

**THE EFFECTS OF THE FIREARM PURCHASINGS ON THE
OTTOMAN FINANCIAL STRUCTURE DURING THE MILITARY
MODERNIZATION (1853-1908)**

**OSMANLI ASKERÎ MODERNİZASYON ÇALIŞMALARI
ÇERÇEVESİNDE YAPILAN SİLAH ALIMLARININ MALÎ YAPIYA
ETKİLERİ (1853-1908)**

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Abstract

Reforms implemented for the Ottoman army began to be institutionalized in the middle of the 19th century. The basic idea was to restore the former power of the army. Since the changing conditions of war had shown that reform was possible only with the application of modern methods to every field, the works made on the modernization of the Ottoman army gained momentum after the Crimean War. The effort to establish an army in-line with the requirements of modern warfare was the Ottoman administration's primary aim during the Reorganization and Constitutional periods. The provision of resources required to sustain military modernization led to different measures in the Ottoman economy such as domestic and foreign borrowing, interest postponement, transfer of revenues, and ultimately the allocation of revenues to creditors. In this process, while the Ottoman economy became integrated into the international economy, it gradually became dependent on foreign sources. Despite the economic measures taken did not reduce dependency on international resources and the heavy financial burden, the Ottoman administration sustained military reforms and modernization.

Keywords

Modern Warfare, Crimean War, Military Modernization, Ottoman Economy

Öz

Osmanlı ordusunda uygulanan ıslahat çalışmaları 19. yüzyılın ikinci yarısından itibaren kurumsallaşmaya başlamıştı. Islahat fikrinin temelinde, ordunun eski gücüne kavuşturulması yatıyordu. Savaşın değişen şartları ıslahatın ancak modern usullerin her alanda uygulanmasıyla mümkün olabileceğini gösterdiğinden, Kırım Savaşı'ndan sonra Osmanlı ordusunun modernleşmesine yönelik yapılan çalışmalar hız kazandı. Bu çerçevede, modern savaşın gereklerine uygun bir ordu tesis etme gayreti, Tanzimat ve Meşrutiyet dönemlerinde, Osmanlı yönetiminin

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önceliği oldu. Askerî modernleşmenin sürdürülebilmesi için ihtiyaç duyulan kaynakların teminiyse Osmanlı maliyesinde iç ve dış borçlanma, faiz erteleme, gelir devri ve nihayet gelirlerin alacaklıların kontrolüne bırakılması gibi tedbirlere başvurulmasına sebep oldu. Bu süreçte, Osmanlı ekonomisi uluslararası ekonomiye eklenirken, adım adım dışa bağımlı hale de geldi. Alman ekonomik tedbirler dışa bağımlılığı azaltmamasına ve ağır mali yüke rağmen Osmanlı yönetimi askerî alandaki ıslahatlarını sürdürmüştür.

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Anahtar Kelimeler

Modern Savaş, Kırım Savaşı, Askerî Modernizasyon, Osmanlı Ekonomisi



INTRODUCTION

War affects relevant parties in many aspects in terms of its progress and consequences even if it is a by-product of political relationships. Supplying the necessary resources for states to maintain and ultimately win a war has required strong economies. The relationship between war and economy, which had always remained a powerful factor, became crucial in modern industrialized warfare.

The Great Powers, which were competing for hegemony in the 18th century Europe, prioritized science and industry to reorder their armies, as the new keys to war. Modern warfare became a conflict between institutionalized armies. As such, military organization, provision and doctrine began to change, the most significant being the institutionalization of military service as a professional occupation. Calculation and planning became as important as battlefield tactics, and military officers and engineers deeply engaged with each other. Providing good training to field officers was an essential condition for keeping their troops ready for war. As a result, the number of schools providing military training quickly increased. The Western philosophy of war came to recognize military service as a profession and thus paved the way for a scientific approach to warfare (Browning, 1903, p. 383; Goldstone, 2007, pp. 27-30; Childs, 2000; Clausewitz, 2015, pp. 31-32). This model soon spread from Europe to the rest of the world (Tennent, 1864, p. 2; Richards & Metz, 1992, pp. 81-82; Grant, 2003, p. 29).

Firearms became more efficient and more complex machines with higher firepower thanks to scientific knowledge and industrial means in the 19th century Europe. Each new development in production technologies increased firepower, which triggered an armament's race across the world. The obligation to equip armies with modern arms and ammunition placed a significant financial burden on states. Such resources had to be used in a balanced way so that armies were ready for the battlefield and the treasury could meet the other needs required to maintain wars. Launching, maintaining and ultimately winning a war required a strong army, while a full treasury was essential for training, arming, feeding, accommodating and transporting the army (Wilkinson, 1841, pp. 4-76; Bloch, 1900, p. 129; Prusya Kralı, 1303, pp. 13-15).

Competition in the European geography has also developed the war industry in countries where the industry is the locomotive of the economy. The first step in this development was to increase the gunpowder quality. Qualified gunpowder produced in France and Britain also increased the quality of barrels using this gunpowder. Cannon and rifle barrels strengthened gradually from iron to steel. While Swedish steel has established its quality throughout Europe, the French and British industry increasingly competed in arms production until the mid-19th century. Prussia, which joined this competition later, had the fastest rising arms industry in Europe with its understanding of quality product-oriented industry in gun and rifle production. France, Britain and Prussia, which were able to fabricate weapons production, started to sell military doctrines about how to use the weapon while turning the weapon into an export product. As modern weapons, which are indispensable for military modernization, entered the inventories of other states that model Europe, the Western military industry¹ also strengthened the Ottoman army's adaptation to global military transformations became an obligation in time. To overcome increased international threats and eliminate those threats when necessary required a modern and powerful army ready for war. Such readiness required investment. As demonstrated in the examples from Europe, the innovations that started to emerge in the early

¹ For more information on rising of the western military industry, see: (Atkinson, 1890; Satia, 2018; Ortenburg, 2002).

