Is bad news ever good for stocks?

The importance of time-varying war risk and stock returns

Gertjan Verdickt

University of Antwerp, Department of Accountancy and Finance, Prinsstraat 13, 2000 Antwerp

Abstract

I construct two monthly search-based indices of *Threat* and *Act* of war, based on a textual analysis and human reading of war news articles. I document that an increase in these war risk indices leads to a decrease in stock returns contemporaneously. There is strong evidence of mean-reversion following an increase in the level of *Threat*. After an increase in the level of *Act*, there is a significant negative drift in stock returns. Overall, stock returns are predominately explained by changes in risk premia rather than cash-flows or interest rates. There is also some evidence of the importance of proximity to military conflicts.

Keywords

Rare disasters, wars, equity premium, media coverage, The Economist

JEL classification

G12, N23, N24, N43, N44

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Corresponding author: Gertjan Verdickt, gertjan.verdickt@uantwerpen.be.

One of the most severe events that impact stock markets is arguably a war. Despite perceived importance,[1] there has been little attempt to quantify war risk, to see how stocks respond to specific war risk components, and to understand how it can vary between countries.[2] Why? Because wars rarely occur. Therefore, much of the evidence that wars have a severe effect is theoretical rather than empirical (Barro, 2009; Julliard & Ghosh, 2012; Petrosky-Nadeau, Zhang, & Kuehn, 2018). Going back to history can go a long way to fill this gap. I shed light on this issue by focusing on war narratives, within an international information environment. This article deepens our understanding of how bad news is assessed by investors.

I use the time period from January 1885 to December 1913. This period is interesting from three perspectives. First, historians describe this as a period of mounting tension (Ferguson, 2006). This period was characterized by multiple wars that had a potential to turn into a global military conflict (e.g. Italo-Turkish War and the First Balkan War). However, nobody knew that World War I would be the outcome of the conflicts. Therefore, one can treat these wars as an exogenous shock. Second, almost all countries adopted the Classical Gold Standard (Obstfeld & Taylor, 2003).[3] I can easily compare cash-flows from one country to another, since exchange rates have only little variations. Finally, there is the lack of news dissemination. Relative to markets today, investors relied more heavily on the information content in newspapers. Information travels more slowly in this period, with the lack of a 24-hour news cycle (through internet or television). The signal-to-noise ratio of information in newspaper in this period can be higher relative to current news sources (Baker, Bloom, & Davis, 2016; Saiz & Simonsohn, 2013).

In this article, I use stock data from seven countries with stock listings on the Brussels Stock Exchange (BSE).[4] Belgium was among the first European countries to industrialize (Annaert, Buelens, & De Ceuster, 2012). Due to a favorable tax regime,[5] Belgium saw an inflow of foreign capital and investors, especially in the aftermath of the Franco-Prussian War. In terms of market capitalization, the BSE was one of the largest stock exchanges in the world (Chambers & Dimson, 2016). The BSE had a diversified stock selection in terms of industries and cross-listings, in particular relative to the United States (Chambers & Dimson, 2016; Lebergott, 1980). At the same time, financial markets were already as globalized and functioned in a way similar to today (Annaert et al., 2012; Koudijs, 2016; Obstfeld & Taylor, 2003).

I start by collecting a large sample of articles from the archives of The Economist to create war risk measures, *Threat* and *Act*. This sample contains 79,568 articles from the period January 1885 to December 1913. I draw

[1] The Economist published an editorial on April 11, 1885 stating that wars had devastating consequences. In a Gallup survey in 2017, investors ranked their concerns about the economic impact of (potential) military conflicts higher than economic and political uncertainty (Caldara & Iacoviello, 2018).
[2] Some noteable exceptions are Berkman et al. (2011) and Caldara and Iacoviello (2018).
[3] In 1868, the most important European countries, the U.S. and multiple countries in Central and South America were on the gold, silver or a bimetallic standard. In 1908, all these European, North, Central and South American countries converted to the gold standard (Eichengreen & Flandreau, 1994).
[4] These stocks are either pure foreign companies or companies investing nearly exclusively in that respective country.
[5] Belgium had practically no taxation on company profits or dividends, whereas other countries gradually started to introduce taxes. Foreign investors started to set up financing vehicles, which, in turn, lead to huge capital inflows (Annaert et al., 2012). The participation rate of foreign capital in newly-founded foreign operated, but Belgian-based, joint stock companies rose from 26% in 1890 to 64% in 1913 (Annaert et al., 2012).

on the methodology of Baker, Bloom and Davis (2016) and Caldara and Iacoviello (2018). Each issue, I count the number of articles that discuss potential military conflicts (*Threat*) and the onset of military conflicts (*Act*), scaled by the number of monthly issues, through textual analysis. Articles included the risk measures contain the combination of the search words *military* or *war* and, at least, one of 12 search terms that capture *Threat* or *Act*. Furthermore, all articles must mention, at least, one country that was an important trade partner for Belgium or had a sizeable number of stock listed on the BSE. In fact, I focus on France, Germany, Italy, Russia, Spain, the Netherlands, the United Kingdom and Belgium.[6] To understand the content and to mimic economic agents, I rely heavily on a human reading of The Economist, on top of the textual analysis.

If stock returns vary due to an increase in the level of war risk, this variation can come from changes in current or expected cash-flows or expected returns (Brogaard & Detzel, 2015; Campbell, 1991). I investigate whether war narratives impact these channels through a pooled regression. As in Ang and Bekaert (2007), I use pooled regressions with standard errors through seemingly unrelated regression. First, I study whether stock returns are affected by an increase in the level of *Threat* and *Act*. Moreover, I test if the distributional characteristics of stock returns are impacted. Second, I test whether *Threat* and *Act* are a proxy for European or global risk, by introducing stocks from other European- and non-European countries, listed on the BSE.

First, I show that an increase in the level of *Threat* and *Act* has a contemporaneous negative impact on excess market returns. The effect ranges from -3% (*Threat*) to -9% (*Act*). Overall, the findings are consistent with the previous evidence (Berkman, Jacobsen, & Lee, 2011; Gourio, 2012). More interestingly, I find that an increase in the level of *Threat* does not correspond to a significant decrease in dividend growth, whereas the increase in *Act* does. This indicates that firms cut (or even omit) dividends in actual time of war, not in the rising threat of war. This finding indicates that the increase in the *Threat* of war is associated with a change in risk premia rather than expected cash-flows, and vice versa for *Act*.

I provide evidence of the importance of proximity to military conflicts. For European countries that were not captured in *Threat* or *Act*¸ I find a contemporaneous decrease in excess returns following an increase in both risk measures. Consistent with the previous results, I show that an increase in *Threat* or *Act* are not associated with a decrease in dividend growth. For non-European countries that were not captured in the risk measures, I find no relationship between *Threat* or *Act* and both dividend growth and returns. Investors seem concerned when the potential spill-over of war is large.

Second, I document that *Threat* positively forecasts excess market returns up to 12-months ahead. However, since there is only one lag of *Threat* significant, this suggests there is mean-reversion. *Threat* has a temporary effect on stock returns. Stock prices quickly incorporate all available information after an increase in the level of *Threat*. In turn, I show that an increase in the level of *Act* negatively forecasts excess market returns up to

[6] Due to data limitations, I exclude British stocks data from the analysis. I focus on France, Germany, Italy, Russia, Spain, the Netherlands and Belgium.

12-months ahead. There are six significant lags of *Act* in return regressions, which indicates that the increase in *Act* has a permanent rather than temporary impact on stock returns. This finding is intuitive since the start of war is associated with higher uncertainty and welfare costs (Barro, 2009; Martin, 2008).

This approach offers the following potential advantages. First, newspapers are a detailed source of narrative history which help us understand our (recent) history. It is insightful to evaluate what people were discussing rather than what is perceived with hindsight. Most papers use price data to understand war (Ferguson, 2006; Le Bris, 2012). In contrast, I focus on (potential) disasters to understand stock returns. Second, the measures allows me to continuously track war risks, and it makes war risk quantifiable. Therefore, I do not have to rely on event studies to infer a relationship between war risks and stock returns. Rather, I focus on changes in the level of war news coverage even when no actual war took place. Finally, and more importantly, I do not make assumptions regarding the disaster probability and utility functions of economic agents. Wachter (2013) uses time-varying disaster probability and recursive preferences. Gabaix (2012) assumes power utility function for representative agents. Barro (2009) specifies a model where disaster probabilities are constant. In this article, I do not have to rely on these assumptions to draw conclusions. I focus on what people were actually reading in newspapers rather than constructing a model that fits the data.

The main assumption throughout this article is that The Economist is a valuable proxy for war news coverage in Europe. I do not require that investors read the magazine. The preference for The Economist is threefold. First, The Economist has, in particular at its onset, supported economic liberalism. Other news outlets in that period, such as the Sunday Times, can miss events they did not deem important for their readership. Second, The Economist allows me to use one glossary to construct *Threat* and *Act*. To capture the same effects across seven countries, I need to combine multiple news sources and languages. This could introduce measurement error due to (I) a varying quality in the level of journalism, (II) different word lists and (III) differences in media attention across outlets (Saiz & Simonsohn, 2013). Finally, and more importantly, The Economist is a weekly magazine. Since a remarkable amount of news is being produced each day, I infer that a news item has to be more important to end up in a weekly issue relative to a daily newspaper. Focusing on newspapers therefore introduces potential noise in the signal. The choice of The Economist overcomes the shortcomings. In general, I complement to the search-based uncertainty literature (e.g. Baker et al., 2016; Caldara and Iacoviello, 2018; Püttmann, 2018).

1. War risk measures

The war risk measures are based on weekly magazine coverage of war narratives in The Economist. The main assumption throughout this article is that The Economist is a valuable proxy for war news coverage in Europe. I am not the first to use The Economist as the main source in financial history literature (Crafts & Mills, 2013;

Ferguson, 2006; Grossman & Imai, 2013). In this section, I detail the time period, the methodology and audit study.

1.1. Time period

I focus on the 1885-1913 period to address the question how stock returns react to the increase in war risks. Traditionally, historians define the decades before the beginning of the war as "a time of mounting tensions" (Ferguson, 2006). To fully capture a rising tensions of war compared to the monetization of the bad outcome, December 1913 is a natural cut-off point. Including the onset of World War I would bias estimates downward. The starting point is January 1885 since there is a substantial number of foreign stock listings on the BSE (cfr. figure 1) and to fully capture the Bulgarian crisis, which is sometimes referred to as the onset of the escalating period before the World War 1 (Ferguson, 1994, 2006).

There are three advantages for using the build-up to the First World War as a playground for war risk metrics. First, investors had to rely more on magazine and newspaper coverage relative to today. There were no news outlets that allowed investors to track news continuously. Moreover, the amount of news that was produced is relatively small compared to markets today. Access to additional (and quick) news decreases the signal-to-noise ratio substantially (Saiz & Simonsohn, 2013). Second, the fear of war was more severe in the period before World War I. Nevertheless, investors still worry about the impact of geopolitical risk on their portfolio (Caldara & Iacoviello, 2018). Third, there was little variation of foreign exchange rates in this period, which is characterized as the Classic Gold Standard Period (Eichengreen & Flandreau, 1994; Obstfeld & Taylor, 2003). This allows me to study the effects of war news on stock returns in an international information environment, without having to worry about news dissemination and foreign exchange rates.

1.2. Measurement

From January 1885 until December 1913, The Economist published 79,568 articles. I focus on three sections: *News*, *Business News* and *Opinion and Editorial,* which covers around 83.58% of all articles in that time period. I exclude articles from *Financial and Commercial Tables* and *Company Meeting Reports and Statements*. The sections predominantly consist of tables, which do not any contain information on potential military conflicts. Including these articles would significantly decrease the signal-to-noise ratio (Saiz & Simonsohn, 2013).

I run a textual analysis on 66,503 articles to create two war risk indices, *Threat* and *Act*. Relevant articles must mention a combination of search words *military* or *war,* and 12 terms that capture potential conflicts (*Threat*) or the outbreak of war (*Act*). To capture *Threat*, I search for articles that mention the words *risk*, *fear*, *concern*, *uncertain*, *threat* or *tension* (or a derivative of these terms). To capture *Act*, I search for articles that mention the terms *invasion*, *army*, *start*, *beginning*, *battle* or *outbreak*. I exclude those articles that contain any search word from both categories.[7] For example, *Threat* only captures articles without the key terms of *Act*, and vice versa.

An additional requirement is that all relevant articles must also mention, at least, one country that either was an important trade partner for Belgium (see Mitchell, 1975) or that had a remarkable number of stock listings on the BSE. The rationale is that these countries presumably will have the biggest impact on the BSE. I use an average weight of 5% of the number of foreign stock listings as the cut-off point. More specifically, I focus on Belgium, France, Germany, Italy, Russia, Spain, the Netherlands and the United Kingdom. Moreover, I include articles with any derivatives of the countries (e.g. Russian and the French) or when they mention their capital in the context of warfare.

Each issue, I sum up the article frequency to obtain a monthly count. Hence, *Threat* and *Act* are end-of-month measures. To pick up a changing number of monthly issues[8], this frequency is divided by the total number of issues per month following Mathy and Ziebarth (2017). This allows me to control for the amount of news that is being produced in a given month. Lastly, this measure is multiplied by 100 and logged, as in Brogaard and Detzel (2012),

$$Z_t = \log\left(100 * \frac{\text{number of war risk related articles}_\text{t}}{\text{number of monthly magazine issues}_\text{t}}\right) \quad (1)$$

where Z_t is *Threat* or *Act* in month *t*.

