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ECONOMIC AND POLITICAL RISKS IN EMERGING COUNTRIES: AN EMPIRICAL STUDY FOR THE ECONOMY OF TURKEY

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Abstract: The study aims to shed light on the co-movement of economic and political risk in emerging countries like Turkey. The country of Turkey has been selected due to its unique political, social, as well as economic situation. Our findings reveal that the Turkish economy has not been fully integrated with the rest of the (developed) world economies. Also, each individual major subcomponent of Composite Risk Rating (namely Economic Risk Rating, Political Risk Rating and Financial Risk Rating) does not appear to have significant predictive power in isolation. In that sense, Country Risk must be considered as an aggregate measure, rather than in terms of effects of individual components. This is an important finding for both governments as well as foreign investors, as it underlines the necessity of considering the aggregate effects of economic or social policies in the economy. It sets the stage for the identification of important risk factors for Turkey through the interdependence of the various CRR subcomponents. Finally the factor analysis indicated that we have six important risk factors: Investment Perspectives which is describing the stability of the government and the investment profile of the country in general, the Stability factor which represents the stability of the economy, the Government Controls factor which represents the physical security as well as political security through commitment, the Government Expenditures factor which underlines the importance of fiscal policies as well as of the distribution of wealth, the Current Account as Percent of XGS and finally the Ethnic Tensions factor which is very interesting, particularly in the case of Turkey, as Ethnic Tensions are very frequent.

Keywords: Economic risk, Political risk, Turkey, macroeconomics.

1. Introduction

Given the increasingly global nature of investments it is very important to understand the concept of country risk. According to Wilkin (2017), country risk can be explained as the risk of business loss due to country-specific factors, usually related to political, financial and economic instability. The first political risks can be traced back to the seventeenth century to East India (Baskin &Miranti 1999), and the first major shocks to the stability of international private foreign investments were observed during the Russian Socialist Revolution of 1917, which brought the nationalization of foreign and domestic investments (Sornarajah 2017). Similar events took place decades later, with revolutionary transformations in China, Eastern Europe and Egypt. Classified as "strategic", natural-resource exploration infrastructure was expropriated in Mexico (1938) and Iran (1951), while in 1971, assets of the British Petroleum Exploratory company in Libya were expropriated by the local authorities. In the 1980s, Tiananmen Square in China changed what had been considered a safe environment for foreign investment, bringing about $10 billion in uninsured losses.

Because of the tremendous increase in foreign direct investment in emerging markets over the last decade, the managers are more concerned than ever about forecasting potential economic and political risks. Since the foreign direct investments (FDI) tends to be medium or long term in nature with at least three- to five-year time horizons, managers are not only concerned with what is happening today, they also need to know what economic and political events they can expect tomorrow. In such a business climate, assessing the risk of overseas investment becomes a crucial aspect of strategic decision making. It is for this reason that managers often turn to country risk measures (or analysts) for advice and guidance. The goal of country risk measures is to forecast political or economic events in a country that may, "affect the business climate in such a way that investors will lose money or not make as much money as they expected when the investment was made" (Howell 1988).

Turkey has been selected due to its unique political, social, as well as economic situation: while currently overburdened with debt and subject to political and social unrest, it also presents a vast market with a distinctive geographic location and with considerable potential for growth and, therefore, a noticeable investment opportunity.

2. Literature Review

2.1 Political risk assessment (PRA) techniques

The most recent studies have shown that there are different methodologies employed by PRA techniques. All these techniques can be considered as existing along a spectrum of both qualitative and quantitative strategies, which are distinguished from each other based on their applications, approaches, structures, and limitations (Al-Khattab et al 2011; Brink 2004; Howell 2014). While the qualitative method relies on individual or collective judgment, the quantitative is scientific in its approach and involves multivariate analysis or quantitative modeling. The use of quantitative methods by multivariate analysis involves analytical procedures that are based on statistical data or mathematical applications and are analyzed theoretically (Al-Khattab et al 2011). The "objective" nature of a quantitative approach decreases bias and subjectivity compared to a qualitative approach, which involves techniques that rely on individual or collective judgment (Pahud & Allers 1996). Brink (2004), proposed that measuring political risk to a large extent necessitates subjectivity. Pahud de Mortanges and Allers (1996) and Al-Khattab et al. (2011) identified five qualitative techniques. The application of each of these techniques of assessment techniques differs, as do their advantages and limitations are presented in the following Table.

Table 1a: Qualitative techniques

Type	Application	Advantages	Limitations
Delphi Technique	Independent experts	Collective brainstorming	Group dynamics and long time frame
Judgment and Intuition of Managers	Proficiency of managers	Knowledge and experience	Bias and subjectivity
Expert Opinion	Consultants from the area or country	Multiple sources of information	Expert dependent
Standardized Checklist	Systematically evaluate the items on the list	A more structured approach	Future events not taken into consideration
Scenario Development	Assess the implications of possible scenario	Flexibility	Relies on prediction

Source: Author's findings

2.2 Political Risk Assessment Models

It is well known that the rating organizations use mostly quantitative, rather than qualitative, methods to conduct PRA. That involves using a scoring guideline with a weighted applicable valued risk variable through mathematical calculation to produce generic models and rating methodologies to determine the probability of political risk (Brink 2004). It is achieved by having a list of variables or events that are political in nature and that can result in a business loss. Actually, the models develop a list of variables of political risk and attach a "measure of loss" index to represent a loss. These rating methodologies and models utilize different statistical approaches using quantitative methods, with some using multiple regression and discriminant analyses (Howell 2014). Some of the limitations observed in the rating methodologies and models are as follows:

- The impossibility of including every risk variable that could affect the profitability of foreign investment (Brink 2004)
- The inapplicability of applying it to a specific multinational firm in a specific country or part of it to a specific project.
- The differences in their design and approvals in almost every case; the operationalization and rating or measurement of the factors lack transparency (Brink 2004).
- The contentious nature of grading systems and the difficulty of interpreting most of the rating models and methodologies (Brink 2004).
- The credibility of the data used by the rating models and methodologies.

2.3 Measuring Country Risk

There are many services that are measuring country risk around the world and we will review in detail the most popular of them.

Institutional Investor

Institutional Investor compiles semi-annual country risk surveys, based on responses provided by leading international banks. Specifically, bankers from 75 – 100 banks rate more than 135 countries on a scale of 0 to 100, with 100 representing the lowest risk (Hoti and McAleer 2004). The individual ratings are then weighted using a formula that assigns greater weights to responses coming from banks with more extended worldwide exposure and a more sophisticated country risk model. The names of the participants are kept strictly confidential.

Euromoney

Euro money provides semi-annual country risk ratings and rankings. Countries are given their respective scores based on nine components, and are ranked accordingly (political risk, 25%; economic performance, 25%; debt indicators, 10%; debt in default or rescheduled, 10%; credit ratings, 10%; access to bank finance, 5%; access to short-term finance, 5%; access to capital markets, 5% and discount on forfeiting, 5%).

Standard and Poor's (S&P)

S&P provides weekly updates on the credit ratings of sovereign issuers in 77 countries and territories. Sovereign ratings are not country ratings as they address the credit risks of national governments, not the credit risks of other issuers. S&P provides short- and long-term ratings, as well as a qualitative outlook on the sovereign's domestic and foreign currency reserves. Ratings are provided for seven major areas, namely long-term debt, commercial paper, preferred stock, certificates of deposit, money market funds, mutual bond funds, and the claims-paying ability of insurance companies (Agarwal et al. 2017). The determination of credit risk incorporates political risk (the government's willingness to service its debt obligations) and economic risk (the government's ability to service its debt obligations). Quantitative letter ratings range from C (lowest) to AAA (highest).

Moody's Investor Services

Moody's, provides sovereign credit risk analysis for more than 100 nations. For each nation, Moody's publishes several different types of ratings to capture similarly broad risks. To establish a country risk, Moody's analysts assess both political and economic variables to derive country risk ratings, which act as sovereign ceilings or caps on ratings of foreign currency securities of any entity that falls under the political control of a state (Howell 2001). Country risk ratings are accounted for foreign currency transfer risk and systemic risk in the nation. Furthermore, government bonds are rated while local currency guideline routines are provided, which indicate the highest rating level likely for debt issues denominated in local currency.

Political Risk Services (PRS)

PRS provides reports for 100 countries, based on country political scenarios, including the economic, financial and political risk scenarios against business investments and trade. PRS provides a political risk model with three industry forecasts at the micro level, namely financial transfers (banking and lending), FDI (retail, manufacturing, etc.) and exports to the host country market. Its reports are revised on a quarterly basis.