18th century caused a significant financial burden, and a further increase in the budget share allocated to the army. The struggle to find new resources led the Ottoman administration to seek different national and international alternatives. While domestic borrowing was a frequently-used method, foreign borrowing became more common starting from the mid-19th century. The financial burden of military modernization became and remained one of the most important issues for the Ottoman administration until the last days of the state (Ortaylı, 2006, p. 43; Berkes, 2010, p. 200; Gencer, 2011, pp. 75-96).²

In this study, the Ottoman administration's obligation to fulfill the needs of modern warfare and its economic impact were discussed in terms of firearm supply. Accordingly, in this study the course of military modernization efforts in the Ottoman Empire and the impact of those efforts on budgets are categorized and detailed in two sections. The first part focuses on the emergence of the need for and implementation of military reforms, while the second part examines the heavy burden imposed on the Ottoman economy. Starting with the Reorganization period, in which modernization became institutionalized and running to the end of the Constitutional period, this study consults archival sources and military literature that were generally neglected and refers to publications dated after 1928 to build the bibliography. In the conclusion, the obligation to modernize and the difficulty of securing resources are discussed.

1. Requisites of Modern Warfare and Reforms in the Ottoman Army

Since its foundation, the Ottoman State continuously expanded its sphere of influence ever and became a great empire. The development and progress of the empire continued for many years and affected the European states. Ottoman power and influence was built on the strength of its military. However, in the 17th century, Ottoman military power waned. While there were various reasons for the decline of Ottoman power in relation to Europe, the deterioration of the Ottoman army was recognized as a major cause. Although the idea of restoring military power was put forward as a solution to reviving the empire's power, officials noted that the terms of war had changed. The Ottoman administration, which was trying to keep up with the requirements of Modern Warfare, implemented the first Western-style military reforms to the artillery corps during the Tulip Period. Ottoman administrators sought to closely study the new military order, particularly the new European order. Reports prepared by envoys dispatched to the European capitals enabled the Ottoman administration to identify critical changes in Western armies and to develop a set of targets for reforms (Uçman, 2012, p. 27, 31, 55; Şehidi Osman Efendi, 2011, pp. 34-53; Akyıldız, 2018, p. 28).

The recovery of power was linked to learning from the West. The innovations introduced in the military reforms comprised the first steps in the Westernization of the Ottoman Empire. To implement innovations similar to Europe in terms of the organization, provision and training of the modernizing army, significant material needs were identified, which carried significant costs. Despite soaring budgets, the reforms were carried through because the Ottoman army kept being defeated in the field. As a matter of fact, modernization movements, which were initiated so that the empire could regain its power, were focused on the ability to stand against the Great Powers and to prevent the empire's breakup in the 19th century (Modern Turkish Reforms, 1835; Yardımcı & Ayvaz, 2017, pp. 253-275; Kurat, 2011, pp. 53-57; Özcan, 1995).

² It was narrated that Mustafa III asked for three astrologers from the King of Prussia in order to reshape the Ottoman army and that Frederick the Great, who was also the founder of the military system in Prussia, responded: I do not have any astrologers, but I can recommend three things for success: 1. A strong and disciplined army, 2. A strong treasury, 3. Taking lessons from the past (Turhan, 1988, p. 142).

As a ruler who recognized the importance of military modernization, Selim III initiated the reform process called *Nizam-ı Cedid* (The New Order). Under Mahmud II, the goals of Selim III were realized and significant steps were taken to modernize the structure of the Ottoman army in line with the requirements of modern warfare. In June 1826, Mahmud II opened the gate to the new order by abolishing the *Yeniçeri Ocağı* (Janissary Corps). Even if the new order continued the *Nizam-ı Cedid* reforms, it introduced more comprehensive and radical changes. The new, regular trained army, the *Asakir-i Mansure-i Muhammediyye* (Victorious Soldiers of Muhammad), was the symbol of this period. The reforms of Mahmud II introduced new regulations in the military and many other fields of administration in line with practices that existed in the Western states. Following the enthronement of Sultan Abdülmeçid in 1839, the *Tanzimat Fermanı* (Imperial Edict of Reorganization) was announced that promoted the institutionalization and spread of Western-style changes in the Ottoman Empire (Officers for the Turkish Army, 1839; Ortaylı, 2008, pp. 30-232; Karpas, 2002, pp. 86-87; Çelik, 2013, pp. 272-275).

During this period, efforts were made to reshape the Ottoman army, which was the institution most affected by Reorganization, into a structure governed by rules and laws. As order and training were the two most significant elements for the new army, the names *Asakir-i Muntazama* or *Asakir-i Nizamiye* were preferred after Reorganization. The arrangements required to meet the increased needs of the *Asakir-i Nizamiye* were implemented throughout the Reorganization period (p. 26; Ünal, 2008, pp. 18-19; Tunalı, 2003, pp. 32-35).

The most significant military practice during the Reorganization period was the New Army Regulations announced in 1843, which re-regulated military service as a duty of citizenship, and the Conscription Law was promulgated in 1846. According to the new law, the goal was to enroll new soldiers during each enrollment period and, therefore, staff was required to train these conscripts. The initial idea that enabled Ottoman officers to emerge as the face of change and modernization arose from this need, because it was essential to possess a trained command echelon to train soldiers and to keep them prepared for war. *Harbiye Mektebi* (The Military School) was the most important institution established to ensure the training of Ottoman officers according to modern methods. Although this school was opened in 1835, it was developed during the Reorganization period, and a modern Ottoman officer corps, trained in modern methods, started to emerge in this period (Yıldız, 2009, pp. 331-332; Türkmen, 2015).

