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Why Do Investors Still Hope? The Soviet Repudiation Puzzle (1918-1919)

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ABSTRACT

Based on an original database, this paper provides an empirical study of Tsarist bond prices reactions after their repudiation by the Soviets. For the two years following the repudiation two striking features of a representative Tsarist bond traded in Paris are highlighted: first, the price decline following the repudiation announcement was limited; second the price remained relatively high, and even increased. This is the so-called Soviet Repudiation Puzzle. We argue that the bonds' persistent high relative value can be approached via the Peso problem hypothesis: prices are affected by expected events that never took place and thus remained unobservable. In the Russian case, several unusual events could have been expected: a dramatic change in the Russian attitude, due for instance to the Soviet overthrow or a takeover of part of the debt either by the French or by another government (most likely countries created from the former Russian Empire). In this respect, the Soviet Repudiation Puzzle appears as a multidimensional peso problem.

Keywords: repudiation, sovereign debt, secession, Russia, Soviet, war, country break-up.

JEL Classification: F34, G1, N24.

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1. Introduction

On February 8, 1918, a rumor feared by investors became reality: an official Soviet decree repudiated all bonds issued by the Tsarist government. As a consequence, one would expect bond prices to drop dramatically and remain close to zero. Surprisingly, they exhibited a very different pattern. The day following the repudiation, a representative Russian bond, floated on the Paris stock exchange¹ in 1906, was still traded at 55% of its par value and the following week, the bond lost a mere 2.73%. Eventually, from this date up to end 1919, the bond price remained higher than 45% and even more striking, almost two years later, on October 21, 1919, it increased to 62.5% of its par value. These extremely puzzling facts are referred to as the “Soviet Repudiation Puzzle”.

In order to solve the puzzle, this paper analyses the price evolution of a representative Tsarist bond during the two years following the repudiation (1918-1919). Several possible clues are examined, involving all events or news that could affect the perception that the bonds would be at least partially repaid. Most interestingly, this leads to consider the impact of several rare events: the repudiation of a foreign bond, the dismemberment of an empire leading to the creation of new countries, a civil war and a world war (WWI). Before the empirical analysis and in order to see the problem in its true perspective, the sovereign debt issues, the impact on bond prices of rare events and the financial repercussions of the Soviet repudiation are briefly discussed hereafter.

In a survey on sovereign debt emphasizing the theoretical motivations to repay, Eaton and Fernandez (1995) put forward the importance of reputation, punishments, rewards and renegotiation. Eichengreen (1989) and Lindert and Morton (1989) analyze the long-term impact of defaulting and find that defaulting in the 1930's had no impact regarding credit

¹ At the time, Russian assets were actively traded on the Paris stock exchange and held by a large fraction of French investors. In order to strengthen diplomatic relations with Russia, the French government had, since the 1890's, helped to float Russian bonds. This led to a very large diffusion of Russian securities, mainly state and railway bonds, among the French middle class. In 1919, as the French government centralized the claims related to French interests in Russia, 1.6 million investors filled in a form. According to Girault (1974), the Russian section represented 33% of foreign securities and amounted to approximately 4.5% of French private wealth. Furthermore, France centralized most Russian financial assets at the beginning of the twentieth century and approximately 40% to 45% of Russian sovereign debts. Ukhov (2003) estimates that foreigners held 49.7% of Russian government debts in 1913. According to the *Office national des valeurs mobilières*, the amounts invested in Russian shares and bonds before WWI reached 15 to 18 billion francs (“Note sur la création d’un comité français de protection des intérêts français en Russie”, Office national des valeurs mobilières, 22/1/1918, ANPFVM 440-A-17).

terms in the 1970's. However, according to Özler (1993), "the spreads on rescheduled loans are more than twice those on new loans during the 1978-80 period". Claessens and Pennachi (1996) and Ureche-Rangau (2003) determine to which extent market prices provide information regarding the probability of default on sovereign bonds.

Few researchers have analyzed bond prices after their repudiation. Up to the XIXth century, repudiations were rather common and as stated by Wells and Wills (2000) "history is replete with examples of sovereigns reneging on their debts". However, in order to avoid commercial retaliations, governments were usually reluctant to repudiate international debts. This explains why, before 1917, only a very limited number of countries had repudiated their foreign debt (Borchard (1951)). The French market had to cope, in 1834, with the Dona Maria government repudiation of Portuguese bonds issued by Dom Miguel during the civil war. According to Borchard (1951) these bonds were quoted on the Bourse until September 1837, by which time their price had dropped from about 400 francs for a par value of 1000 francs to 120. The Paris stock exchange remained nonetheless open to new Portuguese loans. However, as bondholders' associations successfully lobbied to boycott Portuguese securities, French bankers could hardly market these loans. By 1890, the boycott had pushed the Portuguese government back to the negotiation table, leading to an agreement on 1891. In 1864, French investors faced again repudiation: the Mexican government led by Juarez refused to recognize Maximilian's debts. The French government, which had largely helped to issue the loans on its markets, agreed to reimburse its nationals to the extent of approximately 50% of the invested amounts. By recognizing a moral duty to take over part of Maximilian's debt, the French government created a precedent. Besides the "moral" aspect stemming from the high profile the French government had in the bond issue, it is likely that it reimbursed part of the Mexican debts in order to minimize the impact on French bondholders' wealth. The French government position may have led to two kind of moral hazard attitude. In the Russian case, knowing that the French government would probably back them in case of trouble, French investors may have invested more heavily in Russian securities. On the other hand, if France was going to repay part of the debt, Soviets had no incentive to fulfill the Tsarist obligations².

There is, to our knowledge, no study tracking the sovereign bond price evolution of a country, which breaks up. When this happens, the public debt is to be partitioned. The 1877-1878 Russian-Ottoman war led to the creation of many new countries making secession from the Ottoman Empire. The Treaties of San Stefano and Berlin (1878) discussed the allocation of the Ottoman Debt. The Treaty of Berlin recognized the principle of state succession and provided that a portion of the Ottoman debt should be assigned on an equitable basis to Bulgaria, Montenegro and Serbia. The Treaty of Lausanne (1924) settled the «equitable basis». At the time, specialists in international law, (Bonfils (1914)), stated that each new country should take the interest burden in proportion to land, people or tax revenues.

The impact of war events on bond prices has been studied in different contexts. Davis and Pecquet (1990) analyze the Confederate bond price reactions during the Civil War and find a link between their evolution and the Gettysburg defeat, the fall of Vicksburg and Atlanta. For the same war, Willard, Guinnane and Rosen (1996) study the Greenback's gold price movements and find a significant link between war events and bond prices. Frey and Kucher (2000, 2001) analyze the monthly evolution of five European government bonds traded on the Swiss Bourse between 1928 and 1948. They find that some major events are not

² This sort of moral hazard is nowadays subject to a debate regarding IMF's role. For a recent survey on this debate see Jeanne and Zettelmeyer (2001).

incurring any significant price change. Waldenström and Frey (2002) run the same analysis on the Stockholm Stock Exchange. They find that there are large discrepancies between events considered as major turning points nowadays by historians and events perceived as important at the time. Oosterlinck (2003) shows that there is a premium for French bonds issued before versus during the war. The breakpoints on this premium are mainly linked to political changes and reassessments regarding the legitimacy of French rulers. Brown and Burdekin (2002) isolate structural breaks and turning points on German bonds traded in London during World War II. The outbreak of WWII and the D-Day invasion appear to be major turning points. Furthermore, these authors suggest that the bond prices anticipate Hitler's overthrow and the post-war settlement of bondholders' claim.

The economic oriented literature dealing with the repudiation of the Tsarist debt focuses on macroeconomic aspects. The Russian monetary problems, stemming from the repudiation, have been studied extensively in the 1920's (Apostol and Michelson (1922), Comité des banques russes à Paris (1921), Raffalovitch (1922)). More recently, Freymond (1995) has provided a financial approach about the French investors' losses and feelings. He shows that the attitude towards the repudiated bonds differs according to the countries where they were traded: ranging from a small financial involvement (pay one or two coupons and then leave the investors to their fate), to full reimbursement. For bondholders located out of Russia, international pressures and potential negotiations enter into account. However, these negotiations are hampered by the size and political influence of the repudiating country, Soviet Union being one of the main twentieth century powers.

The following study differs from the previous approaches in at least two respects. First, it uses an original quantitative (bond prices) and qualitative (Archives from the ANPFVM³) database to determine which events investors considered, at the time, as important. Second, it aims at showing, in the light of modern financial theory, why investors kept hoping after the Soviet repudiation decree. Even after the repudiation, three potential payers remained. First, if the Bolsheviks were overthrown, a new Russian government would probably reimburse the debt. Second, newly created countries, such as Poland or the Baltic States were according to international law, responsible for part of the debt. Lastly, as the French government had a high responsibility for the bonds' sale among the French public, investors could reasonably hope to see France fulfill part of the Russian obligations. The analysis seeks to determine to which extent each piece of information played a role in the bond valuation, allowing thus to disentangle the puzzle.

The remaining part of the paper is structured as follows. Section 2 presents the data and addresses the market microstructure issue. Section 3 analyses potential explanations for the puzzle related to the issuing country's fate, Section 4 studies the elements specific to France, the place where the bonds are traded. Conclusions are drawn in Section 5.

³ Association Nationale des Porteurs Français de Valeurs Mobilières.

2. The data series and market microstructure

The data series have been collected in the *Bulletin de la Cote de la Compagnie des Agents de Change de Paris*⁴ on a daily basis for a period stretching from January 1, 1918 to December 31, 1919. The data consists of the daily price series, on the Paris Stock Exchange, of a Russian long-term (50 years) bond issued in 1906⁵ and paying a yearly 5% coupon⁶. This bond was one of the most liquid Russian issues. Actually, it was exchanged on several markets but serial numbers were specific to a given stock exchange⁷. According to Freymond (1995), 72% of the 1906 bonds were traded in Paris. The war outbreak soon stopped international arbitrage and measures taken on a particular market had no effect elsewhere.

Table 1 shows that bond prices kept an average of 56.1% of par value (this is the “dirty price” usually quoted at the time). The mean value and the median are both very high: for instance, the mean of a German bond traded on the London Stock Exchange following the outbreak of WWII remained between 0 and 20% (Brown and Burdekin (2002)) during the war period. The minimum value (45%) is also in sharp contrast with this case.

TABLE 1 Descriptive statistics: Bond price and daily return (1918-1919)

	Bond Price	Working Day Returns	Daily return
Mean	56.1	0.00%	0.00%
Median	56.5	0.00%	0.00%
Maximum	66.5	8.70%	6.53%
Minimum	45	-7.00%	-3.77%
Standard deviation	5.52	1.54%	1.34%
Skewness	-0.22	0.59	0.64
Kurtosis	2.09	6.84	4.95

Daily returns are computed as follows:

$$r_t = (P_{t+1} - P_t + D_t) / P_t,$$

with P_t the price at date t and D_t , the dividend paid at date t .

In order to take into account the periods of stock exchange closure, working day returns are computed. When daily returns are available, working day returns equal daily returns. When it is not possible to compute a daily return (because the stock exchange is closed n days), a “working day” return is computed as:

$$r_t = (P_{t+n} - P_t + D_t) / P_t.$$

⁴ I thank M. Gallais-Hamonno and Ms. Bodilsen for their help and availability when collecting the data respectively at the Université d'Orléans and at the SBF.

⁵ The 1909 Russian bond with a 4.5% coupon exhibits the same trend.