Economist Intelligence Unit (EIU)

EIU publishes country risk reports quarterly with monthly updates. These reports summarize the risk ratings for all 100 key emerging and highly indebted countries that are monitored by the Country Risk Service (CRS). The CRS risk rating methodology examines two different types of risk: (1) country risk, as determined by political, economic policy, economic structure and liquidity factors; and (2) specific investment risk. Three different types of specific investment risks are currency risk (against the US dollar), sovereign debt risk (associated with foreign currency loans to sovereign states) and banking sector risk (associated with foreign currency loans to banks). These specific investment risk ratings are also determined by the same four factors with different weights (Economist Intelligence Unit (EIU), 2005).

The International Country Risk Guide (ICRG)

Since January 1984, the International Country Risk Guide (ICRG) has been compiling economic, financial, political and composite risk ratings for 90 countries on a monthly basis. According to the ICRG, its risk ratings have been cited by experts at the IMF, World Bank, United Nations, and other international institutions, as a standard against which other ratings can be measured. The ICRG rating system comprises 22 variables representing three major components of country risk, namely economic, financial and political. These variables essentially represent risk-free measures. There are 5 variables representing each of the economic and financial components of risk, while the political component is based on 12 variables. In all cases, the lower (higher) is a given risk rating, the higher (lower) is the associated risk. In essence, the country risk rating is a measure of country creditworthiness.

Country Risk and Expected Returns

The International CAPM

Perhaps the simplest and the most popular approach to calculate expected asset returns (Sharpe (1964), is Capital Asset Pricing Model (CAPM) applied in an international setting by (Solnik 1974, 1977). CAPM model is based on the assumption that investors with the knowledge of the theory of portfolio and reduce unsystematic risk through diversification, exploiting it in order to create efficient portfolio and each one depending on the degree of risk aversion create different portfolios (Koirala 2015). According to the well-known formulation of CAPM, the expected risk premium on each investment (asset) will be proportional to its “beta”, i.e., its risk contribution to the market portfolio (Brealey et al. 2005; Errunza&Losq 1985). Assuming capital markets integration then, a country portfolio’s risk will be its covariance with the world market portfolio, while the risk-free rate is typically considered the rate of return on US government bonds (Erb et al. 2005). Specifically, the authors cite the studies of Ferson and Harvey (1995) and Harvey (1995) to claim that, while the ‘world CAPM’ might have some ability to discriminate against expected returns in developed countries, no such relationship is to be found in emerging markets such as Turkey (Dhrymes 2017).

Erb, Harvey and Viskanta’s (1996) Approach

Faced with the inherent problems of applying CAPM into emerging markets, Erb, Harvey and Viskanta (1996) suggested a direct regression of a country's semi-annual credit rating against its US Dollar denominated semi-annual equity returns, i.e. (for the linear case):

$$R_{i,t+1} = \gamma_0 + \gamma_1 CCR_{i,t} + \varepsilon_{i,t+1} \quad (1)$$

Where:

$R_{i,t+1}$: The next period semi-annual US Dollar denominated equity returns for country i,

$CCR_{i,t}$: The current semi-annual period credit rating for country i,

γ, ε: The regression coefficients and the regression residual (error) respectively.

The major benefits of this model are: (a) it attempts to relate equity returns to country risk (as perceived by the international investor community) in an efficient and assumption-free manner and (b) it can be used to forecast directly average country risk premia on countries which either do not have capital markets, or their capital markets (and/or investors) are significantly segmented from the rest of the world.

2.5 Political Stability and Economic Stability

Political stability is a primary requirement for the development and nurturing of investors and for forecasting a nation's long-term economic performance. Such forecasts are allowing the governments to make permanent and long-term investment decisions. Under this perspective, it is widely accepted that political instability is very harmful not only to economic growth but also to the foreign investments. Over the last decade, the nexus of economic development and political instability has been one of the most important research topics in economics literature. One of the earlier studies by Olson (1963), clearly underline the vanishing effect of chronic political uncertainty on the economic development of a country. A few decades later, many studies (Julio & Yook 2012; Ades & Chua 1997; Barro 1991) reveal that political uncertainty is associated with declining investment in a country's development, and equates to less economic growth in a market. In addition, the findings of Julio & Yook (2012) and Knack and Keefer (1995) mirror the fact that economic growth is adversely affected by the possibility of revolutions, coups, and assassinations. The recent research focuses on institutional quality, whereby studies (Acemoglu et al. 2003) find that declining institutional quality and inefficient macroeconomic policies are the major causes of high macroeconomic instability.

2.6 Political Stability and Financial Stability

Apart from the negative effect of political instability on economic growth, the literature reveals that the political instability is also harmful to a country's financial system and stability. According to Cutler et al. (1989), they found that the U.S. financial system is negatively affected by political vulnerability and political news. Also in a recent study by Pastor and Veronesi (2013), they found that economic and political instabilities both have strong and significant effects on the risk-premium. In the same context Smales (2015), investigated the impact of political turbulence on the Australian financial market. He found that the financial market was negatively affected by the high political uncertainty in the polling of the Australian federal election. In the vein of politics and the market, Bialkowski et al. (2008) explored the impact of elections on stock market returns in twenty-seven OECD countries, and find that during the election week, stock market returns variance doubles.

The existing literature is inconclusive with respect to the direction of the effect of political risk on financial markets. On the one hand, empirical evidence suggests a negative political risk premium (RP), implying that the investors are likely to accept reduced returns to hedge against political uncertainty (Brogaard & Detzel 2015). On the other hand, others suggest a positive premium in support of the classical risk–return relation (Lam & Zhang 2014). However, high political risk along one dimension could outperform low political risk in another and vice versa (Jakobsen, 2012a). Such complexity calls for a consideration of the underlying dimensions of political risk and their impact on stock market excess returns because previous research has primarily considered an aggregated and highly multidimensional political risk index (PRI). In other words, different dimensions of political risk could be seen as orthogonal to each other, hence representing vastly different effects on market return.

When investigating subgroups of political risk, as defined by Bekaert et al (2014), in addition to political risk components, both are suggested as being unique to specific markets (Dimic et al. 2015). However, tensions are associated with lower stock market returns in less developed markets. Hence, the subgroup 'Tensions and Conflicts' seems to violate the classical risk–return relation when the level of democracy is not taken into account (Lehkonen & Heimonen, 2015), supporting Pastor and Veronesi (2013), who suggested that the political RP is economic state dependent

3. Methodology - Model Specifications

3.1 An Overview of the Erb, Harvey and Viskanta (1996) Approach

From a review of the relevant literature, the paper by Erb, Harvey and Viskanta (1996), [EHV] suggests the most suitable and plausible methodology for investigating the specific political and economic risk factors which contribute to the risk of the Turkish environment. Therefore we will use their approach as a starting point for our analysis and we will adjust it according to the research needs and resource limitations pertaining to this paper.

Specifically, the authors perform the following analyses (EHV, 1996):

1. An investigation of whether the risk indexes (reported in the paper) contain information about future expected returns.
2. An investigation of the links between country-risk measures and some more-standard measures of risk, such as whether a country's beta is correlated with the Morgan Stanley Capital International (MSCI) World Index as well as the relation between the country-risk measure and equity volatility.
3. An exploration of the interface between country-risk analysis and investment strategies based on country fundamental information such as book-to-price ratios.

Given the scope and purpose of this report, only points (1) and (2) above are directly relevant and will be further considered.

3.2 Equity Returns Information Content of Country-Risk Measures

The method utilized by EHV was twofold: first, they formed a portfolio of countries that experienced a decrease in risk rating and a portfolio of countries that experienced an increase in risk rating and – after rebalancing these portfolios semi-annually – they examined the differences in returns. They further supplemented this analysis with time-series/cross-sectional regressions to measure the amount of information contained in each metric. What they have been able to determine is that the financial-risk measure contains the most information about future expected returns and that political risk contains the least.

Our research attempts to examine the information content of country-risk measures but, in contrast to the EHV survey we will focus upon a single country, Turkey. Therefore, we perform the following:

1. Assessment of the predictive ability of the country-risk measures upon Turkey's equity returns. This is investigated by:

- Simple linear regression of the overall country risk measurement (at time *t*) against the next period's (*t+1*)realized equity returns, investigation of regression residuals to verify model form and, if needed, adjustment of the functional form of the regression to non-linear specifications.
- Similar regressions (and analysis of residuals) of the individual risk components, namely *financial*, *economic* and *political* risk measures.