While the effort to reorganize and train the Ottoman army in accordance with the new methods continued, an opportunity emerged to concretize these efforts. The Crimean War (1853-1856) represented the Ottoman's first military alliance with the Western powers. The use of the most advanced equipment on the battlefield by France and Britain demonstrated many new innovations: state-of-the-art steamships, steel cannons and rifled firearms. The French *minié* ball became popular during the war, and British troops used the state-of-the-art *Enfield* rifle. Although there were not extraordinary technical changes to artillery, steel-barreled cannons increased the tactical and practical power of allied artillerymen. During the campaigns controlled by allied commanders, Ottoman artillerymen used medium caliber cannons, while some Ottoman infantry used the new rifles, called *şeşhane*, which had been procured from the allies. Assistance also included the supply of the new gun powders. However, these new weapons were not distributed to the entire Ottoman force and many units still used the old-style, bronze-made cannons and *kaval* rifles. The benefit of this situation for the Ottoman army was the opportunity to closely observe these innovations and to compare them with the old guns and equipment. This enabled the Ottoman administration to start the process of supplying

its army with the new firearms (The Moral and the Physical Conditions of the Turkish Army 1853; Tuncer, 2000, pp. 46-49; Akad, 2011, pp. 160-161).

As the Crimean War witnessed so many military and technologic innovations, the relationship between society and warfare developed significantly. Because it was now possible to communicate by telegraph and inform authorized officers about the course of the war almost instantly, which the public could also follow. The importance of victory became a political issue, which reinforced the need to have a strong and victorious army. The years following the Crimean War saw a substantial increase in the efforts to reform the Ottoman military. Army hubs were rearranged and designated as the local institution responsible for the implementation of reforms. Certain changes were introduced in officer ranks and in the command echelon in the state hierarchy. It was understood the continuity of existing practices could be ensured only with education, so the efforts to improve military schools increased in this period (Somel, 2010, p. 41; Şahin, 2018, pp. 321-326; Avcı, 1963).

In addition to improvements in education and organization, production technologies from the West were applied to meet the physical needs of the army. The Ottoman administration developed a strict policy for the identification of new technologies as the first step for the transfer of technologies. Foreign representation offices, officers dispatched abroad, and even arms producers were continuously informing Istanbul about new products. As a result of reviews conducted on samples, the administration would decide which weapons to procure. While it was possible to produce in the empire, urgent needs were met by import. Rifles produced by European manufacturers were followed American-made rifles that became a U.S. export after the Civil War. Some of these rifles were state-of-the-art grooved and pinned breechloaders. Import was also a method used to acquire cannons and machine guns (Tetik, 2018, pp. 112-114).

New infantry technologies were closely followed up for artillery as well. Starting from the 19th century, artillery was made from steel, barrels were grooved, and ammunition was loaded at the tail, not the muzzle. As artillery technology developed and quickly turned cannons into more complex war machines, Ottoman domestic production failed to adapt quickly to these developments. This made European manufacturers the top choice for the procurement of modern artillery, and Ottoman gunners learned about modern artillery tactics from the West. Krupp cannons, which were used in European armies, were registered into the Ottoman inventory. The Ottoman army learned about Prussian artillery tactics during the period of Mahmud II started to use the steel and grooved artillery following the purchase of Krupp cannons in 1861 (Başbakanlık Osmanlı Arşivi-BOA, HR.İD., 9/455 and 1159/30; BOA. İ.MSM., 18/406; BOA. A.) MKT.MVL., 9/19; Şakul, 2001, pp. 62-67; Demir, 2015, pp. 51-52; Gezer & Yeşil, 2018).

The latest developments in military technology increased imports and ensured the development of domestic production. As there was a state monopoly on arms production, reforms were introduced at the *Tophane* (Arsenal) and *Baruthane* (Gunpowder Factory). To implement the reforms, foreign experts were brought in and Ottoman officers trained at the *Mühendishane* (Engineering School) and *Harbiye* (Military School) also supervised these works. New counters and machines were procured to increase production quality and quantity at both *Tophane* and *Baruthane*. In addition, support was obtained from arms producers and arms similar to those procured items started to be produced in Istanbul. Although the required level was not achieved, there was significant success in terms of spare parts and ammunition (İnce, 2013, pp. 258-261; Sabancı, 2016, pp. 238-241; Efe & İnanç, 2016).

Military modernizations that continued intensely during the Reorganization period had

their first major test under the Constitutional period, the Ottoman-Russian War (1877-1878), also called the 93 war. The 93 war was a detrimental war for the Ottoman Empire. Immediately after the declaration of war, the Russians advanced through the Balkans and towards the east of the empire. Although successful defenses were made at certain locations, the Ottoman army failed to stop the Russian advance. The Russians approached Istanbul and forced the Ottoman state to agree to a ceasefire under heavy conditions. The heavy defeat demonstrated deficiencies in the army as well as weaknesses in command and administration. This defeat triggered the Ottoman administration to change its methods regarding military reforms. The insufficiency of the army caused the Sultan and other Ottoman state officers to re-focus on military reforms (Treaty of Berlin 1878; Treaty between Great Britain, Germany, Austria, France, Italy, Russia and Turkey, 1908; Kemaloğlu, 2018, p. 109). Substantial support from the Germans helped to establish their alliance in this period.

Although the Ottoman Empire lost significant territory following the 93 War, it still maintained its presence across a wide geography. While Russian pressure continued, other Great Powers gave up on the preservation of the Ottoman Empire and implemented an aggressive policy to advance their own interests. France invaded Tunisia in 1881 and in 1882 Britain landed troops in Egypt. Austria-Hungary also threatened the Ottoman presence in the Balkans, and Italy had its own aspirations on North Africa. These developments were deemed sufficient for the Ottoman administration to established closer diplomatic relations with Germany. In fact, the Germans needed the Ottoman Empire as the interests of both states coincided. Strategic considerations and military modernization triggered their long-term alliance. Following the Kaehler Delegation -which was the first official delegation dispatched to guide reforms to the Ottoman army and started its activities in 1882-reforms and military organization were carried out in accordance with the German école. The work resumed under the guidance of this delegation resulted in German industry achieving a significant position in the Ottoman Empire. This progressively increased and consolidated during the reign of Abdülhamid II (Özgüldür, 1993; Ortaylı, 2010).

