

# **Political risk and firm default probability**

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Exploring export credits to high-risk countries

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Work in progress, comments welcome

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## **Exploring Export Credits to High-Risk Countries**

### **Abstract**

Despite the increased presence and importance of political risk in the world economy, this subcategory of country risk has not been well explored in the credit risk literature involving private firms. In this study, we investigate political- and legal country risk determinants of firm default probabilities in 88 countries, using a dynamic logit specification to a new dataset of export credit contracts from Finland. We model default probabilities for private firms in countries with different perceived risk levels and country legal origins. We condition the firm default probabilities on a vector of country specific political- and legal risk variables, including government- and instability risks, the level of democracy as well as legal- and creditor rights. We also control for the usually employed traditional firm specific financial variables for a group of companies from 14 countries, defined as the largest high-risk export countries of Finland. Our preliminary results indicate that information on political instability, especially in the form of external conflict in a host country may constitute a significant predictor for firm default, that may not otherwise be detected with scarcely available, or unreliable accounting information.

**Key Words:** *Default probability; Company Failure Risk; Export credit; Political Risk*

## 1. Introduction

Analysis of financial statements is the starting point in any classification of companies into healthy and financially distressed (or bankrupt) firms. Among the first known attempts to distinguish companies based on their accounting is Fitzpatrick (1932), who compared financial ratios between successful industrial enterprises from those that failed, and found that the probability of default was related to the individual characteristics of firms. Since then, a large number of empirical studies has been published and well known applications of credit scoring, e.g. the Altman's Z-Score model (Altman, 1968) and the Moody's KMV EDF™ RiskCalc™ Model.

These accounting-based models are usually applied when no publicly traded securities are available or when secondary market prices are unreliable. Meanwhile, some of the caveats of the accounting-based models is that they rely on financial statements that capture the past performance of the firm rather than its future performance. As noted by Hol et al. (2002), it still seems that the extensive research effort on bankruptcy-, and default prediction has failed to produce an agreement on which variables are good predictors and why. This may be partly attributed to the fact that the studies refer to different time periods, countries and industries. Most studies are also claimed to lack a theoretical framework to guide the empirical research effort<sup>1</sup>.

Traditionally, when no market data is available, default probability is estimated from failed and non-failed firms, given historical data using annual financial statements. In this paper, we ask whether there could be other factors to consider, especially in situations when the financial information is scarcely available or unreliable, as might be the case in developing countries.

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<sup>1</sup> Hol et al. (2002) have recently suggested a capital structure based default theory.

While the financial figures of a company are the basis for evaluating its credit profile, non-financial and environmental characteristics seem necessary to complete the picture. The new approach in this paper is to discuss linkages between firm default probability and political- and legal risk that prevail in the country where the borrowing company operates. To what extent do politically unstable environments constitute a risk for foreign lenders, that might not otherwise be reflected in the financial figures of the borrowing company? The aim of this study is to assess whether political- and commercial factors can be distinguished in the credit risk assessment process.

A novel feature of the present study is the use of export credit guaranteed debt contracts in the attempt to model default probabilities from realized payment interruptions<sup>2</sup>. We empirically explore the relationships between firm default probability and political risk in 88 countries between 1985-2005, and analyse the results by categorising the countries according the legal origin, as defined in earlier studies by La Porta et al. (1997, 1998) and Djankov et al. (2003, 2005). To control for the effects of firm-specific risk, we have collected firm financial variables for a group of companies in the most active recipient countries of world-wide export credits. The selected countries, including Argentina, Chile, Colombia, Indonesia, Mexico, Nigeria, Philippines, Peru, Poland and Saudi Arabia, Singapore, Slovakia, United Arab Emirates and Venezuela, reflect also the largest export streams from Finland to developing countries in the last two decades.

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<sup>2</sup> This type of data has not been previously addressed in similar credit risk- or default probability studies, due to a general secrecy surrounding Export Credit Agencies and consequently, the unavailability of data. For the purposes of this research project, initiated in co-operation with the Finnish Export Credit Agency, Finnvera plc, we have the unique opportunity to explore archives of historical credit- and political risk data from various countries.

### *The Export Credit Market*

An export credit is a financing arrangement allows a foreign buyer of exported goods and/or services to defer payment over a period of time, usually until the time after the product has been delivered. Technically, export credit contracts can be viewed as credit default swaps, which are not traded. Within the theoretical framework developed around trade credit, the credit terms extended represent the firm's response to competing informational problems concerning product quality on the one hand, and buyer creditworthiness on the other. An *adverse selection* problem stems from the ex-ante asymmetric information between buyers and sellers, while a *moral hazard* problem arises from the ex-post asymmetric information between sellers and buyers, giving rise to the possibility that clients will not pay when the payment is due<sup>3</sup>.

Export credit agencies have played a critical role during the last decade in international financing, especially for the developing countries. Figure 1 in the appendix illustrates the development of the business volumes for the members of the Berne Union<sup>4</sup>. Total exposure (new business) increased by 21% to USD 788 billion at the end of 2004 compared with an average growth rate of 8,5% during 1993-2004. Meanwhile, as illustrated in Figure 2, the recoveries rose to their highest level in over 20 years, whereas claims paid reached the lowest level over the same period. Overall, the amount of investment that ECAs support globally is growing significantly greater than the total amount of lending from the World Bank, IMF, and all other multilateral institutions combined (see e.g. Boote and Ross, 1998). Thus, in view of the recent

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<sup>3</sup> see e.g. Estrin et al. (2000) for a review on trade credit theories.

<sup>4</sup> Berne Union is the international union of credit and investment insurers, whose members help promote world trade by supporting exports and/or investments to both highly developed and emerging markets. Berne Union members are major players in cross-border trade; collectively, their business volumes amount to about 7% of world trade.

changes of commercial lending<sup>5</sup>, it is our surprise that little empirical work is done on these financial products. In our view, these products constitute a well-grounded research material for assessing the relationship between the risk of financial assets and the broader macroeconomic and political environment.

The remainder of this paper is organized as follows. Section 2 provides a brief literature review on default probability estimation. In section 3, we discuss the question of the impact of political risk on credit defaults and formulate our main research hypothesis. Section 4 presents our research design and data in more detail. In section 5, we present our results with a short analysis of our target countries. Section 6 concludes with suggestions for further research.

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<sup>5</sup> With regard to calculating regulatory capital requirements for credit risk, the “standardized approach” by Basel II proposes to measure credit risk based on external credit assessments provided by rating agencies and export credit agencies.

## 2. Default probability estimation

There are two schools of thought in the use of statistical methods to predict firm default. One holds that default is modeled using market information, whereas the other recommends using accounting data. As we are considering private firms with no market data available, we restrict our review on the fundamentals-based models, which can further be divided in models that rely on accounting, systematic market and economic factors, or rating information<sup>6</sup>.

### *Fundamentals-based estimation with accounting info*

Empirical attempts to utilise financial information to predict bankruptcy began with studies by Beaver (1966) and Altman (1968). Being a classic among the early studies, Beaver (1966) conducted a comprehensive study using a variety of financial ratios and concluded that the cash flow to debt ratio was the single best predictor of firm default. Beaver's univariate approach of discriminant analysis led the way to a multivariate analysis by Altman (1968) who adopted a multivariate discriminant analysis (MDA) framework in his effort to find a bankruptcy prediction model. This became the popular Z-score model, where the financial ratios used are: 1) working capital over total assets; 2) retained earnings over total assets; 3) earnings before interest and taxation over total assets; 4) market value of equity over book value of liabilities; and 5) sales over total assets. In Altman's study, the Z-Score correctly classified 94% of the bankrupt companies and 97% of the non-bankrupt companies one year prior to bankruptcy. Later, Altman has revised the model for private firms by substituting book value for market value in the calculation of the ratio of market value

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<sup>6</sup> For a good review of the market-based models, see e.g. Chan-Lau (2006)

of equities to the book value of liabilities<sup>7</sup>. The popularity of the Altman Z-score is explained by its parsimony and ease of interpretation.

A large number of financial ratios can be used as explanatory variables in the accounting based models. Typically, the greatest variations in the probabilities of default come from ratios capturing firms' profitability, growth opportunities, level of indebtedness, and liquidity. To obtain a parsimonious model, some selection criteria are needed, and the variables selected are usually those with the higher discriminating power for explaining the default frequency after performing univariate analysis. However, these steps can only be taken once a robust database has been compiled. There is usually also the risk of "over-fitting", that is, the model functions only on the sample data but fails to engage with real-world data that it has not "seen" before. Once variables have been selected, a variety of statistical techniques have been used to assess the default probability of a firm, including econometric models, linear discriminant analysis, k-nearest neighbor classifier, neural networks, and support vector machine classifier among others (see e.g. Chan-Lau, 2006). For obvious problems with the assumptions of the initially employed discriminant analysis, discrete dependent variable econometric models (i.e. logit or probit models), have become more popular tools for credit scoring. Ohlson (1980), and Platt & Platt (1990) present some of the early studies using the logit<sup>8</sup>. Most of the subsequent work in this area has focused on the appropriate statistical methods used to develop the model, finding the variables which best discriminate between the failed and non-failed firms, and demonstrating the performance of the prediction model by examining the percentage of firms predicted correctly.

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<sup>7</sup> A summary of the methodologies is given in Chuvakhin & Gertmenian (2003)

<sup>8</sup> A recent example is Laitinen (1999), who used automatic selection procedures to select the set of variables to be used in logistic and linear models, which were then thoroughly tested out-of-sample.

### **3. Political risk – previous research and hypothesis development**

The concept of political risk is generally regarded as rather controversial, because its identity crosses the boundaries of specific social sciences; political science, economics, law and sociology (Simon, 1984). The field as such attracts a variety of people from different disciplines, ranging from economists, finance professionals, experts in business management and organizational behaviour to political scientists, public policy makers, as well as military and intelligence professionals. Due to this diversity, political risk as a concept has not received a canonical definition and is rather a large, amorphous category. Due to its interdisciplinary nature, political risk analysis bridges various methodologies and approaches and focuses on how political environments of economic action differ from one another between societies, and how those differences can be managed by states and companies (see e.g. Loikas, 2003).

#### *A historical perspective*

As a field of scientific research, the concept of political risk has gone through periods of interesting transformations mainly over the past decades though signs of interest towards political risk in the corporate finance literature existed as early as in the seventieth century (see e.g. Barron and Miranti, 1997). In a recent study, Loikas (2003) reviews the various paradigms of political risk and presents the development of the literature in detail. He notes that political risk research has emerged due to practical reasons, through theoretical models and as a response to political events in the international area. In particular, specific political events after the Second World War created a demand for risk analysis, which led to the scientific consciousness and reception of political risk in the economic literature. For example, the period from 1960s to the end of 1970s was dominated by studies on multinational corporations (MNCs) and their exposure to political risk. Concepts like *confiscation*, *expropriation*

and *nationalization* became critical concerns for companies with foreign operations as some independent countries that had just recovered their sovereignty from colonial powers tried to overcome their lack of capital by simply taking over the foreign subsidiaries of multinationals. Another example from this period was the revolution in Iran in 1979, with its hostile acts against international companies, which led the researchers to add questions of political stability to the variables being examined. The second transformation of political risk research took place in the 1980s with the international debt crisis in many developing countries, when a large part of the literature was dedicated to the creditworthiness assessment. Quantitative risk assessment methods were developed along with the probabilistic interpretation of country- and political risk. A refinement and professionalisation of the political risk concept emerged with the systematic use of these quantitative approaches also on the corporate level. The crises in Mexico (1994); Asia (1997); Latin America (1999-2002); as well as the Russian default (1998) are more recent events forming the third evolution of the political risk paradigm. Through these events, political risk research shifted its attention to “financial crises” and the identification early warning indicators for such crises.

Overall, there is an evident growing interest in the academic literature on the link between political institutions and political risks facing multinational corporations. A large part of this research is devoted on domestic institutions and FDI inflows (see e.g. Henisz 2002, and Jensen 2006). Meanwhile, only few authors have investigated the relationship between political risk and credit, and the focus has been mainly on sovereign borrowing (see e.g. Citron and Nickelsburg 1987, Balkan 1992, Edwards 1986, Brewer and Rivoli 1989 and Peter 2000) and the relationship between democratic institutions and borrowing (see e.g. Schultz and Weingast 2003 and

Saiegh 2005). To the best of our knowledge, there are no prior studies using political risk factors to study corporate credit defaults.

*The challenges of the definition*

Hill (1998) crystallize the problem of political risk definition and measurement by revisiting the standard finance theory treatment of risk. Already in the classic book by Knight (1921), risk and uncertainty were distinguished by whether we can make good predictions by extrapolating from sufficiently similar (or homogeneous) past events, or whether the extrapolation is to be made from dissimilar (heterogeneous) events. In the latter case, the quantification is far more difficult depending on the appreciable degree of confidence and precision in the prediction of possible outcomes, payoffs and associated probabilities. The more heterogeneous the events, as is the case with political risk, the less we know about the distribution of possible outcomes. In addition, as the world changes, the profile of political risk changes and a new event within the class of political risk may revise the definition of political risk itself.

As the diversity of definers, the historical context and the uncertainty involved suggest, there are many different ways of defining political in the economic literature. In general, the definition depends on the perspective in which one views the political risk and on the importance one attributes to political risk. How broadly the political risk is defined is usually determined by the interests and need of the definer as well as on the type of investment involved. A general definition originally given by Haendel (1979), appears often in studies of political risk due to its simplicity and flexibility against the interest and need of the definer (e.g. a corporate, a private insurance firm, an export credit agency, a bank or a multinational organization). According to this political risk may be defined as “the probability of the occurrence of some political

event that will change the prospects for the probability of a given investment”. Another definition, given by Caouette, Altman and Narayanan (1998), that is more suited into the credit risk framework, specifies political risk as “the possibility of delayed, reduced, or non-payment of interest and principal where the outcome is attributable to the country of the borrower”.

For purposes of this study, we define political risk quite broadly, following the guiding principle of these two definitions. Our broad definition will perhaps sacrifice some degree of precision, but as we are studying political risk at the company level and want to distinguish between political (country specific) and financial (firm-specific) risks, we believe this approach is sufficient. The overall risk in this study is viewed from the international creditor’s point of view.

#### *Hypothesis development*

The overall hypothesis in the present study is that outcomes from lending decisions to importing and borrowing companies are uncertain not only because of the company as an individual obligor, but also due to surrounding political and legal risk factors, that may have nothing to do with the firm itself. To further elaborate on how political risk affects default probability, some distinctions must be made on how this type of risk may impact a firm’s performance. Wagner (2000) makes the two distinctions in his definition. First, there is a difference between firm-specific political risks and country-specific political risk, sometimes also referred to as “micro” and “macro” risks. Micro, or firm-specific political risks are risks directed at a particular company, and are discriminatory by nature. A firm may be able to reduce both the likelihood and impact of firm-specific risks by incorporating strong arbitration language into a contract or by enhancing on-site security to protect against terrorist attacks. On the

other hand, “macro” or country-specific political risks are not directed at a firm but may still affect its performance and firms usually have little control over the impact of country-level political risk on their operations. Examples of such risks may include a government’s decision to forbid currency transfers or the outbreak of a civil war within the host country. A second distinction according to Wagner (2000) is to be made between government and instability risks. The former arise from the actions of a governmental authority, whether that authority is used legally or not. The latter emerges from political power struggles. Various examples of political risk from each of these combined four categories are presented in Table x. The ultimate challenge is to determine whether any particular type of political event poses a threat to a firm’s financial performance.

