual framework of project finance can serve as a substitute for weak legal environments. In contrast, we find a positive correlation between project finance and stronger creditor rights.<sup>15</sup> Creditor rights measure what happens in the case of bankruptcy. For a project finance loan, the creditor's payoff in the case of bankruptcy stems from the project only. Therefore, in a country with weak creditor rights, this payoff may be negligible. As a result, the incentive to use a project finance loan may increase with better creditor rights.

Moreover, we find that the use of project finance is correlated to loan growth but is unrelated to insolvency resolution, economic performance, banking market development or our broad legal origin indicators. Regarding the industries dummies and project specific control variables, we can observe that borrowers in the mining and construction sectors strongly prefer project finance. This, for example, explains the high project finance shares of 50% in Australia, 75% in Nigeria or 67% in the Middle East, which are substantially higher than those of other countries or regions. Furthermore, borrowers are more likely to use project finance for riskier investments with a longer life. This pattern is consistent with Kleimeier and Megginson (2000), who report

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but can be converted into a percentage change by calculating  $\% \text{odds} = (\text{odds-ratio}-1)*100$ . Note that the odds ratio does not depend on the value of the other variables in the model.

<sup>15</sup> Note that Subramanian and Tung (2009) find a negative coefficient in their sample (which, unlike ours, includes US borrowers).

that project finance loans have a median size similar to that of fixed asset-based loans but a longer maturity.

Regressions (4) to (6) in Panel A analyze the participation of development banks. Again, the results are stable across the three specifications, and regression (6) presents our preferred model. For the average asset-based loan, the predicted probability of having a development bank in the syndicate is 5.5%, which is somewhat lower than the sample frequency of 10.9%. From the country characteristics included in regression (6), we learn that development banks are more associated with projects in countries with higher political risk and stronger creditor rights. The link between political risk and development bank participation is strong; a one-standard-deviation increase in political risk is associated with a change in the odds of development bank participation by 65%. Panel B confirms this strong relationship: A one-standard-deviation increase in political risk increases the predicted probability of development bank participation from 4.30% to 6.91% for the average loan. We interpret this result as a clear indication development banks provide a “political umbrella.” However, the participation of development banks is not related to corporate governance provisions. Development banks are less likely to participate when banking markets are more developed and in markets where there is stronger loan growth. Development banks participate more frequently in less developed banking markets, in countries with weaker loan growth, and of French or German legal origin. For the loan level characteristics, we observe that development banks focus less on other industry sectors which includes agriculture, trade, financial services, and public administration. Furthermore, development banks are more associated with larger investments with longer lives.

[Insert Table 3 about here]

#### 4.2.1. Individual Development Banks

Given the importance of development banks in managing political risk documented in Table 3, we wish to examine this relation in greater detail. In Table 4, we thus consider two groups of development banks – multilateral development banks (MDBs) and multilateral financial institutions (MFIs) such as supra-national development banks versus national development banks (NDBs) – as well as individual development banks if they participate in at least 40 loans in our sample. At first sight, regressions (1) and (2) of Table 4 indicate that national development banks can act as political umbrellas, whereas multilateral financial institutions and multilateral development banks cannot. However, regressions (4) to (8) show that individual development banks are very heterogeneous. For example, although the Korean Development Bank (KDB) and the German Kreditanstalt für Wiederaufbau (KfW) participate less frequently in loans with better corporate governance and economic performance, the lending policies of the other development banks are not related to these country characteristics. This heterogeneity is most likely due to the individual policy focus of each development bank, which results in a bank-specific loan portfolio.<sup>16</sup> Regarding political risk, only the World Bank is able to act as a political umbrella, whereas the KfW, KDB and Export Development Canada (EDC) are not. The likelihood of the EBRD's participation even drops as political risk increases, indicating that the EBRD's policy focus steers it away from politically risky countries. The insignificant coefficient for political risk of all multilateral development banks and multilateral financial institutions as a group in regression (1)

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<sup>16</sup> We sometimes observe rather larger marginal effects and odds ratios for some of the dummy variables. For NDBs in regression (2), for example, the German legal origin dummy has an odds ratio of 12.91 and a marginal effect of 0.2199. Such results, however, have to be interpreted with care, as development banks can have a policy-driven focus on certain countries or industries. A discrete change from 0 to 1 for the German legal origin dummy implies a discrete change in the predicted probability of NDB participation from 2.4% to 24.3%. As such, the results are reasonable. We also replicate regression (2) of Table 3 for all development bank groups and find that the coefficients of the continuous independent variables are stable across the two regressions. Therefore, the independent dummy variables do not affect our results.

might thus be driven by the opposing effects of the EBRD on the one hand and the World Bank on the other. To filter out the impact of these two development banks, we estimate regression (3), where we consider all multilateral financial institutions, multilateral development banks, and national development banks as a group but exclude the EBRD and World Bank. From regression (3), a more differentiated picture emerges. Taking all development banks except the World Bank and EBRD together, they are able to manage political risk. However, only the World Bank is able to do so individually. Its political umbrella is particularly strong. A one-standard-deviation increase in political risk increases the odds for World Bank participation by 239% compared to 79% for development banks as a group. This result points to the important and dominant role of the World Bank as the political umbrella.

[Insert Table 4 about here]

#### 4.2.2. *Disentangling Political Risk*

Table 5 reports the results of our in-depth analysis of political risk by looking at the individual components of our political risk index. Our political risk proxy combines various elements of political risk. The results in Table 3 indicate that political risk can be managed both with project finance and by development banks. To analyze the effect of political risk on the financing choice in greater detail, we differentiate between investment-related political risk and general (or residual) political risk. The investment profile measures the government's attitude towards investments and covers the risks associated with expropriation or contract viability, repatriation, and payment delays. General political risk combines ICRG's remaining political risk indicators including, among others, government stability, corruption in the political system, law and order, and bureaucratic quality. The positive and significant coefficient of investment profile in regres-



sion (1) of Table 5 implies that project finance is used to manage this part of political risk. Lenders who face an adverse attitude of the government towards investments try to minimize their exposure by creating explicit contracts under a project finance structure. However, general political risk does not have any significant impact on the use of project finance loans. In contrast to Table 3, there is no longer any relationship between corporate governance and project finance once we control for both types of political risk separately. The results of regressions (2) and (3) indicate that development banks can minimize investment-related political risk but not general political risk. Again, the World Bank plays an important role: it is the only development bank that can manage general political risk.

