Stock market reactions to wars and political risks: A cliometric perspective for a falling empire

Hanedar, Avni Önder and Yaldız Hanedar, Elmas

Sakarya University, Faculty of Political Sciences, Sakarya University, Faculty of Business

2 February 2017

Stock market reactions to wars and political risks: A cliometric perspective for a falling empire

Avni Önder Hanedar[a,*], Elmas Yaldız Hanedar[b]

a Sakarya University, Faculty of Political Sciences, Sakarya–Turkey

b Sakarya University, Faculty of Business, Sakarya–Turkey

Abstract

In this paper, based on cliometric methodology we use new historical data on the most popular stocks traded at the İstanbul bourse between 1910 and 1914, to examine the effect of wars on stock market prices. During this period, the Ottoman Empire was involved in the Turco-Italian and the Balkan wars, leading to massive land losses and risks for the companies before the First World War. The data are manually collected from the available volumes of a daily Ottoman newspaper, *Tanin.* Our findings are surprising, as we observe only a temporary and small drop in stock prices, indicating little perceived risk by stock investors of the İstanbul bourse.

Keywords: Cliometrics; The İstanbul stock exchange; stocks; the Turco-Italian war; the Balkan wars; Structural breaks

JEL classification: G1; N25; N45

I INTRODUCTION

History provides qualified and detailed information on economic, social, political lives of the past. In recent years, the history has been widely interested in the tools of economics in order to understand today's realities. For instance, studying the comparative history of developed and underdeveloped economies can provide policy tools to poor countries in order to catch up with the developed ones. Moreover, to identify a causal effect, the history guides economists by suggesting exogenous variables. Another methodological development in economics emerged about the use of mathematics and statistics in economic modelling which allows reproducible findings and practical solutions for policy implications. Similarly, economic historians adopted such methods especially by the 1970s, to kill the myths of traditional historians (Abramitzky, 2015).

The path breaking research that combines history and econometrics is Fogel (1964)'s study on the impacts of railroads on economic growth in the USA, providing quantitative findings based on

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* Sakarya University, Faculty of Political Sciences, Esentepe Kampüsü 54187 Sakarya–Turkey e-mail: onderhanedar@gmail.com.

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a counterfactual method making possible to identify an event's impact in case of its absence. These kinds of applications are being increasingly popular and were not previously possible in traditional historical methodology which follows narrative of the unique historical events. The transformation of economic history from a narrative world to quantitative format is known as Cliometrics. The Cliometrics differs from the traditional practise of history by bringing economic theory into historical analysis. On the other hand, the application of the formal models to the historical data was heavily criticised due to the absence of research on underlying structures (Haupert, 2006, pp. 3–33).

One of the most popular topics in cliometric research is about the impact of political events on financial outcomes. Ferguson (2006) and Mauro et al. (2006) explain how the political crises leading to the First World War were reflected at the London Stock Exchange from a quantitative perspective. For the effects of political events on financial markets in the Ottoman Empire, there were many myths and unsettled discussions on which historians debated. The historians rarely collect data on economic outcomes of Ottoman Empire and therefore do not use econometrics to provide answers to historical discussions with some exceptions (See Özcumur & Pamuk, 2002). On the other hand, by combining economic theory and quantitative methods, historical debates can be solved and moreover ignored topics can be examined. For instance, Hanedar et al. (2015) verify that the private investors of the Ottoman bonds were more capable to anticipate efficiently gathered information on the threats of wars against Italy and the Balkan countries by 1914, as compared to the Ottoman statesmen. On the other hand, Hanedar et al. (2016) finds that some events between 1918 and 1925 were not perceived as important by the Ottoman bond investors in contrast to the historians' arguments.

The aim of this chapter is to understand the stock market reactions to military conflicts. This topic is especially important nowadays as Middle Eastern economies have been witnessing wars since the last decade. History provides good insights at this point for today's investors by creating a large literature. However the literature on Middle Eastern—and even for the transition and emerging—economies is limited (See Önder & Şimga-Muğan (2006) for a discussion). Our chapter is the first study to provide a historical narrative to explain the changes of Ottoman stock returns due to the wars on the eve of the First World War (WWI). A historical examination of the İstanbul bourse during the Turco-Italian and Balkan wars is important to shed light on the different effects of conflicts as the wars were surprise for the Ottomans. We use unique data on stock prices of 9 popular domestic joint-stock companies traded at İstanbul Bourse from 1910 to 1914. This period provides an interesting case to study the risk perceptions of investors, as the conflicts caught the Ottoman Empire unprepared (Hall, 2000, p. 14; Erickson, 2001, p. 3; Childs, 2008, p. 72; Giolitti, 2012, p. 59)—which could have led to higher uncertainty on the stock exchange market—.