Ottoman modernization that spread around the country and institutionalized during the Reorganization period had its most efficient period during the reign of Abdülhamid II. If assessed from a military perspective, it is clear that the Ottoman army acquired a modern and permanent system in this period. The efforts exerted over many years started to produce results upon the introduction of the German école, and serious steps were taken, particularly in the field of education. This work, conducted under the guidance of the Germans, proved its worth in the Thessaly Victory of 1897. This minor victory indicated that the Ottoman administration was proceeding on the right path (Mahmud Muhtar Paşa, 1988, pp. 41-43). However, military modernization generated a substantial financial burden and the Ottoman Empire had to find ways to relieve this.

2. The Financial Burden of Military Modernization and the Changes that It Caused in the Ottoman Economy

The traditional financial structure of the Ottoman Empire was supported by war. Victories and conquests were the first and the most important way to access new resources. As wars directly funded the treasury, the Ottoman army was one of the fundamental components not only for expanding the empire's area of dominance and ensuring the protection and security of the state, but also for enlarging the economy.

Victory brought immediate war booty and taxes from the newly conquered lands. As the area of dominance expanded, new agricultural areas also meant new direct and indirect

revenues. Agricultural lands provided direct revenue through a tax levied on production and indirect revenue through a tax levied on the trade in agricultural goods. The manorial system was implemented at this point and the continuity of agricultural production was ensured by either giving new agricultural lands to new loyal owners or returning it to old owners that became Ottoman citizens. Land owners were obliged to cultivate the soil and provide a certain number of soldiers depending on the size of their holdings. This system ensured the continuity of the military class that constituted the actual power of the Ottoman army and control of state revenues. In this cycle of war and economy, the locomotive power was a strong and victorious Ottoman army that was always ready for war (Agoston, 2006, pp. 22-23; Aybet, 2010, pp. 420-444; İnalçık, 2012, Vol. 41, p. 170).

Starting from the 18th century, the Ottoman Empire experienced consecutive defeats and started to take a defensive position. The end of conquests and the loss of territory meant the failure to gain new revenue and the loss of existing revenue because the majority of the lands lost were fertile areas that significantly contributed to the economy. The deterioration of the manorial system at the end of the century resulted in another substantial loss of revenue. Therefore, the deterioration of the army was viewed as the most important reason for the political and financial decline of the state, and it was decided to reform the Ottoman army to ensure the relationship between victory and economy. Although the costs of needed reforms were taken into consideration, the modernization of the army placed the Ottoman administration in a vicious financial cycle because the state had lost much of its wealth (Quataert, 2006, pp. 892-893; Tabakoğlu & Taşdirek 2015; Agoston, 2013, p. 95; Öztürk, 2016, pp. 394-404).³

In order to concretize the costs incurred by military reforms, it is appropriate to distinguish two main budget items. The first is the cost for the establishment of modern educational and bureaucratic institutions required for the Ottoman army to have an organization and functionality similar to modern countries. It was necessary to invest in people to ensure the establishment and continuity of these institutions, and the Ottoman administration initiated this investment by establishing the *Harbiye Mektebi* (Military School). *Harbiye* was the most significant source for the class of modern officers who learned military service as a profession as a result of systematic education, and this new class in turn directed the implementation of many new reforms in the army. While the establishment of *Harbiye* was a cost item on its own, the recruitment of staff to maintain this school was a separate cost item. In relation to the establishment of *Harbiye*, money was spent to build new infrastructure and for the teachers and students that would fill these structures. After *İdadi* and *Rüşdiye* (High Schools and Junior High Schools) were added to the *Harbiye* system, the school infrastructure was consolidated and the costs increased as well. New buildings, new teachers, new books and new students were necessary for new schools, and the Ottoman treasury was used to cover these needs. Re-establishment of ranks and protocol, preparation of uniforms in line with modern requirements, and the regularization of promotion and wages were all the result of investments made in Ottoman officers. Besides, special expenses were incurred for these purposes, which included overseas education and course appointments. Another special expense was the routine visits

³ Quataert lists the land losses from 1811 to 1913 and emphasizes the impact of losing these lands on the economy as follows: "It is quite hard to exaggerate the impacts of losing lands on the Ottoman economy. Loss of population along with the loss of financial, agricultural and industrial sources were just a beginning. The actual consequence was that less people lived in less fertile lands and there were less job opportunities for each new generation. These consecutive losses destroyed the economic structure. For centuries, shoe leather was exported from Kayseri to Romania, wool fabric was shipped from Bulgaria to Kayseri, and Tokat cottons were shipped to Abkhazia and Crimea. Now, this relationship weakened and even severed. As the Ottoman markets shrunk, the welfare of the regions decreased as well."

paid by foreign delegations of military officers with their wages, allowances and allocations during the period of Abdülhamid II. Expenses incurred to modernize the human resources of the Ottoman army were the invisible and intangible cost of military modernization. These expenses were related to core activities and were incurred in order to obtain long-term results (Şişman, 2004, p. 60; Mahmud Muhtar Paşa, pp. 41-43; Ünal, pp. 18-19).