1) *Government and instability risks*

First we conjecture that political risk in a country affects the credit risk of firms operating in the country through the above sub-categories of political risk. Among the government level political risks, we identify the 1) *risk of expropriation or confiscation*, e.g. of the exported merchandise by a foreign government; 2) *risk of currency convertibility and transferability*, e.g. the customer in the foreign country is unable to obtain foreign exchange in order to pay or is unable to send payments out of the country due to governmental restrictions or foreign exchange transfers. Further, other risks considered under this category include 3) *unanticipated changes in regulations*, corruption or failure by the government to implement tariff adjustments. Among instability risks, we consider 3) *political violence*, that is, war, sabotage or terrorism. All these situations involve specific risks that might cause a buying firm, that would otherwise be willing to pay the creditor, to be unable to do so.

## 2) *Quality of political institutions*

We further analyse the impact of a country's political system on defaults, describing the quality of a country's political institutions in terms of the exposure to democracy. According to the "democratic advantage" argument (see e.g. Shultz and Weingast 1996, 1998), democracies in general pay lower interest rates for the sovereign debt than authoritarian regimes, because they are better able to make credible commitments. We test for whether this argument is reflected also on the firm level and expect a negative relationship between default probabilities and the level of host country democracy.

## 3) *Legal- and creditor rights*

According to previous research there are in general higher volumes of credit good legal environments (e.g. Jappelli et al. 2002) and smaller firms have greater access to formal financing opportunities (Chemin, 2005). We discuss and test whether legal- and financial rights of the creditor and debtor in a country affect default probabilities. We hypothesise on the one hand, that legal costs may prevent the borrower to incur a "strategic default", i.e. the case when the firm fails to pay the amount stipulated in the debt contract even though it possesses resources to do so. On the other hand, with costly liquidation, creditors may prefer to forgive part of the debt, which may result in equityholders' incentives to default opportunistically (see e.g. Davydenko and Strebulaev, 2003).

## 4) *Legal origins*

Recently, some studies have explored the mechanisms through which legal origin of a country influences financial development (see e.g. Beck and Levine, 2005). Legal families can be explained by the "political channel", i.e. differences in giving priority

to private property rights of the state could be crucial. For instance, Beck et al. (2003) found that there is less supreme court power in Civil Law than in Common Law countries so the influence by the state is therefore regarded as higher in the Civil Law legal family. One may also argue that legal families respond differently to changing socioeconomic circumstances, and as confirmed by Djankov et al (2005) and that the case law approach by the Common Law is seen as more flexible whereas Civil Law is regarded as inherently more formalistic and rigid. Following previous cross-country evidence, that suggests a link between judicial quality and corporate financing, we extend our study by comparing the results between different legal families following legal origin categorization by Djankov et al. (2003, 2005). We expect countries with Civil Law origin (higher state influence) to have larger impact through political risk channels on firm default probabilities.

#### 4. Research design

We model the default probability for different sets of borrowing firms, using a dynamic binary estimation method where the dependent variable is 1 if the borrowing firm defaults in a specific year and 0 otherwise. The estimated default probabilities are conditioned over a vector of lagged explanatory variables including country-specific political- and legal risk indicators as well as firm-specific financial ratios.

Our empirical tests are grouped in two parts. In the first part, using a large sample of firm defaults from 88 different countries, we test for how different political-and legal risk indices affect the default probability, and whether one can distinguish any patterns among groups of countries from different legal origins. For the second part, we have chosen a smaller set of 14 high-risk countries<sup>9</sup>, among which we have systematically collected financial accounting information for the debtor companies. In the second part, we are thus able to test jointly for political and legal risk indices as well as to control for the firm specific financial factors.

##### *Data and sample selection*

The credit data is obtained from Finnvera plc, the official Export Credit Agency (ECA) of Finland. For the purposes of this research project, we have collected and developed an extensive database containing all export related financing agreements between Finnish exporters and foreign buyers between 1980 and 2005, which have been guaranteed by the Finnish state through Finnvera plc. The database is intended to serve in obtaining credit default statistics and other information on historical credit experiences of companies in various countries, for the analysis on how political risk in respective countries may have affected on these defaults.

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<sup>9</sup> Including Argentina, Chile, Colombia, Indonesia, Mexico, Peru, Philippines, Poland, Saudi Arabia, Singapore, Slovakia, South Africa, United Arab Emirates and Venezuela.

The register-based data contains detailed information for each guarantee, including the country of origin of the buying firm (i.e. the creditor country); the initiation and ending dates of the underlying loan; type and size of the liability; as well as the details of possible payment interruptions that the creditor may have had with respect to the particular loan concerned.

We divide our research project into two parts depending on the private/public dimension of the data. The private part (the present study at hand) focuses on firms that are outside governmental control. That is, we exclude all guarantees with public bodies or state-owned enterprises as the credit counterparts<sup>10</sup>. This leaves us with data consisting of 26 751 guarantees of which 1 206 (4.5%) have experienced a default.

A detailed description of how the guarantees are spread along the years are reported in Table 2. Panel A of Table 2 lists newly issued guarantees (and defaults) per year. Some of the guarantees in the database were initiated before 1980, but were still active and recorded for in the later years. We delimit our study period to the period 1985-2005 and include those guarantees that were active under any year during this 21-year period. This rationale is presented in Panel B of Table 2, which lists the stock of active guarantees (and defaults) for each year. Throughout the study, we thus consider the *stock of guarantees* per year and divide this in two groups; those that do not experience a default event (non-default) and those that eventually face financial troubles and are considered as default under the year in consideration. It is possible that guarantees that have experienced a default, may recover (i.e. manage to repay the missed payment), and are again considered as non-default.

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<sup>10</sup> These 'public' guarantees are treated separately in an earlier article (Sandström, 2005).

### *The default definition*

For modeling purposes and to follow Basel II, we measure the data in firm years and specify the time horizon for the future probability of default as one year which is consistent with the use in the banking practice and prevalent in credit risk models. We use indemnification as our “default indicator” which implies that the creditor has missed a payment of interest or principal, violated against a covenant, attempted to restructure, or made any other declaration of insolvency. Any of these actions that have led the exporter to submit a notice of default for the loan in consideration to Finnvera, and all claims that Finnvera have found to be in order and indemnified, are considered as “defaults” in our study. We know the exact dates for the first and last indemnifications<sup>11</sup>, if any such had occurred, and consider the loan in a default state between these dates.

### *Country selection*

Appendix A. lists all countries in the initial Finnvera database (by number of guarantees) and the chosen sample for the period 1985-2005 (in firm years). For the first empirical part, we choose all countries that have at least 5 firm-year observations and which have political- and legal risk information available in our selected sources<sup>12</sup>. The selection of the 14 countries for the second part is based on choosing the most active ‘high-risk’ export countries of Finland during the last decades, representing five different world regions. Also on a larger scale, these countries represent type examples of countries that have received the majority of world export credit (see Table 1 and Figures 1-3.). For example, in 1996, Argentina, Indonesia, Mexico and Poland were among the top ten countries, that together accounted for 30

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<sup>11</sup> We do not have information on the dates for the loss claim decision, which would be more appropriate for a more precise default-definition. However, as the data is analyzed in yearly intervals, we believe this approximation is justified.

<sup>12</sup> The ICRG Researchers Dataset, The Polity IV Database and the World Bank’s Doing Business Database (described in Appendix B).

percent of the industrial country ECAs' contribution (see Table 1). Argentina, Chile, Colombia, Mexico and Peru are our example countries from the financial crisis affected Latin American region. Saudi Arabia and United Arab Emirates represent oil-dependent, arab nations. The Philippines and Singapore are the Asian representatives, while Poland and Slovakia are representatives of the East-European emerging markets. Due to very limited access to accounting data from the African continent, we have been able to include only one country, South Africa, from this region. At the policy level, there are of course no obvious reasons to compare these countries as such. Instead, we consider them as type examples of countries facing various economic, commercial and political risks, where an increasing number of western businesses may still find it desirable to export and invest in.

#### *Measuring political risk*

Political risk is measured, using the different categories described in section 3 as references. We include ratings from the International Country Risk Guide (ICRG)<sup>13</sup> to measure government- and instability risks. The impact of the level of democracy is tested using variables from the Polity IV dataset. Legal and creditor rights indices are employed from the World Bank's Doing Business Database.

##### *1) International Country Risk Guide (ICRG)*

The composite ICRG rating comprises 22 variables in three subcategories of risk: political, financial and economic. Out of these we will employ the *political risk* rating (hereafter called "the icrg-index"), that contributes 50% of the composite rating and aims at gauging the country's degree of stability. It is obtained from subjective assessment of ICRG editors that transform qualitative information into numerical

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<sup>13</sup> Founded in 1980, the International Country Risk Guide was initially published in the newsletter International Reports. Like Political Risk Services (PRS) it has been, since 1992, a product of the PRS Group. ICRG covers about 140 countries. See <http://www.icrgonline.com> for a more detailed description.

scores, through a series of preset questions. The icrg-index is calculated as the sum of 12 social and political qualitative components that are listed and further decomposed in Appendix B. Among the components, for example, the *Investment Profile* is an indicator of whether a government will take precipitous actions such as expropriation. *Law and Order* is seen as an indicator of the stability and transparency of the legal system and an indication of whether contracts might be abrogated. *Ethnic tensions* are often a preliminary condition to strife that may lead to political violence against investors and creditors, or on their property.

The icrg-index may vary between zero and 100 points, with higher rating indicating for lower risk. As a general guide to grouping countries on the basis of comparable risk, below 50 is considered as very high risk; 50-59.9 is high risk; 60-69.9 is seen as moderate risk; 70-79.9 is low risk; and 80-100 is perceived as very low risk. We expect an inverse relationship between the icrg-index, or any of its subcomponents (if analysed separately) with firm default probabilities.

## 2) *The Polity IV Database*<sup>14</sup>

The *Polity Index* from the Polity IV dataset, measures the degree to which a nation is either autocratic or democratic on a scale from -10 (strongly autocratic) to +10 (strongly democratic). As an complement to measure political stability, we include the *Polity IV Regime Durability Variable* that measures the years since the most recent regime change or the end of a transition period defined by the lack of stable political institutions. We expect a lower firm default probability both with the level of host country democracy as well as with the time since last regime change.

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<sup>14</sup> The Polity database contains information on regime type and political structures of independent states in the world system since 1800. (see Marshall and Jaggers, 2004).

### 3) *Legal rights and creditor rights*

To capture the effects of legal risk, we include two additional indicies from the World Bank's *Doing Business Database*. The *Legal rights index* reflects the legal rights of borrowers and lenders, by measuring the degree to which collateral and bankruptcy laws in facilitating lending. It has a scale from 0 to 10, including 3 aspects related to legal rights in bankruptcy and 7 aspects found in collateral law, with higher scores indicating that collateral and bankruptcy laws are better designed to expand access to credit. The *Credit Information Index* measures credit information registries; the rules affecting the scope, accessibility and quality of credit information available through either public or private bureaus. The index ranges from 0 to 6 featuring the credit information system. Higher values indicate that more credit information is available to facilitate lending decisions. We expect a negative relationship between firm default probability and both the *legal rights* and *credit information*, as better laws in place and/or more credit information available should lower the probability of default.

### *Firm financial variables*

What comes to lending to high-risk countries, there is usually a special concern regarding the availability and reliability of the financial information. We choose accounting variables based on how the decision process was initially undertaken, considering the available information when the credit was granted. Following previous literature, we select available ratios that measure different dimensions of companies' healthiness, including size, age, turnover, profitability, leverage liquidity and solidity. A list of collected variables and the definitions of the selected financial ratios are provided in Appendix 2. The financial account information is obtained from Suomen Asiakastieto Oy, the leading business and credit information company in Finland, as well as Dun & Bradstreet Credit Bureau and company financial reports.

### Summary of methodology

The dependent variable  $y_{it}$  in our model is the binary discrete variable indicating whether firm  $i$  has defaulted or not in year  $t$ . The general representation of the model is

$$y_{i,t} = f(\beta_k, X_{i,t-1}^k) + e_{it} \quad (1)$$

where  $X_{i,t-1}^k$  represents the values of the  $k$  explanatory variables of firm  $i$ , (or a country specific risk index) one year before the evaluation of the dependent variable.

To examine the likelihood of firm default, we estimate

$$p_{i,t} = \Pr(y_{i,t} = 1) = E(y_{i,t} | X_{i,t-1}^k) \quad (2)$$

where  $p_{i,t}$  is the probability that firm  $i$  will default in period  $t$ , conditional on the observed covariates  $X_{i,t-1}^k$  in the previous period. The functional form selected for this study is a dynamic Logit model. Here, we assume that the variable  $y_{it} \in \{0,1\}$  is related to an unobservable index  $y_i^*$  by a linear function of the lagged explanatory variables  $x_{i1}, x_{i2}, \dots, x_{ik}$ , and the random term  $u_{it}$  such that:

$$\begin{aligned} y_i^* &= \beta_0 + \beta_1 x_{i1} + \beta_2 x_{i2} + \dots + \beta_k x_{ik} + u_{it} \\ y_i &= 1 \quad \text{if } y_i^* > 0 \\ y_i &= 0 \quad \text{otherwise} \end{aligned} \quad (3)$$

By this structure, we have

$$\begin{aligned} P(y_{i,t} = 1 | \beta \cdot X_{i,t-1}) &= P(u_i > -\beta \cdot X_{i,t-1}) \\ &= 1 - F(\beta \cdot X_{i,t-1}) \end{aligned} \quad (4)$$

with  $F(\cdot)$  being the cumulative logistic distribution for  $u$ .

Our methodology is an attempt to respond to the concerns of a single-period logit approach<sup>15</sup>, as suggested in Shumway (2001) and Beck et al (1998).

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<sup>15</sup> 1) a sample selection bias from using only one, non-randomly selected observation per defaulting firm, and 2) a failure to model time-varying changes in the underlying or baseline risk of default that induces cross-sectional dependence in the data.

## 5. Preliminary results

### *Descriptive statistics – political risk by legal origin*

Table 3 presents data on selected political risk variables by legal origin in five year intervals. Included are the icrg-index; selected components, the polity-index and credit quality. The difference between the English and French legal origin are tested using the Wilcoxon or Mann-Whitney ranksum test. Some interesting patterns are found in the data; the English (Common Law) legal origin countries, with less assumed state power, show a slightly higher (lower risk) score than the French (Civil Law) legal origin countries in all except for *ethnic tensions* and the democracy variables (democratic accountability and the polity-index). The difference is significant only in year 2000 for military in politics. This may be explained by some characteristic sample countries, such as for example Indonesia and Chile (French legal origin). In Indonesia, in the post-Suharto period since 1998, civilian and military leaders have advocated removing the military from politics (for example, the military's representatives in parliament have been much reduced), but the military's political influence remains still extensive. On the other hand, in Chile it is well known that the constitutional framework and the political context inherited from the military regime have constrained the democratic government's ability to democratize the country. The military's prerogatives are perhaps the most obvious examples of these limitations. An interesting finding is that the reverse is true for *ethnic tensions*, and the French legal origin countries show significantly lower risk in 1985 and 1990, perhaps reflecting some events in countries such as Israel and Malaysia (both of Common Law origin). Otherwise, the Nordic legal origin countries seem to represent the lowest risk among the legal families while the Socialist countries do seem to represent average risk in most cases.