⁶ Due on May 1 and November 1, expressed in different currencies but based on a common gold reference.

⁷ The series with a number between 1 and 273 were traded in Paris (with those between 241 and 273 also exchanged in Vienna), those between 274 and 339 in London and those from 340 to 350 in Amsterdam.

These returns are used in the remaining part of the paper⁸. They are on average close to zero but on some dates can reach extreme values (see Appendix 1).

The return distribution is rather symmetric: mean and median have the same value and the skewness is equal to 0.59; thus small. Furthermore, the distribution is leptokurtic, a common feature in bond return series.

For the period under study, and according to Macmillan (2003), in view of the troubled times, Russian news or telegrams could take days or weeks, to reach their destination. It is crucial to take this element into account in order to determine Russian news' impact. In order to deal with the potential time span, three day lagged and weekly returns are also computed and analyzed. Especially for very troubled periods, it is interesting to determine to what extent the recorded prices corresponded to real trades. Information on this matter has been collected in the contemporaneous press and the *Bulletin de la Cote de la Compagnie des Agents de Change de Paris*.

From 1917 to 1919, the Russian section of the Paris Stock Exchange experienced some periods of very low activity. Unfortunately, no archive mentions the daily volumes. The *Bulletin de la Cote de la Compagnie des Agents de Change de Paris* gives the number of price changes, which provides an indication of the market activity. For the studied bond, there is, most of the time, more than one change a day, implying that several trades took place. However, the volume of these trades is unknown, thus numbers of trades must be taken with caution. The French financial press also gives a record of the periods of total inactivity. For example, on December 12, 1917, *Le Rentier* described the Russian bonds market as “non existing as the sell orders do not find a counterpart”⁹. During the following month the market remained extremely narrow and it was impossible to exchange large quantities of bonds¹⁰. In September, the market for Russian securities, which had been virtually inexistent for several months, experienced a renewed activity¹¹. In January 1919 however, the trade in Russian securities almost disappeared from the market. This inactivity continued up to March 1919¹². End April the number of daily quotations exhibited an upward trend, until August. In its August 27, 1919 issue, the *Rentier's* journalists believed that the quoted prices were mainly buy prices for capitalists ready to take a substantial risk and expecting Russia to recover from its current situation. In September, the Paris market for Russian securities seemed deserted¹³. During October, they experienced a renewed activity that stopped after November 1919. In view of these various comments, the homogeneity of the prices may be questioned.

⁸ With 536 observations for working day returns and 411 for daily ones, the use of daily returns would lead to a serious loss of information. Furthermore as the stock exchange is opened 6 days a week from October to May and 5 days a week from June to September, the number of observations would suffer from a greater bias. Table 1 gives nonetheless the descriptive statistics for daily returns.

⁹ The author has translated quotations from French journals.

¹⁰ *Le Rentier*, March 27, 1918.

¹¹ *Journal des Valeurs Russes*, September 14, 1918.

¹² *Le Rentier*, January 7, and March 17, 1919.

¹³ *The Economist*, September 6 and 13, 1919.

Table 2 summarizes the periods of low and high activity during 1918 and 1919 according to the current press archives and the reported number of trades.

TABLE 2: Russian section activity on the Paris stock exchange

January 1918 July 1918	August 1918 October 1918	November 1918 Mid April 1919	Mid April 1919 August 1919	September 1919	October 1919	November 1919 December 1919
Low activity	Renewed activity	Low activity	Renewed activity	Low activity	Renewed activity	Low activity

3. Does the SRP explanation lie in Russia...

The SRP stems from two major stylized facts: after the repudiation and up to December 1919, the 1906 bond price never fell below 45% of par value and in 1919 it experienced a large increase. This section describes first the different Russian actors' position towards the debt recognition, then the newly created countries and ends with the description of the military evolution during the civil war. In each case, a historical presentation is provided, then, their impact on the bond prices is analyzed.

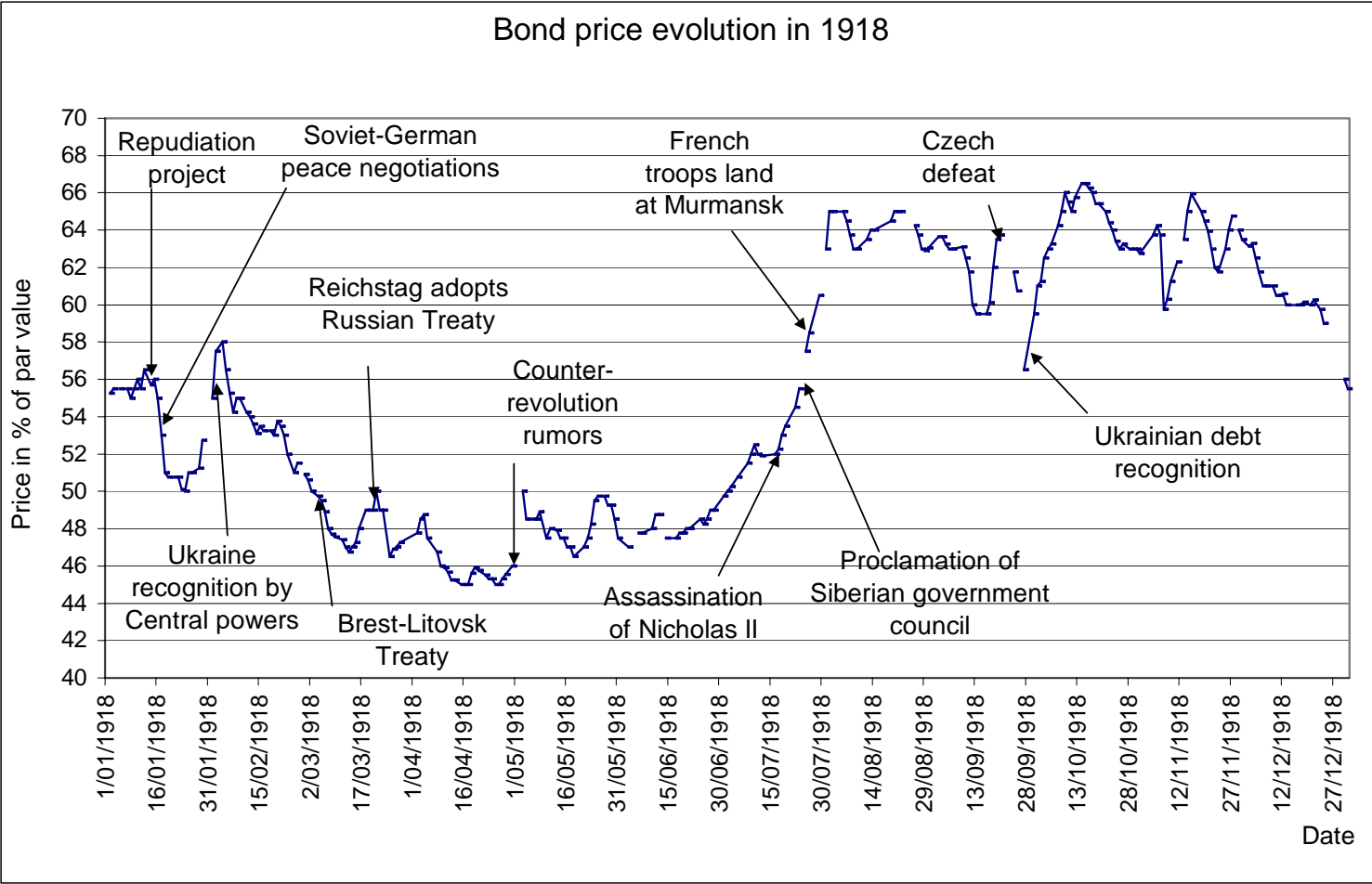
Graph 2 and 3 relate the bond price evolution during 1918 and 1919 to the events, linked to Russia, which have the main impact on the bonds.

Russian Governments and debt repudiation: historical presentation

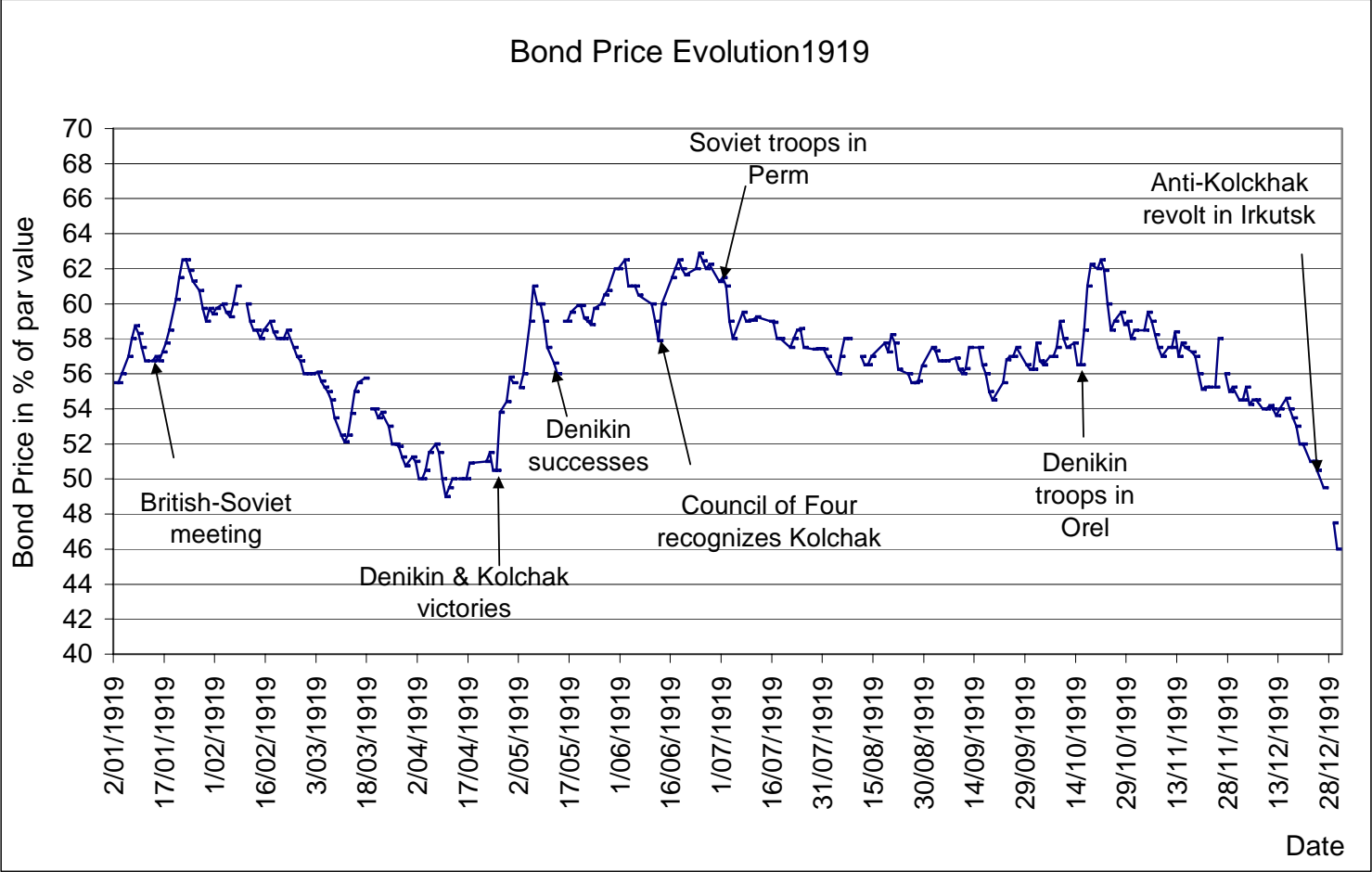
During the Russian civil war, many new political actors arose¹⁴. *Ex post*, most of them had a short-lived influence on Russian politics. However, *ex ante* and especially for foreign investors, it was difficult to determine who would become or remain important. Therefore, any statement regarding the debt made by a potential future leader could have an impact on the Russian bond prices. Appendix 2 gives an overview of the various declarations made with regard to the debt repayment and their impact on the bond prices.