The key terms are selected through an analysis of the most common unigrams in geopolitical and World War books (cf. Appendix A). In addition to the analysis of Caldara and Iacoviello (2018), I run a text-analysis of two important books on World War I.[9] The most important feature of the key terms is that they are predominately used and associated with high risk of wars. To ensure that I only select those articles that use the search term in this fashion and discuss potential military conflicts rather than the aftermath of a war, I conduct a thorough audit study (discussed below). The audit study also allows me to understand the information content in these articles better.

1.3. Audit study

Between January 1885 and December 1913, The Economist contained 66,503 articles in the selected sections. A textual analysis reduces this to 9,827 articles that include only the search terms *war* and *military*. However, I reduce the noise in the metric by focusing on (I) a combination of words, unlike single search terms, and (II) articles that discuss potential military conflicts and the outbreak of war (Saiz & Simonsohn, 2013). The sample

[7] In appendix, I create a global war risk measure, where I include articles with various combinations of search words.
[8] The Economist published approximately 35 articles per issue. However, the classification is not always accurate in the archives. A table is sometimes considered one article. Therefore, I use the number of monthly magazine issues, which ranges between three and five (Mathy & Ziebarth, 2017).
[9] "The History of The First World War" by David Stevenson and "The First World War" by John Keegan (cfr. appendix, table A2).

of relevant articles is totaled at 2,371 articles, which represents 2.97% of all the articles in The Economist, or 3.56% of articles in the three selected sections.

Using news coverage-based measures raises several issues about its accuracy and potential biases. To ensure the validity of the metrics, I conduct an audit study similar to Baker et al. (2016). I randomly select 20 articles each month among those articles that contain either *military* or *war,* and that have not been used in the final calculation of the metrics. This test is appealing for two reasons. It ensures me (I) I do not construct a measure that excludes important articles with a different glossary and (II) I do not construct a measure that only counts the number of articles that discuss general warfare, rather that I only select articles that reflect a rising threat of war. Furthermore, it also provides a justification of the search terms that are used in my methodology.

The second leg of the audit study, and perhaps the most essential one, is a human reading of relevant articles. This is necessary since I only want to incorporate those articles that discuss a potential risk of war rather than a discussion of the aftermath of a war. Including the latter would bias this measure (Saiz & Simonsohn, 2013). Overall, this exercise led me to exclude around 9% of articles that otherwise would have been included in the measure. This audit study provides necessary refinements for the risk measures (Caldara & Iacoviello, 2018). After a thorough human reading, I limit the number of articles in *Threat* and *Act* at 2,158. I plot the evolution of both measures in figure 1.

1.4. Comparison

I am not the first to construct a search-based measure or an index of (potential) disaster risk. In this section, I compare *Threat* and *Act* with its most important counterparts, that is, geopolitical risk index of Caldara and Iacoviello (2018), disaster risk metric of Berkman et al. (2011) and economic policy uncertainty index of Baker et al. (2016).

1.4.1. Geopolitical risk

The geopolitical risk index of Caldara and Iacoviello (2018) is related to the risk measures. However, the index contrasts in three important points. First, the geopolitical risk index covers a broader definition of wars. They include additional key words, such as *terrorist attacks*, *nuclear threat* and *geopolitical*. However, in the 1885-1913 period, there are no news articles that contain the additional search words. Therefore, I do not include them in my glossary. As a robustness test, I replace the word *terrorist* by *anarchist*, which was more common in the pre-World War I period. However, this does not yield any additional information.

Second, I apply the European perspective. In contrast, Caldara and Iacoviello (2018) target Canada, the United Kingdom and the United States. They potentially miss several important European conflicts, such as the Italo-Turkish War (1911-1912) and First Balkan War (1911-1912). In comparison, the geopolitical risk index spiked in July 1900, when Robert Charles fatally shot a police officer. This event lead to huge civil unrest in the United

States. Therefore, this index is not applicable to European stock markets.[10] This is shown in a low correlation between *Threat* or *Act* measured by Caldara and Iacoviello (2018)[11] and *Threat* (0.05) or *Act* (0.03) measured in this paper.

Finally, Caldara and Iacoviello (2018) limit their analysis to the relationship between the geopolitical risk index and future stock returns. In this article, I consider all channels that could have an effect on stock returns, that is, changes in expected returns, dividend growth or interest rates. Furthermore, I focus on multiple countries in my analysis relative to a world market index. In sum, this provides a more comprehensive analysis for stock returns.

1.4.2. International crisis behavior project

Another measure that is related to the war risk measures is the International Crisis Behavior (ICB) index from Berkman et al. (2011). The ICB database consists of more than 400 individual crises. This approach differs in three ways. First, I do not focus on political crises that have a potential to turn into military conflicts. A related drawback, however, is that the database does not include civil wars, crises identified by ICB as "international crises" and other rare disasters that may have consumption effects (Berkman et al., 2011). In turn, I focus on potential military conflicts and the start of war directly. I use what is perceived by investors through the news. Therefore, *Threat* and *Act* are not constructed with the benefit of hindsight. They focus on potential conflicts to which investors can react, even when no actual event took place.

Second, I untangle war risks into its two most important components, *Threat* and *Act*. This allows me to make a comprehensive analysis of stock price reactions to war news. Therefore, this study is an extension over the ICB database. Caldara and Iacoviello (2018) document low correlations between their news-based measures and the index of Berkman et al. (2011), which highlights the potential of news-based measures in the disaster risk literature (Barro, 2006; Gabaix, 2012).

1.4.3. Economic policy uncertainty

In their seminal work, Baker et al. (2016) use three inputs to create Economic Policy Uncertainty metric (*EPU*): newspaper coverage, federal tax code provisions set to expire and disagreements between forecasters. Since there is no data on financial forecasters, and federal tax code provisions are not relevant in the measurement of war risk, I focus exclusively on newspaper coverage.

The most important difference between *EPU* and *Threat* or *Act* is obviously the form of risk that one tries to capture. *EPU* is constructed through a textual analysis of economic policy search terms, such as *congress* and *deficit*. In this article, I capture risks concerning potential military conflicts. Another difference between the

[10] In appendix, I show that there is no significant relationship between Belgian stocks and geopolitical risk index (cfr. appendix A12).

[11] The geopolitical index of Caldara and Iacoviello (2018) is only available from 1899.

risk measures is their geographical coverage. The historical database for *EPU* is focused on United Kingdom and United States, where the war risk metrics focus on continental Europe.[12] The correlations between *Threat* or *Act* and *EPU* are low, respectively 0.16 (*Threat*) and -0.07 (*Act*) for the United Kingdom.

2. Data and Historical Background

This research relies on the SCOB database at the University of Antwerp, which contains information on every individual stock ever listed on the BSE. The SCOB database has complete information on end-of-month stock prices, number of shares outstanding, dividend information (dividends paid and ex-dividend day), and capital operations on all stocks. Dividends made up the large part of the realized returns to Belgian stocks in the 19th century. On average, price appreciation did not contribute significantly to total returns. This data enables me to construct highly reliable and accurate value-weighted return indices.

Belgium was among the first countries in Europe to industrialize, before France and Germany (Annaert et al., 2012). Relative to other nations, where only a few sectors were developed, the Belgian economy was already quite diversified. In 1900, transportation, financials and mining had a relative market capitalization of around 20%. The most important industry was manufacturing, with 37% of relative market capitalization. In contrast, the U.S. market was dominated by railroads, which accounted for 63% of the market capitalization (Chambers & Dimson, 2016). Similarly, railroads had a relative market share of almost 50% in London (Acheson, Hickson, Turner, & Ye, 2015).

Similar efforts have been made to collect historical return data for other countries, with a special interest to the U.S. (Acheson et al., 2015; Goetzmann, Ibbotson, & Peng, 2001). Despite the efforts, the construction of a reliable historical dataset is frequently hampered by data flaws, such as survivorship bias, incomprehensive and inconsistent data. The SCOB database, however, is highly reliable, as the official archives of the BSE is its main source. The database is also cross-checked with various additional sources (Annaert et al., 2012).

Figure 2 plots the relative weight for domestic and foreign stock listings between January 1885 and December 1913. It shows the increase of Russian stock listings before 1900, with a weight of more than 10% relative to the other countries of interest. At the start of the sample period, only three Russian stocks were listed on the BSE. In 1913, this increased to almost 90 Russian stocks listings, relative to 53 French, 32 Spanish, or 34 Italian stocks. In total, the cross-section of stocks consisted of more than 1.200 stocks (Annaert et al., 2012).[13]

2.1. Main variables

The most important variables in this paper are stock returns, dividend growth rates and interest rates. In this paper, I use the variables in real terms. I create the consumer price index from various sources (Gerard, 1928;

[12] The historical economic policy uncertainty index of Baker et al. (2016) is only available from 1900.
[13] Annaert et al. (2018) show that the number of Russian stocks (listed on the BSE) significantly decreased after 1900.

Michotte, 1937; Nicolai, 1921), similar to Annaert et al. (2012). Similar to *Threat* or *Act*, variables are observed end-of-month.

2.1.1. Stock returns

I target common stocks and ignore instruments with mixed characteristics. All stocks used in this article are listed on the spot market. The spot market had a wider coverage because stocks listed on the forward market had to be listed on the spot market, but not vice versa. Before 1914, the forward market consisted exclusively of foreign stocks. Stock prices are denominated in Belgian Francs. Monthly returns are defined as

$$r_t = \log\left[\frac{P_t + D_t}{P_{t-1}}\right] \tag{2}$$

where P_t is the price at the end of month *t* and D_t is the sum of monthly dividends in month *t.*

2.1.2. Dividend growth

I compute the monthly dividend growth rates based on the 12-month trailing sum of dividends, as in Ang and Bekaert (2007). This approach to calculating dividend growth rates diminishes the effect of seasonality in the dividend payments, but introduced overlapping for any frequency higher than annual. Therefore, to compute the dividend growth rates, I divide by last year's trailing sum of dividends. Monthly dividend growth is defined as

$$dg_t = \log\left[\frac{D_t^{12}}{D_{t-1}^{12}}\right] \tag{3}$$

where D_t^{12} is a 12-month trailing sum of dividends in month *t* and D_{t-1}^{12} is a 12-month trailing sum of dividends in month *t* of the previous year. In contrast to returns, all dividends are denominated in their local currency.

2.1.3. Risk-free rate

As of 1833, the Belgian government issued short-term bonds. The rate on these bonds did not move much in the pre-World War I period, indicating that it did not fully reflect the money market evolutions (Gerard, 1928; Nicolai, 1921). The rate on commercial paper, however, is recognized as the best money market rate for this period (Dupriez, 1930). Therefore, I use the yield on commercial paper as the proxy for the risk-free rate. Due to data limitations, I focus on the Belgian interest rates.

2.2. Data summary

I report some summary statistics in table 1. The average monthly returns for all the countries ranges between 3% and 7% in annual terms. However, standard deviation shows some important differences. Russian stocks, for example, have an monthly standard deviation of 4.37%. This represents a sharp decline, for instance, due to the Russian Revolution of 1905 (Annaert, Buelens, & Cuyvers, 2018; Opitz, 2018).

More interestingly, correlations across stocks are as high as markets today (Annaert et al., 2018; Goetzmann, Li, & Rouwenhorst, 2005). This can be explained by the fact that all stocks are listed on the BSE, and, therefore can be subject to similar shocks relative to distinct exchanges. The correlation between dividend growth rates are relatively low. They range between -0.00 and 0.11.

2.3. Control variables

To ensure that *Threat* and *Act* is not fully captured by general risk, I introduce several control variables (Lettau & Ludvigson, 2001). First, I define volatility (C*VOL*) as cross-sectional standard deviations between returns,

$$CVOL_t = \sqrt{\frac{1}{N}\sum_{i=1}^{N}(R_{it} - \bar{R}_{it})^2} \tag{4}$$

where N is the total number of stocks, R_{it} is the simple return on stock *i* at time *t* and $\bar{R}_{it}$ is the cross-sectional mean at time t.

I measure skewness (CSKEW) as the cross-sectional skewness between returns, as

$$CSKEW_t = \frac{\frac{1}{N}\sum_{i=1}^{N}(R_{it} - \bar{R}_{it})^3}{\left[\frac{1}{N}\sum_{i=1}^{N}(R_{it} - \bar{R}_{it})^2\right]^{3/2}} \tag{5}$$

Since these measures are sensitive to outliers, I winsorize the data below and above the 5th percentile (Maio, 2016). Including the outliers would only enhance the evidence of cross-sectional skewness. I hypothesize that there is a positive relationship between cross-sectional volatility or skewness and the risk measures (Ferreira, 2018; Mele, 2007). The intuition is that disasters are events that makes the economy move away from a good state. However, it does not have to impact all stocks similarly (Berkman et al., 2011).

Second, I use several business cycle variables. I use the relative-risk-free rate (*RREL*), which is the commercial paper yield minus its 12-month moving average; term-spread (*TS*), which is the long-term government bonds' yield[14] minus the risk-free rate; and dividend yield (*DY*), which is the 12-month rolling sum of dividends scaled by the current price. Due to data limitations, I focus on Belgian bond yields.[15] The other variables are country-specific in the regression analysis.

[14] I use the *Belgian Outstanding Debt 2 ½* (or "Dette Active Belge 2 ½") as the long-term government bond.
[15] In appendix, I test the robustness of the conclusions with British consols and risk-free rates (cfr. appendix A13).

Third, I capture political risk by an election dummy. This dummy yields one 12 months before a Belgian senate election, and zero otherwise, as in Çolak et al. (2017). Similarly to the bond yields, I limit the proxy for political uncertainty to Belgian selections since stocks are listed on the Brussels Stock Exchange and therefore subject to changes in Belgian policy and laws.