### *Descriptive statistics – export credit data*

With our sample selection criteria, our sample consists of 26 752 guarantees from 88 countries, of which 1 740 guarantees are from the 14 target countries with accounting information. In firm years (defined according to the length of the guarantee existence), these figures amount to 108 444 observations in total of which 3 592 (3.3%) firm years are “default years”. Looking at the target group of our 14 selected countries, total firm year observations are 5 837 of which 286 (4.9%) indicate for default. Table 4 presents the sectoral composition of the sampled firms for the 14 target countries. The sample reflects the distribution with the total Finnish Exports illustrated in Figure 4. Pulp and paper have traditionally accounted for most the Finnish Exports, while the rapid growth of the industrial sector (e.g. basic metals and metalworking and transport equipment) increasingly acquired share in the 1980s. Shipbuilding, in particular, has led the development of heavy industry and is one of the sectors with largest transactions for *Finnvera*, why this category is separated from the others. Summary statistics on credit contracts and firm years by default status and by country are presented in Appendix A.

### *Descriptive statistics – firm financial information*

A sample of 217 annual, end-of-year corporate financial statement summaries are extracted from Finnvera's credit report database. Summary statistics of the financial ratios are given in Table 5, where Panel A presents the non-defaulting firms and Panel B the defaulting firms (number of observations in firm years). Panel C presents the correlations between firm financial variables. The correlations are generally very low (in most cases under  $\pm 0.2$  ). Regarding the political risk variables (reported in Appendix D), the correlations are somewhat higher, but not substantially, except for *icrg* and its components, which are naturally not tested jointly.

## *Results – Part I*

We first focus on government risk as predictors of firm default probabilities. Tables 6 to 11 present results from logit regressions for all countries and the 5 legal origin groups of countries, including the icrg-component and its subcomponents (separately) as explanatory variables in the model. The general principle, when interpreting these results is that a negative coefficient for any risk variable, indicates that an increase in the ratio (less risk) reduces the probability of firm default. In various logit regressions, most of the ICRG components show the expected sign and are highly significant. Combined in with each other, the significance diminishes somewhat, for example for the government stability component. The components measuring socioeconomic conditions (socec), and corruption (cor) show the opposite sign in all models and for all legal origins. The interpretation of the socioeconomic conditions variable, measuring pressures at work in a society that may constrain government action or fuel social dissatisfaction, may well lead to both repayment and non-repayment of external debts, why the interpretation of this variable is not straightforward. The positive effect from corruption on the other hand, in particular considering the Nordic countries, may stem from the fact that these countries have the lowest default rate (only few observations in the sample) and very low corruption rate. The conflict measures external conflict (extcon), internal conflict (incon), military in politics (mil) are negative and significant in most of the models, except for models for the Socialist legal origin group and for the Nordic group, where the sign again becomes positive. The External Conflict measure is an assessment both of the risk to the incumbent government from foreign action, ranging from non-violent external pressure (diplomatic pressures, withholding of aid, trade restrictions, territorial disputes, sanctions, etc) to violent external pressure (cross-border conflicts

to all-out war). External conflicts may thus affect businesses adversely in many ways, ranging from restrictions on operations, to trade and investment sanctions, to distortions in the allocation of economic resources. Thus, any interpretation of the external conflict-variable should be adjusted to the country and circumstances in question. Generally, these results would suggest that the more external pressure a country has, the more the firms operating in that country are likely to default on their foreign obligations. The fairly peaceful recent history of Socialist legal origin countries in our sample, might explain the result of the insignificant conflict variables to some extent. Preliminary logit regressions on democracy and stability variables, as well as on legal rights and creditor rights (not reported in this version of the paper), indicate for a significant expected relationship for most legal origin groups. However, combined with other political risk variables, they lose their explanatory power.

### *Results – Part II*

Finally, tables 12 to 14 reports the results for the models, where financial ratios are either tested alone, or combined with selected political- and legal indicators (the icrg-index in Table 13, and the subcomponents in Table 14). Lagged firm financial ratios for the creditor, measuring either *Profitability* or *Leverage* are tested both separately as well as jointly as predictors of default probability.

The size variable is positive and significant alone, indicating for that smaller firms may have stronger tendency for debt default. However, this measure is not significant, when other variables are considered. Profitability, measured by net profits to total sales (ebitda) seem to have a significant positive effect (with an extreme coefficient in Model 4) on firm default probability. This may stem from some outliers in the data that should be further explored. However, the sign is correct; the more loss the firm

made the more it was likely to default on its debt. Meanwhile, the positive sign for earnings before interest, depreciation and amortization (ebitda) allows oneself to be enticed in speculating on the use of funds by the firms. It seems that these firms were profitable at first, but at the bottom line, unable or unwilling to pay their foreign debts.

The indebtedness-ratio (debt), measured by total liabilities to total assets, has the expected positive influence on default probability in all models. Even combined with other financial variables or the icrg-index (or its components), this variable remains significant at 1% level. Similarly, the equity ratio (solv) has the expected sign, and is significant most of the models. However, combined with icrg-risk components in Table 14, it is no longer significant. The other variables measuring solidity or liquidity are not significant. While the significance of some of the individual coefficients in the models measuring firm performance are indicative, they do not provide evidence concerning the collective group significance of accounting information.

In Table 13 we find that the icrg-index gives the expected sign and is highly significant, when combined with the leverage variables. Same holds for some of the icrg-subcomponents in Table 14, in particular with the external conflict (extcon) and the investment climate (inv) subcomponents. Combining political risk variables with both profitability and leverage is no longer meaningful, which may be a sign of overfitting. Overall, looking at the p-values for the models, one can conclude that they are statistically significant, except for some of the models where profitability measures are included. The signs for the other political- and legal indices, when combined with firm financial ratios, are insignificant or sometimes positive, why they can not be interpreted within our stated hypothesis framework.

*A note on the sample countries*

It is clear that the choice of our 14 sample countries (and the data from only one Export Credit Agency) may reveal some sample selection bias, and the default history may be driven by other external factors. Some of the main events to consider when interpreting the obtained results include, among other things, the following.

The *Argentine economic crisis* was part of the situation that affected Argentina's whole economy during the late 1990s and early 2000s. While the high level of Argentinian defaults in our sample in year 2002 seem self-explanatory, the situation is more complicated, as almost all companies operating in the country were affected by the crisis, but due to renegotiations of the debt contracts, many of them “survived” the difficult period. The impact of the IMF bailouts and other forms of debt restructurings should be further analyzed in future versions of this paper.

*Indonesia* is also a crisis-affected country, mainly by the 1997-98 Asian financial crisis, which is shown in the default history in our data. However, other patterns of *Indonesia* may be reflected in our data including the heavy borrowing from official creditors during the 1980s. Overall, trading with and investing in Indonesia has for long been perceived to entail a significant risk of financial loss as the legal system in the country has been regarded very poor. Throughout the post-war history of Indonesia, the military have played a key role in the politics of the country.

*Poland* experienced a transition from a centrally planned to a market orientated economy, some decade ago. The number of issued guarantees as well as defaults in Poland reflect the general positive developments in the country during the 1990s as well as the fact, that the country had rejoined international capital markets and regained favourable credit ratings, triggering investment inflows.

*Saudi Arabia* and *United Arab Emirates* represent an examples of oil-dependent arab economies, that have strong government controls over major economic activities. The region has been for long the scene of both internal crises and external conflicts. On several occasions, these crises have affected either the flow energy exports or the development of energy production and thus, the export- and import capacity of the country.

## **5. Preliminary conclusions**

In this study, we have constructed and compared default prediction models for two sets of explanatory variables; traditional accounting ratios, and country-specific political- and legal risk indicators. The models applied in this study were tested using export credit guaranteed debt from 88 countries from different legal origins. Following previous research, we included traditional firm-specific accounting ratios measuring *profitability, leverage, liquidity and solidity* as explanatory variables to control for firm-specific risk. Political risk is proxied with indicators of *government risk, general stability, conflict/war, corruption, level of democracy, and legal- and creditor rights*, in respective legal origin groups, using indices from well-established country risk experts.

Subject to certain limitations with our sample selection, the results presented here suggest that indicators of political risk, especially external conflict, may affect firm default probabilities. Without assessing the political- and legal risk landscape, the default probabilities may not be properly estimated using only scarcely available accounting data. The firm financial variables alone, suggest that measures of indebtedness may indicate for future payment difficulties. Meanwhile, the profitability level is not clear in its interpretation. The overall presentiment of the above

preliminary results is that, analysed separately, both financial figures and political risk indices, should be used in the credit evaluation of individual firms in foreign countries. However, in combination, they might result in over-fitting.

The political-, economic-, and legal risk dynamics that shape threats to international credit contracts are complex. Understanding the factors behind these diverse forces as well as future trends, needs detailed assessment of each country in question, taking each conceivable variable into careful consideration. Our preliminary results from this study are only indicative, and subject to further testing, model validation and out-of-sample testing.

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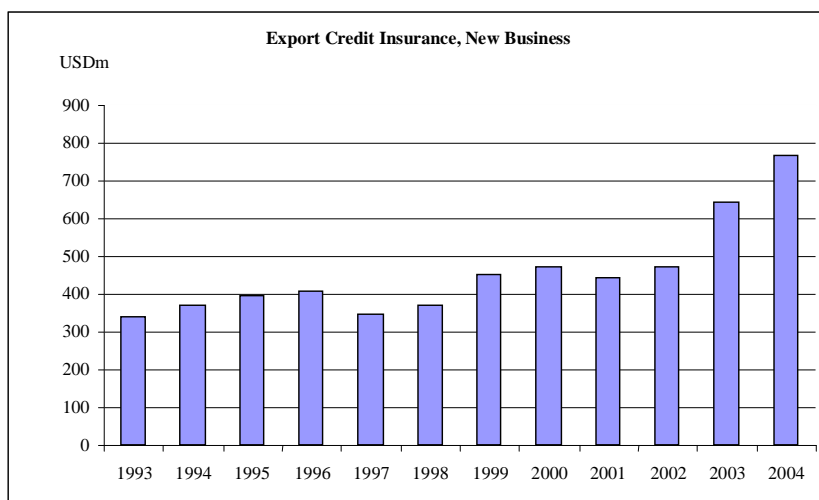
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## TABLES AND FIGURES

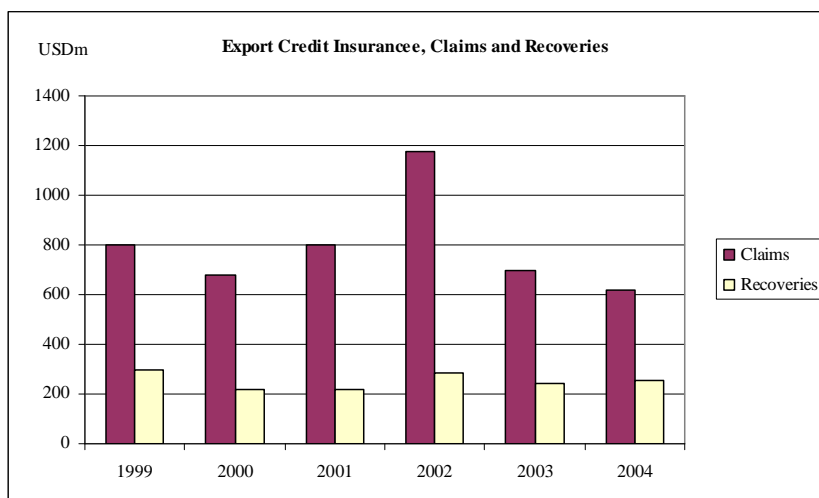
**Figure 1 Officially supported export credits - new business, 1993-2004**

Source: Berne Union, 2005



**Figure 2 Claims and recoveries paid, 1993-2004**

Source: Berne Union, 2005



**Table 1 Twenty main recipients of export credits**

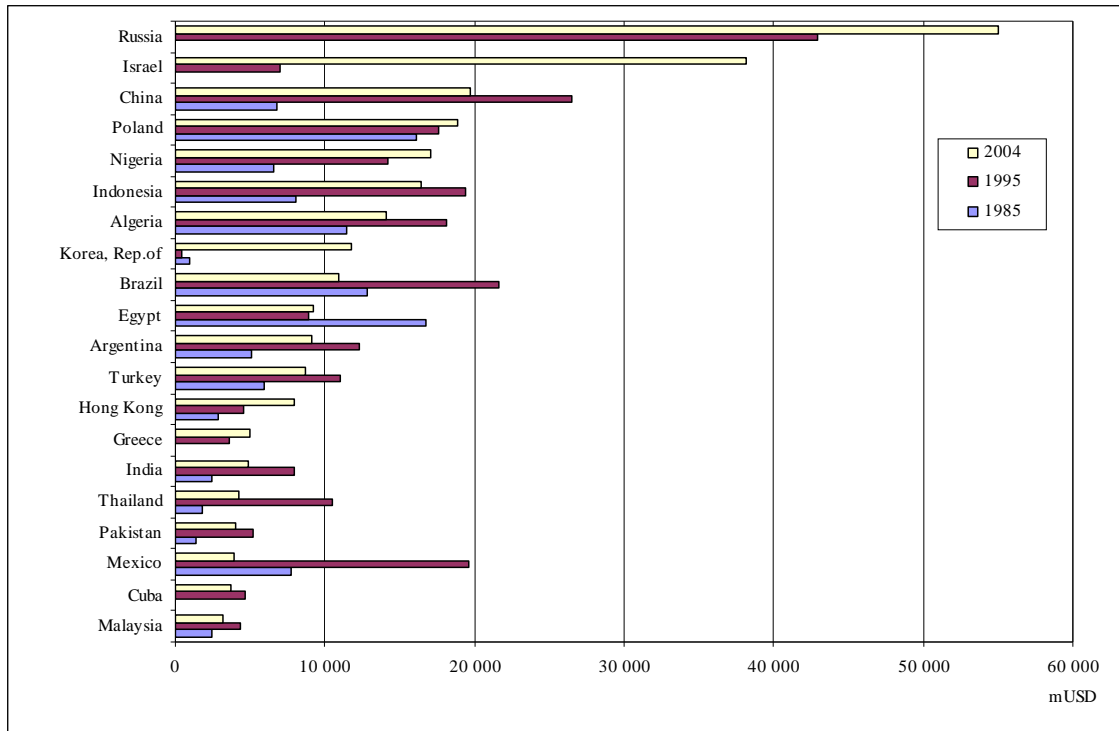
Source: Berne Union and the IMF, Gianturco (2001).