The remainder of the chapter is organized as follows; Section 2 discusses the related literature. Section 3 provides information on the Turco-Italian and the Balkan wars. Section 4 explains our data, while Section 5 covers the methodology applied. Section 6 presents the empirical results. Section 7 discusses these results, and finally section 8 concludes.

II LITERATURE REVIEW

Many financial studies address the negative reactions to political risks on different stock markets. Zussman et al. (2008) focus on asset prices during Israeli-Palestinian conflicts since the late 1980s and find that asset prices in both Israeli and Palestinian markets increase when a peace initiative takes place and decrease in case of conflicts. Similarly, Franck & Krausz (2009) show that the conflicts between 1945 and 1960 were strongly reflected on the Israeli Stock Exchange, as the end of conflicts was approaching. Choudhry (2010), Charles and Darné (2014), Hudson & Urquhart (2015), Mathy (2016), and Urquhart & Hudson (2016) point out lower prices of US and British Stocks due to news during the Second World War. Rigobon & Sack (2005), Schneider & Troeger (2006), Kollias et al. (2010), and Dimic et al. (2015) indicate the presence of higher risk for stock exchanges in various countries during many conflicts after 1990.

Several papers show that the impact of political risks on stock markets is related to various factors. Recently, Hobbs et al. (2016) suggest that the negative impacts of wars vary by industry of the stocks traded on the US Stock Exchange from 1963 to 2012. Amihud & Wohl (2004) indicate that the negative relationship between the Iraq War and stock prices on the US Stock Exchange was related to the lengths of these conflicts. Le Bris (2012) implies that the correlation between wars from 1870 to 1945 and the volatility in the stock prices at the French Stock Exchange depends on the financing methods of wars, which could lead to higher public expenditures, inflation, and disruptions of the public services.

There are only a couple of recent studies about the impacts of political risks on the İstanbul Stock Exchange. Önder & Şimga-Mugan (2006) consider the effects of political and economic news on the volatility of stock returns and the trading volume in Turkey and Argentina from 1995 to 1997, and address the presence of a statistically significant relationship between stock market indicators and political risks. Based on data from Turkey between 1995 and 2008, İkizlerli & Ülkü (2012) point out that the negative effect of political risks on stock market outcomes depends on industry and the origin of investors.

Another strand of the literature—concentrated on US Stock Exchanges—indicate positive or insignificant impacts of wars on stock markets (Cutler et al. (1989), Guidolin & La Ferrara (2010), Kollias et al. (2013), Brune et al. (2014), Charles & Darne (2014)).

III HISTORICAL BACKGROUND FOR THE TURCO-ITALIAN AND THE BALKAN WARS

During the period from 1910 to 1914, the Turco-Italian and the Balkan wars, preceding WWI and its catastrophic results hit the Ottoman economy. The Turco-Italian war began on 29 September 1911, as the First and Second Balkan wars broke out on 17 October 1912 and 29 June 1913, respectively.

Using data for Ottoman trade with several of its trading partners between 1830 and 1913, Hanedar (2016) shows that the Balkan wars had negative impacts on Ottoman exports, whereas the Turco-Italian war had no such disruptions on Ottoman foreign trade. As shown in Figure 1, the Ottoman foreign trade experienced a temporary reduction between 1911 and 1913. Al & Akar (2014, pp. 296–297) argue positive reactions at the İstanbul Bourse while the Turco-Italian and Balkan wars were reaching to an end. Before the outbreak of the Turco-Italian war, a commentary in *İkdam*, a widely read Ottoman newspaper, reported Italy's desire to occupy Libya, which resulted in a negative response on the İstanbul bourse, while several companies announced bankruptcy (İkdam, 25 September 1911, p. 1). Another commentary in *İkdam* pointed out price fluctuations at the İstanbul bourse because of the news about the Italian occupation in Libya (İkdam, 29 September 1911, p. 1). During the First Balkan war, *Tercüman-ı Hakikat* reported price increases in the İstanbul Bourse as discussions on the end of conflicts with Balkan states (Tercüman-ı Hakikat, 1 February 1913, p. 1). Hanedar et al. (2015) evince that the outbreak of the Turco-Italian and Balkan wars were correlated with a lower likelihood of Ottoman debt repayments.