3. Time-series regression

Financial theory shows that stock returns can be decomposed in changes in current and expected cash-flows, expected risk-free rates and expected returns (e.g. Campbell, 1991; Campbell & Ammer, 1993). In the context of war, expected returns changes are intuitive: resilient stocks offer lower expected returns, since they better protect investors when the war occurs (Barro, 2006). Therefore, an increase in systematic risk should increase expected returns of stocks that do not offer protection. Hence, the null hypothesis is that the increase in war risk measures is associated with an increase in expected returns.

I assume that an increase in *Threat* and *Act* leads to a decrease in the future dividend growth rates. However, since dividend policy is slowly-moving, it is possible that the effect is insignificant up to 12 months-ahead and only becomes significant beyond the 12 month-horizon, in particular for the *Act* of war. This intuition is given by Barro (2006), who shows that an increase in disaster risk partially wipes out the dividend of a certain asset.

Following Barro (2006), the return on government bonds is presumed to be subject to possible default during a disaster period. This should decrease government bond yields and expected returns substantially when the probability of a war increases (Wachter, 2013). In fact, I assume that there is a negative relationship between *Threat* or *Act* and the short-term government bond yield.

If the disaster is common across countries, their cross-correlation should be near one. Hence, the relationship between the two risk metrics and the respective variables should be the same across countries. In turn, if the disaster is idiosyncratic, their cross-correlation will be low (Lewis & Liu, 2017). Due to the nature of the event, I assume that the disaster is common across countries. However, when I present international evidence, I do not assume that war news coverage affects stock returns similarly.

3.1. Pooled regressions

To measure the extent to which war risk affects stock returns, I run the following predictive regression,

$$y^i_{t+h} = \alpha^i + \beta_1 Z_t + \beta_2 X^i_t + \varepsilon^i_{t+h} \tag{6}$$

for *i* = 1,…,*N* countries; where y^i_{t+h} is the monthly value-weighted cumulated log real excess return, dividend growth or risk-free rate over the period *t+h* for country *i*, Z_t are the risk measures in period *t*, *Threat* and *Act*, and X are control variables, defined above. All variables are observed end-of-month.

Under the hypothesis that Z_t does not affect future returns, dividend growth or risk-free rates, the coefficient for *Threat* or *Act* (β_1) in equation 2 should equal zero. If Z_t is a proxy for another form of risk, control variables will load significantly; and β_1 should equal zero.

In the empirical analysis, I target the level of *Threat* and *Act.* As in Ang and Bekaert (2007), Hjalmarsson (2010) and Rapach, Strauss and Zhou (2013), I estimate a pooled regression of equation 6; where the *J*-test of Hansen (1982) for overidentifying restrictions ensures that data pooling is allowed. The pooled estimates impose the restriction that β_1 is equal across countries, which is commonly referred to as slope homogeneity restrictions. Hjalmarsson (2010) shows that, even if this restriction does not hold exactly, pooled estimates are meaningful estimates for average relationships in the data. For pooled estimates, I report coefficients with Hodrick (1992) standard error corrected for pooled regressions. These standard error adjustments eliminate cross-sectional correlation, heteroscedasticity and moving average structure created through the use of overlapping returns (Ang & Bekaert, 2007).

3.1.1. Economic determinants of the risk metrics

To test whether *Threat* or *Act* captures another forms of risk, I run standardized linear regressions of the war risk measures on several state variables. In standardized regressions, all variables are scaled by their standard deviation. Therefore, I interpret that the one-standard-deviation change in the independent variable results in a beta-standard-deviation change in the dependent variable. I report the regression results in table 2.

Cross-sectional volatility and skewness are significantly positively correlated with *Threat* and *Act*. Since a war is considered a tail event, the correlation with cross-sectional skewness and volatility is no surprise. The result also suggests that stocks behave differently in times of military tension. Business cycle variables, such as the dividend yield and term-spread, are not significant for both *Threat* and *Act*. This indicates that the risk indices capture another form of risk, on top of the standard control variables. In fact, state variables explain only 9% (Threat) or 22% (Act) of the variation in the risk measures.

A concern in the predictability literature is that many price-scaled variables, such as dividend yield, are rather persistent and can behave such as a unit root process (Ang & Bekaert, 2007; Stambaugh, 1999). These issues are of no concern for *Threat* and *Act* because their persistence is relatively low compared to other variables. In table 2 (panel C), I present the autoregressive coefficients. I find that the persistence varies between 0.18 and 0.22. I provide empirical evidence to the assumption of Gourio (2012) that disasters are not persistent.

3.1.2. Regression results

I report the regression output in table 7. First, I document a negative contemporaneous relationship between *Threat* and stock returns of -3%. The effect is significant, even when I control for other economic and business cycle variables. In contrast, I find no contemporaneous effect between *Threat* and dividend growth. Variation in returns in response to an increase in the level of *Threat* is primarily explained by risk premia changes rather than changes in cash-flow news.

The increase in the current level of *Threat* leads to a significant increase in forecasted total excess returns at the one-month to 12-month horizon. The magnitude ranges from 1% (one-month horizon) to 10% (12 months horizon) after controlling for other economic and business cycle variables. Since there is no predictive abilities between *Threat* and future dividend growth, I conclude that changes in risk premia drive stock returns.

Second, I find a negative contemporaneous relationship between *Act* and stock returns. In comparison to the result for *Threat*, the effect between *Act* and stock returns is larger (9%) and significant at the 5% significance level. More importantly, this relationship remains significant after controlling for other variables. In contrast to *Threat*, there is a significant negative contemporaneous relationship between *Act* and dividend growth (-14%). News articles related to the onset of military conflicts lead to an immediate decrease in dividends. The relationship vanishes if one increases the time-horizon to 12-months ahead. Changes in stock prices from the one-month to 12-month horizon are driven by changes in discount rate news. An increase in the current level of *Act* results in a decrease in stock price ranging from -11% (one-month horizon) to -26% (12-month horizon). The conclusion confirms the evidence of Berkman et al. (2011), who document negative returns during a war.

3.2. Additional tests

In the previous sections, I document the contemporaneous effects between the war risk measures and stock returns, dividend growth and interest rates. Furthermore, I show that there is a significant positive (negative) relationship between *Threat* (*Act*) and stock returns, while there is no predictive relationship with dividend growth nor interest rates. In this section, I perform additional tests, in order to see if the results are spurious. I limit the analysis to the countries that were mentioned.

3.2.1. Permanent or temporary effects

To understand the significance and longevity of the relationships found in section 3.2, I ask how long a change in the levels of *Threat* or *Act* affects excess returns, cash-flows and interest rates. I extend the simple one-lag model to one with six lags of *Threat* and *Act*. Similar to the previous analysis, I run a pooled regression for all countries that were mentioned in the risk metrics. The regression specification then becomes

$$y_{t+1}^{i} = \alpha^{i} + \beta_1 Z_t + \beta_2 Z_{t-1} + \beta_3 Z_{t-2} + \beta_4 Z_{t-3} + \beta_5 Z_{t-4} + \beta_6 Z_{t-5} + \beta_7 Z_{t-6} + \varepsilon_{t+1}^{i} \quad (7)$$

I report the regression coefficients in table 9. The findings are summarized as follows. First, an increase in the level of *Threat* is only significant at the first lag in the return regression. Since the contemporaneous effect is negative and there is no predictive relationship with expected dividend growth, the evidence suggests there is an overreaction to news on the *Threat* of war and mean-reversion in stock returns. In addition, these results show that *Threat* impacts risk premia rather than expected cash-flows.

An increase in the level of *Act* has six significant lags in the return regression. This suggests evidence of a drift for negative news. This effect is permanent rather than temporary. Overall, the result is intuitive since war is associated with relative high uncertainty and has high welfare costs relative to military tensions (Barro, 2009). It confirms the conclusion in the "diagnostic expectations" literature, that investors display excess pessimism when news is really bad (Bordalo, Gennaioli, Porta, & Shleifer, 2017; Bordalo, Gennaioli, & Shleifer, 2018).

Second, I confirm the evidence from Gourio (2012). An increase in the levels of *Threat* can lead to a significant effect on the risk-free rate. However, as shown in table 9, this effect is economically insignificant. In fact, this effect is rather meaningless since the risk-free rate did not move that much in the nineteenth century. Hence, I do not devote too much time on this relationship. In particular, since increases in the levels of *Threat* or *Act* does not yield any significant relationship.

Third, war risk forecasts dividend growth rates at the one-month lag. However, after the one-month lag, this significant relationship vanishes. This indicates that dividend growth experiences a level shift downward and resumes its normal level afterwards. Similarly to the previous conclusion, this is driven by news on the *Act* of war. An increase in *Act* news by 1% signals a decrease in dividend growth rates by -26%. The lack of longevity in this relationship suggests that is a temporary rather than permanent shift. This is conform previous results in the literature (Barro, 2009; Gabaix, 2012).

3.2.2. Higher moments

Wachter (2013) explains the aggregate volatility through a model with time-varying disaster probabilities and recursive preferences. An increase in the disaster probabilities increases volatility and, in turn, leads to return predictability. One drawback of this method is the assumptions going into the model. Wachter (2013) already hinted to this drawback: since the probability of rare disasters is the only state variable that drives her results, the consequence is that dividend yield and risk-free rate are perfectly correlated, which is rather unrealistic.[16]

In this paper, I do not use any assumption rather than the assumption that The Economist is a good proxy for European war news coverage. Nevertheless, I use the results from Wachter (2013) as the baseline hypothesis. An increase in the risk measure should lead to an increase in cross-sectional volatility. The assumption is that not all stocks behave similar to an increase in the level of war news. Since wars are "tail events", there should also be a positive relationship between the risk measure and cross-sectional skewness (Berkman et al., 2011).

[16] Another consequence is that the model implies an unrealistic degree of co-movement across stocks (Wachter, 2013).

Similarly to the previous pooled regression, I use the cross-sectional volatility and skewness as the dependent variables. In addition, I include the first lag of cross-sectional volatility or skewness as an additional parameter to account for the persistence in volatility and skewness. I also check the persistence of the risk measures on volatility and skewness. I present the evidence from different regression specifications in table 8.

$$y_{t+h}^{i} = \alpha^{i} + \beta_1 Z_t + \beta_2 Z_{t-1} + \beta_3 X_t^{i} + \varepsilon_{t+h}^{i} \quad (8)$$

where y_{t+h}^{i} is the cross-sectional volatility and skewness.

Panel A reports the relationships between *Threat* and cross-sectional skewness and volatility. An increase in the risk measure leads to a significant increase in cross-sectional skewness. An 1% increase in *Threat* leads to a contemporaneous increase in cross-sectional skewness by 0.80. When I control for other parameters, the effect is only half. The increase in *Threat* still leads to a contemporaneous increase of skewness by 0.42. Since lagged cross-sectional skewness is also significant, and higher than the contemporaneous variable, it provides evidence that the relationship between *Threat* and cross-sectional skewness is persistent.

The relationship between *Act* and cross-sectional skewness is more remarkable. An 1% increase in *Act* leads to an increase by 3.3 in the cross-sectional skewness. After controlling for other variables, the impact remains only 1.62. This finding indicates that the increase in the level of *Act* does not translate to all stocks in a similar fashion, which is more carefully investigated in section 3.4.

More interestingly, there is no relationship between *Threat* and cross-sectional volatility. In any specification, the relationship is small and statistically insignificant. However, there is a relationship between *Act* and cross-sectional volatility. An increase in the level of *Act* leads to a contemporaneously increase in volatility by 0.12. When I control for other factors, the relationship remains significant and equals 0.08. This indicates that the risk measure *Act* does not capture other business cycle fluctuations or economic uncertainty variation. It also shows that that the impact on cross-sectional volatility is not significant; since the lagged coefficient *Act* does not yield a variable that is significant at the 1% level.

In sum, the results indicate that macroeconomic risks, as measured by cross-sectional volatility and skewness, increase contemporaneously with *Threat* and *Act*, even after controlling for business cycle variations. This is consistent with the risk-premia explanation from return regressions, in which a surge war news increases risk and expected returns. This finding confirms the evidence from time-varying disaster probability models, such as Wachter (2013).

3.2.3. International evidence

Around 1900, the BSE was one of the largest stock exchange, in terms of market capitalization (Chambers & Dimson, 2016). It had a wide diversified range of stocks listed from different industries and countries (Annaert et al., 2012; Lebergott, 1980). In this section, I use stocks from other countries listed on the BSE. I categorize the stocks in European and non-European stocks. These countries were not captured in the calculation of *Act* and *Threat*. In particular, for European stocks, I use Austria-Hungary, Greece, Luxembourg, Poland, Portugal, Romania and Serbia. For non-European stocks, I focus on Argentina, Brazil, Cameroon, Canada, China, Congo, the Ottoman Empire and South-Africa.

Almost all these countries had their monetary systems linked to the gold, silver or bimetallic standard in 1868 and transferred to a gold standard in 1908 (Eichengreen & Flandreau, 1994). This allows me to compare cash-flows and returns across countries.[17] Similar to the main analysis, I use a pooled regression. I report the results in table 6.

For European countries that are not mentioned in the risk metrics, I find a negative contemporaneous impact on stock returns by *Threat* (-0.04%) and *Act* (-0.07%). However, I do not find any relationship between *Threat* or *Act* and dividend growth. This suggests that an increase in the risk measures is associated with an increase in risk premia rather than a decrease in cash-flows. In addition, I document that neither *Threat,* nor *Act,* have any predictive abilities on future stock returns and future dividend growth.