Country	USDbn	Country	USDbn
Russia	52.9	Thailand	15.4
China	44.8	Iran	14.0
Indonesia	28.2	Egypt	13.6
Nigeria	24.8	India	13.0
Brazil	24.7	Iraq	11.2
Algeria	23.9	Philippines	10.5
Poland	22.7	Hong Kong	10.1
Turkey	18.0	Venezuela	6.2
Argentina	16.6	South Africa	6.1
Mexico	16.4	Morocco	6.0

**Figure 3 The stock of export credits by country**

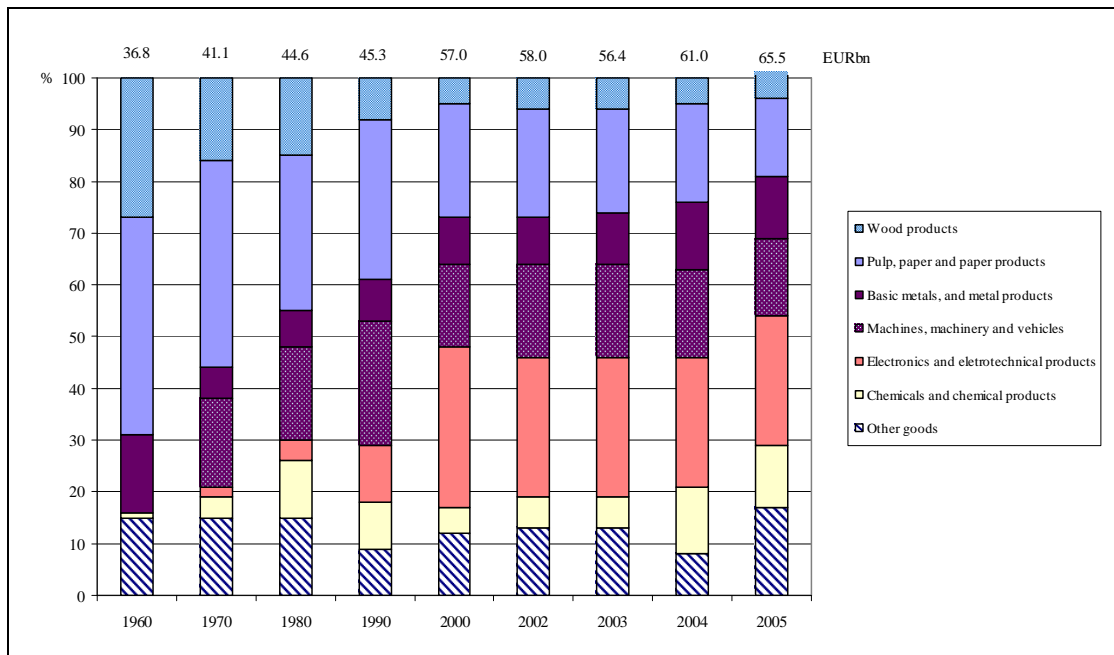
Source: The World Bank, Global Development Finance; OECD, External Debt Statistics; EIU Estimates (2005).

The figure presents the stock of official export credits, suppliers' credits and bank credits officially guaranteed or insured by an export credit agency among developing countries and countries in transition.



**Figure 4 Finnish exports of goods**

Source: Finnish National Board of Customs / TEKES.



**Table 2**      **Summary statistics**

This table shows statistics from the Finnvera database containing private guarantees collected for the period 1980-2004. Panel A of the table illustrates these guarantees by initiation year (and first default year). Panel B describes the study sample by the stock of all guarantees active during the period 1985-2004.

*Panel A: Guarantees by initiation year, 1980 – 2004*

<b>Year</b>	<b>Initiated guarantees</b>	<b>Defaults</b>	<b>(%)</b>
Before 1980	1169	54	6.0 %
1981	184	18	9.8 %
1982	265	22	8.3 %
1983	873	82	9.4 %
1984	890	86	9.7 %
1985	138	66	47.8 %
1986	430	62	14.4 %
1987	972	58	6.0 %
1988	829	75	9.0 %
1989	1 947	86	4.4 %
1990	2 004	36	1.8 %
1991	1 766	50	2.8 %
1992	2 347	67	2.9 %
1993	2 763	89	3.2 %
1994	2 615	76	2.9 %
1995	1 967	54	2.7 %
1996	1 795	53	3.0 %
1997	1 810	41	2.3 %
1998	1 146	32	2.8 %
1999	134	45	33.6 %
2000	124	14	11.3 %
2001	145	16	11.0 %
2002	120	11	9.2 %
2003	164	4	2.4 %
2004	128	6	4.7 %
2005	24	2	8.3 %
2006	2	-	-

*Panel B: Active guarantees per year, 1985-2004*

<b>Year</b>	<b>Active guarantees</b>	<b>Failed guarantees</b>	<b>(%)</b>
1985	1 568	157	10.0 %
1986	990	247	24.9 %
1987	1 751	1 052	60.1 %
1988	2 230	887	39.8 %
1989	3 358	484	14.4 %
1990	4 522	71	1.6 %
1991	5 818	78	1.3 %
1992	7 743	79	1.0 %
1993	9 576	99	1.0 %
1994	11 635	89	0.8 %
1995	12 093	64	0.5 %
1996	12 211	70	0.6 %
1997	11 330	52	0.5 %
1998	11 036	37	0.3 %
1999	9 499	50	0.5 %
2000	711	15	2.1 %
2001	578	18	3.1 %
2002	488	18	3.7 %
2003	509	11	2.2 %
2004	469	8	1.7 %
2005	329	6	1.8 %

**Table 3 Political risk by legal origin**

This table presents the means of the icrg-index, and its subcomponents: socioeconomic conditions, investment climate, internal- and external conflict, military in politics and ethnic tensions, by legal origin. The analysis covers 88 countries.

<b>ICRG</b>						
	<b>1985</b>	<b>1990</b>	<b>1995</b>	<b>2000</b>	<b>2003</b>	<b>2004</b>
English	59.0	57.8	70.2	69.8	70.9	72.0
French	60.0	59.7	67.6	67.8	68.9	69.5
German	75.4	74.0	71.9	71.7	74.7	73.3
Nordic	88.9	84.1	81.2	88.2	89.9	88.7
Socialist	78.5	76.3	77.2	80.4	77.7	77.8
T-Test, English vs French	-0.678	-0.865	1.01	0.587	0.567	0.759
<b>SOCEC</b>						
	<b>1985</b>	<b>1990</b>	<b>1995</b>	<b>2000</b>	<b>2004</b>	<b>2005</b>
English	6.3	6.4	6.6	5.9	6.6	
French	6.1	5.7	6.2	5.5	6.3	
German	8.4	6.6	6.8	6.1	7.2	
Nordic	8.0	6.8	6.2	8.8	9.8	
Socialist	8.7	6.9	6.8	7.8	7.2	
T-Test, English vs French	0.475	1.606	<b>1.778</b>	0.579	0.555	0.713
<b>INV</b>						
	<b>1985</b>	<b>1990</b>	<b>1995</b>	<b>2000</b>	<b>2003</b>	<b>2004</b>
English	6.6	6.1	6.1	8.0	9.5	9.8
French	6.1	5.8	5.7	7.8	9.2	9.2
German	8.5	6.7	6.1	8.6	11.0	11.1
Nordic	8.3	6.9	5.8	8.3	11.5	11.5
Socialist	9.1	6.5	6.3	9.3	11.2	11.2
T-Test, English vs French	0.92	0.395	1.538	0.345	0.696	1.061
<b>INTCON</b>						
	<b>1985</b>	<b>1990</b>	<b>1995</b>	<b>2000</b>	<b>2003</b>	<b>2004</b>
English	7.5	7.6	11.0	9.2	9.4	9.6
French	8.0	7.9	10.3	8.6	9.2	9.4
German	10.6	10.8	11.9	10.7	11.1	10.9
Nordic	12.0	11.8	12.0	11.5	11.2	10.9
Socialist	11.5	11.5	11.7	11.0	10.9	11.0
T-Test, English vs French	-0.886	-0.611	1.407	1.25		
<b>EXTCON</b>						
n	<b>1985</b>	<b>1990</b>	<b>1995</b>	<b>2000</b>	<b>2003</b>	<b>2004</b>
English	8.3	8.8	11.1	9.9	10.5	10.5
French	8.7	9.4	11.0	9.9	10.3	10.3
German	9.9	11.4	11.6	10.2	10.5	10.3
Nordic	11.5	12.0	11.0	11.2	11.1	10.9
Socialist	10.0	10.5	11.0	9.9	9.9	10.2
T-Test, English vs French	-0.538	-1.557	0.657	0.824	0.429	0.739
<b>MIL</b>						
	<b>1985</b>	<b>1990</b>	<b>1995</b>	<b>2000</b>	<b>2003</b>	<b>2004</b>
English	3.8	3.8	4.6	4.5	4.5	4.6
French	3.7	3.9	4.1	3.8	3.9	4.0
German	4.3	5.0	5.3	5.2	5.3	5.2
Nordic	6.0	6.0	6.0	6.0	5.9	5.9
Socialist	5.0	4.9	6.0	5.7	5.3	5.1
T-Test, English vs French	0.458	-0.049	1.317	<b>1.653</b>	1.391	1.56
<b>ETHNIC</b>						
	<b>1985</b>	<b>1990</b>	<b>1995</b>	<b>2000</b>	<b>2003</b>	<b>2004</b>
English	3.0	3.2	4.5	4.0	3.9	4.0
French	3.9	3.9	4.7	4.2	4.0	4.1
German	4.8	4.8	5.3	4.6	4.6	4.4
Nordic	6.0	6.0	5.9	5.5	4.9	4.9
Socialist	4.0	5.0	5.2	3.7	3.7	3.7
T-Test, English vs French	<b>-2.131</b>	<b>-1.705</b>	-0.962	-0.819	-0.182	-0.034

The T-Test reports the Mann-Whitney two-sample statistic. Bold figures = significant at 10%.

**Table 3 Political risk indices by legal origin (cont'd)**

This table presents the means of the icrg-subcomponents: democratic accountability and bureaucratic quality as well as the polity-index and credit quality index by legal origin. The analysis covers 88 countries.

<b>DEMOC</b>						
	<b>1985</b>	<b>1990</b>	<b>1995</b>	<b>2000</b>	<b>2003</b>	<b>2004</b>
English	3.5	3.3	4.0	3.8	4.1	4.2
French	3.8	3.8	4.1	4.1	4.3	4.5
German	4.2	4.3	4.8	5.1	5.1	5.1
Nordic	6.0	6.0	6.0	6.0	6.0	6.0
Socialist	5.0	5.2	5.0	5.6	5.5	5.6
T-Test, English vs French	-0.768	-1.549	-0.329	-0.161	-0.327	-0.433
<b>BURQ</b>						
	<b>1985</b>	<b>1990</b>	<b>1995</b>	<b>2000</b>	<b>2003</b>	<b>2004</b>
English	2.5	2.5	2.7	2.6	2.6	2.6
French	2.2	2.3	2.5	2.4	2.3	2.3
German	2.8	3.0	3.4	3.1	3.2	3.1
Nordic	3.9	3.9	4.0	4.0	4.0	4.0
Socialist	3.0	3.3	3.6	3.3	3.2	3.2
T-Test, English vs French	1.178	0.773	0.831	1.044	1.045	1.15
<b>POLITY</b>						
	<b>1985</b>	<b>1990</b>	<b>1995</b>	<b>2000</b>	<b>2003</b>	<b>2004</b>
English	-0.8	1.1	2.3	2.6	3.4	
French	0.1	3.3	3.5	4.5	4.5	
German	1.7	7.2	7.1	8.1	8.3	
Nordic	10.0	10.0	10.0	10.0	10.0	
Socialist	10.0	10.0	7.7	8.3	8.3	
T-Test, English vs French	-0.058	-1.066	-0.482	-0.755	-0.542	
<b>CREDIT</b>						
	<b>1985</b>	<b>1990</b>	<b>1995</b>	<b>2000</b>	<b>2003</b>	<b>2004</b>
English	3.4	3.4	3.4	3.4	3.4	3.3
French	3.6	3.6	3.6	3.6	3.6	3.5
German	4.3	4.3	4.1	4.1	4.1	4.0
Nordic	4.3	4.3	4.3	4.3	4.3	4.3
Socialist	5.5	5.5	4.3	4.3	4.3	4.3
T-Test, English vs French	-0.314	-0.314	-0.314	-0.314	-0.314	-0.282

The T-Test reports the Mann-Whitney two-sample statistic. Bold figures = significant at 10%.

**Table 4 Sectoral composition of sampled firms**

Source: Finnvera plc.

Countries included are Argentina, Chile, Colombia, Indonesia, Mexico, Peru, Philippines, Poland, Saudi Arabia, Singapore, Slovakia, South Africa, United Arab Emirates and Venezuela.

<b>Country</b>		<b>Firm years</b>	<b>Share of total</b>	<b>Default rate</b>
Wood, pulp and paper products	Default years	67	43.5 %	3.2 %
	Default-free years	2 102	35.9 %	
Chemical products	Default years	33	21.8 %	3.8 %
	Default-free years	866	35.8 %	
Metal and machinery	Default years	136	13.0 %	8.7 %
	Default-free years	1 566	6.3 %	
Electrotechnical products	Default years	18	2.3 %	3.8 %
	Default-free years	480	3.5 %	
Textile	Default years	12	12.0 %	8.0 %
	Default-free years	150	12.2 %	
Construction	Default years	13	7.4 %	3.7 %
	Default-free years	354	6.2 %	
Food products	Default years	6	7.4 %	22.2 %
	Default-free years	27	6.2 %	
Shipping	Default years		7.4 %	0.0 %
	Default-free years	3	6.2 %	
Other consumer durables	Default years	1	7.4 %	33.3 %
	Default-free years	3	6.2 %	
<b>TOTAL</b>		<b>286</b>		<b>5.2 %</b>
		<b>5 551</b>		

**Table 5 Descriptive statistics; firm financial ratios**

Source: Finnvera plc, Suomen Asiakastieto Oy, Firm financial statements.

This table shows sample statistics of the financial ratios used in the models. The sample period covers 1985-2005. Guarantees have been divided into two groups: those that do not experience a default event, *Non-default*, and those that eventually face financial troubles, *Default*.

Countries included are Argentina, Chile, Colombia, Indonesia, Mexico, Peru, Philippines, Poland, Saudi Arabia, Singapore, Slovakia, South Africa, United Arab Emirates and Venezuela.

