

DETERMINATION OF THE COUNTRY-RISK RATE AS A SYMPTOM OF COMING CRISIS AND TURKISH CASE

Ozan Gönüllü*

Due to the influence of winds of global financial crises on a global scale, it turns out to be more and more important to calculate the probability of forthcoming risks on the part of those who hold surplus of funds. International investors observe the country-risk rates and plan their direct or indirect investments accordingly.

The country-risk rate has a significant role within the risk premium that is expected from international investments. For this reason, the calculation and interpretation of country-risk is vitally important under the current conditions of crises.

This study will first present the fundamental conceptual framework necessary to grasp this issue. In the second part, we will explain the concept of “country-risk”. In the third part, we will consider the factors determining the country-risk, and explain the stages of the calculation of risk. In the last part, we will calculate political, economic and financial risk rates of Turkey, by drawing on the macro-economic data of 2013 and 2014. We will come up with composite risk-rates derived from the combination of foregoing risks both for 2013 and 2014.

In accordance with the results of our calculations, we will conclude that while Turkey remains as a “moderately risky” country in 2013, it comes to be a “highly-risky” country in 2014 despite the fact that there was a decrease in financial risk rates.

* Research Assistant in Department of Business Administration, Faculty of Economic and Administrative Sciences, , Kocaeli Univesity.

I. RISK

In general, risk is defined as the probability of a deviation from what is expected. Here, what is important is the intensity of the deviation rather than whether it is positive or negative.¹ In other words, risk can be defined as the deviation between the state of realization of an event and the state in which we expect that event to take place.² Like each probability assessment, risk is a concept that involves uncertainty.

1. Political Risk Elements

In international portfolio investment analyses, political risk is studied in three aspects. These are country risk, sovereign risk and microeconomic risk.

a) Country Risk

Country Risk refers to the probability of a country's failure to fulfill foreign debt obligations as a result of the events which are under its own operations to a certain extent.

- **Economic Risk:** The government's budget deficit to national income (GNP) ratio is a risk indicator.
- **Efficiency in Government Expenditures:** The subsidization of mostly consumption with the loans obtained for a country that achieves growth depending on foreign debt increases the country risk.
- **Country Resources:** The insufficiency or ineffective use of natural, financial and labor resources of a country tends to increase the country risk.

b) Sovereign Risk

Its definition is wider than country risk and involves the probability of a country's failure to repay her current debts due to a change in the national policy of the government or in the state structure. Sovereign risk takes place at rather high levels especially for African countries. In the risk category defined as the risk of default in the repayment of the principal and interests on the debt, such risk state is addressed in terms of private sector debts without government guarantee.

¹ Abdurrahman FETTAHOĞLU, *Menkul Değer Yönetimi*, Rengin Matbaası, İstanbul, 2003, p.17.

² Nevin YÖRÜK, *Ülke Riski ve Türkiye'nin Ülke Risk Derecelerindeki Değişimler*, Tokat 1999, p.1

c) Microeconomic Risk

The microeconomic approach is the second aspect in studying political risk. According to this approach, it is assumed that the political risk of a country will not to have equal effects on every company. Therefore, company-based implications of the political risk are assessed in consideration of sectors for each company.

2. Economic Risk Elements

Economic risk elements are categorized into two groups which are exchange rate risk and transfer risk.

a) Exchange Rate Risk

Having a close relationship with the exchange rate in developing stock markets, domestic inflation rate is an important risk that poses exchange risk for investors. In consideration of the costs of management of options and futures and the complex structures thereof, it is seen that many global capital investors prefer diversifying times and countries in order to protect themselves from the exchange rate risk.

b) Transfer Risk

Since it is related to a country's capacity to pay all of its debts including private debts, all factors increasing or decreasing such capacity should be separately analyzed in order to determine the transfer risk.

II. COUNTRY RISK

In terms of offshore loan relationships, country risk can be defined as the probability of incurring damages as a result of certain events which may take place in the countries receiving loans. Such events are not controlled by the private or individual enterprise³.