¹⁴ At the end of August 1918, there were no less than 30 governments operating on the former Tsarist Empire! (Salomoni (1997)).

GRAPH 2: Bond price evolution and events happening in Russia in 1918



GRAPH 3: Bond price evolution and most influential events happening in Russia in 1919



As soon as January 13, 1918 rumors regarding the repudiation were circulating. According to the *Financial Times*¹⁵, at the London Stock Exchange: “Russian bonds were an outstanding feature of weakness owing to the reported drastic action of the Bolsheviks against foreign creditors (...). The Petrograd message announcing that the Supreme Council of the National Economy have drafted a decree declaring null and void all national bonds issued by the Imperial and Bourgeois Government, (...) which is held by foreigners, naturally had a bad effect on Russian bonds.” However, in its January 17, 1918 issue, the *Financial Times*’ journalist felt that “Russian bonds, the market for which was still weak, though from the extent of the fall in prices it was evident that the proposal of the present administration to repudiate foreign loans is not taken seriously as would be the case if the Government were considered a stable one”. The French investors had the same feeling towards the Soviet coup, and believed that the future Russian government would eventually take measures in order to service its debt¹⁶.

A few days after the repudiation, Western countries, represented by the US Ambassador M. Francis, expressed their protest and declared the repudiation decree null and void. This position was repeated regularly. In a letter dated, October 23, 1918¹⁷, the French Minister of Foreign Affairs threatened the future Russian government, which would be recognized “only if it takes over the obligations from its predecessor”. On May 30, 1919, the French Finance Minister reaffirmed that “We cannot accept as a right the repudiation of its debt by any country (...) otherwise no country in the world would be able to issue an international debt if a simple change in the government could annihilate the liabilities taken by the Nation”.

During the two years following the revolution, the Bolsheviks faced a strong military opposition. They never fully recognized the former debt but kept an ambiguous position using debt recognition as one of their favorite peace negotiating tool. For example, on March 27, 1918, an article published in *Novaya Zizhn*, Gorky’s journal, stressed the need to suppress the repudiation decree. In December 1918, Maxim Litvinov, interviewed by the *London Daily Mirror*, suggested exchanging economic concessions for a moratorium on Russia’s war debts (Thompson (1966)). On January 16, 1919, the Soviet government announced its desire to discuss the Russian foreign debt, a statement rendered public by President Wilson on January 20, 1919. The following day, Soviets claimed they would repay part of the repudiated debt, and eventually on February 4, 1919, recognize their obligations. During the Paris Peace conferences, the Soviet government suggested that it was “ready to do much for the sake of peace, whether that meant paying at least part of the repudiated foreign debt or granting news concessions to foreign enterprises” (Macmillan (2003)). On February 14, 1919, L. Nadeau, representing the French Minister of Foreign Affairs, met Lenin, who suggested using part of the Russian natural resources to reimburse the bondholders. On November 19, 1919, Chicherin, the Commissar for Foreign Affairs, offered to pay Russia’s debt. But on March 28, 1920, in a broadcasted speech, Krassine¹⁸, the commissar for foreign trade, declared that the soviet government has suppressed the former debt and would never start talks regarding this issue. Contradictory statements were thus regularly made by the Bolshevik government. Nowadays it seems highly unlikely that the Bolshevik ever considered seriously repaying the Tsarist debt. However, at the time, these changing signals could impact the bond prices.

¹⁵ *Financial Times*, January 16, 1918.

¹⁶ *Journal Financier et Politique*, February 27, 1918.

¹⁷ ANPFVM 440-A-10.

¹⁸ ANPFVM 440-A-18.

Contrasting with the Bolshevik position, the various counter-governments appearing in Russia recognized the debt in order to get an allied military support. For example, on November 21, 1918, Admiral Kolchak declared he would take over the debt burden, reaffirming his position on June 9, 1919. In France, Arthur Raffalovitch proposed a practical proposal to restart the debt service. However, after the Versailles Treaty, even the supporters of the Tsarist regime refused to recognize the whole-borrowed amount because Russia had not been invited to negotiate the war's end. The various treaties were viewed as unfair to the White Russians who considered their country but partially responsible of its debt¹⁹. Notwithstanding this position, on October 22, 1919, a British-American consortium issued a short-term loan to the Omsk government worth \$ 40 000 000, backed by gold deposited in Hong-Kong²⁰.

Russian Governments and the debt repudiation: Impact on the bond prices

Bonds prices hardly reacted to statements coming from Russia on the day of their issuance. Following the first repudiation rumors and the decree proposal, the 1906 Russian bond price dropped from 56% to 50.75% in a few days. For January 13, 1918 the weekly return is equal to -8.89% whereas the daily return on February 8, 1918 (day of the publication of the official repudiation decree) is null suggesting that the repudiation impact had already been fully incorporated.

The first statements inducing the feeling that the debt could be repaid have a clear impact on bond prices: both the debt recognition proposal issued in *Novaya Zizhn* on March 27, 1918 and the Soviet proposal, in December 1918, to discuss the debt issue led to high weekly returns (respectively 3.19% and 9.17%). However, afterwards, the Bolsheviks supposedly changing opinions regarding the debt treatment have almost no more effect on the bond prices. This limited impact is confirmed by *The Economist* on February 15, 1919: "Russians were also rather stronger under the influence of the new attitude of the Soviets towards the Russian debt, rising by between 75 centimes and one franc", reflecting investors' disbelief of Soviet statements.

The Allied countries' reactions regarding the illegality of the debt repudiation hardly affected the bond prices. Two reasons can explain this fact. First, these statements were seldom linked with military operations. Second, and most likely, investors had anticipated them because repudiations represent such an extreme position, that obviously no government could support the Bolshevik view. The same holds probably also for the anti-Bolshevik governments' position. Following Kolchak's debt recognition, on November 21, 1918 bond prices increased with but 1.59% and when he reaffirmed this statement, in June 1919, the bond price declined, suggesting that the prices already incorporated the recognition in November 1918. Furthermore, the negative return tend to indicate that prices react to other but simultaneous events, such as White Armies military drawbacks.

Statements regarding the Russian debt recognition have thus an overall surprisingly limited impact on bond prices. Even though the repudiation decree clearly influenced the investors' expectations, it brought but a moderate price decrease when first issued. If a larger

¹⁹ Non-recognition concerned only the debt issued to support WWI's military expenses. The repayment of the studied bond was never questioned as it had been issued before WWI.

²⁰ *The Times*, October 23, 1919.

window is examined, to take into account the repudiation rumors, this conclusion remains valid. Following the repudiation, the price declined but certainly not as extremely as theoretically expected. The Bolshevik proposal to reimburse the debt had only an impact when first stated. Afterwards as no concrete measures were taken, investors stopped believing the Soviets. Statements made on the Allied side or by the White Armies went almost unnoticed on the bond market.

The creation of new countries and the secession of territories: historical presentation

At the end of World War I several countries seceded from Russia²¹, others acquired new territories. Referring to the Ottoman precedent, investors could hope to get at least part of their investment paid back by these countries. Poland declared its independence in 1918 and got Soviet recognition after the 1920-1921 Soviet-Polish war. In November 1918, Baltic States became independent²² and, after a violent civil war, Finland achieved the same result²³. Most new countries' boundaries became definitive by the Versailles Treaty, which took place on June 28, 1919.

On January 22, 1918, a report from the *Office National des Valeurs Mobilières* warned that, if at the end of the war, some Russian regions became autonomous or left the Russian Empire, negotiations would be necessary to determine the responsibility of each newly created country regarding the Russian debt²⁴. A report²⁵ dated February 3, 1918, stressed that the secession of territories or the creation of new countries would make reimbursement more difficult for Western investors as reaching an agreement with many small countries would be more difficult than with just one large. Nonetheless, by helping the small countries to exist, their friendship could be gained for the future²⁶. On October 1918, the French Minister of Foreign Affairs expressed his position regarding the country break-up stating that, in view of the jurisprudence; Russia was but responsible for part of its debt²⁷. Therefore, he would support the creation of an international organization to determine the amounts due by each country. Ironically enough, in the beginning of the 1920's the Bolshevik government representing Russia declared that newly created countries had no obligation regarding the Tsarist debt.

To our knowledge, a temporary Ukrainian "government" was the only one, in the 1920's, to recognize its responsibility for part of the Russian debt²⁸, probably with the hope to get British or French military support. The creation of an independent Ukraine fueled the investors' hope to get at least partially, reimbursed. Indeed, on September 26, 1918, the Ukrainian "Council of Ministers" promised an advance on the Tsarist coupons for the bonds held in Ukrainian banks before November 3, 1918. In its September 29, 1918, issue, *Finances*

²¹ As for instance Ukraine, the Baltic States, Poland, Finland, Azerbaijan, Armenia, Dagestan or Georgia

²² With a Bolshevik government up to October 1919 in Lithuania.

²³ These countries got Soviet recognition in 1920 by the Dorpat, Riga and Turku Treaties.

²⁴ "Note sur la création d'un comité français de protection des intérêts français en Russie", Office National des Valeurs mobilières, 22/1/1918, ANPFVM 440-A-17.

²⁵ "La situation industrielle en Russie", 3 février 1918, ANPFVM 440-A-14.

²⁶ A view shared by the French press, see for example *La gazette du commerce et de l'industrie* July 13, 1918.

²⁷ Letter from Stephen Pichon, French Minister of Foreign Affairs, to the president of the Office National des Valeurs mobilières, October 23, 1918, ANPFVM 440-A-10.

²⁸ Rumania would agree, in 1934, to repay part of the Akerman railway bonds which had helped develop the railway industry in Bessarabia, a province reattached to Rumania after WWI (Freymond (1995)).

et économies populaires reported this news under the title “The Tsarists bonds are recognized”²⁹. Strategically, Ukrainian rulers reaffirmed very often their intention to repay³⁰ but the bondholders never received anything. This issue was settled at the end of 1918, when Ukraine came back under Soviet control.

The creation of new countries and the secession of territories: Impact on the bond prices

During the period under study, statements regarding the new countries recognition made either by French politicians or by the French press had almost no impact on the, reimbursement perception. Nevertheless, following the Ukrainian September 26, 1918, declaration the bond prices exhibited a sharp rise (with a 5.31% daily return). However, the latter cannot be attributed for sure to this news, as on the same day the WWI’s Allied final offensive begins. As a whole, news related to the creation of countries had minor effects on the bond prices. Two factors explain this: first, most of the countries were created after the studied period (or at its very end), second there were few changes in political positions thus few investors’ reactions. Notwithstanding, the possibility that a least one new country would assume part of the debt burden could partly explain why prices remained high up to end 1919.

The Civil War, the German and the Allied actions in Russia: historical presentation³¹

The two years following the October Revolution were, on the military point of view, extremely confused. Three main military forces fought the Soviets: Germany (as a continuation of WWI), White Russians and Allied troops. This section describes first the German operations, then the Allied interventions and lastly the White armies’ actions directed against Soviet troops. Appendices 3 and 4 summarize the main military events occurring during 1918 and 1919 as well as their expected and real impact on the bond prices.