Panel A. Non-Default								
	<b>n</b>	<b>mean</b>	<b>s.d.</b>	<b>min</b>	<b>0.25</b>	<b>mdn</b>	<b>0.75</b>	<b>max</b>
rev	824	1 156.4	3 415.9	0.0	10.0	41.1	195.0	17 846.8
ebitda	643	0.2	0.2	-1.3	0.1	0.2	0.2	0.7
profit	735	142.0	527.7	-47.1	0.2	1.3	13.0	2 740.0
wc	59	11.3	15.2	0.1	0.4	6.2	7.8	51.2
nw	363	24.6	86.6	-452.0	4.0	11.3	38.5	403.9
bal	381	76.4	146.8	0.0	9.1	31.6	69.3	1 022.4
liab	348	32.2	66.5	-1.4	5.5	13.8	29.5	452.0
equity	760	835.1	2 850.3	-31.3	3.4	20.6	138.9	13 337.0
solv	818	0.5	0.2	-0.5	0.3	0.5	0.6	1.2
debt	784	0.6	0.4	0.0	0.3	0.5	0.7	2.3
current	670	3.2	10.0	0.2	1.0	1.3	2.0	83.3
quick	221	1.1	0.4	0.4	0.8	0.9	1.3	2.4
Panel B. Default								
	<b>n</b>	<b>mean</b>	<b>s.d.</b>	<b>min</b>	<b>0.25</b>	<b>mdn</b>	<b>0.75</b>	<b>max</b>
rev	40	1 216.8	3 268.7	0.0	26.6	140.5	530.0	16 841.0
ebitda	28	0.1	0.3	-1.3	0.1	0.2	0.3	0.5
profit	34	27.6	37.4	-47.1	0.2	17.7	45.6	126.8
wc	2	7.8	0.0	7.8	7.8	7.8	7.8	7.8
nw	10	38.0	74.1	3.7	5.2	15.3	28.6	247.2
bal	7	49.6	39.6	5.7	22.1	44.6	104.1	104.1
liab	7	34.4	29.3	2.1	16.9	27.1	75.5	75.5
equity	33	313.0	522.6	-31.3	13.4	28.6	207.9	1 663.0
solv	38	0.3	0.3	-0.3	0.2	0.3	0.5	0.8
debt	35	0.9	0.5	0.0	0.6	0.6	1.5	1.5
current	28	1.7	2.1	0.2	1.0	1.0	1.3	8.9
quick	7	1.3	0.6	0.8	0.8	0.9	2.0	2.0

Panel C Correlation among firm financial ratios

	<b>rev_ta</b>	<b>prof_rev</b>	<b>ebitda</b>	<b>debt</b>	<b>current</b>	<b>quick</b>	<b>solv</b>
<b>rev_ta</b>	1						
<b>prof_rev</b>	0.825	1					
<b>ebitda</b>	0.052	0.348	1				
<b>debt</b>	-0.385	-0.298	-0.446	1			
<b>current</b>	-0.045	-0.028	-0.099	-0.283	1		
<b>quick</b>	0.037	0.185	0.374	-0.052	-0.093	1	
<b>solv</b>	0.011	0.167	0.161	-0.052	-0.294	0.179	1

**Table 6. Logit results for icrg index and the components - All countries**

This table presents logit regressions for the sample of 88 countries that have effective guarantees and icrg-data available. Robust standards errors are shown in parentheses

Model	m 1	m 2	m 3	m 4	m 5	m 6	m 7	m 8	m 9	m 10	m 11	m 12	m 13
<b>icrg</b>	-0.0381*** (0.00)												
<b>govstab</b>		0.116*** (0.01)	-0.0942*** (0.01)	-0.131*** (0.02)	-0.0286* (0.02)	-0.0254* (0.02)	-0.0263* (0.02)	-0.0376** (0.02)	-0.0386** (0.02)	-0.0152 (0.02)	-0.00738 (0.02)	-0.00537 (0.02)	0.00293 (0.02)
<b>socec</b>			0.493*** (0.02)	0.449*** (0.02)	0.546*** (0.02)	0.556*** (0.02)	0.541*** (0.02)	0.546*** (0.02)	0.548*** (0.02)	0.584*** (0.02)	0.565*** (0.02)	0.560*** (0.02)	0.603*** (0.02)
<b>inv</b>				0.0886*** (0.02)	-0.0427** (0.02)	-0.0224 (0.02)	0.000268 (0.02)	0.0335 (0.02)	0.0403* (0.02)	0.0243 (0.02)	0.0572*** (0.02)	0.0632*** (0.02)	0.0630*** (0.02)
<b>intcon</b>					-0.423*** (0.01)	-0.285*** (0.01)	-0.331*** (0.01)	-0.243*** (0.02)	-0.218*** (0.02)	-0.123*** (0.02)	-0.187*** (0.02)	-0.189*** (0.02)	-0.216*** (0.02)
<b>extcon</b>						-0.276*** (0.01)	-0.288*** (0.01)	-0.265*** (0.01)	-0.249*** (0.01)	-0.235*** (0.01)	-0.288*** (0.01)	-0.282*** (0.01)	-0.306*** (0.01)
<b>cor</b>							0.180*** (0.02)	0.267*** (0.02)	0.276*** (0.02)	0.353*** (0.03)	0.368*** (0.03)	0.391*** (0.03)	0.540*** (0.03)
<b>mil</b>								-0.280*** (0.03)	-0.262*** (0.03)	-0.166*** (0.03)	-0.124*** (0.03)	-0.117*** (0.03)	-0.0182 (0.03)
<b>religion</b>									-0.107*** (0.03)	-0.0921*** (0.03)	-0.235*** (0.03)	-0.231*** (0.03)	-0.226*** (0.03)
<b>law</b>										-0.387*** (0.03)	-0.384*** (0.03)	-0.369*** (0.03)	-0.288*** (0.03)
<b>ethnic</b>											0.351*** (0.02)	0.348*** (0.02)	0.321*** (0.02)
<b>demac</b>												-0.0556** (0.03)	0.104*** (0.03)
<b>burq</b>													-0.785*** (0.04)
<b>constant</b>	-0.433*** (0.12)	-4.276*** (0.08)	-6.175*** (0.10)	-6.220*** (0.10)	-2.221*** (0.11)	-0.867*** (0.12)	-1.194*** (0.13)	-1.469*** (0.13)	-1.535*** (0.13)	-1.961*** (0.13)	-2.175*** (0.13)	-2.172*** (0.13)	-1.652*** (0.14)
Log Likelihood	-14753	-14936	-14499	-14489	-13457	-13210	-13174	-13123	-13114	-13022	-12879	-12877	-12716
observations	105998	105998	105998	105998	105998	105998	105998	105998	105998	105998	105998	105998	105998
LR chi	511.0	145.1	1019.5	1038.7	3103.3	3596.5	3668.4	3770.0	3788.0	3973.0	4259.0	4263.8	4585.2
Prob > chi2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Pseudo R2	0.02	0.00	0.03	0.03	0.10	0.12	0.12	0.13	0.13	0.13	0.14	0.14	0.15

Note: \*\*\* = significant at the 1% level, \*\*=significant at the 5% level, \*=significant at the 10% level

**Table 7. Logit results for icrg index and the components - English legal origin**

This table presents logit regressions for the sample of 29 countries in the sample that are of English legal origin. Robust standards errors are shown in parentheses

Model	m 1	m 2	m 3	m 4	m 5	m 6	m 7	m 8	m 9	m 10	m 11	m 12	m 13
<b>icrg</b>	-0.0196*** (0.00)												
<b>govstab</b>		0.0558*** (0.02)	-0.282*** (0.03)	-0.384*** (0.03)	-0.436*** (0.03)	-0.274*** (0.04)	-0.294*** (0.04)	-0.292*** (0.04)	-0.306*** (0.04)	-0.251*** (0.04)	-0.295*** (0.04)	-0.295*** (0.04)	-0.292*** (0.04)
<b>socec</b>			0.682*** (0.05)	0.460*** (0.06)	0.496*** (0.05)	0.471*** (0.05)	0.517*** (0.06)	0.490*** (0.06)	0.541*** (0.06)	0.530*** (0.06)	0.602*** (0.06)	0.629*** (0.06)	0.623*** (0.06)
<b>inv</b>				0.359*** (0.05)	0.406*** (0.05)	0.307*** (0.05)	0.340*** (0.05)	0.383*** (0.05)	0.412*** (0.05)	0.395*** (0.05)	0.366*** (0.06)	0.282*** (0.06)	0.286*** (0.06)
<b>intcon</b>					-0.246*** (0.02)	-0.0692*** (0.02)	-0.148*** (0.03)	-0.0291 (0.03)	0.133*** (0.04)	0.244*** (0.04)	0.168*** (0.04)	0.226*** (0.04)	0.218*** (0.05)
<b>extcon</b>						-0.322*** (0.02)	-0.356*** (0.02)	-0.322*** (0.02)	-0.342*** (0.02)	-0.305*** (0.02)	-0.307*** (0.02)	-0.397*** (0.03)	-0.396*** (0.03)
<b>cor</b>							0.504*** (0.06)	0.610*** (0.06)	0.698*** (0.06)	0.651*** (0.06)	0.765*** (0.07)	0.483*** (0.07)	0.495*** (0.07)
<b>mil</b>								-0.303*** (0.06)	0.044 (0.07)	0.0676 (0.07)	0.133* (0.07)	0.213*** (0.08)	0.212*** (0.08)
<b>religion</b>									-0.608*** (0.05)	-0.519*** (0.05)	-0.669*** (0.05)	-0.615*** (0.06)	-0.609*** (0.06)
<b>law</b>										-0.460*** (0.05)	-0.607*** (0.05)	-0.836*** (0.06)	-0.831*** (0.06)
<b>ethnic</b>											0.393*** (0.06)	0.418*** (0.06)	0.429*** (0.07)
<b>demac</b>												0.354*** (0.05)	0.363*** (0.05)
<b>burq</b>													-0.059 (0.14)
<b>constant</b>	-1.631*** (0.24)	-3.508*** (0.14)	-6.160*** (0.24)	-6.434*** (0.25)	-4.184*** (0.28)	-2.923*** (0.27)	-4.656*** (0.34)	-5.222*** (0.36)	-6.363*** (0.36)	-6.065*** (0.34)	-6.336*** (0.35)	-5.669*** (0.36)	-5.590*** (0.40)
Log Likelihood	-3101	-3114	-2998	-2970	-2914	-2788	-2744	-2731	-2659	-2609	-2587	-2557	-2557
observations	17664	17664	17664	17664	17664	17664	17664	17664	17664	17664	17664	17664	17664
LR chi	35.5	8.4	239.9	296.6	408.5	659.6	747.9	773.7	919.5	1018.3	1063.1	1122.0	1122.3
Prob > chi2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Pseudo R2	0.00	0.00	0.04	0.05	0.06	0.11	0.12	0.12	0.14	0.16	0.17	0.18	0.18

Note: \*\*\* = significant at the 1% level, \*\*=significant at the 5% level, \*=significant at the 10% level

**Table 8. Logit results for icrg index and the components - French legal origin**

This table presents logit regressions for the sample of 35 countries in the sample that are of French legal origin. Robust standards errors are shown in parentheses

Model	m 1	m 2	m 3	m 4	m 5	m 6	m 7	m 8	m 9	m 10	m 11	m 12	m 13
<b>icrg</b>	-0.0644*** (0.00)												
<b>govstab</b>		0.0132 (0.02)	-0.0688*** (0.02)	0.229*** (0.03)	0.268*** (0.03)	0.238*** (0.03)	0.238*** (0.03)	0.200*** (0.03)	0.192*** (0.03)	0.193*** (0.03)	0.193*** (0.03)	0.194*** (0.03)	0.192*** (0.03)
<b>socec</b>			0.304*** (0.03)	0.706*** (0.04)	0.821*** (0.04)	0.954*** (0.04)	0.953*** (0.04)	0.938*** (0.04)	0.884*** (0.04)	0.887*** (0.04)	0.887*** (0.04)	0.886*** (0.04)	0.892*** (0.05)
<b>inv</b>				-0.639*** (0.04)	-0.617*** (0.04)	-0.605*** (0.04)	-0.605*** (0.04)	-0.548*** (0.04)	-0.499*** (0.04)	-0.494*** (0.04)	-0.494*** (0.04)	-0.492*** (0.04)	-0.490*** (0.04)
<b>intcon</b>					-0.465*** (0.01)	-0.307*** (0.02)	-0.307*** (0.02)	-0.206*** (0.02)	-0.140*** (0.02)	-0.111*** (0.03)	-0.112*** (0.03)	-0.110*** (0.03)	-0.117*** (0.03)
<b>extcon</b>						-0.336*** (0.02)	-0.336*** (0.02)	-0.336*** (0.02)	-0.254*** (0.02)	-0.247*** (0.02)	-0.247*** (0.02)	-0.245*** (0.02)	-0.253*** (0.02)
<b>cor</b>							0.00215 (0.04)	0.0854** (0.04)	0.205*** (0.04)	0.238*** (0.04)	0.237*** (0.04)	0.245*** (0.05)	0.259*** (0.05)
<b>mil</b>								-0.278*** (0.04)	-0.339*** (0.04)	-0.329*** (0.04)	-0.329*** (0.04)	-0.320*** (0.04)	-0.286*** (0.04)
<b>religion</b>									-0.346*** (0.05)	-0.344*** (0.05)	-0.345*** (0.05)	-0.339*** (0.05)	-0.328*** (0.05)
<b>law</b>									-0.106** (0.04)	-0.104** (0.05)	-0.102** (0.05)	-0.0939** (0.05)	
<b>ethnic</b>										0.00353 (0.03)	-0.00268 (0.03)	0.00642 (0.03)	
<b>demac</b>												-0.0328 (0.04)	0.00517 (0.05)
<b>burq</b>													-0.144** (0.07)
<b>Constant</b>	1.453*** (0.15)	-3.250*** (0.11)	-4.635*** (0.18)	-5.104*** (0.18)	-1.764*** (0.17)	-0.381** (0.19)	-0.382** (0.19)	-0.389** (0.19)	-0.310* (0.19)	-0.437** (0.19)	-0.440** (0.20)	-0.426** (0.20)	-0.407** (0.20)
Log Likelihood	-4644	-5018	-4965	-4848	-4128	-3981	-3981	-3954	-3926	-3923	-3923	-3923	-3920
observations	29433	29433	29433	29433	29433	29433	29433	29433	29433	29433	29433	29433	29433
LR chi	747.5	0.8	106.9	341.1	1781.2	2074.4	2074.4	2128.3	2184.3	2190.2	2190.3	2190.8	2195.4
Prob > chi2	0.00	0.38	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Pseudo R2	0.07	0.00	0.01	0.03	0.18	0.2067	0.2067	0.2121	0.2176	0.2182	0.2182	0.2183	0.2187

Note: \*\*\* = significant at the 1% level, \*\*=significant at the 5% level, \*=significant at the 10% level

**Table 9. Logit results for icrg index and the components - German legal origin**

This table presents logit regressions for the sample of 16 countries in the sample that are of German legal origin. Robust standards errors are shown in parentheses