[Insert Table 5 about here]

#### *4.2.3. Multinomial Logit*

The financing structure decision regarding project finance and development banks is jointly taken. As such, we observe four combinations: project finance with development banks in the syndicate, project finance without development banks, full-recourse loans with development banks and full-recourse loans without development banks. Some of the effects of political risk observed in the loan-type regressions above might thus be at least partly driven by the development bank participation in these loans, or vice versa. To disentangle these effects more clearly, we jointly consider the four financing choices in a multinomial logit framework. Table 6 reports the results, taking full-recourse loans without development banks in the syndicate as the baseline choice. Our specification includes a single political risk proxy and should thus be compared to the results of the single logit regression in Table 3. Table 6 indicates that higher political risk is associated with a higher likelihood of all three financing choices relative to full-recourse loans

without development banks. We thus conclude that both the project financing loan structure and the participation of development banks help to manage political risk. The larger odds ratios for the two financing choices involving development banks is taken as evidence that political risk can be managed more strongly by development banks than by the project finance structure. Figure 1 shows why this is the case. We see the likelihood of each financing choice at different levels of political risk. The likelihood of using a full-recourse loan without a development bank decreases steadily with increasing political risk. For full-recourse and project finance loans, the likelihood of development bank participation increases steadily with increasing political risk indicating that development banks can manage political risk at all levels. The likelihood of project finance without development banks first increases as political risk increases up to level of about 6.0 (Indonesia in 1998) but falls as political risk increase further. The country with the highest level of political risk in our sample is Nigeria in 2002 with a political risk level of 6.12. For these high levels of political risk, the likelihood of using a full-recourse loan with development banks actually increases more strongly compared to lower levels of political risk up to 4.0 (Turkey in 2000 or Argentina in 2003).<sup>17</sup> Project finance thus seems to be most effective at low to moderate levels of political risk, whereas development bank participation is especially valuable at high levels of political risk. Figure 2 reports the corresponding effects when we split political risk into investment-related political risk and general political risk.<sup>18</sup> The decreasing effectiveness of project finance to manage political risk is driven by general political risk as shown in Panel B. However, the likelihood of all three financing choices increases in investment-related political risk. These findings provide further support for our conclusion that the political umbrel-

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<sup>17</sup> Beyond the maximum political risk of 6.12 for Nigeria in 2002, the continuing drop in the likelihood of a project finance loans without development banks shown in Figure 1 is based on out-of-sample projections and is as such less certain, i.e. the confidence interval widens for higher levels of political risk.

<sup>18</sup> Regression results are presented in Table A1 in the appendix.

la of development bank encompasses all types of political risk. Project finance is most valuable in managing investment-related political risk and – at moderate levels – general political risk.

[Insert Table 6 and Figures 1 and 2 about here]

#### *4.3. Robustness Checks*

We conduct additional analyses to test whether our main results of Tables 3 to 6 are robust.<sup>19</sup> First, we consider a reduced sample that does not include loans with the purpose of ‘real estate’ and thus excludes 470 loans. Although project finance has been applied to real estate projects, the fact that the physical real estate asset provides excellent collateral in the event of default favors the use of full-recourse loans (Beidleman et al. 1990). Therefore, this loan purpose might bias our original sample against the use of project finance. The results obtained from this reduced sample are consistent with the results presented in this paper, but the significance of the political risk proxies tends to be slightly higher, whereas the significance of corporate governance tends to be slightly lower.

Second, we use a sample including US loans. Including loans to US borrowers increases our sample size by 12,811 observations, of which 529 are project finance loans and 59 have development banks in their syndicate. With 12,240 observations, 95.5% of US loans are full-recourse loans without development banks compared to only 63% in our original sample. We therefore have to conclude that the US market is substantially different from other markets with respect to the use of project finance and development banks. In the extended sample, US loans account for 72% of all observations and our results might thus be strongly driven by these US loan observations. We therefore add a US borrower dummy to all regressions. The results are

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<sup>19</sup> Detailed results are available upon request.

generally robust but the coefficients of political risk, are less significant. This effect is most pronounced in the project finance regressions when only the overall political risk proxy is used. Thus, the large number of full-recourse US loans without development banks seems to affect the results.

## **5. Conclusions**

We started our paper with the question of how to finance a project in a politically risk country. We investigate the use of a project finance structure versus a full recourse loan and the participation of a development bank. These two features of a loan contract may be used to manage political risk and thereby make the financing of projects also feasible in high-risk environments. Our results clearly show that the use of project finance loans and the participation of development banks are more likely in politically risky countries.

From our study, we can derive the following suggestions for the parties involved in financing an investment. First, if the investment-related political risk, such as risks related to expropriation or profit repatriation, is high, both a project finance structure and the participation of development banks can be remedies. Second, if general political risk, such as corruption or government instability, is high, the best measure to deal with it is to have a development bank among the participating banks. Therefore, our results are in line with the notion that development banks stretch a political umbrella over the project. Moreover, they suggest that in particular, the political umbrella of the World Bank is most valuable for mitigating general political risk.

The other contribution of our paper is to show that not only law and institutions influence the loan contract but also political risk. So far, existing studies focused on the effect of law and institutions on the loan contract. We use political risk as well as law and institutions as explana-

tory variables and find that the influence of political risk is actually more important than that of law and institutions. With respect to law and institutions, we show that the use of project finance increases for better creditor rights. Therefore, in a country with weak creditor rights, a project's payoff may be negligible, which renders a project finance structure unattractive for creditors because they do not have any additional recourse. However, better corporate governance provisions decrease the use of project finance. This suggests that the complex contractual framework of project finance can serve as a substitute for weak legal environments.

## **Appendix**

[Insert Table A1 here]

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Table 1

## Asset-based lending

The table reports descriptive statistics for 4,578 asset-based loans signed between January 1, 1996, and December 31, 2005. We report number of loans and loan volumes in terms of real 2005 US dollars. Panel A focuses on the geographic distribution of project finance and full-recourse loans. We show the total lending volumes by region and for individual countries with at least \$10 billion in total loan volume. For African countries we report the three countries with highest loan volume. Panel B lists financial institutions, which we categorize according to World Bank's guidelines as multilateral development banks (MDBs) or multilateral financial institutions (MFIs) and their total syndicated lending activities. The table also lists all national development banks (NDBs) with more than \$500 million in funding during this period. We only report those institutions that participate in the syndicate of at least one of our 4,978 asset-based loans. We assign the full amount of the loan to each development bank.

## Panel A: The geographic distribution of asset-based lending

borrower location	loan volume (real \$ mio)		number of loans	
	project		project	
	finance	full-recourse	finance	full-recourse
<b>Western Europe</b>	<b>129,102</b>	<b>383,405</b>	<b>550</b>	<b>1,159</b>
United Kingdom	40,005	115,143	169	309
Spain	26,819	57,079	166	237
Italy	24,987	46,957	74	73
France	5,922	52,664	18	164
Germany	4,874	40,265	17	82
The Netherlands	2,895	20,952	16	76
Greece	3,995	10,336	15	65
Finland	5,506	4,837	5	16
<b>Asia</b>	<b>85,407</b>	<b>153,510</b>	<b>651</b>	<b>1,371</b>
Hong Kong	14,594	28,550	64	215
South Korea	13,179	24,540	98	248
Australia	17,480	14,797	103	90
Japan	237	25,034	2	192
China	6,525	12,461	84	144
Singapore	4,300	12,956	35	123
Indonesia	11,889	3,321	107	45
Malaysia	4,673	8,843	30	69
India	2,108	10,568	25	104
Philippines	4,257	6,208	54	83
<b>The Americas and Carribean</b>	<b>37,293</b>	<b>119,590</b>	<b>143</b>	<b>656</b>
Canada	5,823	37,806	17	212
Mexico	10,096	29,843	30	152
Chile	3,566	21,632	14	96
Brazil	5,292	11,115	25	57
Argentina	3,479	10,195	19	82
<b>Eastern Europe and Russia</b>	<b>18,541</b>	<b>29,814</b>	<b>110</b>	<b>180</b>
Russia	7,221	10,156	24	53
Poland	4,535	8,162	33	35
<b>Middle East</b>	<b>13,991</b>	<b>5,266</b>	<b>78</b>	<b>39</b>
Turkey	7,999	2,529	48	18
<b>Africa</b>	<b>2,704</b>	<b>3,413</b>	<b>17</b>	<b>24</b>
South Africa	374	2,313	6	16
Nigeria	1,131	103	3	1
Morocco	827	232	4	1
<b>Global</b>	<b>287,037</b>	<b>694,998</b>	<b>1,549</b>	<b>3,429</b>