After the October events, revolutionary leaders expressed contradictory views regarding the war³². Peace negotiations with Germany started nonetheless in December 1917 with the Soviets pleading for a peace without territorial changes. According to Avenel (2001) the negotiations involved a first meeting on January 17, 1918, followed by a German ultimatum. In view of the Soviet refusal, a German offensive started a month later resulting in the invasion of a large part of Ukraine, Livonia and Estonia. On February 20, 1918, the Germans moved towards Reval, Petrograd, Moscow and Kiev, meeting little resistance, and occupy Hapsal and Minsk. On March 3, 1918, after these military drawbacks, the Soviet government signed the Brest Litovsk peace treaty leading to large territorial losses.

In the Allies’ eyes, if the Bolsheviks were overthrown, Russia would again fight against Germany. Therefore, in the spring of 1918, British troops landed in Northern Russia.

²⁹ *On reconnaît les emprunts du Tsar.*

³⁰ For example, in a letter, dated June 22, 1920, Earl Tyszkiewicz, president of the Ukrainian delegation recognizes Ukrainian responsibility for 30% of the former Russian debt.

³¹ The following section is mainly based on Avenel (2001), Footman (1961), Gleichen (1988), Mawdsley (1997), Pipes (1990) and Salomoni (1997).

³² Whereas some, as Lenin, claimed that their participation to the war should be stopped in order to consolidate the revolution, others like Bukharin believed that the war could lead to a world revolution. Trotsky was in favor of a “wait and see” attitude as he expected revolutions to start in Austria and Germany.

In Siberia, the Japanese army and the Czechoslovakian Legion³³ would fight the Bolsheviks. With the hope to get Allied support to create an independent Czech state after WWI, the Czech legion decided, on May 25, 1918, to side along with them. End May 1918, they invaded Vladivostok and on June 8, 1918 conquered Samara. On July 6, 1918 a Japanese occupation army, quickly backed by US troops, arrived in Siberia and secured Vladivostok on August 3, 1918. On July 16, 1918, French troops joined the Northern Russian Expeditionary Force at Murmansk and strengthened, on September 16, 1918 their position near Archangel. A few days later, on September 20, 1918 the Czech legion was defeated on the Volga.

After WWI, the French and British governments kept troops in Russia recognized the White general Denikin's authority and send additional men to support him. As stated by Churchill³⁴, "by the end of 1918 there were over 180 000 foreign troops on Russian soil and several White Russian armies receiving Allied money and Allied guns". On December 17, 1918, French troops landed in Odessa. However, on March 17, 1919, the Allies were forced to evacuate Odessa, and in view of the difficulties experienced on both the Northern and the Southern fronts, the French and British governments decided on March 21, 1919, to withdraw their forces from Russia. Eventually, on April 8, 1919, Bolsheviks expelled the last remaining French troops from Odessa. On September 27, 1919, Allied troops left Archangel.

Foreign interventions represented but a part of the military offensives against the Soviets. Very soon Russian opposition to the Soviets emerged. As underlined by Mawdsley (1997), "The early centers of resistance were (...) places with a particular national or territorial identity or with conservative characteristics where the internal seizure of Soviet power did not apply". Two main fronts quickly became crucial: the Southern Russian and³⁵, the Siberian³⁶.

In Southern Russia, a few days after the October revolution, the Russian Volunteer Army was created. Even though all the parties involved in this creation were opposed to the Soviets, they had different goals ranging from the wish to recreate the Russian Empire as before WWI or the Cossacks hope to get a broad autonomy in a federated Russia. During the 1917-1918 winter, the Bolsheviks benefited from these discrepancies and accumulated military successes and on February 11, 1918, they conquered Rostov. From March to April, the White Armies retake the lost territories. According to Gleichen (1988), strong rumours of a counter-revolution in Russia reached Western Europe on April 30, 1918. Anti-Bolshevik troops conquered Sirzan on June 18, 1918, Ufa on July 1, 1918 and Ekatherinburg on July 20, 1918. Three days before, the Bolsheviks had executed the Tsar Nicholas II and his family.

After his power seizure in Omsk (Siberia), on November 18, 1918 Admiral Kolchak led the White fighting forces. In order to strengthen his power, he used repressive methods, which soon alienated the population's support. On December 24, 1918, his army conquered Perm, an operation, which according to Avenel (2001), brought him a large prestige among the French and British governments. Following this event, they supported him actively. On February 6, 1919, General Wrangel defeated the Red Army in a fight for the Caucasian regions, and eight days later General Denikin started a major offensive in the South.

³³ This legion was composed of Czechs prisoner who had refused to fight for the Austro-Hungary Empire.

³⁴ Quoted in Macmillan (2003).

³⁵ First under Kaledin, then under Denikin and eventually under Wrangel command.

³⁶ With as main military actors the Czech legion, Allied forces, and Kolchak's troops.

On March 13, 1919, Kolchak began a general attack in Siberia but encountered only short-lived successes. Facing a Bolshevik counter-offensive, he evacuated Samara in April 1919. End April 1919, Denikin and Kolchak resumed with victory. On May 9, 1919, Kolchak stopped the Red Army at the battle of Velikoniazheskaia. On May 13, 1919 the Western press describes the successful operations led by General Denikin in Southern Russia. On May 26, 1919 Denikin recognizes Kolchak's authority, as the latter got formal support from the Allies. However, whereas Denikin conquered Tsaritsyn³⁷ on June 16, 1919, and Kharkov on June 25, 1919, Kolchak is defeated on June 9, 1919. On July 3, Denikin moved to attack Moscow but was defeated first, on September 27, then on October 20, 1919. Meanwhile, his troops had reached Orel on October 14, 1919. On November 14, 1919 Omsk is taken over by the Bolsheviks and a month later, on December 24, 1919 an Anti-Kolchak revolt burst in Irkutsk where Kolchak is executed two months later.

The last major 1919 offensive emerged from the Baltic States. From Estonia, the White general Yudenich launched an attack on Petrograd³⁸ but his army was eventually defeated on November 14, 1919.

The Civil War, the German and the Allied actions in Russia: Impact on the bond prices

While precise events seldom had a direct impact, the bond prices exhibit an overall trend consistent with the White armies' drawbacks or victories. For example, according to Salomoni (1997), May 1918 can be viewed as the first military attack against the Bolsheviks while August coincided with the climax of the Volga Army's action. In concordance with this, from May to August 1918 the prices exhibited an upward trend. From December 1918 to April 1919 the market was bearish, with however a short-lived positive effect in February. This price decline reflected the overall good position and victories experienced by the Red Army. Bond prices rose from May to July 1919, declined shortly in September 1919, increased sharply in October 1919 and fell afterwards. These reactions followed the White and Allied Armies' fortune: defeats at the begin of 1919, victories in Southern Russia and Siberia from April to begin July, then drawbacks in August and September followed by an almost victorious offensive in October 1919 with Yudenich Army fighting in Petrograd's suburbs and Denikin reaching Orel. The contemporaneous economic press confirms this view. During May 1919, *The Economist* attributed "the appreciable improvement in Russian (...) on the news of the fresh successes by Anti-Bolshevik troops³⁹" and "the improved news from Russia, and the belief that Bolshevism is on the verge to collapse, has brought about improvement in Russian securities⁴⁰". In September the same year, heavy falls that occurred in Russian Government, Municipal and Railway issues were attributed to the announcement that British Forces were withdrawing from North Russia⁴¹. In its November 1, 1919 issue, *The Economist* believed that "Russian government stocks have shown appreciable rises on the strength of optimistic reports from the Petrograd front in regard to the prospects of Yudenich's forces". A week later however, Russian securities were "heavier owing to the stoppage of Yudenich's offensive⁴²". The importance of the civil war on the Russian section

³⁷ Later named Stalingrad, nowadays Volgograd.

³⁸ Formerly Saint Petersburg later named Leningrad, nowadays Saint Petersburg.

³⁹ *The Economist*, May 3, 1919.

⁴⁰ *The Economist*, May 10, 1919.

⁴¹ *The Economist*, September 20, 1919.

⁴² *The Economist*, November 8, 1919.

is further assessed by the fact that high volume and periods of renewed activity usually match White military successes.

The bond prices hardly reacted immediately to all the major battles held on Russian soil. Several factors explain this result. Even nowadays, it is hard to draw a clear picture of all protagonists' fate during the Russian civil war. At the time interpreting war news was even harder. Furthermore, a reaction can arise only if the news properly reached France, an element, which may be questioned. As stated by Lloyd George, the British Prime Minister: "We were in fact never dealing with ascertained or perhaps, even ascertainable facts. Russia was a jungle in which no one could say what was within a few yards of him"⁴³ Eventually, news considered unimportant today may have been interpreted as major at the time. In order to take this element into account, the study refers often to the contemporaneous press and to Gleichen (1988), which gives a contemporary report of war news.

Up to the end of WWI, six military events seem related to an extreme daily return: the peace negotiations between German and Soviets on January 17, 1918 (-3.77%), the adoption of the Brest-Litovsk Treaty by the German Reichstag (-5.10%), the counter revolution rumors of April 30, 1918 (8.70%), the proclamation of the Siberian Government Council, on July 23, 1918 (3.60%), the arrival of French troops in Northern Russia, on July 26, 1918 (3.42%) and the Czech Legion defeat on the Volga on September, 20, 1918 (-3.14%). Due to a possible time lag, news can impact bond prices later. After the Armistice, two extreme daily returns can be linked to military events, the several victorious offensive from end April 1919 and White general Denikin's successes in Southern Russia on May 13, 1919. A third one, is related to the political recognition of Kolchak by France, Great-Britain, Italy and the United States on June 12, 1919.

If one takes into account a 3 days time lag for news to reach France, results remain almost the same. Up to July 1919 and with the exception of events happening during July 1918, if news had an impact on the three days lagged returns they were also reflected on the daily returns. After July 1919, it seems that news took more time to reach Paris. The occupation of Perm (July 1, 1919), Denikin's advance to Orel (October 14, 1919) and the Anti-Kolchak revolt in Irkutsk (December 24, 1919), respectively led to a -5.69%, 7.96% and -5.94% 3 days lagged return. The 7 days lagged returns do not allow determining additional events, exception made for July 1918. For this specific month, extreme returns were observed for July 16-17, 21, 23, 25 and 26 1918.

Results must be taken with caution as some of them are very counterintuitive. For example, bond prices exhibited a puzzling strong positive reaction following the death of the Tsar Nicholas II⁴⁴. Another surprising result is observed on December 24, 1918. The very negative daily return (-5.08%) coincides with Perms' conquest by Kolchak, an event that this could hardly be perceived as a bad omen for the future. Furthermore, supposedly important events such as the Czech revolt on May 25, 1918, the Allied intervention in Vladivostok on August 3, 1918 or Kazan's conquest on August 6, 1918 had almost no impact. Several elements can explain this. First, reactions may be unobservable because simultaneous important events took place on the Western front. This explanation fits well for the execution

⁴³ Quoted by Macmillan (2003).

⁴⁴ These suggests that for French bondholders, the Tsar had a minor role regarding the debt repayment, that his death was an act of despair or that other events cancelled the Tsar death's effect. The three days and one week extremely high positive returns favor the latest explanation.

of Tsar Nicholas II and the absence of reaction following the Czech revolt⁴⁵. Microstructure effects may also play a role, the Tsar death and Kolchak victory in Perm happened while the Russian section was very quiet. Eventually, some unexpected results remain unexplained. Thus, even for the “identified” events a doubt remains as to the accurateness of the suggested explanation.

