Economic Policy Reform and Competitiveness Project

COUNTRY RISK AND COUNTRY RISK PREMIUM ESTIMATION FOR MONGOLIA

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ABBREVIATIONS AND ACRONYMS

EPRC   Economic Policy Reform and Competitiveness Project

FDI   Foreign Direct Investment

GDP   Gross Domestic Product

GoM   Government of Mongolia

ICRG   International Country Risk Guide

IMF   International Monetary Fund

IRR   Internal Rate Return

MNT   Mongolian National Togrog

PRS   Political Risk Services Group

US   United States

WB   World Bank

WEO   World Economic Outlook

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EXECUTIVE SUMMARY

Competitive participation of Mongolia in the world economy depends, *inter alia*, on enabling conditions for private sector growth and investment. In the environment of global competition for investment, the concept of country risk is important for developing and implementing effective strategies for attracting and retaining foreign direct investment.

Country risk analysis provides a view of the environment through the eyes of potential investors. It examines key risk factors that foreign investors consider when making an investment decision, forming part of their country "due diligence" before committing to an investment.

This technical report analyzes the components of country risk and how Mongolia compares with similar countries. This benchmarking should lead to:

- A better understanding of the elements of country risk that investors consider;
- Identification of the country's relative strengths and weaknesses in attracting and retaining foreign direct investment (FDI);
- Development, enactment, and maintenance of policies supportive of a conducive investment climate;
- Increased FDI flows and negotiation of better terms for the privatization of sate-owned assets and concessions for financing infrastructure projects;
- Estimation of the premium associated with Mongolia's country risk;
- Identification of areas where Mongolia is not doing well in comparison with similar countries;
- Recommendations for policy actions leading to improvement of Mongolia's ratings.

Section I provides the purpose and background of the report. Section II introduces the concept of country risk, examines its components and measures and discusses the importance of country risk analysis for both governments and investors. Section III compares Mongolia's rankings in comparison to other countries and identifies the areas where Mongolia is not doing well for providing recommendations for improvement. Section IV contains a brief technical analysis to develop an estimate of the country risk premium for Mongolia while Section V summarizes the findings and recommendations for policy actions.

Annexes A through H provide data and additional information used in our analysis and include, *inter alia*, the following:
- Products and risk measurement components of country rating services;
- Scatter diagrams of country ratings and country risk premiums;
- Data on country risk ratings;
- Data on country risk premiums;
- Data on country risk ratings and corresponding risk premiums;
- Output of a simple regression analysis;
- Line fit plot of predicted country risk premiums vs actual country risk premiums;
- Plot of residuals against country risk premiums.

Major findings of the analysis include the following:

1. Mongolia's standing in the political, financial and economic risk categories across countries shows that Mongolia is doing well in terms of its political risk; however, Mongolia's financial and economic risks are still perceived to be relatively high
2. Benchmarking of Mongolia's country risk premium against countries with similar risk ratings shows that Mongolia's risk premium will be around 12% for equity market or 8% for sovereign spread
3. Mongolia's dependency on volatile commodities markets may lead to future difficulties in servicing debt obligations if commodities prices plunge; this will result in a higher country risk premium
4. Procedures, systems, and coordination for monitoring country risk need to be strengthened
5. Policy actions need to target management of financial and economic performance to improve ratings, reduce overall country risk premium, and make Mongolia more attractive and competitive as a location for private foreign direct investment
6. Improving ratings and reducing premiums will lead to increased revenue from privatization and concession deals.

Current country risk ratings by PRS of Mongolia's economic and financial performance and the estimated country risk premium identify the following areas of concern:

- Weak external debt position as measured by the ratio of Mongolia's foreign debt to GDP
- Vulnerability to terms of trade as measured by the current account deficit
- Dependency on volatile commodity markets that threaten sustainability of economic growth and debt service as measured by real annual GDP growth and share of debt service in exports of goods and services
- Large government spending as measured by the budget deficit.

Recommendations for policy actions to manage the areas of weaknesses and improve Mongolia's current ratings include:

- Implementing and sustaining sound macroeconomic policies to improve country competitiveness
- Diversifying the economy and changing its productive structure by using its yet unexplored and unexploited natural resources wisely
- Promoting and supporting service sectors such as tourism, telecommunication, IT, banking and finance and transportation that have potentials for growth and attraction of FDI
- Improving revenue and expenditure administration to reduce budget deficit;
- Carefully balancing of private foreign direct investment and donor assistance
- Promoting microeconomic policies that reduce aggregate business transaction costs
- Being constantly aware of, monitoring and actively managing comparative country risk ratings and premiums.

Country risk and country risk premium are key elements in foreign investment decisions and the ability of governments to secure competitive financing in international capital markets. Government policies must be aligned to improve the business climate to attract

investment and promote growth. A cross-national comparison of countries shows that countries with more economic freedom have faster economic growth, higher income, better ratings and low risk premiums. The lesson learned from our initial comparative analysis of Mongolia's rankings and estimation of the risk premium is that the government needs to focus on areas of weaknesses and "do its homework" to improve the current ratings and reduce premium to attract foreign investment on better terms.

SECTION I: INTRODUCTION

A. Background, purpose and objectives

As Mongolia continues to integrate into the world economy and open up for foreign direct investment, it increasingly faces with investors' perceptions about the country risk associated with this globalization process. Understanding and analyzing country risk is important for both foreign investors and governments. When investing in a foreign country, investors are exposed to additional or country risk that must be rewarded with a premium for bearing such risk. Therefore, country risk analysis and estimation of risk premium is a critical component in making an investment decision. On the other hand, understanding and dealing with investors' country risk perceptions is important for national governments for developing and implementing policies to improve the competitiveness of the country as a location for foreign direct investment and maximize value received from privatization and concession transactions.

Country risk and country risk premium are relatively new concepts for Mongolia. The notion of country risk and premium associated with such risk first came into sight when Mongolia's largest companies were offered for sale through international tenders. In light of Mongolia's intent to issue hard currency denominated bonds, the question about the rate that will be offered, including the spread over the US Treasury bonds, becomes very actual as these will be indicative of the country risk premium for Mongolia.

In the absence of such hard currency denominated debt, foreign investors and international lenders turn to comparative rankings and ratings of the country as part of their country due diligence assessments. In particular, country ratings are used to determine the country risk premium. In addition, changes in the rankings and ratings of a country in various international indices have important implications for policy change for national policymakers.

The purpose of this technical report was to perform an initial comparative country risk analysis to establish a baseline for Mongolia's ranking in comparison to other countries that will serve as a basis for policies to improve its competitive positioning in the world economy.

Specific objectives focused on:
- Examining the concept of country risk, its measures and definitions;
- Comparing Mongolia's country risk rankings to other countries;
- Identifying the country's relative strengths and weaknesses in attracting and retaining foreign direct investment (FDI);
- Benchmarking the premium associated with Mongolia's country risk;
- Developing recommendations for policy actions to manage the areas of weaknesses and improve Mongolia's current ratings.

To accomplish these objectives, the report:

- Compiled data on country ratings as supplied by various providers
- Performed a comparative analysis for Mongolia's standing among other countries using country ratings
- Estimated Mongolia's country risk premium based on a comparative analysis of risk ratings
- Examined components of country risk where Mongolia's performance was below average.

This technical report is an initial step in developing improved systems, procedures and coordination of country risk management to improve and promote Mongolia's investment climate and competitiveness.

B. Structure of this report

Section I provides the purpose and background of the report. Section II introduces the concept of country risk, examines its components and measures and discusses the importance of country risk analysis for both governments and investors. Section III compares Mongolia's rankings in comparison to other countries and identifies the areas where Mongolia is not doing well for providing recommendations for improvement. Section IV contains a brief technical analysis to develop an estimate of the country risk premium for Mongolia while Section V summarizes the findings and recommendations for policy actions.

Annexes A through H provide data and additional information used in our analysis and include, *inter alia*, the following:

- Products and risk measurement components of country rating services
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- Data on country risk ratings and corresponding risk premiums
- Output of a simple regression analysis
- Line fit plot of predicted country risk premiums vs actual country risk premiums
- Plot of residuals against predicted country risk premiums.

SECTION II: COUNTRY RISK

A. Introduction

In the environment of global competition for investment, the concept of country risk is important for developing and implementing effective strategies for attracting and retaining foreign direct investment.

Country risk analysis provides a view of the environment through the eyes of potential investors. It is an in-depth research and analysis of key risk factors that foreign investors consider when making an investment decision. Based on these findings, the Government more thoroughly understands the country's relative strengths and weaknesses as locations for foreign direct investment and is better equipped for ensuring a conducive investment climate.

B. The concept of country risk

In the early years of the Mongolian Privatization Program – a highly successful five-year initiative funded by USAID – government officials had a perception that foreign investors would flock in and acquire Mongolia's crown jewels for a high price. However, this perception failed to materialize when, in spite of extensive marketing and promotion, investors either did not consider acquisitions in Mongolia or, if considered, had a different perception about the price they would be willing to pay for the assets being offered through international tenders.

What happened? As in most emerging market economies, officials overlooked the fact that foreign investors consider *country risk* in their country/company due diligence and discount asset prices by incorporating a *premium* for bearing such risk.

What is country risk and how it impacts global investment strategies? There are various similar definitions of country risk that differ depending on the context. In the context of foreign direct investment (FDI), country risk can be broadly defined as uncertainty about a country's environment, including political, macroeconomic and business conditions and events that might have potentially adverse effects on a foreign investor's activities and cash flows. In addition, country risk involves tax, regulatory, and legal uncertainties, including the possibility of nationalization or expropriation of assets, government repudiation of external indebtedness, exchange controls, and currency depreciation or devaluation.

C. Why is it important

Understanding and analyzing country risk is important for both foreign investors and governments. Country risk analysis is a two-way traffic in cross-border investments and privatization transactions. It is an integral and important part of investors' country due diligence[1] assessments. Having investment options in an array of countries, rational investors are always risk conscious and tend to choose an optimal trade-off between return and risk. To make an investment decision in a particular country, investors require a reasonable rate of return that compensates for risks associated with that country. To allocate resources effectively, it is critical for investors to consider, measure, and value dozens of risk factors. Some factors such as inflation, GDP growth, debt service are quantifiable and can be measured. Other considerations require more qualitative

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[1] The process of detailed investigation on the political and economic system, financial strength, market size and other characteristics of a country.

judgments; for example, political stability and social tension. Together, all the factors will influence the overall investment decision and consequent operations of foreign investors.

On the other hand, understanding and dealing with investors' country risk perceptions is important for national governments for improving country's competitiveness as a location for foreign direct investment and maximizing value in privatization deals. Instead of relying on ad hoc decision-making on a case-by-case basis, the Government should have a system in place to monitor current conditions in the country to improve its risk rating and ensure Mongolia's competitive participation in the world economy. The level of resources devoted to monitoring conditions within the country should be proportionate to the foreign investors' level of exposure and their perception of risk. Regular studies and reports on changes in the comparative rankings and ratings of the country are a valuable resource for monitoring country conditions. In addition, information from international rating agencies and other external sources are important to monitor conditions in the country and foreign investors' perceptions of risk. There should also be regular, on-going communication between Government and foreign investors. The Government should periodically evaluate the potential impact of different policies and laws on the country risk profile. Established procedures should be in place for monitoring and assessing Mongolia's performance and standing over a period of time and dealing with trouble areas, including actions to improve ratings and reduce risk.

D. Country risk measures and definitions

There are many services that measure country risk, such as Standard and Poor's Rating Group, Moody's Investor Services, Institutional Investor, Political Risk Services: International Country Risk Guide (ICRG). Each of the index or rating providers amalgamates a range of qualitative and quantitative information into a single index or rating.

As shown in Annex A[2], most risk rating services tend to separate country risk into the following three broad categories of risk.

    1.   Political risks,
    2.   Financial risks, and
    3.   Economic risks.

These broad categories may further be separated into subcategories such as Sovereign Risk within Political Risk or Transfer and Exchange Rate Risk within Financial Risk. All the three categories may include a location risk component. For example, Mongolia's landlocked geographic situation may increase transportation costs and represent an economic risk.

The simplest measure of location risk is geographic position. Trading partners, international trading alliances, size, borders, and distance from economically or politically important countries or regions can also help define location risk.

D1. Political risk

Political Risk refers to risks stemming from socio-political factors such as the "change in government control, social fabric, or other non-economic factor"[3]. This category covers

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[2] Annex A contains a table comparing products and risk measure components of 10 different rating services providers.

many different factors that vary from one rating agency to another. However, most rating providers such as Moody's, Political Risk Services (PRS) and Standard and Poor's consider the following major components: religious, ethnic, linguistic and other cultural differences, quality of the bureaucracy, political leadership, corruption, potential for internal and external conflicts, political system stability, political intrusiveness in economic management and expropriation risk. Insurance exists for some political risks, obtainable from a number of government agencies and international organizations.

Political Risk Measures

Political risk measures require more qualitative judgment rather than quantitative. The comparison of rating agencies in Annex A illustrates that most rating providers use qualitative measurement approaches to assess political risk that range from various classification methods to surveys or analyses by political experts. In many risk systems, analysts reduce political risk to some type of index or relative measure such as the Corruption Perceptions Index of Transparency International.

Political and sovereign risks are often used interchangeably. However, sovereign risk, defined as unwillingness or inability of the government to meet its external debt obligations[4], is often designated a separate category because a private lender faces unique risks in dealing with a sovereign government. If a foreign government decides not to meet or honor its debt obligations, the private lender is limited in its actions against the sovereign government. Sovereign risk can be considered as part of political risk because the government may fail to meet its commitments for political reasons. Sovereign risk is also related to transfer risk within the financial risks category because, faced with difficulties in debt servicing, the government may impose exchange controls or restrict capital movements and repatriations of profits. In this sense, sovereign risk is often measured by financial risk measures such as the ratio of debt service payments to exports, the ratio of foreign government debt to GDP or the ratio of foreign currency reserves to imports.

D2. Economic risk

Economic Risk refers to a significant change in the economic structure or growth rate that produces a major change in the expected return of an investment. Risk arises from the potential for detrimental changes in fundamental economic policy goals (fiscal, monetary, international, or wealth distribution or creation) or a significant change in a country's comparative advantage (e.g., resource depletion, industry decline, demographic shift). Economic risk often overlaps with political risk in some measurement systems since both deal with policy[5].

Economic Risk Measures

Most analysts use a combination of quantitative and qualitative measures. Quantitative measures may include various ratios (government deficit/GDP, total government debt/GDP, foreign direct investment/GDP), growth rates (inflation rate, GDP growth rate, foreign exchange rate, unemployment rate) and percentages (tax structure, economic structure, foreign loan structure). Some economic risk factors require qualitative analysis

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[3] As defined in "Country Risk and Foreign Direct Investment" by Duncan H. Meldrum (http://www.nabe.com/am99/meldrum.pdf)

[4] Based on definitions given in "Country Risk Analysis" by Mark Sanders and Riccardo Welters, January 2002 and "Country Risk and Foreign Direct Investment" by Duncan H. Meldrum

[5] Source: "Country Risk and Foreign Direct Investment" by Duncan H. Meldrum

such as quality of economic management, attitudes towards foreign investors, enforceability of contracts.

D3. Financial risk

Financial Risk refers to risks arising from the government's ability to finance its official, commercial and trade obligations. It also refers to transfer risks stemming from a decision by a foreign government to restrict capital movements.[6] Restrictions could make it difficult to repatriate profits, dividends, or capital.

Financial Risk Measures
Typical measures include the ratio of external debt to GDP, debt service payments to exports, international reserves to imports, current account to GDP.

E. Country risk analysis

Country risk analysis is based on both "objective" data and on "subjective" judgements. Both the quantitative and qualitative methodologies are important for evaluating country risk. The advantage of quantitative methods is in the measurement: one can easily compare the results of this type of analysis. The drawback is, however, that one cannot incorporate everything in figures, like social unrest, the democratic contents, political tensions and so on.

Therefore the best way to analyse country risk is a combination of qualitative information and a quantitative analysis such as:

1. Rule of thumb
2. Qualitative analysis
   - country reports
3. Quantitative analysis
   - econometric analyses
   - country risk ratings

One of the main outcomes of country risk analysis is the development of the required rate of return or the hurdle rate for investment in a particular country. Foreign investors often face a difficult choice in assigning country risk premiums for their investments when investing in emerging and developing economies.

One way of establishing the country risk premium for a country is to compare the yield on country's government bonds denominated in US dollars to the yield on US Government bonds of an equivalent maturity.

However, assessment of relevant credit spread may not be applicable to a number of emerging and developing countries, like Mongolia, that have not issued traded, "hard" currency (i.e., USD) denominated debt.

As an alternative, investors turn to risk ratings of a country to translate rating into tangible measures for country risk premium evaluation and make a comparative analysis among a group of potential candidates for foreign direct investment.

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[6] Source: PRS and "Country Risk and Foreign Direct Investment" by Duncan H. Meldrum

SECTION III: HOW DOES MONGOLIA RANK

A. Introduction

This section provides an initial comparative country risk analysis for Mongolia to establish a baseline for Mongolia's ranking in comparison to other countries.

Though important on its own, country risk analysis is not only an examination of various qualitative and quantitative factors affecting country risk and investments decisions. It essentially involves benchmarking the country risk, a process of comparing a country against similar countries in terms of such factors as political stability, external debt, levels of taxation, macroeconomic stability, labor regulation, and capital controls. Benchmarking is important not only for understanding the country's ranking but for promoting the country as a location for foreign direct investment by providing information on its competitive positioning among potential recipients.

Benchmarking can be carried out by using country ratings provided by various rating services. Currently, Mongolia is not ranked in many international indices and its ratings are limited to a few sources.