**Figure 1. The Ottoman Foreign Trade, 1830–1913 (British Pounds)**
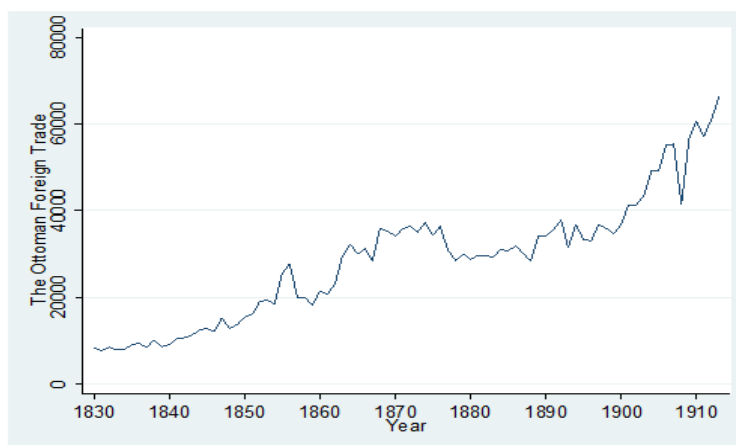
Note: Total Ottoman foreign trade in real terms (base year 1913) expressed in thousand British pounds. *Source*: Hanedar (2016).

Geyikdağı (2011, p. 54) and Geyikdagi & Geyikdagi (2011, pp. 388–389) state that stores and commercial ships were damaged, as business activities, railway traffic and operations were disrupted during the hostilities of 1911–13. For instance, the Anatolian Railway, İstanbul Ferry, and the

Dersaadet Tramway companies' activities were interrupted by the Turco-Italian and Balkan wars, since the ships were bombed by enemies and the Ottoman state bought the horses of trams. Moreover the skilled workers from enemy countries were fired due to political hostilities (Tutel, 1997, pp. 161–162; Kayserilioğlu, 2003, p. 197; McMeekin, 2010, pp. 239–240). As shown in Figure 2, the Imperial Ottoman Bank's profits and foreign bank entry were decreasing during the hostilities. The Ottoman state commandeered carriages for commercial transportation, as lighthouses did not work, while many trade routes and ports were damaged (Quataert, 1996, pp. 767–768; 2005, p. 126). Beehler (1913, pp. 69, 72–73) provides information on complaints from foreign traders because of restrictions on shipping imposed by the Ottoman state and its adversaries, which could have led to lower trade for the Ottoman Empire. On the other hand, Geyikdagi & Geyikdagi (2011) argue that the effects of wars on political risks for firms were negligible due to political and economic support of their home countries and concessions provided by the Ottoman state.

Figure 2. The Imperial Ottoman Bank's Profits and Number of Foreign Bank Branches, 1895–1914
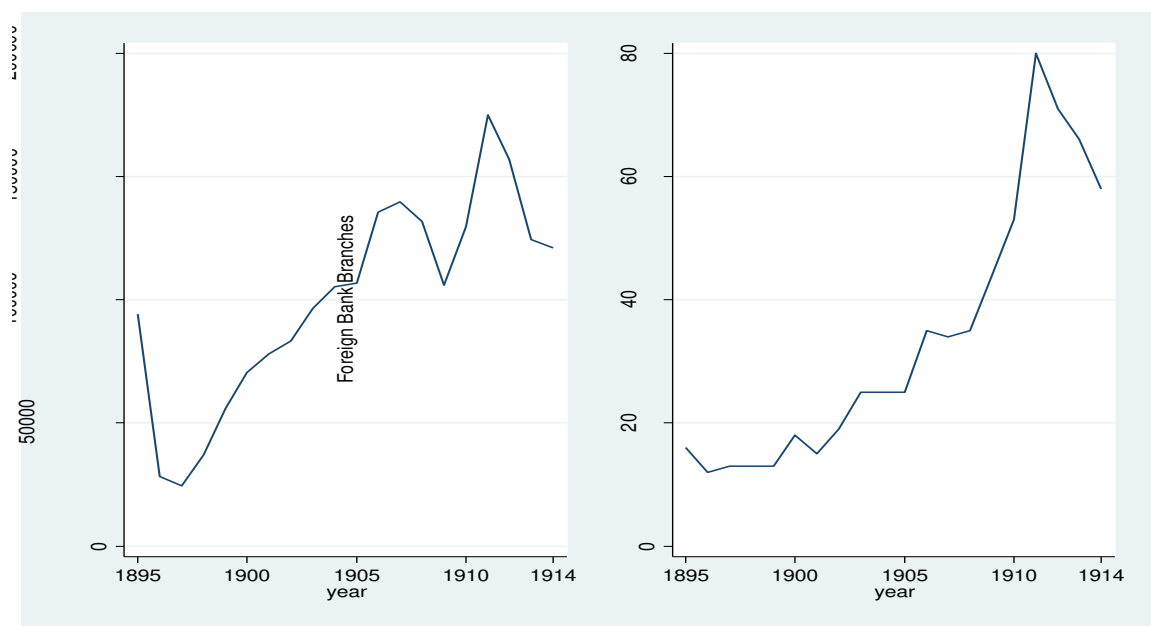
Note: The average net profits are expressed in gold Liras. The foreign bank branches are the number of foreign bank branches in the Ottoman Empire. *Sources*: Eldem (1999, pp. 510–512) and Hanedar (2015).