As a conclusion, identifying the impact of precise events is in the Russian case extremely hard as news was delayed and many events happened simultaneously. Nonetheless, during 1918, the three kinds of news (i.e. related to repudiation, civil war and the numerous secessions) played at some point an important role. However, some seemingly important events had no impact on the bond prices. This suggests that, other potentially more important news interfered. For 1919, only military events were clearly reflected in the bond prices. They explain most of the extreme price changes for that year and therefore offer the most likely explanation to the puzzle. As a whole, amongst events happening in Russia, news from the civil war was the most important.

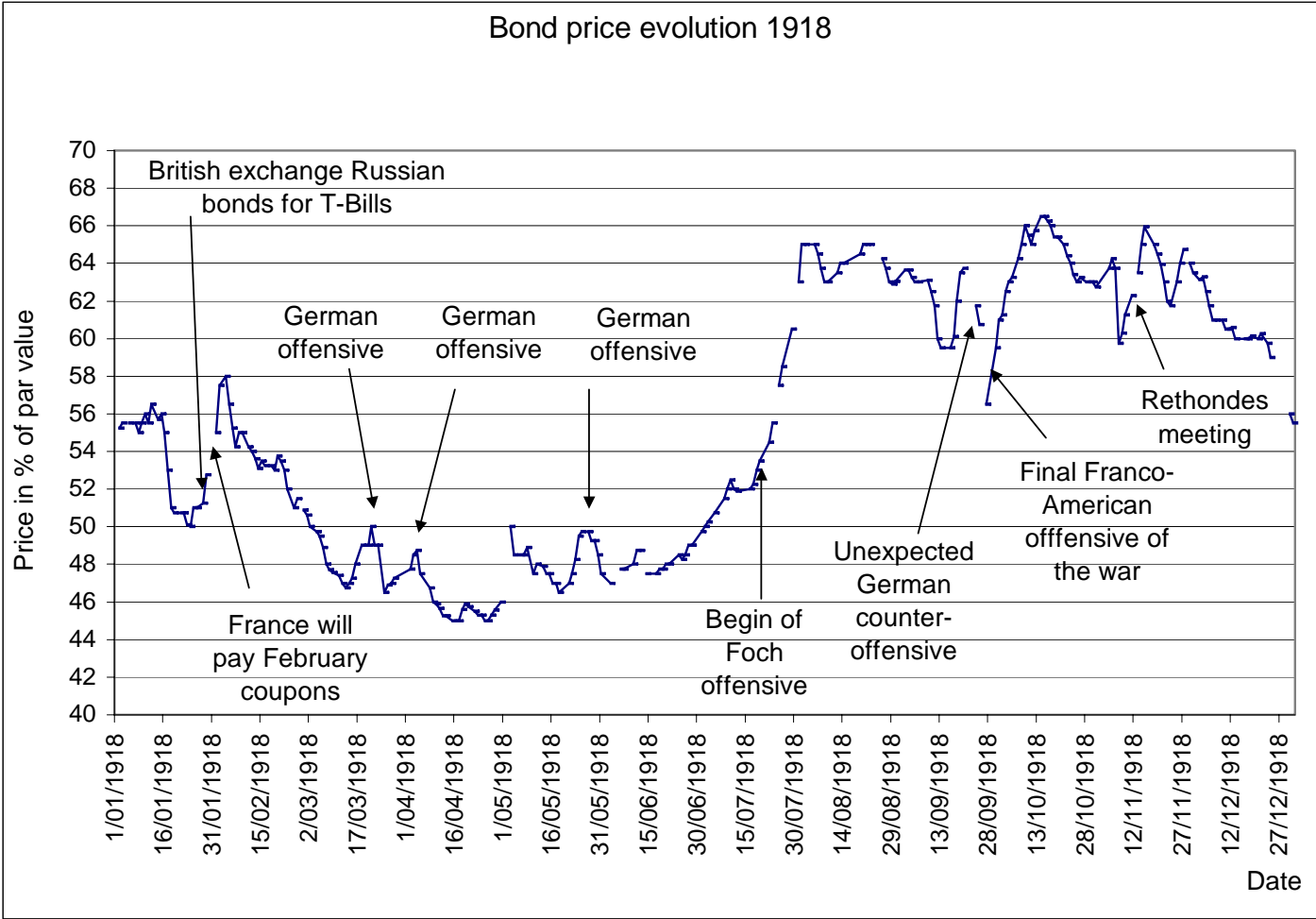
4. ... or does the explanation lie abroad?

The analyzed bonds were traded from the Paris Stock Exchange. Thus, news threatening France’s future could have an impact on all traded securities. Indeed, if the German were to take over Paris, the bondholders would probably need cash if they wanted to leave an occupied city. Thus, any news changing the anticipations regarding the capital city’s fate was included in the bond prices. Second, regarding the Russian bonds themselves if the holders were expecting France to act as a lender of last resort then a German victory would be catastrophic. As France would then probably have to pay reparations, its government would revise its position regarding the Russian bonds. This section describes first the different military operations and peace negotiations held on French soil, then the French government’s attitude towards the repudiated debt and ends with the description of the bondholders’ associations actions. The impact of these elements on the bond prices is subsequently analyzed.

Graph 4 puts the bond price evolution during 1918 in perspective with the events, happening out of Russia, which had the main impact on the bonds.

⁴⁵ The Tsar’s death coincided with very successful French offensives on the Western front and the news of the third German spring offensive on May, 27, 1918 probably offset any positive reaction to the Czech revolt.

GRAPH 4: Bond price evolution and most influential events happening abroad in 1918



World War I and its aftermath: historical presentation

On March 21, 1918 the German troops started a major offensive on the Western front. A few days later, the French and British appointed Marshal Foch as commander of the Anglo-French Army. For the first time, since the beginning of WWI, one person became responsible of both armies. On March 30, 1918, the German progression was stopped. It was followed by a period, considered by Duroselle (1994) as WWI's turning point (April to July 1918). On April 9, 1918 and May 27, 1918 two major German offensives were launched. As a consequence, an important territorial loss for the French allowed the German troops to bring the war at less than 60 km from Paris. On June 9, 1918 the fourth German spring offensive started. The Allied resisted and on July 15, 1919, Foch successfully counter-attacked. On September 26, 1918 the Franco-American troops engaged in what would become the final Allied offensive. On October 4, 1918, Germany asked for an armistice; preliminary discussions were held in Rethondes on November 8, 1918. The armistice itself was signed on November 11, 1918, and the war settlement negotiated at the Paris Peace conference in January 1919. According to Macmillan (2003), while US President Wilson hoped to reshape Europe by giving to the populations the right for auto-determination, Clemenceau, the French Prime Minister, considered the conference as an opportunity to "make Germany pay".

Due to the civil war raging in the country, no official delegation represented Russia in Paris. This absence created major difficulties as many new countries' boundaries were shared with the former Empire. On January 21, 1919, and despite a strong French opposition, President Wilson suggested meeting with a Soviet representative. This suggestion proved unsuccessful. Article 116 of the future Versailles Treaty, adopted by the council of Four⁴⁶, on May 3, 1919, provided three things: "first, Germany was required to recognise the independence of all territories that had been part of the pre-war Russian Empire; second, the Brest Litovsk Treaty and all related and associated treaties were abrogated; third, the Allied and associated powers reserved Russia's right to obtain reparations from Germany" (Thompson (1966)). The last part of article 116 thus opened the way for reparations if the former Russian government was restored. On June 28, 1919, German representatives signed the Versailles Treaty, thus putting an end on WWI.

World War I and its aftermath: Impact on bond prices

The bond prices clearly reacted to WWI events taking place on French soil. Some extreme returns were due to the first German spring offensive (March 21 and 23, 1918), the September 25, 1918 surprise attack and the beginning of the final Franco-American offensive on September 26, 1918. However, some important events were not reflected. For instance, on the day of the third German spring offensive, the bond exhibit a negative but moderate return (-1.01%), while in view of the military implications of this attack, a stronger decline could have been expected⁴⁷. Globally, the bond price followed a trend related to war events suggesting a progressive integration of the news. For example, from June 3, 1918 till August 2, 1918, the Russian bond prices exhibited an upward trend, which is linked to the ever-

⁴⁶ In the last week of March 1919, a Council of Four was created in order to settle the major questions without unwished interferences. Clemenceau, the French Prime Minister, Lloyd George, the British Prime Minister, Orlando, the Italian Prime Minister, and the US President Wilson were the members of this council.

⁴⁷ This could be due to the fact that on almost the same date, the Czech Legion began its Anti-Bolshevik crusade.

increasing anticipated arrival of American troops on French soil and to the July French victory.

Peace negotiations also played a role in the bond evaluation. The Rethondes meeting and the integration of Article 116 in the Versailles Treaty, led to extreme returns. The impact of the latter must be stressed. Indeed, it opened the way for Russians to use German wealth to repay part of the debt. It seems that, at the time, the German alternative was seriously considered. The financial press⁴⁸ stressed the importance of the Paris peace negotiations on the Russian section of the London Stock Exchange: “Russians were in some speculative favour (...) owing to the impression that the Peace conference will make an early start upon the re-settlement of affairs in Russia”, also holding for the Paris bourse: “the Russian funds have been uncertain, owing to the attitude which is to be adopted by the Peace conference as to the Russian problem”⁴⁹.

The national reactions: historical presentation

At WWI's outbreak, France and Great-Britain agreed to open a credit line for Russia to fulfill its obligations regarding the coupons payment (Comité des représentants des banques russes à Paris (1921)). Thus, from 1914 to 1917, French investors got used to see France advance the funds for the Russian coupon payments, a signal that France could continue to support Russian securities. The wide diffusion of Russian securities among the French public and the French government involvement in the flotation of Russian securities⁵⁰ strengthened this signal. If Russia were to experience financial difficulties, the French government would find a solution to protect its national bondholders. An historical precedent strengthened this feeling. During the XIXth century, France had reimbursed Mexican bonds because the government felt it was responsible for their flotation on the Paris Stock Exchange. Logically, in the Russian case, French investors expected the same outcome.

As rumors regarding the repudiation gained in intensity, the French government guaranteed the payment of the January 1918 coupon⁵¹. It stressed, however, that this payment should not be interpreted as debt recognition, a statement not credible to many investors. On January 31, 1918, M. Klotz, the French Finance Minister, declared that the government would pay the February coupons⁵². Again, he insisted on the measures' temporary nature, as discussions were held in order to achieve a common allied policy. Meanwhile, many voices claimed that France had a “moral duty” regarding the reimbursement⁵³. Besides the national turmoil created by the repudiation, the French government had, up to the end of WWI, an incentive to fulfill Russia's obligations to keep its financial influence in Russia.

Officially, the coupons payments were made to support an allied country facing momentary internal problems. Thus, as a result of the Brest Litovsk Treaty, France stopped servicing the Russian debt as it refused to help a country which had signed a separate peace

⁴⁸ *The Economist*, February 1, 1919.

⁴⁹ *The Economist*, March 1, 1919.

⁵⁰ According to the 1913 new stock exchange regulation regarding, new admissions were subject to the sole authority of the French finance minister: a measure passed in order to let the French government regulate the Russian securities and exchange their admission against military support (Girault (1974)). Furthermore, before WWI, the French government strongly recommended that banks and businessmen financially support their Ally.