For purposes of our analysis, we used a country risk rating system produced by the Political Risk Services (PRS) Group's International Country Risk Guide (ICRG) that provides forecasts and analysis of political, financial, and economic risk for more than 130 countries, including Mongolia.

B. Methodology

The ICRG system measures various types of country risk and compares them between countries by using a numerical methodology. It is based on a set of 22 components grouped into three major categories of risk: political, financial, and economic, which are as follows:

- *Political Risk Components*
    - Government Stability
    - Socioeconomic Conditions
    - Investment Profile
    - Internal Conflict
    - External Conflict
    - Corruption
    - Military in Politics
    - Religious Tensions
    - Law and Order
    - Ethnic Tensions
    - Democratic Accountability
    - Bureaucracy Quality

- *Financial Risk Components*
    - Foreign Debt as a Percentage of GDP
    - Foreign Debt Service as a Percentage of Exports of Goods and Services
    - Current Account as a Percentage of Exports of Goods and Services
    - Net Liquidity as Months of Import Cover
    - Exchange Rate Stability

- *Economic Risk Components*

- GDP per Head of Population
- Real Annual GDP Growth
- Annual Inflation Rate
- Budget Balance as a Percentage of GDP
- Current Account Balance as a Percentage of GDP

A separate rating index is created for each of the categories. The Political Risk rating index is based on 100 points, Financial Risk on 50 points, and Economic Risk on 50 points. The total points from the three indices are divided by two to produce the weights for inclusion in the composite score. In calculating the composite country risk rating, the political risk rating contributes 50% of the composite rating, while the financial and economic ratings each contribute 25% according to the following formula[7]:

$$CR = 0.5*(PR + FR + ER), \text{ where}$$
CR = Composite political, financial and economic risk rating
PR = Total political risk points
FR = Total financial risk points
ER = Total economic risk points

Within the category, each component is assigned a maximum numerical value or risk points. The sum of the risk points assigned to each risk component within each risk category determines the overall risk rating for that risk category. The total risk points for each risk category are further combined, according to the formula above, to produce a composite risk rating for the country in question.

The risk points awarded to each risk component or calculated for each Risk Category or the Composite Risk show the degree of risk. In every case, the higher the number of risk points awarded, the lower the perceived risk, while the lower the number of risk points awarded, the higher the perceived risk. The degree of risk can be expressed within a range of risk from Very High to Very Low as shown below, and compared on that basis by risk component, risk category, or composite risk, or across countries. This is done by calculating the percentage of risk points in the maximum risk points.

Very High Risk	00.0 to 49.9 percent
High Risk	50.0 to 59.9 percent
Moderate Risk	60.0 to 69.9 percent
Low Risk	70.0 to 79.9 percent
Very Low Risk	80.0 to 100 percent

The ICRG methodology assigns a different range of maximum points (from 0 to 5, from 0 to 10 and so on) to each risk component depending on the importance of that component to the overall risk of a country. To use the ICRG system in our analysis of Mongolia's ranking, we first converted the ICRG scores into normalized or z-scores[8] to be able to compare the distribution of scores on a standardized basis across the categories.

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[7] Source: The ICRG Rating System, The PRS Group
[8] Z-scores show the relative standing within a standardized distribution with mean of 0 and standard deviation of 1.

For purposes of our cross-national comparison, we selected a set of countries classified by the IMF/World Economic Outlook country classification[9] as transition and developing countries including 106 countries, for which data on GDP per capita and risk ratings were both available, except advanced economies[10].

Within this set, we then selected a group of 61 transition and developing countries with GDP per capita of $ 2,000 and below and examined Mongolia's standing in this group by Political, Financial, Economic and Composite Ratings.

The data for GDP per capita was obtained from the IMF/WEO Database as of September 2003 and was compiled on the basis of information available through late August 2003. Per Capita GDP is expressed in current U.S. dollars per person. Data are derived by first converting GDP in national currency to U.S. dollars and then dividing it by total population.

In the graphs that follow in the next section, scores above the mean indicate less than average risk, a score of 0 indicates average risk and negative scores indicate higher than average risk.

C. Comparison of Mongolia's rankings across countries

In our comparative risk analysis, we examined Mongolia's ratings in the political, economic, financial and composite risk categories across the selected group of countries as of September 2003.

The overall aim of this comparison is to provide a means of assessing a country's current strengths and weaknesses and raise awareness of its relative standing. Country ratings and cross-national comparisons have certain limitations. Ratings of different risk components are given for a particular year and have different implications in different countries. For example, a low rating of US budget deficit for a given year does not mean that US is a high risk country whereas a similar rating of Mongolia's budget deficit may increase investors' risk perceptions. Nevertheless, this comparison of Mongolia's ratings provides initial guidance on country risk that needs to be expanded by further detailed analyses.

C1. Political risk rating

Among the 61 transition and developing countries with GDP per capita of $ 2,000 and below, Mongolia performs very well in terms of its Political Risk rating as shown in Exhibit III-1. It ranks 3rd in lowest political risk, surpassed only by Namibia and Morocco.

With a score of 71.0 points, Mongolia is classified by the PRS methodology as a low risk country.

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[9] The country classification in the World Economic Outlook September Database divides the world into two major groups: advanced economies and transition and developing countries.
[10] According to the IMF/WEO classification, advanced economies include 29 countries such as the United States, United Kingdom, Japan, Italy, Germany, France, Canada, Australia, Austria, Belgium, Cyprus, Denmark, Finland, Greece, Hong Kong, Iceland, Ireland, Israel, Korea, Luxembourg, Netherlands, New Zealand, Norway, Portugal, Singapore, Spain, Sweden, Switzerland and Taiwan.

Exhibit III-1. Mongolia's political risk rating relative to transition and developing countries with GDP per capita of $ 2,000 and below, September 2003
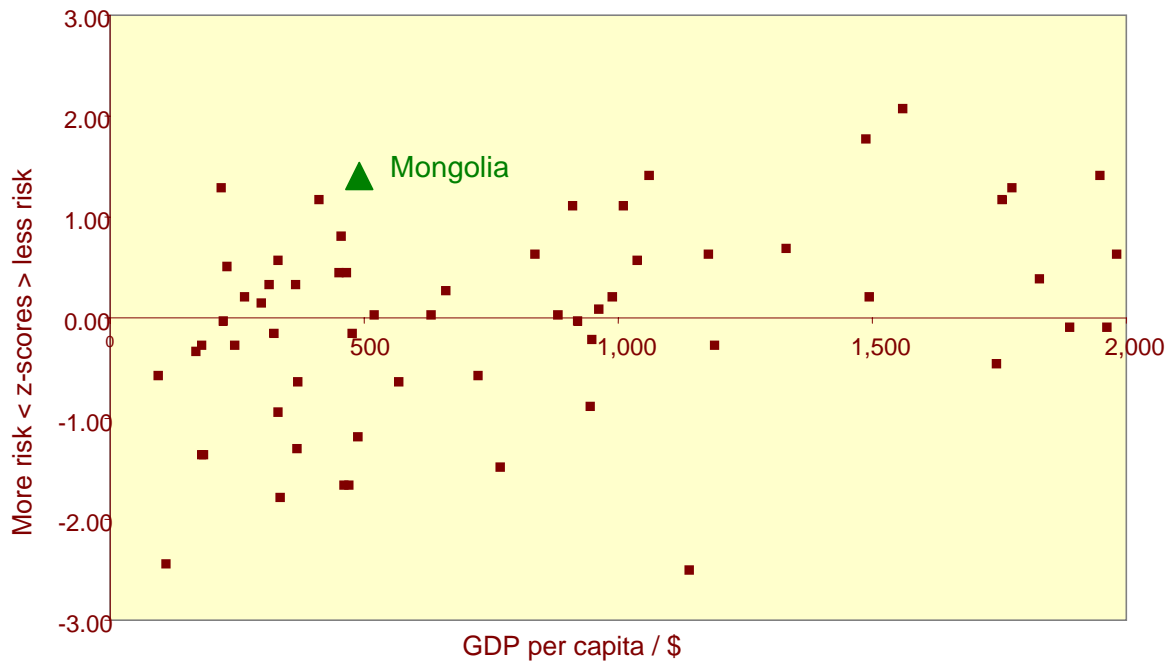
Source: The PRS Group's ICRG Rating System and the IMF/WEO September 2003 Database

C2. Economic risk rating

Exhibits III-2 through III-7 concerning economic risk rating portray a different story. Mongolia has a higher than average risk rating in the same group of countries.

Iit has the 6th highest economic risk rank, after Zimbabwe - the country with the highest economic risk – the Congo Republic, Nicaragua, Zambia and Mali as illustrated in the next exhibit.

Exhibit III-2. Mongolia's economic risk rating relative to transition and developing countries with GDP per capita of $ 2,000 and below, September 2003

Source: The PRS Group's ICRG Rating System and the IMF/WEO September 2003 Database

The components of Economic Risk include GDP per head of Population, Real Annual GDP Growth, Annual Inflation Rate, Budget Balance as percent of GDP and Current Account as percent of GDP.

Exhibits III-3 through III-7 illustrate Mongolia's standing decomposed by each of the economic risk components.

In terms of its GDP per head of population, Mongolia still remains among the least developed and low income nations in the world with GDP per capita of $ 477.1 as of September 2003. As shown in the next exhibit, Mongolia together with 35 other countries has the highest risk among 61 transition and developing countries.

Exhibit III-3. Mongolia's GDP per head of population relative to transition and developing countries with GDP per capita of $ 2,000 and below, September 2003

Source: The PRS Group's ICRG Rating System and the IMF/WEO September 2003 Database

In terms of real annual GDP growth, Mongolia has the fifth highest risk rank after Zimbabwe, Paraguay, Honduras, Haiti, the Congo Republic, Papua New Guinea and Mali. This reflects Mongolia's heavy dependency on mineral resources and animal husbandry, which constrains economic growth. While rising commodity prices are currently benefiting Mongolia, volatile commodity markets pose a potential threat for sustainability of economic growth.

Exhibit III-4. Mongolia's real annual GDP growth relative to transition and developing countries with GDP Per Capita of $ 2,000 and below, September 2003

Source: The PRS Group's ICRG Rating System and the IMF/WEO September 2003 Database

Among 61 transition and developing countries with per capita GDP of $ 2,000 and below, Mongolia has average annual inflation rate risk. During the recent years, Mongolia achieved tremendous success in controlling inflation. The inflation rate reduced from a three-digit figure in the early 1990's down to as low as 1.6 % in 2002. However, 40 countries in this group still have lower risk ratings than Mongolia.

Exhibit III-5. Mongolia's inflation rate relative to transition and developing countries with GDP per capita of $ 2,000 and below, September 2003
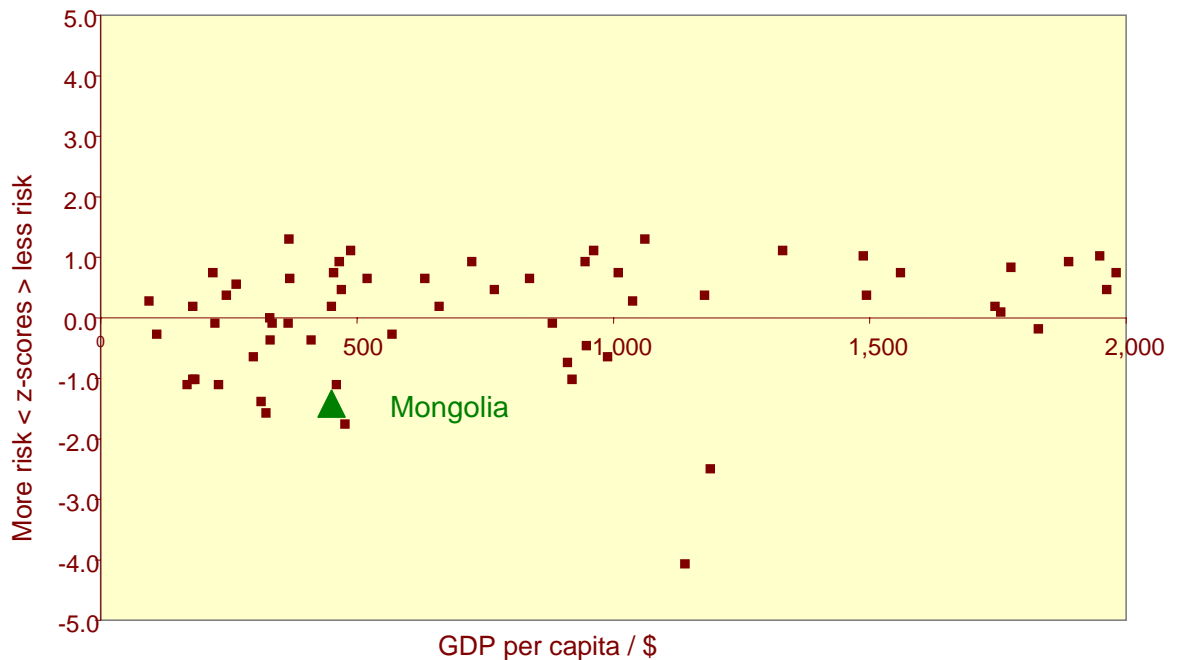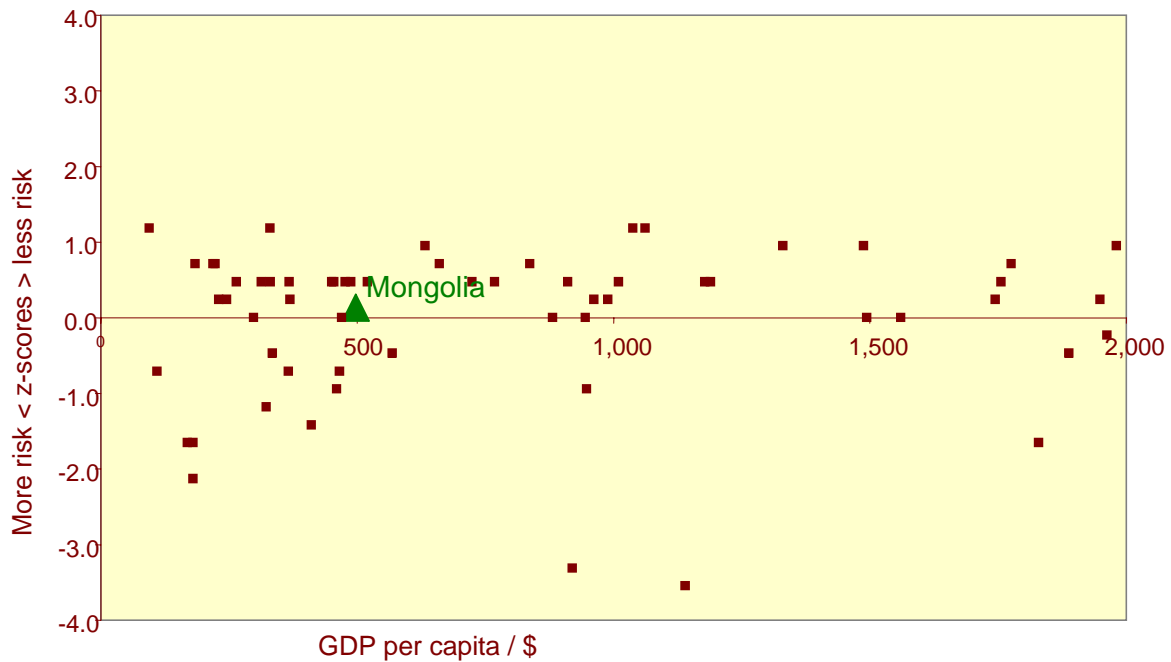

Source: The PRS Group's ICRG Rating System and the IMF/WEO September 2003 Database

Mongolia's budget balance as percent of GDP also has a high risk rank. It is the 8th highest in this group of countries after Niger, Zambia, Ethiopia, Sri Lanka, Nicaragua, Sierra Leone, Mali, Mozambique, Guinea-Bissau and Zimbabwe.

Exhibit III-6. Mongolia's budget balance as percent of GDP relative to transition and developing countries with GDP per capita of $ 2,000 and below, September 2003
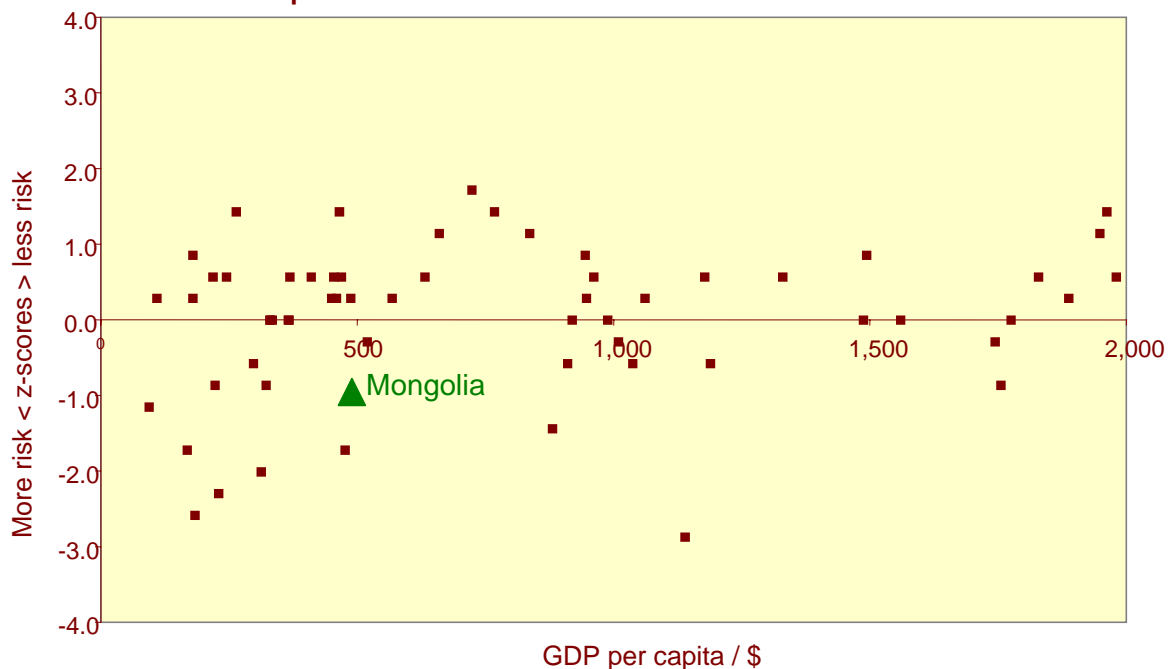
Source: The PRS Group's ICRG Rating System and the IMF/WEO September 2003 Database

Mongolia has also the 5th highest risk in terms of its current account as percent of GDP after the Republic of Congo – the country with the highest risk – Nicaragua, Zambia, Mozambique, Guinea-Bissau and Armenia.