The second main cost was incurred to increase the physical power of the army. As opposed to investments made in people, they were visible and comparable costs that could be measured over a short period of time. It was required to meet physical needs such as arms, ammunition, equipment and war animals in accordance with Western armies. Two fundamental methods were followed for the procurement of arms: importation and domestic production. As the state had monopoly on the production of arms, significant efforts were exerted to increase the capacity and modernization of arms production in military facilities such as *Tophane* and *Baruthane*. The costs for these efforts were extremely high and failed to meet the army's needs, and therefore, importation was recognized as a quick means to procure materials. The states that were preferred were determined in line with the periodic preferences of the Ottoman administration. During the Reorganization period, military materials were imported from France, Britain, Belgium and the USA. However, during the period of Abdülhamid II, Germany was preferred and international competition emerged in the Ottoman military market. Over the course of time, German arms and ammunition producers acquired a monopoly in the Ottoman market which they had first entered through the sale of Krupp cannons. Such a monopoly was the result of both good relationships between the two rulers and financial support by Berlin for the Ottoman administration. As the need for modern weapons was ample, the importance of financial support for their procurement was crucial.

The import of American arms that started during the period of Sultan Abdülaziz did not continue due to the failure of the Ottoman administration to find funds. Approximately 600,000 rifles with different characteristics were purchased from American producers such as Enfield, Springfield, Snider, Martini-Henry, Winchester and Remington. In addition to the cost of rifles, millions of cartridges in various diameters and dimensions were also procured. Purchases of rifles and ammunition cost millions of USD for the Ottoman administration and constituted 90% of the trade with the USA. However, this trade came to an end due to payment disputes between American companies and the Ottoman administration. The first dispute arose in 1876 and increased progressively until the arms trade was terminated in 1883. American weapons provided the Ottoman army with significant experience in the use of modern weapons in spite of its major burden on the Ottoman economy (Gencer, Örenç & Ünver, 2008, pp. 152, 212-216; Bakeless, 1921, pp. 38-39; Beşirli, 2004a, pp. 121-139; 2017, Kış, pp. 60-61). By means of the Ottoman-German relationship that developed during the period of Abdülhamid II, the Ottoman administration started to purchase Mauser rifles after the Krupp cannons. Repeating Mauser rifles quickly became the most-commonly used weapon. Due to the sale of cannons, rifles and ammunition for those weapons, German producers became increasingly powerful in the Ottoman market and triggered the emergence of a German monopoly over the Ottoman warfare economy. The fact that German producers were the main suppliers of arms and ammunition for the Ottoman army developed as a natural consequence from the military and political relationships that had also developed. The Sultan and Kaiser declared their friendship and the Kaiser brought German industrialists with him when he visited Istanbul. Ottoman officers were trained by German officers, and German officers encouraged Ottoman soldiers to use the weapons, ammunition and equipment with which the Germans were most familiar.

German officers acted as guides during visits paid by Ottoman military delegations for the procurement of arms, and the influence of these officers was also observed in the acquisition of new products. As the Sultan was personally interested in arms as well, he closely followed the German arms industry. As producers and representatives directly briefed the palace, Abdülhamid II examined the arms personally and received arms producers in the palace. By means of this close relationship, German arms producers gained a major advantage against their competitors (BOA, HR.TO., 530/61; Gencer vd., pp. 54-55, 187-189; Ortaylı, 1998, p. 38; Türk, 2012, pp. 21-24, 36; Winterstetten, 2011, p. 49). As Mauser said:

I arrived at Istanbul on November 22nd, 1886. It was night and we could not enter until morning due to intense fog. I took a quick shower in the hotel in the morning and headed to the palace of Abdulhamit. I stayed there for one hour. The Sultan asked questions about rifles and production. When he asked: "Can you produce 10.000 pieces of those rifles?", I said that I can produce them. We immediately initiated the negotiations for tests. There was a Turkish officer called Şevket next to Goltz. Goltz told me in German: "Şevket is a right-hand man, he will be with you during the tests". The tests were started on December 8th. My rifle shot 3.000 meters. Then, Goltz warned me once again: 'Now, everybody wants to be your friend, be careful! We do not need anyone'. The tests continued. I worked so hard to obtain the required results. I had a meeting with the Minister of War. The negotiations were postponed repeatedly. Goltz warned me again about not leaving from Istanbul without signing an agreement. There were still hesitations. However, the Sultan accepted the weapons while the tests were continuing (OSA-MA 1987; Seel 1993, pp. 42-47).⁴

The Sultan's acceptance and the support of Goltz Pasha, who was the most important member of the German Reform Delegation, were crucial for this first visit that secured significant business for Mauser. The Turkish Order ensured the expansion of the Mauser factory and was critical to securing future investments in Mauser. Although the company sold guns to many countries, the first Ottoman order of 220,000 rifles was a massive order. Mauser rifles were accepted immediately after the initial delivery and became the main gun for the Ottoman army. As new versions of the rifles successfully passed tests and entered service, the Ottoman army purchased these new versions as well. Approximately one million rifles were purchased for 60 Marks per unit on average, and a total of 60,000,000 Marks was paid to the Mauser Company. In addition to rifles, machine guns and revolvers produced by German firms were also purchased. The German Maxim of 7,65 diameter was procured as the new machine because it could use the same ammunition as the Mauser rifles. Millions of rounds for these weapons were also purchased. While the Deutsche Waffen und Munitionsfabriken (DWM), led by the Mauser and Löewe partnership, was influential particularly in the sale of gunpowder and cartridges, the Mauser and Löewe partnership also maintained rifle sales under the roof of this association. In this way, the procurement of light weapons also turned into profitable business of millions of Mark for German producers (BOA, Y.HUS., 198/64; BOA, Y.MTV., 27/59, 29/33-64/123; BOA, TFR-IM., 13/1268; Türk, pp. 190-191; Beşirli, 2004b).