Table 1 continued

Panel B: Lending by development banks			
development banks	category	loan volume (real \$ mio)	number of loans
all development banks		124,870	545
all national development banks (NDBs)		106,928	414
all multilateral development banks (MDBs)		12,168	116
all multinational financial institutions (MFIs)		13,743	56
individual development banks:			
Kreditanstalt für Wiederaufbau (KfW)	NDB	51,001	129
Korea Development Bank (KDB)	NDB	30,113	184
Export Development Canada (EDC)	NDB	15,512	59
European Investment Bank	MFI	9,550	31
Japan Bank for International Cooperation (JBIC)	NDB	8,901	27
European Bank for Reconstruction & Development (EBRD)	MDB	5,599	41
Internationale Nederlanden Bank NV	NDB	3,976	23
World Bank (WB, incl. IBRD and IFC)	MDB	3,874	55
Export-Import Bank of Korea	NDB	2,437	21
Corporacion Andina de Fomento	MDB (subregional)	1,906	9
Export-Import Bank of the Republic of China	NDB	987	4
Asian Development Bank	MDB	828	10
China Development Bank	NDB	713	6
Inter-American Development Bank	MDB	345	5
Islamic Development Bank	MFI	216	2

Table 2

## Descriptive statistics for different financing structures

This table describes country and investment characteristics in relationship to the financing choice of loan and bank type. We differentiate asset-based loans as project finance or full-recourse loans and consider whether one or more development banks (DB) are part of the syndicate. In Panels A and B, we use a two-sided t-test to test for differences in mean between project finance and full-recourse loans, between loans with versus without development banks, and between full-recourse loans without development banks and the other three financing choices. \*\*\*, \*\* and \* indicate that means are significantly different at the 1%, 5%, and 10% levels, respectively.

Panel A: Country characteristics															
	number of loans	average										fraction of sample with legal origin			
		overall	political risk		corporate governance	creditor rights	time to resolve insolvency	economic performance	banking market development	private credit bureau coverage	annual loan growth	French	German	Scandinavian	British
all loans	4,978	2.23	1.93	2.27	6.30	5.51	2.32	6.23	110.21	6.43	0.13	41%	22%	2%	35%
project finance loans	1,549	2.37 ***	2.24 ***	2.39 ***	6.01 ***	5.90 ***	2.49 ***	6.12 ***	98.57 ***	7.37 ***	0.15 ***	46% ***	19% ***	1%	34%
full-recourse loans	3,429	2.17	1.78	2.22	6.44	5.33	2.25	6.28	115.47	6.00	0.11	39%	23%	2%	36%
loans with DB	545	2.66 ***	2.71 ***	2.65 ***	5.38 ***	5.40	2.92 ***	5.62 ***	80.97 ***	4.31 ***	0.15 ***	44%	41% ***	1% ***	14% ***
loans without DB	4,433	2.18	1.83	2.22	6.42	5.52	2.25	6.30	113.80	6.69	0.12	41%	19%	2%	38%
project finance loans with DB	251	2.68 ***	2.64 ***	2.68 ***	5.06 ***	5.16	3.05 ***	5.44 ***	81.95 ***	5.11	0.15 ***	50% ***	35% ***	0% ***	15% ***
project finance loans without DB	1,298	2.31 ***	2.16 ***	2.33 ***	6.19 ***	6.04 ***	2.39 ***	6.25	101.78 ***	7.80 ***	0.16 ***	45% ***	16% ***	2%	38%
full-recourse loans with DB	294	2.65 ***	2.78 ***	2.63 ***	5.66 ***	5.60 *	2.81 ***	5.77 ***	80.13 ***	3.62 ***	0.16 ***	39%	46% ***	1%	14% ***
full-recourse loans without DB	3,135	2.12	1.69	2.18	6.51	5.31	2.19	6.33	118.78	6.22	0.11	39%	21%	2%	38%

Table 2 continued

Panel B: Investment characteristics												
	number of loans	average			fraction of sample in industry							
		investment size (\$ mio real)	investment life (years)	investment risk	mining	transportation & utilities	manufac- turing	construction	other			
all loans	4,978	407.74	7.54	0.000	7%	38%	28%	6%	21%			
project finance loans	1,549	422.95	11.10 ***	0.008 ***	10% ***	44% ***	17% ***	14% ***	15% ***			
full-recourse loans	3,429	400.87	5.93	-0.004	6%	35%	33%	2%	24%			
loans with DB	545	456.12 *	11.12 ***	0.011	6%	55% ***	23% ***	8% **	8% ***			
loans without DB	4,433	401.80	7.10	-0.001	7%	35%	29%	6%	23%			
project finance loans with DB	251	459.04 *	13.40 ***	0.020 **	9% *	48% ***	21% ***	15% ***	7% ***			
project finance loans without DB	1,298	415.97	10.66 ***	0.006 **	10% ***	43% ***	16% ***	14% ***	17% ***			
full-recourse loans with DB	294	453.62	9.17 ***	0.003	4%	61% ***	25% ***	3%	8% ***			
full-recourse loans without DB	3,135	395.93	5.62	-0.004	6%	32%	34%	2%	25%			

Panel C: Variations in country and investment characteristics across all asset-based loans

	political risk			corporate governance	creditor rights	time to resolve insolvency (years)	economic perfor- mance	banking market develop- ment	private credit bureau coverage	annual loan growth	investment		
	overall	invest- ment related	general								size (\$ mio real)	life (years)	risk
mean	2.23	1.93	2.27	6.30	5.51	2.32	6.23	110.21	6.43	0.13	407.74	7.54	0.00
median	2.05	1.67	2.27	6.75	5.00	1.50	6.70	103.82	0.00	0.10	171.94	5.08	-0.02
minimum	0.39	0.00	0.42	0.25	0.00	0.40	1.77	8.60	0.00	-0.16	0.65	0.25	-0.36
maximum	6.12	7.50	6.11	10.00	10.00	10.00	10.00	312.78	64.00	1.34	19,492.86	40.00	2.03
standard deviation	0.93	1.74	0.92	2.38	2.96	2.20	1.72	58.80	13.73	0.15	915.05	5.44	0.12