Exhibit III-7. Mongolia's current account as percent of GDP relative to transition and developing countries with GDP per capita of $ 2,000 and below, September 2003

Source: The PRS Group's ICRG Rating System and the IMF/WEO September 2003 Database

When Mongolia's economic risk is decomposed by individual risk components, its budget balance, current account and GDP growth are considered as representing a higher than average risk.

C3. Financial risk rating

Exhibit III-8 illustrates Mongolia's standing in the Financial Risk category. Mongolia also has a higher than average risk. Among 61 transition and developing countries with GDP per capita of $ 2,000 and below, 18 countries have higher financial risk ratings than Mongolia.

Exhibit III-8. Mongolia's financial risk rating relative to transition and developing countries with GDP per capita of $ 2,000 and below, September 2003
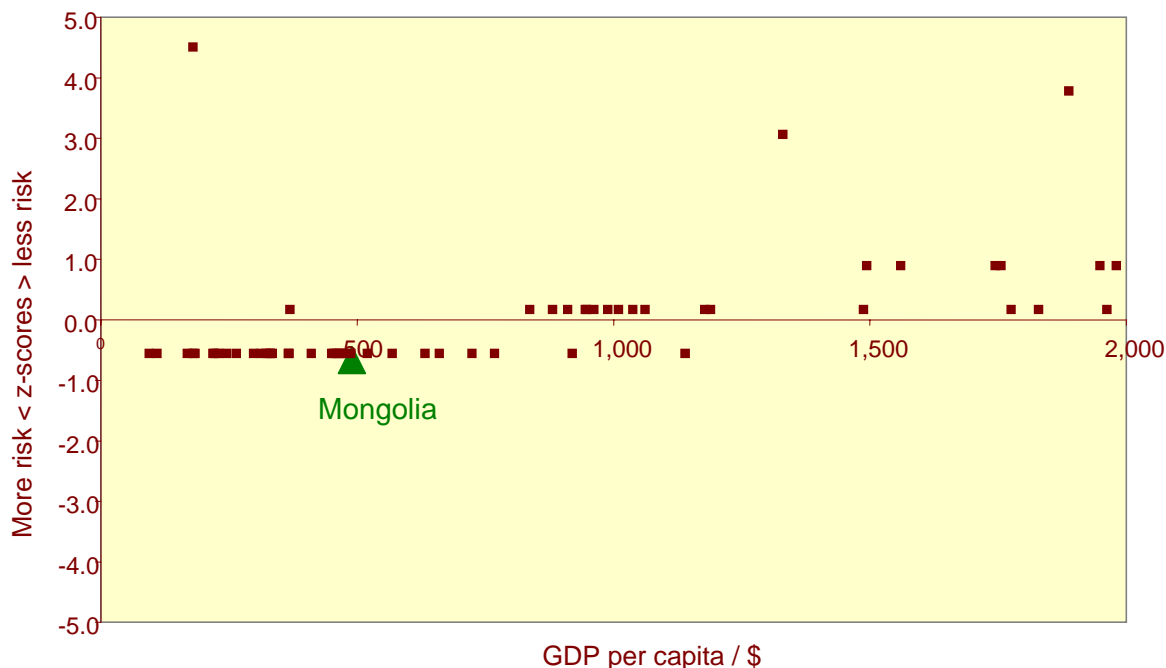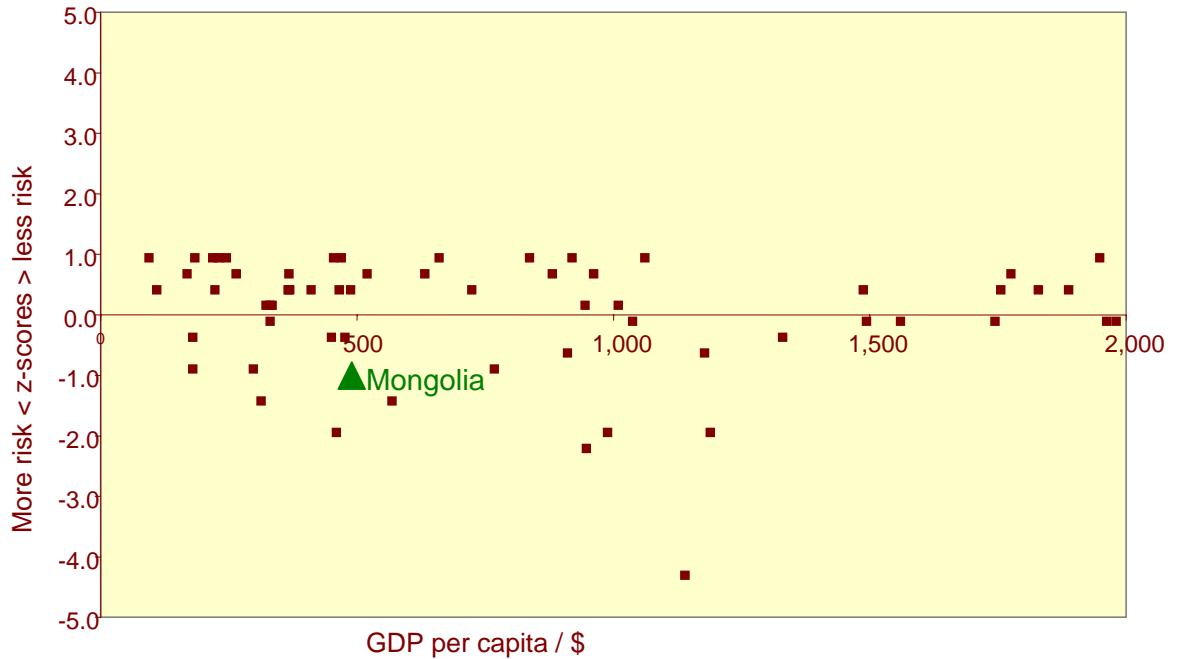

Source: The PRS Group's ICRG Rating System and the IMF/WEO September 2003 Database

When Mongolia's standing is examined in each of the financial risk components, its performance is far below average in terms of total foreign debt, current account and international liquidity as shown in the exhibits that follow.

Exhibit III-9. Mongolia's total foreign debt as percent of GDP relative to transition and developing countries with GDP per capita of $ 2,000 and below, September 2003

Source: The PRS Group's ICRG Rating System and the IMF/WEO September 2003 Database

Exhibit III-10. Mongolia's current account as percent of exports of goods and services relative to transition and developing countries with GDP per capita of $ 2,000 and below, September 2003
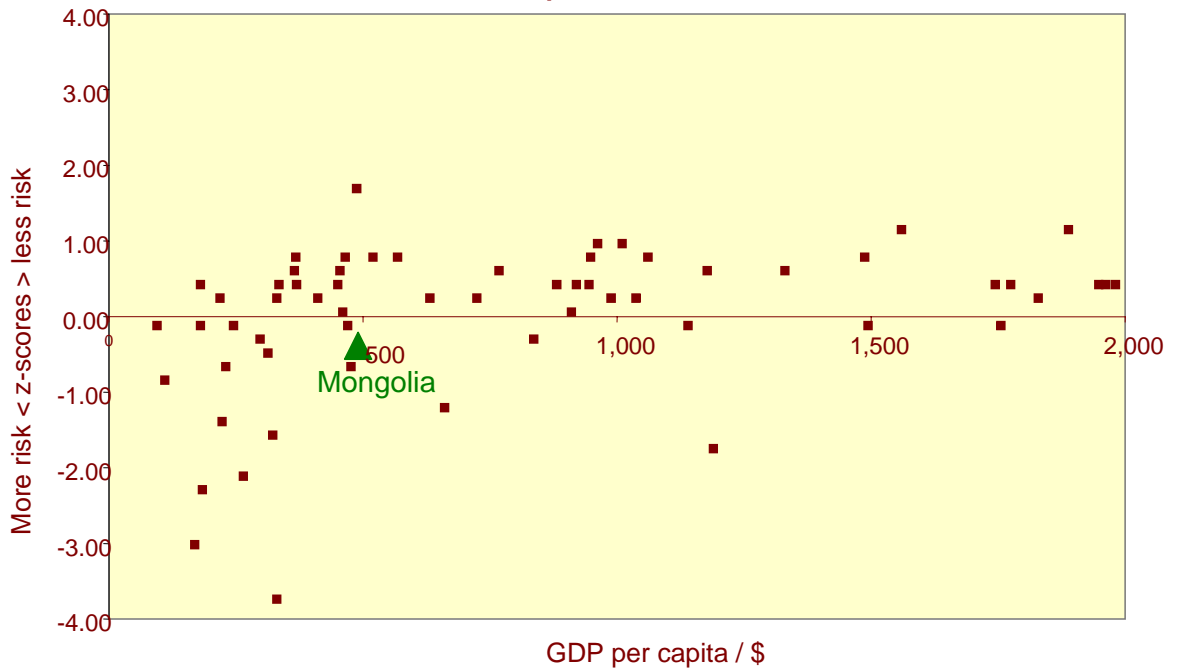
Source: The PRS Group's ICRG Rating System and the IMF/WEO September 2003 Database

Exhibit III-11. Mongolia's international liquidity as months of import cover relative to transition and developing countries with GDP per capita of $ 2,000 and below, September 2003
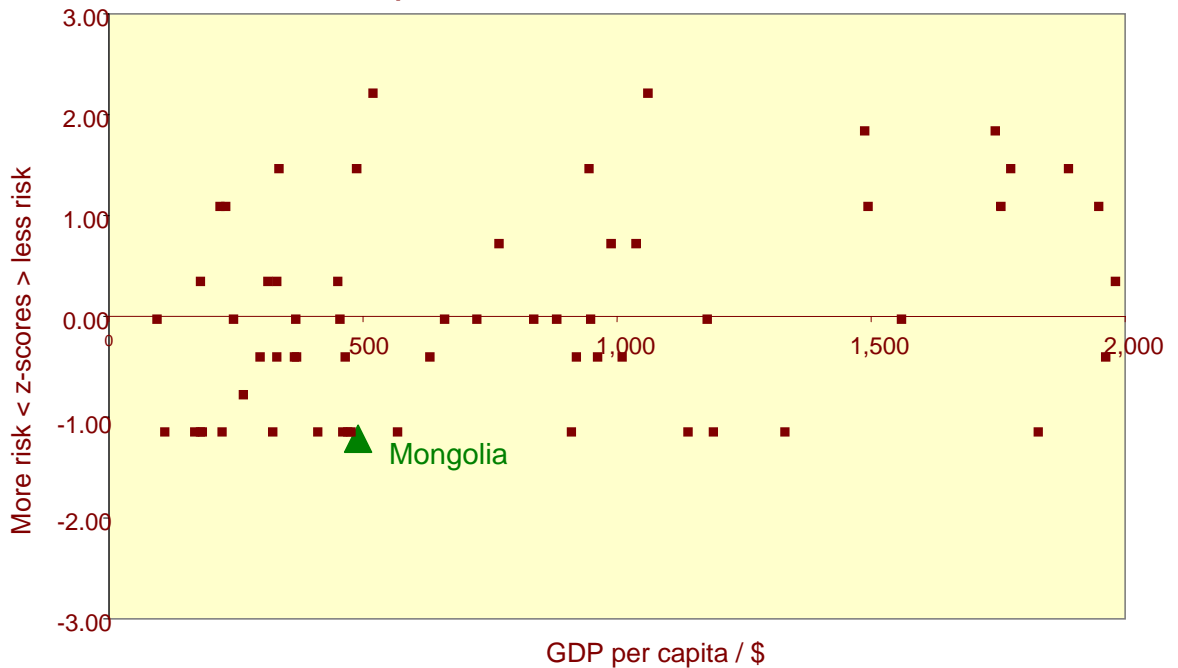
Source: The PRS Group's ICRG Rating System and the IMF/WEO September 2003 Database

As to the other two variables – debt service and exchange rate stability – Mongolia performs better than average in this group of countries. Mongolia has the lowest risk rank

for exchange rate stability together with 35 other countries. In terms of debt service, Mongolia performs slightly better than average.

Exhibit III-12. Mongolia's exchange rate stability as percentage change relative to transition and developing countries with GDP per capita of $ 2,000 and below, September 2003
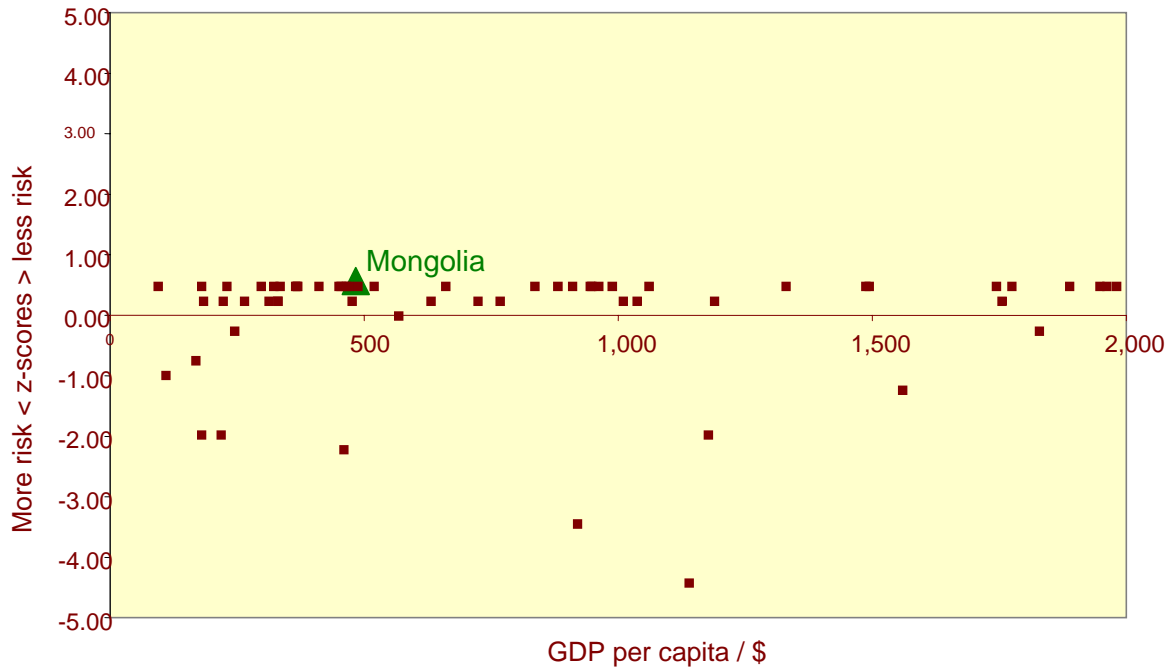
Source: The PRS Group's ICRG Rating System and the IMF/WEO September 2003 Database

Exhibit III-13. Mongolia's debt service as percent of exports of goods and services relative to transition and developing countries with GDP per capita of $ 2,000 and below, September 2003
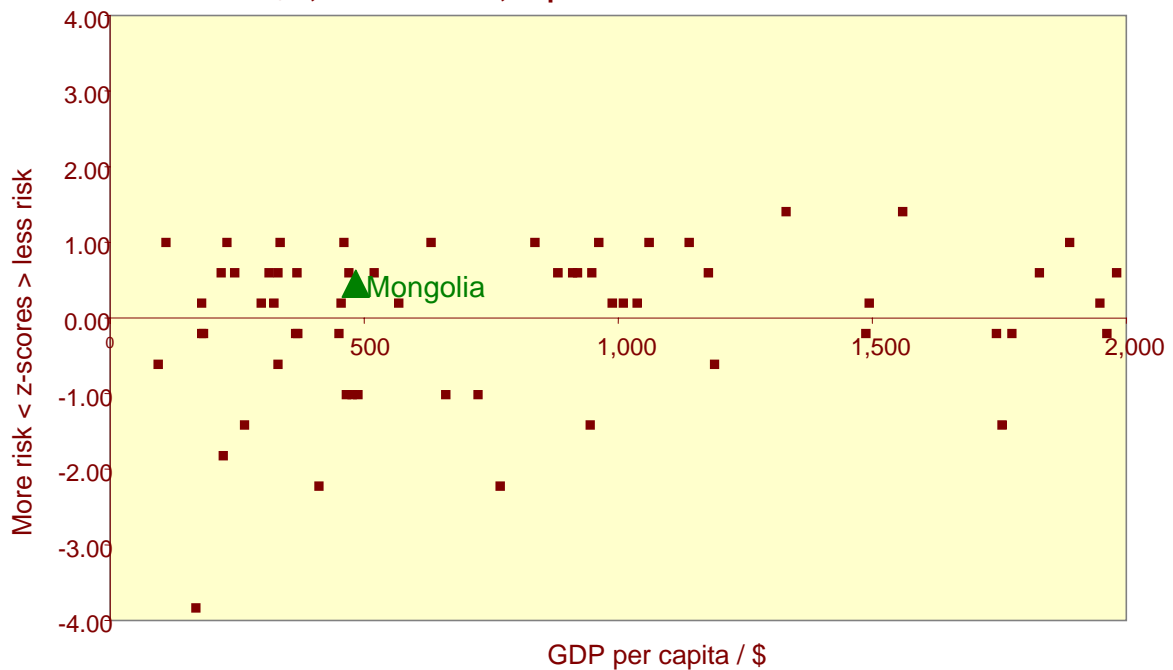
Source: The PRS Group's ICRG Rating System and the IMF/WEO September 2003 Database

C4. Composite risk rating

Exhibits 4-1 through 4-3 present Mongolia's composite country risk rating—political, economic, and financial—within the group of 61 transition and developing countries used for this analysis.