The start of international borrowing relations and the origination and analysis of country risk coincide with the same dates. Numerous first examples of default, a term related to the

³ Pancras J. NAGY, **Country Risk: How to Assess, Quantify and Monitor It**, Euromoney Publications, London, 1979, p.13.

country risk, took place in the 14th century during a period that started upon the borrowings of the city states in the Western Mediterranean.

Throughout history, creditors incurred much damages due to insufficient information on the financial status of the debtor country or the willingness of the debtor country to repay its debt or the underestimation of the solvency of the debtor. Domestic or regional political instability are the other risks of unwillingness of a country to repay its debt.⁴

After many developing countries in addition to other Latin American and Eastern Bloc countries followed the lead of Mexico and demanded readjustment in the due dates of their debts, the debt crises dating back to the first oil crises that broke out in 1973 expanded, which resulted in the banks loaning money to those countries to go through economic shocks.⁵

Country risk analysis is one of the most important factors that affect international debt relations and other investment transactions today. In addition to international valuation institutions, banks and major investors perform or cause to perform country risk analyses.

Shelagh A. Hefferman concluded her research, involving 122 banks internationally operating in London and consisting of North American, European, Middle Eastern, Asian and Australian banks, based on 27 banks when she excluded from the research the banks that did not perform an independent country risk assessment or those that avoided giving information. Table 1 shows the answers given to the question regarding how often international banks assess the country risk.⁶

Table 1: Frequency of Country Risk Analyses Conducted/Caused to be Conducted by International Banks

⁴ Ronald L. SOLBERG, **Country Risk Analysis A Handbook**, Routledge, London and Newyork, 1992, p.10.

⁵ Fatoş TUĞAY, “Ülke Riski”, **Bankacılar**, Yıl :2, Sayı:5, Temmuz 1991, p.30.

⁶ Shelagh A. HEFFERMAN, **Sovereign Risk Analysis**, Ailen and Unwin Inc., London, 1986, pp.66-

Frequency	%
4 times per year	15
2 times per year	15
1 times per year	40
There isn't a certain fixed policy	30

Resource: Shelagh A. Hefferman, **Sovereign Risk Analysis**, Ailen and Unwin Inc., London, 1986.

Country risk categorizations are performed in parallel with the course of action of the debtor country. In a debt relationship, the debtor can either reject or make the payment. In such cases, the debtor notifies the creditor that she is not willing to pay the debt or she will cease payments due to her inability to pay. This is called **Default**. The denial and rejection of the debt by the debtor is called **Repudiation**. In addition to these two probabilities, there are also cases of **Renegotiation**, **Rescheduling**, **Moratorium**, **Default** and **Impossibility of Transfer**.

Factors affecting the country risk are categorized into two as Economic Factors and Sociopolitical Factors.

a) Economic Factors

In general, the prevailing view in the finance literature is that economic factors determine the country risk. As much as they are effective in the determination of the country risk, sociopolitical factors are subjective and difficult to measure. Therefore, economic factors play a greater role in analyses.

Table 2: Important Economic Variables Determining the Country Risk

Most Used Indicators	Banks (%)
Balance of Payments	87
Debt Service Ratio	52
International Reserves	39
Economic Development	39
Inflation / Monetary Policy	35

b) Economic Factors

Economic reasons are highly efficient in the determination of default of the debtor. On the other hand, sociopolitical events may result in the failure of the debtor to fulfill her obligations defined in the debt agreement despite the solvency of the debtor.⁷

Table 3: Important Sociopolitical Variables

Socio-Political Indicators	Bankaların %'si
Political Stability and Smooth Change	74
Social Unity and Education Level	43
International Relations	22
Political System	22
Others	9

Assessment of the Country Risk and Turkey Example

There are quite numerous analysis methods and models developed to determine the country risk and the risk levels of countries. It is a rather difficult work and it requires specialization to assess and analyze country risk using such models. Such difficulty results from the difficulty in analyzing the economic, social and political variables that affect a country when