Although Mauser earned significant income from the weapons that it sold to the Ottoman army, the Krupp Company reaped the largest contracts and profits. Krupp was one of the largest arms producers in Europe and produced state-of-the-art cannons. It did not take long for the Ottoman administration to know and start purchasing the steel, grooved breechloader Krupp cannons. The Ottoman army placed its first sample order only two years after the Prussian army ordered 300 cannons in 1859. In addition to cannons, ammunition was among

⁴ For more information regarding Goltz Pasha and his activities in the Ottoman army, see: (Kış, 2017).

the products sold by Krupp. Krupp's sales increased continuously and intensified under Abdülhamid II. New cannons were procured in line with needs because the army had focused on the modernization of mobile artillery and the Dardanelles artillerymen during this period (Yorulmaz, 2018, pp. 153-155; Türk, p. 231).

Table 1. *Cannons Purchased from Krupp Company between 1861 and 1907 and their Prices (Türk, 2012).*

Year	Quantity	Price (Mark)	Year	Quantity	Price (Mark)
1861	1	14,066	1875	201	3,101,659
1863	48	112,528	1885	517	39,965,707
1864	60	748,056	1886	440	10,365,936
1868	127	1,532,636	1893	78	19,813,740
1870	88	1,081,964	1896	4	237,776
1871	127	2,487,764	1898	1	11,530
1873	834	123,354,312	1902	32	5,589,790
1903	98	1,229,940	1904	72	662,870
1905	668	9,506,876	1906	4	22,752
1907	4	22,752	Total	3.404	223,329,349

The lack of production of a sufficient number of weapons and ammunition at Ottoman production facilities resulted in the procurement of weapons and ammunition from foreign suppliers. However, the modernization of these facilities continued.⁵ New materials were procured to ensure the suitability of the counters and casting boilers in the facilities. Wheels and other power sources were renovated. Foreign masters were brought in to train the personnel and for the preparation of new equipment for production. Although substantial capabilities were gained as a result of these works, it was never possible to manufacture the required number of products. Equipment and workforce support were purchased from companies such as Krupp and Mauser during the improvements made in Tophane-i Amire -and also in the Tüfekhane and Baruthane affiliated there- Improvements made in military production facilities with the support purchased also took its place in Osman treasury as a new expense burden. The situation was better at *Baruthane*, but this facility also fell far short of meeting the needs of the Ottoman Empire. Although success was never achieved in spite of the investments made and expenses incurred, domestically produced samples of the original imported weapons continued to be produced (BOA, İ.TPH., 5/32; BOA, BEO, 2265/169808; BOA, İ.ML., 82/51; Subhî & Nâci, 1323, pp. 18-20).

Table 2. *Domestic Production Numbers and Success Ratio of Tüfekhane (Armory) (Tetik, 2018)*

Date and Model	Targeted Production Quantity	Realized Production Quantity	Realized Maintenance- Repair Quantity	Success Ratio
1880s (Martini)	60-80	5	50-100	9 %
1890s (Martini)	200	5-10	150-200	3-5%
1900s (Mauser)	200	5-15	70-150	3-7%

⁵ For more information on Ottoman military industry facilities' modernization, see: (Sabancı, 2017; Tetik, 2018) and for more information on history of military technology, see: (Black, 2013).

Domestic sources, mainly new taxes and domestic borrowing were used for a period of time to pay for weapons and ammunition. As the top priority was to meet the needs of the army, support was obtained from high state officials and even from palace women, in addition to taxes such as *iane-i askeri* (military contribution) collected from ordinary citizens. However, domestic sources were insufficient to pay for the Ottoman army's expenses. As the alliance established with Britain and France during the Crimean War undoubtedly enabled Ottoman officials to see the differences between their armies, it was also impossible to avoid such expenses so that the empire was not completely vulnerable. Immediately following the start of the Crimean War, the Ottoman administration used foreign borrowing for the first time. Borrowing continued to increase every year starting from 1854 (Birdal, 2010, p. 26; Özdemir, 2010, pp. 48-50; Akdemir & Yeşilyurt, 2018, pp. 240-269).

Towards the end of the Reorganization period the State was dragged into a financial crisis and had to declare bankruptcy. The economic collapse that followed pointed to the financial bankruptcy of the state and the serious levels of foreign dependence. Measures taken to comply with the rules of the modern economy and to avoid bankruptcy proved unsuccessful. Subsequent efforts resulted in many reforms to the Ottoman economy, such as modern budgeting, bureaucratic reforms,⁶ and so on, but these reforms were not sufficient to eliminate foreign dependency. Military procurements constituted significant items in the spiral of borrowing. As efforts to reduce imports and increase domestic production failed, the procurement of imported weapons and equipment further increased. The main reasons for this situation were lack of time and money for improvements, as well as the Empire's frequent wars (Ahmet Lûtfi Efendi, 1993, p. 26; Tunçel & Yıldırım, 2014; Akdemir & Yeşilyurt, 2017).

Table 3. *External Borrowings of the Ottoman Empire for Military Purposes* (Özdemir, 2010)

Year	Reason	Amount (Gold Lira)	Guarantee or Nature of Debt	Creditor
1854	Financing for the Crimean War	3,300,000	"Egypt Borrowing" 60,000 pouches of gold received from the Province of Egypt on a yearly basis	Dent Palmer and Partners (London) and Goldschmid and Partners (Paris)
1855	Financing for the Crimean War	5,500,000	Tax revenues of the Province of Egypt, and İzmir and other customs revenues	Rothschild Brothers (London), France and UK
1860	Accumulated Domestic and External Borrowing Payments	2,240,942	Aşar Vergisi (Tithe) "Mirés Borrowing"	Highways Company's Director Mirés (Paris)
1865	1865 Primary General Debts Conversion of short term debts with debentures that bear	40,000,000	Allowance in the amount of 2,464,000 Gold Lira was prescribed in the 1864-1865	General Credit and Finance (London)

⁶ For more information on Ottoman bureaucratic reforms, see: (Findley, 1980; Akyıldız, 2018).