⁵¹ *Le Rentier* December 27, 1917.

⁵² Quoted in *Le Rentier*, February 27, 1918.

⁵³ Association Nationale des Porteurs Français de valeurs mobilières (1921).

with Germany⁵⁴. In reaction, part of the French financial press exhorted the investors to firmly protest⁵⁵. During August, many believed that the French parliament would change its decision and pay the second semester coupons⁵⁶. On September 19, 1918 the government passed a law allowing French investors to subscribe up to 50% of the new French Liberation loan by paying with the Russian coupons due from April to December 1918⁵⁷. This coupon exchange was the last action undertaken by the French government. Notwithstanding, as late as May 30th 1919, in a speech at the Senate, the French Finance Minister suggested to reiterate the September 1918 operation; a proposal eventually rejected by the rest of the government.

French bondholders did not rely solely on their government. Very quickly, numerous bondholders' associations were created. On August 5, 1918 a *Commission générale pour la protection des intérêts français en Russie* was born, followed on September 28, 1918 by the *Comité de Défense des porteurs de Fonds d'Etat russes, de valeurs garanties par l'Etat russe et d'emprunts municipaux*, and by the *Comité de Défense des porteurs français de valeurs industrielles et bancaires russes* on April 5, 1919. In the meantime, unscrupulous individuals set up fake associations to steel money from credulous investors. End august 1918, and following several scandals, financial journals warned investors. The official associations' action consisted mainly in collecting relevant information and lobbying in order to get reimbursed by the French government⁵⁸. Eventually, bondholders hoped, if lobbying proved unsuccessful, to gain something when Russia would come back on the French market. The threat of no access to foreign capital markets and a boycott of Russian securities were seriously considered.

Abroad, national reactions differed widely. As a consequence of the Brest-Litovsk Treaty, the Soviets recognized the bonds held by German nationals⁵⁹. An additional convention dated August 27, 1918 guaranteed the transfer of gold, for the payment of the coupons and the amortized bonds on October 14, 1918. In September 1918, the Austrian government tried unsuccessfully to obtain the same agreement⁶⁰. In view of the economic crises created by the suspension of the coupon service, most countries proposed at least partial settlements. The Italian, British and US governments exchanged Russian bonds with, respectively, Italian state bonds (for approximately 50% of par value), British and American Treasury Bills. The best outcome remained for the Japanese, who suffered no losses as their government bought back the Russian bonds held by its nationals (Freymond (1995).

⁵⁴ On January 27, 1918, the British government had agreed, to give British 12 years bonds in exchange of Russian Treasury Bills amounting at the time 10 000 000£.

⁵⁵ *Le Rentier*, February 27, 1918 and May 27, 1918.

⁵⁶ *Le Rentier*, August 27, 1918.

⁵⁷ This idea was already mentioned in the September 14, 1918 issue of the *Revue des Valeurs Russes*. At the time, it competed with another proposition: a general buyback of the Russian securities by the French government, which as sole remaining bondholder, would then have to convince the Soviet to repay. The total amount subscribed through this way reached 265 millions (*Le Rentier*, June 17, 1919).

⁵⁸ ANPFVM 440-A-10.

⁵⁹ In view of this, the French government feared that its citizens would sell their industrial securities at a low price to Germans. In a letter to M. Pichon, French Minister of Foreign Affairs dated May 10th 1918, the French ambassador in Sweden, M. Thiébaud, described this practice. ANPFVM 440A-10-24.

⁶⁰ *Messenger de Paris*, September 12, 1918.

The national reactions: impact on bond prices

In Paris, extreme returns followed from the actions undertaken by the British and French governments to service the Russian debt during January 1918. Depending on the country, the same bonds exhibited different prices. Expectations regarding the home government's attitude played a major role but the creation of bondholders association had a minor impact.

In January 1918, the British government took "protective measures with Russian Treasury and commercial paper" which according to the British press⁶¹ "served to emphasize the feeling of mistrust (...) Consequently Russian bonds were again quoted substantially lower". This phenomenon was not observed in France. Indeed, during the days following the bond prices continued to drop on the London Stock exchange whereas they recovered in Paris. The *Financial Times*⁶² stressed the importance of "the alleged confiscatory policy adopted by the Bolsheviks in regard to British owned mines (...) which accentuated the feeling of distrust entertained by holders of Russian securities". On the Paris Stock Exchange, the bond prices rose strongly end January 1918 as both France and Great-Britain guaranteed the January coupon. On March 13, 1918, in London, the Russian bonds price increased. According to the *Financial Times*, they were favorably influenced by the government's announcement that the coupons due on March 1, on the 5% loan of 1822 were being paid or "by consideration of the advantage likely to accrue from the formation of the powerful committee of issuing bourses". The following day, the Russian bonds traded in Paris also exhibited an upward trend. French investors probably considered that their government would follow the British measures, as suggested in a note dated March 15, 1918⁶³. End March 1918, the London Stock Exchange reacted to the "Allied disclaimer of responsibility for any further provision of funds to meet coupon payment"⁶⁴. The price drop experienced in London was not reflected on the Paris Bourse and after January 1918, national governments' attitudes did not induce extreme returns. The price declined when the Soviets agreed to transfer gold to pay the German bondholders.

During 1919, the French government made few statements regarding the debt but its price remained relatively high. This is perhaps a consequence of example of the so-called peso problem hypothesis⁶⁵. Investors believed in, and hoped, to see an event happen, which in fact never materialized and is thus unobservable. This expected event need not be highly unlikely. In fact, investors made rational expectations and considered the probability and the potential impact of the event. In the Russian case, investors probably hoped a takeover of the debt by the French government; an element that never happened. This is probably the most likely explanation for the first puzzle, namely the persistent relatively high value of bonds up to end 1919. Of course, part of the puzzle itself could be, for some low activity periods, an illusion due to a microstructure effect.

World War I events were clearly reflected on the bond prices, whereas the bondholders' actions had but a very minor impact. The French and British involvement

⁶¹ *Financial Times*, January 19, 1918.

⁶² *Financial Times*, January 23, 1918.

⁶³ "Comment sauver le revenu français à l'étranger?" Note de M. Aulagnon, 15/03/1918, ANPFVM 440-A-14.

⁶⁴ *Financial Times*, April 2, 1918.

⁶⁵ Goetzmann and Jorion (1999) have argued that the high risk premium of stock returns may be explained by the fact that investors expected the stock market to experience a major event (closure...) that never happened.

regarding the bond repayment played a direct major role in January 1918 but not anymore afterwards. For 1919, only one event, the inclusion of Article 116 in the Versailles Treaty, was clearly reflected. Up to the end of WWI, news of the French front had the biggest impact.

5. Conclusion

The SRP consists of two main issues: first, the limited price decline following the repudiation announcement, second, the relatively high price observed for the two following years. The paper analyzes to which events bond prices react. Up to WWI's end, news from the French front explained an important part of major value changes. Afterwards, news from the Russian civil war had the most dramatic impact. Statements regarding the repudiation, debt recognition by newly created countries, the French government's attitude towards reimbursement and bondholders' actions played also a role, although less preeminent. Furthermore, microstructure effects probably also allow understanding part of the puzzle's stylized facts.

The Soviet repudiation problematic gives an insight on actual issues regarding sovereign debts. The analysis emphasizes the importance of statements' credibility. Bond prices reacted to the Soviets' first proposals to recognize the debt. However as no concrete actions backed these allegations, investors stopped trusting the Soviet announcements. Furthermore, the paper confirms the results of previous studies showing the impact of war events on national bond prices. It further builds on these results. Indeed, it shows that in some cases military events concerning the country where the bonds are traded have a bigger impact than war events taking place in the issuing country. This suggests that bond prices can highly differ depending on the stock exchange's location. Another element strengthens this argument: depending on the stock exchange, national governments took very different measures regarding the same debt. Whereas Japanese got fully repaid, French bondholders received a minimal payment from their government.

Two important particularities need to be stressed here: first, as serial numbers were attached to a specific stock exchange, there was no geographic arbitrage opportunity between bourses; second these reimbursements were most of time made for citizens of the reimbursing country only. Thus, not only the location of the stock exchange played a role but the investors' nationality. The Soviet case is a good example of creditors' "grab race", with German bondholders being the only ones fully reimbursed. The "grab race" issue remains and, nowadays, most workout proposals for sovereign debtors suggest avoiding creditors acting on their own in order to avoid free-riding⁶⁶.

Recently, Eichengreen and Portes (1995) have recommended recreating⁶⁷ bondholders' representative committees which would "minimize uncertainty about the locus of authority in negotiations". Even though the analysis shows that the creation of bondholders' associations is not reflected on bond prices, their suggestion is appealing. The absence of reaction in the Russian case does by no mean imply that bondholders' committees were useless. As a matter of fact, the lobbying action of l'Association française des porteurs

⁶⁶ See for example Eichengreen and Portes (1995) and Rogoff and Zettelmeyer (2002). Settlements reached in the framework of the Paris Club require an equitable debt sharing and a consensus.

⁶⁷ Powerful during from the end of the XIXth century to the interwar period, bondholders' committees lost much of their influence after WWII.

de valeurs mobilières probably induced the payment of the first Russian coupons by the French government. Thus, results obtained in the Russian case also have implications for today's policy towards sovereign debts. Nowadays, supranational organizations such as the IMF or the World Bank help settling sovereign debt defaults. Nonetheless, there is still no consensus on the measures to be taken. In this respect, financial history provides a valuable contribution to the debate as it allows, among others, former policies' impact.

Further research could be conducted to determine to which extent the risk of country break-up is integrated in bond prices. In this respect, the former Yugoslavian debt could provide an interesting case. Another extension of this paper could compare the Russian bond price evolution on basis of a benchmark, such as a French national bond in order to determine whether French military events affected the market as a whole. Eventually, the importance of the trade location could be tested by analyzing the price differentials between Russian bonds traded in Paris and London. This price differential would reflect investors' perception of their government's willingness to support the defaulting country and possibly their expected bargaining power to reach a settlement. Modern sovereign debts issued by countries perceived as very risky, could be influenced by the place where they are traded. Thus, even though the IMF aims at securing global settlement in case of default, international relations may play an important role with regard to the financial support given by a specific country. In this framework, the credibility of the potential retaliations (economic as well as armed interventions) must be stressed.

In a sense, the Soviet repudiation offers a unique example of a multidimensional peso problem, for which several events of different nature had at some point a non-negligible likelihood to become reality. These positive events were numerous and included: the Soviet overthrow, a Soviet withdrawal of the repudiation decree, a foreign partial reimbursement (by a newly created country for example) or a reimbursement by the French authorities. Investors' rationality should thus not be questioned: prices integrated the fact that *ex ante* it was reasonable to assume that at least one of these events would happen. Notably, the French payment of the January coupon raised the question of what would have happened had the Bolsheviks not signed the Brest Litovsk Treaty.

Historians have the opportunity to study a specific problem in a large time window. In fact, if one extended the analysis up to today, one of these expected events eventually took place. Indeed, as a consequence of WWII, the number of repudiated bonds increased dramatically as many countries fell under the Soviet sphere of influence and mimicked the Soviet position. Russian bonds remained traded on the Paris stock exchange up to the 1990's with, however, an almost insignificant volume of transactions. Nonetheless, hope never completely disappeared. Freymond (1995) describes a punctual period of fever on the Russian section of the Paris Stock Exchange. In 1954, the price of a 4.5% Russian bond issued in 1909 got multiplied by 60 as an important Franco-Soviet agreement was signed. In 1993, the French government settled part of the issue with the Russia, which agreed to partially reimburse French bondholders. Noteworthy, British bondholders had reached the same outcome 7 years before, an element confirming the major role of international relations.