For non-European countries, I fail to show a significant contemporaneous relationship between *Threat* or *Act* and stock returns or dividend growth. This indicates that there is evidence of the importance of proximity to military conflicts. Investors sell stocks they believe are close to the conflict or when the potential spill-over is relatively higher. Furthermore, I do not find any predictive ability of the risk measures for future stock returns or future dividend growth.[18]

4. Conclusion

How do stock returns respond to a rising threat or the act of war? There is a lack of empirical evidence in the disaster risk literature because disasters rarely occur. In turn, I use on what people are actually thinking rather than what is perceived with hindsight. In this paper, I use the historical archives of The Economist to construct two war measures that capture *Threat* or *Act* of wars. I focus on the build-up to the First World War to provide an answer to the question at hand.

Between January 1885 to December 1913, I count all articles that discuss potential conflicts and military acts. I focus on articles that contain the combination of specific search terms and, at least, one country that was a main trading partner of Belgium or had a remarkable number of stock listings on the Brussels Stock Exchange. To ensure that relevant articles capture a rising threat or act of war, I rely heavily on a human reading of The Economist.

[17] Congo is an exception. South Africa was not officially on the gold standard, but was likely to adopt the standard (Eichengreen & Flandreau, 1994).
[18] In appendix, I apply these measures on U.S. stock returns to confirm this conclusion (cfr. appendix A11).

I find that an increase in the level of *Threat* is associated with a contemporaneous decrease in stock returns. Since there is no effect on dividend growth, this suggests that this is predominately driven by the increase in risk premia. The increase in *Threat* positively forecasts future returns up to 12 months ahead. However, since only one lag of the risk metric is important, this suggests there is evidence of return reversal. I conclude that information is quickly incorporated in the stock price when a *Threat* does not translate in to an *Act*.

In turn, an increase in the level of *Act* corresponds a contemporaneous and future decrease in stock returns. An increase of *Act* negatively forecasts future returns up to 12 months ahead. This effect is permanent rather than temporary. This finding confirms previous evidence, showing that the act of wars is associated with high uncertainty and welfare costs.

In addition, there is evidence of the importance of proximity to the conflict. An increase in the risk measures lead to a contemporaneous decrease in stock returns for European countries (not captured by the measures). For other countries, however, there is no significant change in stock returns, following an increase in the level of *Threat* and *Act*. This suggests that investors assess the likelihood of spill-over to other countries.

An increase in the level of *Threat* and *Act* leads to an increase in cross-sectional skewness, even when I control for other variables. An increase *Act* are also associated with an increase in cross-sectional volatility. This result is consistent with previous time-varying disaster risk models. This also suggest that stocks behave differently in time of war.

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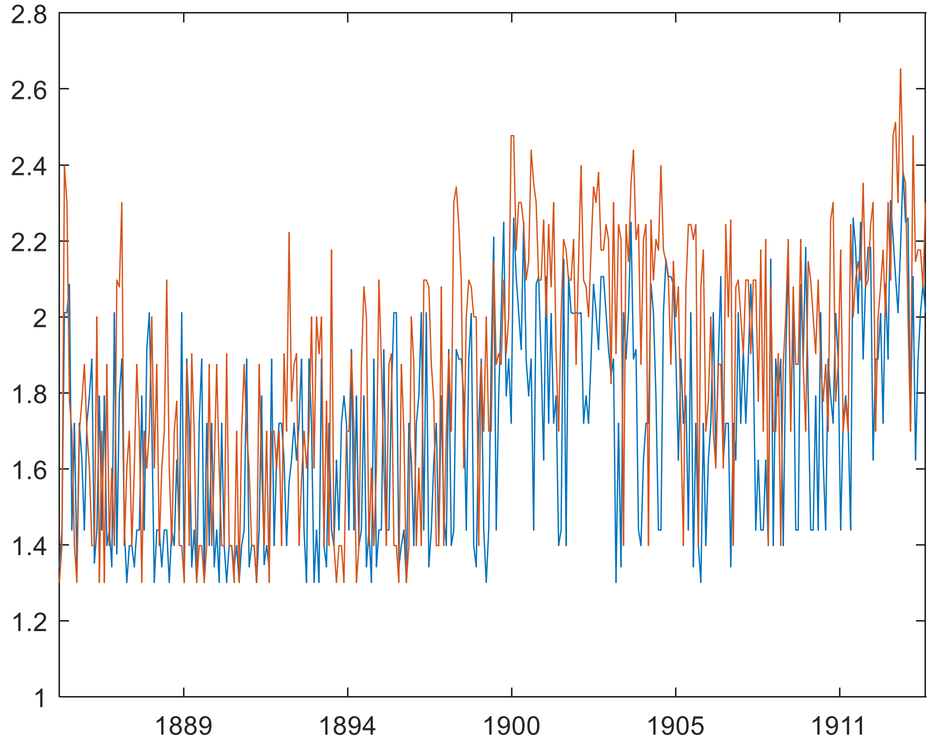
Figures

Figure 1: *Threat* vs. *Act*

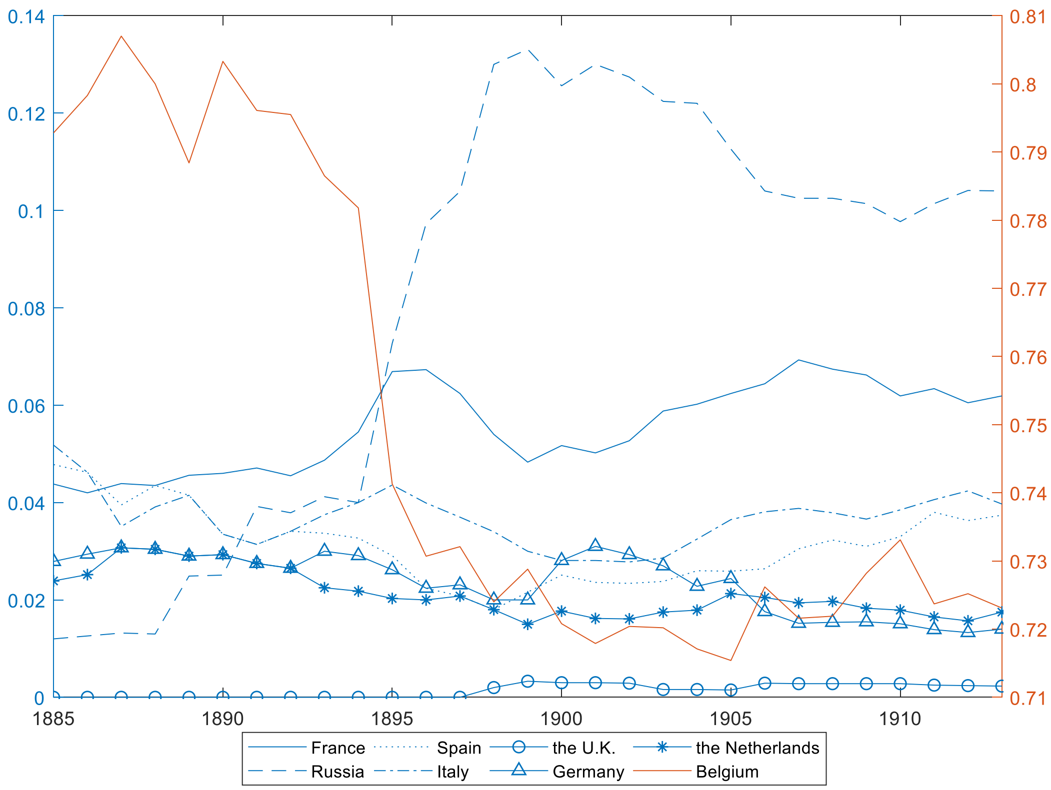


This figure plots the monthly war risk measure for *Threat* (orange) and *Act* (blue) for the period January 1885 to December 1913. *Threat* and *Act* calculated as

$$Z_j = \log\left(100 * \frac{\text{number of war risk related articles}_j}{\text{number of weekly issues}_j}\right)$$

Number of war risk articles contains relevant articles in month *t* with the combination of, at least, one country (Belgium, France, Germany, Russia, Spain, the Netherlands, United Kingdom or any derivative such as French or Russian), the search words *military* or *war*, combined with, at least, one word capturing *Threat* (*uncertain*, *tension*, *risk*, *concern*, *threat and fear or* any derivatives) while excluding words for *Act* (*invasion, beginning, outbreak, army, battle* and *start* or any derivatives), and vice versa. *The number of weekly issues* are all weekly issues in month *t*.

Figure 2: Evolution of stock listings



The annual relative weight of the number of stock listings on the Brussels Stock Exchange for Belgium, France, Germany, Italy, Spain, Russia, the Netherlands and the United Kingdom. Belgian stock listings are on the right y-axis. Foreign stock listings are on the left y-axis. All data is from the period January 1885 to December 1913.

Tables

Table 1: Summary statistics

Panel A: Summary statistics

Country	Return	Std. dev	Dividend growth	Std. dev	Div. yield	Weight
Belgium	0.0047	0.0176	0.0095	0.1683	0.051	0.75
France	0.0050	0.0239	0.0068	0.0770	0.028	0.06
Germany	0.0048	0.0295	0.0061	0.1002	0.019	0.02
Italy	0.0030	0.0226	0.0093	0.1711	0.028	0.03
Russia	0.0038	0.0437	0.0079	0.1999	0.017	0.08
Spain	0.0045	0.0324	0.0213	0.2272	0.018	0.03
The Netherlands	0.0060	0.0197	0.0074	0.0720	0.016	0.02

Panel B: Correlation matrix

Panel B1: Returns

	France	Germany	Italy	Russia	Spain	The Netherlands
Belgium	0.46	0.61	0.29	0.43	0.51	0.60
France	1	0.36	0.20	0.40	0.31	0.28
Germany		1	0.27	0.27	0.40	0.31
Italy			1	0.18	0.27	0.14
Russia				1	0.32	0.18
Spain					1	0.33
The Netherlands						1

Panel B2: Dividend growth

	France	Germany	Italy	Russia	Spain	The Netherlands
Belgium	-0.01	-0.05	0.11	-0.04	0.03	-0.01
France	1	0.09	0.01	0.03	-0.02	0.11
Germany		1	0.06	-0.02	-0.01	0.08
Italy			1	0.03	0.00	0.04
Russia				1	-0.00	0.01
Spain					1	-0.01
The Netherlands						1

The table reports summary statistics for individual countries. I report monthly value-weighted log total excess market returns and its standard deviation (column 2 and 3), monthly value-weighted log dividend growth and its standard deviation (column 4 and 5), dividend yield (column 6) and average relative weight of number of stock listings (number 7). Dividend growth is calculated as the 12-month trailing sum of dividends in month *t* divided by the 12-month trailing sum of dividends in month *t* of the previous year. Dividend yield is calculated as the 12-month trailing sum of dividends divided by its current price. In panel B, I report the correlation between monthly value-weighted log total excess market returns (panel B1) and monthly value-weighted log dividend growth (panel B2). Results are based on the period January 1885 until December 1913.

Table 2: Economic determinants of *Threat* and *Act*

Panel A: Summary statistics of the risk measures

	Mean	Std. Dev	Min	Max	Correlation	
					Threat	Act
Threat	1.70	0.28	1.30	2.38	1	
Act	1.87	0.33	1.30	2.65	0.42	1

Panel B: Standardized regressions economic and political uncertainty and business cycle variables

Panel B1: Threat

CVOL	0.11*						0.10
	(1.67)						(1.54)
CSKEW		0.21***					0.19**
		(2.35)					(2.21)
TS			-0.04				-0.00
			(-0.94)				(-0.01)
RREL				-0.01			-0.05
				(-0.12)			(-0.21)
DY					0.05		0.02
					(0.81)		(0.72)
Elec						-0.28***	-0.20***
						(-3.36)	(-3.21)
Adj. R^2	0.04	0.08	0.01	0.00	0.01	0.08	0.09

Panel B2: Act

CVOL	0.46***						0.38***
	(4.41)						(3.22)
CSKEW		0.55***					0.45***
		(7.38)					(4.05)
TS			-0.10				-0.03
			(-1.54)				(-0.22)
RREL				0.08			0.16
				(0.87)			(1.21)
DY					0.04		0.09*
					(0.43)		(1.69)
Elec						-0.39***	-0.30***
						(-4.45)	(-4.55)
Adj. R^2	0.11	0.17	0.00	0.00	0.00	0.12	0.22

Panel C: Autoregressive coefficients

	Threat		Act	
AR(1)	0.24***	0.23***	0.18***	0.18***
	(3.24)	(3.18)	(2.42)	(2.35)
AR(2)	0.23***	0.22***	0.16***	0.16***
	(2.13)	(2.09)	(2.38)	(2.30)
AR(3)	0.13	0.12	0.24***	0.23***
	(1.27)	(1.25)	(2.91)	(2.75)
MKT_{t-1}		-0.58		-0.27*
		(-0.98)		(-1.72)
Adj. R^2	0.09	0.09	0.24	0.25

Panel A reports summary statistics of *Threat* and *Act*. Panel B reports the regression coefficients of a standardized linear regression of *Threat* (B1) and *Act* (B2) on a set of state variables: *CVOL* is the cross-sectional volatility of country j; *CSKEW* is the cross-sectional volatility of country *j*; *TS* is the difference of the Belgian long-term and short-term interest rates; *RREL* is the Belgian short-term interest rate minus its 12-month rolling average; *DY* is the dividend yield of country *j* and *Elec* is a dummy variable that yields one 12 months before a Belgian senate election. Panel C reports AR(3) models of *Threat* and *Act*. MKT_{t-1} is the value-weighted stock market return of period *t-1* for all countries mentioned in The Economist.