IV DATA

To examine the impact of the wars on the eve of WWI, we use the closing prices of 10 stocks traded on the İstanbul bourse from 1910 to 1914. As the prices might not be stationary, we estimate the stock returns the following way:

$$R_t=ln(P_t/P_{t-1}) \qquad (1)$$

where P_t is daily price of each stock at time t.

The stocks in sample were issued by the Ottoman General Insurance company (*Osmanlı Sigorta Şirket-i Umûmiyesi*) (OGI), the Regie (Tobacco) company (*Tütün Rejisi*) (R), the Imperial Ottoman Bank (*Bank-ı Osmanî-i Şâhâne*) (IOB), the Balya-Karaaydın mining company (*Balya-Karaaydın Maden Şirketi*) (BK), the Kessendre mining company (*Kessendre-Kassandra Madenleri Osmanlı Anonim Şirketi*) (KM)[1], the Ereğli mining company (*Ereğli Şirketi*) (EM), the Anatolian Railway company (*Anadolu Demiryolu Şirketi*) (AR), the İstanbul Ferry company (*Şirket-i Hayriyye*) (IF), and the Dersaadet Tramway company (*Dersaadet Tramway Şirketi*) (DT).

All these companies played crucial roles for the Ottoman economy and operated in the most attractive sectors, i.e., banking, mining, agriculture, and transportation. IF and DT were the oldest joint-stock companies in the Ottoman Empire, established in 1856 and 1869 respectively. IF and DT were jointly owned by local investors and the Ottoman state, while the other companies were founded by foreigners and non-Muslim citizens of the Ottoman Empire (Kazgan et al., 1999, pp. 340–342; Akyıldız, 2011; Yılmaz, 2012). In 1899, the value of stocks issued by the IOB was the largest, i.e., 4,490,000 Liras, as compared to other companies. R issued 2,464,000 Liras of stocks. Other firms such as OGI and DT issued relatively lower amounts, i.e., 164,000 and 200,000 Liras, respectively (Fertekligil, 2000, pp. 44–45; Al & Akar, 2014, pp. 120–127).

Our data source is *Tanin*, which is the only newspaper that provides information on stock prices, as shown in Figure 3. As a pro-government newspaper, *Tanin* was a widely circulated daily Ottoman newspaper in İstanbul. The National Library of Turkey and the Beyazıt State Library have digital copies of these newspapers. The prices of 6 stocks are denominated in the Turkish Liras, while those of KM, EM, and AR are reported in French Francs.[2] Although there are other stocks traded on the İstanbul bourse, such as the Ottoman Navigation company (*Osmanlı İttihad Şirketi*),

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[1] KM had two different stocks traded at the İstanbul bourse, KM1 and KM2.
[2] The Ottoman Empire and France adopted gold standard by the outbreak of WWI, leading to stability in the foreign exchange rates (Pamuk, 2000, pp. 216–221; Tuncer & Pamuk, 2014, pp. 182–183).

the ten stocks that we use are the most important stocks in terms of book value. Moreover, data for other stocks were not continuously available to allow econometric analysis.[3]

Figure 3. Data on Stock Prices of Several Companies in the Ottoman Empire, 1911

Note: Figure 3 shows the name of companies and stock prices in *Tanin. Source*: *Tanin* (1911). 14 November, p. 2.