	5% interest		budget.	
1873	Budget Deficit	30,555,558	Ankara, Tuna tithe, Anatolian cattle tax and tobacco monopoly surplus income	Crédit Générale Ottoman and Crédit Mobilier de Paris
1877	Ottoman-Russian War	5,500,000	Egypt State Revenues	Ottoman Bank and Glyn Mills, Curie and Co.
1888	Payment for the Weapons and Ammunition Procured from Germany	30,000,000	Silk tithe of İzmir and land and fishing license revenues 'Fishing House Borrowing''	Deutsche Bank
1896	Cretan Revolt	3,272,720	Aydın, Bursa and Thessaloniki cattle tax; Tunny Fish, Afyon Patent Leather and Olive Tithe of İzmir, Manisa, Denizli	Ottoman Bank
1905	Payment for the Weapons and Ammunition Procured from Germany	2,640,000	6% military equipment tax added to the tithe and customs duties of certain locations	Deutsche Bank

As can be concluded from the data in the table, external debts were followed by other debts. Although external borrowing was more advantageous than domestic borrowing in terms of the loan period and interest rate, it further worsened the state's precarious finances. Expenses incurred for wars, revolts and military reforms following the Crimean War constituted a significant part of the debt. However, the actual problem was paying debt through new borrowing. This resulted in the transfer of previous debts, along with interest, to the new loan, and after a while the new loan was only paying off interest (Çetin & Kök, 2015).

Crimean War witnessed many firsts and innovations in world war history. With this feature, it was remembered as the mother of modern wars. Europe's innovations in the military trilogy, called the organization, equipment and contemplation, were also adopted by the rest of the world after this war. Keeping up with the allies and continuing the war in the Crimean War was a difficult test for the Ottoman finance. Since the rising costs could not be covered by domestic borrowing, the first foreign debt in Ottoman history was taken as 3,300,000 million liras in 1854. This borrowing was the first but wouldn't be the last. Since the Crimean war, Ottoman military spending increased every year. Purchasing modern firearms also began to play an important role in military spending. Due to the fact that Ottoman facilities could not adapt to the production of modern firearms, importing was the fastest way to supply the weapons needed by the army. As the number of Krupp cannons -started to be purchased during the reign of Sultan Abdülaziz- began to be expressed with hundreds, the amount

allocated to these purchases from the treasury also increased. During this period, approximately 600,000 rifles of various brands from America were added to the price of 1486 guns purchased from Krupp. During the Sultan Abdülaziz period, the average of the share allocated from the Ottoman budget to arms purchases and other military expenditures rose up to 27.74%. External debts were taken as a source for these expenditures (Gürsakal, 2010; Ünalp, 2013).

It was announced to creditors in the moratorium of 1875 that the administration was incapable of paying its external debts. The situation further deteriorated in the following years and the international financial controls were initiated in 1881. *Duyun-ı Umumiye* (Public Debts Council) was an inspection mechanism that the Ottoman administration was compelled to accept. The purpose of this mechanism was to ensure both the payment of debt and the continuation of investment. However, as the economic burden of borrowing was heavier than estimated, the Ottoman Empire appeared to have become a semi-colonized state. With foreign capital actively starting to make investments in addition to lending money, the words *borrowing* and *concession* were much more frequently heard among the public. High interest was paid on the money borrowed to cover the expenses of an investment and the operation of the investment and most revenues were left to the financiers. The best example was the competition among foreign firms to construct and operate the Ottoman railways (Önsoy, 1982, pp. 42-43; Kepenek & Yentürk, 1994, p. 10; Pamuk, 2005, pp. 231-232).

Direct intervention of foreign capital into the Ottoman market connected the Ottoman economy to the global economy. The friendly face of international capital was the banks. The Ottoman bank that opened in 1856 was actually a bank with foreign shareholders and was Ottoman in name only. Many banks based in other countries started to operate in the Ottoman provinces through branches and representation offices. As the Ottomans sought alternatives to British and French banks during the period of Abdülhamid II, the Germans made use of this opportunity and Deutsche Bank further strengthened the terms of trade between the two countries thanks to close collaboration of the Ottomans and Germans. Deutsche Bank played a key role in the railway project with credit support for military procurements and gained influence in the Ottoman Empire under the auspices and with the power of the German state. German banks maintained their position of being one of the most important players in the military trade until the final period of the empire, along with many associations, foundations and state-supported legal entities (Geyikdağı, 2008, p. 158).⁷

Foreign capital also competed in the Ottoman market. Expenditures, particularly for military investments, were one of the fundamental reasons for such competition. Gradually, French and British arms manufacturers lost their business selling arms and ammunition to the Ottoman army, and this loss of influence was also observed in other lines of business. Changes in import and export resulted in significant gains in favor of Germany, so much so that certain German ports, for example Hamburg, saw exports to Istanbul increase by 1523% based on the data for 1893. Germans increased their influence in all spheres of the Ottoman state and surpassed existing and potential interest from other Great Powers. The development of good Ottoman-German relations facilitated the preference for German companies and negatively affected manufacturers from other countries. The German monopoly in military supply was caused by the fact that arms manufacturers such as Krupp and Mauser were the first companies allowed to apply for Ottoman army contracts (Önsoy, pp. 28-30).

Regardless of the financial situation, the Ottoman administration, did not give up military modernization. During the reign of Abdülhamid II military spending was increased for this target. The good relations with Germany have been further improved with the acceptance of

⁷ For the activities of Deutsche Bank in Turkey, see: (A Century of Deutsche Bank in Turkey, 2009).