In this group shown in Exhibit III-12, Mongolia performs slightly better than average, ranking in the 24th place—indicating that twenty-three countries have a lower composite country risk within this group.

This slightly above average performance is a function of the methodology that the Political Risk Services (PRS) Group's International Country Risk Guide uses, assigning a weight of .50 to political risk and .25 each for economic and financial risk. If equal weights had been assigned to each of the country risk factors, Mongolia's composite country risk rank would have been lower than average, indicating higher country risk.

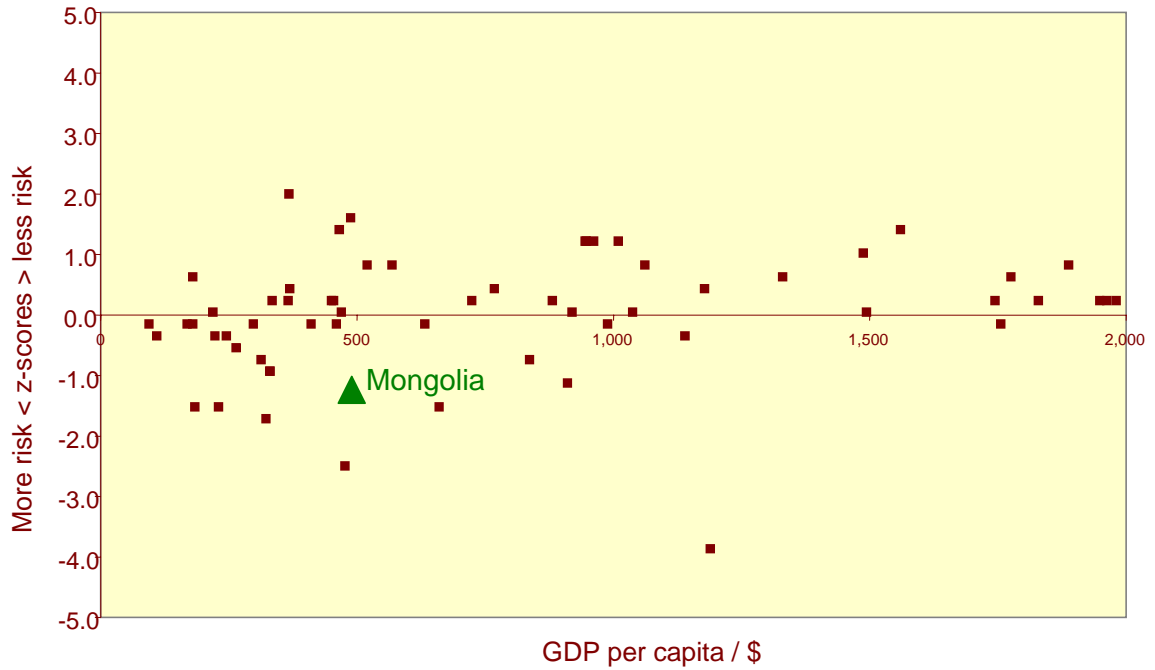**Exhibit III-14. Mongolia's composite risk rating relative to transition and developing countries with GDP per capita of $ 2,000 and below, September 2003**
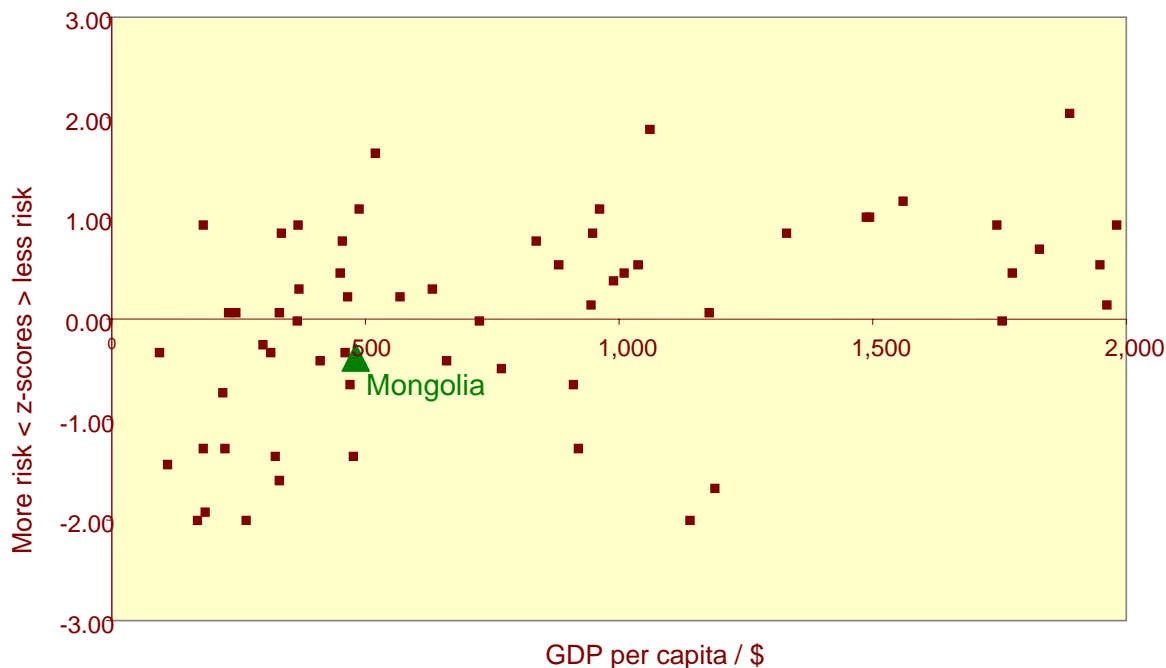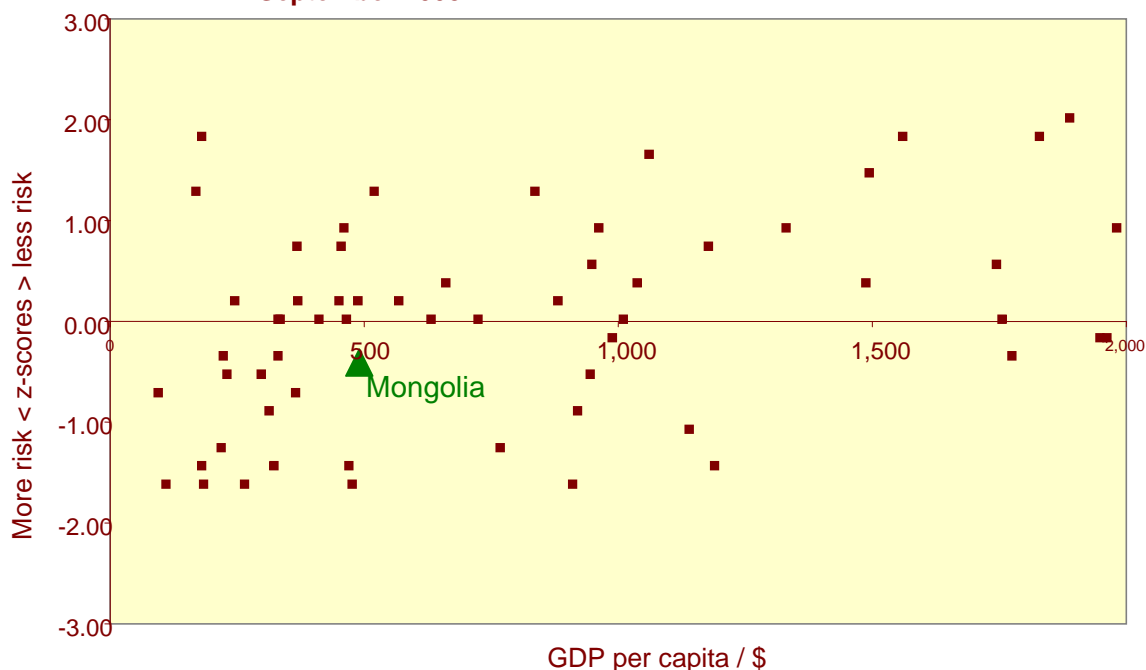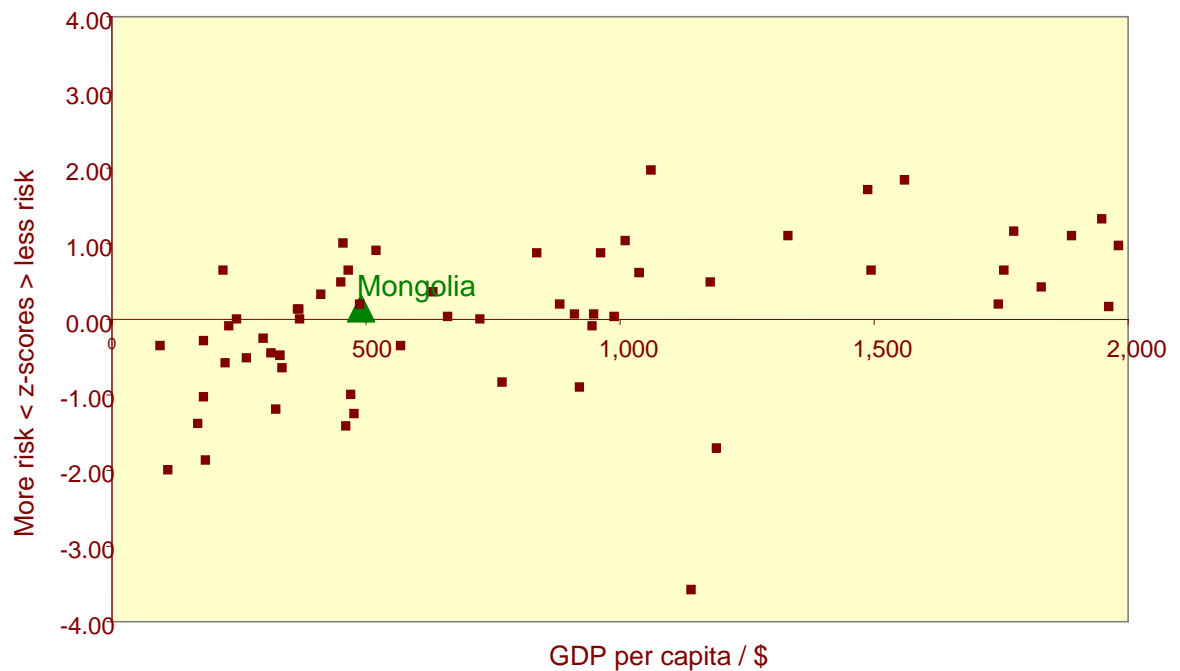

Source: The PRS Group's ICRG Rating System and the IMF/WEO September 2003 Database

C5. Results of comparative cross-country analysis

The scatter plots of z-scores of Mongolia's composite rating and ratings in the subcategories of Political, Financial and Economic risks show that Mongolia is doing well in terms of its political risk; however, Mongolia's financial and economic risks are still perceived to be relatively high in the group of transition and developing countries with comparable income.

The table below summarizes Mongolia's scores in the risk categories, degree of risk and rank in this group of countries. The table shows also Mongolia's standing and degree of risk decomposed by each risk component.

Risk Category/Component	Risk Points	% of Total	Degree of	Rank

		Risk Points	Risk	among 61 countries
Political Risk Rating	71	71.0%	**Low Risk**	3
Financial Risk Rating	31.5	63.0%	**Moderate Risk**	43
Total Foreign Debt as percent of GDP	3.5	35.0%	Very High Risk	40
Debt Service as percent of Exports of Goods and Services	8.5	85.0%	Very Low Risk	32
Current Account as percent of Exports of Goods and Services	9.5	63.3%	Moderate Risk	49
International Liquidity as months of import cover	0	0.0%	Very High Risk	52
Exchange Rate Stability as percentage change	10	100.0%	Very Low Risk	22
Economic Risk Rating	25	50.0%	**High Risk**	56
GDP per Head of Population	0	0.0%	Very High Risk	45
Real Annual GDP Growth	6.5	65.0%	Moderate Risk	54
Annual Inflation Rate	7.5	75.0%	Low Risk	41
Budget Balance as a Percentage of GDP	4	40.0%	Very High Risk	51
Current Account Balance as a Percentage of GDP	7	46.7%	Very High Risk	55

The results of our initial benchmarking suggest that, with several orderly and democratic changes of government, Mongolia's fundamental political risk appears low. Among its relatively small and homogeneous population, religious and ethnic tensions are nonexistent. Unlike many emerging markets and developing countries, Mongolia has not shown a tendency to reverse sovereign commitments and guarantees. Although different political parties disagree on details and methods of economic policy, there is a strong commitment to reform and an underlying consensus in favor of private sector-led growth at the highest political level.

Nevertheless, Mongolia is rated a high risk country in terms of its economic and financial indicators.

These results reflect the recent economic and financial developments and indicate that major risks stem from Mongolia's continued vulnerability to terms of trade and climatic shocks. Compared to 2001, Mongolia's current account deficit doubled, reaching 12% of GDP in 2002. The current account deficit is financed mostly through overseas medium and long-term loans, which deteriorates the external debt position. Although foreign currency reserves increased to $ 268.2 million to cover 18.6 weeks of imports in 2002 from $ 206.7 million or 15.6 weeks of imports in 2001, Mongolia's international liquidity

still remains weak. Overall budget deficit increased from 4.1% of GDP in 2001 to 5.7% in 2002. The budget deficit remains high and continues to be financed largely by foreign borrowing. Net foreign borrowing to finance the budget deficit amounted to MNT 75.4 billion in 2002, representing an increase of 20.6% compared with 2001. Total amount of outstanding loans provided by international financial institutions and bilateral donors has reached 82% of GDP. Due to the shortage of domestic funding, the amount of foreign debt has a tendency to increase[11].

The chart below illustrates a "cardiogram" of Mongolia's risk in comparison with average risk in the group of transition and developing countries with GDP per capita of $ 2,000 and below used in our analysis.

Exhibit III-15. Comparison of Mongolia's risk z-scores by risk categories and components with average risk
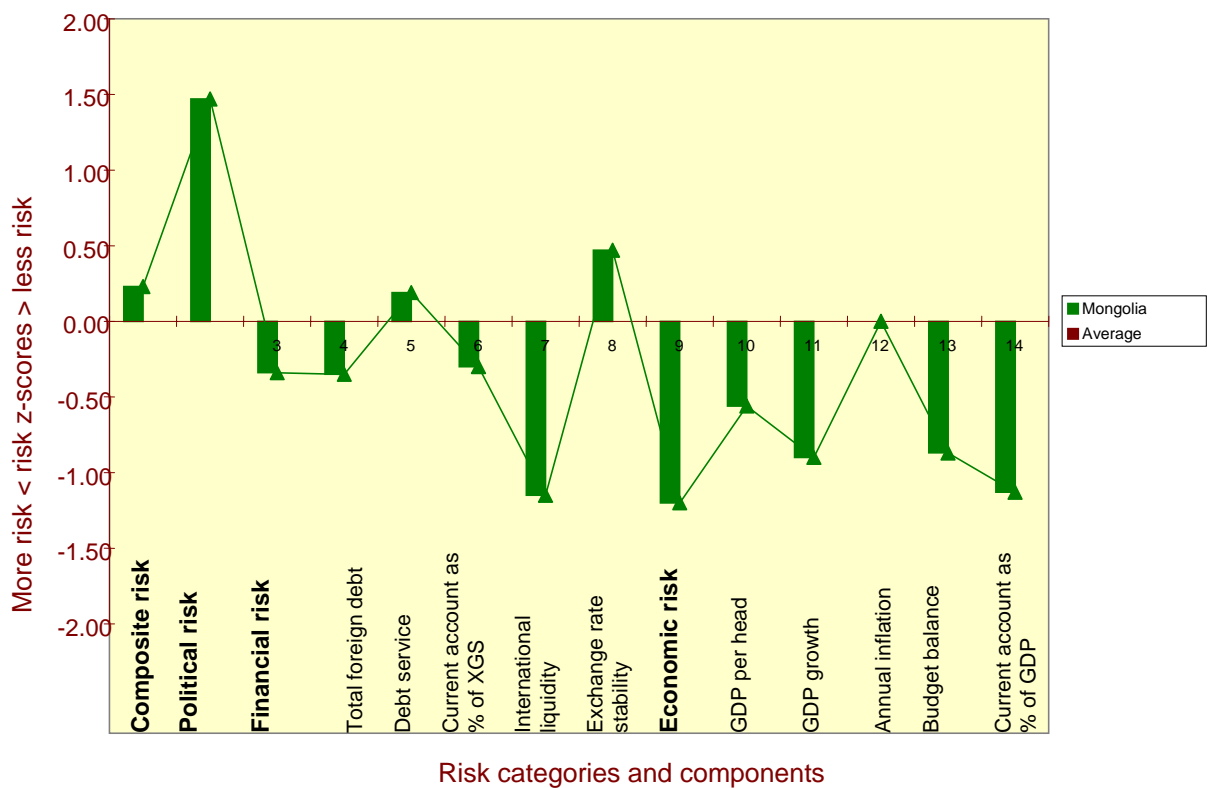
Source: The PRS Group's ICRG Rating System

Decomposition of Mongolia's performance by individual risk components within the major categories of financial and economic risk identifies the areas of concern. These include Mongolia's total foreign debt, current account, international liquidity, budget balance and GDP per capita, all of which are perceived by the rating agency and, eventually, by foreign investors, as representing high potential risk.

