
The transformation of the Turkish defence industry from the time of the Ottoman Empire to the Republic of Turkey, 1834-1950

● ENES KURT

Istinye University

<https://orcid.org/0000-0003-1385-6943> | ekurt@istinye.edu.tr

● YASIN ŞEHİTOĞLU

Yıldız Technical University

<https://orcid.org/0000-0003-0074-6446>

ABSTRACT

This study examines the transformation of the Turkish defence industry between the years 1834 and 1950, defining periods to reveal the structure and conditions of the industry over that time. We identify the first period, which took place from 1834 to 1923, as one of “Modernization efforts and import dependency”; in this period, modernization efforts began and state initiatives introduced the steam engine to the Turkish defence industry. Activities undertaken during this period met with limited success, and towards the end of the century, the defence industry became completely dependent on imports. We identify the second period, which took place between the years 1923 and 1950, as one of “Domestic production efforts”; in this period, especially in Atatürk’s time (1923-1938), Turkey sought to establish local industry and an industrialist class with close ties to the state. That industrial policy came to an end following British military aid, World War II, and Turkey’s entry to NATO.

KEYWORDS: Turkish defence industry, Ottoman Empire, Turkish Republic, transformation.

JEL CODES: O14, L26, L64, N80.

1. Introduction

The defence industry is an organization that includes production for possible warfare and national defence and is linked to all industries within a country. Apart from having a single purchaser (the Ministry of Defence), the defence industry cooperates only with a small main supplier group and is controlled by the government through laws and regulations (Gansler 2011). In recent years,

Received: 4 January 2022 – Fecha de recepción: 4 de enero de 2022

Accepted: 9 September 2022 – Fecha de aceptación: 9 de septiembre de 2022

*Revista de Historia Industrial – Industrial History Review. Vol. XXXI, no. 86, November 2022. 143-174
ISSN: 1132-7200. DOI: <https://doi.org/10.1344/rhiihr.38009> | CC BY 4.0 International*

Turkey has made significant progress in developing its defence industry. Turkey made the Defence News Top 100 list for the first time in 2002 with two companies, and managed to increase that number to seven in 2020 (Defence News Top 100 List 2020), while its defence expenditures clearly demonstrate a constant increase over the years (SIPRI 2021). Given the growing importance of Turkey's defence industry, we investigate its historical origins and long-term evolution from 1834 to 1952.

The period of the study stretches between two remarkable developments: the transfer of the steam engine to the Turkish defence industry by the Ottoman Empire in 1834 (Müller-Wiener 1992), and Turkey's entry into NATO in 1952. Within that interval, Turkey's defence industry was governed by two different states, the Ottoman Empire and the Republic of Turkey, and marked by some modernization attempts that can first be observed during the eighteenth century. According to Boran (1968), when its superior military technology drew pressure from the West, the Ottoman Empire opened schools, restructured the army, and established state industrial enterprises with the aim of avoiding military defeats (pp. 9-10).

From its beginning, the Republic of Turkey tried to reduce the defence industry's dependency on foreign goods as a means of boosting Turkish domestic production. Unlike the Ottoman Empire, the state chose to create a Turkish business class (Buğra 1994), leading to tight connections between the state and local businesses (Boeis and Prechel 2002). In addition, though "institutionalized collaboration" between "business" and the "state" is a prerequisite for industrialization, it is remarkable that the two have reached a consensus with respect to reducing uncertainty through economic policies, by agreeing on long-term goals (Öniş 1995, p. 29). In this context, the first aim of our research is to investigate the main actor/s in the industry during the specified period. The second point worth exploring is the modernization activities or development policies that ended up being linked with the defence industry.

In the first half of the twentieth century, the transformation of the defence industry emerged in different forms in the leading countries of the world. It can be said that states in Europe played a leading role in the defence industry. While England, Germany and France were creating their own defence industries, they increased their existing capacities and opened the way for new technological advances by collaborating with transnational companies. The main partner of these collaborations was the USA (James 2002; Serfati 2001). Similarly, in the 1940s, with the institutional arrangements initiated in Spain, it is said that the state provided opportunities for new companies by increasing competition and activities to boost exports (Duch-Brown and Fonfría 2014). The state, which is the dominant actor of defence in Italy, has enabled many companies to establish joint ventures within the country as a way of ensuring that talents and property remain domestic, and has succeeded in cre-

ating multinational companies (James 2002). In the USA, which has the economic, political and military decision-making power in one hand, the defence industry has been seen as the main factor of rapid economic growth and technological progress (Melman 1997). After the First World War, the Russian state provided engineering, chemistry, energy, tractor and automotive industries with production tools such as aircraft and tanks, artillery and light weapons, surface and submarine ships (Nikolayev 2012). China and India have sought to comprehensively protect companies in the defence industry. Delays in domestic production programs have resulted in cost overruns and suboptimal weapon performance, negatively affecting the economies of these two countries (Bitzinger 2015). In Brazil, the import restrictions imposed by the First World War were followed by the crash of 1929 and the Great Depression. For this reason, Brazil, which went on the path of import-substitution industrialization, could not achieve success in the defence industry in this period and all of its military industrial infrastructure was carried out by relying on foreign technologies (Brustolin 2021).

Popp and Fellman (2017) asserted that business historians seem reluctant to use archives, concluding that they view them as a complex space and do not trust the available sources. They argue that methodological and theoretical processes are not sufficient to give meaning to phenomena as a means of encouraging business historians to use archives. According to Lipartito (2015), for archival sources to be valid, they must directly refer to the phenomenon under examination, they must exist in their original form, and must be produced when the event and facts under examination occurred. Following Lipartito (2015), we drew upon state-based sources such as the Turkish General Staff Military Archives (TGSM) and State Archives Presidency-Ottoman and Republic Archives (SAP), as well as written historical material on the defence industry.

The main starting point in our archival research was the analysis of comprehensive data about businesses in the defence industry. Since businesses and entrepreneurs do not have their own private archives, we accessed the official archives of the state. We have mainly relied on (1) correspondence between states, (2) correspondence between general staff and ministries, and (3) correspondence of the state with respect to enterprises and/or entrepreneurs.

According to our results, the period under consideration is divided into two sub-periods. The first period covers the years 1834-1923. At that time, the state made efforts to modernize the defence industry and turned to imports. The second period covers the years 1923-1950. We found that in this period, priority was given to domestic production and, unlike the first period, private entrepreneurs emerged.

2. 1834-1923: Modernization efforts and import dependency

In 1834, the Ottoman Empire introduced steam engine technology to defence industry enterprises. As of that year, the Empire attempted to give existing gunpowder factories and shipyards industrial features, and some technological developments took place in the Turkish defence industry. While there were no private sector enterprises in those years, private entrepreneurs ran a few businesses founded with the support of the state. One distinctive feature of that period is the substantial imports of both weapons and machinery for the defence industry. In addition, factories serving the defence industry were mostly located in Istanbul and its immediate surroundings. The reason for this is that Istanbul was not only the administrative capital from which the Empire was ruled, but also the centre of the Ottoman economy. All sectors of economic life under state control were firmly established around the city, where sultans and other members of the palace resided (Faroqhi 2004). At the same time, Istanbul had become a centre where the state conducted significant loan and tax farming operations, and where such loan and money speculations were used to meet the needs of the palace and Kapıkulu army (the Household Division of the Ottoman Sultans). This, therefore, was where the largest capital owners were gathered (İnalçık 2015).