3.3 The Relationship between Country-Risk Measures and More-Standard Measures of Risk

According to the survey of EHV, they discovered a sharp negative correlation between volatility and the various country risk measures (over a cross-section of countries) which is considered a natural consequence as volatility is considered in traditional financial portfolio theories as a measure of risk. Nonetheless, they reported that, although the correlation of volatility and country risk measures is robust across all risk measures except for political risk: specifically, in emerging markets, political risk and volatility have a positive relation. Given these reported findings, our analysis attempts the following (continuing from the previous list):

2. Correlation analysis between the country risk ratings and various (relevant) volatility measures. This analysis will also be extended amongst the various components (financial, political and economic risk ratings) as well as amongst the various subcomponents comprising the indexes (GDP Growth, Quality of Life Index, etc.)
3. Regression analysis between country risk ratings (and their subcomponents) and the aforementioned volatility measures. It is expected that this analysis can identify the most important factors explaining the volatility of returns, along with their importance (weights).

4. Data Considerations

Given the purposes and the suggested methodology, two primary data sets can be identified: (a) the country risk ratings (including subcomponents) and, (b) that of market prices.

4.1 Country Risk Ratings

A number of country risk ratings are available for analysis, Nonetheless, with the exception of International Credit Risk Guide (ICRG), all other credible sources do not offer a standard portfolio of subcomponents as well as a consistent weighting scheme. This may offer certain flexibility to the author of the ratings and it also makes these datasets unsuitable for the purposes of this paper.

For the purpose of our analysis we used the ICRG dataset consisting of the Composite Risk Rating (CRR), its primary subcomponents (Economic, Financial and Political Risk Rating) and its secondary subcomponents (22 rated categories) covering the period from January 1994 to June 2015 (semi-annual observations). The following table summarizes the specific ratings acquired along with the variable names utilized for the data analysis

Table 1b: ICRG dataset

Composite Risk Rating (CRR)	Military in Politics (MILPOL)
Economic Risk Rating (ERR)	Religious Tensions (RELTEN)
Financial Risk Rating (FRR)	Risk Points for Budget Balance (RPBBAL)
Political Risk Rating (PRR)	Risk Points for Current Account as % of GDP (RPCAGDP)
Bureaucracy Quality (BURQ)	Risk Points for Current Account as % of XGS (RPCAXGS)
Corruption (CRPT)	Risk Points for Debt Service (RPDS)
Democratic Accountability (DEMAC)	Risk Points for Exchange Rate Stability (RPFXS)
Ethnic Tensions (ETHT)	Risk Points for Foreign Debt (RPFDBT)
External Conflict (XCONFL)	Risk Points for GDP Growth (RPGDPG)
Government Stability (GOVSTA)	Risk Points for GDP per Head of Population (RPGDPH)
Internal Conflict (ICONFL)	Risk Points for Inflation (RPINFL)
Investment Profile (IPROF)	Risk Points for International Liquidity (RPILQD)
Law & Order (LANDO)	Socioeconomic Conditions (SOCIOEC)

4.2 Equity Prices

To develop the second dataset of equity returns (and subsequently volatility), we used data from the Istanbul Stock Exchange (ISE). More specifically we used the National-100 index which is created as the weighted average of the 100 major corporations listed in the ISE. The National-100 is indexed since January 1986 with a base (dollar) value of 100 (or 1 if based on the New Turkish Lira – YTL). It is reported on a daily basis and, therefore, its monthly closing values are also available.

4.3 Methodology

Estimating Semi-Annual Equity Returns

Given that the ICRG ratings are issued semi-annually, it has been necessary to calculate the respective equity returns on a similar basis. To do so, the following formula was used:

$$R_{t+1}\% = \left(\frac{P_{t+1} - P_t}{P_t} - 1 \right) \times 100 \qquad (2)$$

Of course, these are not annualized returns but, rather, "raw" semi-annual returns. For the annualization, it would have been necessary to introduce compounding: however, this would distort the results as it will introduce unnecessary assumptions. We believe that, while this method facilitates the model calculations, caution is required on the numeric interpretation of the results as coefficients relate to raw semi-annual returns.

Estimating Semi-Annual Volatility

Similarly, it has been necessary to calculate semi-annual volatility in order to complement the ICRG dataset. Brooks (2002) reports the existence of at least models to calculate volatility:

- *Historical volatility*: this is the simplest model for volatility and involves the calculation of the variance (or standard deviation) of returns over some historical period. Although Brooks (2002) reports evidence which lead to more accurate option valuations (Akgiray, 1989; Chu & Freund, 1996), he still mentions that historical volatility can be used as a useful benchmark.
- *Implied volatility*: given that pricing models for financial options require a volatility estimate or forecast as an input and, given that the prices of traded options are (typically) available in the market, it is possible to determine the implied volatility forecast. However, in the case of Turkey, option prices are not available and have only very recently been introduced, primarily as Over-The-Counter (OTC) products.
- *Exponentially Weighted Moving Average (EWMA) models:* being an extension of the historical volatility model, EWMA simply allows for more recent observations to have a stronger impact on the forecast of volatility than older data points. For the purposes of this paper, however, the choice of the weighing factor (typically symbolized as "λ") introduces further complications.
- *Autoregressive (Conditionally Heteroscedastic) Volatility Models (ARMA and ARCH) models:* autoregressive volatility models are utilizing the well-known Box-Jenkins procedures for estimating autoregressive patterns in volatility. Similarly, "conditionally heteroscedastic", autoregressive models extend this by allowing the variance of errors in prediction to be non-constant. Still, the specifications of both ARMA and ARCH models overly complicate the analysis and introduce methodological bias in the results.

From an overview of the various methods reported above, it was decided to employ the historical volatility model, over each 6-month period of returns. The formula employed then becomes:

$$V_{t+1} = \sqrt{\frac{\sum_{i=1}^{6} \left(R_{i,t+i} - \bar{R}_{t+1} \right)}{6-1}} \qquad (3)$$

Where iis an index representing the monthly returns, Ri, t+i represents the monthly return within the period and $\bar{R}$ is the semi-annual return for the period.

Factor Analysis (FA)

Within the purposes of this paper, factor analysis is used to identify specific sets of country risk subcomponents (factors) which can help both towards a better understanding of the relationships as well as for – potentially – data reduction purposes. The difference between factor analysis and other dependence techniques (such as multiple regression) is that in factor analysis the focus is not on prediction but, rather, on the identification of the underlying structure. Therefore, it can be argued that the identification of such structure in country risk subcomponents will be a necessary and significant contribution towards the overall purpose of this paper. Another, more technical (and subtle) difference between FA and Multiple Regression (MR) is that it is less vulnerable to assumptions about the variables: to apply statistical tests, only normality is required, while some degree of multicollinearity is desirable as the objective is to identify interrelated sets of variables (Aczel, 1989). In that sense, we believe that the inclusion of factor analysis complements and enriches our conclusions about the determination of specific country risk factors. By definition, factor analysis extracts the combinations of variables explaining the greatest amount of variance and then proceeds to combinations that account for smaller and smaller proportions. Nonetheless, there is no specific rule defining the number of variables which should be extracted from any dataset.

5. Statistical Methods

5.1 Simple Linear Regression (OLS)

The Linear Regression (SLR) or Ordinary Least Squares (OLS) Regression model attempts to develop a linear (functional) relationship between one or more independent (predictor) variables and one dependent (response) variable (Aczel, 1989; Rice, 1999; Hair et al., 1998).

5.2 Tests for the Multiple Linear Regression Model

In order to test our model we will perform three tests:

Tests of significance of the model

The respective hypothesis test can be described as:

$$H_0 : \forall i \in [1, 2, ..., k], \beta_i = 0$$
$$H_a : \exists i \in [1, 2, ..., k] : \beta_i \neq 0$$

Where k is the number of variables included in the model.

The typical test performed to answer this question is the Analysis of Variance (ANOVA), F-Test [23]. Effectively, the ANOVA procedure for multiple linear regressions examines the ratio of the Mean Squared Variation in Y due to Regression (MSR) to the Mean Squared Unexplained (Error) Variation (MSE). This ratio is assumed to follow the F distribution (Frees, 1996) with the relevant degrees of freedom for the numerator and the denominator being k and n-(k+1) respectively and, hence, the actual F-ratio can be compared to the relevant test statistic at the appropriate (desired) level of significance to accept or reject the null hypothesis.