### Table 3

#### The determinants of the financial contract

Panel A shows logit regression results. For each independent variable, we report in the top row the estimated coefficient and in the bottom row the  $\chi^2$ -statistic as well as marginal effects and odds ratios. \*, \*\*, and \*\*\* indicate significance at the 10%, 5% and 1% levels, respectively. Standard errors are heteroskedasticity robust and clustered by country. The odds ratio indicates the change in the odds for the average loan to be financed as project finance (or with a development bank) given a standard deviation increase in the independent variable. For dummy variables, a change from 0 to 1 is considered. In regressions 1 to 3, our dependent variable is a dummy which takes the value of 1 for a project finance loan and 0 for a full-recourse loan. In regressions 4 to 6, the dependent dummy variable takes the value of 1 if at least one development bank is part of the deal's syndicate. Panel B shows the predicted probabilities of project finance and development bank participation based on regressions 3 and 6, respectively, when the independent variable is valued at a level of half a standard deviation below the mean (from) compared to half a standard deviation above its mean (to). The difference expresses the change in probability for this one standard deviation change. For independent dummy variables a change from 0 to 1 is considered. All other independent variables are held at their mean values.

Table 3 continued

Panel A: Regression results																		
regression	(1)			(2)			(3)			(4)			(5)			(6)		
dependent variable	project finance dummy						development bank dummy											
	coeffi- cient	marginal effect	odds ratio	coeffi- cient	marginal effect	odds ratio	coeffi- cient	marginal effect	odds ratio	coeffi- cient	marginal effect	odds ratio	coeffi- cient	marginal effect	odds ratio	coeffi- cient	marginal effect	odds ratio
intercept	-3.38 ***			-3.17 ***			-3.22 **			-4.39 ***			-2.31 ***			-4.02 ***		
	-5.70			-3.00			-2.32			-8.71			-3.37			-5.35		
country characteristics																		
political risk	0.45 ***	0.0920	1.52	0.36 **	0.0726	1.40	0.40 **	0.0784	1.45	0.67 ***	0.0515	1.87	0.44 ***	0.0280	1.50	0.54 ***	0.0277	1.65
	3.05			2.06			2.22			4.24			2.74			2.71		
corporate governance				-0.09 *	-0.0177	0.81	-0.13 *	-0.0252	0.74				-0.10	-0.0063	0.79	0.05	0.0023	1.11
				-1.85			-1.66						-1.49			0.49		
creditor rights				0.11 ***	0.0223	1.39	0.11 **	0.0212	1.37				0.08	0.0050	1.26	0.07 *	0.0036	1.23
				2.92			2.53						1.28			1.68		
time to resolve insolvency				-0.02	-0.0042	0.96	-0.02	-0.0040	0.96				-0.04	-0.0025	0.92	-0.02	-0.0009	0.96
				-0.38			-0.35						-0.51			-0.44		
economic performance				0.05	0.0102	1.09	0.07	0.0130	1.12				0.00	0.0000	1.00	-0.04	-0.0020	0.94
				0.46			0.58						0.01			-0.64		
banking market development				-0.01	-0.0009	0.76	0.00	-0.0008	0.80				-0.01 **	-0.0008	0.49	-0.01 ***	-0.0006	0.50
				-1.39			-1.27						-2.36			-3.60		
private credit bureau coverage				0.01	0.0011	1.08	0.00	0.0005	1.03				-0.01	-0.0008	0.84	-0.01	-0.0005	0.89
				1.50			0.34						-1.05			-0.73		
annual loan growth				1.02 **	0.2035	1.16	0.98 *	0.1938	1.15				-0.68	-0.0437	0.91	-1.10 *	-0.0569	0.85
				2.20			1.73						-1.29			-1.94		
French legal origin							-0.29	-0.0573	0.75							0.99 *	0.0565	2.68
							-0.54									1.72		
German legal origin							-0.46	-0.0850	0.63							1.99 ***	0.1789	7.32
							-1.03									4.08		
Scandinavian legal origin							-0.12	-0.0225	0.89							0.76	0.0546	2.14
							-0.19									0.93		
investment characteristics																		
ln(investment size)	0.07	0.0151	1.10	0.06	0.0128	1.09	0.06	0.0118	1.08	0.22 *	0.0165	1.33	0.23 **	0.0145	1.35	0.29 ***	0.0151	1.47
	1.07			0.99			0.80			1.94			2.07			4.51		
investment life	0.21 ***	0.0432	3.16	0.20 ***	0.0408	3.03	0.21 ***	0.0410	3.08	0.12 ***	0.0088	1.88	0.12 ***	0.0079	1.95	0.12 ***	0.0063	1.95
	5.18			4.80			5.35			5.90			8.07			8.84		
investment risk	1.07 **	0.2188	1.14	1.03 **	0.2067	1.13	1.07 **	0.2130	1.14	0.68 *	0.0520	1.09	0.60 *	0.0387	1.08	0.43	0.0223	1.05
	2.26			2.45			2.55			1.92			1.78			0.98		
industry dummies																		
mining							0.95 ***	0.2163	2.59							-0.37	-0.0167	0.69
							3.79									-1.57		
transportation & utilities							0.18	0.0359	1.20							0.13	0.0067	1.14
							0.65									0.52		
construction							2.15 ***	0.4903	8.56							0.12	0.0066	1.13
							7.93									0.35		
other							-0.05	-0.0093	0.95							-0.95 **	-0.0395	0.39
							-0.16									-2.40		
number of observations		4,978			4,978			4,978			4,978			4,978			4,978	
log likelihood		-2,515.8			-2,452.7			-2,331.7			-1,510.0			-1,442.9			-1,332.3	
pseudo R <sup>2</sup>		0.288			0.316			0.368			0.162			0.211			0.289	
sample probability		31.1%			31.1%			31.1%			10.9%			10.9%			10.9%	
predicted probability		28.7%			27.7%			27.3%			8.3%			6.9%			5.5%	