The Ottoman Empire signed the Baltalimanı Trade Agreement with Britain in 1838 and the Ottoman Reform Edict, often referred to as Tanzimat Edict, was issued by the Grand Vizier Mustafa Reşit Pasha in 1839; a transformation in the Ottoman Empire followed. The Empire was particularly exposed to the negative impacts of the free-market economy with the trade agreement and experienced economic problems. According to Pamuk and Williamson, the collapse of the Ottoman Industry began in 1826, when liberal reforms began, not with the 1838 British Trade Agreement (Pamuk and Williamson 2011). This stemmed from the abolition of the Janissary Corps in 1826 and the consequent weakening of the power of the guilds. The Ottoman Empire also issued laws and regulations to abolish the Ottoman Gedik (Vocational associations) organization (Kazgan 1991). Moreover, the capitulations were among those conditions that accelerated and exacerbated the decline of the industry. As a consequence of the capitulation with the British, import rates were as low as 3% until 1838, 5% between 1836 and 1862, and 8% between 1862 and 1902; such capitulations did not allow the government and domestic industry to defend themselves against capitalism, even temporarily (Sarc 1940, pp. 10-11).

The main obstacles to favourable economic conditions for industrialization were social and political. The lack of the necessary capital or indigenous middle and upper classes with entrepreneurial and administrative skills emerged as the first major obstacles. This gap was partially filled by non-Muslims and

foreigners. However, such groups made their investments in areas such as government borrowings, trade, or real estate purchases in rapidly growing cities, bringing fast and high income rather than industry. The low levels of education and indifference of the public towards industrial employment made it difficult to build a labour force. In addition, the guilds were strong and often influential. Due to its trade agreements, the Ottoman government was unable to implement protective policies for domestic industry. Internal customs duties on the sale and consumption of manufactured goods also hindered the development of domestic industry. The approach of the rulers prioritizing financial goals despite their superficial knowledge of economic issues made it difficult to follow appropriate policies for economic development (Güran 2017, p. 227). In this context the Industrial Improvement Commission was established in 1863 to eliminate the lack of organization created by the state, as *Gedik* and *Guild* systems in the market, which started to lose its importance in the *Tanzimat* period. After all, the Commission operated only for a short period of ten years. The Ottoman Empire tried to come up with effective solutions to the problems of the tradesmen and craftsmen but only got as far as correctly identifying such problems; solutions thereafter but were not realized due to the political and economic conditions of the period (Önsoy 1988).

New inventions introduced in the eighteenth and nineteenth centuries in Europe and the use of steam-powered machines in production increased capital accumulation on the continent. Economic, technological and social elements influenced each other and, consequently, such factors as factories, urbanization, social change and economic growth gained more importance. Britain was the centre of this phenomenon, known as the Industrial Revolution, enjoying great success in using less labour force for faster production (Mokyr 1999, p. 17; Berber 2013, p. 36). Although the Industrial Revolution mainly affected the textile industry, its impact was also felt in other sectors, including the defence industry. As it experienced a great expansion of production quantities, Europe tried to create markets outside its own territory. The Ottoman Empire, in general, followed the sort of policies that facilitated and encouraged imports, as well as tradition-bound internal policies aimed at keeping treasury revenues at the highest level (Genç 2016). In this, the process of integration of the Ottoman Empire with the European economy started in the sixteenth century and as the trade with Europe developed, the closed Ottoman economy tended to dissolve (Quataert 1983). With the Ottoman economic collapse and failure to keep up with the Industrial Revolution, the economic depression caused by European industrial capitalism gradually expanded, ultimately leading to industrial collapse in the Ottoman Empire in the second half of the nineteenth century (Sarc 1940, p. 7).

Between 1870 and 1914 imperialism strengthened and imperialist conflicts led to a world war. Private enterprises emerged as important elements of the

states, thus creating national economies consisting of enterprises of various sizes. Such national economies determined the economic order of the world (Çavdar 1970, p. 19). Abdülhamid II, who ascended the throne in 1876 during the Long Depression (1873–96), took over an empire in the throes of global financial and economic crises as well as political problems (Kılınçoğlu 2012, p. 24).

In Ottoman society before the Second Constitutional Era, appropriate conditions and relevant legislation did not exist to encourage the development of economic life or lead to partnerships and facilitate the establishment of joint stock companies, beyond the inadequacy of capital accumulation (Toprak 1982, p. 40). The economic policies pursued during the Second Constitutional Era focused on “planning [...] a truly national economy”. The policies of the time aimed to abolish the control of European states over Ottoman politics and economy, as well as the privileged position of non-Muslim merchant groups. Ultimately, the capitulations granted to the European countries were officially and unilaterally cancelled when the Union and Progress government came to power (Karpas 2017, p. 116). The Union and Progress government understood that national sovereignty meant nothing without economic sovereignty. Although it was not enough to get rid of foreign dependency to establish economic sovereignty, it became widely believed that a national economy established and developed with state support was necessary. The traditional role of the state adopted in the Ottoman Empire and generally in all Islamic societies led to the government’s emphasis on state-ism. This issue’s necessary political foundation was laid in 1914, when, during World War I, the Union and Progress government took over the task of establishing a national economy (Ahmad 1969). The governments in the Second Constitutional Era intended to provide industrial initiatives within the national framework, but they could not seize such a chance due to the Tripoli War, the Balkan Wars and World War I (Grant 2002, p. 29).

Despite technical and logistical advances in European armies in the seventeenth century, the Ottoman Empire trailed Europe and kept up only ineffectively. This was a stark contrast to the speed and ingenuity with which the Empire adopted and implemented European artillery in the fifteenth century (Lewis 1993, p. 26). In the nineteenth century, the military and technological capabilities of the Ottoman Empire decreased compared to the previous century, and the Empire had to employ consultants from the West on issues such as cannon-building, castle construction, gunpowder production, the training of soldiers in modern warfare, and the use of modern small arms (Greenhalgh 2002, p. 361). In fact, the Ottomans did not see these consultants as a definitive solution to their problems, and established the “Naval Industrial Corps” in 1858 in order to be able to catch up with the technology of the period. The aim of this institution was to train the workforce and the navy in

line with the technological requirements of the era; this included the Imperial Shipyard, also known as Tersâne-i Âmire, which was closed in 1908 due to its burden on the state budget and its inability to reach efficiency (Kurt 2015). The deficiency of the Ottoman Empire in that area is common knowledge. The direct impact of science and technology was first seen on the battlefield during the Crimean War in 1854 (Murray 2020), demonstrating the possibility of occupying a certain region in a very short time, increasing the states' fears of one another, and pushing countries to arm themselves more (Sander 2012). As a result, the Ottoman Empire borrowed £399.5 million from abroad between 1853-1914 and used 6% of the money, or £22.3 million, on military expenditures (Issawi 1982).

