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War-related risks and the İstanbul bourse on the eve of the First World War[☆]

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Abstract

The lack of well-documented information in the historical literature on the relationship between war-related expectations and their effects on the bond market in the Ottoman Empire motivates this paper's three contributions. First, this paper is the first empirical study to investigate the break points in the volatility of Ottoman bond prices from a historical point of view. Second, we use the econometric technique developed by Inclan and Tiao (1994) to identify the structural breaks. Last, we use a manually collected dataset from the daily newspapers of the time on daily Ottoman bond prices from 1910 to 1914. Subsequently, we identify five structural break dates, each of them corresponding to important war-related events. When we investigate the commentaries in the Ottoman newspapers, we see that the outbreak of several wars might not have been a surprise for investors in the Ottoman Empire, as reflected by government bond prices.

JEL classification: G1; N25; N45

Keywords: The Turco-Italian war; Ottoman government bonds; Inclan-Tiao test

1. Introduction

Recent studies on today's Turkey show that financial markets have often been affected by the political events (Basdas & Oran, 2014; Önder & Şimga-Mugan, 2006; İkizlerli & Ülkü, 2012). Specifically, government bond prices are related to fiscal deficits. As the fiscal deficit rises, the value of a government bond drops and its yield rises due to high default risk; leading to an increased cost of borrowing for the government. The outbreak of a war would be interpreted as negative news since it implies budget deficits, higher interest rates, and higher default risk of governments (Ferguson, 2006). Accordingly, war-related expectations change the behaviour of investors to avoid losses or make profits, which leads to structural breaks in the volatility of bond prices.

Several papers have examined the effects of wars on bond markets in the US, Europe and China (Brown & Burdekin, 2000; Brown & Burdekin, 2002; Frey & Kucher, 2000, 2001; Ho & Li, 2014; Oosterlinck, 2003; Rigobon & Sack, 2005; Waldenström & Frey, 2008; Willard, Guinnane, & Rosen, 1996). These studies have focused on the recent Iraq-US war, the American Civil War and most of all on the Second World War. In addition, two papers have investigated the effects of WWI on European asset prices. Elmendorf, Hirschfeld, and Weil (1996) found that war news during WWI affected the variances of returns on British government bonds. Ferguson (2006) did not identify an important increase in war risk during the political crises of 1880−1914, which would have led to substantial change in yields for bonds of Great Powers[1] traded on the London bourse. However, there is

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[1] The UK, Italy, Germany, Austria-Hungary, and Russia.

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no well-documented information on the relationship between war-related risks and the bond market in the Ottoman Empire.

Between 1910 and 1914, the Ottoman Empire was involved in four wars: the Turco-Italian, the First Balkan, the Second Balkan, and the First World War (WWI), all of which led to high war expenditures and an increased debt burden of the Ottoman Empire.[2]

The Turco-Italian war started on 29 September 1911, as Italy presented an ultimatum to occupy Libya. During September 1911, Ottoman newspapers often featured news related to the desire of Italian nationalists and newspapers to seize Libya. As the Ottoman state believed that Germany would have prevented such an attack (Beehler, 1913: p. 16; Herrmann, 1989: pp. 337–8), the Turco-Italian war caught the Ottoman government unprepared (Childs, 2008: p. 72; Giolitti, 2012: p. 59). Similarly, Hall (2000: p. 14) maintains that the Ottoman state considered the outbreak of a war with the Balkan states to be a low risk. In fact, although Bulgaria was improving its military capacity prior to the First Balkan war, the Ottoman state did not recruit soldiers in response (Tanin, 27 September 1912: p. 1). The Second Balkan war officially broke out on 29 June 1913 with Bulgaria's surprise attack on Serbia (Erickson, 2001: p. 3). With the assassination of Archduke Franz Ferdinand by a Serbian nationalist on 28 June 1914, ongoing tensions related to the former wars increased, leading to the outbreak of WWI (Henig, 2002: pp. 15–6; Erickson, 2001: p. 25; Ferguson, 2006). The aim of this paper is to shed light on the existence of war-related expectations prior to wars in the Ottoman Empire from 1910 to 1914.