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[11] Figures in this paragraph come from the Bank of Mongolia Annual Report 2002

SECTION IV: COUNTRY RISK PREMIUM ESTIMATION FOR MONGOLIA

A. Estimating the country risk premium for Mongolia

The purpose of our initial country risk analysis for Mongolia in comparison to transition and developing countries was to examine country risk measures and risk ratings to use them for determining the country risk premium.

The concept of a country risk premium refers to an increment in the rate of return that investors require in a particular country compared to their home countries or some standard. Foreign investors often face a difficult choice in assigning country risk premiums for their investments when investing in emerging and developing economies.

One way of establishing the country risk premium for a country is to compare the yield on country's government bonds denominated in US dollars to the yield on US Government bonds of an equivalent maturity.

However, assessment of relevant credit spread may not be applicable to a number of emerging and developing countries, like Mongolia, that have not issued traded, "hard" currency (i.e., USD) denominated debt.

As an alternative, investors turn to risk ratings of a country to translate rating into tangible measures for country risk premium evaluation and estimation of hurdle rates to make a comparative analysis among a group of potential candidates for foreign direct investment. To come up with an estimate of Mongolia's country risk premium, we depart from the assumption that the country ratings can be used for determining a benchmark for country premiums. The first step in our analysis was an exploratory study of data.

The rating assigned to a country's risk by a ratings agency is one of the most easily accessible measures of country risk. There is a vast array of services providing assessments of country risk and its different aspects. Each of the index or rating providers amalgamates a range of qualitative and quantitative information into a single index or rating.

In our technical exercise on estimation of the country risk premium for Mongolia, we looked at the following data sets on country ratings:

1. The 2004 Index of Economic Freedom, Heritage Foundation
2. The 2002 Microeconomic Competitiveness Index rankings, World Economic Forum
3. The Euromoney Country Risk Rankings
4. Country risk ratings, Political Risk Services Group's International Country Risk Guide

The data set that is available for the country risk premium, comes from a study by Aswath Damodaran on country default spreads and risk premiums. It includes 112 countries as shown in Annex D. Damodaran uses country ratings by Moody's and estimates for different countries appropriate default spreads over the US Treasure bond yield. Further, he adjusts the country default spread to reflect the additional risk of equity markets. The country risk premium is derived by multiplying the country's default spread by the relative average volatility of emerging equity markets of 1.5, which is estimated as the ratio of standard deviation in the country's equity market and standard deviation of the country's bond market and is averaged across emerging markets.

An examination of scatter diagrams between the country rating and the country risk premium developed for each data set, which are displayed in Annex B, reveals a common pattern suggesting a relatively robust relationship between country risk premium and diverse political/economic/financial rankings:

- Countries with low risk rankings have low risk premiums. As a general rule, advanced developed countries with a low risk ranking have 0% risk premiums

- Most scatter diagrams exhibit a number of outliers that can be explained by the fact that ratings show long-term results while risk premiums are affected by short-term fluctuations. Most outliers are Latin American countries such as Brazil, the Dominican Republic, Uruguay that had been affected by financial problems

- In each scatter diagram, there is a cluster of better developed countries with a range of premiums between 1% and 3%, that exhibit a strong relationship between the country rankings and risk premiums. However, there is low sensitivity/elasticity. Large increases in ranking scores bring about minor changes in the risk premium

- We have another cluster of less developed countries with premiums ranging anywhere between 4% and 12.75% that show a highly sensitive/elastic relationship between the rankings and premiums. Small increases in rankings can bring about large declines in risk premiums but the relationship is highly idiosyncratic—some other variables, not accounted for by the ranking systems, affect the premiums.

The scatter plots tend to suggest a general pattern; however, they fail to demonstrate a strong relationship that can lead to a reasonable prediction of the country risk premium based on the country ratings.

For purposes of our benchmarking the country risk premium, we selected the country risk ratings produced by the Political Risk Services Group's International Country Risk Guide[12] used in our previous analysis of country risk. For the country rating, we have a list of 140 countries as of September 2003, including Mongolia, attached as Annex C.

The country rating of PRS/ICRG is a composite risk rating index assigned to a country that is made up of scores for 22 different risk components in the three major categories of political, financial and economic risks. The scores for the composite risk rating range from 0 to 100 points where higher scores indicate lower risks. Generally, the rating system classifies the scores between 0 and 49.9 as very high risk, from 50 to 59.9 as high risk, from 60 to 69.9 as moderate risk, from 70 to 79.9 as low risk and from 80 to 100 as very low risk. We assume that the rating index provides a reasonable measure of country risk.

Annex E summarizes the data for a group of 90 countries for which the country risk ratings and corresponding country risk premiums were both available. A look at the entire data set suggests a relationship between the risk ratings and the risk premiums with a high correlation coefficient of -0.84. The risk premiums tend to be lower for higher score ratings, indicating lower risks. Generally, developed countries that are rated by both PRS and Moody's as countries with minimal risk have 0% country premiums. These countries were excluded from our analysis.

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[12] Source: The ICRG Rating System, The PRS Group

The remaining data set seems to suggest the following. Generally, the countries belong to three groups as follows:

Group 1. Countries with composite risk ratings below Mongolia's rating

As shown in the exhibit below, the country risk premiums for the countries with composite risk ratings below Mongolia's rating of 63.8 points are above 11% with the exception of Colombia (2.63%) and Papua New Guinea (9.00%).

Exhibit IV-1. Group 1: Countries with composite risk ratings below Mongolia's rating of 63.8 points
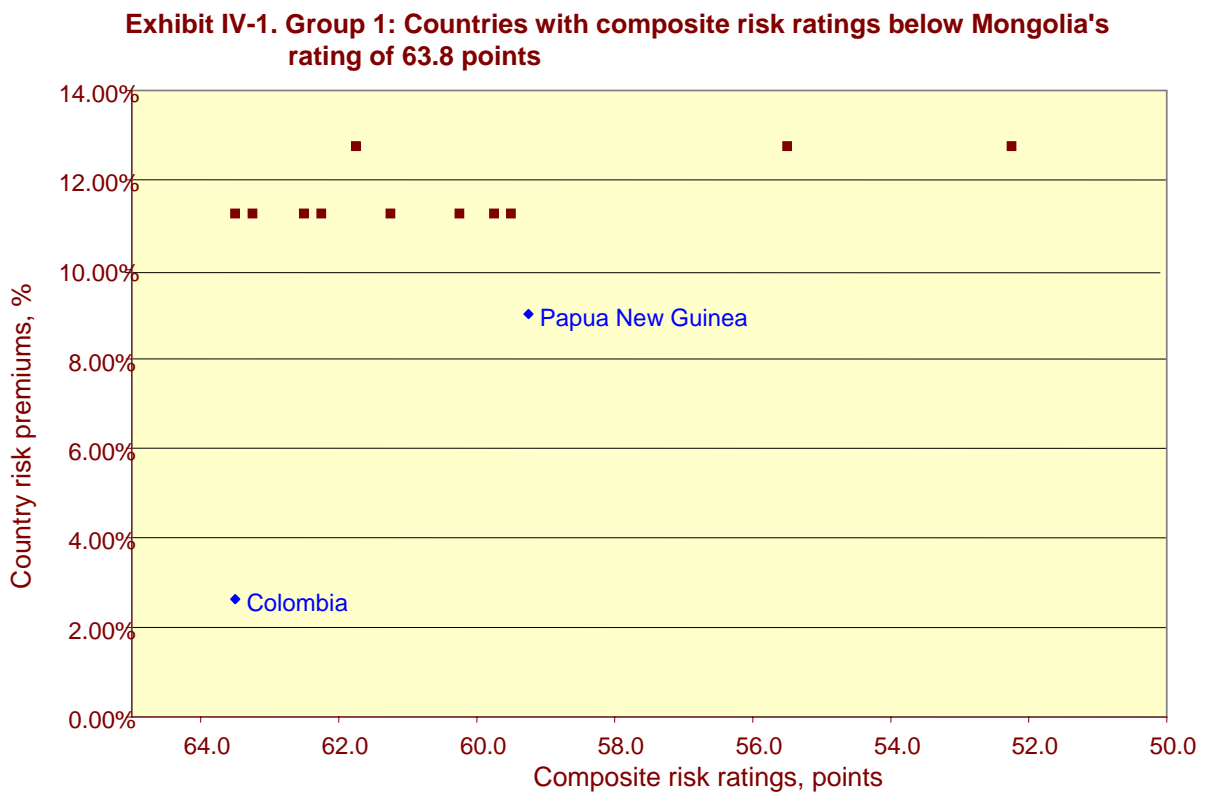
Group 2. Countries with composite risk ratings above 75 points

The country risk premium for this group of countries tends to be below 3% with the exception of Morocco (4.88%).

Exhibit IV-2. Group 2: Countries with composite risk ratings above 75.0 points
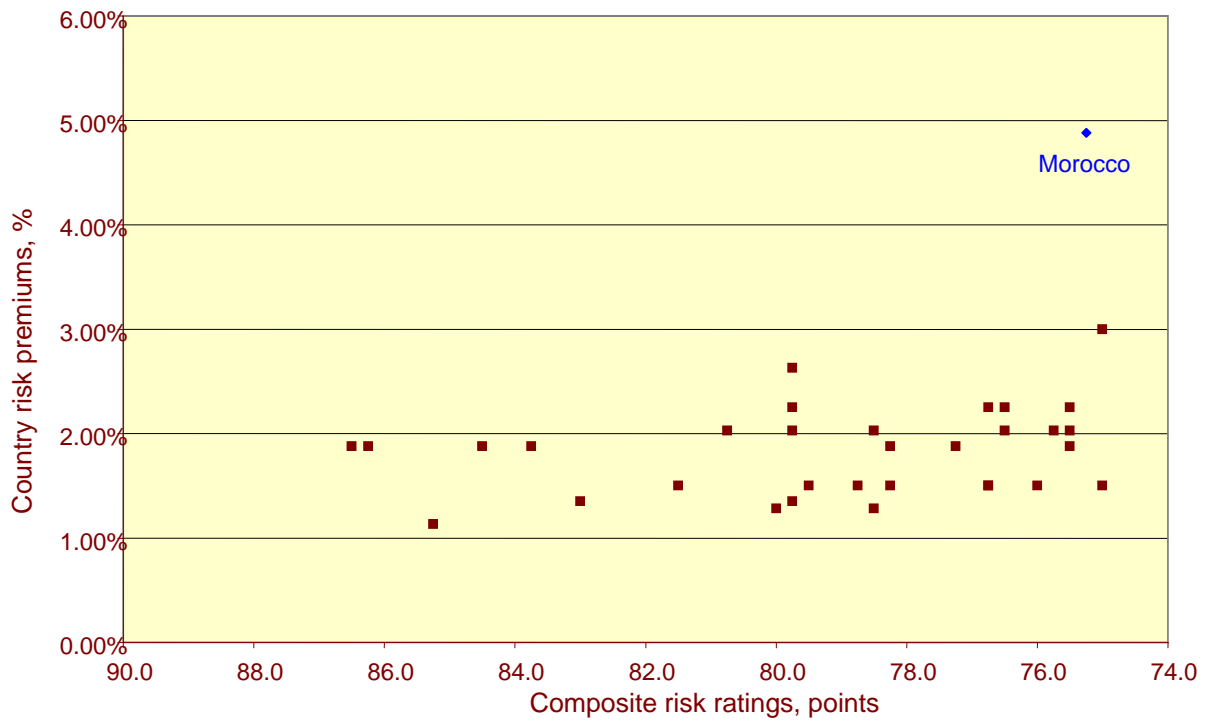
Group 3. Countries with composite risk ratings between 64 points and 75 points

As illustrated in Exhibit IV-3, these countries make up a diverse group where the risk premiums range from 1.88% to 12.75%.

Exhibit IV-3. Group 3: Countries with composite risk ratings between 64 and 75 poins
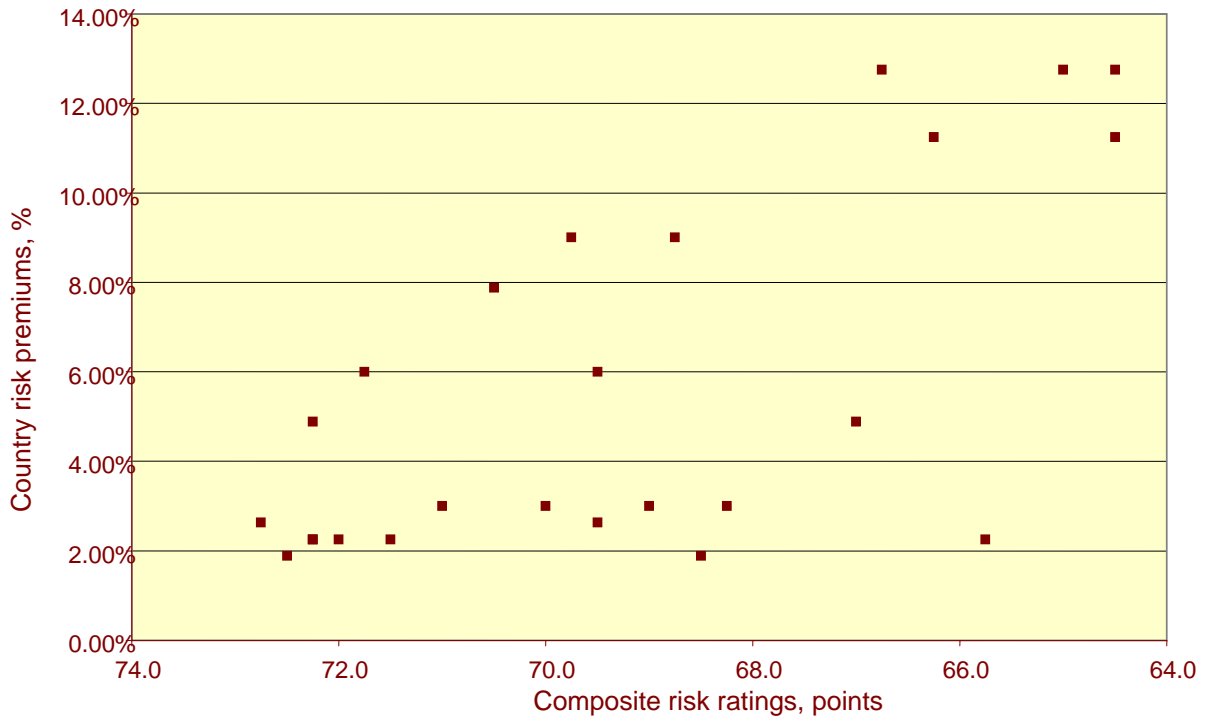
Mongolia's rating provided by the ICRG is 63.8 points and is classified as of moderate risk. When we examine a scatter plot of country risk premiums for a group of 20 countries with similar ratings falling in the range of +/– 5 points around Mongolia, the country risk premiums for most countries in this range, except a few outliers, vary from 11% to 13% with the midpoint at 12%.

Exhibit IV-4. Countries with composite risk ratings of +/- 5 points around Mongolia's rating
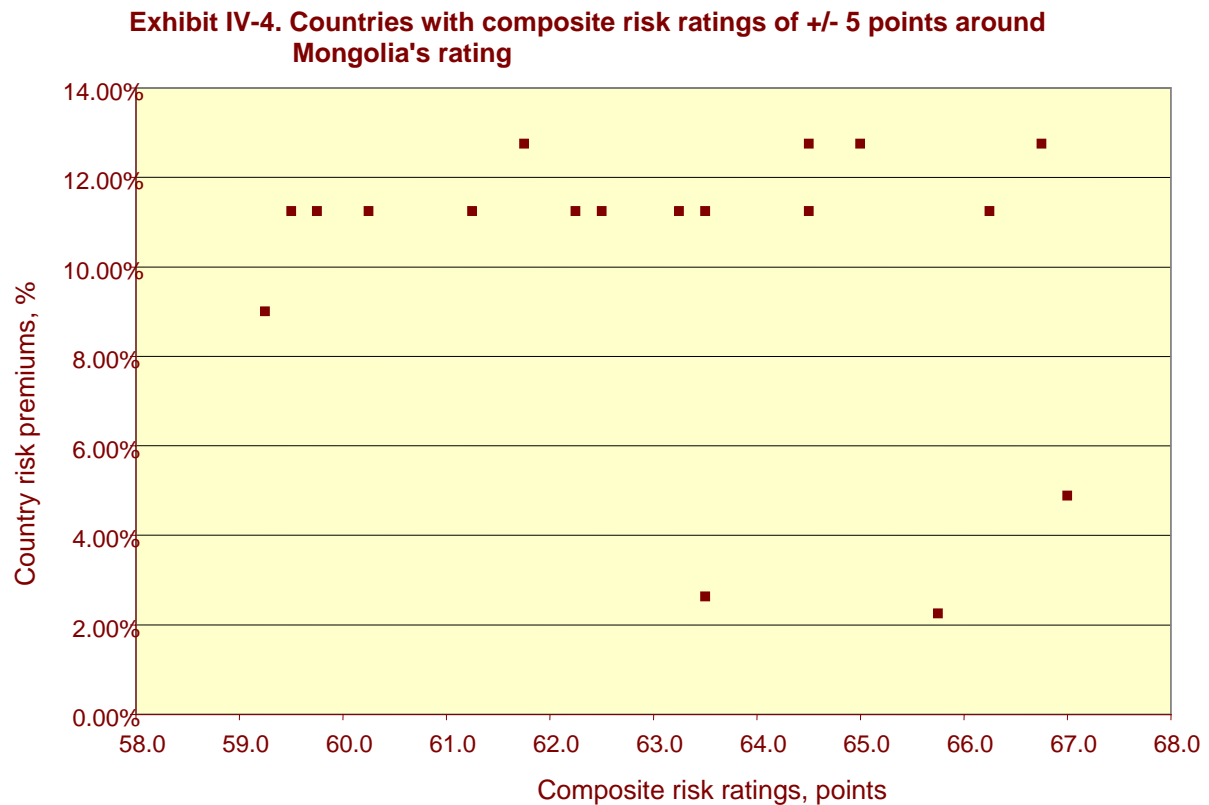
Given these data and our assumption, the country premium for Mongolia is likely to be 12%. The country risk premiums used in our analysis reflect risk for equity markets that are 1.5 times more volatile than bond markets. Therefore, if Mongolia issues US-denominated debt in international markets, the spread of Mongolia's Government bonds over the US Treasury bonds is likely to be about 8% or 800 basis points.