Table 3: Regression analysis

	h = 0	h = 1	h = 2	h = 4	h = 6	h = 8	h = 12
Panel A: Returns							
$Threat_t$	-0.03***	0.04***	0.06***	0.08***	0.10***	0.12***	0.14***
	(-1.87)	(2.44)	(2.15)	(2.16)	(2.22)	(2.31)	(2.37)
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes
AR²	0.14	0.04	0.11	0.11	0.23	0.26	0.23
Act_t	-0.09*	-0.11***	-0.10*	-0.15***	-0.15***	-0.19***	-0.26***
	(-1.95)	(-2.07)	(-1.94)	(-2.09)	(-2.32)	(-3.07)	(-2.01)
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes
AR²	0.14	0.05	0.12	0.11	0.22	0.23	0.23
Panel B: Dividend growth							
$Threat_t$	-0.01	-0.01	-0.01	-0.01	-0.02	-0.03	-0.04
	(-0.94)	(-0.49)	(-0.54)	(-0.45)	(-0.59)	(-0.58)	(-0.99)
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes
AR²	0.11	0.08	0.13	0.13	0.15	0.18	0.20
Act_t	-0.14*	-0.12	-0.11	-0.08	-0.05	-0.04	0.10
	(-1.68)	(-1.40)	(-1.32)	(-0.59)	(-0.64)	(-0.25)	(0.88)
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes
AR²	0.16	0.12	0.11	0.09	0.10	0.09	0.07
Panel C: Interest rates							
$Threat_t$	-0.01	-0.01	-0.01	-0.01	-0.02	-0.03	-0.04
	(-0.94)	(-0.49)	(-0.54)	(-0.45)	(-0.59)	(-0.58)	(-0.99)
AR²	0.11	0.08	0.13	0.13	0.15	0.18	0.20
Act_t	-0.14*	-0.12	-0.11	-0.08	-0.05	-0.04	0.10
	(-1.68)	(-1.40)	(-1.32)	(-0.59)	(-0.64)	(-0.25)	(0.88)
AR²	0.16	0.12	0.11	0.09	0.10	0.09	0.07

The table reports coefficients of the pooled regression $y_{t+h} = \alpha + \beta_1 Z_t + \beta_2 X_t + \epsilon_{t+h}$ where y_{t+h} is the cumulated h-period ahead value-weighted real excess log return (panel A), real log dividend growth rate (panel B) of countries that were captured in *Threat* and *Act,* and real Belgian interest rates (panel C); Z_t denotes *Threat* and *Act.* X denotes the set of control variables: *CVOL*, the cross-sectional volatility of country *j*; *CSkew* is the cross-sectional volatility of country *j*; *TS* is the difference between Belgian long-term and short-term interest rates; *RREL* is Belgian short-term interest rate minus its 12-month rolling average; *DY* is the smoothed dividend yield of country *j*; *Elec* is the dummy variable that yields one 12 months before a Belgian senate election. Regression coefficients are produced by constraining the predictive coefficients to be the same between the countries. *T*-statistics are in parentheses, computed using Ang and Bekaert (2007) seemingly unrelated regression standard errors. Results are based on the period January 1885 until December 1913.

*, **, and *** represent significance at the 10%, 5%, and 1% levels, respectively.

Table 4: Temporary or permanent effects

	Stock returns		**Dividend growth**		**Interest rates**	
	Threat	Act	Threat	Act	Threat	Act
Z_{t-1}	0.05*	-0.22**	-0.02	-0.26*	0.00	0.00
	(1.82)	(-2.15)	(-0.76)	(-1.71)	(1.04)	(1.38)
Z_{t-2}	0.01	-0.24***	-0.00	-0.22	0.00	0.00
	(1.16)	(-2.79)	(-0.15)	(-1.36)	(1.36)	(1.61)
Z_{t-3}	-0.00	-0.22**	0.01	-0.13	0.00	0.00
	(-0.15)	(-2.13)	(0.33)	(-0.85)	(1.58)	(1.34)
Z_{t-4}	-0.01	-0.21*	0.00	-0.04	0.00	0.00
	(-0.23)	(-1.83)	(0.06)	(-0.26)	(1.38)	(0.91)
Z_{t-5}	-0.02	-0.13*	-0.00	0.03	0.00	0.00
	(-1.08)	(-1.79)	(-0.06)	(0.22)	(1.46)	(0.67)
Z_{t-6}	-0.03	-0.07***	-0.00	0.02	0.00	0.00
	(-0.22)	(-2.40)	(-0.02)	(-0.14)	(1.61)	(0.47)
Adj. R^2	0.00	0.10	-0.02	0.04	0.06	0.03

The table reports coefficients of pooled regression $y_{t+h} = \alpha + \beta_1 Z_t + \epsilon_{t+h}$ where y_{t+h} is the cumulated h-period ahead value-weighted real excess log return, real log dividend growth rate of countries that are captured in *Threat* and *Act*, and real Belgian interest rates; Z_t denotes *Threat* and *Act.* Regression coefficients are produced by constraining the forecasting coefficients to be the same across countries. *T*-statistics are in parentheses, computed using Ang and Bekaert (2007) Seemingly Unrelated Regression standard errors. Results are based on the period January 1885 until December 1913.

*, **, and *** represent significance at the 10%, 5%, and 1% levels, respectively.

Table 5: Higher moments of *Threat* and *Act*

	Cross-sectional volatility				Cross-sectional skewness			
Panel A: Threat								
Z_t	-0.00	-0.00	-0.00	0.00	0.80***	0.55***	0.54***	0.42***
	(-0.62)	(-0.60)	(-0.61)	(0.19)	(4.82)	(4.13)	(4.18)	(3.45)
Z_{t-1}		-0.00	-0.00	-0.00		0.53***	0.52***	0.39***
		(-0.40)	(-0.46)	(-0.09)		(3.91)	(3.89)	(4.01)
$CVOL_{t-1}$			0.01*	0.00				
			(1.66)	(0.94)				
$CSkew_{t-1}$							-0.02	-0.02
							(-0.86)	(-0.97)
TS_t				0.30***				0.30***
				(5.41)				(5.41)
$RREL_t$				0.15***				0.09***
				(6.45)				(3.59)
DY_t				0.00				-0.01
				(0.18)				(-0.15)
$Elec_t$				0.04***				0.43***
				(4.54)				(4.24)
Adj. R^2	0.00	0.00	0.01	0.34	0.15	0.20	0.19	0.30
Panel B: Act								
Z_t	0.12***	0.09*	0.07*	0.08*	3.32***	2.56***	2.49***	1.65***
	(2.31)	(1.86)	(1.67)	(1.89)	(4.09)	(3.73)	(3.76)	(2.48)
Z_{t-1}		0.09*	0.10**	0.02		2.21***	2.23***	1.46***
		(1.72)	(2.03)	(1.48)		(3.18)	(3.18)	(3.15)
$CVOL_{t-1}$			0.10*	0.04				
			(1.66)	(0.94)				
$CSkew_{t-1}$							-0.00	-0.00
							(-0.94)	(-1.02)
TS_t				0.29***				0.32***
				(5.11)				(4.79)
$RREL_t$				0.15***				0.08***
				(6.56)				(3.23)
DY_t				0.00				-0.01
				(0.14)				(-0.23)
$Elec_t$				0.03***				0.36***
				(3.69)				(3.45)
Adj. R^2	0.02	0.03	0.04	0.33	0.10	0.14	0.12	0.25

The table reports coefficients of pooled regression of the form $y_{t+h} = \alpha + \beta_1 Z_t + \beta_2 X_t + \epsilon_{t+h}$ where y_{t+h} denotes the cross-sectional volatility and skewness of countries captured in the war risk measures; Z_t denotes the level of *Threat* and *Act*. X denotes the set of control variables: *CVOL*, the cross-sectional volatility of country *j*; *CSkew* is the cross-sectional volatility of country *j*; *TS* is the difference between Belgian long-term and short-term interest rates; *RREL* is Belgian short-term interest rate minus its 12-month rolling average; *DY* is the smoothed dividend yield of country *j*; *Elec* is the dummy variable that yields one 12 months before a Belgian senate election. Regression coefficients are produced by constraining the predictive coefficients to be the same between the countries. *T*-statistics are in parentheses, computed using Ang and Bekaert (2007) seemingly unrelated regression standard errors. Results are based on the period January 1885 until December 1913.

*, **, and *** represent significance at the 10%, 5%, and 1% levels, respectively.

Table 6: International regression analysis

	h = 0	h = 1	h = 2	h = 4	h = 6	h = 8	h = 12
Panel A: Other European countries							
Panel A1: Returns							
$Threat_t$	-0.04**	-0.02	-0.01	-0.02	-0.02	-0.03	0.01
	(-2.12)	(-1.06)	(-0.82)	(-0.41)	(-0.52)	(-0.64)	(0.17)
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes
AR²	0.01	0.00	-0.00	-0.01	-0.00	-0.00	-0.02
Act_t	-0.07***	-0.04	-0.06	-0.05	-0.04	-0.07	-0.09
	(-2.25)	(-0.95)	(-0.43)	(-0.28)	(-0.99)	(-0.86)	(-0.42)
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes
AR²	0.02	-0.00	0.00	-0.01	-0.01	-0.00	-0.02
Panel A2: Dividend growth							
$Threat_t$	0.02	0.01	0.01	0.01	0.04	0.03	-0.02
	(1.20)	(0.88)	(0.79)	(0.93)	(1.62)	(0.95)	(-0.41)
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes
AR²	0.01	0.00	0.00	-0.00	0.04	0.03	0.02
Act_t	-0.01	0.01	0.01	0.02	0.06	-0.02	-0.05
	(-0.89)	(0.27)	(0.23)	(0.37)	(0.83)	(-0.12)	(-0.33)
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes
AR²	-0.01	-0.00	-0.01	0.00	0.02	0.04	0.05
Panel B: Other countries							
Panel B1: Returns							
$Threat_t$	0.01	-0.01	-0.05	-0.00	-0.01	-0.03	-0.02
	(0.65)	(-0.66)	(-0.52)	(-0.01)	(-0.21)	(-0.44)	(-0.74)
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes
AR²	-0.01	-0.01	-0.00	-0.00	0.00	0.00	0.01
Act_t	0.02	-0.02	-0.04	-0.01	-0.03	-0.01	-0.08
	(0.89)	(-1.21)	(-1.11)	(-0.35)	(-0.78)	(-0.19)	(-1.13)
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes
AR²	-0.00	0.02	0.01	-0.00	-0.01	-0.01	-0.01
Panel B2: Dividend growth							
$Threat_t$	-0.00	0.00	0.01	0.03	0.05	0.06	0.03
	(-0.12)	(0.39)	(0.53)	(1.26)	(1.61)	(1.10)	(0.51)
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes
AR²	-0.02	-0.01	-0.01	0.04	0.08	0.06	0.01
Act_t	-0.01	-0.01	-0.03	-0.04	-0.03	-0.02	-0.01
	(-1.01)	(-0.26)	(-0.80)	(-1.19)	(-1.24)	(-0.90)	(-0.11)
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes
AR²	-0.01	-0.02	-0.01	-0.00	0.00	0.01	0.02

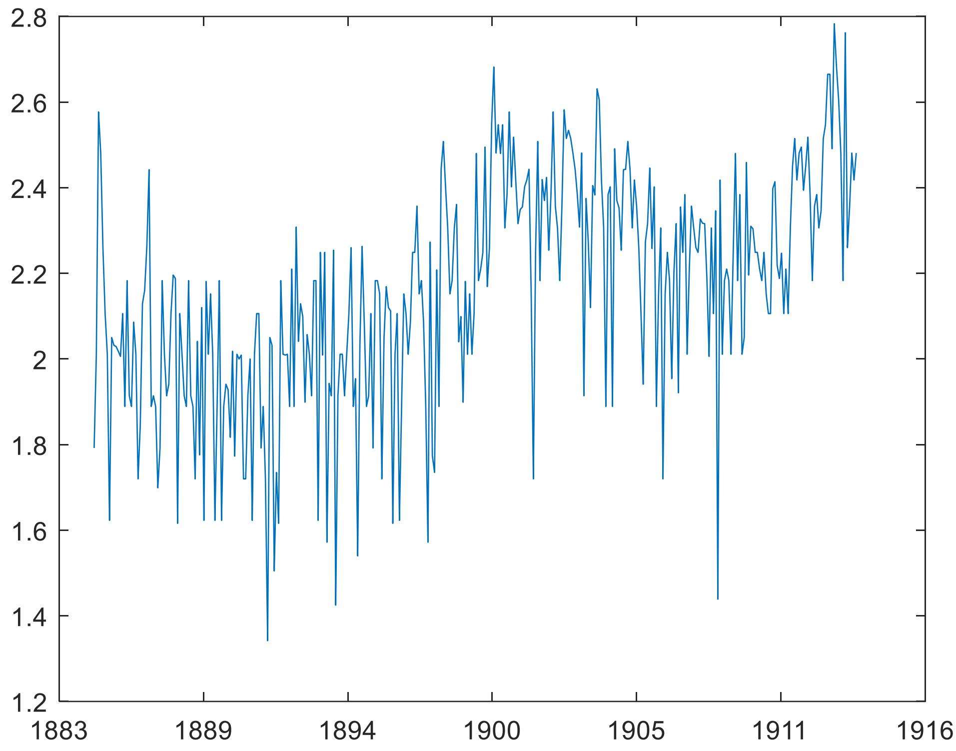
The table reports coefficients of the pooled regression $y_{t+h} = \alpha + \beta_1 Z_t + \beta_2 X_t + \epsilon_{t+h}$ where y_{t+h} is the cumulated h-period ahead value-weighted real excess log return, real log dividend growth rate of European countries (panel A) and non-European countries (panel B) that are not captured by *Threat* and *Act* ; Z_t denotes *Threat* and *Act*. X denotes the set of control variables: *CVOL*, the cross-sectional volatility of country *j*; *CSkew* is the cross-sectional volatility of country *j*; *TS* is the difference between Belgian long-term and short-term interest rates; *RREL* is Belgian short-term interest rate minus its 12-month rolling average; *DY* is the smoothed dividend yield of country *j*; *Elec* is the dummy variable that yields one 12 months before a Belgian senate election. Regression coefficients are produced by constraining the predictive coefficients to be the same between the countries. *T*-statistics are in parentheses, computed using Ang and Bekaert (2007) seemingly unrelated regression standard errors. Results are based on the period January 1885 until December 1913.