Table 1 shows the descriptive statistics for stock returns from 1910 to 1914. Jarque-Bera and kurtosis statistics indicate that all series have asymmetric leptokurtic distributions. AR, IF, EM, DT, and R's stock returns have right tailed distribution, as those of the other companies have left tailed distributions.

Table 1. Descriptive Statistics for Stock Returns, 1910–14

	Mean	Maximum	Minimum	Std. Dev.	Skewness	Kurtosis	JB	Obs.
OGI	0.00066	0.52	-0.50	0.05	0.00	52.97	49002.13	471
R	0.00013	0.23	-0.27	0.03	0.07	32.89	17459.83	469
IOB	-0.00050	0.08	-0.15	0.02	-1.71	21.60	6986.76	469
BK	0.00002	0.31	-0.46	0.06	-1.44	30.74	13967.98	431
KM1	-0.00100	0.23	-0.22	0.03	-0.09	15.70	3093.82	460

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[3] There can be several reasons for these non-available observations. There could be no transaction for the stock whose price is not reported, or the newspaper could not have enough space to report the price of a negligible stock.

KM2	-0.00090	0.21	-0.22	0.04	-0.41	14.42	2510.95	460
EM	-0.00053	0.46	-0.46	0.05	0.51	55.33	52859.13	463
AR	-0.00025	0.33	-0.32	0.05	0.04	34.30	17755.72	435
IF	-0.00022	0.42	-0.40	0.04	0.44	96.68	107885.50	295
DT	0.00187	0.53	-0.53	0.06	0.06	42.50	22555.32	347

Note: All Jarque-Bera (JB) statistics are statistically different from zero at %1 percent.

V METHODOLOGY

To examine the reactions of stock investors at the İstanbul bourse to wars, we use an Iterative Sums of Squares (ICSS) approach proposed by Inclan and Tiao (1994). In contrast to alternative methods developed by Bai and Perron (1998, 2003), ICSS is a method to identify sudden breaks in the volatility of financial assets' outcomes and does not impose an assumption on the exogenous selection of the maximum number of break points. To estimate the number of breaks and the changes in volatility or variance, ICSS estimates the cumulative sum of squares as follows:

$$D_k = (C_k / C_t) - k / T, \quad k = 1,...,T \text{ with } D_0 = D_k = 0 \qquad (2)$$

where $C_k = \sum_{t=1}^{k} \varepsilon_t^2$ is the cumulative sum of squares, starting from the beginning of the series to the k_{th} point in time. As a sudden change exists in variance, the plot of D_k locates out of specified boundaries. If the absolute value of D_k is greater than the critical value, the null hypothesis for absence of the sudden change in variance would be rejected.

VI RESULTS

Table 2 indicates break times in volatility of the stock returns and corresponding changes in the stock prices. Almost none of the break points are related to the dates of the wars on the days before WWI.

We observe several break points in R and AR, which could be related to events about the outbreak of the Turco-Italian war. On 14 September 1911, there is a break in the volatility of AR's stock return two weeks prior to the outbreak of the Turco-Italian war, resulting in lower price in the long-run. The price fall is the highest one, as compared to those of the other break points. We observe two break points in R on 26 and 30 September 1911 before the outbreak of the Turco-Italian war, leading to a higher price in the long-run. During September 1911, the tension between Italy and the Ottoman Empire increased due to the campaigns of the Italian government, press, and diplomats,

as they were preparing to invade Libya (Tercüman-ı Hakikat, 12 September 1911, p. 1; 18 September 1911, p. 1; Tanin, 12 September 1911, p. 1; 19 September 1911, p. 1; Hüseyin Cahid, 22 September 1911, p. 1). This implies that investors expected higher risk for AR's stocks and lower risk for those of R's stocks, as the outbreak of the Turco-Italian war was approaching.

We identify two break points for KM1 on 6 and 12 October 1911. These dates bring lower prices and correspond to two months after the outbreak of the Turco-Italian war. On 6 and 13 October 1911, different commentaries in *Tanin* reported great disappointment and reactions of the Ottomans against Italy because of the Ottoman defeat (Hüseyin Cahid, 6 October 1911, p. 1; Tanin, 13 October 1911, p. 1), while Italy occupied Tripoli few days after the outbreak of the war (Beehler, 1913, p. 20). On 12 October 1911, *Tanin* reported propositions for sanctions against Italians living in the Ottoman Empire (Hüseyin Cahid, 12 October 1911, p. 1). Based on these results shows we can argue that investors have expected higher risks for KM due to the Turco-Italian war. On the other hand, the risk decreases while the conflicts could be short-lived.