B. Results of regression analysis

As an alternative way of estimating Mongolia's country risk premium, we conducted a simple regression using the Credit Rating Model developed by Erb, Harvey and Viskanta. The model uses credit rating as a measure of systematic, non-diversifiable country-specific risk. In this model, an expected market return, the dependent variable, is regressed on the country's risk rating, the explanatory variable. This model can be used even in countries without equity markets and hard currency denominated debt.

$R_{(country)} = \alpha + \beta * X$, where
$R_{(country)}$ is the expected return in a foreign country
X is the country's rating, and
α and β are coefficients.

In our analysis, we slightly modified the model and tried to use it for estimating a country risk premium for Mongolia. We are assuming the country risk ratings are good measures of political, economic and financial risks. The expected return in foreign country is the sum of the US risk-free rate, the US market premium and the country risk premium.

$R_{(country)} = R_{US, risk-free} + MP_{US} + CP$

If the Credit Rating Model says that the expected return can be predicted with the country's rating, then we are assuming that the country premium, which is part of the expected return, can be also predicted with the rating.

Therefore, in the modified version of the model, we run a regression for our group of 90 countries where the country risk premium is the dependent variable and the country risk rating is the explanatory variable:

$$Y = \alpha + \beta * X, \text{ where}$$
$$Y \text{ is the country risk premium,}$$
$$X \text{ is the country risk rating, and}$$
$$\alpha \text{ and } \beta \text{ are coefficients.}$$

The output of the regression is displayed in Annex F.

The regression produced the following relationship between the country risk premium and the country risk rating.

$$Y = 0.337 + (-0.004) * X$$
$$\text{R-sq} = 0.70319$$

Using this regression equation, the country risk premium for Mongolia is estimated as 8.28%.

However, this simple regression suffers from several problems. A high R-squared does not necessarily mean that the estimated regression line is a good fit. There are several clusters of points, for each of which the regression coefficient seems to be different.

The regression fit line plot (Annex G), especially the residuals plot (Annex H) suggests a pattern indicating that the residuals depart from the fitted values or 0 in a systematic fashion. They are mostly negative for smaller values of fitted Y values. In addition, the residuals plot shows that the variance increases for medium fitted values of Y and tends to decrease again with larger fitted values, suggesting departures from constancy of variance.

Given deficiencies of this regression, it can be used as a rough approximation for country risk premiums. The country risk premium of 8.28% estimated with this regression equation differs from 12% obtained from our empirical analysis in the previous section.

Therefore, this exercise with a simple linear regression model is included in this technical report for illustrative purposes only and will not be appropriate for drawing useful predictions.

SECTION V: CONCLUSION

This section presents the findings and recommendations based on a review of the risk components of Mongolia, analysis of Mongolia's standing across the countries, cross-national analysis of risk ratings and premiums, and analysis of other available documentation.

In addition, the findings of our analysis provide a hypothetical idea on the country risk premium for Mongolia, more specifically, the spread on hard currency denominated bonds anticipated for issue at the end of this year. Benchmarking the country risk premium suggests that the spread over US Treasury bonds for Mongolia's hard currency denominated bonds will be around 800 basis points. However, the actual spread will depend on the market conditions, maturities, and other factors at the time of issue.

In summary, major findings include the following:

1. Mongolia's standing in the political, financial and economic risk categories across countries shows that Mongolia is doing well in terms of its political risk; however, Mongolia's financial and economic risks are still perceived to be relatively high
2. Benchmarking of Mongolia's country risk premium against countries with similar risk ratings suggests that Mongolia's risk premium will be around 12% for equity market or 8% for sovereign spread
3. Mongolia's dependency on volatile commodities markets may lead to future difficulties in servicing debt obligations if commodities prices plunge; this will result in a higher country risk premium
4. Procedures, systems, and coordination for monitoring country risk need to be strengthened
5. Policy actions need to target management of financial and economic performance to improve ratings, reduce overall country risk premium, and make Mongolia more attractive and competitive as a location for private foreign direct investment
6. Improving ratings and reducing premiums will lead to increased revenue from privatization and concession deals.

These findings have important implications for national policymakers and the international community.

The results seem to indicate that while Mongolia has achieved remarkable progress in achieving a peaceful political transition to a democratic society in the last decade, its economic and financial foundations are weak. Financial and economic risks remain relatively high, resulting in foreign investors' demanding a higher country risk premium on their potential investments.

Despite gains in macroeconomic stabilization, economic growth, budget reform and privatization, Mongolia still remains among the least developed and low income nations in the world with GDP per capita of $ 477.1 as of September 2003. During the last decade, Mongolian exports have not been growing while imports have been increasing. No major structural changes have occurred in the composition of exports. Mining sector and agricultural products continue to account for the major portion of exports. Mongolia's dependency on such volatile commodity markets poses a potential threat for sustainability of economic growth. Mongolia's budget deficit remains high and and continues to be financed largely by foreign borrowing.

Current country risk ratings by PRS of Mongolia's economic and financial performance and the estimated country risk premium identify the following areas of concern:

- Weak external debt position as measured by the size of Mongolia's foreign debt
- Vulnerability to terms of trade as measured by the current account deficit
- Dependency on volatile commodity markets and, as a result, sustainability of economic growth and debt service as measured by real annual GDP growth and share of debt service in exports of goods and services
- Large government spending as measured by the budget deficit

However, it is not enough to know the country's performance in these areas. What is required is understanding and management of these weaknesses to improve Mongolia's ratings. The ultimate purpose of benchmarking the country risk is policy change. With the most difficult political tasks of transition now largely completed, Mongolia needs to build on the foundations for sustainable, broad-based, equitable, private-sector-led economic growth to solidify the social and political achievements of the past and avoid setbacks and reversals.

Government policies need to be responsive to these concerns and set the reduction of country risk and country premium and the improvement of current ratings as the acid tests of overall country performance by:

- Implementing and sustaining sound macroeconomic policies to improve country competitiveness
- Diversifying the economy and changing its productive structure by using its yet unexplored and unexploited natural resources wisely
- Promoting and supporting service sectors such as tourism, telecommunication, IT, banking and finance and transportation that have potentials for growth and attraction of FDI
- Improving revenue and expenditure administration to reduce budget deficit
- Carefully balancing of private foreign direct investment (FDI) and donor assistance
- Promoting microeconomic policies that reduce business transaction costs
- Being constantly aware of, monitoring and managing country risk ratings and premiums.

These policies, supported by a sustained commitment to their implementation over time, will reduce country risk and weave an enabling environment more attractive to private domestic and foreign investment. In turn, this will begin to break the cycle of donor dependence, high country indebtedness, and low competitiveness of non-mining sectors in which the Mongolian economy currently operates.

ANNEX A: PRODUCTS AND RISK MEASUREMENT COMPONENTS OF COUNTRY RATINGS SERVICES

ANNEX A: PRODUCTS AND RISK MEASUREMENT COMPONENTS OF COUNTRY RATING SERVICES

		Political Risk Services (PRS) / International Country Risk Guide (ICRG) www.prsgroup.com	Standard and Poor's Rating Group www.standardandpoors.com	Moody's Investor Services www.moodys.com	Bank of America World Information Services www.bankofamerica.com	Control Risk Information Services (CRIS) www.crg.com	Business Environment Risk Intelligence (BERI) S.A. www.beri.com	Political Risk Services-Coplin-O'leary Rating System www.prsonline.com	Economist Intelligence Unit (EIU) www.eiu.com	Institutional Investor www.institutionalinvestor.com	Euromoney www.euromoney.com
1	Products	Country Risk Ratings	Sovereign credit ratings Local and foreign currency obligation ratings Regional and local government obligation ratings Sovereign-supported obligation ratings Multilateral lending institution obligation ratings International structured financing ratings	Sovereign Foreign-Currency Debt Ratings Credit Opinions for Governmental Bodies	Country Outlooks: Summary of business, financial and economic environment. Includes key economic historical and projected indicators. Country Data Forecast: Country-specific forecasts of commonly used economic, financial and demographic variables. Country Risk Monitor: Business risk ranking based upon economic and financial ratios.	On-line country information services Travel security guide Security risk ratings and security forecasts	FORCE Country Reports: Qualitative analysis of socio-political, economic and financial forecasts. Scenario basis. Political, operations and remittance/repatriation risk indices. Profit opportunity recommendation (POR) is a composite of the individual risk indices.	Country Risk Ratings: International Business Climate Index (IBC) Various other indices are calculated from sub-components of the IBC index: Financial Transfer Risk Direct Investment Risk Export Market Risk	Repayment risk measure Regional and Country Reports	Country Credit Rating Index	Risk Assessment Index
2	Risk measure		Only sovereign							Political, economic and	

	components		credit ratings reviewed							financial variables	
i	Political										
a	Information type	Qualitative	Quantitative, qualitative	Qualitative		(Methodology is not provided)	Qualitative		Qualitative	Qualitative	Qualitative
b	Data source	Staff analysis	Published data, staff analysis	Staff analysis		Staff analysis	Expert panel		Staff analysis	Weighted survey of International Bankers	Survey of experts
c	Components	Economic expectations Economic planning failures Political leadership External conflict Corruption Military in politics Organized religion in politics Law and order tradition Racial and national tensions Political terrorism Civil war Political party development Quality of the bureaucracy	Political system: Stability Orderliness of succession System flexibility Public participation Characteristics of major political parties Social Environment: Living standards Wealth and income distribution Labor market conditions Union politicization Cultural/demographic characteristics Literacy levels Urbanization trends Regional, racial, religious and other cultural differences International Relations:	Potential for radical shift in leadership Legal framework Effective political structure Income distribution Religious, ethnic and linguistic differences Single issue political movements Social welfare policies Organized protest/armed resistance Political intrusiveness on cultivation of wealth Depth and experience of government bureaucrats Political intrusiveness on economic management Political links with foreign partners		Government survival Likely policy continuity Political pressure on economic decisions Criminal or terrorist threat	Political Factionalization Linguistic/Ethnic/Religious Tension Coercive Measures to maintain Regime Mentality: Nationalism, Corruption, nepotism Social Conditions: population, income distribution Radical Left Strength Dependence on outside major power Regional Political Forces Social Conflict History of Regime Instability		Economic Policy Factors: Fiscal, Monetary and Export Policy Attitude towards foreign investment Ease of Structural and Policy Change Size/Performance of public sector Policy Consistency Political and Strategic Factors: Ability to implement economic policy Operation of political system New Regime policy continuity Enfranchisement Regional Context	Economic outlook Debt service Financial reserves/Current account Fiscal policy Political outlook Access to capital markets Trade balance Inflow of portfolio investment Foreign direct investment	

			Integration with multilateral trade and international financial systems Relations with neighboring countries National security	Past behavior under stress Regime legitimacy						
ii	Financial									
	Information type	Quantitative, qualitative		Quantitative	Quantitative		Quantitative, qualitative		Quantitative, qualitative		Quantitative
	Data source	Published data, staff analysis		Published Sources	Published sources		Expert panel, published data		Published sources		Published sources
	Components	Loan default / unfavorable restructuring Delayed payment of suppliers credits Repudiation of contracts by governments Losses from exchange controls Expropriation of private investments		Illiquidity Debt burden Balance of payments Subnational governments	Debt Service/Exports External Debt/Exports External Debt/GDP External Debt/Reserves Reserves/Imports Import Coverage Exports/GDP Current Account/GDP Budget Deficit/GDP GDP per Capita/G-7 Average		Legal framework for remittance and repatriation of capital Foreign exchange International reserves Foreign debt Budget performance		External debt Debt service Current account Savings rate Export concentration Import cover ratio History of foreign exchange transfers		Debt indicators Debt in default or rescheduledCredit ratings (Moody's and S & P's) Access to bank finance Access to short-term finance Access to international bond and syndicated loan markets Access to and discount on forfeiting
iii	Economic									

Information type	Quantitative	Quantitative, qualitative	Quantitative, qualitative			Quantitative, qualitative	Quantitative, qualitative			Quantitative
Data source	Published data	Published data, staff analysis	Published data, staff analysis			Expert panel	Expert panel, staff analysis			Euromoney global economic projections
Components	Inflation Debt service International liquidity ratios Foreign debt collection experience Current account balance Parallel foreign exchange indicators	External Financial Position Balance of Payments International reserves External debt GDP Exports Economic structure and growth Economic development Natural resources Rate and composition of growth Economic Management Budgetary performance Social security system Local government Fiscal flexibility Tax structure Current and capital accounts Wage behavior incentives	Policy environment Infrastructure Structure of production Independent monetary authority Labor market mobility Interest rates Foreign exchange Quality of economic management Dependency on export/import sectors International capital flows Ability to implement austerity programs			Policy continuity Attitudes towards foreign investors Nationalization Monetary inflation Balance of payments Bureaucratic delays Economic growth Currency convertibility Enforceability of contracts Labor cost/productivity Professional services and contractors Communications and transport Local management and partners Short-term credit Long-term loans Resolve towards honoring international obligations Foreign loan structure and terms Technocratic	(The three above indices use an overlapping mixture of the following) Turmoil Restrictions on Equity Restrictions on local operations Taxation Discrimination Repatriation Restrictions Exchange Controls Tariff Barriers Nontarrif Barriers Payment Delays Expansionary Economic Policies Labor Costs Foreign Debt Investment Restrictions Restrictions on Foreign Trade			

			Exchange rate policy Long-term economic efficiency Economic Prospects				competence Corruption Concessionary loans and grants	Domestic economic Problems International Economic Problems			
i v	Summary format	Briefing risk index	Risk index	Credit opinion summaries, debt ratings	Risk index briefing (country outlook) economic/financial indicators		Briefing risk index	Briefing risk index	Briefing risk index, economic, payment, debt and trade indicators	Credit rating	Risk index
v	Risk index										
	Type	Ordinal scalar	Ordinal	Ordinal	Ordinal	Ordinal (1-4)	Ordinal scalar	Ordinal scalar	Ordinal scalar	Ordinal scalar	Ordinal scalar
	Components	Weighted average of above components	Composite of above factors		Above financial/economic indicators, rank ordered, averaged		Weighted average of above components		Weighted average of above components	Weighted average of above components	Weighted average of above components