German military rules from 1882 onwards. While German officers assigned in the Ottoman army placed the Prussian école, German arms manufacturers also had a monopoly in the Ottoman market. In this period, almost all weapons were imported from Germany, except for sample weapons. In addition, workbenches, machinery and labor were purchased from Germany for the modernization of Ottoman military facilities. During the reign of Abdülhamid II, military spending caused the army's share in the general budget to reach 42.05%⁸, and the Ottoman Empire became the most spending state after Germany and Britain. Nearly 1 million Mauser rifles, 1918 Krupp cannons and millions of ammunitions belonging to them had an important share in the increase in spending. For this share, which is separated from the budget, resources were found by means of collateral or direct transfer of some special income. There should be funds for purchasing weapons because, as a British newspaper said, "No Money No Guns" (Gürsakal, pp. 115-131; Turkish Government Wanted, 1902; Turkish Sultan's Dilemma, 1905).

The Ottoman administration wavered and lost time in terms of its military modernization efforts. The French-style education system and different types of old technology were used differently at each level of the army. It was obvious that some efforts had been exerted for the reformation of the Ottoman army, but it was quite tough to talk about a standard model. However, after defeat in the 93 war a standard emerged through the German école, which was applied to the entire Ottoman army starting in 1882. The period of Abdülhamid II was the period that reforms in the military sphere reached their peak. Therefore, military expenditures incurred in this period were more than in other periods. The money spent for military reforms and for other investments to achieve the purpose of those reforms further increased the already-existing crisis of the Ottoman treasury. However, as modernization of the Ottoman army was recognized as the only way to prevent the collapse of the state, investments and expenditures were deemed too vital to discontinue (Karabekir, 2001, p. 21).⁹ Activities carried out during the *Tanzimat* (Reorganization) and *İstibdat* (Autocracy) periods continued, although they stopped for a period following the re-promulgation of the Constitution. Following this short interruption, however, the Ottoman government continued to collaborate with the Germans through the political, military and economic relationships mapped out by Abdülhamid II.

CONCLUSION

The Ottoman modernization started with improvements implemented in the military. The main target was the reformation of the Ottoman army with the new methods used in Europe. The shortest way to achieve this goal was to take one of the Western armies as a model and reorganize the army according to this example.

The reformation movement that started from the Tulip Period became visible with Selim III's Nizâm-ı Cedîd practices. Although these practices were not long-term, they were a good guide for later periods. Finally, Mahmud II managed to found the new army in the light of old experiences. He replaced the Janissary corps with Asâkir-i Mansure-i Muhammedîye. Therefore, many different needs had to be met in order to complete the organization of new army. When the things such as officers, training, equipment and weapons were combined, the Ottoman treasury came under a new and heavy burden.

Ottoman military expenditures gradually increased from the reign of Mahmud II and firearm imports started to occupy a significant place for the army since the Crimean war. In the

⁸ This value is average of the Abdülhamid II's era. For example, military spending between the years 1887-1888 is 50.9% of the budget (Akkuş, 2018).

⁹ For more information on the German école, see: (Wallach, 1977).

context of war history, many firsts took place in the Crimean war, and so it has still been considered as the first one of the modern wars. Western improvements in the military trilogy, called organization, equipment and contemplation were also adopted by the rest of world. The alliance with Britain and France made the Crimean war a turning point for the Ottoman military modernization. Because the military system that the allies had, warfare equipment and doctrine were not known and used by the Ottoman army at that time. Then, the Ottoman administration decided to import armored ships, steel cannons, rifled barrel rifles, ammunition that increased range and accuracy in order to reach the same military level with the allies. Within the scope of imports, new rifles from France and quality gunpowder from Britain were purchased. Keeping up with the allies and continuing the war in the Crimean War was a difficult experiment for the Ottoman finance. Since the rising costs could not be covered by internal borrowing, the first external borrowing in Ottoman history was taken in 1854.

The first foreign borrowing was followed by further borrowings. Due to the growing Russian threat and close war probability with them, more money was spent to keep the Ottoman army strong. Equipping the army with modern weapons had an important place among the expense items. The continuous development of weapon technology was also a factor that increased spending. The real big step in imports was taken during the reign of Sultan Abdülaziz and this step, which will affect the following periods, enabled the establishment of modern weapons in the Ottoman army. In this period, Krupp cannons that entered the Ottoman inventory were the most important purchasing item. Later, the decision to purchase American rifles became an important step in equipping the Ottoman army with modern rifles.

The purchase of German weapons, which started with Krupp cannons, made German producers the main supplier of Ottoman armament during the period of Abdülhamid II. The close relations of Ottoman Empire with Germany improved with the acceptance of German military systems in 1882. While commissioned German officers placed the Prussian école in the Ottoman army, German arms manufacturers also had a monopoly in the Ottoman market. In this period, almost all weapons, except for sample ones were imported from Germany. Nearly 1 million Mauser rifles, 1918 Krupp cannons and millions of ammunitions belonging to them had an important share in the increase in the Ottoman spending.

The purchase of new weapons and the ammunition became an increasing need. There must be funds for purchasing weapons because, as a British newspaper said, "No Money No Arms". Although the Ottoman Empire declared a moratorium in 1875, arms import continued and a financial source was found. The 1877-78 Ottoman-Russian War, one of the most severe defeats for the Ottoman Empire, further increased the financial burden of the state. This infamous experience was the starting point of military expenditures made during the period of Abdülhamid II. The Ottoman foreign debts became unpaid and an international commission was established in 1881 under the name of Duyun-ı Umumiye, and the administration of Ottoman revenues was transferred to this commission. Although the financial situation deteriorated gradually, new sources were constantly found in arms procurements. In procurement tenders held during this period, certain incomes were guaranteed and weapon costs were financed. Also, despite often delayed payments, commercial relations continued especially with German Krupp and Mauser companies.

For the military expenses that imposed a serious burden on the Ottoman finances and for the import of modern weapons, an external debt of 120,371,860 lira was received between 1853 and 1988. Even though Duyun-i Umumiye regulated the balance of payments, the need for financial resources continued. The search for foreign debt remained on the agenda of the state until the Ottoman Empire entered World War I.

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