To this end, we estimate structural break points in variances of government bonds due to the war threats and risks perceived by bondholders in the Ottoman Empire with a specific focus on the fluctuations in prices of government bonds traded on the İstanbul bourse between 1910 and 1914. We use the econometric method developed by Inclan and Tiao (1994) to identify the structural breaks in the volatility of bond prices. This method allows endogeneous selection of break points without using any prior information. The vast majority of finance studies use Inclan and Tiao's (1994) test instead of Bai and Perron's (1998, 2003) method, as financial instability and hence risk could be identified with breaks in volatility rather than sudden changes in price series. A review of literature seems to indicate that, our paper is the first study to use this methodology in a historical context.

We use daily observations of Treasury and Rumelia Railway bond prices traded on the İstanbul bourse from 1910 to 1914. We collected these data manually from Ottoman newspapers, which have never been used before to empirically examine the war-related information flow into the İstanbul bourse.[3] The data also allowed us to examine how the İstanbul bourse perceived war-related risks. In addition to the methodology used in the paper, the novelty of this dataset can be regarded as one of the most important contributions of our paper.

The case we examine is informative for understanding the reaction of the İstanbul bourse to the war threats. Our findings show that bond price variances included break points that coincided with the Turco-Italian and the First Balkan wars. In addition, prior to the outbreak of these wars, there was a significant war expectation among the investors at the İstanbul bourse, which led to lower bond prices. This is in line with the arguments of a commentary in *İkdam*, a widely read newspaper in İstanbul, on the negative relationship between war-related news dissemination and the demand of the bondholders for Ottoman government bonds (İkdam, 25 September 1911: p. 1). The financial situation of the Ottoman Empire worsened before the wars (Geyikdağı, 2011: pp. 119–26), as budget deficits increased due to war expenditures (Beehler, 1913: p. 82). The results therefore imply that the Ottoman state did not anticipate these wars that did not come as a surprise, in contrast to the investors trading at the İstanbul bourse who would have lost money.

The remainder of this paper is organized as follows. The next section presents the historical background of the İstanbul bourse, government bonds, and news dissemination in the Ottoman Empire. Section 3 and 4 provide information on the data and model. Section 5 presents the empirical results, before the conclusions.

2. The İstanbul bourse, government bonds, and news

After the Crimean War (1853–1856), the financial situation of the Ottoman Empire worsened. The Ottoman state borrowed from abroad, and a treasury bond, the *Konsolid* bond, was issued. The bond was traded over the counter in Galata, İstanbul, and also on the Paris and London bourses. Furthermore, investors in the Ottoman Empire invested in shares of European joint-stock firms before the foundation of a formal market (Borsa Rehberi-1928, 1990a: pp. 15–6; Kazgan et al., 1999: pp. 371–75; Fertekligil, 2000: pp. 15, 23).

Over time, many joint-stock companies were founded, and new government bonds were issued by the Ottoman state. To regulate the growing market, a bourse to exchange bonds, stocks, and foreign currencies was officially established by the Ottoman state in 1866, known as the "İstanbul Bond Market" (*Dersaadet Tahvilat Borsası*). The bourse regulations were copied from the European bourses (Kazgan, 1995: p. 67; Kazgan et al., 1999: p. 375; Fertekligil, 2000: p. 26; Toprak, 2008: p. 151).

In the 1870s, eight financial assets were traded on the bourse, including treasury bonds of the Ottoman state and foreign bonds, e.g., the Bosporus Navigation Company's bond (*Şirket-i Hayriye*). After 1908, Ottoman citizens were permitted to found joint-stock firms. The number of joint-stock and limited companies established in the Ottoman Empire increased from four in 1908 to twenty-four in 1910. Consequently, new domestic bonds and stocks were issued. As of 1914, one hundred and four bonds and stocks were issued by

[2] The Ottoman Empire joined WWI in November 1914, but we were only able to extend our sample until July 1914 as there were no available data up to November 1914.

[3] Several studies have used data for the Ottoman government bonds traded in Europe, such as Mauro, Sussman, and Yafeh (2006) and Tunçer (2009). In contrast to these researches, using manually collected daily prices from the Ottoman newspapers, our paper is the first to examine whether threats and risks due to the wars between 1910 and 1914 were forecasted at the İstanbul bourse.

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