ANNEX B: SCATTER DIAGRAMS BETWEEN COUNTRY RATINGS AND COUNTRY RISK PREMIUMS

ANNEX B: SCATTER DIAGRAMS BETWEEN COUNTRY RATINGS AND COUNTRY RISK PREMIUMS

Relationship between the 2004 Index of Economic Freedom and country risk premium
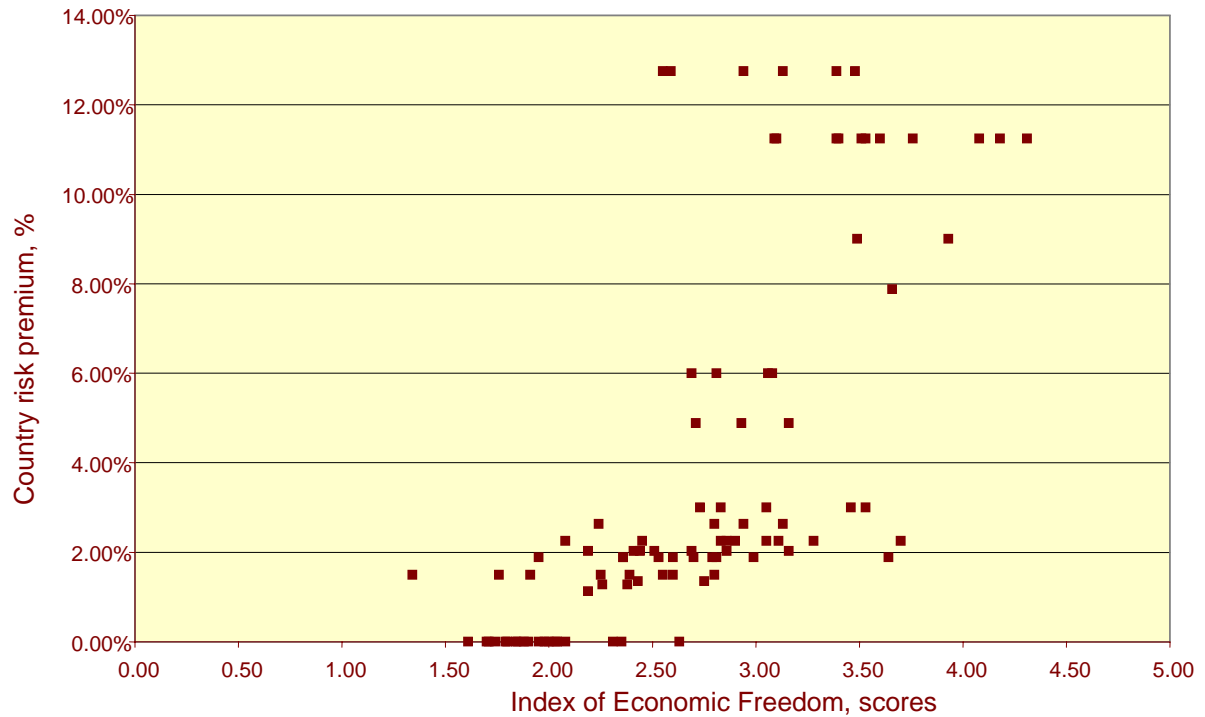
Relationship between the Microeconomic Competitiveness Index and country risk premium
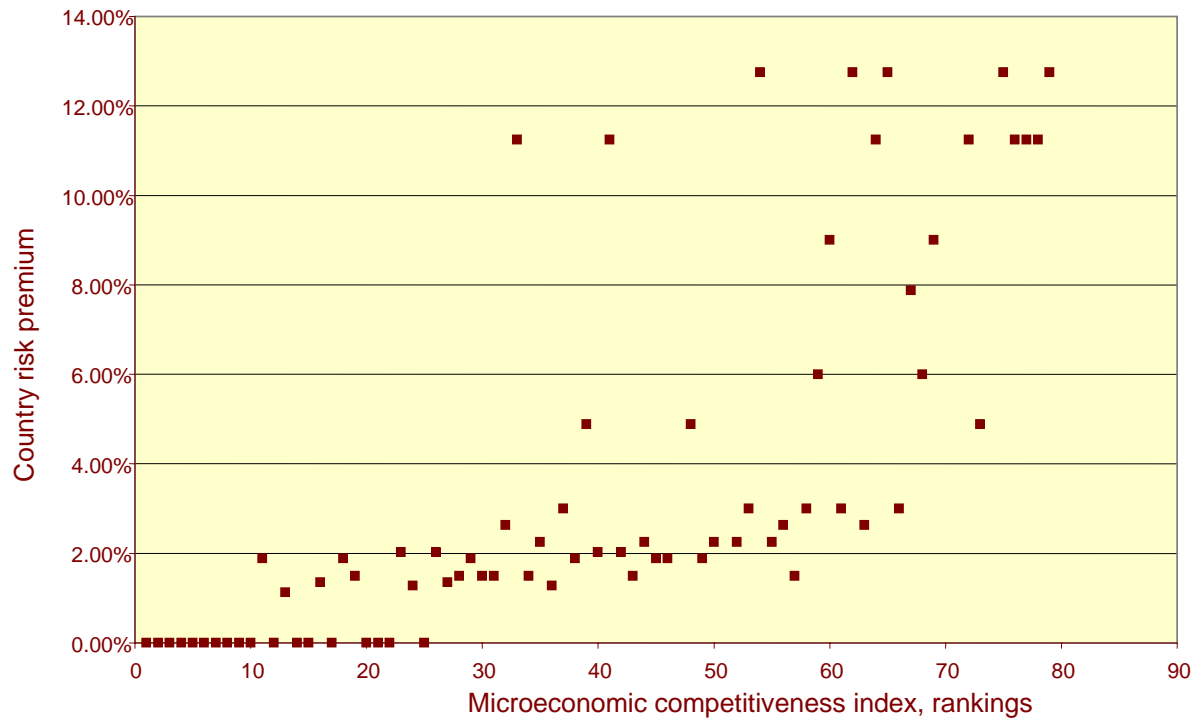
Relationship between the Euromoney country risk ranking and country risk premium
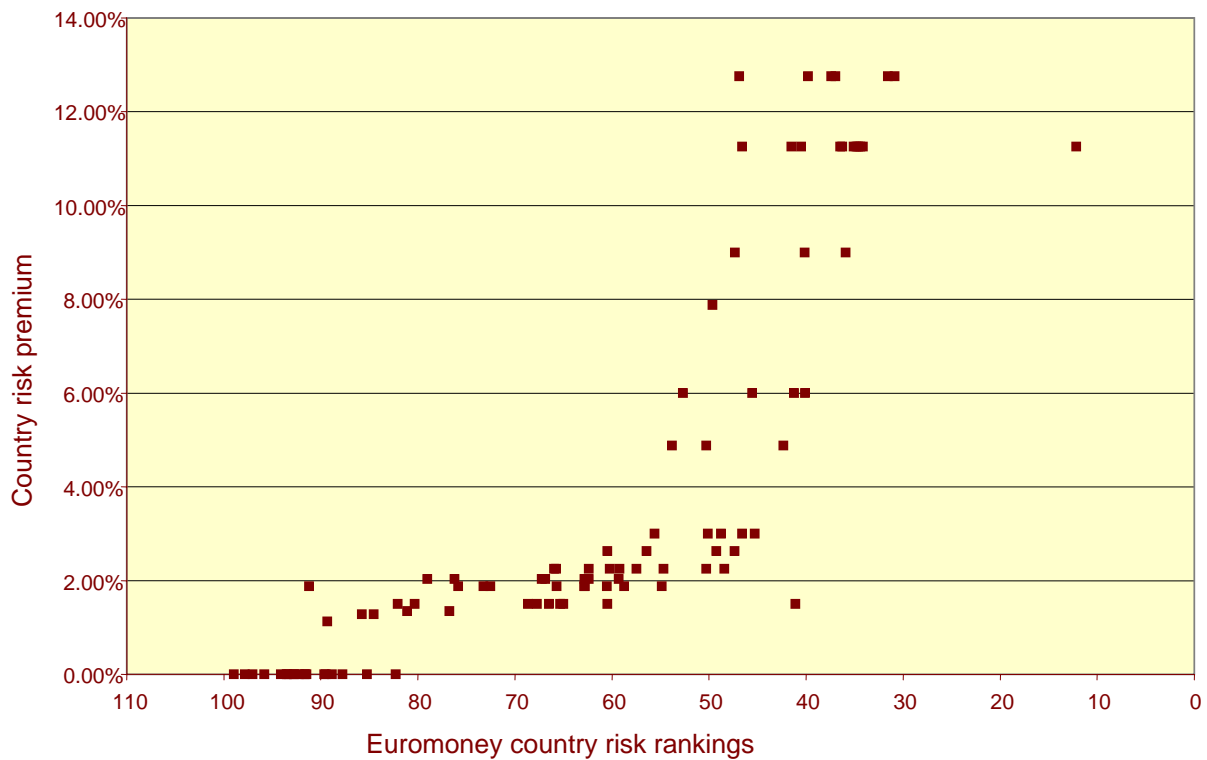
Relationship between the PRS country risk rating and country risk premium
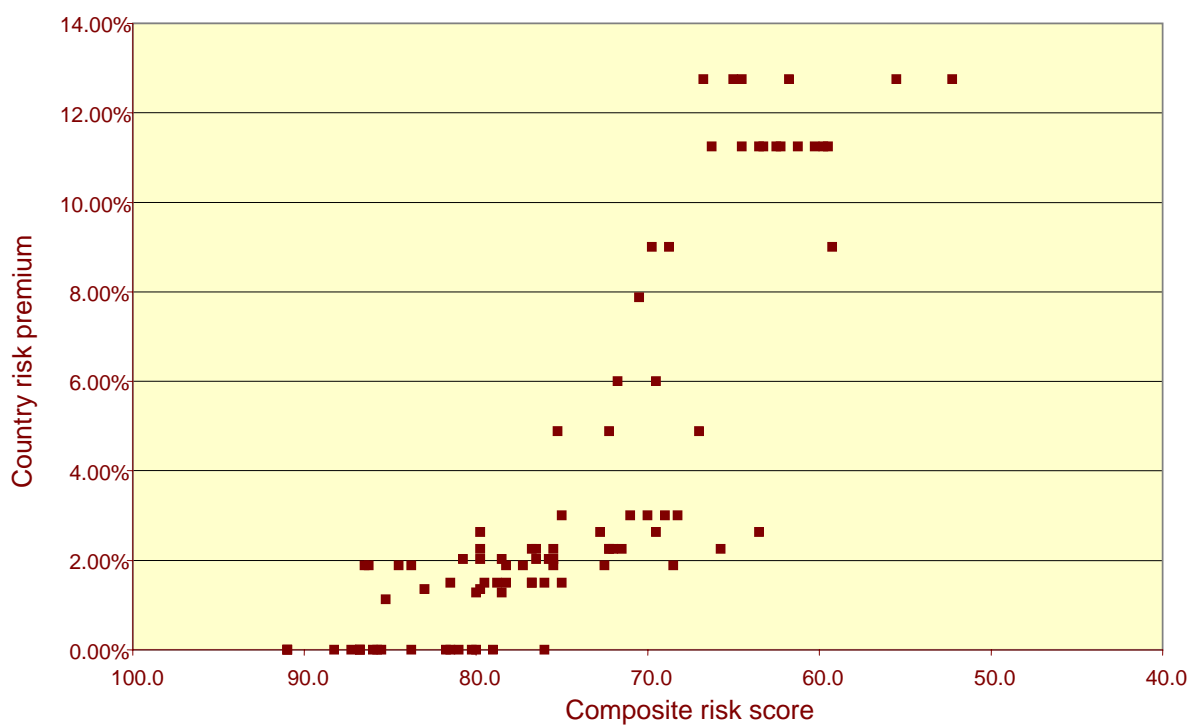
ANNEX C: DATA ON COUNTRY RISK RATINGS

ANNEX C: DATA ON COUNTRY RISK RATINGS

X	COUNTRY	Political risk	Financial risk	Economic risk	Composite risk
121	Albania	68.5	33.5	32.0	67.0
1	Algeria	45.5	43.5	43.5	66.3
2	Angola	58.5	25.5	26.0	55.0
3	Argentina	64.0	29.5	36.5	65.0
139	Armenia	61.0	31.0	32.5	62.3
4	Australia	85.5	35.5	41.0	81.0
5	Austria	90.0	42.0	40.0	86.0
140	Azerbaijan	64.0	38.5	35.0	68.8
102	Bahamas	84.0	37.5	36.0	78.8
103	Bahrain	77.0	44.0	38.5	79.8
6	Bangladesh	48.0	39.5	38.5	63.0
141	Belarus	62.0	38.0	30.5	65.3
7	Belgium	86.5	41.5	42.5	85.3
8	Bolivia	63.5	37.0	33.0	66.8
9	Botswana	76.5	44.0	38.5	79.5
10	Brazil	69.0	30.5	33.0	66.3
122	Brunei	82.0	50.0	44.5	88.3
11	Bulgaria	71.0	36.5	36.0	71.8
123	Burkina Faso	63.5	23.5	29.5	58.3
13	Cameroon	54.0	33.5	36.5	62.0
14	Canada	89.5	42.0	42.0	86.8
15	Chile	77.0	37.5	39.0	76.8
16	China, Peoples' Rep.	70.5	45.5	38.5	77.3
17	Colombia	55.0	39.5	32.5	63.5
98	Congo, Dem. Republic	38.5	24.5	30.0	46.5
18	Congo, Republic	56.5	23.0	18.0	48.8
19	Costa Rica	74.0	37.0	33.5	72.3
20	Cote d'Ivoire	46.5	30.5	34.0	55.5
142	Croatia	72.5	37.0	35.0	72.3
21	Cuba	58.5	28.5	33.5	60.3
107	Cyprus	83.0	43.5	41.0	83.8
22	Czech Republic	78.5	41.0	37.0	78.3
23	Denmark	87.5	42.0	42.0	85.8
24	Dominican Republic	62.5	29.5	27.5	59.8
25	Ecuador	58.0	34.5	34.0	63.3
26	Egypt	64.0	34.0	33.5	65.8
27	El Salvador	64.0	39.5	35.5	69.5
143	Estonia	75.0	37.0	38.0	75.0
109	Ethiopia	54.0	31.5	33.0	59.3
28	Finland	93.5	36.0	44.0	86.8
29	France	78.0	40.0	40.0	79.0
30	Gabon	60.5	34.0	38.0	66.3
124	Gambia	69.5	29.0	35.5	67.0
31	Germany	83.0	41.5	39.0	81.8
32	Ghana	61.5	33.5	31.0	63.0
33	Greece	78.0	36.5	37.5	76.0
34	Guatemala	60.5	40.0	33.5	67.0

X	COUNTRY	Political risk	Financial risk	Economic risk	Composite risk
35	Guinea	53.5	35.5	35.0	62.0
125	Guinea-Bissau	47.5	21.5	26.0	47.5
36	Guyana	68.0	29.5	27.5	62.5
37	Haiti	45.0	31.5	25.5	51.0
38	Honduras	60.5	36.0	28.0	62.3
39	Hong Kong	75.5	44.0	43.5	81.5
40	Hungary	84.5	34.5	34.5	76.8
111	Iceland	90.0	31.5	39.0	80.3
41	India	59.0	44.0	35.0	69.0
42	Indonesia	51.5	34.5	36.5	61.3
43	Iran	58.0	46.5	36.5	70.5
44	Iraq	41.5	22.5	20.0	42.0
45	Ireland	92.0	41.5	41.0	87.3
46	Israel	67.5	39.5	38.0	72.5
47	Italy	78.0	43.0	39.0	80.0
48	Jamaica	70.5	36.0	32.5	69.5
49	Japan	85.5	50.0	37.5	86.5
112	Jordan	69.5	36.5	36.0	71.0
145	Kazakstan	70.5	37.0	37.0	72.3
50	Kenya	62.5	36.5	32.5	65.8
119	Korea, D.P.R.	50.5	26.5	30.0	53.5
77	Korea, Republic	79.0	42.0	40.5	80.8
51	Kuwait	78.0	47.5	47.0	86.3
147	Latvia	78.5	39.5	38.5	78.3
114	Lebanon	60.0	25.0	26.0	55.5
115	Liberia	32.5	18.5	21.0	36.0
52	Libya	62.0	44.0	41.5	73.8
148	Lithuania	78.5	37.0	37.5	76.5
116	Luxembourg	94.5	43.0	44.5	91.0
126	Madagascar	60.0	32.0	28.0	60.0
127	Malawi	56.5	25.5	26.0	54.0
53	Malaysia	71.5	41.0	39.0	75.8
128	Mali	61.5	31.5	24.0	58.5
117	Malta	86.5	37.5	35.5	79.8
54	Mexico	69.0	38.0	37.0	72.0
150	Moldova	68.5	31.0	29.5	64.5
129	Mongolia	71.0	31.5	25.0	63.8
55	Morocco	73.5	40.0	37.0	75.3
118	Mozambique	63.0	34.0	25.5	61.3
12	Myanmar	47.5	39.5	32.5	59.8
130	Namibia	76.0	41.0	35.5	76.3
56	Netherlands	90.5	39.5	41.0	85.5
57	New Zealand	91.0	30.5	41.5	81.5
58	Nicaragua	57.5	25.0	22.0	52.3
131	Niger	58.5	25.5	31.0	57.5
59	Nigeria	44.0	39.0	31.0	57.0
60	Norway	88.5	47.5	46.0	91.0
61	Oman	75.5	42.0	42.0	79.8
62	Pakistan	49.0	40.5	37.5	63.5

63	Panama	72.0	35.0	36.0	71.5
64	Papua New Guinea	53.5	35.0	30.0	59.3
65	Paraguay	57.0	39.0	29.0	62.5
66	Peru	62.5	37.5	36.5	68.3
67	Philippines	68.0	36.5	35.5	70.0
68	Poland	76.5	39.0	35.5	75.5
69	Portugal	86.0	36.5	34.5	78.5
71	Qatar	73.0	36.5	47.5	78.5
72	Romania	71.0	38.5	31.5	70.5
73	Russian Federation.	67.5	43.0	39.5	75.0
74	Saudi Arabia	67.0	45.5	41.0	76.8
132	Senegal	59.0	35.5	35.0	64.8
138	Serbia & Montenegro	62.0	26.0	22.5	55.3
133	Sierra Leone	56.0	21.0	25.5	51.3
75	Singapore	86.5	45.5	44.5	88.3
134	Slovak Republic	78.5	37.5	35.0	75.5
151	Slovenia	80.0	41.5	38.0	79.8
135	Somalia	27.0	35.5	28.5	45.5
76	South Africa	65.5	36.0	35.5	68.5
78	Spain	82.0	39.0	39.0	80.0
79	Sri Lanka	59.0	37.0	31.0	63.5
80	Sudan	45.0	29.5	34.0	54.3
81	Suriname	65.0	35.5	30.0	65.3
82	Sweden	90.5	40.0	43.0	86.8
83	Switzerland	91.0	47.5	43.5	91.0
84	Syria	64.5	39.0	37.5	70.5
85	Taiwan	76.0	47.0	43.0	83.0
120	Tanzania	60.5	21.0	34.5	58.0
86	Thailand	71.5	39.5	40.0	75.5
136	Togo	51.0	34.0	31.5	58.3
87	Trinidad & Tobago	67.0	45.0	41.0	76.5
88	Tunisia	73.0	36.0	36.5	72.8
89	Turkey	65.5	31.5	26.5	61.8
137	Uganda	56.5	34.0	33.5	62.0
90	Ukraine	59.5	40.5	37.5	68.8
91	United Arab Emirates	78.0	45.0	46.0	84.5
92	United Kingdom	86.0	42.5	39.0	83.8
93	United States	81.0	33.0	38.0	76.0
94	Uruguay	70.5	30.5	28.0	64.5
95	Venezuela	50.0	42.5	26.5	59.5
96	Vietnam	65.5	38.5	35.5	69.8
97	Yemen, Republic	62.5	35.0	36.5	67.0
99	Zambia	57.5	25.0	23.0	52.8
100	Zimbabwe	38.0	21.0	9.5	34.3