⁷ Erol BALKAN, , **International Bank Lending and Country Risk**, Nova Science Publishers, USA, 1995, p.18

assessing the country risk. However, the assessments performed on numerous countries has not only indicated the difficulty of the work but also helped origination of a standard criteria for the existing variables and revealed the necessity thereof.⁸

Criteria for Assessing Country Risk

Political and Environmental Factors

- Political Condition (Program and objectives of the Ruling party, Ruling party's chances of getting elected in future elections, the period of ability hold office)
- Corporate Relations (Power of the Central Bank in the implementation of the money policy, implementation of the Finance policy, the Government's relations with financial institutions, banking system and the business world)
- Industrial Characteristics of the Country (Primary raw materials, Production composition and primary products)
- Economic Condition (Unemployment, Capacity utilization rate, Inflation rate, Economic growth, Exchange rate)

Foreign Trade Status: Importation and Exportation

- Import and export compositions based on commodity groups
- Price and income elasticity of import and export goods
- Leading countries as trade partners
- Relative prices
- Relative incomes – income distribution

Aside from these two factors, current account balance, single transfers account, long-term capital movements and gold-foreign exchange reserves are used in the determination of country risk.

In their study, Burton and Hisashi categorized the abovementioned factors into domestic economy, foreign economy, foreign indebtedness and sociopolitical condition, and specified

⁸ KARA, p.26.

how these categories were weighted by one European, one Japan and one American banks.⁹ The subject weighting is given in the table below.

Table 4: Factor Weighting Rates by Different Banks when Assessing Country Risk

	European Bank	Japan Bank	USA Bank
Domestic Economy	%25	%25	%40
Foreign Economy	%30	%20	%20
External Debt	%20	%5	%25
Socio-Political Situation	%25	%50	%5

Resource: F.N BURTON, Inoue HISASHI, "Country Risk Evaluation Methods: A Survey of Systems in Use", **The Banker**, V.133, N.683, January 1983, p.43

Model

The PRS-ICRG model used to assess political, economic and financial country risks was developed in 1980 by the editors of International Reports. This journal is published weekly in the field of international finance and economy.

The PRS-ICRG country risk index is one of the most common indexes used by multinational companies, banks, importers, exporters making direct foreign investments and/or similar organizations or individuals.

At this stage of the study, the methodology of the PRS-ICRG (Political Risk Services-International Country Risk Guide) country risk rating institution will be scrutinized, and the country risk assessment of Turkey will be performed using the factors and data included in the country risk rating studies of this institution. The method used by the PRS GROUP when assessing the country risk for its clients shall be used as the methodology. This institution was chosen for its methodology which covers political, economic and financial factors and which can be customized according to requirements. Other institutions perform also different risk assessments in addition to country risk assessment.

⁹ F.N BURTON, Inoue HISASHI, "Country Risk Evaluation Methods: A Survey of Systems in Use", **The Banker**, V.133, N.683, January 1983, p.43

As a result of implementing the PRS methodology, a system that assesses and compares quite different risks among countries is developed. Another advantage of the PRS-ICRG model is that it offers the users to perform their own risk assessments or to customize the model according to their specific requirements. If certain risk factors have greater effect on investments or businesses, a reassessment can be performed by giving more weight to these factors in combined country risk assessments.

The PRS-ICRG country risk methodology consists of **22 factors** included in three main categories which can be defined as political, economic and financial risk categories.

The political risk category consists of **12** political and social **sub factors**. Each factor has its own weight.

The economic risk category consists of 5 sub factors used to assess the economic condition of countries. Each factor has a fixed weight under the total economic risk value.

Likewise, the financial risk category consists of 5 sub factors used to assess the financial condition of countries. Each factor has a fixed weight under the total financial risk assessment.

The Table below shows the risk categories and factors used by the PRS-ICRG institution in country risk assessment. The analyses to be performed later in the study shall be based on the categories and factors indicated in the table below.