The Ottoman Empire's greatest advantages in the defence industry included the Imperial Arsenal, also known as Tophane-i Âmire, which operated within the framework of the arms and ammunition sector in the Ottoman Empire, and Tersâne-i Âmire, the Imperial Shipyard. Tersâne-i Âmire was the factor that determined the Ottoman Empire to have the largest and strongest navy of its time. Recognizing its industrial inadequacy as of the eighteenth century, the Ottoman Empire reformed its existing establishments or opened new factories. Prioritizing gunpowder production, the Empire opened the Imperial Gunpowder Magazine in 1700, also known as Baruthâne-i Âmire, the Azadlı Gunpowder Magazine in 1796, and saltpeter factories in Kayseri and Konya in order to secure the raw material of gunpowder on the domestic market. Since the Ottoman Empire never wanted to be deprived of the technological developments of the period, they first introduced steam engine technology to Tersâne-i Âmire in 1834 and to Baruthâne-i Âmire in 1836. Yet due to the political and economic problems encountered in the nineteenth century, these breakthroughs were not sustainable.

Until the beginning of the eighteenth century, cannons in Europe and the Ottoman Empire were produced with an empty space inside using a technique called the bell-founding method. The Swiss Jean Maritz discovered that cannon barrels could be more solid and smooth when mass-produced rather than using the bell-founding technique (MacLennan 2003). Later, Maritz's son developed the mechanical auger drill and revolutionized cannon manufacturing technology. The Ottoman Empire switched to this production method in 1775 with the help of officers and engineers from France. Even so, while the steam engine powered production in Europe after the Industrial Revolution, the same production in the Ottoman Empire was powered by animals until the reign of Mahmud II (Tetik and Soyluer 2017, p. 143).

As of the nineteenth century, Europe entered the steam engine era, which was the start of a new industrial era. During the reign of Mahmud II, factories were built in various industrial sectors, and during the reign of Abdülmeçid, technicians and machines continued to be invited from Europe.

However, the lack of proper management made the factories inefficient and they fell short of meeting the needs of the army and the state (Shaw and Shaw 1977, pp. 122-123). The Ottoman Empire saw no harm in employing foreign officers and engineers to bolster its military power, and this continued during the reign of Abdülhamid II with a prevalence of German officers. How much the German officers influenced the military power of the Ottoman Empire and how much they contributed to its modernization is still controversial. Certainly, under their influence the Ottoman army's purchase of goods from the arms factories in the Ruhr peaked. The main reason Germany continued to send officers was to sustain the arms trade (Ortaylı 1981, p. 68) and these consultants gradually became the lifeblood of the German arms trade, contributing greatly to German companies: through them, the German companies learned about the sales-marketing strategies of rival countries and companies, other competing products in the Ottoman market, Ottoman defence industry policies and modernization, and bidding processes. They also gained direct and first-hand access to the Sultan regarding German products and were able to identify key influencers and decision-makers (Yorulmaz 2018, p. 111).

“Take the best from the West”¹ expresses the Ottoman policy of the time on industry (Grant 2002, p. 11). The period of rapid economic development in Britain was also the period of greatest British interest in the welfare of the Ottoman Empire. Between 1825 and 1855, the Ottoman Empire was one of Britain's biggest clients (Bailey 1940), at that time purchasing weapons not only from Europe but also from the United States. Beginning in the second half of the nineteenth century, the Ottoman Empire bought rifles, war and personnel ships from the United States. In the last quarter of that century, however, European railway networks reached an advanced level and the arrival of arms orders without delay and in large numbers hindered purchases made from the United States.² After the 1870s, the Ottoman Empire's manufacture of weapons and ships within its territories declined, and the Empire resorted to purchasing heavy weapons from the Germans, rifles from the Americans or the

1. “Take the best from the West”: buying the latest from Western arms manufacturers without being dependent on a single country. See Tetik and Soyluer.

2. Similar to the weapons sales in the Republican period, America sold the remaining weapons from the Civil War to the Ottoman Empire. Stocks that swelled due to weapons production during the American Civil War were reduced that way. For detailed information, see Sander and Fişek, *Türk-ABD Silah Ticaretinin İlk Yüzyılı*. In addition, it is necessary to specify the reason for the breakthrough made by the American defence industry in that period. As a result of the American cultural belief in “Manifest Destiny” (the name given to the belief of superiority of the American society over other societies and the rights and responsibilities it brings) that has been dominant since the beginning of American history, American entrepreneurs turned to innovation and entrepreneurship in this field. In the nineteenth century, factories opened by businessmen such as Samuel Colt, Horace Smith, Daniel Wesson, and Oliver Winchester became world-renowned by performing large-scale production. For detailed information, see Regele, “Industrial Manifest Destiny”.

French, and ships from the British and French (Grant 2002, p. 20). In the Ottoman market, Krupp's rivals were the French Schneider/Le Creusot and the British Armstrong/Vickers. While Krupp supplied the artillery and relevant components for the Ottoman artillerymen, the French and British firms were more interested in orders of naval artillery and large and small warships (Beşirli 2004, p. 193). After 1883, the Ottoman army mostly used the arms manufactured by Krupp (Beşirli 2004, p. 185).

The Ottoman Empire between 1886 and 1893 became one of the most important clients of the German arms industry. The most striking feature of the German arms industry was that it operated less in the domestic market than in foreign markets. Furthermore, the determining power of the economic and political relations with the importing countries was influential in the international sales rates (Yorulmaz 2018, pp. 111). At the end of the nineteenth century, companies such as Krupp and Mauser had no rivals in the Turkish market in the field of rifles and ammunition (Beşirli 2004, pp. 174-175). One reason was the Empire's need to equip its army with weapons technology; another was the foreign policy pursued by both the Ottoman Empire and Germany.

Finally, the failure of Ottoman factories to keep up with rapidly developing weapons technology can explain the armament and defence industry strategy of the Ottoman army ground forces during the reign of Abdülhamid II (Tetik 2018, p. 300).

TABLE 1 - *Armament and defence industry strategy during Abdülhamid II's reign*

	Transfer model	Material and operations	Difficulty level of transfer	Technological competence	
1	Direct purchasing (Final product)	Top, rifle, cartridge, gunpowder	Material transfer (Basic level)	Technological dependency	IMPORT
2	Machinery: Equipment transfer + Foreign expert employment	Arsenal, armory, steelworks, gundpowder factory, cartridge factory etc.	Material transfer + Show-how	Technological dependency (Insufficient technology transfer)	IMPORT SUBSTITUTION
3	Building facilities (Turnkey)	Gunpowder factory and cartridge factory	Design transfer + Know-how	Partial technology transfer	

Source: Tetik, Fatih. 2018. Sultanın Silahları-II. Abdülhamid Dönemi Savunma Sanayii ve Silah Teknolojisi, İstanbul: Dergâh Yayınları, p. 300.

In the nineteenth century, great technological innovations and changes occurred in naval forces. The rapid transitions from wood to armoured ships, from armoured to metal ships, from low numbers of small artillery to large calibre artillery, from small ships to large ships, from wind-driven ships to those operating first with coal and then oil, from propeller-less ships to propeller-ships, from surface ships to underwater ships, as well as the transition towards using torpedoes and mines, led to changes in the operational strategies of navies, making it necessary to change political targets. As the ships became able to carry more people over longer distances with more confidence, naval developments extended far beyond the borders of states. Being the market leader of this fast-developing technology, Britain, besides selling to other states, also sent workforces and trainers to implement such technology. However, because of the weakening Ottoman economy of the time, the Ottoman Empire was unable purchase and maintain as many of those ships as was needed (Erbaş 2019). Although countries started to integrate the steam engine into ships in the early 1800s, it was not until the 1850s that they started to manufacture and launch them for defence purposes. As in the Industrial Revolution, Britain was a pioneer in this field and dominated the market with its sales during that period (Düzcü 2017).