Tests of significance of individual regression parameters

Given that the overall multiple linear regression relationship appears to be significant, these tests allow us to answer questions about which variables appear to be having significant explanatory power with respect to the dependent variable. Hence, they are often used to determine which variables should be included (and similarly which variables should be excluded) from the model. The general hypotheses about individual regression parameters concern the slope of the coefficients and are of the following form (Frees, 1996; Aczel, 1989):

$$\left.\begin{array}{l} H_0 : \beta_i = 0 \\ H_a : \beta_i \neq 0 \end{array}\right\} i \in [1, 2, \ldots, k]$$

Under the normality of errors assumption presented above, the distribution of the test statistic is assumed to be the t distribution with n-(k+1) degrees of freedom: hence, the tests are carried out by comparing each test statistic with a critical point of the distribution for each variable.

Diagnostic procedures and tests

The assumptions that need to be examined in every multiple linear regression model are as follows (Frees, 1996):

- Linearity of the measured phenomenon: to examine the (assumed) linearity between each independent variable and the response variable, it is recommended that we examine the partial regression plot, showing the relationship of a single independent variable to the dependent variable.
- Constant variance of error terms: the presence of unequal variances (heteroscedasticity) is one of the most common assumption violations (Hair et al., 1998). One of the most popular tests for the detection of heteroscedasticity is White's (1980) test, which is particularly useful because it makes few assumptions about the likely form (Brooks, 2002).
- Independence of error terms: To detect the presence of autocorrelation a number of tests can be performed, the most popular of them being the Durbin – Watson (1951) (Brooks, 2002) – essentially, this test considers only first order autocorrelation, i.e., the relationship between an error and its immediately previous value. A more complete approach is suggested by the Breusch-Godfrey test (Brooks, 2002) which examines a joint test for autocorrelation up to the rth level.
- Normality of the error term of distribution: the most common method to check this assumption is to involve the use of a chi-square goodness-of-fit test of the residuals against the hypothesized normal distribution (Kvanli et al., 1996).

6. Empirical Results

6.1 Descriptive Statistics

Equity Returns

Table 2 presents the summary statistics for the National-100 Index returns for the examined period. Average semi-annual returns are approximately 18% but ranging from as low as -55% to 160%, indicating the importance of volatility for this emerging market.

Table 2: ISE National-100 Index Returns: Summary Statistics.

	Valid N	Mean	Median	Minimum	Maximum	Std.Dev.	Skewness	Kurtosis
RSR	39	18.08%	7.05%	-55.66%	158.79%	54.44%	0.94	0.38
RSVOL	39	16.31%	14.86%	5.46%	31.32%	6.79%	0.38	(0.57)

Figure 1 presents the evolution of equity returns over time: evidently, no pattern emerges. Performing the relevant regression (returns vs. time), the coefficient of time cannot be considered statistically different than zero at the (typical) 95% level of confidence as the R2 of the regression is less than 1%.

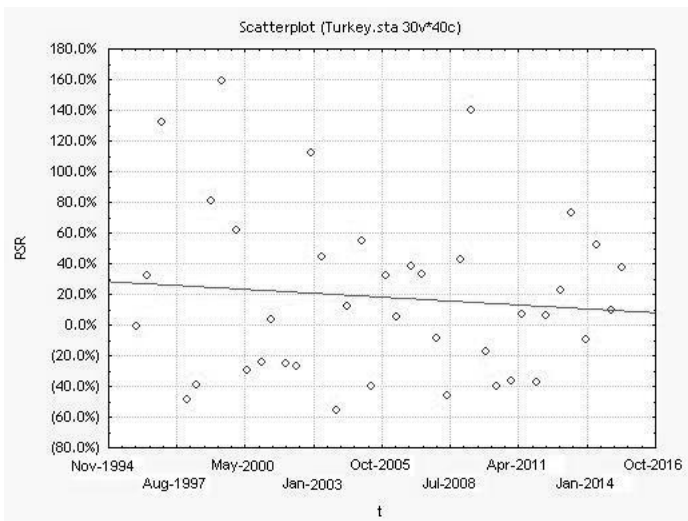

Figure 1: ISE National-100 Index Plot of Semi-Annual Returns over Time (t).

Similarly, Figure 2 presents the distribution of semi-annual returns for the examined period. Evidently, a large number of negative observations are denoted, as well as less frequent but more "distant" positive returns. Indeed, this verifies our previous observation of highly volatility returns and sets the stage for the analysis of country risk and volatility. Technically, it should also be noted that the empirical distribution of returns does not follow the Normal distribution (exactly due to this excessive volatility which produces "fat tails").

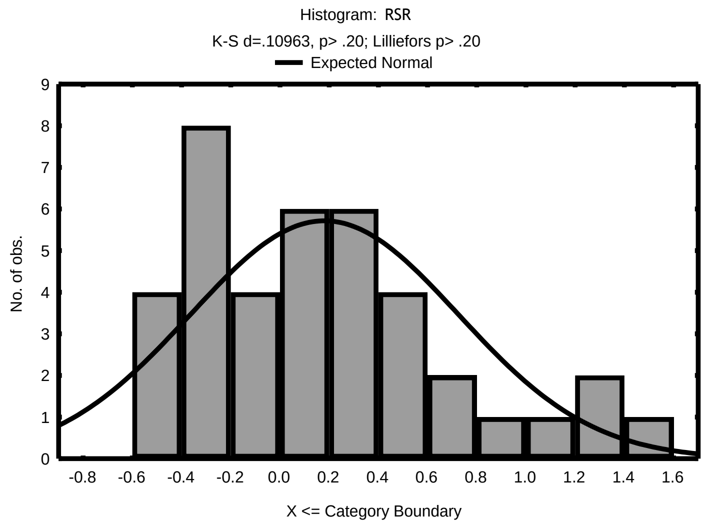

Figure 2:ISE National-100 Index Histogram of Returns.

Volatility over Time

Table 3 presents summary statistics for the semi-annual historical volatility (standard deviation) of the ISE National-100 returns for the period examined.

Table 3: ISE National-100 Index Returns: Summary Statistics.

	Valid N	Mean	Median	Minimum	Maximum	Std.Dev.	Skewness	Kurtosis
RSVOL	39	16.34%	14.86%	5.46%	31.32%	6.77%	0.38	-0.57

The average volatility for the period was 16.3%, ranging from 5.46% - 31.32% approximately. Again, the skewness and kurtosis statistics indicate that it does not follow the Normal distribution (Normal distributions are expected to have values of 0 and 3 respectively), as it is also shown in Figure 4.

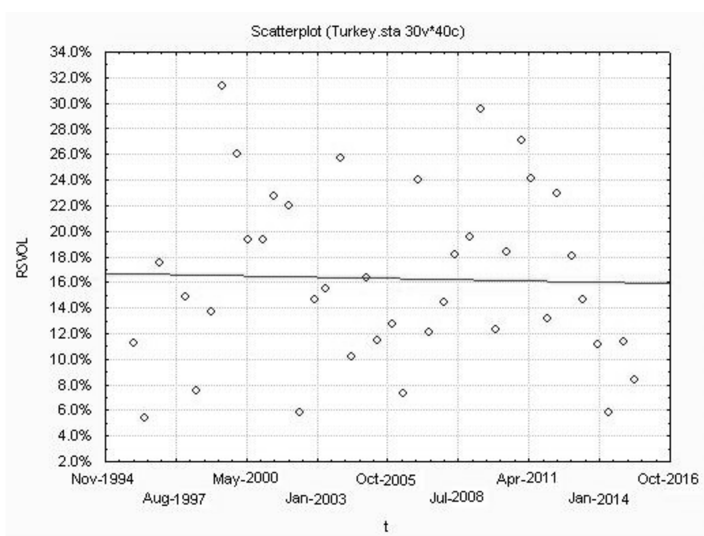

Figure 3a: ISE National-100 Index Plot of Volatility over Time (t).

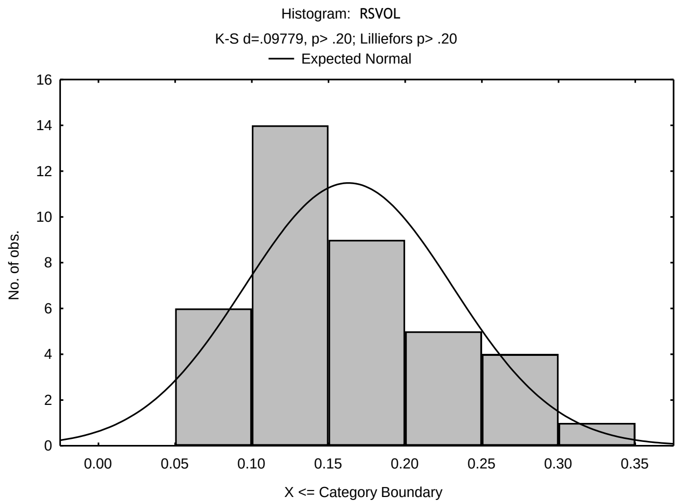

Figure 3b. ISE National-100 Index Histogram of Volatility.