Model	m 1	m 2	m 3	m 4	m 5	m 6	m 7	m 8	m 9	m 10	m 11	m 12	m 13
<b>icrg</b>	0.0499*** (0.01)												
<b>govstab</b>		0.218*** (0.03)	-0.302*** (0.04)	-0.373*** (0.05)	-0.0916* (0.05)	-0.157*** (0.05)	-0.153*** (0.06)	-0.135** (0.06)	-0.126** (0.06)	-0.0878 (0.06)	-0.0535 (0.06)	-0.0586 (0.06)	-0.0368 (0.06)
<b>socec</b>			1.277*** (0.05)	1.119*** (0.06)	0.908*** (0.06)	0.934*** (0.06)	0.841*** (0.06)	0.820*** (0.06)	0.928*** (0.06)	0.914*** (0.06)	1.019*** (0.07)	0.761*** (0.07)	0.797*** (0.07)
<b>inv</b>				0.213*** (0.06)	0.0526 (0.06)	0.107** (0.05)	0.195*** (0.06)	0.229*** (0.07)	0.157** (0.07)	0.158** (0.07)	0.149** (0.06)	0.427*** (0.08)	0.397*** (0.08)
<b>intcon</b>					-0.820*** (0.07)	-0.585*** (0.08)	-0.710*** (0.09)	-0.741*** (0.09)	-0.928*** (0.10)	-0.816*** (0.10)	-0.678*** (0.10)	-0.914*** (0.10)	-0.865*** (0.10)
<b>extcon</b>						-0.318*** (0.07)	-0.572*** (0.09)	-0.277** (0.11)	-0.300*** (0.12)	-0.119 (0.13)	-0.0635 (0.13)	0.0348 (0.13)	-0.0183 (0.12)
<b>cor</b>							0.514*** (0.10)	0.605*** (0.10)	0.739*** (0.11)	0.847*** (0.12)	1.056*** (0.12)	1.629*** (0.11)	1.534*** (0.13)
<b>mil</b>								-0.489*** (0.10)	0.0521 (0.12)	0.0388 (0.12)	-0.11 (0.12)	0.13 (0.11)	0.409*** (0.13)
<b>religion</b>									-1.334*** (0.13)	-1.315*** (0.13)	-1.614*** (0.14)	-1.629*** (0.14)	-1.218*** (0.18)
<b>law</b>									-0.457*** (0.15)	-0.516*** (0.15)	-0.0712 (0.16)	-0.165 (0.16)	
<b>ethnic</b>											-0.629*** (0.11)	-0.467*** (0.12)	-0.404*** (0.12)
<b>demac</b>												-1.161*** (0.09)	-1.024*** (0.10)
<b>burq</b>													-0.901*** (0.23)
<b>Constant</b>	-7.973*** (0.84)	-5.568*** (0.23)	-11.21*** (0.35)	-11.08*** (0.36)	-1.105 (0.87)	-0.142 (0.89)	1.612* (0.94)	0.635 (0.98)	6.528*** (1.11)	4.945*** (1.21)	6.820*** (1.24)	6.859*** (1.20)	6.093*** (1.17)
Log Likelihood	-2502	-2481	-1985	-1977	-1901	-1891	-1877	-1867	-1816	-1811	-1796	-1719	-1712
observations	24710	24710	24710	24710	24710	24710	24710	24710	24710	24710	24710	24710	24710
LR chi	25.3	66.6	1059.7	1074.8	1228.0	1246.8	1274.2	1294.9	1396.5	1406.3	1436.7	1590.8	1605.5
Prob > chi2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Pseudo R2	0.01	0.01	0.21	0.21	0.24	0.2479	0.2534	0.2575	0.2777	0.2796	0.2857	0.3163	0.3192

Note: \*\*\* = significant at the 1% level, \*\*=significant at the 5% level, \*=significant at the 10% level

**Table 10. Logit results for icrg index and the components - Nordic legal origin**

This table presents logit regressions for the sample of 4 countries in the sample that are of Nordic legal origin. Robust standards errors are shown in parentheses

Model	m 1	m 2	m 3	m 4	m 5	m 6	m 7	m 8	m 9	m 10	m 11	m 12	m 13
<b>icrg</b>	0.265*** (0.01)												
<b>govstab</b>		0.473*** (0.02)	0.521*** (0.04)	0.294*** (0.04)	0.380*** (0.05)	0.474*** (0.05)	0.563*** (0.05)	0.572*** (0.05)	0.573*** (0.05)	0.573*** (0.05)	0.891*** (0.05)	0.891*** (0.05)	1.101*** (0.05)
<b>socec</b>			-0.0728 (0.05)	-0.301*** (0.05)	-0.191*** (0.06)	-0.265*** (0.06)	-0.0971 (0.07)	-0.121 (0.07)	-0.122* (0.07)	-0.122* (0.07)	-0.117 (0.09)	-0.117 (0.09)	-0.426*** (0.09)
<b>inv</b>				0.569*** (0.05)	0.374*** (0.06)	0.390*** (0.06)	0.366*** (0.06)	0.379*** (0.06)	0.379*** (0.06)	0.379*** (0.06)	0.0877 (0.08)	0.0877 (0.08)	0.108 (0.07)
<b>intcon</b>					-0.820*** (0.08)	-0.704*** (0.08)	-0.494*** (0.09)	-0.480*** (0.09)	-0.480*** (0.09)	-0.480*** (0.09)	0.126 (0.09)	0.126 (0.09)	-0.577*** (0.11)
<b>extcon</b>						0.253*** (0.06)	-0.678*** (0.06)	-0.684*** (0.06)	-0.684*** (0.06)	-0.684*** (0.06)	-0.402*** (0.06)	-0.402*** (0.06)	-0.558*** (0.07)
<b>cor</b>							9.028*** (0.80)	5.584*** (0.77)	5.835*** (0.90)	5.835*** (0.90)	2.108** (1.07)	2.108** (1.07)	2.431** (1.02)
<b>mil</b>								10.19*** (2.80)	9.700*** (2.96)	9.700*** (2.96)	1.094 (3.20)	1.094 (3.20)	4.048 (3.14)
<b>religion</b>									-2.536 (3.33)	-2.536 (3.33)	-2.267 (4.73)	-2.267 (4.73)	-3.714 (4.02)
<b>ethnic</b>											4.449*** (0.37)	4.449*** (0.37)	3.488*** (0.35)
<b>burq</b>													-3.807*** (0.22)
<b>Constant</b>	-26.12*** (1.00)	-7.284*** (0.19)	-7.131*** (0.22)	-7.708*** (0.24)	1.783* (0.92)	-2.865* (1.47)	-50.07*** (5.01)	-90.66*** (15.00)	-73.99*** (27.20)	-73.99*** (27.20)	-38.75 (35.70)	-38.75 (35.70)	-18.77 (31.60)
Log Likelihood	-3815	-3893	-3891	-3834	-3782	-3773	-3506	-3500	-3500	-3500	-3211	-3211	-3060
observations	32951	32951	32951	32951	32951	32951	32951	32951	32951	32951	32951	32951	32951
LR chi	619	463	466	580	686	702	1238	1249	1249	1249	1827	1827	2128
Prob > chi2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Pseudo R2	0.08	0.06	0.06	0.07	0.08	0.09	0.15	0.15	0.15	0.15	0.22	0.22	0.26

Note: law and order and democratic accountability dropped due to collinearity

Note: \*\*\* = significant at the 1% level, \*\*=significant at the 5% level, \*=significant at the 10% level

**Table 11. Logit results for icrg index and the components - Socialist legal origin**

This table presents logit regressions for the sample of 4 countries in the sample that are of Socialist legal origin. Robust standards errors are shown in parentheses

Model	m 1	m 2	m 3	m 4	m 5	m 6	m 7	m 8	m 9	m 10	m 11	m 12	m 13
<b>icrg</b>	-0.000603 (0.03)												
<b>govstab</b>		-0.084 (0.12)	-0.0597 (0.13)	0.520** (0.21)	0.841*** (0.32)	1.164** (0.46)	1.179** (0.53)	1.185** (0.53)	1.096** (0.51)	1.092** (0.51)	1.109** (0.53)	27.44 (338.00)	8.984 (823.00)
<b>socec</b>			0.328* (0.19)	1.343*** (0.31)	1.397*** (0.33)	1.308*** (0.35)	1.319*** (0.39)	1.341*** (0.39)	1.338*** (0.40)	1.286* (0.72)	1.327* (0.75)	-45.23 (352.00)	-46.04 (988.00)
<b>inv</b>				-1.128*** (0.32)	-1.365*** (0.35)	-1.784*** (0.53)	-1.801*** (0.59)	-1.862*** (0.62)	-1.679*** (0.59)	-1.667*** (0.61)	-1.751** (0.74)	34.44 (250.00)	49.92 (1130.00)
<b>intcon</b>					0.655** (0.29)	1.198** (0.49)	1.188** (0.52)	1.223** (0.54)	0.623 (0.78)	0.634 (0.79)	0.643 (0.81)	-21.5 (439.00)	-26.36 (665.00)
<b>extcon</b>						-0.814 (0.50)	-0.812 (0.50)	-0.819 (0.51)	-0.271 (0.79)	-0.318 (0.97)	-0.26 (1.00)	56.28 (819.00)	51.72 (702.00)
<b>cor</b>							0.0218 (0.34)	-0.0333 (0.36)	0.181 (0.44)	0.166 (0.47)	0.178 (0.49)	90.64 (579.00)	95.52 (386.00)
<b>mil</b>								0.267 (0.81)	0.535 (0.95)	0.506 (1.01)	0.71 (1.40)	-100.6 (1205.00)	-59.43 (0.00)
<b>religion</b>									-0.643 (0.74)	-0.619 (0.79)	-0.57 (0.83)	36.68 (869.00)	-3.753 (534.00)
<b>law</b>										0.137 (1.58)	0.246 (1.64)	218.6 (0.00)	131.1 (1774.00)
<b>ethnic</b>											-0.266 (1.27)	-114.4 (1575.00)	-57.16 (0.00)
<b>demac</b>												-133.6 (622.00)	-61.88 (968.00)
<b>burq</b>													-92.64 (0.00)
<b>Constant</b>	-4.178* (2.18)	-3.422*** (1.17)	-5.283*** (1.63)	-7.376*** (1.55)	-15.48*** (4.71)	-11.99** (5.31)	-12.04** (5.37)	-13.03** (6.44)	-11.91* (6.89)	-11.80* (7.01)	-13.07 (9.35)	-685.8 (7538.00)	-468.1 (0.00)
Log Likelihood	-94	-94	-92	-85	-81	-80	-80	-80	-79	-79	-79	-56	-56
observations	1240	1240	1240	1240	1240	1240	1240	1240	1240	1240	1240	1240	1240
LR chi	0	0	4	19	26	29	29	29	29	29	30	75	75
Prob > chi2	1.0	0.5	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Pseudo R2	0.00	0.00	0.02	0.10	0.14	0.15	0.15	0.15	0.16	0.16	0.16	0.40	0.40

Note: \*\*\* = significant at the 1% level, \*\*=significant at the 5% level, \*=significant at the 10% level

**Table 12. Logit results - Firm financial variables**

This table presents logit regressions using the study sample of 14 countries. The dependent variable is the binary indicator of whether the guarantee is considered as default during the year in consideration. All explanatory variables are lagged by one year. Robust standards errors are shown in parentheses

Model	Profitability				Indebtness				Combined		
	m1	m2	m3	m4	m5	m6	m7	m8	m9	m10	m11
<b>size</b>	0.137** (0.07)										
<b>rev_ta</b>		-0.794 (0.68)	-0.832 (0.71)	-0.678 (0.72)					-1.078 (0.98)	-3.064** (1.49)	-3.052** (1.47)
<b>ebitda</b>			-3.123 (3.43)	4.662 (3.98)					3.777 (3.86)	-9.901 (6.40)	-10.17 (6.96)
<b>prof_rev</b>				-21.64** (8.89)					-25.56*** (9.61)	-7.189 (6.68)	-6.961 (6.77)
<b>debt</b>					1.562*** (0.31)	1.296*** (0.33)	1.662*** (0.40)	6.117** (2.85)	-2.573 (2.12)	-0.627 (3.11)	-0.679 (3.21)
<b>solv</b>						-1.622** (0.76)	-3.587*** (1.02)	-16.13*** (5.58)		-18.00** (7.55)	-18.01** (7.52)
<b>current</b>							-0.0289 (0.04)	0.159 (0.97)			-0.0777 (0.86)
<b>quick</b>								0.721 (0.88)			
<b>Constant</b>	-3.622*** (-0.36)	-2.941*** (-0.85)	-2.321** (-1.07)	-2.939*** (-1.12)	-4.204*** (-0.32)	-3.381*** (-0.48)	-2.887*** (-0.56)	-1.838 (-1.74)	-0.961 (-2.15)	7.930* (-4.30)	8.055* (-4.49)
Log Likelihood	-155	-34	-33	-28	-134	-132	-98	-20	-27	-20	-20
observations	823	383	327	327	819	819	696	228	320	320	320
LR chi	4.3	2.2	2.3	11.7	21.3	25.7	39.3	22.3	13.0	28.1	28.1
Prob > chi2	0.04	0.14	0.31	0.01	0.00	0.00	0.00	0.00	0.01	0.00	0.00
Pseudo R2	0.01	0.03	0.03	0.17	0.07	0.0887	0.1675	0.3557	0.1928	0.4171	0.4173

Note: \*\*\* = significant at the 1% level, \*\*=significant at the 5% level, \*=significant at the 10% level

**Table 13. Logit results - Firm financial variables and the ICRG Index**

This table presents logit regressions using the study sample of 14 countries. The dependent variable is the binary indicator of whether the guarantee is considered as default during the year in consideration. All explanatory variables are lagged by one year. Robust standards errors are shown in parentheses

Model	Profitability				Indebtness				Combined		
	m1	m2	m3	m4	m5	m6	m7	m8	m9	m10	m11
<b>size</b>	0.146** (0.07)										
<b>rev_ta</b>		-0.784 (0.68)	-0.842 (0.71)	-0.776 (0.80)					-1.151 (1.03)	-3.200** (1.55)	-3.197** (1.53)
<b>ebitda</b>			-3.313 (3.48)	4.512 (3.86)					3.622 (3.76)	-9.436 (6.54)	-9.673 (7.20)
<b>prof_rev</b>				-22.52*** (8.67)					-25.73*** (9.21)	-7.274 (6.95)	-7.069 (7.14)
<b>debt</b>					1.177*** (0.35)	1.116*** (0.38)	1.389*** (0.45)	5.678* (2.91)	-2.28 (2.06)	-0.649 (3.20)	-0.696 (3.31)
<b>solv</b>						-0.379 (0.85)	-2.542** (1.16)	-17.08*** (5.77)		-18.30** (7.58)	-18.32** (7.57)
<b>current</b>							-0.0585 (0.04)	0.125 (1.06)			-0.0637 (0.85)
<b>quick</b>								0.744 (0.89)			
<b>icrg</b>	-0.103*** (0.02)	0.0136 (0.07)	-0.0171 (0.07)	-0.081 (0.08)	-0.0769*** (0.02)	-0.0742*** (0.02)	-0.0918*** (0.02)	0.111 (0.15)	-0.07 (0.08)	0.0492 (0.14)	0.049 (0.15)
<b>Constant</b>	3.010*** (1.09)	-3.933 (4.87)	-1.028 (5.41)	3.142 (6.26)	0.939 (1.15)	0.965 (1.15)	2.892** (1.43)	-9.354 (10.10)	4.138 (6.43)	4.546 (10.60)	4.675 (10.80)
Log Likelihood	-128	-34	-33	-28	-114	-113	-81	-20	-27	-20	-20
observations	813	381	325	325	807	807	685	227	318	318	318
LR chi	38.3	2.2	2.4	12.5	42.2	42.4	59.5	22.9	13.6	28.2	28.2
Prob > chi2	0.00	0.33	0.49	0.01	0.00	0.00	0.00	0.00	0.02	0.00	0.00
Pseudo R2	0.13	0.03	0.04	0.19	0.16	0.1574	0.2689	0.3658	0.2019	0.4185	0.4186