Tersâne-i Âmire was very active during the reign of Mahmud II and invited an engineer from America to build steamships there. The Ottoman Empire was also importing steamships from Britain, the United States and France.³ The reign of Abdülaziz particularly is known as a period when the shipbuilding industry was the subject of intense focus, and heightened efforts were made to brand the Ottoman Navy as the second navy of Europe. After Abdülaziz's reign, economic and political factors hindered efforts at industrialization (Kuban 1970, pp. 45-46). The protection of commercial ports by the Ottoman Navy and defence of the straits – the main transit routes for trade and logistics – were considered important opportunities to explore the submarine technology of the period. From 1880 onwards, efforts were made to establish a navy of small, modern, less costly and versatile ships and the Ottoman Navy was the second naval force to include the submarine in its inventory. In 1886, the Ottoman Empire purchased two submarines from Nordenfelt with the treasury budget, also known as *Hazîne-i Hâssa*, and added them to the Navy with the given names “Abdülhamid” and “Abdülmeçid”. However, the ships did not function at the desired capacity, and the Navy put them on the stocks after several trials (Mercan 2012).

3. According to the information given by Nejat Gülen in his book, eight steamships were added to the Navy between 1828-1839. Although the exact place and year of manufacture of one of the ships is not known, three of them are known to have been purchased from Britain, one from America and one from France, and two of them were produced in Istanbul. For detailed information, see Gülen (1998).

The issue of whether or not the Navy was neglected during the reign of Abdülhamid II, one of the important issues of the time, is still a matter of debate. Komatsu stated that the Ottoman Empire's financial crisis and the establishment of the Ottoman Public Debt Administration, also known as *Düyun-u Umumiye*, prevented Abdülhamid II from coming up with a solution to naval expenditures (Komatsu 2001, pp. 209-219). According to another study, the Empire's budget was inadequate to cover all the necessary expenses of the Navy and Abdülhamid II could not have allocated a budget for the navy equivalent to that of Abdülaziz even if he wanted to. The study also explains that Abdülhamid II tried to reduce the expenses of the Navy to avoid indebtedness the Empire could not pay (Keskin 2007, p. 52). It can be asserted that if Abdülhamid II did not neglect the Navy, it failed to develop to the desired level due to financial reasons and technological development.

Another issue experienced at the technological and political level in this period was the production of dreadnought class ships, which were first introduced in 1906. The use of the dreadnought in the Ottoman Navy dates back to 1909. Although the Ottoman Empire originally intended to establish a dreadnought-based navy with its own resources, none of the planned programs were implemented, as the Empire instead decided to pursue external resources to meet this need. The Ottoman Minister of the Navy started to visit various shipyards in Britain in 1911. Following this, it was agreed to have the Vickers build the "Reşadiye" dreadnought and to purchase the dreadnought "Rio de Janeiro" from Brazil; the name of that dreadnought was then changed to Sultan Osman I. Due to the start of World War I, Britain never delivered the ships to the Ottoman Empire (Güvenç 2011).

At the beginning of World War I, the Ottoman Navy owned a few old ships unsuitable for use, except for Goeben and Breslau, which were taken under protection. Although there were 300 million cartridges in the Ottoman ammunition depots during that period, the Zeytinburnu factory had the capacity to produce only 300,000 cartridges per day. The Ottoman arsenal, in general, included Krupp howitzers, mountain artillery, Schneider artillery, and Skoda mountain guns (Larcher 2018). During World War I, the Ottoman Empire's military contact with Germany, then an ally, became more frequent and its number of German weapons increased. Additionally, German rifles, heavy and light machine guns, cartridges, chests of ammunition, rifle belts, bayonets, capsules, and other war materials were used by Turkish soldiers throughout the War of Independence. It is obvious that German weapons and military ammunition played an important role in the armed struggle in Anatolia during the war years (Tutsak 2014).

Aviation technology in the industrial sense emerged in that period. The world experienced an unprecedented transformation, both in the civil and

military fields, with the Wright brothers flying powered aircraft in 1904. The Western world soon introduced motorized aircraft to the military field. In World War I, the countries that owned aircraft definitely gained an advantage over their rivals. The first experience of the Ottoman Empire in this regard, however, was during the Balkan Wars (Yalçın 2016). In 1912, the first aviation school (Tayyare Mektebi) was opened in Yeşilköy. In addition to training pilots and mechanics, Tayyare Mektebi, which was further developed during World War I, was also involved in the manufacturing, repair and supply work of the Air Force (Okar 2018).

The reason the Ottoman Empire fell behind in the defence industry in that period was not only political but also due to a lack of capital, limited coal and iron resources, and the inability to regulate protective tariffs to encourage industry (Bailey 1940, p. 463). The efforts to advance technology and modernization that started in the reign of Mahmud II could be regarded as remarkable developments given the micro and macro conditions of the state. The importance the Ottoman Empire gave to weapons continued in those years. Although steam technology was integrated into factories, the inability to use resources (as well as economic problems) resulted in the failure of these factories to achieve efficient production.

Due to the circumstances surrounding the state and industry, importing was considered the only solution, and weapons were purchased from Britain, France, and Germany. Despite this, the Ottoman Empire tried to establish production workstations for weapons imported from abroad in factories in Istanbul and to develop ways to acquire the necessary know-how (Erdem 2016).

It should be noted that most of the factories built as a result of industrialization efforts of the state and private enterprise in the Ottoman Empire were transferred to the Republic of Turkey. Those factories became the source of inspiration and knowledge for the industrialization and national investment efforts of the Republican period (Şener 2007).

TABLE 2 • *Defence factories existent or founded between 1834-1923*

Factory	Open	Close	Location	Capital	Subsector	Production	References
Tophane-i Âmire	15th C.	20th C.	İstanbul	Owned by the state	Guns, ammunition	Cannon balls, torpedos, gunstocks	Muller-Wiener (1992); Tetik and Soylyuer (2017); Yaris (2012)
Tersâne-i Âmire	16th C.	20th C.	İstanbul	Owned by the state	Shipbuilding	Ships	Evsile (1992); Mercan (2012)

(Continued on next page)