It is obvious that the evolution of volatility does not suggest any significant trend and that fact might lead us to assume that the financial environment has not changed significantly over time (although formal testing procedures would be required to prove or disprove this claim). Nonetheless, the inability of time to provide a trend in volatility (positive or negative), suggests that other, more fundamental factors are directly related to market volatility. The following section presents a preliminary statistical analysis (descriptive) of the ICRG country risk ratings (CRR) against volatility.

Country Risk Rating vs Equity Returns and Volatility

Figure 4 below illustrates the evolution of ICRG ratings for Turkey for the examined period. Effectively, it demonstrates the "mean reversion" property of credit ratings reported in EHV.

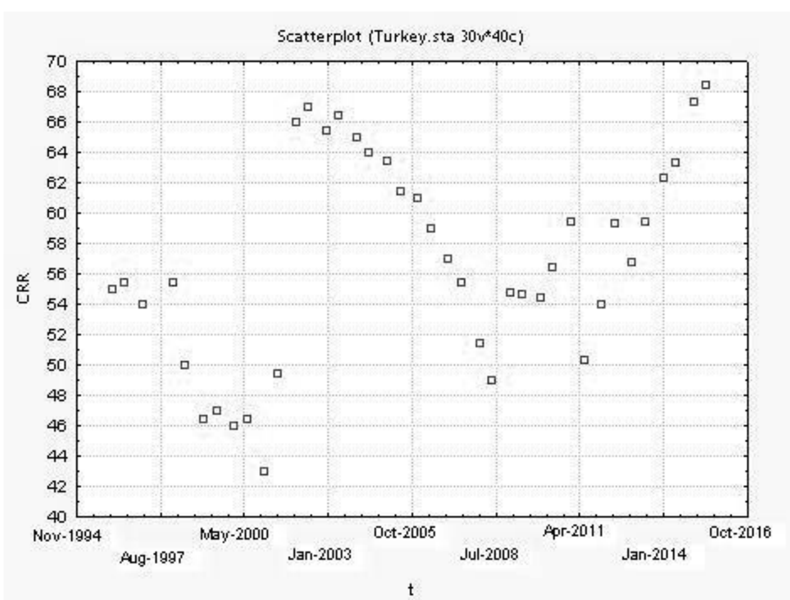

Figure 4: ICRG CRR evolution over time.

Although it is very difficult to distinguish specific periods given the (almost) continuous evolution of CRRs, it might be possible to argue that the 1997 –2000 and the 2007 – 2010 periods have been noticeably better for Turkey. Additionally, we notice recent deterioration in the ICRG ratings1. Figure 5 below presents the scatter plot of ICRG Country Risk Ratings2 against equity returns for the period.

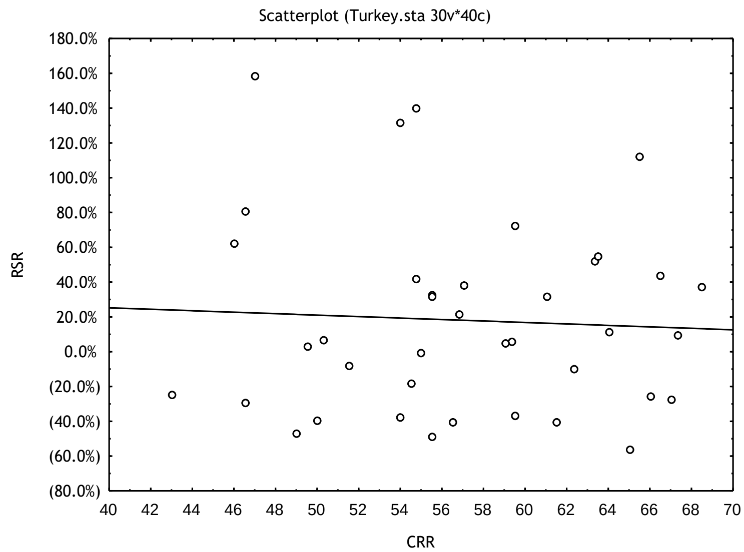

Figure 5:ISE National-100 Index Returns against CRR**.**

Evidently, the usage of the CRR does not help us to explain equity returns – it equity seems to be independent of the CRR. This finding is in line with the survey of EHV. They found CRR to mean return correlation of 7% and our analysis indicates (insignificant) negative correlation of 5%. In contrast, Figure 6 verifies the link between CRR and "more fundamental risk measures" (EHV, 1996) and provides evidence towards verification of our hypothesis:

[1] It is important to note that lower ICRG scores imply lower country risk.

[2]Henceforth, CRR.

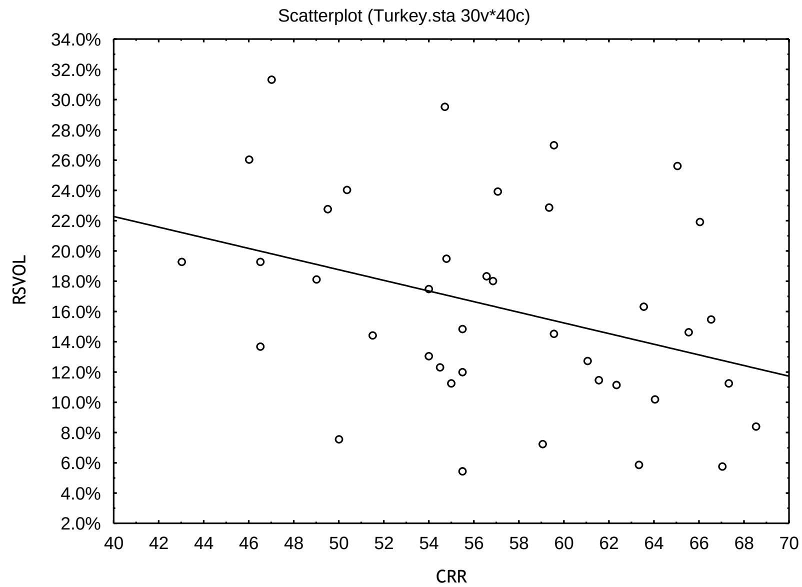

Figure 6:ISE National-100 Index Volatility against CRR.

Visual examination of Figure 6 reveals that it seems to be a significant linear relationship between CRR and equity volatility for Turkey, verified also by a correlation coefficient of -0.36.

Country Risk Ratings and Equity Returns

While **Error! Reference source not found.** suggests no relationship between CRR and equity returns, it has been necessary to verify this statistically. In the following table the results of the relevant regression are presented:

Table 4: Regression Statistics: CRR against Equity Returns.

Regression Results		
Dependent: RSR	Multiple R = .65325681	F = .11368
R^2= .783224	df = 1,37	
No. of cases: 39	Adjusted R^2= .7562823	p = .7156
Std. error of estimate: .5413		
Intercept: .43102	Std. Error: .75682	t (37) = .5565 p = .5489
CRR beta=-.05		

Given the observed p-value, we can verify that CRR is not a statistically important predictor of returns.

The Robustness of the Empirical Model

In order to confirm the robustness of the model specification suggested in this study, several diagnostic tests were conducted with respect to residuals for econometric issues of serial correlation (SC), heteroskedasticity

(HE), and normality (NO). We utilized the Serial Correlation LM Test to examine the null hypothesis that there is no serial correlation. For testing the null hypothesis of homoskedasticity, the ARCH LM Test proposed by Engle (1982) is adopted. Also to test the normality we employed the Jarque – Bera statistic. Finally, in order to test for model misspecification (MS), the Regression Specification Error Test (RESET) proposed by Ramsey (1969) is applied. The estimated statistics are presented in Table 5, where it is found that the model specification of the equation satisfies all econometric criteria; namely, there is an absence of serial correlation, homoscedasticity, and normality, and it is unable to detect any model misspecification. Despite the absence of normal distribution, the model employed in the study was found stable as it shown Figure 7. All these results indicate that the model adopted in this study is well specified and therefore the estimation results from the empirical model are also quite robust.