Table 3 continued

	predicted probability of					
	project finance			development bank participation		
	from	to	difference	from	to	difference
one-standard deviation change in:						
political risk	23.79%	31.09%	7.30%	4.30%	6.91%	2.60%
corporate governance	30.40%	24.39%	-6.01%	5.19%	5.75%	0.56%
creditor rights	24.26%	30.54%	6.28%	4.95%	6.02%	1.08%
time to resolve insolvency	27.73%	26.85%	-0.88%	5.56%	5.36%	-0.20%
economic performance	26.19%	28.42%	2.24%	5.63%	5.29%	-0.34%
banking market development	29.56%	25.13%	-4.44%	7.58%	3.91%	-3.68%
private credit bureau coverage	26.96%	27.63%	0.67%	5.79%	5.15%	-0.63%
annual loan growth	25.90%	28.73%	2.83%	5.89%	5.06%	-0.83%
ln(investment size)	26.52%	28.08%	1.56%	4.54%	6.55%	2.00%
investment life	17.63%	39.70%	22.07%	3.97%	7.47%	3.50%
investment risk	26.02%	28.60%	2.58%	5.33%	5.60%	0.27%
change from 0 to 1 in:						
French legal origin	29.73%	24.00%	-5.73%	3.72%	9.37%	5.65%
German legal origin	29.31%	20.81%	-8.50%	3.61%	21.50%	17.89%
Scandinavian legal origin	27.34%	25.08%	-2.25%	5.39%	10.84%	5.46%
mining industry	26.00%	47.63%	21.63%	5.59%	3.93%	-1.67%
transportation & utilities industry	25.97%	29.57%	3.59%	5.22%	5.89%	0.67%
construction industry	24.76%	73.79%	49.03%	5.42%	6.08%	0.66%
other industry	27.49%	26.56%	-0.93%	6.61%	2.65%	-3.95%
predicted probability for average loan observation		27.3%			5.5%	

Table 4

The political umbrella of different development banks

This table shows logit regression results. For each independent variable, we report in the top row the estimated coefficient and in the bottom row the  $\chi^2$ -statistic as well as marginal effects and odds ratios. \*, \*\*, and \*\*\* indicate significance at the 10%, 5% and 1% levels, respectively. Standard errors are heteroskedasticity robust and clustered by country. The odds ratio indicates the change in the odds for the average loan to be financed as project finance (or with a development bank) given a standard deviation increase in the independent variable. For dummy variables, a change from 0 to 1 is considered. Our dependent variable is a dummy takes the value of 1 if at least one development bank (DB) is part of the deal's syndicate. Different dummies are created for multilateral development banks (MDBs) plus multinational financial institutions (MFIs), for national development banks (NDBs), and for individual development banks. For the group of "DBs excl EBRD, WB", the dummy only takes the value of 1 if the participating development banks do not include the EBRD or the World Bank. KDB and WB do not make loans to borrowers in countries of Scandinavian legal origin. In regressions (5) and (8), a value of 1 for the Scandinavian legal origin dummy predicts the value of 0 for the dependent variable perfectly, and all observations with Scandinavian legal origin dummy equal to 1 are therefore excluded from the sample. The EDC does not make loans to borrowers in construction and other industries or in countries with Scandinavian legal origin, and the respective observations are excluded from the sample. The EBRD does not make loans to borrowers in other industries or in countries with Scandinavian legal origin, and the respective observations are excluded from the sample.





Table 5

This table shows logit regression results. For each independent variable, we report in the top row the estimated coefficient and in the bottom row the  $\chi^2$ -statistic as well as marginal effects and odds ratios. \*, \*\*, and \*\*\* indicate significance at the 10%, 5% and 1% levels, respectively. Standard errors are heteroskedasticity robust and clustered by country. The odds ratio indicates the change in the odds for the average loan to be financed as project finance (or with a development bank) given a standard deviation increase in the independent variable. For dummy variables, a change from 0 to 1 is considered. In regression (1), our dependent variable is a dummy which takes the value of 1 for a project finance (PF) loan and 0 for a full-recourse loan. In regression (2), the dependent dummy variable takes the value of 1 if at least one development bank (DB) is part of the deal's syndicate. In regressions (3) to (6) different dummies are created for multilateral development banks (MDBs) plus multinational financial institutions (MFIs) as well as for national development banks (NDBs). The World Bank (WB) is considered individually. For the group of "DBs excluding WB", the dummy only takes the value of 1 if the participating development banks do not include the World Bank. The World Bank does not make loans to countries of Scandinavian legal origin. In regression (6), a value of 1 for the Scandinavian legal origin dummy predicts the value of 0 for the WB dummy perfectly and all observations with Scandinavian legal origin dummy equal to 1 are therefore excluded from the regression sample.

Table 5 continued

regression dependent variable	(1)			(2)			(3)			(4)			(5)		
	PF			DB			DBs excluding EBRD, WB			WB			EBRD		
	coeffi- cient	marginal effect	odds ratio	coeffi- cient	marginal effect	odds ratio	coeffi- cient	marginal effect	odds ratio	coeffi- cient	marginal effect	odds ratio	coeffi- cient	marginal effect	odds ratio
intercept	-2.86 **			-3.70 ***			-5.36 ***			-9.25 ***			11.08 ***		
	-2.01			-4.72			-4.87			-4.53			3.06		
country characteristics															
political risk: investment-related	0.17 ***	0.0332	1.34	0.15 **	0.0078	1.30	0.21 ***	0.0092	1.44	0.07	0.0001	1.12	-0.48 **	-1.2E-06	0.43
	1.77			2.45			3.09			0.45			-2.35		
political risk: general	0.15	0.0294	1.15	0.33	0.0169	1.35	0.33	0.0144	1.36	1.35 ***	0.0016	3.41	-1.96 ***	-4.8E-06	0.16
	0.78			1.60			1.57			2.79			-4.02		
corporate governance	-0.11	-0.0213	0.77	0.05	0.0028	1.14	0.12	0.0050	1.32	-0.25	-0.0003	0.55	-0.46 *	-1.1E-06	0.34
	-1.40			0.60			1.04			-0.92			-1.90		
creditor rights	0.11 **	0.0217	1.38	0.07 *	0.0034	1.22	0.12 **	0.0051	1.41	-0.16	-0.0002	0.62	0.29 **	7.0E-07	2.28
	2.50			1.68			2.26			-1.61			2.09		
time to resolve insolvency	-0.03	-0.0057	0.94	-0.02	-0.0011	0.95	-0.04	-0.0015	0.93	0.10	0.0001	1.25	0.01	3.1E-08	1.03
	-0.50			-0.57			-0.68			1.29			0.06		
economic performance	0.00	0.0000	1.00	-0.08	-0.0042	0.87	-0.03	-0.0011	0.96	0.34	0.0004	1.80	-1.39 ***	-3.4E-06	0.09
	0.00			-1.09			-0.28			1.01			-5.79		
banking market development	0.00	-0.0006	0.84	-0.01 ***	-0.0006	0.51	-0.01 **	-0.0004	0.60	0.00	0.0000	1.07	-0.09 ***	-2.1E-07	0.01
	-1.02			-3.60			-2.56			0.13			-4.54		
private credit bureau coverage	0.00	0.0002	1.02	-0.01	-0.0005	0.87	-0.01	-0.0003	0.92	-0.02	0.0000	0.77	-0.22 ***	-5.3E-07	0.05
	0.14			-0.86			-0.52			-0.73			-2.74		
annual loan growth	0.97 *	0.1929	1.15	-1.04 *	-0.0537	0.86	-1.63 **	-0.0714	0.79	-4.39 **	-0.0052	0.53	6.89 ***	1.7E-05	2.68
	1.66			-1.89			-2.54			-2.15			3.67		
French legal origin	-0.10	-0.0195	0.91	1.07 **	0.0619	2.91	1.63 **	0.0878	5.09	-0.62	-0.0007	0.54	-2.20 *	-5.4E-06	0.11
	-0.18			1.89			2.48			-0.48			-1.66		
German legal origin	-0.45	-0.0839	0.64	1.96 ***	0.1748	7.12	2.41 ***	0.2130	11.12	-2.64 **	-0.0020	0.07	-0.64	-1.3E-06	0.53
	-0.98			4.24			4.61			-2.12			-0.57		
Scandinavian legal origin	-0.08	-0.0153	0.93	0.70	0.0491	2.02	1.00	0.0684	2.71						
	-0.13			0.89			0.97								
investment characteristics															
ln(investment size)	0.07	0.0128	1.09	0.30 ***	0.0154	1.49	0.39 ***	0.0172	1.68	-0.31	-0.0004	0.66	0.12	2.9E-07	1.17
	0.88			4.57			4.95			-1.39			0.26		
investment life	0.21 ***	0.0413	3.11	0.12 ***	0.0064	1.96	0.11 ***	0.0048	1.81	0.19 ***	0.0002	2.79	0.20 ***	5.0E-07	2.92
	5.28			8.87			8.65			2.58			4.03		
investment risk	0.91 **	0.1812	1.12	0.36	0.0187	1.05	-0.28	-0.0122	0.97	1.54 ***	0.0018	1.21	3.85 ***	9.3E-06	1.58
	2.15			0.81			-0.61			4.08			2.80		
industry dummies															
mining	0.92 ***	0.2078	2.50	-0.40 *	-0.0177	0.67	-0.18	-0.0075	0.83	-1.29 *	-0.0009	0.28	-0.46	-9.4E-07	0.63
	3.75			-1.71			-0.78			-1.65			-0.35		
transportation & utilities	0.14	0.0281	1.15	0.10	0.0053	1.11	0.11	0.0050	1.12	-0.48	-0.0006	0.62	0.81	2.1E-06	2.24
	0.52			0.41			0.39			-1.07			0.96		
construction	2.14 ***	0.4890	8.50	0.13	0.0068	1.13	0.15	0.0070	1.16	-0.45	-0.0004	0.64	0.30	8.4E-07	1.35
	7.95			0.37			0.40			-0.45			0.21		
other	-0.01	-0.0025	0.99	-0.93 **	-0.0386	0.40	-0.64	-0.0239	0.53	-4.04	-0.0028	0.02			
	-0.04			-2.39			-1.42			-1.27					
number of observations		4,978			4,978			4,978			4,882			3,921	
log likelihood		-2,323.8			-1,329.2			-1,184.0			-209.3			-89.4	
pseudo R <sup>2</sup>		0.371			0.291			0.269			0.319			0.621	
sample probability		31.1%			10.9%			9.9%			1.1%			1.0%	
predicted probability		27.3%			5.4%			4.6%			0.1%			0.0%	