Table 5: Country Risk Assessment Categories and Factors of the PRS-ICRG Institution

PRS-ICRG Country Risk Of The Assessment Categories And Factors		
Political Risk Category	Economic Risk Category	Financial Risk Category
1- Stability of the Government	1-GDP per Capita	1- Total External Debt as a Percentage of GDP
2- Socio-economic Situation	2- Annual Real GDP Growth	2- Total External Debt Service as a Percentage of Goods and Services Export
3- Investment Ambiance	3- Annual Inflation Rate Increase	3- Current Account as a Percentage of Total Exports of Goods and Services
4- Internal Disorder	4- Budget Balance as a Percentage of GDP	4- Net International Liquidity
5- Foreign Confusion	5- As Percentage of GDP Current Account	5- Value as a Percentage Change Currency Stability
6-Degeneration		
7- Policy Impact of Military Authority		
8- Religious Tensions		
9- Laws and Regulations		
10- Ethnic Tension		
11- Democratic Responsibilities		
12- Bureaucracy Effect		

According to the PRS-ICRG methodology, an index is created for each of the categories indicated in the Table above. **The political risk index** is based on **100 points**, **financial risk index** is based on **50 points** and **economic risk index** is based on **50 points**. The total of the three index values is divided by two in order to calculate the combined risk index. The combined risk index value ranges from 0 to 100, and it is used to express the total country risk status according to a standard scale.

On this scale, the lowest risk value ranges from (80 to 100) points whereas the highest risk value ranges from (0 to 49.5) points. As understood from this statement, as the risk value decreases numerically, the country risk level increases; and the risk level decreases when the risk value increases numerically; namely, the risk value is inversely proportional to the risk level.

As a part of the assessments conducted, status projections are performed for countries and the projected country risk values are calculated depending on the situations (scenarios) which are assumed to take place. These projections are created either as “best” or “worst” case scenarios. These projections assesses the probable risks the countries may experience in the future.

Two types of data are used during PRS-ICRG country risk assessments. The first one is qualitative assessment. The second type of data is quantitative data. Political factors are judgment assessment data type whereas financial and economic factors are quantitative data type. PRS-ICRG still publishes the country risk assessments of 140 countries in total on a monthly basis.

PRS-ICRG specialists perform three different risk assessment for the countries included in the assessment regarding the country risk. These are the current country risk, the country risk projection for the next year and the country risk projection for the next five years for each country. In addition to these periodical three assessments, country risk assessments can from time to time be performed as “best” and “worst” case scenarios.

Political Risk Assessment

The political risk level for each country assessed within the scope of PRS-ICRG is determined by aggregating the numerical values of the political risk factors of that country as defined in detail above. The political risk value derived by addition:

- (% 0,0 - % 49,9) Very High Level of Political Risk,
- (% 50,0 - %59,9) High Political Risk,
- (% 60,0 - % 69,9) Medium Political Risk,
- (% 70,0 - % 79,9) Low Political Risk,
- Over % 80,0 Very Low Political Risk.

Economic Risk Assessment

The total economic risk value is calculated by adding the values derived from each risk factor as defined and calculated as an example above. The Total Economic Risk Value is assessed based on a scale ranging from 0 to maximum 50.

- (% 0,0 - % 24,9) Very High Level of Economic Risk,
- (% 25,0 - %29,9) High Economic Risk,
- (% 30,0 - % 34,9) Medium Economic Risk,
- (% 35,0 - % 39,9) Low Economic Risk,
- Over % 40,0 Very Low Economic Risk.

Financial Risk Assessment

As defined above, the total financial risk value derived from the total of the values attributed to each risk factor is assessed based on a scale ranging from 0 to maximum 50. The points total:

- (% 0,0 - % 24,9) Very High Level of Financial Risk,
- (% 25,0 - %29,9) High Financial Risk
- (% 30,0 - % 34,9) Medium Financial Risk
- (% 35,0 - % 39,9) Low Financial Risk
- Over % 40,0 Very Low Financial Risk.