Other breaks in KM1, AR, and DT are observed before the end of the Turco-Italian war. The breaks in KM1 are identified on 25 March, 21 June, and 23 August 1912 and brought lower prices in the long-run. On 25 March 1912, *Tercüman-ı Hakikat* reported the Italian occupation in several islands (Tercüman-ı Hakikat, 25 Mart 1912, p. 1). On 21 June 1912, *Tanin* disseminated news about the new taxes that the Ottoman government imposed to finance the increasing war expenditures (Tanin 21 June 1912, p. 1). On 24 August 1912, *Tanin* discussed that the end of the conflicts was approaching (Tanin, 24 August 1912, p. 1). We find a break in AR on 16 January 1912 leading to a price decrease, while the price fall is lower than those of before. On 16 January 1912, *Tercüman-ı Hakikat* disseminated news for discussion on the end of the conflicts (Tercüman-ı Hakikat, 16 January 1912, p. 1). On the other hand, on 4 March and 11 May 1912, there are breaks in the volatility of DT's stock return prior to the end of the Turco-Italian war, resulting in a long-run decrease in its price. The price increase becomes higher over time. On 4 March and 11 May 1912, *Tercüman-ı Hakikat* and *Tanin* argued that there severe conflicts and the Ottoman army got some support from ingenious people (Tercüman-ı Hakikat, 4 March 1912, p.1; Tanin, 11 Mayıs 1912, p.1). This finding suggests lower risk expectation for KM1, AR, and DT, as the end of the conflicts was approaching.

Table 2. Structural Break Dates and Corresponding Price Changes, 1910–14

OGI		R		IOB		BM	
Break dates	**Change over longer period**	**Break dates**	**Change over longer period**	**Break dates**	**Change over longer period**	**Break dates**	**Change over longer period**
11.11.1910	0.87	27.05.1911	0.15	08.11.1910	-1.03	30.12.1910	2.90
17.11.1910	0.99	10.07.1911	0.45	06.12.1910	-0.81	16.01.1911	5.45
17.12.1910	0.92	26.07.1911	0.55	06.01.1911	-0.84	12.03.1911	18.08
		26.09.1911	1.01	31.05.1911	-1.71		
		30.09.1911	1.08	01.07.1911	-1.85		
		25.02.1913	2.46				
Obs	471		469		469		434

KM1		KM2		EM	
Break dates	**Change over longer period**	**Break dates**	**Change over longer period**	**Break dates**	**Change over longer period**
06.10.1911	-35.55	19.12.1910	-32.47	20.12.1910	-9.54
12.10.1911	-35.18	14.04.1913	-35.83	03.02.1911	-7.98
25.03.1912	-29.97	02.06.1913	-36.25	22.04.1911	-7.30
21.06.1912	-29.94	19.07.1913	-35.38	13.06.1911	-6.34
23.08.1912	-29.72	09.01.1914	-36.91	22.09.1911	-1.74

Break dates	Change over longer period	Break dates	Change over longer period	Break dates	Change over longer period
01.03.1913	-31.28	02.03.1914	-37.21		
Obs	460		460		463

	AR		IF		DT
Break dates	**Change over longer period**	**Break dates**	**Change over longer period**	**Break dates**	**Change over longer period**
14.09.1911	-1.30	22.04.1911	-1.21	15.04.1911	7.93
16.01.1912	-0.93	06.06.1911	-1.18	18.04.1911	7.89
01.02.1913	-0.27	18.02.1913	-0.30	10.07.1911	6.48
13.09.1913	-0.02			04.03.1912	5.57
14.11.1913	-0.02			11.05.1912	5.81
30.12.1913	-0.17				
Obs	435		295		347

Note: The change observed in the stock price before and after the break times is defined as "change over longer period".