Table 5: Diagnostic Tests

Test	H0	Statistic	p-value	Conclusion
SC	There is no serial correlation in the residuals up to q order.	X^2=4.101	0.251	No Correlation
HE	There is no auto-regressive conditional heteroscedasticity in the residuals up to q order	X^2=6.098	0.107	No heteroskedacity
NO	Normal distribution	JB = 0.521	0.771	No normality
MS	Absence of model misspecification. Ramsey RESET Test (log likelihood ratio)	F- Statistic=0.113	0.716	No misspecification

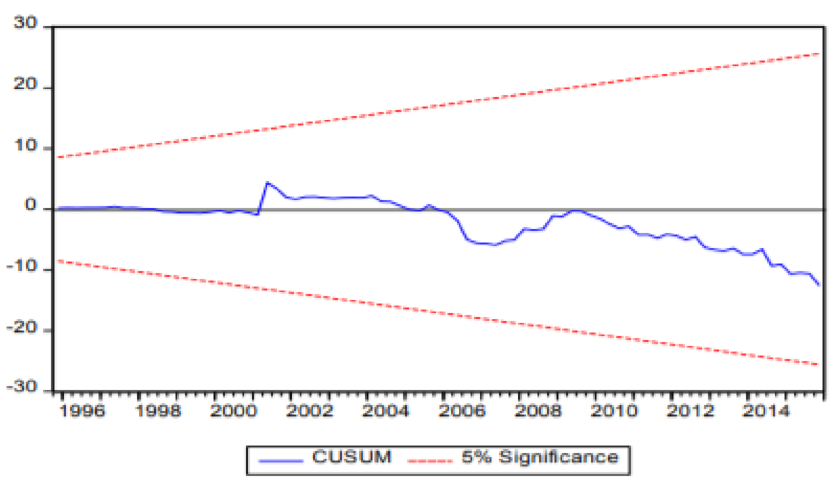

Figure 7: CUSUM Model Stability Test

We also perform the analysis with the various CRR immediate subcomponents, namely Financial Risk Rating (FRR), Political Risk Rating (PRR) and Economic Risk Rating (ERR). ANOVA and individual coefficient results are as follows:

Table 6. ANOVA for Regression: FRR, PRR and ERR against Equity Returns.

	Sums ofSquares	df	Mean	F	p-level
Regress.	0.58	3	19.69%	0.63	0.58
Residual	10.68	35	30.52%		
Total	11.25				

Table 7. Regression Coefficients: FRR, PRR and ERR against Equity Returns.

	Beta	Std.Err.	B	Std.Err.	t(35)	p-level
Intercept			(0.094)	1.124	(0.084)	0.934
ERR	0.161	0.170	0.034	0.036	0.945	0.351
FRR	0.124	0.245	0.011	0.022	0.504	0.617
PRR	(0.245)	0.242	(0.018)	0.017	(1.012)	0.318

From the above results, it is evident that the overall model cannot be considered statistically significant: the p-value is much larger than the required 5%. Even more, although ERR and FRR do have expected signs (positive), PRR suggests a negative (potential) relation with equity returns, leading to a contradicting result. Finally, we performed the regression introducing all the reported country risk component-variables. Table 8 and Table 9 present the results:

Table 8. ANOVA for Regression: All Country Risk Subcomponents against Equity Returns

	Sums of Squares	df	Mean Squares	F	p-level
Regress.	7.73	22	0.35	1.59	0.18
Residual	3.53	16	0.22		
Total	11.28				

Table 9. Regression Coefficients: All Country Risk Subcomponents against Equity Returns

	Beta	Std. Err.	B	Std. Err.	t(16)	p-level
Intercept			(5.320)	3.003	(1.772)	0.097
BURQ	(0.125)	0.557	(0.140)	0.648	(0.216)	0.829
CRPT	(0.428)	0.308	(0.296)	0.216	(1.372)	0.185
DEMAC	1.192	0.407	0.509	0.174	2.924	0.010
ETHT	0.147	0.270	0.120	0.231	0.522	0.611
XCONFL	0.315	0.219	0.142	0.098	1.450	0.171
GOVSTA	(0.314)	0.426	(0.076)	0.103	(0.738)	0.482
ICONFL	(0.368)	0.446	(0.131)	0.159	(0.822)	0.433
IPROF	(0.208)	1.085	(0.071)	0.376	(0.190)	0.868
LANDO	0.863	0.427	0.593	0.294	2.016	0.065
MILPOL	(0.008)	0.353	(0.004)	0.152	(0.025)	0.972
RELTEN	(1.653)	0.497	(1.360)	0.408	(3.332)	0.002
RPBBAL	(0.086)	0.478	(0.040)	0.228	(0.178)	0.868
RPCAGDP	1.034	0.898	0.228	0.199	1.149	0.266
RPCAXGS	0.561	0.228	0.414	0.168	2.470	0.023
RPDS	0.374	0.293	0.265	0.208	1.270	0.219
RPFXS	0.095	0.351	0.016	0.062	0.264	0.789
RPFDBT	(0.165)	0.503	(0.070)	0.220	(0.320)	0.749
RPGDPG	0.095	0.530	0.022	0.116	0.187	0.839
RPGDPH	(0.505)	0.349	(0.566)	0.391	(1.446)	0.171
RPINFL	0.636	0.555	0.276	0.241	1.143	0.272
RPILQD	(0.003)	0.338	(0.004)	0.282	(0.014)	0.983
SOCIOEC	(0.205)	0.372	(0.060)	0.110	(0.550)	0.594

Evidently, the overall model is statistically insignificant (as was expected, given that CRR is a constant linear composition of the individual components) with a p-value of 0.17 (> 0.05). The same holds true for individual coefficients, with the exception of DEMAC (Democratic Accountability), RELTEN (Religious Tensions) and RPCAXGS (Risk Points for Current Account as % of XGS). It should be noticed, however, that while DEMAC and RPCAXGS demonstrate a positive relationship (improved rating leads to higher returns), RELTEN demonstrates an inverse relationship (improved rating [less religious tensions] lead to lower returns).

Country Risk Ratings and Volatility

It is obvious from Figure 6 that CRR is inversely related to Equity Volatility. Put differently, an improvement in CRR leads to lower equity volatility – more stable returns. Performing the relevant (simple linear) regression, we verify this hypothesis as the model is significant at the 95% confidence level (and exhibits a noticeable R2 of approximately 12.7%) as shown in Table 10 and Table 11 below:

Table 10. ANOVA for Regression: CRR against Equity Volatility.

	Sums ofSquares	df	Mean Squares	F	p - level
Regress.	0.022	1	0.022	5.38	0.026
Residual	0.152	37	0.004		
Total	0.174				

Table 11. Regression Coefficients: CRR against Equity Volatility.

	Beta	Std.Err.	B	Std.Err.	t(37)	p - level
Intercept			0.364	0.087	4.180	0.000
CRR	(0.356)	0.154	(0.004)	0.002	(2.320)	0.026

To verify the results, we have constructed the distribution of (raw) residuals and the respective normal probability plot, shown in Figure 8 and Figure **8. Distribution of Raw Residuals: CRR against Equity Volatility.**

9 below:

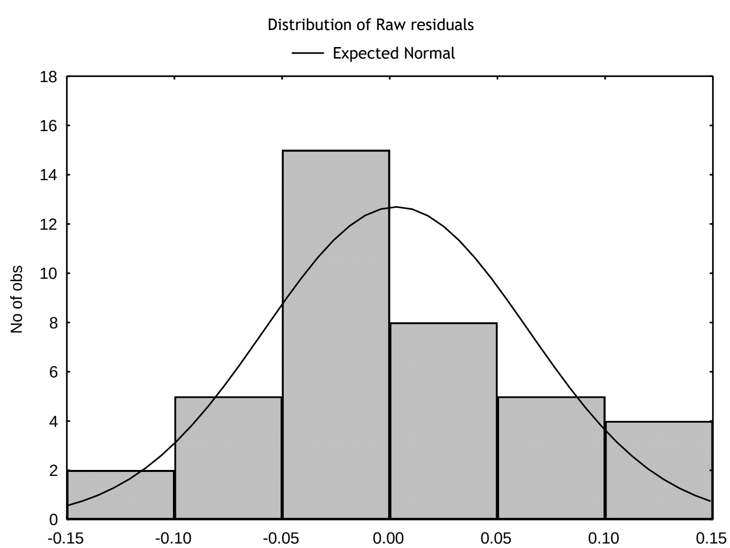

Figure 8. Distribution of Raw Residuals: CRR against Equity Volatility.