Combined Country Risk Assessment in PRS-ICRG System

In general, many country risk rating institutions issue or sell the combined risk assessment of countries as a single value. The PRS-ICRG country risk rating institution uses the political, economic and financial country risk values obtained by using the methods explained in detail above while calculating the combined country risk value.

As emphasized earlier, this method offers many advantages the way it is understandable and customizable by the users. The PRS-ICRG combined country risk value is calculated using the formula below.

$$\text{CPFER(X Country)}= 0,5(\text{PR}+\text{ER}+\text{FR})$$

CPFER= Combined Country Risk Value

PR= Political Risk Value

ER= Economic Risk Value

FR= Financial Risk Value

The value to be calculated using this formula (theoretically) indicates the lowest risk if it is 100 and the highest risk if it is 0 (theoretically). As in all risk categories and factors, the quantitative country risk value is inversely proportional to the country risk level. Namely, the higher the quantitative country risk value calculated for a country is the lower the country risk for that country is.

The PRS-ICRG uses the table given below to rate the countries on the basis of their score from the country risk assessment.

Table 6: Combined Country Risk Scoring Chart

COMBINED COUNTRY RISK SCORE	
Very High Risk	00,0/49,5
High Risk	50,0/59,5
Medium Risk	60,0/69,5
Low Risk	70,0/79,5
Very Low Risk	80,0/100

In addition to the risk assessment performed using current data, PRS-ICRG calculates two separate country risk values for the next year and for the next five years considering the overall situation of that country and assessing the possible prospective developments.

Furthermore, a country risk assessed in consideration of the best cases for all risk factors is calculated to create a future projection. Finally, another country risk value assessed by factoring in the worst case scenarios for all risk factors is calculated.

a) Determination of the Political Risk for Turkey

Since the assessment of political risk factors are qualitative, it is not possible to put forth a certain result. There are differences among the political risk figures calculated by the rating companies mentioned earlier.

In terms of the qualitative assessment of the political risk factors, it can be said that the overall political risk is moderate considering that the increasing unemployment rate has not taken place as reactions directed towards the government yet and that the ethnic tension environment is not significant.

Therefore, in the study, it was considered appropriate to use **65%**, the midpoint of the rate 60 – 69.9% that indicates the moderate level in the political risk rating scale, as the political risk coefficient for our country in 2014.

b) Determination of the Economic Risk for Turkey in 2014

The economic risk score of Turkey in 2014 is 25. This score corresponds to a range from %25.00 to 29.99% according to the scale provided in the theory section. This indicates that the economic risk of Turkey is “**High**”.

Table 7: Economic Risk Factors

Economic Risk Factors	Calculation Score	PRS Score
GDP per Capita	56,95%	3,5
Reel GDP Growth	4,20%	9
Inflation	8,17%	7,5
Budget Balance as % of GDP	-16,60%	1,5
Current Account as % of GDP	-8,80%	3,5
TOTAL		25

c) Determination of the Financial Risk for Turkey in 2014

The financial risk score of Turkey in 2014 is 27.5. This score corresponds to a range from %25.00 to 29.99% according to the scale provided in the theory section. This indicates that the financial risk of Turkey is “**High**”.

Table 8: Economic Risk Factors

Financial Risk Factors	Calculation Score	PRS Score
Foreign Dept as %GDP	50,3%	5
Debt Service as %XGS	21,9%	7,5
Current Account as %XGS	-23,1%	10,0
International Liquidity (Months Import Cover)	0,6%	0,5
Exchange Stability	-35,1%	4,5
TOTAL		27,5

d) Determination of the Combined Country Risk for Turkey

The combination of the economic, political and financial risks factors in when determining the Combined Country Risk of Turkey. The calculation for the year 2014 is made as follows:

$$\text{CPFER (TURKEY)} = 0,5 (\text{PR} + \text{ER} + \text{FR})$$

$$\text{CPFER (TURKEY)} = 0,5 (65 + 25 + 27,5)$$

$$\text{CPFER (TURKEY)} = 58,75$$

The combined country risk score of Turkey in 2014 is 58.75. This score corresponds to a range from %50.00 to 59.50% according to the scale provided in the theory section. This indicates that the country risk of Turkey is “**HIGH**”.