*, **, and *** represent significance at the 10%, 5%, and 1% levels, respectively.

Appendix

Figure

Figure A1: War risk measure



This figure plots the monthly war risk metric (*WRM*) for the period January 1885 to December 1913. *WRM* is given by

$$WRM_j = \log\left(100 * \frac{\text{number of war risk related articles}_j}{\text{number of weekly issues}_j}\right)$$

Number of war risk articles contains relevant articles in month *t* with the combination of, at least, one country (Belgium, France, Germany, Russia, Spain, the Netherlands, United Kingdom or any derivative such as French or Russian), the search words *military* or *war*, combined with, at least, one word capturing *Threat* (*uncertain*, *tension*, *risk*, *concern*, *threat and fear or* any derivatives) and *Act* (*invasion, beginning, outbreak, army, battle* and *start* or any derivatives). *The number of weekly issues* are all weekly issues in month *t*.

Figure A2: An article captured in Act

THE FRENCH DECLARATION OF WAR AGAINST MADAGASCAR.

THE English have no right to prevent the French from conquering Madagascar if they can. That is admitted on all hands, and the fact that it is admitted is recorded without hesitation by the new Foreign Minister of France, M. Hanotaux, who is generally believed to be something of a Chauvinist. He admits in his careful speech of Tuesday that France has no ground of complaint, and expects no interference. The full recognition, however, of the French Protectorate, with all the consequences it involves, does not bind our countrymen in their capacity as onlookers to sympathise with the invaders, still less to shut their eyes to the difficulties which will impede the invading army. The English have given up Madagascar, but they cannot forget that their missionaries first carried civilisation and Christianity to the island, or that it will by and by be regarded by the colonists of the Dominion of South Africa as a foreign dependency, the fate of which greatly concerns themselves. They are not pleased, as it is, to think that a French fleet will always be so near Port Natal and the Cape. It is natural, therefore, that the British should sympathise with the Malagasy in the coming war, and should point out with a certain gleam of anticipation that the French hardly as yet understand the magnitude of the task before them. The speech of M. Hanotaux, indeed, in which, on Tuesday, he virtually declared war on Madagascar, revealed a shade of anxiety existing in his own mind. He was careful to say that the honour of

An example of an article included in *Act* from The Economist of November 17, 1894. This item discusses a military conflict between France and Madagascar, with a potential involvement of the U.K.

Figure A3: An article captured in Threat

THE UNEASINESS IN EUROPE.

The general belief of Europe that war is improbable this year, or, indeed, during the lifetime of the Emperor of Germany, is probably well founded; but we should be wanting in our duty if we did not point out that some lowering clouds are settling over Europe. In the extreme East, the Bulgarian situation, though it seems simple to Englishmen, may at any time involve results of the highest moment. The tension in Sofia itself is growing acute, the parties quarrelling visibly for the direct control of the Army—that is the meaning of the quarrel between the Regents and the Ministry of War—and a sudden blow may, in a day, make Bulgaria Russian, and so force Austria into action; or may so affront the Czar, that he will have no alternative except the armed occupation, which would mean almost immediate war. The election of Prince Ferdinand irritates all Extremists, and a military *émeute* on behalf of submission to the Czar, or a declaration of total independence, is now quite possible, and the consequences of either event might be most disastrous to peace. Prince Bismarck could not, in either event, restrain the Hungarians, on one side, or the Russians, on the other, and would probably think it the safest plan to let them weaken each other, holding himself in readiness to keep back France, and interfere effectually after the first battles. It is not altogether his interest to prevent the collision in the East. He would not like the situation, but the smaller peoples of the Balkan think of themselves, and not of the general interests of Europe, which, as they contend, neglects them. The continued unsettlement is sapping authority in Bulgaria, and the leaders in Sofia are just the men to form, in the last resort, desperate resolutions. It is in fear of some such accident that half Europe is willing to accept Prince Ferdinand of Coburg, though it is well understood that he excites little enthusiasm among the population whose representatives

An snippet of an article included in *Threat* from The Economist of July 16, 1887. This item discusses a potential military conflict in Europe, which includes the U.K., Germany, Russia and France.

Tables

Table A1: Search term frequency

	Key term	News	Column	Business news
Threat	Risk	0.100	0.143	0.055
	Tension	0.011	0.011	0.016
	Concern	0.094	0.110	0.049
	Uncertain	0.042	0.022	0.085
	Fear	0.145	0.154	0.075
	Threat	0.018	0.000	0.010
Act	Invasion	0.020	0.154	0.009
	Outbreak	0.049	0.044	0.112
	Beginning	0.253	0.231	0.534
	Start	0.051	0.055	0.030
	Battle	0.035	0.055	0.016
	Army	0.182	0.022	0.010
		1.000	1.000	1.000

The table reports the relative frequency of search terms in *WRM*. All search terms are weighted in their respective section (News, Column and Editorial and Business news) and sum up to 1 (or 100%). Results are based on the time period from January 1885 to December 1913.

Table A2: Unigram analysis

"The First World War"	Count	**"The History of the First World War"**	Count
German	1166	War	2715
Army	1016	German	1504
War	924	British	1094
French	657	Germany	986
British	612	Allies	985
Front	503	French	844
Russian	431	Army	840
Divisions	420	First	819
First	399	New	632
Attack	373	France	617
Line	372	Britain	605
Command	363	Against	593
Against	354	Government	572
Force	347	World	562
Day	335	Even	507
Offensive	318	Powers	503
General	312	Peace	497
Battle	295	Russia	497
Austrian	287	Front	496
Germany	281	Attack	466
Plan	280	Military	461
Two	270	Russian	461
Great	264	Forces	461
Advance	264	London	460
Military	262	American	450
Even	252	Although	425
France	245	Political	408
Russia	243	General	394

The table reports a unigram analysis of two books, The First World War (by John Keegan) and The History of the First World War (by Stevenson).

Table A3: Correlation analysis

	Act_{t+1}	Act_{t+2}	Act_{t+3}	Act_{t+4}
$Threat_t$	0.162	0.145	0.388	0.188

	$Threat_{t+1}$	$Threat_{t+2}$	$Threat_{t+3}$	$Threat_{t+4}$
Act_t	0.163	0.183	0.112	0.086

The table reports the correlation matrix between Threat and Act, based on different time horizons.

Table A4: Economic determinants

Panel A: Summary statistics of the risk measures

	Mean	Std. Dev	Min	Max	Correlation WRM	Correlation Threat	Correlation Act
WRM	2.16	0.27	1.60	2.78	1		
Threat	1.70	0.28	1.30	2.38	0.63	1	
Act	1.87	0.33	1.30	2.65	0.87	0.31	1

Panel B: Standardized regressions of WRM on economic and political uncertainty and business cycle variables

CVOL	0.28***						0.18***
	(3.38)						(2.16)
CSKEW		0.39***					0.30***
		(6.10)					(4.05)
TERM			-0.08				-0.03
			(-0.94)				(-0.22)
RREL				0.09			0.16
				(0.92)			(1.21)
DY					0.05		0.09*
					(0.81)		(1.69)
Elec						-0.35***	-0.30***
						(-4.91)	(-4.55)
Adj. R^2	0.10	0.15	0.01	0.01	0.00	0.12	0.15

Panel C: Autoregressive coefficients

	WRM	
AR(1)	0.22***	0.22***
	(2.43)	(2.35)
AR(2)	0.29***	0.29***
	(3.13)	(3.19)
AR(3)	0.20***	0.19***
	(2.36)	(2.14)
AR(4)	0.09	0.08
	(1.26)	(1.23)
MKT_{t-1}		-0.24*
		(-1.64)
Adj. R^2	0.35	0.36

Panel A reports summary statistics of the risk metrics. Panel B reports the regression coefficients of a standardized linear regression of WRM on a set of state variables of countries that were mentioned in The Economist. VOL is the cross-sectional volatility of country j; SKEW is the cross-sectional volatility of country *j*; TERM is the difference of the Belgian long-term and short-term interest rates; RREL is the Belgian short-term interest rate minus its 12-month rolling average; DY is the dividend yield of country *j* and Elec is a dummy variable that yields one 12 months before an election. Panel C reports AR(p) models of *WRM*, *Threat* and *Act*. MKT_{t-1} is the value-weighted stock market return of period *t-1* for country *j*.

Table A5: Contemporaneous effects

	Returns			Dividend growth			Interest rates		
Panel A: Countries that are captured by *WRM*									
WRM	-0.04***	-0.03***	-0.03***	-0.03*	-0.03*	-0.03*	-0.00	-0.00	-0.00
	(-2.16)	(-2.02)	(-2.03)	(-1.77)	(-1.95)	(-1.75)	(-1.03)	(-1.03)	(-1.59)
CVOL		-0.79*	-0.81*		-0.00	-0.00		0.00*	0.00
		(-1.94)	(-1.90)		(-0.41)	(-0.21)		(1.62)	(0.74)
TERM		0.59***	0.49		-1.47***	-1.32***		0.23***	0.16***
		(2.13)	(1.56)		(-4.30)	(-3.12)		(3.79)	(2.11)
RREL		0.05	-0.02		-0.33***	-0.24*		0.06***	0.05**
		(0.46)	(-0.22)		(-2.84)	(-1.99)		(2.65)	(1.94)
DY			-0.01***			0.01***			0.000
			(-3.51)			(2.88)			(0.19)
Elec			-0.00			0.00			-0.00***
			(-0.26)			(0.51)			(-2.18)
Adj. R²	0.08	0.09	0.12	0.07	0.14	0.17	0.01	0.06	0.07
J-test	0.34	0.31	0.28	0.18	0.15	0.11			
Panel B: Other European countries									
WRM	-0.05*	-0.05*	-0.04*	-0.01	-0.01	-0.01			
	(-1.63)	(-1.70)	(-1.65)	(-0.17)	(-0.18)	(-0.29)			
CVOL		0.06	0.02		-0.05	-0.06			
		(0.22)	(0.10)		(-0.91)	(-1.10)			
TERM		0.57	0.60		-0.57	-0.63			
		(1.46)	(1.42)		(-0.34)	(-0.29)			
RREL		0.23	0.23		-0.06	-0.13			
		(1.39)	(1.34)		(-0.07)	(-0.16)			
DY			-0.00			0.00			
			(-0.92)			(0.01)			
Elec			-0.00			-0.01			
			(-0.05)			(-0.43)			
Adj. R²	0.02	0.04	0.02	0.00	-0.01	-0.03			
J-test	0.22	0.13	0.11	0.10	0.07	0.05			
Panel C: Non-European countries									
WRM	-0.00	-0.01	-0.00	-0.01	-0.01	-0.01			
	(-0.25)	(-0.63)	(-0.51)	(-0.47)	(-0.34)	(-0.44)			
CVOL		0.38	0.36		-0.08	-0.09			
		(1.01)	(0.96)		(-1.24)	(-1.22)			
TERM		0.68***	0.44		-2.13	-2.32			
		(2.21)	(1.03)		(-1.06)	(-0.97)			
RREL		0.03	0.04		-0.61	-0.63			
		(0.15)	(0.24)		(-0.77)	(-0.75)			
DY			-0.00			0.00			
			(-3.14)			(0.14)			
Elec			0.00			-0.01			
			(0.18)			(-0.32)			
Adj. R²	0.00	0.04	0.07	0.00	-0.01	-0.02			
J-test	0.07	0.05	0.04	0.12	0.08	0.07			

The table reports coefficients of the pooled regression of the form $y_t = \alpha + \beta_1 WRM_t + \beta_2 X_t + \epsilon_{t+h}$ where y_t is the value-weighted real excess return or dividend growth rates of its country group. Panel A includes Belgium, France, Germany, Italy, Spain, the Netherlands and the United Kingdom. Panel B includes Austria-Hungary, Greece, Luxemburg, Poland, Portugal, Romania and Serbia; panel C includes Argentina, Brazil, Canada, Cameroon, China, Congo, Egypt, Israel, Japan, the Ottoman Empire, South Africa and United States. Interest rates denotes the Belgian short-term government bond yield. *WRM* denotes the war risk metric. X denotes a set of control variables, in which *VOL* is cross-sectional volatility of country *j*; *TERM* is the difference of Belgian long-term and short-term government bond yields; *RREL* is the Belgian government bond yield minus its 12-month rolling average; *DY* is the dividend yield of country *j;* and *Elec* is a dummy variable that yields one 12 months before an election. Regression coefficients are produced by constraining the predictive coefficients to be the same across countries. *T*-statistics are in parentheses, computed using Ang and Bekaert (2007) Seemingly Unrelated Regression standard errors. *J*-test is the Hansen (1982) test for overidentifying restrictions. Results are based on the period January 1885 until December 1913. *, **, and *** represent significance at the 10%, 5%, and 1% levels, respectively.