Note: \*\*\* = significant at the 1% level, \*\*=significant at the 5% level, \*=significant at the 10% level

**Table 14. Logit results - Firm financial variables and selected ICRG components.**

This table presents logit regressions using the study sample of 14 countries. The dependent variable is the binary indicator of whether the guarantee is considered as default during the year in consideration. All explanatory variables are lagged by one year. Robust standards errors are shown in parentheses

Model	Profitability				Indebtness				Combined		
	m1	m2	m3	m4	m5	m6	m7	m8	m9	m10	m11
<b>size</b>	(0.13)							n.m.	n.m.	n.m.	n.m.
	(0.08)										
<b>rev_ta</b>		-0.579	-0.459	-0.768							
		(0.67)	(0.61)	(0.95)							
<b>ebitda</b>			-0.875	18.56**							
			(3.96)	(7.34)							
<b>prof_rev</b>				-38.93***							
				(13.00)							
<b>debt</b>					2.040***	2.121***	1.761**				
					(0.55)	(0.60)	(0.77)				
<b>solv</b>						0.378	-3.455**				
						(1.09)	(1.75)				
<b>current</b>							-0.0477				
							(0.04)				
<b>quick</b>											
<b>govstab</b>	-0.0993	-0.624	-1.015*	-1.462*	-0.0348	-0.0368	-0.0751				
	(0.12)	(0.42)	(0.53)	(0.75)	(0.13)	(0.13)	(0.16)				
<b>socec</b>	-0.370**	0.0589	0.613	0.673	-0.0839	-0.0825	0.00513				
	(0.18)	(0.73)	(0.89)	(1.17)	(0.19)	(0.19)	(0.26)				
<b>inv</b>	-0.446***	0.108	0.287	0.459	-0.448**	-0.456**	-0.565**				
	(0.16)	(0.43)	(0.48)	(0.55)	(0.19)	(0.19)	(0.24)				
<b>intcon</b>	-0.168	-0.141	-0.977	-1.714	-0.167	-0.181	-0.278				
	(0.13)	(0.54)	(0.91)	(1.26)	(0.15)	(0.15)	(0.18)				
<b>extcon</b>	-0.341**	-0.843	-1.232	-1.138	-0.656***	-0.648***	-0.345				
	(0.16)	(0.74)	(0.92)	(1.18)	(0.23)	(0.23)	(0.29)				
<b>mil</b>	0.399	-0.461	0.0351	0.401	0.299	0.32	-0.378				
	(0.25)	(0.80)	(1.03)	(1.42)	(0.24)	(0.25)	(0.36)				
<b>religion</b>	-0.511***	3.359*	5.478*	8.077**	-0.320*	-0.339*	-0.252				
	(0.16)	(2.04)	(3.23)	(3.88)	(0.17)	(0.17)	(0.21)				
<b>demac</b>	0.832***	1.695	2.407	0.131	1.156***	1.169***	1.323***				
	(0.29)	(1.41)	(1.81)	(1.80)	(0.33)	(0.33)	(0.42)				
<b>burq</b>	-0.087	2.026*	0.382	0.548	-0.22	-0.218	1.082*				
	(0.35)	(1.19)	(1.67)	(2.21)	(0.38)	(0.38)	(0.62)				
<b>constant</b>	4.451**	-19.72	-21.72	-20.98	3.089	2.918	1.208				
	(1.84)	(14.60)	(16.50)	(17.30)	(2.20)	(2.25)	(3.13)				
Log Likelihood	-111	-26	-25	-18	-96	-66	0				
observations	813	381	325	325	807	685	227				
LR chi	73.0	17.4	17.6	30.8	77.3	89.4	62.5				
Prob > chi2	0.00	0.07	0.09	0.00	0.00	0.00	0.00				
Pseudo R2	0.25	0.25	0.26	0.46	0.29	0.4043	1				

Note: \*\*\* = significant at the 1% level, \*\*=significant at the 5% level, \*=significant at the 10% level

**APPENDIX A.**
**Guarantee statistics by country**

Source: Finnvera plc, Helsinki Finland

This table lists the total number of active guarantees (Column 1) and total number of indemnified guarantees (Column 2) during the data collection period 1980-2004, with the corresponding default rate (Column 3). Firm years for the active healthy and default guarantees during the sample period 1985-2005 are shown in Columns 3-4. The corresponding liability and indemnification figures are presented in Columns 5 and 6.

Country	Finnvera Database 1970-2005			Study sample 1985-2005				
	Guarantees n	Defaults n	Default rate %	Guarantees firm years	Defaults firm years	Default rate (firm year) %	Avg liability (mUSD)	Avg indemnity (mUSD)
Algeria	4	0	-	7	3	-	1 108 563	-
Andorra*	11	1	9.1 %	45	2	4.4 %	26 134	904
<b>Argentina</b>	<b>296</b>	<b>21</b>	<b>7.1 %</b>	<b>831</b>	<b>47</b>	<b>5.7 %</b>	<b>724 954</b>	<b>508 348</b>
Australia	155	5	3.2 %	622	32	5.1 %	1 510 286	457 698
Austria	682	31	4.5 %	2 960	99	3.3 %	453 142	16 747
Bahamas	6	1	16.7 %	37	9	24.3 %	14 162 798	9 474
Bahrain	6	0	-	28	2	-	140 445	-
Bangladesh	1	0	-	1	-	-	13 937	-
Barbados*	7	0	-	12	4	-	312 437	-
Belgium	390	17	4.4 %	1 631	39	2.4 %	86 771	18 965
Benin*	3	1	33.3 %	1	-	0.0 %	49 203	18 057
Bolivia	1	0	-	-	-	-	25 620	-
Brazil	185	6	3.2 %	689	41	6.0 %	3 265 145	146 864
Bulgaria	14	1	7.1 %	47	2	4.3 %	433 011	1 279 929
Cameroon	7	0	-	25	6	-	3 769 334	-
Canada	339	16	4.7 %	1 386	52	3.8 %	317 690	41 578
Cayman Islands *	5	3	60.0 %	29	14	48.3 %	19 200 681	2 283 487
<b>Chile</b>	<b>144</b>	<b>3</b>	<b>2.1 %</b>	<b>580</b>	<b>43</b>	<b>7.4 %</b>	<b>2 461 337</b>	<b>113 988</b>
China	30	6	20.0 %	120	13	10.8 %	3 258 264	1 679 399
<b>Colombia</b>	<b>151</b>	<b>7</b>	<b>4.6 %</b>	<b>521</b>	<b>32</b>	<b>6.1 %</b>	<b>669 900</b>	<b>286 901</b>
Costa Rica	5	0	-	16	-	-	93 042	-
Croatia	5	0	-	13	-	-	43 521	-
Cuba	2	0	-	2	-	-	1 199 934	-
Cyprus	56	1	1.8 %	206	14	6.8 %	376 677	45 990
Czech Republic	170	2	1.2 %	551	2	0.4 %	64 570	11 136
Czechoslovakia (form)	7	0	-	21	5	-	9 183 501	-
Côte d'Ivoire	18	1	5.6 %	29	6	20.7 %	83 554	2 611
Denmark	1 246	71	5.7 %	5 055	147	2.9 %	156 716	45 116
Dominican Republic	1	0	-	3	-	-	108 600 000	-
East Germany (form)	175	0	-	413	171	-	2 613 354	-
Ecuador	13	3	23.1 %	26	3	11.5 %	583 788	104 615
Egypt	36	3	8.3 %	67	12	17.9 %	1 345 798	139 160
Estonia	215	5	2.3 %	799	6	0.8 %	232 894	37 880
France	1 398	62	4.4 %	5 569	162	2.9 %	701 195	72 483
Gabon	8	0	-	26	4	-	1 032 996	-
Germany	3 123	125	4.0 %	14 898	153	1.0 %	122 623	166 545
Ghana	5	0	-	9	-	-	1 198 048	-
Gibraltar*	1	0	-	1	-	-	37 423	-
Greece	423	17	4.0 %	1 880	90	4.8 %	1 201 246	262 899
Guadeloupe*	3	0	-	9	3	-	570 744	-
Guatemala	2	1	50.0 %	1	-	0.0 %	425 000	6 649
Guyana	2	0	-	4	2	-	3 552	-
Hong Kong	266	3	1.1 %	847	31	3.7 %	133 622	65 205
Hungary	175	3	1.7 %	639	6	0.9 %	147 548	33 387
Iceland	145	6	4.1 %	507	28	5.5 %	97 764	6 129
India	60	0	-	219	3	-	2 941 913	-
<b>Indonesia</b>	<b>36</b>	<b>13</b>	<b>36.1 %</b>	<b>173</b>	<b>37</b>	<b>21.4 %</b>	<b>12 286 634</b>	<b>5 063 038</b>
Ireland	158	10	6.3 %	605	39	6.4 %	165 970	275 956
Israel	267	3	1.1 %	1 253	43	3.4 %	411 487	15 167
Italy	1 639	79	4.8 %	6 719	176	2.6 %	230 785	70 991
Jamaica	4	0	-	20	-	-	7 146 927	-
Japan	107	5	4.7 %	429	9	2.1 %	209 294	13 141
Jordan	30	0	-	52	14	-	850 962	-
Kenya	28	1	3.6 %	66	14	21.2 %	4 427 723	1 287 436
Korea	51	4	7.8 %	144	12	8.3 %	1 752 708	179 684
Kuwait	18	2	11.1 %	70	10	14.3 %	102 971	47 168
Latvia	60	0	-	211	-	-	669 232	-
Lebanon	92	0	-	76	32	-	269 407	-
Libya	2	0	-	4	-	-	331 672	-
Liechtenstein*	6	0	-	12	1	-	57 806	-

\*) No data available from the International Country Risk Guide

## APPENDIX A.

## Guarantee statistics by country (cont'd)

Source: Finnvera plc, Helsinki Finland

Country	Finnvera Database 1970-2005			Study sample 1985-2005				
	Guarantees n	Defaults n	Default rate %	Guarantees firm years	Defaults firm years	Default rate (firm year) %	Avg liability (mUSD)	Avg indemnity (mUSD)
Lithuania	53	1	1.9 %	167	1	0.6 %	41 394	7 249
Luxembourg	15	0	-	68	3	-	80 434	-
Malaysia	73	1	1.4 %	253	21	8.3 %	441 562	314 644
Malta	21	0	-	62	4	-	388 047	-
Martinique*	3	0	-	9	3	-	1 062 985	-
Mauritius*	2	0	-	9	1	-	1 107 096	-
<b>Mexico</b>	<b>113</b>	<b>10</b>	<b>8.8 %</b>	<b>376</b>	<b>19</b>	<b>5.1 %</b>	<b>8 599 648</b>	<b>54 933</b>
Monaco*	4	1	25.0 %	9	2	22.2 %	15 924	3 757
Mongolia	1	0	-	2	1	-	2 280 184	-
Morocco	98	1	1.0 %	186	47	25.3 %	1 016 869	40 755
Netherlands	1 063	34	3.2 %	4 417	113	2.6 %	211 682	19 277
Netherlands Antilles*	2	1	50.0 %	8	7	87.5 %	9 000	14 566 800
New Zealand	32	0	-	107	7	-	189 567	-
Nicaragua	1	0	-	4	-	-	-	-
Nigeria	56	13	23.2 %	336	4	1.2 %	955 996	168 069
Norway	2 196	126	5.7 %	9 024	317	3.5 %	815 237	75 299
Oman	4	0	-	13	2	-	13 933	-
Pakistan	6	0	-	20	-	-	16 706 997	-
Panama	6	0	-	10	2	-	1 720 630	-
Peru	84	5	6.0 %	181	16	8.8 %	2 027 541	822 083
<b>Philippines</b>	<b>29</b>	<b>1</b>	<b>3.4 %</b>	<b>129</b>	<b>3</b>	<b>2.3 %</b>	<b>43 471 247</b>	<b>3 233 517</b>
<b>Poland</b>	<b>469</b>	<b>9</b>	<b>1.9 %</b>	<b>1 707</b>	<b>9</b>	<b>0.5 %</b>	<b>615 205</b>	<b>66 908</b>
Portugal	411	11	2.7 %	1 609	66	4.1 %	582 248	38 235
Puerto Rico*	5	0	-	19	-	-	383 246	-
Romania	6	0	-	17	-	-	1 250 878	-
Russia	332	12	3.6 %	814	11	1.4 %	2 319 783	186 871
Réunion*	2	0	-	8	-	-	17 330	-
San Marino*	4	0	-	16	-	-	31 617	-
<b>Saudi-Arabia</b>	<b>146</b>	<b>6</b>	<b>4.1 %</b>	<b>374</b>	<b>44</b>	<b>11.8 %</b>	<b>626 115</b>	<b>197 159</b>
Senegal	4	1	25.0 %	26	9	34.6 %	1 792 175	850 252
<b>Singapore</b>	<b>71</b>	<b>2</b>	<b>2.8 %</b>	<b>233</b>	<b>5</b>	<b>2.1 %</b>	<b>157 370</b>	<b>24 913</b>
<b>Slovakia</b>	<b>43</b>	<b>1</b>	<b>2.3 %</b>	<b>154</b>	<b>1</b>	<b>0.6 %</b>	<b>287 348</b>	<b>60 024</b>
Slovenia	44	0	-	149	-	-	61 375	-
<b>South Africa</b>	<b>55</b>	<b>2</b>	<b>3.6 %</b>	<b>186</b>	<b>2</b>	<b>1.1 %</b>	<b>366 553</b>	<b>115 318</b>
Spain	550	29	5.3 %	2 200	104	4.7 %	541 718	83 550
Swaziland*	3	0	-	10	-	-	3 918 350	-
Sweden	4 217	212	5.0 %	18 899	460	2.4 %	483 840	75 752
Switzerland	548	9	1.6 %	2 428	50	2.1 %	114 853	24 083
Taiwan	34	1	2.9 %	98	9	9.2 %	290 869	221 477
Tanzania	2	2	100.0 %	7	7	100.0 %	-	1 830 802
Thailand	63	1	1.6 %	172	15	8.7 %	10 646 762	2 062 091
Trinidad and Tobago	2	0	-	8	-	-	28 106	-
Tunisia	50	0	-	107	45	-	203 720	-
Turkey	303	4	1.3 %	1 094	54	4.9 %	1 504 581	956 534
USA	857	67	7.8 %	2 557	188	7.4 %	3 405 976	889 505
Ukraine	7	0	-	18	-	-	82 479	-
<b>United Arab Emirates</b>	<b>36</b>	<b>3</b>	<b>8.3 %</b>	<b>103</b>	<b>14</b>	<b>13.6 %</b>	<b>980 610</b>	<b>183 015</b>
United Kingdom	2 014	89	4.4 %	8 289	236	2.8 %	447 935	81 575
Uruguay	25	0	-	146	-	-	1 357 952	-
<b>Venezuela</b>	<b>67</b>	<b>7</b>	<b>10.4 %</b>	<b>289</b>	<b>14</b>	<b>4.8 %</b>	<b>590 741</b>	<b>340 335</b>
Virgin Islands (UK)*	2	0	-	11	-	-	5 199 882	-
Yemen	5	0	-	14	-	-	436 467	-
Yugoslavia (former)*	12	1	8.3 %	66	1	1.5 %	3 358 156	49 641
Zambia	4	4	100.0 %	8	-	0.0 %	-	271 017
Zimbabwe	1	0	-	2	-	-	70 000	-
<b>Total</b>	<b>26 751</b>	<b>1 206</b>	<b>4.5 %</b>	<b>108 444</b>	<b>3 592</b>	<b>3.3 %</b>	<b>3 012 540</b>	<b>628 385</b>

\*) No data available from the International Country Risk Guide

## APPENDIX B. Description of Political Risk Variables

### 1) Political risk rating by the ICRG

Source: The ICRG Researchers Dataset (April, 2005), The Political Risk Services (PRS) Group.