We identify five break points prior to the end of The First Balkan war. By March 1913, there was a decreasing price in the long-run in R, AR, IF, as the price fall decreases. We find break points on 1, 18, and 25 February 1913 in returns of AR, IF, and R's stocks. On 31 January 1913, *Tercüman-ı Hakikat* disseminated news on that the conflicts would began again after an armistice (Tercüman-ı Hakikat, 31 January 1913, p. 1). On 1 February 1913, *Tercüman-ı Hakikat* reported increasing prices, although there were uncertainties about the end of conflicts with Balkan states (Tercüman-ı Hakikat, 1 February 1913, p. 1). On 18 and 25 February 1913, *Tercüman-ı Hakikat* reported the ongoing conflicts in Rumelia (Tercüman-ı Hakikat, 18 February 1913, p.1; 25 February 1913). This result suggests a higher risk as the conflicts were ongoing, though the presence of the peace possibility. But it seems lower the risk level over time, which could imply that there could be an expectation for the end of the hostilities. However, after February 1913 just before the end of the First Balkan war, we

identify breaks in KM1 and KM2, leading to lower price, as the fall increases. Surprisingly, 14 April 1913, *Tercüman-ı Hakikat* disseminated news that the conflicts would be located places which were close to capital city of the Ottoman Empire and came to end (Tercüman-ı Hakikat, 14 April 1913, p. 1)

Overall, Table 2 suggests the absence of higher risk level due to the conflicts for many of companies. The wars could be responsible for different risk perceptions for the various companies due to their characteristics. For the Turco-Italian war, there was a risk change perceived by investors prior to the outbreak of conflicts, as it was not persistent over time. This implies that the threats were seen as temporary by investors. For the First Balkan war, there was no initial sign of the outbreak of the war. The risk was high even if the end of the hostilities was approaching, although threat level decreased.

VII DISCUSSION

If the stock investors believe that a conflict will have catastrophic consequences for their investments, then stock prices fall. Our findings indicate falls in stock prices for AR corresponding to volatility changes in their stock returns around the outbreak of the Turco-Italian war. In contrast, we find an increase of R's stock price with higher volatility. In contrast to the investors of AR's stocks, those of R's stocks were perceived lower threats due to the war. We find breaks corresponding to lower prices and risks for KM1 during the course of Turco-Italian war. The findings also indicate decreasing risk for KM1, AR, and DT's stocks as the Turco-Italian war was ending. Moreover, we identify break points prior to the end of the First Balkan war in R, AR, IF's stocks, suggesting price fall and decreasing risk as the conflicts were ending.

The AR was a railroad company established to construct the railways between İstanbul and Baghdad in 1888. It was owned by the Deutsche Bank and hired Italian engineers and workers. The hostilities with Italy during the Turco-Italian war created sanctions against Italian residents of the Ottoman Empire and skilled Italian workers were fired, leading to disruptions in construction (Akyıldız, 2011, pp. 112, 118; McMeekin, 2010, pp. 239–240). In addition, there were many attacks during the conflicts (Geyikdagi & Geyikdagi, 2011, p. 387). As resultantly, investors could have expected that the company's activities would have been negatively affected due to the Turco-Italian war. The R was founded in 1883 with the cooperation of foreign investors and enjoyed a monopoly position in tobacco, salt, and alcohol. Even if we do not report here, there were a 1 percent price fall during the break points corresponding to the Turco-Italian war. This shows the negative effects of the war during the beginning of the hostilities. Though the conflicts and oppositions against the renewal of its privileges in 1911, R had not lost much of income in 1911 and 1912, as it imposed a higher price mark-up and regained profitable privileges from the Ottoman state in 1912 (Geyikdagi &

Geyikdagi, 2011, p. 381; Parvus Efendi, 2014, pp. 145–75), which could have heralded a safe haven for investors during the war. DT was established in 1869 by a Greek-Ottoman entrepreneur and its activities were negatively affected by the wars, as the equipment was seized by the Ottoman state (Kayserilioğlu, 2003, pp. 38–39, 197). KM was a company established in 1893 by local entrepreneurs to operate copper, manganese mines in Rumelia (Akyıldız, 2011, p. 156; Yılmaz, 2011, pp. 321–325). Under the lack information, it could be argued that the mining activity was interrupted, as the Turco-Italian and Balkan led to difficulties in hiring workers as well as the closeness of mines in the combat zones. IF was the first joint-venture of the Ottoman Empire and established in 1851 by the support of the Ottoman state and the Balkan wars led to damages in its ships due to bombardments (Tutel, 1997, pp. 22–23, 161–162; Kazgan et al., 1999, p. 352), which could be responsible for the fall in the price increase, as the First Balkan war was ending.