Factory	Open	Close	Location	Capital	Subsector	Production	References
Samakocuk (Demirköy) Casting Factory	16th C.	1916	Kırklareli	Owned by the state	Guns, ammunition	Ball casts	Cambaz (2007)
Baruthâne-i Âmire	1700	20th C.	İstanbul	Owned by the state	Guns, ammunition	Gunpowder, smokeless gunpowder	Çetin (2001); Özlü (2006)
Azadlı Gunpowder Factory	1796	1878	İstanbul	Owned by the state	Guns, ammunition	Gunpowder	Çetin (2001); Muller-Wiener (1992)
Dolmabahçe Cartridge Factory	1837	1858	İstanbul	Owned by the state	Guns, ammunition	Cartridges	Tetik and Soyuer (2017); Muller-Wiener (1992)
Beykoz Military Supplies Factory	1812	2002	İstanbul	Name changed to Sümerbank in 1933. Owned by the state until 1987, privatized in 1987.	Military textiles	Military shoes, boots, bandoliers, ammunition belts	Çelikbaş (2015); Güler (1994)
Kayseri Saltpeter Factory	1823	MCIC	Kayseri	Owned by the state	Guns, ammunition	Saltpeter (the raw material of gunpowder)	Evsile (1992); Hulagu (2001)
Taşkızak Shipyard	1828	Continuing	İstanbul	Owned by the state	Shipbuilding	Ships, submarines, vessel repairs	Baykal (2017); Çevik and Yıldız (2014)
Konya Saltpeter Factory	1842	MCIC	Konya	Owned by the state	Guns, ammunition	Saltpeter (the raw material of gunpowder)	Evsile (1992); Hulagu (2001)
Zeytinburnu Iron Factory	1845	20th C.	İstanbul	Owned by the state	Machinery, equipment	Iron – steel, top, rifle	Karaoglu (1994)
Cannon Ball Casting Factory	Unknown	Unknown	Bulgaria	Owned by the state	Guns, ammunition	Cannon balls	Cambaz (2007)
Bagdat Gunpowder Factory	Unknown	Unknown	Bagdat	Owned by the state	Guns, ammunition	Gunpowder	Clark (1992); Önsoy (1988)
Dökümcüler Company	1868	1869	İstanbul	Anonim veya kolektif şirket	Guns, ammunition	Cannon balls, cannon ball sights	Önsoy (1988)
Ansaldo Factory	19th C., last quarter	Unknown	İstanbul	Unknown	Guns, ammunition	Torpedoes	Gencoglu (2015)
Zeytinburnu Mauser ve Cartridge Factory	1902	Unknown	İstanbul	Owned by the state	Guns, ammunition	Mausers, cartridges	İstanbul Chamber of Commerce (2012)

(Continued on next page)

Factory	Open	Close	Location	Capital	Subsector	Production	References
Pirinc Boru Factory	19th C., last quarter	Unknown	İstanbul	Owned by the state	Guns, ammunition	Rice	Istanbul Chamber of Commerce (2012)
Karaagac Fuse Factory	1839	1861	İstanbul	Unknown	Machinery, equipment	Unknown	Zengin (2015)
İstinye Shipyard	1911	1991	İstanbul	Founded by the French in 1911, nationalized in 1918	Shipbuilding	Ships	Muller-Wiener (1992); Yaris (2012)
Gölcük Shipyard	1911	Continuing	İzmit	Owned by the state	Shipbuilding	Ships	Akalin and Bıyıkoglu (2009)

Note: This table was created by the authors using different sources.

3. 1923-1952: Domestic production efforts

Distinguishing features of the period of “Domestic production efforts” include the Great Depression, state interventionism, and the encouragement of local industry (Owen and Pamuk 1998). In addition, a general fluctuation occurred in the world economy, and states and societies faced important economic and sociologic problems. After World War I, countries tended to use their own resources as much as possible and foreign indebtedness in the world decreased significantly. With the founding of the Republic under the leadership of Mustafa Kemal Atatürk, Turkey also aimed to create its own national and independent economy. This became apparent in the defence industry. The industrial legacy of the Ottoman Empire became apparent and with efforts to create a national bourgeoisie, entrepreneurs such as Şakir Zümre, Nuri Killigil and Nuri Demirağ emerged in that period due to support (characteristic of the first years of the Republic) provided to trade, industry and the banking sector. The government’s goal was to establish and operate a “modern” economic structure. The nature of the support showed that it was a structure that would encourage private entrepreneurship. In the early years of the Republic, private enterprise expanded in all sectors of the economy.⁴

4. The fact that the establishment of a new regime largely depended on the economy, and that horizons and lasting achievements in the economy was determinant was well known to the founders of the Republic. Liquidations and new institutionalizations were the first acts of the new regime. They all prepared a favourable ground for economic policies. The years after 1923 were those when the economy was active and revitalized, starting with the trade sector, where innovation moves accelerated. What was longed for was an economic structure composed of modern trade, industrial property, and financial capital. It was desired that the revival and renewal be filled with a “national” essence. For detailed information, see Kuruç, *Belgelerle Türkiye İktisat Politikası*, XXXV.

In those years, capitalist economic institutions and ideology were yet to be assimilated in society and the main source of legitimacy for their profit-making activities was the state. On the one hand, it was foreseen that the private sector would play an important role in the development of the national economy and that the social legitimacy of its activities would be determined by its contribution to economic development. On the other, it was acknowledged that the state should take a direct role in production activities, taking into account the limited entrepreneurial capacity of newly emerging businessmen, and that no progress could be achieved otherwise (Bugra and Savaskan 2014, p. 62). As a precaution against the Great Depression of that period, the government tried to increase production and consumption of domestic goods (Özçaylak 2017). Yet, no matter how much attention was paid to domestic production, the situation in the defence industry was reversed as a result of aid received towards the end of the period.

Most organizations affiliated with the General Directorate of Military Factories, or other factories established in those years, produced locally rather than nationally. In addition, some weapons and equipment that could not be produced by the military factories were tendered to private enterprises.⁵ The establishment of Tophâne-i Âmire is considered a milestone of the Turkish defence industry; yet keeping up with modern technology went through various stages and gained a new dimension with the establishment of the Mechanical and Chemical Industry Corporation (MCIC). Between 1923 and 1952, there existed 18 state enterprises or public-joint ventures, and three private sector enterprises. Contrary to the industrialization layout of the Ottoman Empire, 17 of the enterprises were established outside Istanbul, eight in Ankara, six in Kırıkkale, and one each in Erzurum, Kayseri, and Eskişehir. There are various reasons for the shifting of industrial activities to Anatolia. As businessmen were reluctant to invest in areas where they could not make a profit in a short time, the government began to take measures to create a consistent industrial base. The state distributed its industrial projects across Anatolia in order to develop other regions and to bridge the gap between the developed northwest and the undeveloped provinces of Anatolia. The strategy of the state was to open factories in provincial centres, such as Kayseri and Malatya in Central Anatolia. Thus, the government hoped that the whole region would benefit and develop over time (Ahmad 1993, p. 140).

Founded in that period, enterprises belonging to Şakir Zümre and Nuri Killigil succeeded in exports. The state and private businessmen established the first enterprises of military aviation in the Turkish defence industry, laying the grounds for today's aviation. In those years, in addition to the establishment of five aviation enterprises by the public and private sectors, 13 oth-

5. Presidential Republican Archives, İstanbul, No: 30-18-1-2/85-112-8, 06 January 1939.

er companies belonging to the arms and ammunition sector and three enterprises belonging to the machinery and equipment sector were established, constituting the infrastructure of the Mechanical and Chemical Industrial Corporation. The Turkish Aeronautical Association (formerly the Turkish Aircraft Society) was established in 1924 in order to develop aviation and provide benefits for the military field.⁶ Businesses belonging to the aviation sector, however, did not last long. Surviving only for 10 to 20 years, they closed or changed their line of business. Nevertheless, the factories established in the field of aviation obtained licenses from leading companies in countries such as the USA and Britain to continue production. Despite this, Nuri Demirağ tried to carry out local production in his factory.