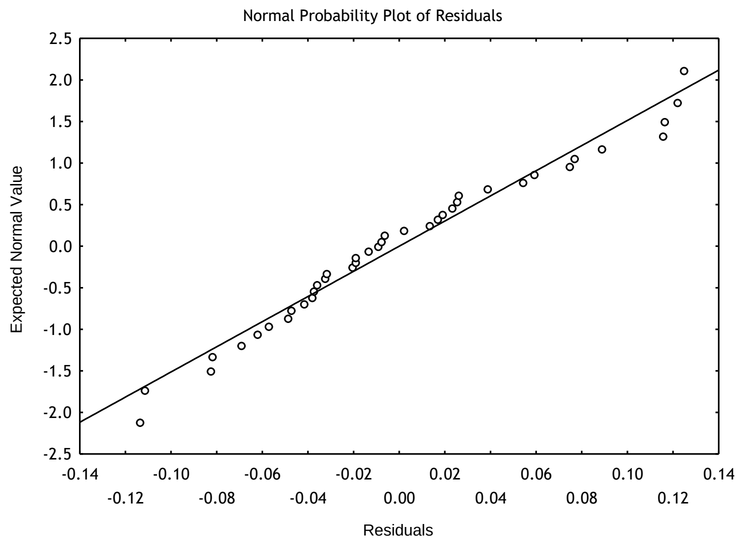

Figure 9. Normal Probability Plot of Residuals: CRR against Equity Volatility.

Despite the graphical deviation from normality, it is necessary to verify the hypothesis formally by the chi-square procedure. The results that are verifying the deviation of normality of residuals are as follows:

Table 12. Chi-Square results for Testing Normality of (Raw) Residuals: CRR against Equity Volatility.

	Obs.	Cumul.	%	Cumul. %	Exp.	Cumul. Exp.	%	Cumul. Exp. %	Observed
<= -0.12	0	0	0.0	0.0	1.5	1.5	3.5	3.5	-1.5
-0.10	3	3	7.1	7.1	1.3	2.8	3.1	6.6	1.7
-0.08	2	5	4.8	11.9	2.0	4.8	4.8	11.4	-0.0
-0.06	2	7	4.8	16.7	2.9	7.7	6.9	18.3	-0.9
-0.04	4	11	9.5	26.2	3.8	11.5	9.0	27.3	0.2
-0.02	6	17	14.3	40.5	4.5	16.0	10.8	38.2	1.5
0.00	7	24	16.7	57.1	5.0	21.0	11.8	50.0	2.0
0.02	4	28	9.5	66.7	5.0	26.0	11.8	61.8	-1.0
0.04	4	32	9.5	76.2	4.5	30.5	10.8	72.7	-0.5
0.06	2	34	4.8	81.0	3.8	34.3	9.0	81.7	-1.8
0.08	2	36	4.8	85.7	2.9	37.2	6.9	88.6	-0.9
0.10	1	37	2.4	88.1	2.0	39.2	4.8	93.4	-1.0
0.12	2	39	4.8	92.9	1.3	40.5	3.1	96.5	0.7
0.14	3	42	7.1	100.0	0.7	41.3	1.8	98.3	2.3
< Infinity	0	42	0.0	100.0	0.7	42.0	1.7	100.0	-0.7

The chi-square statistic from

Table is 1.17, with a p-value of 0.56. Hence it formally disproves the normality hypothesis. Furthermore, to test for heteroscedasticity, we have constructed **Error! Reference source not found.**, denoting the relationship between CRR and (raw) residuals:

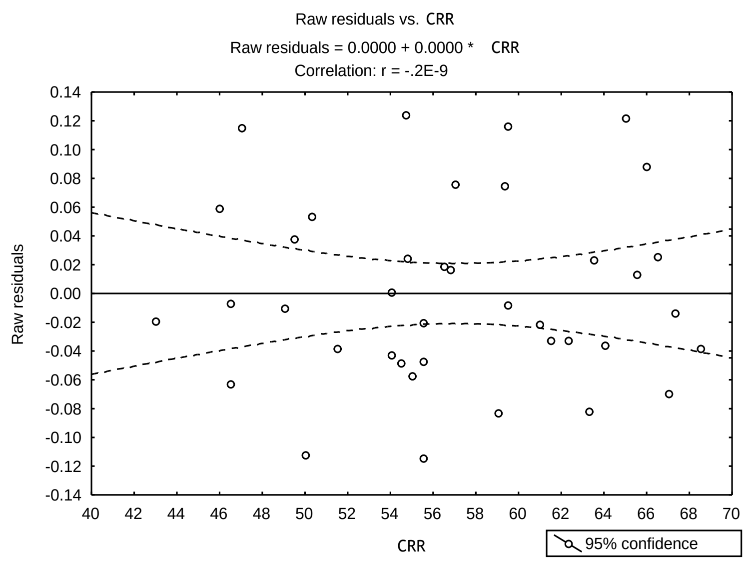

Figure 10. Raw Residuals vs. CRR: Regression of CRR against Equity Volatility.

The reported correlation of zero, along with a regression coefficient of zero verifies that the residuals are homoscedastic and therefore, the assumption of the linear regression model is not violated. Finally, testing for autocorrelation in the residuals, we used the Durbin-Watson (DW) statistic. The reported DW value is 1.98, indicating that we don't have autocorrelation in the residuals. The next step is to identify the contribution of individual components to Equity Volatility. Table 13 and 14 are representing the results of the regression as follows:

Table 13: ANOVA for Regression: ERR, PRR and FRR against Equity Volatiliy.

	Sums of Squares	df	Mean Squares	F	p-level
Regress.	0.027	3	0.009	2.16	0.14
Residual	0.147	35	0.004		
Total	0.174				

Table 14: Regression Coefficients: ERR, PRR and FRR against Equity Volatility.

	Beta	Std.Err.	B	Std.Err.	t(35)	p-level
Intercept			0.475	0.132	3.56	0.00
ERR	-0.221	0.160	-0.006	0.004	-1.38	0.18
FRR	0.042	0.232	0.000	0.003	0.18	0.86
PRR	-0.323	0.228	-0.003	0.002	-1.42	0.17

Evidently, the decomposition of CRR into its major components does not provide any explanatory value: overall (model) p-value is 0.14 (>0.05) and individual components cannot be assumed to contribute (statistically) to equity volatility (dependent variable). This result appears rather unintuitive at first: if CRR explains approximately 14% of the variation in equity volatility, then why it's (linear) components don't? However, given that these components are not perfectly correlated, a rational explanation can be provided. The combination (or interaction) of those components triggers the (upward or downward) changes in volatility. In other words, it is the co-existence or co-inexistence of certain components which is linked to the various volatility levels.

6.2 Factor Analysis

A step prior to factor analysis is the visual inspection of correlations amongst independent variables (CRR subcomponents) which reveals that there might be some common underlying structures. Following the procedure for factor extraction as outlined above, Figure 11 displays the plot of the extracted eigenvalues for each factor ("screen plot").

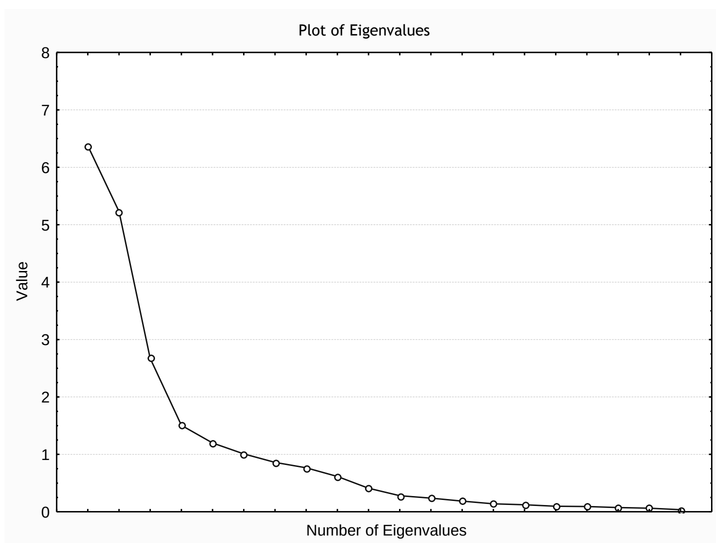

Figure 11. Screen Plot for Factor Analysis.

Utilizing the common criterion of accepting factors with eigenvalues greater than 1, we accept six primary factors as able to describe the data structure. Their exact eigenvalues as well as the total (and cumulative) variances explained by those factors are presented in Table 15.

Table 1. Extracted factors' eigenvalues and explained variances.

Factor	Eigenvalue	% Total Variance	Cumulative Eigenvalue	Cumulative % Variance
1	6.38	28.98	6.38	28.98
2	5.23	23.77	11.60	52.75
3	2.67	12.15	14.28	64.90
4	1.51	6.84	15.78	71.74
5	1.20	5.45	16.98	77.19
6	1.01	4.58	17.99	81.77

Evidently, the total variance explained by the identified six factors is approximately 82% of the total, with the first three factors being significantly "stronger", explaining almost 65% of the total variance. Table 2 presents the factor loadings, i.e., how these factors may be constructed from the various subcomponents. An arbitrary "cutoff" point of |0.7| has been selected for (a) highlighting factor loadings and (b) assisting in the subsequent interpretation of the factors.