APPENDIX 1: Extreme returns⁶⁸ (based on working day returns)

Date	Return	Suggested explanation⁶⁹	Nature⁷⁰
April 30, 1918	8,70%	Russia: counter-revolution rumors	R
September 25, 1918	-7,00%	Surprise German attack	W
April 25, 1919	6,53%	Denikin and Kolchak victories	R
May 3, 1919	5,36%	Article 116 of Versailles Treaty adopted by the council of Four	W
May 13, 1919	5,36%	Military successes for General Denikin	R
September 27, 1918	5,31%	Final Allied offensive of the war Ukrainian debt recognition	W S
March 23, 1918	-5,10%	Russian and Romanian treaties adopted by Reichstag German troops reach line of Somme	R W
December 24, 1918	-5,08%	Bolsheviks advance in Estonia reported on December 26, 1918* ⁷¹	R
November 24, 1919	4,98%		
February 1, 1918	4,55%	Ukraine recognition by the central powers France will pay the February coupons	S B
October 16, 1919	4,27%	Denikin troops reach Orel (320 km from Moscow) on October 14, 1919*	R
January 29, 1918	4,27%		
July 29, 1918	4,13%		
December 26, 1919	-4,04%	Anti-Kolchak revolt in Irkutsk on December 24, 1919*	R
January 17, 1918	-3,77%	Peace negotiations between German and Soviets	R
January 16, 1918	-3,64%	Bolsheviks Superior Council for National goods adopts the repudiation decree on January 14, 1918*	S
June 12, 1919	3,63%	Acknowledgment of France, Great-Britain, Italy and the USA to	R

⁶⁸ Extreme returns exceed the mean + twice the standard deviation.

⁶⁹ Suggested explanation that do not happen on the day itself are marked with a *

⁷⁰ Events are sorted according to their nature, B (bondholders actions), R (Military events in Russia), S (Statements regarding the debt), W (Military events linked to WWI in France).

⁷¹ The Stock Exchange being closed from December 24 to 30, it makes sense to consider an event happening after the extreme return date.

		extend support to Kolchak	
July 23, 1918	3,60%	Proclamation of Siberian Government Council	S
October 15, 1919	3,54%	Denikin troops reach Orel* (320 km from Moscow) on October 14, 1919.	R
November 25, 1919	-3,45%		
July 26, 1918	3,42%	French troops join the Northern Russian Expeditionary Force at Murmansk	R
May 5, 1919	3,39%		
July 2, 1919	-3,28%		
July 31, 1918	3,17%		
September 17, 1918	3,16%		
December 29, 1919	-3,16%	Anti-Kolchak revolt in Irkutsk on December 24, 1919*	R
March 17, 1919	-3,14%	French and Allies evacuating Odessa	R
September 20, 1918	-3,14%	Set-back of Czecho-Slovaks on the Volga	R
October 22, 1919	-3,07%		

APPENDIX 2: Statements regarding the repudiation⁷²

Date	Political actor and nature of statement	Expected impact	Realised Impact (1 day ⁷³)	Realised Impact (3 days)	Realised Impact (7 days)
January 13, 1918	Bolsheviks Superior Council for National goods issues a project of repudiation decree	Bad	0,54%	-4,85%	-8,89%
January 14, 1918	Bolsheviks Superior Council for National goods adopts the repudiation decree	Bad	0,54%	-4,85%	-8,89%
January, 21 1918	Soviet Central Committee repudiates the Tsarist debt	Bad	0,00%	-1,48%	0,99%
February 8, 1918	“Pravda” publishes the Soviet Official repudiation decree	Bad	0,00%	-1,36%	-2,73%
February 13, 1918	Ambassador delegation and Western democracies declare repudiation null and void	Good	0,93%	-0,65%	0,28%
March 27, 1918	Debt recognition proposal in <i>Novaya Zizhn</i>	Good	0,53%	1,60%	3,19%
July 6,1918	Bolsheviks propose changes in the repudiation decree	Good	0,97%	0,97%	0,97%
September 26, 1918	The Ukrainian Council of Ministers recognizes the debt and makes provisions for coupons	Good	5,31%	5,31%	11,50%
October 1918	Ufa and Omsk government recognize the debt	Good	NA	NA	NA
End of WWI	White Russian in Paris declare that Russia is only responsible for part of its debt	Good	NA	NA	NA
November 21, 1918	Admiral Kolchak recognizes the debt	Good	1,59%	0,00%	1,59%
December 23, 1918	Soviet representative, Litvinov, ready to grant economic concessions against a war debt moratorium	?	-1,26%	-6,28%	-6,28%
January 14-16, 1919	British-Soviet meeting in Stockholm, Soviet government ready to compromise on Russia’s foreign debt	Good	0,87%	5,24%	9,17%
January 20, 1919	Statement made public by Wilson	Good	2,07%	3,73%	0,83%
January 21, 1919	Soviet government ready to repay part of repudiated debts	Good	1,63%	0,65%	-2,85%
February 4, 1919	Soviet government ready to recognize repudiated debts	Good	-0,42%	2,52%	-0,84%

⁷² Events have been chosen with regard to the bond prices problematic. Statements dealing with other financial issues (banking problem for example) have thus been omitted. Appendix 1 is thus not exhaustive.

⁷³ If the stock exchange was closed on the announcement day, we take into account the daily return from the next opened day.

February 14, 1919	L. Nadeau, the French Foreign Affairs representative meets Lenin	Good	0,86%	1,72%	0,00%
June 4, 1919 Reaching Paris on June 11, 1919	Kolchak reaffirms his previous acknowledgment of Russia's debts	Good Good	0,00% -1,86%	-1,64% 4,24%	-3,28% 5,93%
November 19, 1919	Chicherin offers to pay Russia's debts	Good	0,00%	-1,34%	-1,61%

APPENDIX 3: Main military events in Russia during 1918⁷⁴

Date	Military events	Expected impact	Realised Impact (1 day)	Realised Impact (3 days)	Realised Impact (7 days)
January 17, 1918	Peace negotiations between Soviets and German	Bad	-3,77%	-4,25%	-5,66%
February 1, 1918	Central Powers recognize Ukraine Republic as independent state	?	4,55%	-0,42%	0,42%
February, 11, 1918	Fall of Rostov ⁷⁵	Bad	-0,46%	-2,12%	-1,84%
February, 20, 1918	German armies occupy Hapsal and Minsk	Bad	-0,47%	-3,26%	-5,30%
March 3, 1918	Brest-Litovsk Treaty.	Bad	-0,50%	-3,53%	-4,72%
March 23, 1918	Russian and Romanian treaties adopted by Reichstag	Bad	-5,10%	-4,29%	-2,55%
April 22, 1918	Transcaucasian federation becomes independent	?	-0,44%	-1,10%	1,10%
April, 30, 1918	Russia: counter-revolution rumors	Good	8,70%	8,70%	10,87%
May 3, 1918	German-Finn victory against Red Guard in south-west Finland.	?	2,00%	2,00%	0,00%
May 25, 1918	Czech Legion revolt	Good	0,00%	-1,01%	-5,53%
May 26, 1918	Georgia, Armenia and Azerbaijan become independent	?	-1,01%	-2,51%	-5,53%
June 8, 1918	Czech Legion conquers Samara	Good	1,56%	-1,04%	-1,04%
June 18, 1918	Sirzan conquered	Good	0,00%	0,52%	1,05%
July 1, 1918	Ufa conquered	Good	0,50%	2,01%	3,52%
July 6, 1918	US intervention in Siberia	Good	0,97%	0,97%	0,97%
July 16-17, 1918	Tsar Nicholas II and family executed	Bad	1,44%	4,31%	10,05%
July 21, 1918	New-York Times publishes the Tsar's death	Bad	1,83%	5,50%	11,01%
July 23, 1918	Proclamation of Siberian Government Council	Good	3,60%	5,41%	13,51%
July 25, 1918	Ekatherinburg conquered	Good	1,74%	5,22%	13,04%
July 26, 1918	French troops join the Northern Russian Expeditionary Force at Murmansk.	Good	3,42%	3,42%	11,11%
August 3, 1918	Allied intervention in Vladivostok	Good	0,77%	-3,08%	-2,31%

⁷⁴ Events have been chosen with regard to the bond prices problematic, the selection is mainly based on Avenel (2001), Footman (1961), Gleichen (1988), Mawdsley (1997) and Salomoni (1997). Appendix 3 is thus not exhaustive.

⁷⁵ We consider the Anti-Bolshevik side, thus the fall of the city means a Bolshevik success.

August 6, 1918	Kazan ⁷⁶ conquered	Good	1,16%	-2,33%	-0,78%
August 30, 1918	Assassination attempt on Lenin (failed)	Good	0,95%	0,95%	-0,08%
September 9, 1918	Anarchy in Petrograd. Bolsheviks massacre the "bourgeoisie". Threat to execute British officials.	Bad	0,95%	-4,91%	-5,71%
September 10, 1918	Bolsheviks capture Kazan	Bad	1,20%	-4,80%	-3,84%
September 16, 1918	Archangel front: successful operation by naval units and Allied troops	Good	1,01%	6,72%	3,78%
September 20, 1918	Reported set-back of Czecho-Slovaks on the Volga	Bad	-3,14%	-3,14%	-11,37%
October 8, 1918	Red Army occupies Samara	Bad	1,54%	0,00%	2,31%
November 5, 1918	Resignation of Siberian Government in favor of "All-Russian Government".	?	0,78%	-2,26%	2,72%
November 13, 1918	Soviet repudiate the Brest-Litovsk Treaty	Good	2,36%	2,36%	0,71%
November 18, 1918	Kolchak coup with British support	?	-0,77%	-3,08%	-3,08%
December 17, 1918	French land in Odessa	Good	0,25%	0,00%	-1,67%
December 24, 1918	Perm is taken by Kolchak	Good	-5,08%	-5,08%	-5,93%
December 26, 1918	Bolsheviks advance in Estonia reported	Bad	-5,08%	-5,08%	-5,93%

⁷⁶ Soviets had hidden the Russian gold reserve in this city (Avenel (2001)).