Table A6: Expected returns

	h = 1	h = 2	h = 4	h = 6	h = 8	h = 12
Panel A: Countries that are mentioned						
WRM	-0.11**	-0.12*	-0.16***	-0.18***	-0.18***	-0.16***
	(-1.96)	(-1.80)	(-2.80)	(-2.20)	(-2.66)	(-3.94)
CVOL	-0.37	-0.76	-0.74	-1.88	-2.08	-1.77
	(-0.78)	(-1.00)	(-1.08)	(-1.36)	(-1.42)	(-0.63)
TERM	0.56*	1.24***	1.94***	3.01***	3.45***	4.31***
	(1.69)	(2.63)	(3.13)	(2.25)	(2.02)	(1.90)
RREL	0.14	0.28	0.43	0.28	0.60	0.72
	(1.10)	(1.18)	(1.23)	(1.17)	(1.07)	(0.93)
DY	-0.00	-0.00	-0.00	-0.00	-0.00	-0.00
	(-0.31)	(-0.16)	(-0.17)	(-0.22)	(-1.05)	(-1.01)
Elec	-0.00	-0.00	-0.01	-0.01	-0.02	-0.02
	(-0.27)	(-0.43)	(-0.59)	(-0.63)	(-0.79)	(-0.83)
Adj. R^2	0.09	0.16	0.26	0.26	0.27	0.28
Panel B: Other European countries						
WRM	-0.01	-0.01	0.00	-0.01	-0.01	0.03
	(-0.96)	(-0.90)	(0.09)	(-0.40)	(-0.25)	(0.36)
CVOL	0.37	0.61	0.97	1.47	1.21	1.37
	(1.10)	(1.05)	(1.08)	(0.65)	(0.35)	(0.30)
TERM	0.97***	1.96***	3.52	3.39	3.37	0.15
	(2.13)	(2.02)	(1.28)	(1.04)	(0.83)	(0.03)
RREL	-0.06	-0.26	-0.19	-2.63***	-3.26***	-5.01***
	(-0.26)	(-0.67)	(-1.30)	(-2.00)	(-2.23)	(-2.63)
DY	0.00	0.01	0.00	0.01	0.02	0.03*
	(0.36)	(0.28)	(0.25)	(1.04)	(1.29)	(1.78)
Elec	0.00	-0.00	-0.00	0.00	0.01	0.02
	(0.03)	(-0.38)	(-0.11)	(0.16)	(0.37)	(0.48)
Adj. R^2	0.04	0.05	0.01	0.03	0.04	0.06
Panel C: Non-European countries						
WRM	0.01	0.02	-0.04	-0.03	-0.03	-0.01
	(0.83)	(-1.55)	(-1.39)	(-0.69)	(-0.65)	(-0.24)
CVOL	0.05	0.07	0.05	0.10	0.05	0.02
	(0.61)	(0.44)	(0.24)	(0.33)	(0.35)	(0.47)
TERM	0.06	0.09	0.10	0.09	0.15	0.16
	(0.31)	(0.39)	(0.52)	(0.58)	(0.63)	(0.65)
RREL	0.07	0.05	0.22	0.27	0.52	1.59
	(0.44)	(0.46)	(1.27)	(1.44)	(1.46)	(0.94)
DY	0.00	0.00	0.00	0.00	0.00	0.00
	(0.20)	(0.32)	(0.28)	(0.81)	(0.59)	(0.13)
Elec	0.00	-0.00	-0.01	-0.02	-0.01	0.01
	(0.52)	(-0.32)	(-0.41)	(-0.39)	(-0.26)	(0.19)
Adj. R^2	0.07	0.19	0.15	0.28	0.29	0.30

The table reports coefficients of the pooled regression of the form $y_{t+h} = \alpha + \beta_1 WRM_t + \beta_2 X_t + \epsilon_{t+h}$ where y_{t+h} is the cumulated *h*-period ahead value-weighted real excess log return of its country group. Panel A includes Belgium, France, Germany, Italy, Spain, the Netherlands and the United Kingdom. Panel B includes Austria-Hungary, Greece, Luxemburg, Poland, Portugal, Romania and Serbia; panel C includes Argentina, Brazil, Canada, Cameroon, China, Congo, Egypt, Israel, Japan, the Ottoman Empire, South Africa and United States. Interest rates denotes the Belgian short-term government bond yield. *WRM* denotes the war risk metric. X denotes a set of control variables, in which *VOL* is cross-sectional volatility of country *j*; *TERM* is the difference of Belgian long-term and short-term government bond yields; *RREL* is the Belgian government bond yield minus its 12-month rolling average; *DY* is the dividend yield of country *j;* and *Elec* is a dummy variable that yields one 12 months before an election. Regression coefficients are produced by constraining the predictive coefficients to be the same across countries. *T*-statistics are in parentheses, computed using Ang and Bekaert (2007) Seemingly Unrelated Regression standard errors. Results are based on the period January 1885 until December 1913. *, **, and *** represent significance at the 10%, 5%, and 1% levels, respectively.

Table A7: Expected returns: equally-weighted

	h = 1	h = 2	h = 4	h = 6	h = 8	h = 12
WRM	-0.05*	-0.10**	-0.11**	-0.24*	-0.30	-0.37
	(-1.70)	(-2.10)	(-2.00)	(-1.64)	(-1.21)	(-1.19)
CVOL	0.00	0.00	0.00	0.05	0.09	0.21**
	(0.06)	(0.23)	(0.22)	(1.00)	(1.41)	(2.02)
TERM	1.45***	2.98***	2.98***	8.56***	3.65***	3.15***
	(3.93)	(4.53)	(4.28)	(3.76)	(2.76)	(2.91)
RREL	0.45***	0.88***	0.87***	2.36***	2.76***	2.91*
	(3.37)	(3.43)	(3.25)	(3.11)	(2.79)	(1.93)
DY	0.00	0.00	-0.00	-0.00	-0.00	-0.01
	(0.28)	(0.13)	(-0.08)	(-0.74)	(-0.40)	(-1.09)
Elec	-0.00	-0.00	-0.00	-0.00	-0.01	-0.02
	(-0.10)	(-0.15)	(-0.31)	(-0.18)	(-0.19)	(-0.37)
Adj. R^2	0.10	0.17	0.17	0.12	0.15	0.18

The table reports slope coefficients from the regression $r_{t+h} = \alpha + \beta_1 WRM_t + \beta_2 X_t + \epsilon_{t+h}$, where r_{t+h} denotes the equally-weighted excess log return of Belgian stocks, *WRM* denotes the war risk measure, and X denotes a set of control variables, which includes VOL, the 24-month rolling standard deviation of stock returns; TERM is the difference in the long-term and short-term interest rates; RREL is the short-term interest rate minus its 12-month rolling average; DY is the smoothed dividend yield and Elec is a dummy variable that yields 1 the 12 months before an election. *T*-statistics are in parentheses, computed using Ang and Bekaert (2007) Seemingly Unrelated Regression standard errors. Results are based on the period January 1885 until December 1913.

*, **, and *** represent significance at the 10%, 5%, and 1% levels, respectively.

Table A8: Expected returns: quarterly regressions

	q = 0	q = 1	q = 2	q = 3	q = 4
WRM	-0.09***	-0.11***	-0.16***	-0.19**	-0.21*
	(-2.33)	(-2.46)	(-2.41)	(-1.97)	(-1.85)
Adj. R^2	0.05	0.05	0.09	0.13	0.15

The table reports slope coefficients from the regression $r_{t+h} = \alpha + \beta_1 WRM_t + \epsilon_{t+h}$, where r_{t+h} denotes the value-weighted quarterly excess log return of Belgian stocks, *WRM* denotes the war risk measure. *T*-statistics are in parentheses, computed using Hodrick's (1992) standard errors. Results are based on the period January 1885 until December 1913.

*, **, and *** represent significance at the 10%, 5%, and 1% levels, respectively.

Table A9: Temporary or permanent effects

	Returns	Dividend growth	Interest rates
Z_{t-1}	-0.06*	-0.03*	0.00
	(-1.78)	(-1.61)	(0.95)
Z_{t-2}	-0.04***	-0.02	0.00*
	(-2.18)	(-1.18)	(1.77)
Z_{t-3}	-0.03*	-0.01	0.00*
	(-1.69)	(-0.42)	(1.64)
Z_{t-4}	0.02	0.01	0.00
	(1.29)	(0.20)	(1.34)
Z_{t-5}	0.03	0.01	0.00
	(1.16)	(0.44)	(1.01)
Z_{t-6}	0.03	-0.00	0.00
	(0.91)	(-0.01)	(0.80)
Adj. R^2	0.08	0.06	0.04

The table reports coefficients of the pooled regression of the form $y_t = \alpha + \beta_1 Z_{t-h} + \epsilon_{t+h}$ where y_t is the value-weighted real excess log return, the value-weighted real dividend growth rate and Belgian risk-free rate in time period t of countries that are mentioned in relevant articles: Belgium, France, Germany, Italy, Spain, the Netherlands and United Kingdom. Z_t denotes the war risk metric, *WRM*. Regression coefficients are produced by constraining the predictive coefficients to be the same across countries. *T*-statistics are in parentheses, computed using Ang and Bekaert (2007) Seemingly Unrelated Regression standard errors. Results are based on the period January 1885 until December 1913.

*, **, and *** represent significance at the 10%, 5%, and 1% levels, respectively.

Table A10: Expected returns: additional data

	h = 0	h = 1	h = 2	h = 4	h = 6	h = 8	h = 12
Panel A: United Kingdom							
Panel A1: Threat							
WRM	0.00	0.01*	0.02*	0.02***	0.03***	0.04***	0.07***
	(1.03)	(1.85)	(1.83)	(2.10)	(2.47)	(2.62)	(3.58)
Adj. R^2	0.01	0.02	0.02	0.03	0.04	0.06	0.07
Panel A2: Act							
WRM	-0.05***	-0.05*	-0.08*	-0.12***	-0.19*	-0.22*	-0.24*
	(-2.01)	(-1.72)	(-1.89)	(-2.03)	(-1.74)	(-1.69)	(-1.68)
Adj. R^2	0.02	0.02	0.03	0.04	0.03	0.03	0.03
Panel A: Russia							
Panel B1: Threat							
WRM	-0.01*	0.02*	0.03*	0.04***	0.04***	0.06***	0.07***
	(-1.88)	(1.87)	(1.84)	(2.21)	(2.01)	(2.44)	(2.67)
Adj. R^2	0.01	0.01	0.02	0.04	0.05	0.06	0.07
Panel B2: Act							
WRM	-0.05**	-0.08**	-0.14***	-0.17***	-0.20***	-0.20***	-0.29***
	(-1.93)	(-1.94)	(-2.05)	(-2.94)	(-3.12)	(-2.46)	(-2.52)
Adj. R^2	0.01	0.01	0.03	0.04	0.04	0.03	0.05

The table reports slope coefficients from the regression $r_{t+h} = \alpha + \beta_1 Z_t + \epsilon_{t+h}$, where r_{t+h} denotes the value-weighted log return of British share price index (source: Bank of England) and St. Petersburg Exchange Index (source: International Center for Finance at Yale University). *Threat* denotes all *Threat*-related war risk articles and *Act* denotes the *Act*-related war risk articles. *T*-statistics are based on Hodrick (1992) standard errors. All results are based on the period from January 1885 to December 1913.

*, **, and *** represent significance at the 10%, 5%, and 1% levels, respectively.

Table A11: Expected returns: additional data

	h = 0	h = 1	h = 2	h = 4	h = 6	h = 8	h = 12
Panel A: Cowles data							
Panel A1: Threat							
Threat	-0.01	-0.02	-0.00	-0.00	-0.03	-0.06	-0.09
	(-0.69)	(-1.04)	(-0.86)	(-0.06)	(-0.45)	(-0.94)	(-1.15)
Adj. R^2	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Panel A2: Act							
Act	-0.03	-0.04	-0.09	-0.15	-0.17	-0.23	-0.12
	(-0.58)	(-0.77)	(-1.18)	(-0.83)	(-0.80)	(-0.48)	(-0.23)
Adj. R^2	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Panel B: NYSE data							
Panel B1: Threat							
Threat	-0.01	-0.01	-0.01	-0.00	-0.03	-0.04	-0.04
	(-1.07)	(-0.96)	(-0.71)	(-0.48)	(-1.31)	(-1.48)	(-1.05)
Adj. R^2	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Panel B2: Act							
Act	-0.02	-0.02	-0.07	-0.04	-0.08	-0.10	-0.02
	(-0.86)	(-1.14)	(-1.46)	(-1.27)	(-0.82)	(-0.52)	(-0.09)
Adj. R^2	0.00	0.00	0.01	0.00	0.00	0.00	0.00

The table reports slope coefficients from the regression $r_{t+h} = \alpha + \beta_1 Z_t + \epsilon_{t+h}$, where r_{t+h} denotes the value-weighted log return of Price index of Cowles Commission Index (source: International Finance Center) and the New York Stock Exchange index (source: International Finance Center). Z_t denotes *Threat* denotes all *Threat*-related war risk articles and *Act* denotes the *Act*-related war risk articles. *T*-statistics are based on Hodrick (1992) standard errors. All results are based on the period from January 1885 to December 1913.

*, **, and *** represent significance at the 10%, 5%, and 1% levels, respectively.

Table A12: Expected returns: Geopolitical risk

	h = 0	h = 1	h = 2	h = 4	h = 6	h = 8	h = 12
Panel A: Threat							
Threat	-0.00	0.00	0.00	0.00	0.01	0.01	-0.01
	(-0.07)	(1.15)	(1.16)	(1.14)	(0.63)	(0.46)	(-0.35)
Adj. R^2	0.00	0.01	0.01	0.00	0.00	0.00	0.00
Panel B: Act							
Threat	-0.00	0.00	0.00	0.00	-0.00	-0.01	-0.01
	(-1.63)	(0.84)	(0.21)	(0.16)	(-0.32)	(-0.42)	(-0.34)
Adj. R^2	0.02	0.01	0.00	0.00	0.00	0.01	0.01

The table reports slope coefficients from the predictive regression $r_{t+h} = \alpha + \beta_1 GEO_t + \epsilon_{t+h}$, where r_{t+h} denotes the Belgian value-weighted log returns. *Threat* denotes *Threat*-related and *Act* denotes the *Act*-related war risk articles, measured by Caldara and Iacoviello (2018). *T*-statistics are based on Hodrick's (1992) standard errors. All results are based on the period from January 1889 to December 1913.