CONCLUSION AND SUGGESTIONS

In the wake of 2008 Mortgage Crisis in USA, the debt crisis showing up in Europe caused an increase in the risk level of Turkey as well as many other countries. This process has gained momentum by the decision of the Standard and Poor on shifting Turkey's grade from constant to negative.

Even if the rating system is an important indication of the country-risk, the prevalent method used to calculate this in our age is Credit Default Swap (CDS). CDSs function to transfer credit risk. They can be used as credit default insurance as well. More precisely, CDSs are insurances for a creditor against the risk of not being paid in turn. The agent selling CDS takes on this risk, while the agent buying CDS is the party insured and paying premium in turn. Generally, CDS contracts consist of an amount between 10 and 20 millions, and span a time period between 5 and 10 years.

The amount of CDS premium is considered as the most significant indicator of the country-risk by the investors. The greater CDS premium is, the greater the risk perception concerning the failure of paying debts in the markets. CDS premium of Turkey increased to the level of 180 by May 2014 while it was 118 in May 2013. This means a nearly %50 increase in a single year. This increase coincides with the results of the method employed in this study.

The country-risk calculated in 2013 in view of political, economic and financial risks is 69,4. This score corresponds to a level between %60,00 and %69,50 in the schema given in the theory part. This means Turkey had an "intermediate" level of country-risk. The country-risk calculated in 2014 is 58,75. This corresponds to a level between %50,00 and %59,50 in the schema given in the theory part. In this case, Turkey had a "high" level of country-risk.

The method of PRS-ICRG overlaps CDS premium and credit ratings in respect of the calculation of country-risk. Rating institutions determine CDS country-risk with their method of calculation proceeding from the insurance premium against the risk of the failure in payments. The method of PRS-ICRG is calculated in accordance with the change in political, economic and financial risks previously classified, and reaches the similar results. Although it is a new method, PRS-ICRG can be used in risk analyses by the investors. In the recent years, this method has gained a prominent position among the important variables that should be taken in consideration of profit and risk analyses.

References

- Abdurrahman FETTAHOĞLU, Menkul Değer Yönetimi, Rengin Matbaası, İstanbul, 2003.
- Nevin YÖRÜK, Ülke Riski ve Türkiye'nin Ülke Risk Derecelerindeki Değişimler, Tokat 1999.
- Pancras J. NAGY, Country Risk: How to Assess, Quantify and Monitor It, Euromoney Publications, London, 1979.
- Ronald L. SOLBERG, Country Risk Analysis A Handbook, Routledge, London and Newyork,1992.
- Fatoş TUĞAY, "Ülke Riski", Bankacılar, Yıl :2, Sayı:5, Temmuz 1991.
- Shelagh A. HEFFERMAN, Sovereign Risk Analysis, Ailen and Unwin Inc., London, 1986.
- Erol BALKAN, International Bank Lending and Country Risk, Nova Science Publishers, USA, 1995.
- Fatih KARA, Ülke Riskinin Finansal Piyasalara Etkisi, Gazi Üniversitesi SBE, Ankara, 2006.
- F.N BURTON, Inoue HISASHI, "Country Risk Evaluation Methods: A Survey of Systems in Use", The Banker, V.133, N.683, January 1983.

Other References

Measurement and Control, (<http://www.bis.org/publ/bcbssc122.pdf>)

International Country Risk Guide, (<https://www.prsgroup.com>)

Management of Banks' International Lending Country Risk Analysis and Country Exposure,
Working Paper, no:34, 2006.