ANNEX D: DATA ON COUNTRY RISK PREMIUMS

ANNEX D: DATA ON COUNTRY RISK PREMIUMS

Country	Long-Term Rating	Default Spread	Total Risk Premium	Country Risk Premium
Alderney	Aaa	0	4.82%	0.00%
Andorra	Aaa	0	4.82%	0.00%
Argentina	B3	850	17.57%	12.75%
Australia	Aaa	0	4.82%	0.00%
Austria	Aaa	0	4.82%	0.00%
Bahamas	A1	100	6.32%	1.50%
Bahrain	Baa1	150	7.07%	2.25%
Barbados	A3	135	6.85%	2.03%
Belgium	Aa1	75	5.95%	1.13%
Belize	Ba2	400	10.82%	6.00%
Bermuda	Aaa	0	4.82%	0.00%
Bolivia	B3	850	17.57%	12.75%
Botswana	A1	100	6.32%	1.50%
Brazil	B2	750	16.07%	11.25%
Bulgaria	Ba2	400	10.82%	6.00%
Canada	Aaa	0	4.82%	0.00%
Cayman Islands	Aa3	90	6.17%	1.35%
Chile	A1	100	6.32%	1.50%
China	A2	125	6.70%	1.88%
Colombia	Baa2	175	7.45%	2.63%
Costa	Ba1	325	9.70%	4.88%
Croatia	Baa1	150	7.07%	2.25%
Cuba	NR	750	16.07%	11.25%
Cyprus	A2	125	6.70%	1.88%
Czech Republic	A1	100	6.32%	1.50%
Denmark	Aaa	0	4.82%	0.00%
Dominican Republic	B2	750	16.07%	11.25%
Ecuador	Caa1	750	16.07%	11.25%
Egypt	Baa1	150	7.07%	2.25%
El Salvador	Baa2	175	7.45%	2.63%
Estonia	A1	100	6.32%	1.50%
Eurozone	Aaa	0	4.82%	0.00%
Fiji Islands	Ba2	400	10.82%	6.00%
Finland	Aaa	0	4.82%	0.00%
France	Aaa	0	4.82%	0.00%
Germany	Aaa	0	4.82%	0.00%
Greece	A1	100	6.32%	1.50%
Guatemala	Ba1	325	9.70%	4.88%
Guernsey	Aaa	0	4.82%	0.00%
Honduras	B2	750	16.07%	11.25%
Hong	A1	100	6.32%	1.50%
Hungary	A1	100	6.32%	1.50%
Iceland	Aaa	0	4.82%	0.00%
India	Baa3	200	7.82%	3.00%
Indonesia	B2	750	16.07%	11.25%
Ireland	Aaa	0	4.82%	0.00%
Isle of Man	Aaa	0	4.82%	0.00%
Israel	A2	125	6.70%	1.88%

Country	Long-Term Rating	Default Spread	Total Risk Premium	Country Risk Premium
Italy	Aa2	85	6.10%	1.28%
Jamaica	Ba2	400	10.82%	6.00%
Japan	A2	125	6.70%	1.88%
Jersey	Aaa	0	4.82%	0.00%
Jordan	Baa3	200	7.82%	3.00%
Kazakhstan	Baa1	150	7.07%	2.25%
Korea	A3	135	6.85%	2.03%
Kuwait	A2	125	6.70%	1.88%
Latvia	A2	125	6.70%	1.88%
Lebanon	B3	850	17.57%	12.75%
Liechtenstein	Aaa	0	4.82%	0.00%
Lithuania	A3	135	6.85%	2.03%
Luxembourg	Aaa	0	4.82%	0.00%
Macau	A1	100	6.32%	1.50%
Malaysia	A3	135	6.85%	2.03%
Malta	A3	135	6.85%	2.03%
Mauritius	A2	125	6.70%	1.88%
Mexico	Baa1	150	7.07%	2.25%
Moldova	Caa1	750	16.07%	11.25%
Monaco	Aaa	0	4.82%	0.00%
Morocco	Ba1	325	9.70%	4.88%
Netherlands	Aaa	0	4.82%	0.00%
New Zealand	Aaa	0	4.82%	0.00%
Nicaragua	B3	850	17.57%	12.75%
Norway	Aaa	0	4.82%	0.00%
Oman	Baa2	175	7.45%	2.63%
Pakistan	B2	750	16.07%	11.25%
Panama	Baa1	150	7.07%	2.25%
Papua New Guinea	B1	600	13.82%	9.00%
Paraguay	Caa1	750	16.07%	11.25%
Peru	Baa3	200	7.82%	3.00%
Philippines	Baa3	200	7.82%	3.00%
Poland	A2	125	6.70%	1.88%
Portugal	Aa2	85	6.10%	1.28%
Qatar	A3	135	6.85%	2.03%
Romania	Ba3	525	12.70%	7.88%
Russia	Baa3	200	7.82%	3.00%
Sark	Aaa	0	4.82%	0.00%
Saudi Arabia	Baa1	150	7.07%	2.25%
Singapore	Aaa	0	4.82%	0.00%
Slovakia	A3	135	6.85%	2.03%
Slovenia	Aa3	90	6.17%	1.35%
South Africa	A2	125	6.70%	1.88%
Spain	Aaa	0	4.82%	0.00%
Sweden	Aaa	0	4.82%	0.00%
Switzerland	Aaa	0	4.82%	0.00%
Taiwan	Aa3	90	6.17%	1.35%
Thailand	Baa1	150	7.07%	2.25%
Trinidad	Baa1	150	7.07%	2.25%
Tunisia	Baa2	175	7.45%	2.63%

Turkey	B3	850	17.57%	12.75%
Turkmenistan	B2	750	16.07%	11.25%
Ukraine	B1	600	13.82%	9.00%
United Arab Emirates	A2	125	6.70%	1.88%
UK	Aaa	0	4.82%	0.00%
USA	Aaa	0	4.82%	0.00%
Uruguay	B3	850	17.57%	12.75%
Venezuela	Caa1	750	16.07%	11.25%
Vietnam	B1	600	13.82%	9.00%
United Kingdom	Aaa	0	4.82%	0.00%
United States	Aaa	0	4.82%	0.00%
Uruguay	B3	850	17.57%	12.75%
Venezuela	Caa1	750	16.07%	11.25%
Vietnam	B1	600	13.82%	9.00%

ANNEX E: DATA ON COUNTRY RISK RATINGS AND CORRESPONDING RISK PREMIUMS

ANNEX E: DATA ON COUNTRY RISK RATINGS AND CORRESPONDING RISK PREMIUMS

X	Country	Composite Risk Rating	Degree of Risk by PRS	Moody's Long-Term Rating	Degree of Risk by Moody's	Country Risk Premiums	Correlation of Country Risk Ratings and Country Risk Premiums
1	Luxembourg	91.0	Very low	Aaa	Minimal	0.00%	-0.84
2	Norway	91.0	Very low	Aaa	Minimal	0.00%	
3	Switzerland	91.0	Very low	Aaa	Minimal	0.00%	
4	Singapore	88.3	Very low	Aaa	Minimal	0.00%	
5	Ireland	87.3	Very low	Aaa	Minimal	0.00%	
6	Canada	86.8	Very low	Aaa	Minimal	0.00%	
7	Finland	86.8	Very low	Aaa	Minimal	0.00%	
8	Sweden	86.8	Very low	Aaa	Minimal	0.00%	
9	Japan	86.5	Very low	A2	Low	1.88%	
10	Kuwait	86.3	Very low	A2	Low	1.88%	
11	Austria	86.0	Very low	Aaa	Minimal	0.00%	
12	Denmark	85.8	Very low	Aaa	Minimal	0.00%	
13	Netherlands	85.5	Very low	Aaa	Minimal	0.00%	
14	Belgium	85.3	Very low	Aa1	Very low	1.13%	
15	United Arab Emirates	84.5	Very low	A2	Low	1.88%	
16	Cyprus	83.8	Very low	A2	Low	1.88%	
17	UK	83.8	Very low	Aaa	Minimal	0.00%	
18	Taiwan	83.0	Very low	Aa3	Very low	1.35%	
19	Germany	81.8	Very low	Aaa	Minimal	0.00%	
20	Hong	81.5	Very low	A1	Low	1.50%	
21	New Zealand	81.5	Very low	Aaa	Minimal	0.00%	
22	Australia	81.0	Very low	Aaa	Minimal	0.00%	
23	Korea	80.8	Very low	A3	Low	2.03%	
24	Iceland	80.3	Very low	Aaa	Minimal	0.00%	
25	Italy	80.0	Very low	Aa2	Very low	1.28%	
26	Spain	80.0	Very low	Aaa	Minimal	0.00%	
27	Malta	79.8	Low	A3	Low	2.03%	
28	Slovenia	79.8	Low	Aa3	Very low	1.35%	
29	Bahrain	79.8	Low	Baa1	Moderate	2.25%	
30	Oman	79.8	Low	Baa2	Moderate	2.63%	
31	Botswana	79.5	Low	A1	Low	1.50%	
32	France	79.0	Low	Aaa	Minimal	0.00%	
33	Bahamas	78.8	Low	A1	Low	1.50%	
34	Qatar	78.5	Low	A3	Low	2.03%	
35	Portugal	78.5	Low	Aa2	Very low	1.28%	
36	Czech Republic	78.3	Low	A1	Low	1.50%	
37	Latvia	78.3	Low	A2	Low	1.88%	
38	China	77.3	Low	A2	Low	1.88%	
39	Chile	76.8	Low	A1	Low	1.50%	
40	Hungary	76.8	Low	A1	Low	1.50%	
41	Saudi Arabia	76.8	Low	Baa1	Moderate	2.25%	
42	Lithuania	76.5	Low	A3	Low	2.03%	
43	Trinidad	76.5	Low	Baa1	Moderate	2.25%	
44	Greece	76.0	Low	A1	Low	1.50%	
45	USA	76.0	Low	Aaa	Minimal	0.00%	

X	Country	Composite Risk Rating	Degree of Risk by PRS	Moody's Long-Term Rating	Degree of Risk by Moody's	Country Risk Premiums	Correlation of Country Risk Ratings and Country Risk Premiums
46	Malaysia	75.8	Low	A3	Low	2.03%	
47	Poland	75.5	Low	A2	Low	1.88%	
48	Slovakia	75.5	Low	A3	Low	2.03%	
49	Thailand	75.5	Low	Baa1	Moderate	2.25%	
50	Morocco	75.3	Low	Ba1	Substantial	4.88%	
51	Estonia	75.0	Low	A1	Low	1.50%	
52	Russia	75.0	Low	Baa3	Moderate	3.00%	
53	Tunisia	72.8	Low	Baa2	Moderate	2.63%	
54	Israel	72.5	Low	A2	Low	1.88%	
55	Costa	72.3	Low	Ba1	Substantial	4.88%	
56	Croatia	72.3	Low	Baa1	Moderate	2.25%	
57	Kazakhstan	72.3	Low	Baa1	Moderate	2.25%	
58	Mexico	72.0	Low	Baa1	Moderate	2.25%	
59	Bulgaria	71.8	Low	Ba2	Substantial	6.00%	
60	Panama	71.5	Low	Baa1	Moderate	2.25%	
61	Jordan	71.0	Low	Baa3	Moderate	3.00%	
62	Romania	70.5	Low	Ba3	Substantial	7.88%	
63	Philippines	70.0	Low	Baa3	Moderate	3.00%	
64	Vietnam	69.8	Moderate	B1	High	9.00%	
65	Jamaica	69.5	Moderate	Ba2	Substantial	6.00%	
66	El Saklvador	69.5	Moderate	Baa2	Moderate	2.63%	
67	India	69.0	Moderate	Baa3	Moderate	3.00%	
68	Ukraine	68.8	Moderate	B1	High	9.00%	
69	South Africa	68.5	Moderate	A2	Low	1.88%	
70	Peru	68.3	Moderate	Baa3	Moderate	3.00%	
71	Guatemala	67.0	Moderate	Ba1	Substantial	4.88%	
72	Bolivia	66.8	Moderate	B3	High	12.75%	
73	Brazil	66.3	Moderate	B2	High	11.25%	
74	Egypt	65.8	Moderate	Baa1	Moderate	2.25%	
75	Argentina	65.0	Moderate	B3	High	12.75%	
76	Uruguay	64.5	Moderate	B3	High	12.75%	
77	Moldova	64.5	Moderate	Caa1	Very high	11.25%	
78	Pakistan	63.5	Moderate	B2	High	11.25%	
79	Colombia	63.5	Moderate	Baa2	Moderate	2.63%	
80	Ecuador	63.3	Moderate	Caa1	Very high	11.25%	
81	Paraguay	62.5	Moderate	Caa1	Very high	11.25%	
82	Honduras	62.3	Moderate	B2	High	11.25%	
83	Turkey	61.8	Moderate	B3	High	12.75%	
84	Indonesia	61.3	Moderate	B2	High	11.25%	
85	Cuba	60.3	Moderate	NR	NR	11.25%	
86	Dominican Republic	59.8	High	B2	High	11.25%	
87	Venezuela	59.5	High	Caa1	Very high	11.25%	
88	Papua New Guinea	59.3	High	B1	High	9.00%	
89	Lebanon	55.5	High	B3	High	12.75%	
90	Nicaragua	52.3	High	B3	High	12.75%	
	Mongolia	63.8	Moderate				

ANNEX F: OUTPUT OF A SIMPLE REGRESSION ANALYSIS

ANNEX F: OUTPUT OF A SIMPLE REGRESSION ANALYSIS

SUMMARY OUTPUT								
Regression Statistics								
Multiple R	0.838564							
R Square	0.70319							
Adjusted R Square	0.699817							
Standard Error	0.023065							
Observations	90							
ANOVA								
	df	*SS*	*MS*	*F*	*Significance F*			
Regression	1	0.110917	0.110917	208.4857	6.19E-25			
Residual	88	0.046817	0.000532					
Total	89	0.157734						
	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	0.337607	0.020878	16.17035	4.33E-28	0.296116	0.379098	0.296116	0.379098
X Variable 1	-0.004	0.000277	-14.439	6.19E-25	-0.00455	-0.00345	-0.00455	-0.00345

RESIDUAL OUTPUT

Observation	*Predicted Y*	*Residuals*
1	-0.02666	0.026661
2	-0.02666	0.026661
3	-0.02666	0.026661
4	-0.01565	0.015653
5	-0.01165	0.01165
6	-0.00965	0.009649
7	-0.00965	0.009649
8	-0.00965	0.009649
9	-0.00865	0.027448
10	-0.00765	0.026447
11	-0.00665	0.006646
12	-0.00565	0.005646
13	-0.00464	0.004645
14	-0.00364	0.014944
15	-0.00064	0.019442
16	0.00236	0.01644
17	0.00236	-0.00236
18	0.005363	0.008137
19	0.010366	-0.01037
20	0.011367	0.003633
21	0.011367	-0.01137
22	0.013368	-0.01337
23	0.014369	0.005931
24	0.016371	-0.01637
25	0.017371	-0.00457
26	0.017371	-0.01737
27	0.018372	0.001928
28	0.018372	-0.00487

29	0.018372	0.004128
30	0.018372	0.007928
31	0.019373	-0.00437
32	0.021374	-0.02137
33	0.022375	-0.00738
34	0.023376	-0.00308
35	0.023376	-0.01058
36	0.024377	-0.00938
37	0.024377	-0.00558
38	0.028379	-0.00958
39	0.030381	-0.01538
40	0.030381	-0.01538
41	0.030381	-0.00788
42	0.031382	-0.01108
43	0.031382	-0.00888
44	0.033383	-0.01838
45	0.033383	-0.03338
46	0.034384	-0.01408
47	0.035385	-0.01658
48	0.035385	-0.01508
49	0.035385	-0.01288
50	0.036385	0.012415
51	0.037386	-0.02239
52	0.037386	-0.00739
53	0.046393	-0.02009
54	0.047393	-0.02859
55	0.048394	0.000406
56	0.048394	-0.02589
57	0.048394	-0.02589
58	0.049395	-0.02689
59	0.050396	0.009604
60	0.051396	-0.0289
61	0.053398	-0.0234
62	0.055399	0.023401
63	0.057401	-0.0274
64	0.058402	0.031598
65	0.059402	0.000598
66	0.059402	-0.0331
67	0.061404	-0.0314
68	0.062404	0.027596
69	0.063405	-0.04461
70	0.064406	-0.03441
71	0.06941	-0.02061
72	0.07041	0.05709
73	0.072412	0.040088
74	0.074413	-0.05191
75	0.077415	0.050085
76	0.079417	0.048083
77	0.079417	0.033083
78	0.08342	0.02908
79	0.08342	-0.05712
80	0.084421	0.028079
81	0.087423	0.025077
82	0.088424	0.024076
83	0.090425	0.037075

84	0.092427	0.020073
85	0.096429	0.016071
86	0.098431	0.014069
87	0.099432	0.013068
88	0.100432	-0.01043
89	0.115443	0.012057
90	0.128453	-0.00095

ANNEX G: LINE FIT PLOT OF PREDICTED COUNTRY RISK PREMIUMS VS ACTUAL COUNTRY RISK PREMIUMS

ANNEX G: LINE FIT PLOT OF PREDICTED COUNTRY RISK PREMIUMS VS ACTUAL COUNTRY RISK PREMIUMS

■ Actual country risk premiums

■ Predicted country risk premiums

ANNEX H: PLOT OF RESIDUALS AGAINST PREDICTED COUNTRY RISK PREMIUMS

ANNEX H: PLOT OF RESIDUALS AGAINST PREDICTED COUNTRY RISK PREMIUMS

Predicted country risk premiums