APPENDIX 4: Main military events in Russia during 1919⁷⁷

Date	Military events	Expected impact	Realised Impact (1 day)	Realised Impact (3 days)	Realised Impact (7 days)
January 23, 1919	Bolsheviks attack Archangel front at Shenkursk, 180 miles south of Archangel; Allies withdraw	Bad	-0,96%	-2,80%	-4,40%
February 6, 1919	General Wrangel victory in the Caucasus	Good	1,67%	0,00%	-2,50%
February 14, 1919	Denikin offensive	Good	0,86%	1,72%	0,00%
March 13, 1919	Kolchak launches spring offensive	Good	2,33%	3,72%	0,47%
March 17, 1919	Rumors of French and Allies evacuating Odessa	Bad	-3,14%	-3,14%	-4,93%
March 21, 1919	Allied decision to withdraw forces from Russia	Bad	0,56%	-0,93%	-4,21%
April 8, 1919	Bolsheviks expel French from Odessa	Bad	-2,91%	-3,88%	-2,91%
April 23-25, 1919	Denikin and Kolchak victories	Good	6,53%	7,72%	9,31%
May 13, 1919	Successes by General Denikin in Southern Russia. Meanwhile, Estonian army moves on Petrograd	Good	5,36%	5,36%	6,96%
May 26, 1919	Kolchak recognized by Denikin, and get formal support of Allies	Good	0,83%	3,33%	4,17%
June 9, 1919	Kolchak defeated	Bad	-1,67%	0,00%	3,33%
June 12, 1919	France, Great-Britain, Italy and the USA extend support to Kolchak	Good	3,63%	6,22%	7,08%
June 16, 1919	Tsaritsyn conquered by Denikin	Good	0,81%	0,81%	0,81%
July 1, 1919	Soviet troops reoccupy Perm	Bad	-0,81%	-5,69%	-2,86%
July 3, 1919	Denikin moves to attack Moscow	Good	-1,69%	0,85%	0,08%
September 27, 1919	Allies evacuate Archangel	Bad	-0,44%	2,21%	0,88%
October 14, 1919	Denikin troops reach Orel	Good	0,00%	7,96%	10,62%
October 20, 1919	Denikin defeated, general retreat of White armies	Bad	0,81%	-3,23%	-4,03%
November 14, 1919	Fall of Omsk and final defeat of Yudenich	Bad	-0,43%	-0,87%	-4,33%
December 24, 1919	Anti-Kolchak revolt in Irkutsk	Bad	-1,98%	-5,94%	NA

⁷⁷ Events have been chosen with regard to the bond prices problematic. Appendix 3 is thus not exhaustive.

APPENDIX 5: WWI main military events, political recognition and the Peace Treaties⁷⁸

Date	Military Event	Expected impact	Realised Impact (1 day)	Realised Impact (3 days)	Realised Impact (7 days)
March 21, 1918	German offensive (Spring push)	Bad	-2,00%	-7,00%	-5,50%
March 23, 1918	German troops reach line of Somme, Bombardment of Paris by long-range artillery (74 miles) begins	Bad	-5,10%	-4,29%	-2,55%
March 26, 1918	Foch, general commander of the Allied troops	Good	0,21%	1,81%	1,81%
April 4, 1918	Germans attack in force between Somme and Avre rivers	Bad	-2,56%	-4,10%	-6,36%
April 9, 1918	Second German spring offensive	Bad	-0,22%	-1,63%	-2,17%
May 27, 1918	Ludendorff Offensive (3 rd spring offensive)	Bad	-1,01%	-2,51%	-5,53%
June 9, 1918	4 th German Spring offensive	Bad	1,56%	-1,04%	-1,04%
July 15, 1918	Foch offensive	Good	0,53%	2,88%	6,73%
September 25, 1918	Surprise attack by the German	Bad	-7,00%	-2,06%	0,82%
September 26, 1918	Final Franco-American offensive of the war	Good	5,31%	5,31%	11,50%
November 8, 1918	Rethondes meeting (armistice preliminary)	Good	1,58%	3,32%	9,37%
November 11, 1918	Armistice	Good	1,93%	4,33%	4,33%
January 21, 1919	US President Wilson suggests a meeting with Soviet representative	Good	1,63%	0,65%	-2,85%
May 3, 1919	Article 116 of Versailles Treaty adopted by the council of Four	Good	5,36%	8,93%	2,68%
June 28, 1919	Signature of Versailles Treaty	?	0,41%	0,00%	-2,86%

⁷⁸ Events have been chosen with regard to the bond prices problematic. Appendix 4 is thus not exhaustive.

APPENDIX 6 Government and bondholders actions⁷⁹

Date	Event	Expected impact	Realised Impact (1 day)	Realised Impact (3 days)	Realised Impact (7 days)
January 27, 1918	British exchange of T-Bills	Good	2,93%	7,32%	13,17%
January 31, 1918	France will pay the February coupons	Good	4,55%	5,45%	0,00%
March 3, 1918	Brest-Litovsk Treaty : Russian debt held by German citizens recognized	Bad	-0,50%	-3,52%	-4,72%
March 13, 1918	British government pays March coupon	Good	0,53%	2,67%	4,81%
March 13, 1918	Formation of the Committee of issuing bourses	Good	0,53%	2,67%	4,81%
March 31, 1918	End of French and British debt servicing	Bad	1,57%	-0,52%	-3,66%
August 5, 1918	Creation of the « Commission générale pour la protection des intérêts français en Russie »	Good	-0,77%	-3,08%	-2,31%
August 27, 1918	Gold transfer related to Brest-Litovsk Treaty	Bad	-1,18%	-1,10%	-0,16%
September 19, 1918	French coupon exchange law is passed	Good	0,39%	-2,76%	-11,02%
September 28, 1918	Comité de Défense des porteurs de Fonds d'Etat russes, de valeurs garanties par l'Etat russe et d'emprunts municipaux	Good	2,52%	5,04%	7,98%
October 14, 1918	Payment of German held bonds	?	0,00%	-0,75%	-2,26%

⁷⁹ Events have been chosen with regard to the bond prices problematic. Appendix 5 is thus not exhaustive.

REFERENCES

ANPFVM, (1910-1925) ARCHIVES FROM “L’ASSOCIATION NATIONALE FRANCAISE DES PORTEURS DE VALEURS MOBILIERES”.

APOSTOL, P., MICHELSON, A., (1922), “Les questions d’ordre international soulevées par le problème de la Dette russe”, in *Le problème financier Russe. La Dette publique de la Russie*, Payot, Paris, pp. 55-162.

ASSOCIATION NATIONALE DES PORTEURS FRANÇAIS DE VALEURS MOBILIERES, (1921), *Annuaire 1915-1920*, ANPFVN, Paris 5 rue Gallon.

AVENEL J.-D., (2001), *Interventions alliées pendant la guerre civile russe (1918-1920)*, Paris, Economica.

BONFILS H., (1914), *Manuel de droit international public (droit des gens)*, Paris, Librairie Arthur Rousseau, 7ème édition.

BORCHARD E. M., (1951), *State insolvency and foreign bondholders*, New Haven : Yale University Press, 2 v.

BROWN W., BURDEKIN R., (2002), “German Debt traded in London During World War II: a British Perspective on Hitler”, in *Economica*, 69, pp. 655-669.

CARR E. H., (1969), *La revolution bolchévique (1917-1923)*, Arguments, Les éditions de minuit, 3 volumes.

CLAESSENS S., PENNACCHI G., (1996), “Estimating the Likelihood of Mexican Default from the Market Prices of Brady Bonds”, in *Journal of Financial and Quantitative Analysis*, vol. 31, Issue 1, pp. 109-126.

COMITE DES REPRESENTANTS DES BANQUES RUSSES A PARIS, (1921), *Banque et monnaie dette de l’état. Questions économiques soulevées par les événements de Russie*, Rapports et documents, octobre 1919-juillet 1921.

DAVIS G., PECQUET G., (1990), “Interest rates in the Civil War South”, in *Journal of Economic History*, vol. 50, n° 1, pp. 133-148.

DUROSELLE J.-B., (1994), *La grande guerre des français*, Paris, ed. Perrin.

EATON J., FERNANDEZ R., (1995), “Sovereign Debt”, *NBER Working Paper # 5131*, 59 p.

EATON J., GERSOVITZ M., (1981), “Debt with Potential Repudiation: Theoretical and Empirical Analysis” in *Review of Economic Studies*, vol. 48, Issue 2, pp. 289-309.

EICHENGREEN B., PORTES R., (1995), “Crisis? What crisis? Orderly workouts for sovereign debtors”, in *Crisis? What crisis? Orderly workouts for sovereign debtors* CEPR, London, pp. 1-67.

- FOOTMAN D., (1961), *Civil War in Russia*, F. A. Praeger, New-York.
- FREY B., KUCHER M., (2000), "History as reflected in capital markets: the case of World War II", in *Journal of Economic History*, vol. 60, n° 2, pp. 468-496.
- FREY B., KUCHER M., (2001), "Wars and markets: How bond values reflect the Second World War", in *Economica*, vol. 68, pp. 317-333.
- FREYMOND J., (1995), *Les emprunts russes de la ruine au remboursement. Histoire de la plus grande spoliation du siècle*, Paris, Edition du Journal des Finances.
- GLEICHEN E., (1988), *Chronology of the Great War*, Greenhill, London, 257 p.
- GIRAULT R., (1973), *Emprunts Russes et Investissements Français en Russie 1887-1914*, Paris, Librairie Armand Colin.
- JEANNE O., ZETTELMEYER J., (2001), "International bailouts. The IMF's role" in *Economic Policy*, vol. 33, pp. 409-432.
- LINDERT P. H., MORTON P. J., (1989), "How sovereign debt has worked" in J. Sachs ed; *Developing Country Debt and Economic Performance*, Chicago, University of Chicago Press pp. 39-106.
- MACMILLAN M., (2003), *Peacemakers. The Paris Conference of 1919 and Its Attempt to End War*, London, John Murray, 574 p.
- MAWDSLEY E., (1997), "The Civil War: The Military Campaigns" in *Critical Companion to the Russian Revolution 1914-1921*, London, E. Acton, V. Cherniaev, W. Rosenberg ed., Arnold, pp. 93-105.
- OOSTERLINCK K., (2000), "Les anticipations des marchés obligataires belges de 1939 à 1944", in *Cahiers d'Histoire du Temps présent*, n°6, pp. 151-182.
- OOSTERLINCK K., (2003), "The Bond Market and the Legitimacy of Vichy France", in *Explorations in Economic History*, vol. 40, Issue 3, pp. 327-345.
- ÖZLER S., (1989), "On the relation between rescheduling and bank value", in *American Economic Review*, vol. 79, Issue 5, pp. 1117-1131.
- PIPES R. (1990), *La révolution russe*, Paris, PUF, Connaissance de l'est, 866 p.
- RAFFALOVITCH A., (1922), "La dette publique de la Russie. Dette d'avant guerre et opérations de crédit pendant la guerre", in *Le problème financier russe. La Dette publique de la Russie*, Payot, Paris, pp. 7-54.
- ROGOFF K., ZETTELMEYER J., (2002), "Bankruptcy Procedures for Sovereigns: A History of Ideas, 1976-2001" in *IMF Staff Papers* vol. 49, n° 3.
- SALOMONI A. (1997), *La révolution russe. XXè siècle*, Casterman, Giunti, 160p.

THOMSON J. M., (1966), *Russia, Bolshevism and the Versailles Peace*, Princeton, Princeton University Press, 429p.

UKHOV A. D., (2003), “Financial innovation and Russian government debt before 1918”, Yale Working Paper n° 03-20.

URECHE-RANGAU L., (2003), « Le marché est-il capable d’anticiper le défaut d’un Etat souverain? L’exemple de la Roumanie en 1933 », *Banque & Marchés*, 64, pp. 32-45.

VON HAGEN M., (1997), “Ukraine”, in *Critical Companion to the Russian Revolution 1914-1921*, London, E. Acton, V. Cherniaev, W. Rosenberg ed., Arnold, pp. 728-740.

WALDENSTRÖM D., FREY B., (2002), “How Government Bond Prices Reflect Wartime Events. The Case of the Stockholm Market”, SSE/EFI Working Paper Series in Economics and Finance N° 489.

WELLS J., WILLS D., (2000), “Revolution, Restoration and Debt Repudiation: the Jacobite Threat to England's Institutions and Economic Growth”, in *Journal of Economic History*, vol. 60, n° 2, pp. 418-441.

WILLARD K., GUINNANE T., ROSEN H., (1996), “Turning points in the Civil War: Views from the Greenback market”, in *The American Economic Review*, vol. 86, Issue 4, pp. 1001-1018.