Table 6

The joint choice of loan and bank type

This table shows multinomial logit regression results. For our dependent variable, we distinguish four types of financing structures: project finance loans with development banks in the syndicate, project finance loans without development banks in the syndicate, full-recourse loans with development banks in the syndicate, and full-recourse loans without development banks in the syndicate. We report all coefficients relative to the baseline case of full-recourse loans without development banks in the syndicate. For each independent variable, we report in the top row the estimated coefficient and in the bottom row the  $\chi^2$ -statistic. \*, \*\*, and \*\*\* indicate significance at the 10%, 5% and 1% levels, respectively. Standard errors are heteroskedasticity robust and clustered by country. The odds ratio indicates the change in the odds for the average loan to be financed with the respective financing structure rather than to be financed with a full-recourse loan without development bank given a standard deviation increase in the independent variable. For dummy variables, a change from 0 to 1 is considered.

Table 6 continued

	project finance loan with development bank			project finance loan without development bank			full-recourse loan with development bank		
	coeffi- cient	marginal effect	odds ratio	coeffi- cient	marginal effect	odds ratio	coeffi- cient	marginal effect	odds ratio
intercept	-5.85 ***			-4.20 ***			-6.14 ***		
	-4.20			-3.32			-5.51		
country characteristics									
political risk	0.76 ***	0.0056	2.03	0.51 **	0.0894	1.61	0.86 ***	0.0254	2.22
	2.58			3.09			4.09		
corporate governance	-0.15	-0.0012	0.70	-0.08	-0.0154	0.84	0.13	0.0053	1.35
	-1.38			-0.93			1.47		
creditor rights	0.10	0.0005	1.32	0.14 ***	0.0246	1.50	0.17 ***	0.0047	1.66
	1.59			3.18			3.19		
time to resolve insolvency	0.01	0.0002	1.02	-0.05	-0.0088	0.90	-0.09	-0.0027	0.82
	0.10			-0.92			-1.33		
economic performance	0.00	-0.0002	0.99	0.08	0.0151	1.14	-0.01	-0.0010	0.99
	-0.03			0.77			-0.09		
banking market development	-0.01 **	-0.0001	0.52	-0.01 **	-0.0009	0.72	-0.02 ***	-0.0006	0.36
	-2.51			-2.07			-3.79		
private credit bureau coverage	-0.01	-0.0001	0.87	0.00	0.0004	1.02	-0.01	-0.0003	0.90
	-0.59			0.21			-0.55		
annual loan growth	-0.37	-0.0063	0.95	1.25 **	0.2501	1.20	-0.75	-0.0391	0.90
	-0.50			2.19			-1.18		
French legal origin	0.52	0.0048	1.67	-0.10	-0.0344	0.90	1.20 **	0.0510	3.33
	0.71			-0.18			2.19		
German legal origin	1.44 ***	0.0180	4.22	-0.16	-0.0761	0.86	2.27 ***	0.1648	9.69
	2.90			-0.37			5.02		
Scandinavian legal origin	-37.44 ***	-0.0194	0.00	0.25	0.0040	1.29	1.94 **	0.1604	6.98
	-34.17			0.36			2.39		
investment characteristics									
ln(investment size)	0.30 **	0.0025	1.49	0.08	0.0119	1.12	0.36 ***	0.0119	1.61
	2.30			1.06			4.17		
investment life	0.34 ***	0.0025	6.38	0.24 ***	0.0431	3.62	0.20 ***	0.0047	2.95
	8.76			7.03			6.36		
investment risk	1.67 **	0.0130	1.22	1.05 **	0.1994	1.14	0.09	-0.0079	1.01
	2.37			2.41			0.14		
industry dummies									
mining	0.46	0.0009	1.59	1.04 ***	0.2376	2.83	-0.40	-0.0210	0.67
	1.38			3.92			-0.79		
transportation & utilities	-0.13	-0.0020	0.88	0.30	0.0552	1.34	0.33	0.0092	1.39
	-0.27			1.07			0.97		
construction	2.02 ***	0.0118	7.56	2.30 ***	0.4980	9.94	0.58	-0.0165	1.79
	4.10			8.18			1.39		
other	-1.45 ***	-0.0098	0.24	0.03	0.0133	1.03	-0.60	-0.0185	0.55
	-2.70			0.09			-1.25		
number of observations					4,978				
log likelihood					-3,586.3				
pseudo R <sup>2</sup>					0.445				
sample probability		5.0%			26.1%			5.9%	
predicted probability		1.0%			26.4%			3.7%	

Figure 1

The joint choice of project finance and development bank participation at different levels of political risk

This figure shows the coefficient of political risk from the multinomial logit model estimated in Table 6 at different levels of political risk. The four financing choices that are modeled are project finance with development banks (PF with DB), project finance without development banks (PF w/o DB), full-recourse loan with development bank (FR with DB), and full-recourse loan without development bank (FR w/o DB). The x-axis shows the level of political risk, with higher numbers indicating higher risk. The y-axis shows the summed probability of the financing choices being used.