3.1. Three entrepreneurs in the Turkish defence industry

3.1.1. Şakir Zümre

Şakir Zümre, who had provided various military equipment to the army during the War of Independence, returned to his country and established his factory in 1925 on the ruins of the Karaağaç Tapa Factory in the Golden Horn district of Istanbul. He purchased it from the state with the condition that it would be paid for in full within ten years.⁷ Having good relations with many experienced and competent craftsmen dealing with weapons and ammunition production in Bulgaria and Macedonia, Şakir Zümre applied to the Turkish general staff to be permitted to establish a factory for the needs of the army. His request being accepted, he built his factory, called Turkish Warfare Equipment Factory, or Mevad-ı Harbiye and Tenviriye Fabrikası. In addition to aircraft bombs, grenades, and pistols of various weights (1kg to 900kg), the factory produced stoves and Turkish Isbank's money vaults. Şakir Zümre's factory produced the first aircraft and submarine bombs used by the Turkish Air Force in the Republican era (Oral 2012, p. 47).

In those years, the Republic of Turkey purchased aircraft bombs,⁸ charged water bombs,⁹ drill bombs,¹⁰ and incendiary bombs.¹¹ In 1942, it was decided to outsource the suspension assembly of British aircraft bombs to Şakir Zümre.¹² In 1937, Zümre signed a bomb trade agreement with Greece worth

6. In those years, the Turkish Aeronautical Association made a great contribution to Turkish aviation with the aircraft engineers, civil aviators and paratroopers it trained, as well as the financial aid it provided to the Air Force. For more information, see Firtına (2017).

7. Presidential Republican Archives (hereafter PRA), İstanbul, folder 30-18-1-2/49-77-13.

8. PRA, İstanbul, folder 30-18-1-2/86-19-18.

9. PRA, İstanbul, folder 30-18-1-2/87-44-1.

10. PRA, İstanbul, folder 30-18-1-2/86-40-17.

11. PRA, İstanbul, folder 30-18-1-2/90-15-16.

12. PRA, İstanbul, folder 30-18-1-2/99-72-10.

1.5 million Turkish Lira; the first defence export of the Republic of Turkey, it was a great victory for private entrepreneurs. Returning to usual industry as of 1944, the factory manufactured castings, metalware and agricultural tools, in response to Turkey's varied needs (Oral 2012).

3.1.2. Nuri Killigil

Nuri Killigil established the Zeytinburnu Ironware Factory in 1930. In addition to pistols, bombs, cartridges, mortars and cannonballs, his factory also produced stoves, castings, fire bricks, ceramics, and flasks, and other items. It received many orders, since it attracted attention from the state and foreign institutions and organizations within the framework of the defence industry (Karaköse 2010, pp. 318-320). The state purchased mountain cannon shells;¹³ fire, destruction and sewer bombs,¹⁴ and pistols from the Ironware Factory.¹⁵

Nuri Killigil moved his factory elsewhere in 1938. The manufacturing workstations in that factory had not been imported, and they were Nuri Killigil's own production (Oral 2016, p. 282). Having succeeded in reaching the desired production mentality of the Turkish industry with this feature, he manufactured important materials of the war industry such as pistols, bombs, aerial bombs, fuses, mortars, and grenades in his factory. As of 1941, there were 400 workstations in the factory, with 500 workers (Oral 2016, p. 343). The factory, which became less popular with the state due to American aid, announced that it had ceased its activities as of 1946. Following such unexpected circumstances, Nuri Killigil continued undercover production. He also produced weapons for Arabs during the Arab-Israeli War, and received orders from countries such as Palestine, Syria, Egypt, and Pakistan (Oral 2016, p. 453).

3.1.3. Nuri Demirağ

Nuri Demirağ established the first private aviation company in the Republic of Turkey. His first venture, "Turkish Victory Cigarette Paper", attracted a lot of attention and made him considerable income. As efforts were being made to create a "national bourgeoisie" within the Republic, Demirağ received a railway tender from the state and as a result of his work in that field, Mustafa Kemal Atatürk gave him the surname "Demirağ" (Yalçın 2016, p. 204).

With the excitement that came along with the Republican era, the aviation industry became more popular than expected and a number of aviation

13. PRA, İstanbul, folder No: 30-18-1-2/66-53-9.

14. PRA, İstanbul, folder 30-18-1-2/66-53-9.

15. PRA, İstanbul, folder 30-18-1-2/96-74-4.

entrepreneurs emerged. Nuri Demirağ laid the foundations of the aviation industry in Beşiktaş in 1936, establishing Beşiktaş Aircraft Factory, Turkey's first private-sector aviation enterprise. Right after he opened his factory, he built the "Sky School" in Sivas and then, in 1941, a complex consisting of an airport, hangar and workshops in Yeşilköy, where today's Atatürk Airport is located. Selahattin Reşit Alan, one of the first Turkish aircraft engineers, designed the single-engine Nu D.36 manufactured in 1936, and the Nu D.38 six-seat double-engine passenger aircraft manufactured in 1938 in Nuri Demirağ's Beşiktaş factory. Between 1937 and 1938, the Turkish Aeronautical Association (THK) ordered ten school aircrafts and 65 gliders from Demirağ's Beşiktaş factory and, in 1942, the Ministry of National Defence determined that the repair and supply of spare parts of aircraft, engines and land transport vehicles belonging to the Air Force be made at the facilities of Demirağ (Yalçın 2016, pp. 208-211). This was an expansive period for Demirağ; in later years, he had to close the complex due to production problems and changes in defence policies.

4. 1923-1952: National and international view of the Turkish defence industry

Investments in the defence industry after the Republic of Turkey was established both laid a foundation and paved the way for moves that would create a domestic industry. The factories may have created a sense of breakthrough for the army, but they lacked the capacity to equip a modern and effective army. During this period, military expenditures had an important share in the country's budget (Kalyon 2008, p. 85) and the state actually expected public support for its endeavours. In 1942, the Directorate of Religious Affairs sent a sermon to the imams entitled, "The Importance of Aircraft"; in this sermon, delivered publicly, the government asked the villagers not to leave their lands unfarmed and to harvest for the benefit of the Turkish Aeronautical Association. In the same document, the government demanded that empty state lands be cultivated for the benefit of the Turkish Aeronautical Association.¹⁶

A private sector-based model for the economy was envisioned for Turkey in the 1920s, but the Great Depression, precipitated by the collapse of the New York stock exchange in 1929, affected the whole world and changed the views of states towards the economy. In Turkey, the difficulties following the Great Depression in the agricultural sector of regions oriented to domestic and foreign markets grew to affect the urban economy; eventually

16. PRA, İstanbul, folder 51-0-0/4-34-41.

they led to the designation of the industrialization strategy under the leadership of the state (Pamuk 2015, p. 188). In the 1920s, as Atatürk emphasized the importance of industrialization and the private sector, laws were enacted to encourage industrial development. Yet, despite some progress, the Great Depression made it clear that Turkey could not rely on its agricultural exports alone and that the private sector was too weak to power economic growth (Szyliowicz 1991, p. 49). The Turkish economy thus entered into a trial of state-centred national industrialization (Boratav 2013, p. 59). Though Turkey followed a policy of armed neutrality during World War II and protected itself from the destruction of the hot war, it was still drawn into the war economy (Pamuk 2015, p. 199).