*, **, and *** represent significance at the 10%, 5%, and 1% levels, respectively.

Table A13: Expected interest rates: additional data

	h = 0	h = 1	h = 2	h = 4	h = 6	h = 8	h = 12
Panel A: Yields on Consols							
WRM	0.00	0.00	-0.00	-0.00	-0.00	-0.00	-0.01
	(0.18)	(0.19)	(-1.31)	(-0.92)	(-0.79)	(-0.60)	(-0.68)
Threat	0.00	0.00	0.01	0.01	0.02	0.02	0.02
	(1.41)	(1.62)	(1.56)	(1.46)	(1.37)	(1.20)	(1.13)
Act	0.00	-0.00	0.01	0.01	0.01	-0.00	-0.04
	(0.25)	(-0.27)	(0.29)	(0.15)	(0.08)	(-0.04)	(-0.49)
Panel B: Term spread							
WRM	0.00	0.00	-0.00	-0.00	-0.00	-0.00	-0.00
	(0.62)	(0.60)	(-0.71)	(-0.37)	(-0.31)	(-0.33)	(-0.29)
Threat	0.00	0.00	0.00	0.01	0.01	0.01	0.02
	(0.69)	(0.93)	(1.57)	(1.50)	(1.39)	(1.19)	(1.04)
Act	-0.00	-0.00	-0.00	0.00	-0.00	-0.04	-0.05
	(-0.03)	(-0.48)	(-0.05)	(0.31)	(-0.03)	(-0.53)	(-0.63)

The table reports coefficients of the predictive regression of the form $y_{t+h} = \alpha + \beta_1 WRM_t + \epsilon_{t+h}$ where y_{t+h} is the cumulated *h*-period ahead yield on the British Consols (long-term yield) and term spread, which is the British Consol yield minus the policy rate of the Bank of England. *WRM* denotes the war risk metric. T-statistics in parentheses are computed using Hodrick (1992) standard errors. All results are based on the period January 1885 until December 1913.

*, **, and *** represent significance at the 10%, 5%, and 1% levels, respectively.

Table A14: Sample splits

	h = 0	h = 1	h = 2	h = 4	h = 6	h = 8	h = 12
Panel A: Quartile 1							
Panel A1: Threat							
Z_t x I_t	-0.05**	0.02***	0.05***	0.08***	0.10***	0.11***	0.14***
	(-1.77)	(1.96)	(2.14)	(2.24)	(2.22)	(2.06)	(2.01)
Z_t x (1-I_t)	-0.03	0.01*	0.02**	0.05***	0.04*	0.04	0.02
	(-1.44)	(1.62)	(1.97)	(2.17)	(1.89)	(1.33)	(0.42)
Panel A2: Act							
Z_t x I_t	-0.02	-0.02	-0.00	-0.01	-0.04	-0.06	-0.04
	(-1.31)	(-1.87)	(-0.22)	(-0.30)	(-1.51)	(-1.59)	(-1.28)
Z_t x (1-I_t)	-0.02***	-0.03*	-0.07*	-0.13***	-0.14*	-0.15*	-0.17***
	(-2.42)	(-1.88)	(-1.77)	(-2.22)	(-1.74)	(-1.62)	(-1.97)
Panel B: Quartile 4							
Panel B1: Threat							
Z_t x I_t	0.01	-0.02	-0.05***	-0.07***	-0.10***	-0.11***	-0.14***
	(0.58)	(-1.36)	(-2.37)	(-2.88)	(-3.79)	(-3.84)	(-3.27)
Z_t x (1-I_t)	-0.04***	0.01***	0.01***	0.02***	0.05***	0.08***	0.11***
	(-3.06)	(3.17)	(2.91)	(3.25)	(3.38)	(3.77)	(4.03)
Panel B2: Act							
Z_t x I_t	0.01	-0.02*	-0.09***	-0.15***	-0.18***	-0.20***	-0.22***
	(0.38)	(-1.77)	(-3.94)	(-5.34)	(-6.42)	(-3.75)	(-2.19)
Z_t x (1-I_t)	0.00	-0.03	-0.08*	-0.12***	-0.13***	-0.10*	-0.16***
	(0.03)	(-1.09)	(-1.96)	(-2.91)	(-3.03)	(-1.76)	(-2.03)

The table reports slope coefficients from the regression $r_{t+h} = (\alpha_1 + \beta_1 Z_t)\ x\ I_t + (\alpha_2 + \beta_2 Z_t)\ x\ (1 - I_t) + \epsilon_{t+h}$, where r_{t+h} denotes the value-weighted excess log return of countries that are captured by *WRM*: Belgium, France, Germany, Italy, Spain, the Netherlands and the UK and Z_t denotes the war risk metric for *Threat* and *Act*.. I_t is a dummy that yields one if the level of Z_t is in the first and fourth quartile and zero otherwise. Regression coefficients are produced by constraining the predictive coefficients to be the same across countries. *T*-statistics are in parentheses, computed using Ang and Bekaert (2007) Seemingly Unrelated Regression standard errors. Results are based on the period January 1885 until December 1913.

*, **, and *** represent significance at the 10%, 5%, and 1% levels, respectively.

Table A15: Industries

	Expected Returns							Expected Dividend Growth						
	h = 0	h = 1	h = 2	h = 4	h = 6	h = 8	h = 12	h = 0	h = 1	h = 2	h = 4	h = 6	h = 8	h = 12
Panel A: Financials														
WRM	-0.00	-0.01*	-0.02*	-0.02*	-0.03	-0.05	-0.07	-0.01	0.02	0.02	0.02	0.01	0.04	0.01
	(-0.68)	(-1.68)	(-1.77)	(-1.66)	(-0.97)	(-0.96)	(-0.83)	(-0.37)	(1.57)	(1.42)	(1.07)	(0.33)	(0.83)	(0.19)
Threat	-0.00	0.04***	0.05*	0.05*	0.06*	0.07	0.08	0.04	0.03	0.01	0.01	0.00	0.04	-0.04
	(-0.11)	(2.12)	(1.80)	(1.69)	(1.61)	(1.44)	(0.96)	(1.46)	(1.42)	(0.69)	(0.44)	(0.02)	(1.10)	(-0.65)
Act	-0.01	-0.04*	-0.10*	-0.15*	-0.17*	-0.20*	-0.29*	-0.08*	0.06	0.07	0.09	0.03	0.08	0.12
	(-0.40)	(-1.73)	(-1.70)	(-1.90)	(-1.67)	(-1.77)	(-1.99)	(-1.68)	(1.13)	(1.22)	(0.40)	(0.16)	(0.60)	(0.44)
Panel B: Transportation														
WRM	0.01	-0.02**	-0.04**	-0.06*	-0.04*	-0.04*	-0.01	-0.01	-0.01	-0.04*	-0.04	-0.06	-0.05	-0.04
	(1.08)	(-1.98)	(-1.94)	(-1.86)	(-1.62)	(-1.63)	(-1.08)	(-0.41)	(-0.66)	(-1.65)	(-1.41)	(-1.30)	(-1.03)	(-1.04)
Threat	0.02	0.01	0.02	0.02	0.06	0.07	0.04	-0.00	0.00	-0.02	-0.02	-0.00	-0.03	-0.11*
	(1.18)	(0.54)	(1.19)	(1.07)	(1.01)	(1.05)	(0.30)	(-0.18)	(0.17)	(-0.64)	(-0.65)	(-0.14)	(-0.80)	(-1.70)
Act	-0.05	-0.11**	-0.12**	-0.11*	-0.15*	-0.13	-0.01	-0.02	-0.01	-0.13	-0.13	-0.39	-0.29	-0.19
	(-1.14)	(-2.05)	(-1.97)	(-1.89)	(-1.69)	(-1.38)	(-0.02)	(-0.22)	(-0.23)	(-1.44)	(-1.26)	(-1.58)	(-0.99)	(-0.98)
Panel C: Industrials														
WRM	-0.03*	-0.01	-0.04*	-0.06*	-0.07*	-0.06*	-0.14*	-0.01	-0.02	-0.06	-0.04	0.01	0.04	0.10
	(-1.61)	(-0.91)	(-1.88)	(-1.91)	(-1.73)	(-1.63)	(-1.97)	(-0.33)	(-0.69)	(-1.48)	(-0.90)	(0.21)	(0.57)	(0.84)
Threat	-0.03	0.02	0.04**	0.06*	0.09**	0.08*	0.06*	-0.02	-0.03	-0.01	0.01	0.01	0.05	0.05
	(-0.34)	(1.22)	(1.97)	(1.91)	(1.97)	(1.77)	(1.67)	(-0.26)	(-0.83)	(-0.15)	(0.13)	(0.31)	(0.88)	(0.43)
Act	-0.06***	-0.10*	-0.24***	-0.39***	-0.27***	-0.30***	-0.28*	-0.03*	-0.19	-0.31*	-0.14	-0.10	-0.03	-0.05
	(-2.48)	(-1.81)	(-2.38)	(-2.72)	(-2.28)	(-2.31)	(-1.76)	(-1.66)	(-1.16)	(-1.65)	(-1.20)	(-0.48)	(-0.15)	(-0.18)
Panel D: Others														
WRM	-0.05*	-0.12***	-0.14***	-0.17***	-0.19***	-0.18**	-0.17*	-0.03	-0.01	0.01	0.02	0.04	0.05	0.06
	(-1.63)	(-2.48)	(-2.12)	(-2.31)	(-2.47)	(-1.99)	(-1.72)	(-1.37)	(-0.48)	(0.65)	(0.22)	(0.53)	(0.59)	(1.46)
Threat	0.00	0.01*	0.02*	0.07***	0.11***	0.12***	0.15***	-0.01	0.03	0.03	0.06	0.06	0.08	0.09
	(1.03)	(1.85)	(1.83)	(2.10)	(2.47)	(2.62)	(3.58)	(-0.26)	(0.85)	(0.81)	(1.24)	(0.95)	(1.14)	(1.00)
Act	-0.05***	-0.05*	-0.08*	-0.12***	-0.19*	-0.22*	-0.24*	-0.05*	-0.02	-0.07	-0.04	-0.08	-0.10	-0.02
	(-2.01)	(-1.72)	(-1.89)	(-2.03)	(-1.74)	(-1.69)	(-1.68)	(-1.78)	(-1.14)	(-1.46)	(-1.27)	(-0.82)	(-0.52)	(-0.09)

The table reports coefficients of the regression of the form $y_{t+h} = \alpha + \beta_1 Z_t + \epsilon_{t+h}$ where y_{t+h} is the cumulated *h*-period ahead value-weighted real excess log returns and dividend growth rates of industries from seven countries: Belgium, France, Germany, Italy, Spain, the Netherlands and United Kingdom. Z_t denotes *WRM*, *Threat* and *Act*. Regression coefficients are produced by constraining the predictive coefficients to be the same across countries. *T*-statistics are in parentheses, computed using Hodrick (1992) standard errors. Results are based on the period January 1885 until December 1913.

*, **, and *** represent significance at the 10%, 5%, and 1% levels, respectively

Panel A16: Cross-sectional kurtosis

Panel A: Threat				
Z_t	1.31***	1.17***	1.00***	0.74***
	(3.07)	(2.98)	(2.97)	(2.48)
Z_{t-1}		1.13***	1.08***	0.80***
		(3.00)	(3.05)	(2.54)
$CKurt_{t-1}$			0.01***	0.01***
			(3.01)	(2.80)
$TERM_t$				-6.39
				(-0.45)
$RREL_t$				3.31
				(0.67)
DY_t				0.09
				(0.71)
$Elec_t$				0.63***
				(2.82)
Adj. R²	0.04	0.07	0.10	0.13
Panel B: Act				
Z_t	4.85	3.54	3.18	3.07
	(2..46)	(2.14)	(2.15)	(2.11)
Z_{t-1}		3.84	4.01	2.96
		(2.24)	(2.35)	(1.93)
$CKurt_{t-1}$			0.01	0.01
			(3.38)	(2.85)
$TERM_t$				-6.47
				(-0.46)
$RREL_t$				5.70
				(1.13)
DY_t				0.08
				(0.59)
$Elec_t$				0.53
				(2.47)
Adj. R²	0.05	0.07	0.11	0.13

The table reports coefficients of the pooled regression of the form $y_{t+h} = \alpha + \beta_1 Z_t + \beta_2 X_t + \epsilon_{t+h}$ where y_{t+h} denotes the cross-sectional kurtosis of countries that were captured in the risk measures; Z_t denotes *Threat* and *Act*. X denotes a set of control variables: *CKurt*, the cross-sectional kurtosis of country *j*; *TS* is the difference between Belgian long-term and short-term interest rates; *RREL* is Belgian short-term interest rate minus its 12-month rolling average; *DY* is the smoothed dividend yield of country *j*; *Elec* is the dummy variable that yields one 12 months before a Belgian senate election. Regression coefficients are produced by constraining the predictive coefficients to be the same between the countries. *T*-statistics are in parentheses, computed using Ang and Bekaert (2007) seemingly unrelated regression standard errors. Results are based on the period January 1885 until December 1913.

*, **, and *** represent significance at the 10%, 5%, and 1% levels, respectively.