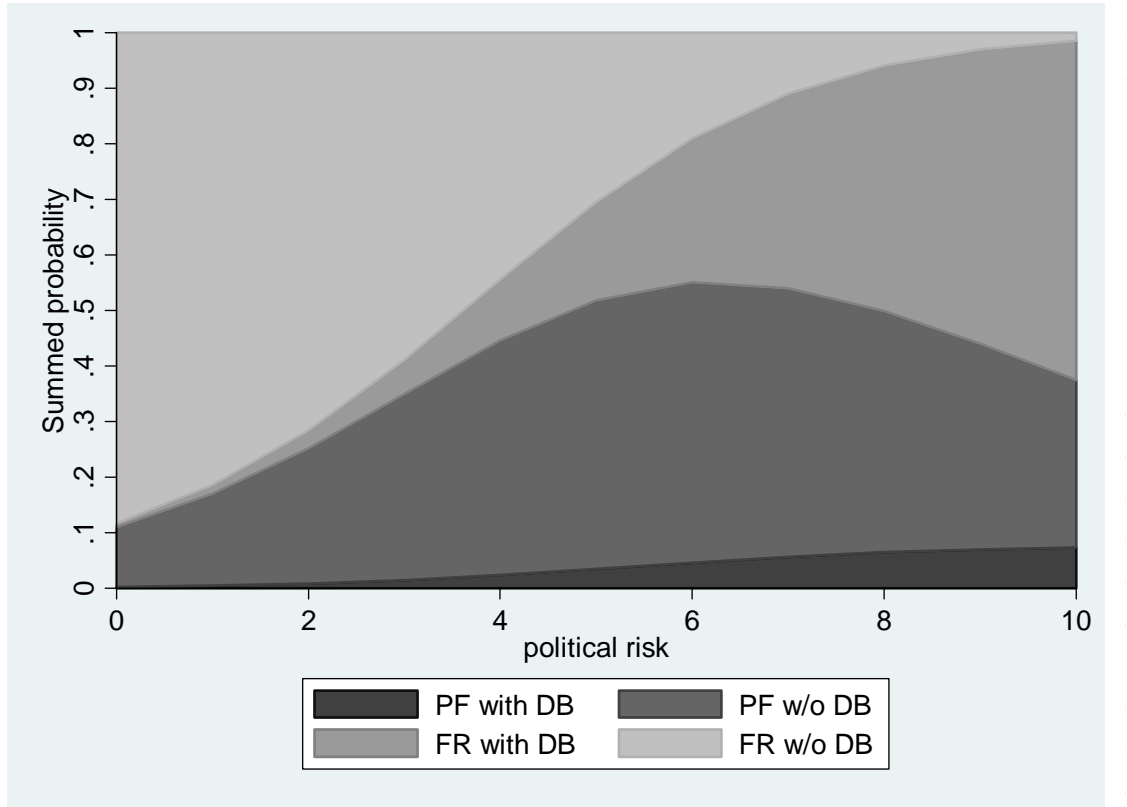


Figure 2

The joint choice of project finance and development bank participation at different levels of investment-related and general political risk

This figure shows the coefficient of political risk from the multinomial logit model estimated in Table A1 at different levels of investment-related and general political risk. The four financing choices that are modeled are project finance with development banks (PF with DB), project finance without development banks (PF w/o DB), full-recourse loan with development bank (FR with DB), and full-recourse loan without development bank (FR w/o DB). The x-axis shows the level of political risk, with higher numbers indicating higher risk. The y-axis shows the summed probability of the financing choices being used.