Atatürk attached great importance to the power of the naval forces. Once the Republic was proclaimed, the first move was the establishment of the Ministry of the Navy on 31 December 1924. After visiting the ship called “Yavuz” in September 1925, Atatürk decided to have it repaired as the main vessel of the Republic’s naval forces. Later, in 1928, the Golden Horn Shipyard (except for the one in Taşkızak) was transferred to Gölcük. During Atatürk’s time, a total of 16 ships were purchased, including destroyers, assault boats and submarines. These were strike-force warships purchased and ordered with the national budget between 1925 and 1936. “İnönü I” and “İnönü II”, submarines given to a Dutch company, joined the Navy in those years and were the first gift of the Republican government to the Navy. For four of the submarine ships, an agreement was signed with the German firm Germaniawerft IvS for joint production. Two of those ships were manufactured in Germany and the other two at Taşkızak Shipyard (Metel 1966, pp. 309-322).

The Turkish defence industry’s positive momentum dissipated after Atatürk’s death in 1938, in part because of American aid received during and after World War II. At the Adana Conference held between 30 January and 1 February 1943, İnönü and Churchill agreed on the need to strengthen the Turkish armed forces and discussed Turkey’s continued distance from the War. Both parties agreed Turkey would receive British aircraft fleet and anti-aircraft and anti-tank units to protect critical territories which could be attacked, making possible Turkey’s defence against possible German attack for one year (Aydın 2009). In addition, a document dated 30 May 1942 from the general staff military archives shows that British air defence artillery was offered to Turkey to use to protect some parts of Anatolia, and that some of them arrived with continuing supply.¹⁷ Another document, dated 16 October 1942, reported that Britain had given Turkey a total of 410 tanks, 210 “Gen-

17. Hereafter TGSMA, II. World War Records, Ankara, folder İDH: 1-083-1.

eral Stuart” type and 200 “Matilda and Valentine” type.¹⁸ However, a 7 February 1944 document stated that the Valentine tanks were out of date and could only be used by the Turkish army for training purposes.¹⁹ Another document, dated February 1944, shows that Britain gave Turkey a total of 3261 artillery guns of various types in 1943. In addition, the personnel in the military factories were reported to have the strength and capability to grasp and operate the whole assembly after a two-day inspection.²⁰ In this regard, we can conclude that Turkish military officials made various contacts with the British and purchased weapons, and that Turkish military staff were familiar with weapon technology and adapted to it quickly. Based on these data, we can state that arms purchases were made before the appearance of American aid.

During World War II, Turkey followed statism and war economy policies. On the one hand, domestic consumption decreased due to the fact that the majority of people engaged in production were under arms. On the other hand, the government imposed certain restrictions on imports (Cillov 1970). After World War II, the USA, which provided economic and military aid to Europe against the Soviet threat, increased its defence capacity, and gave Turkey a quantity of war material worth \$100 million (Satterthwaite 1972). Turkey, which received aid in areas such as land forces, air forces, naval forces, and military equipment and ammunition, had received a total of \$236 million as of March 1950 (McGhee 1990). Though ostensibly to be used for military modernization, that aid was aimed to provide political, economic, and strategic benefits as well (Munson IV 2012).

Necmettin Erbakan, who served as the prime minister of the Republic of Turkey for a while, claimed that the American aid had political motives. Quoting from the then American Secretary of State, Warren Christopher, Erbakan remarked:

He said, ‘We applied to the Senate to give you 50 A-10 planes...’. He doesn’t say ‘we will’, he says ‘we applied to the Senate to give them to you’. What else does he say? ‘These A-10s are still in use in the US Army.’ Watch the expression! What does ‘still in use’ mean? It means, ‘We scrapped them, and we are looking for a dump to throw them away’. This is what they call American aid. (Erbakan 2018, p. 169)

With the Truman Doctrine in 1947 and NATO membership in 1952, Turkey became integrated into the political and military structure of the West.

18. TGSMAs, II. World Wars Records, Ankara, folder İDH: 6-063-1-3.

19. TGSMAs, II. World Wars Records, Ankara, folder İDH: 2-045-5.

20. TGSMAs, II. World Wars Records, Ankara, folder İDH: 2-045-3.

After this date, Turkey began to lose its ability to independently plan and implement its defence policies at both strategic and operational levels (Kurç 2017, p. 262). Taking advantage of the positive economic atmosphere emerging from the foundation of the Republic and the industrial heritage of the Ottoman Empire, the state created an Ankara-based defence industry. Enabling private entrepreneurs to act on business opportunities contributed to the growth of the desirable local industrialist class in the Turkish economy. Until the arrival of British and American aid, the Turkish defence industry showed remarkable developments economically and set precedents for sociological change, setting an example for the Turkish nation. However, as a result of the aforementioned aid, the efficiency and operability of the factories became questionable. To avoid decline, the MCIC was established based on the enterprises opened by the state from 1947 to 1952 and proved one of the turning points for the defence industry. By producing all kinds of defence weapons that would otherwise be imported from foreign countries in exchange for payments in foreign currency, the MCIC provided millions of dollars of support to the national economy and brought about the redistribution of foreign currency normally used for weapons to other sectors of the economy. Apart from providing job opportunities by employing thousands of workers in its factories, the MCIC also furthered the growth and revival of the economies of cities where its facilities were located, such as Kırıkkale and Ankara (Yurtoğlu 2017, pp. 103-104).

TABLE 3 ▪ *Defence factories founded 1923-1952*

Factory	Open	Close	Location	Capital	Subsector	Production	References
Ankara Gun Factory	1921	MCIC	Ankara	Owned by the state	Guns, ammunition	Rifles, gun barrels	Akalın and Bıyıkoglu (2009); Evsile (1992)
Ankara Carpenter Factory	1924	MCIC	Ankara	MCIC	Guns, ammunition	Military accessories	Dilek (1974); Evsile (1992)
Silahtaraga Cartridge Factory	1925	1968	İstanbul	Owned by the state	Guns, ammunition	Cartridges	Evsile (1992)
Şakir Zümre Blockbuster and Gun Factory	1925	1970	İstanbul	Founded by Şakir Zümre	Guns, ammunition	Blockbusters, grenades, pistols	Oral (2012) and Presidential Republican Archives

(Continued on next page)