Risk Component and the derivation	Weight	Short name
i. Government Stability Government unity, legislative strength and popular support.	(12)	<b>govstab</b>
ii. Socioeconomic Conditions Unemployment, consumer confidence and poverty.	(12)	<b>socec</b>
iii) Investment Profile Contract viability, expropriation, profits repatriation and payment delays.	(12)	<b>invest</b>
iv) Internal conflict Civil war, terrorism/political violence and civil disorder.	(12)	<b>intcon</b>
v) External Conflict Function of war, cross-border conflict and foreign pressures.	(12)	<b>extcon</b>
vi) Corruption Length of time a government has been in power continuously.	(6)	<b>cor</b>
vii) Military in Politics .	(6)	<b>mil</b>
viii) Religious Tensions Degree of religious freedom, and the capacity of several religious groups to live in harmony.	(6)	<b>religion</b>
ix) Law and Order Strength and impartiality of the legal system, and the assessment of popular observance of the law.	(6)	<b>law</b>
x). Ethnic Tensions The degree of tolerance and compromise between various ethnics.	(6)	<b>ethnic</b>
xi) Democratic Accountability Degree of responsiveness of a government to its people. ICRG differentiates between five types of governance; alternating democracy, dominated democracy, <i>de-facto</i> one-party state, <i>de jure</i> one-party state and autarchy.	(6)	<b>demac</b>
xii) Bureaucracy Quality Ability of the local bureaucracy to administrate the country without drastic changes in policy or interruption in government services.	(4)	<b>burq</b>

### 2) Polity IV

Source: Center for International Development and Conflict Management, University of Maryland.

The POLITY IV project rates the levels of democracy resulting in a "Polity Index", which has scale from -10 to +10 measuring the degree to which a nation is either autocratic or democratic. The Polity IV Regime Durability Variable measures the years since the most recent regime change (defined by a three point change in the POLITY score over a period of three years or less) or the end of a transition period defined by the lack of stable political institutions.

Variable	Short name
Polity IV Index	<b>polity</b>
Polity IV Durable Index	<b>durable</b>

### 3) Legal Rights and Creditor Rights

Source: World Bank / Governance indicators, 2005.

The Legal Rights index, measures the degree to which collateral and bankruptcy laws facilitate lending. It is based on data collected through study of collateral and insolvency laws, supported by the responses to the survey on secured transactions laws. The index includes 3 aspects related to legal rights in bankruptcy and 7 aspects found in collateral law. The Credit Information Index measures rules affecting the scope, access and quality of credit information.

Variable	Short name
Legal Rights Index	<b>legal</b>
Creditor Rights	<b>credit</b>

## APPENDIX C. Description of Financial Ratios

### A) Firm financial Variables (USD millions\*\*)

Variable	Definition	Short name
Sales	Sales	<b>rev</b>
Net income	Net profit or loss	<b>profit</b>
Working capital	Working capital	<b>wc</b>
Net worth	Current assets – current liabilities	<b>nw</b>
Total assets	Balance sheet total	<b>assets</b>
Liabilities	Total long-term and short-term liabilities	<b>liab</b>
Equity	Owners' equity	<b>equity</b>

### B) Employed accounting ratios in the analysis

Area	Definition	Short name
Turnover	Sales / Total assets	<b>rev_ta</b>
Profitability	Earnings before interest, taxes, depreciation and amortization / Turnover	<b>ebitda</b>
	Net pforit or loss / Turnover	<b>prof_rev</b>
Leverage	Total liabilities / Total assets	<b>debt</b>
Solidity	Equity ratio = Book value of equity / Total assets	<b>er</b>
Liquidity	Current ratio = Current assets / Current liabilities	<b>current</b>
	Quick ratio = [Cash + Acc.rec.]/ Current liabilities	<b>quick</b>

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\*) Measured from the fiscal year when the guarantee became effective

\*\*) Converted from local currency to USD at the prevailing market FX-rate (Source: Economics Web Institute).

**APPENDIX D. Summary statistics of the icrg- and polity indices by country**

Source: The ICRG Researchers Dataset (April, 2005), PRS Group. The Polity IV Dataset.

Country	Legal origin	ICRG					POLITY				
		n	mean	max	min	st.dev.	n	mean	max	min	st.dev.
Algeria	French	20	51.38	64.00	41.42	7.37	19	-4.7	-2	-9	2.8
Argentina	French	20	66.73	76.42	54.75	7.88	19	7.5	8	7	0.5
Australia	English	20	82.89	88.83	75.42	4.31	19	10.0	10	10	0.0
Austria	German	20	86.45	90.38	80.08	2.58	19	10.0	10	10	0.0
Bahamas	English	20	74.15	85.46	66.00	7.84	0				
Bahrain	English	20	63.01	77.67	50.00	10.36	19	-9.2	-7	-10	1.0
Belgium	French	20	80.88	86.75	76.75	3.04	0				
Brazil	French	20	66.20	69.75	62.71	2.04	19	7.8	8	7	0.4
Bulgaria	German	20	69.59	76.17	62.25	3.74	19	4.2	9	-7	6.9
Cameroon	French	20	52.14	58.00	45.33	3.65	19	-5.5	-4	-8	2.0
Canada	English	20	84.35	89.88	79.92	3.12	0				
Chile	French	20	68.06	81.17	43.50	11.91	19	5.5	9	-6	5.6
China	German	20	65.30	72.25	56.92	4.31	19	-7.0	-7	-7	0.0
Colombia	French	20	55.43	62.92	48.67	4.72	19	7.7	9	7	0.8
Costa Rica	French	20	72.23	81.67	62.00	6.29	19	10.0	10	10	0.0
Croatia	German	6	71.52	74.29	65.67	3.76	12	-0.3	7	-5	5.5
Cyprus	English	20	69.44	82.50	49.42	10.93	19	10.0	10	10	0.0
Czech Republic	German	12	79.13	84.33	72.17	3.58	11	10.0	10	10	0.0
Czechoslovakia (form)	Socialist	20	73.37	81.92	63.17	5.38	11	8.1	9	7	1.0
Côte d'Ivoire	French	20	60.05	66.83	43.46	6.90	16	-5.9	4	-9	4.1
Denmark	Nordic	20	87.22	93.25	82.17	3.27	19	10.0	10	10	0.0
East Germany (form)	German	20	21.63	74.67	0.00	33.91	19	10.0	10	10	0.0
Ecuador	French	20	58.72	64.00	55.42	2.32	19	8.2	9	6	1.2
Egypt	French	20	57.55	66.42	42.00	8.82	19	-6.0	-6	-6	0.0
Esthonia	Socialist	6	75.06	76.50	74.21	0.80	13	6.0	6	6	0.0
France	French	20	79.14	81.92	75.33	1.65	19	8.9	9	8	0.2
Gabon	French	20	60.62	65.08	56.17	2.17	18	-5.4	-4	-9	2.3
Germany	German	20	83.86	89.00	74.50	3.57	19	10.0	10	10	0.0
Ghana	English	20	58.61	65.75	42.42	8.29	18	-1.0	6	-7	4.9
Greece	French	20	70.75	83.17	58.42	8.38	19	9.9	10	8	0.5
Hong Kong	English	20	71.22	79.79	54.17	6.94	19	-7.0	-7	-7	0.0
Hungary	German	20	77.22	86.17	70.00	4.76	18	6.5	10	-7	6.8
Iceland	Nordic	20	86.04	91.50	79.17	4.12	0				
India	English	20	53.89	65.50	34.75	8.80	19	8.5	9	8	0.5
Indonesia	French	20	51.13	66.92	39.83	8.95	19	-3.2	7	-7	6.3
Ireland	English	20	83.48	92.29	74.33	5.41	0				
Israel	English	20	57.19	71.50	35.79	10.84	19	9.3	10	9	0.5
Italy	French	20	76.90	84.63	67.83	4.63	19	10.0	10	10	0.0
Jamaica	English	20	68.49	78.92	54.33	6.82	19	9.4	10	9	0.5
Japan	German	20	83.72	89.83	78.50	3.82	19	10.0	10	10	0.0
Jordan	French	20	60.88	74.83	39.17	13.47	19	-3.8	-2	-9	2.9
Kenya	English	20	57.75	67.92	48.67	5.72	19	-3.5	8	-7	4.5
Korea	German	20	71.70	79.79	60.00	6.87	18	5.4	8	-5	3.9
Kuwait	French	20	62.11	77.50	34.08	13.58	18	-7.8	-7	-10	1.3

## APPENDIX D. Summary statistics of the icrg- and polity indices (cont'd)

Source: The ICRG Researchers Dataset (April, 2005), PRS Group. The Polity IV Dataset.

Country	Legal origin	ICRG					POLITY				
		n	mean	max	min	st.dev.	n	mean	max	min	st.dev.
Latvia	German	6	72.75	77.79	66.92	4.24	13	8.0	8	8	0.0
Lebanon	French	20	43.67	63.33	8.50	20.74	0				
Lithuania	French	6	71.84	78.08	65.83	5.02	13	10.0	10	10	0.0
Luxembourg	French	20	92.65	94.67	88.00	1.65	0				
Malaysia	English	20	70.31	79.42	59.83	5.40	19	3.5	4	3	0.5
Malta	English	19	75.32	87.58	55.00	13.30	0				
Mexico	French	20	68.58	73.58	61.50	3.32	19	2.8	8	-3	4.0
Morocco	French	20	61.70	73.83	40.00	11.59	19	-7.1	-6	-8	0.8
Netherlands	French	20	88.66	96.08	82.17	4.15	19	10.0	10	10	0.0
New Zealand	English	20	86.02	90.92	77.75	4.02	0				
Nigeria	English	20	46.85	54.33	38.79	4.80	18	-3.3	4	-7	4.7
Norway	Nordic	20	86.28	91.92	79.83	3.32	19	10.0	10	10	0.0
Oman	French	20	67.81	76.00	54.08	8.41	19	-9.2	-8	-10	0.6
Pakistan	English	20	45.63	62.92	30.67	8.79	19	2.4	8	-6	6.5
Panama	English	20	58.56	75.75	42.67	13.31	19	5.4	9	-8	6.6
Peru	French	20	51.89	68.25	38.25	10.69	0				
Philippines	French	20	56.87	73.58	36.92	12.38	18	7.2	8	-6	3.3
Poland	German	20	70.34	86.58	49.83	11.55	19	5.2	10	-7	6.4
Portugal	French	20	79.53	90.58	69.92	7.92	19	10.0	10	10	0.0
Romania	French	20	62.80	76.17	45.25	9.73	18	3.4	8	-8	6.4
Russia	Socialist	20	60.36	72.33	49.75	7.30	19	1.6	7	-7	5.2
Saudi-Arabia	English	20	61.97	70.00	49.25	7.48	19	-10.0	-10	-10	0.0
Senegal	French	20	57.38	61.08	52.50	2.81	0				
Singapore	English	20	82.11	89.13	76.25	4.68	19	-2.0	-2	-2	0.0
Slovakia	German	20	73.37	81.92	63.17	5.38	11	8.1	9	7	1.0
Slovenia	German	6	80.49	81.00	79.83	0.50	13	10.0	10	10	0.0
South Africa	English	20	64.02	75.00	49.33	8.01	17	7.1	9	4	2.4
Spain	French	20	75.36	82.67	67.50	4.56	19	10.0	10	10	0.0
Sweden	Nordic	20	86.17	91.63	79.50	4.03	19	10.0	10	10	0.0
Switzerland	German	20	89.86	94.42	84.92	3.59	19	10.0	10	10	0.0
Taiwan	German	20	77.30	81.42	71.58	2.43	0				
Tanzania	English	20	60.27	68.08	49.83	5.88	19	-3.4	2	-7	3.8
Thailand	English	20	65.00	75.33	54.50	6.86	19	6.4	9	-1	3.6
Trinidad and Tobago	English	20	64.53	74.83	55.75	6.03	0				
Tunisia	French	20	64.37	75.00	44.25	10.25	19	-4.3	-3	-8	1.6
Turkey	French	20	55.93	67.42	43.50	6.75	19	7.6	9	7	0.8
Ukraine	Socialist	20	82.33	89.42	74.92	3.87	19	10.0	10	10	0.0
United Arab Emirates	English	7	61.33	68.00	57.38	4.03	13	6.6	7	6	0.5
United Kingdom	English	20	62.85	77.58	43.50	12.79	19	-8.0	-8	-8	0.0
Uruguay	French	20	83.01	90.29	76.33	4.73	19	10.0	10	10	0.0
USA	English	20	67.43	79.00	58.00	6.09	19	9.8	10	9	0.4
Venezuela	French	20	62.74	75.83	48.75	6.75	19	7.9	9	6	1.1
Yemen	English	15	60.02	67.33	49.17	4.98	16	-3.6	-2	-8	2.5
Zambia	English	20	57.47	72.08	43.25	10.02					

### Correlation among political and legal risk variables

	icrg	govstab	soec	invest-t	intconfl	extconfl	corrupt	military	religion	law	ethnic	democ	bueauc	autoc	polity	durable
icrg	1															
govstab	0.366	1														
soec	0.379	0.011	1													
investment	0.564	0.550	0.504	1												
intconfl	0.832	0.199	0.240	0.283	1											
extconfl	0.488	0.076	-0.046	0.092	0.493	1										
corrupt	0.556	-0.222	0.138	-0.033	0.484	0.184	1									
military	0.849	0.320	0.243	0.468	0.646	0.304	0.467	1								
religion	0.777	0.092	0.122	0.175	0.656	0.529	0.469	0.544	1							
law	0.804	0.385	0.409	0.389	0.727	0.174	0.520	0.734	0.499	1						
ethnic	0.812	0.061	0.175	0.233	0.754	0.240	0.689	0.698	0.751	0.664	1					
democ	0.427	-0.131	-0.200	0.076	0.274	0.449	0.297	0.306	0.571	0.027	0.342	1				
bueauc	0.621	0.169	0.112	0.237	0.382	0.065	0.494	0.660	0.453	0.518	0.583	0.313	1			
autoc	-0.001	-0.146	0.388	0.095	-0.030	-0.063	-0.070	0.034	-0.136	0.039	-0.040	-0.161	0.087	1		
polity	0.374	-0.141	-0.174	-0.057	0.247	0.432	0.331	0.368	0.431	0.089	0.400	0.657	0.411	0.423	1	
durable	0.127	0.314	0.548	0.388	0.084	-0.453	-0.135	0.258	-0.201	0.434	0.088	-0.624	0.108	0.403	-0.391	1