Panel A: Investment-related political risk

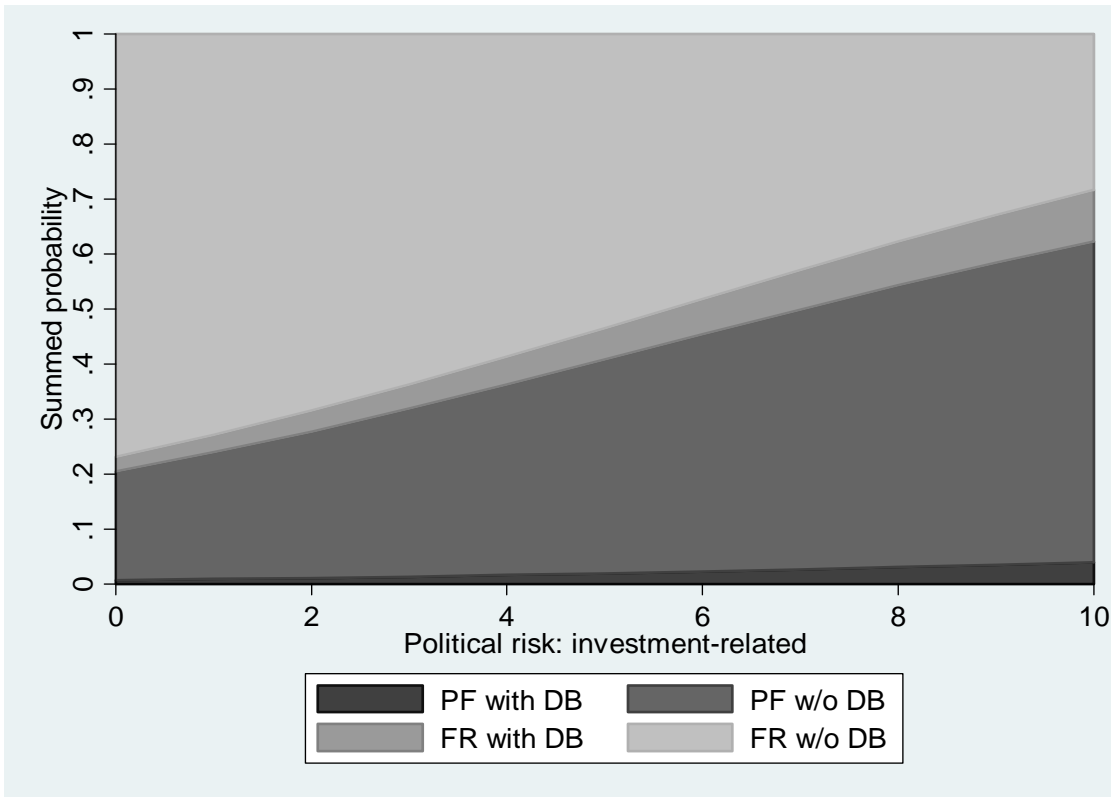
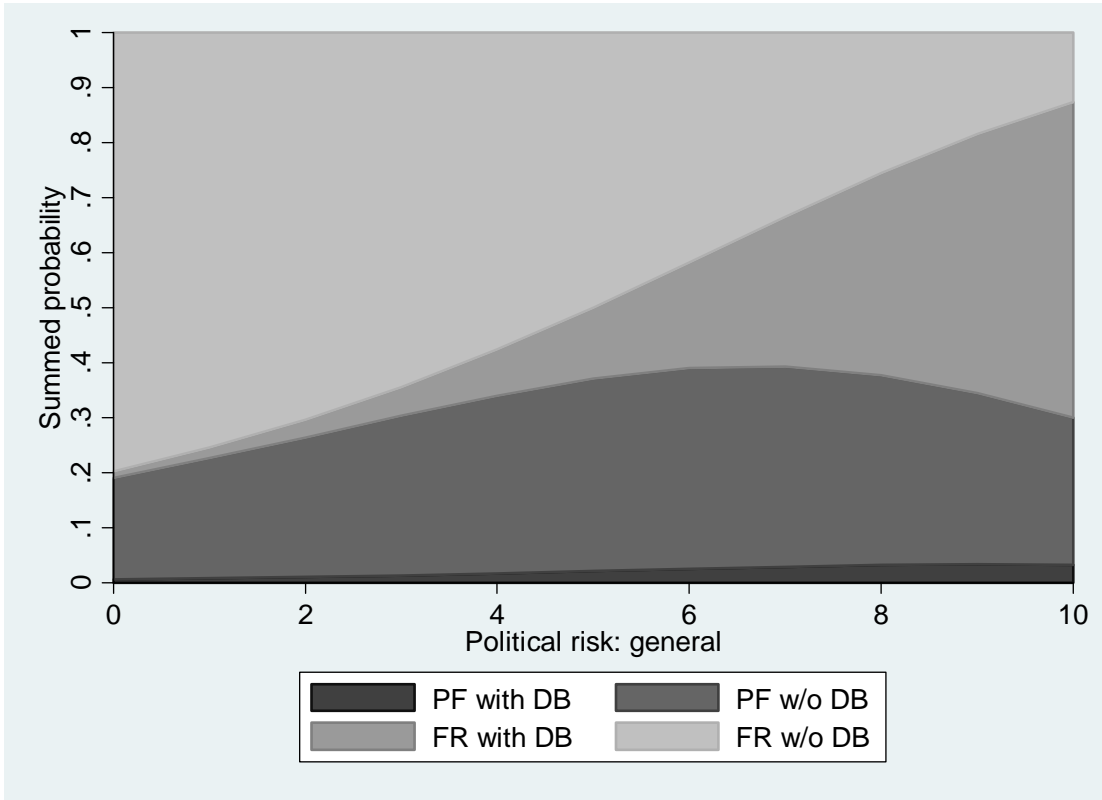


Figure 2 continued

Panel B: General political risk





Appendix - Table A1

The joint choice of loan and bank type for different types of political risk

See notes to Tables 5 and 6.

	project finance loan with development bank			project finance loan without development bank			full-recourse loan with development bank		
	coeffi- cient	marginal effect	odds ratio	coeffi- cient	marginal effect	odds ratio	coeffi- cient	marginal effect	odds ratio
intercept	-5.19 ***			-3.81 ***			-5.79 ***		
	-3.70			-2.84			-5.17		
country characteristics									
political risk: investment-related	0.27 ***	0.0022	1.60	0.21 **	0.0375	1.44	0.23 **	0.0059	1.48
	2.57			2.22			2.36		
political risk: general	0.36	0.0030	1.39	0.22	0.0362	1.23	0.57 ***	0.0182	1.70
	1.36			1.14			2.69		
corporate governance	-0.12	-0.0012	0.74	-0.05	-0.0110	0.88	0.14	0.0054	1.38
	-1.27			-0.66			1.60		
creditor rights	0.09 *	0.0005	1.32	0.14 ***	0.0253	1.52	0.17 ***	0.0047	1.66
	1.65			3.20			3.33		
time to resolve insolvency	-0.01	0.0001	0.99	-0.06	-0.0110	0.87	-0.10	-0.0028	0.81
	-0.10			-1.17			-1.51		
economic performance	-0.10	-0.0010	0.85	0.00	0.0010	1.00	-0.06	-0.0021	0.90
	-0.59			0.01			-0.83		
banking market development	-0.01 **	-0.0001	0.54	-0.01 *	-0.0007	0.76	-0.02 ***	-0.0005	0.37
	-2.13			-1.78			-3.68		
private credit bureau coverage	-0.01	-0.0001	0.84	0.00	0.0001	1.00	-0.01	-0.0003	0.89
	-0.78			-0.02			-0.68		
annual loan growth	-0.35	-0.0068	0.95	1.20 **	0.2416	1.19	-0.80	-0.0402	0.89
	-0.49			2.00			-1.16		
French legal origin	0.75	0.0075	2.12	0.14	0.0094	1.15	1.34 **	0.0542	3.83
	1.07			0.25			2.56		
German legal origin	1.43 ***	0.0203	4.17	-0.14	-0.0734	0.87	2.25 ***	0.1608	9.48
	3.11			-0.33			5.27		
Scandinavian legal origin	-30.45 ***	-0.0194	0.00	0.31	0.0179	1.37	1.90 **	0.1500	6.66
	-29.47			0.46			2.34		
investment characteristics									
ln(investment size)	0.31 **	0.0029	1.51	0.09	0.0133	1.13	0.38 ***	0.0124	1.65
	2.38			1.17			4.30		
investment life	0.34 ***	0.0029	6.50	0.24 ***	0.0436	3.69	0.20 ***	0.0047	2.99
	8.72			7.07			6.51		
investment risk	1.46 **	0.0132	1.19	0.87 *	0.1643	1.11	-0.04	-0.0104	1.00
	2.08			1.91			-0.06		
industry dummies									
mining	0.41	0.0007	1.51	1.00 ***	0.2277	2.71	-0.43	-0.0211	0.65
	1.26			3.85			-0.85		
transportation & utilities	-0.19	-0.0028	0.83	0.25	0.0465	1.28	0.30	0.0085	1.35
	-0.40			0.90			0.88		
construction	2.02 ***	0.0134	7.53	2.29 ***	0.4946	9.87	0.60	-0.0161	1.82
	4.12			8.16			1.41		
other	-1.39 ***	-0.0109	0.25	0.07	0.0213	1.07	-0.56	-0.0176	0.57
	-2.60			0.21			-1.18		
number of observations					4,978				
log likelihood					-3,572.5				
pseudo R <sup>2</sup>					0.449				
sample probability		5.0%			26.1%			5.9%	
predicted probability		1.1%			26.4%			3.7%	