The absence of a statistically significant impact of war-related news on prices of many of the companies in the sample is in line with the strand of literature[4] that finds no evidence for a negative and persistent effect of hostilities. The Turco-Italian war affected many ports in the Ottoman Empire. However, Hanedar (2016) shows that these disruptions on Ottoman foreign trade activities were not statistically significant, which could explain the temporary nature of stock price declines. There is another aspect supporting the findings, as our sample includes such industries and companies that may not be affected by conflicts, since as İkizlerli & Ülkü (2012) and Hobbs et al. (2016) showed, the negative effects of wars vary by industries. Investors, therefore, expected few losses in some industries due to the conflicts. Hanedar (2016) suggests that the Balkan wars only hurt Ottoman exports from the export-oriented farms of Rumelia. Geyikdagi & Geyikdagi (2011) state the absence of significant political risk increases for several joint-stock companies during the wars by 1919 due to home countries' supports and firms' privileges.[5] We can argue that investors might have believed that the war would not be that harmful for the non-governmental economic and financial sectors, because the companies were either established or supported by foreign investors. Major European powers[6] protected the investments of their home countries economically and politically. The companies obtained revenue guarantees and privileges from the Ottoman state, making the investments secure. Major countries that invested in the Ottoman Empire were expecting its demise soon. Therefore, investors were likely to invest in the companies just for the sake of having territorial claim without much consideration of risk (Geyikdağı, 2011, pp. 54–55; Geyikdagi & Geyikdagi, 2011, pp. 395–398; Hanedar, 2013). In addition, as Amihud & Wohl (2004) imply, negative effects

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[4] See Cutler et al. (1989), Corallo (2007), Franck & Krausz (2009), Brune et al. (2014), and Charles & Darne (2014).
[5] For instance, the Imperial Ottoman Bank operated as the state bank of the Ottoman Empire. Based on data obtained from Hanedar (2015), the wars did not have significant effects on the Imperial Ottoman Bank Branches' profits and foreign bank entry within the Ottoman Empire's different provinces by 1914.
[6] The UK, France, Germany, Italy, and Austria-Hungary.

of wars depend on their durations and stock market investors might have expected a short duration of the Turco-Italian war, as the Ottoman army began to be defeated within a short period of time (Beehler, 1913, p. 20). The presence of immediate impacts of the Turco-Italian war is in line with Corallo (2007), Franck & Krausz (2009), and Kollias et al. (2013), suggesting short-run effects for different war-related events. Hanedar et al. (2015) showed a temporary reduction in the prices of Ottoman government bonds traded on the İstanbul bourse due to the outbreak of the Turco-Italian war.

VIII CONLUSION

Because of data unavailability, the finance literature on the impacts of political risks on financial markets does not examine historical cases on the Middle Eastern countries to see the effects of wars on stock markets. Likewise, no previous empirical research focuses on the impact of increased likelihood of war outbreaks for the İstanbul bourse. We study the impacts of the Turco-Italian and the Balkan wars on the stocks traded at the İstanbul Bourse, using novel data which are manually collected from the daily Ottoman newspapers. We extend the previous literature by providing empirical evidence on the stock market, as the paper could be refined with future researches using additional data on other stocks, volume of trade, and investor profile, which seem to be non-existent at this time.

Our empirical results indicate that many breaks in the volatility of stock returns were not correlated to war related events. There were falls in stock prices of export oriented monopoly, mining, and transportation companies only for a short time period during the Turco-Italian and the First Balkan wars. In contrast to the relatively timid responses of stock market investors to war-related risks, Hanedar et al. (2015) indicate higher responsiveness of government bond prices during the same period. So, it seems that government bondholders were more sensitive to the war-related risks, as the conflicts were highly related to government survival. In addition, the effects of wars depend on industry, location, the ownership structure and networks of companies as well as privileges that were provided by governments. Moreover, if the company has assets that are likely to be seized by the government, the impact could not be negligible. To sum up, the risk of wars perceived by government bond investors seem to have been associated with higher uncertainty regarding the Ottoman state's fiscal position rather than increasing costs of life within the whole country. During the nineteenth century, the Ottoman state had financial problems, leading to higher budget deficits and debt burden. Wars were important sources of the solvency problem (Kıray, 1995, pp. 213–221), which could explain the sensitivity of government bond prices to the conflicts studied here.

ACKNOWLEDGEMENTS

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