Table 2: Factor loadings. Highlighted loadings are > |0.7|.

	Factor (1)	Factor (2)	Factor (3)	Factor (4)	Factor (5)	Factor (6)
BURQ	(0.401)	(0.059)	0.790	(0.222)	0.082	0.288
CRPT	(0.205)	0.285	0.351	(0.475)	(0.270)	0.453
DEMAC	(0.428)	0.442	0.391	(0.295)	0.073	0.238
ETHT	(0.225)	0.144	0.178	(0.178)	0.188	0.701
XCONFL	0.180	(0.104)	0.443	0.068	(0.049)	0.651
GOVSTA	0.891	0.048	0.021	0.034	0.248	0.039
ICONFL	0.227	0.655	0.148	0.367	0.022	0.458
IPROF	0.975	0.095	0.004	0.054	(0.040)	0.010
LANDO	0.435	0.266	0.714	0.084	0.115	0.166
MILPOL	(0.600)	0.539	0.052	(0.146)	(0.002)	0.424
RELTEN	0.424	0.556	0.438	0.321	(0.163)	0.170
RPBBAL	(0.181)	(0.019)	0.177	(0.889)	0.105	(0.077)
RPCAGDP	0.942	0.061	(0.004)	0.162	(0.134)	(0.012)
RPCAXGS	(0.075)	0.067	(0.090)	0.065	(0.960)	(0.037)
RPDS	(0.442)	0.327	0.503	(0.285)	(0.007)	(0.056)
RPFXS	0.055	0.662	0.623	(0.061)	0.121	0.077

RPFDBT	0.469	(0.113)	0.659	(0.500)	0.014	0.015
RPGDPG	0.856	0.177	0.013	0.092	0.186	(0.155)
RPGDPH	(0.144)	0.085	(0.001)	(0.710)	0.012	0.382
RPINFL	0.310	0.846	(0.242)	0.079	(0.027)	(0.183)
RPILQD	0.614	(0.536)	0.156	0.104	(0.032)	(0.032)
SOCIOEC	(0.078)	0.784	0.297	(0.289)	(0.190)	0.115

The next step in order to complete the factor analysis is to "name" the factors as they comprise specific risk factors for Turkey. Using the methodology of [22], we suggest the following names for the identified factors:

- F1: "Investment Perspectives"
- F2: "Stability"
- F3: "Government Controls"
- F4: "Government Expenditures"
- F5: "Current Account as Percent of XGS"
- F6: "Ethnic Tensions"

7. Conclusions - Discussion

Political risk assessment is a key determinant of the foreign direct investment and competitiveness of a country. Investors always are recommended to undertake upfront due diligence and risk analysis in order to identify potential risks and put appropriate mitigations in place prior to investment. This will involve undertaking host state risk assessment including social, political and economic factors and measuring its current performance against past performance and that of other countries. Investors will also need to understand the specific risks associated with the sector in which investments are to be made. Turkey has been selected due to its unique political, social, as well as economic situation: while currently overburdened with debt and subject to political and social unrest, it also presents a vast market with a distinctive geographic location and with considerable potential for growth and, therefore, a noticeable investment opportunity.

CRR, its Subcomponents and Equity Returns

First and foremost, it has not been possible to find a statistically significant relationship between equity returns and CRR. This finding is consistent with the literature and does not present any surprise. However, one might expect that as country risk increases, equity returns should increase as well, under the premise that investors would require higher returns to compensate for the higher risks undertaken. As it was mentioned though in Erb et al. (1996), this will be the case in well-integrated markets, where international as well as local investors are presented with a wider opportunity set (foreign investors can invest in the market at hand, while local investors are able to invest abroad). In less integrated markets, the relationship between risk and return might not be as consistent. We are therefore bound to conclude that the Turkish market (or, to be specific, the ISE) has not been fully integrated with the rest of the (developed) world markets. Similar views are expressed in Ismihan et al. (1999), who describe the macroeconomic situation in Turkey over the period 1963 – 1999 and though in a more political context, in the Library of Congress (2004) country profile for Turkey. As Turkey attempts to modernize its infrastructure and controls certain fundamental problems like inflation and ethnic tensions, we would expect a higher level of integration of its markets and a more consistent relationship between risk and return. Evidence towards this direction is provided by our finding that Democratic Accountability and a health Current Account balance do contribute towards improved returns (i.e., they have statistically significant and positive regression coefficients). On the other hand, we must cite once again the problematic relationship between Religious Tensions and Equity Returns: in our model, it appears as if higher religious tensions lead to higher stock market returns, a result that cannot be easily explained. The author's initial hypothesis is that increased religious tensions might lead into increased government expenditures (aimed at either controlling those tensions or satisfying the parties involved) and, as such, it might lead to higher profitability for certain industries (e.g. defense, law & order, infrastructure building, etc.).

CRR, its Subcomponents and Equity Volatility

In contrast to equity returns, equity volatility exhibited a statistically significant negative relationship with CRR, although not with its subcomponents. Again, this finding is no surprising: CRR is constructed as a predictive indicator of the true country risk while volatility is regarded as one of the most readily available manifestations of the country risk phenomenon. However, each individual major subcomponent of CRR (namely ERR, PRR and FRR) do not appear to have significant predictive power in isolation. In that sense, we conclude that Country Risk must be considered as an aggregate measure, rather than in terms of effects of individual components. This is an important finding for both governments as well as foreign investors, as it underlines the necessity of considering the aggregate effects of economic or social policies in the economy. Furthermore, this conclusion sets the stage for the identification of important risk factors for Turkey through the interdependence (as measured through correlations) of the various CRR subcomponents.

Factor Analysis: Risk Factor Identification for Turkey

Our analysis indicated that the following six factors can be considered the most important:

Investment Perspectives: this factor is describing the stability of the government and the investment profile of the country in general. It also includes the relationship between Turkey's current account and GDP as well as the growth in Turkey's GDP. It is almost self-evident why this factor has been deemed the most important, as it reflects the potential of the country in terms of opportunities available and ability for opportunity exploitation. Evidently, a country where there are very few opportunities for growth and/or where these opportunities cannot be exploited due to governmental instability (frequently changing people, policies or regimes) presents higher risks to both the local and international investor.

Stability: it can be argued that this factor represents the stability of the economy. Inflation is considered one of the most problematic phenomena and many authors have argued about its relationship to social instability. Another potential hypothesis would be that inflation and socioeconomic instability lead to unpredictable inflation, which leads to the deterioration of returns and increased volatility in prices in the economy (and fuels further inflation as economic agents attempt to protect their returns).

Government Controls: apart from the economic stability that has been described by the previous factor, our analysis indicated that "physical" stability is also important. The ability of the government to impose effective and efficient mechanisms to monitor and promote competition is directly reflected as its "bureaucracy quality", while the deterioration of Law & Order generates tangible risks for foreign and local investors through an increase in criminality. In a very fundamental sense, this factor can be argued to represent physical security as well as political security through commitment.

Government Expenditures: this factor underlines the importance of fiscal policies as well as of the distribution of wealth. Nonetheless, the fact that the factor loadings are negative, presents a counter-intuitive result: the analysis suggests that the better the budget balance (higher risk points suggest reduced risk), the more risky the country becomes. Similarly, an improved GDP per capita would lead to higher volatility in returns. The author's explanation for this phenomenon for the case of Turkey would be as follows: a more balanced budget would lead to less government expenditure and, consequently, to less intervention for stabilization in the markets; hence, higher volatility could be expected as a result of non-countered market forces. On the other hand, if higher GDP per capita reflects merely a division of GDP by the population and does not reflect a more uniform distribution in the majority of the population, one might expect these flows to promote more volatile investment. Both of the aforementioned hypotheses though have not been empirically verified in this paper and are only suggested as opportunities for further research noticing that overall variance explained by this factor is approximately 7%. Current Account as Percent of XGS: while this is technically a factor, in essence it represents one single variable, accounting for approximately 5.5% of the observed variation. We do not consider this factor to be of considerable importance but, nevertheless, it does provide certain utility to future research. Finally, Ethnic Tensions: The same holds true with the Ethnic Tensions factor. Nonetheless, these factors are very interesting, particularly in the case of Turkey, as Ethnic Tensions are frequent.

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