Factory	Open	Close	Location	Capital	Subsector	Production	References
Kayseri Aircraft Factory	1926	1942	Kayseri	Established in partnership with the German Junkers company and the Republic of Turkey.	Aviation	Aircraft	Akalın and Bıyıkoglu (2009); Sarısır (1998); Yalçın (2016)
Eskişehir Aircraft Repair Factory	1926	1942	Eskişehir	Owned by the state	Aviation	Aircraft repair	Akalın and Bıyıkoglu (2009); Yalçın (2016)
Gazi Cartridge Factory	1928	MCIC	Ankara	MCIC	Guns, ammunition	Cartridges	Akinci (1957); Akpınar (1984); Kılınc (1990)
Rice Casting Factory	1928	MCIC	Kırıkkale	MCIC	Guns, ammunition	Rice, fuses, cartridges, bullets	Akalın and Bıyıkoglu (2009); Seymen (1984)
Kırıkkale Ammunition Factory	1929	MCIC	Kırıkkale	MCIC	Guns, ammunition	Bullets, repairs	Akalın and Bıyıkoglu (2009); Evsile (1992)
Nuri Killigil Gun Factory	1930	1949	İstanbul	Founded by Nuri Killigil	Guns, ammunition	Pistols, bombs, cartridges, mortars, bullets	Karaköse (2010); Oral (2016), and Presidential Republican Archives
Capsule ve Bullet Factory	1931	MCIC	Ankara	MCIC	Guns, ammunition	Capsules, bullets, fuses, cartridges	Evsile (1992)
Kırıkkale Steel and Iron Casting Factory	1932	MCIC	Kırıkkale	MCIC	Machinery, equipment	Raw material	Kurtoglu (1974)
Kırıkkale Rifle Factory	1934	MCIC	Kırıkkale	MCIC	Guns, ammunition	Pistols, rifles	Mete (2012); Şenel (2009)
Mamak Gas Mask Factory	1935	MCIC	Ankara	MCIC	Machinery, equipment	Gas masks, mines	Türk (1983)
Elmadag Gunpowder Factory	1943	MCIC	Ankara	State-private partnership established by contract in 1926; later expropriated	Guns, ammunition	Gunpowder	Ilgun (1990); Yurtoglu (2017)
Nuri Demirağ Aircraft Factory	1936	1949	İstanbul	Founded by Nuri Demirağ	Aviation	Aircraft, airliners, trainer aircraft	Akalın and Bıyıkoglu (2009); Yalçın (2009)

(Continued on next page)

Factory	Open	Close	Location	Capital	Subsector	Production	References
Kırıkkale Nitrocellulose Gunpowder Factory	1937	MCIC	Kırıkkale	MCIC	Guns, ammunition	Gunpowder	Evsile (1992)
Kırıkkale Gear Factory	1938	MCIC	Kırıkkale	MCIC	Machinery, equipment	Gear for motor vehicles	Oguz (2006)
Erzurum Gun Factory	1938	Continuing	Erzurum	Owned by the state	Guns, ammunition	Cannon balls, rifle repairs	Akalın and Bıyıkoglu (2009); Senel (2009)
THK Etimesgut Aircraft Factory	1940	1962	Ankara	Owned by the state	Aviation	Aircraft, ambulance aircraft, trainer aircraft	Akalın and Bıyıkoglu (2009); Evsile (1992)
THK Gazi Aircraft Motor Factory	1945	1954	Ankara	Owned by the state	Aviation	Aircraft motors	Oguz (2006); Türk (1983)
MKEK (Mechanical and Chemical Industry Company)	1950	Continuing	Ankara	Owned by the state	Guns, ammunition	Guns, ammunition, ballistic missiles, explosive material, chemicals	Ozlu (2006)

Note: This table was created by the authors using different sources.

4. Conclusion

This paper investigates two main issues. First, it aims to shed light on the main actor/s in the Ottoman-Turkish defence industry in the period from 1834 to 1952. The second point that has been explored is the extent to which modernization activities or development policies ended up being linked with the defence industry. Concerning the first objective, it was found that the main actor was the state until 1923, while both the state and entrepreneurs played a decisive role in the second period (up to 1952). The owners and managers of defence enterprises in Turkey exerted no influence on the state. Rather, this group was controlled by the state. Wishing to create a modern and local business class, the state acted closely with trusted self-motivated entrepreneurs, providing them with incentives. As a result, three private-sector entrepreneurs emerged in the defence industry. Şakir Zümre produced aircraft bombs, grenades, and pistols; Nuri Killigil produced pistols, bombs, cartridges, mortars, and cannonballs, and Nuri Demirağ produced military aircraft, passenger planes, and training aircraft.

The second point we focused on was the modernization activities and related policies carried out in both periods by these actors. Both the Ottoman

and the Republican governments tried to encourage the defence industry to rely on local production. The Ottoman Empire, which fought its military campaigns on different battlefields between the beginning of the nineteenth century and the first quarter of the twentieth century, fully intended to modernize in order to develop its war technology. To this end, the Empire transferred modern technology to its factories, opened military schools and restructured its army. However, ensuing wars and economic problems prevented the Ottoman Empire from establishing an advanced defence industry and, particularly after the rise of imports from European countries, the domestic defence industry seems to have been left with very limited opportunities for domestic production. Even when the Empire was recurring to imports, it still tried to develop and maintain know-how in an effort to establish and develop local production in the future. During the Union and Progress Government (1908-1918), efforts were made to create a national economy that would benefit all industries. In this period, the idea of a domestic defence industry was put into practice with the encouragement of the Republican regime.

In addition to establishing new factories, the Republican government used the facilities and factories left over from the Ottoman Empire. During that period, the defence industry grew in terms of both production and exports. Nevertheless, despite all efforts, the defence industry's advances came to an end with the passing of Atatürk. British aid (initiated during World War II) as well as the Marshall Plan and entry into NATO negatively affected the defence industry and disrupted domestic production. The aids received caused the limited facilities remaining from the Ottoman Empire and the factories established in that period to become dysfunctional. The outlook, which had been positive as it was during the Ottoman Empire, turned around. Ultimately, the Mechanical and Chemical Industry Corporation (MCIC) was established in 1950 as an umbrella organization to continue domestic production and supply. The factories established in the early Republican period were connected to the MCIC and started to produce again.

The exchange of military and economic aid between countries has normally contributed to the industrial development of the participants in a positive way (Sánchez 2010, p. 436). Yet for both the Ottoman Empire and Turkey, the effect was the opposite. Archival documents show most of the equipment imported to Turkey, especially in the Republican period, either relied on old technology or consisted of dysfunctional products. Despite such disappointing outcomes, the desire and determination to establish a domestic defence industry after the Ottoman period persisted and became more institutional and firmly-rooted with the MCIC.

Acknowledgements

This article is based on an MA thesis supervised by Assoc. Prof. Yasin Şehitoğlu and presented at the Graduate School of Social Sciences Yıldız Technical University. We are grateful to the editors of the *Revista de Historia Industrial-Industrial History Review* and the two anonymous reviewers for their comments, assistance and guidance throughout the revision process.

Author contribution statement

This study is the product of four years of work. During the research, we did many of the following activities together. As the corresponding author, Enes Kurt mainly engaged in research and writing activities, while Yasin Şehitoğlu provided formulation of research design and directed the process.

Enes, Kurt: framework, methodology, qualitative analysis, library investigation, writing.

Yasin, Şehitoğlu: framework, methodology, writing, supervision.

References

- AHMAD, Feroz. 1969. *The Young Turks: The Committee of Union and Progress in Turkish Politics, 1908-1914*. London: Oxford University Press.
- AHMAD, Feroz. 1993. *The Making of Modern Turkey*. London: Routledge.
- AKALIN, Tansel Zeynep, and Nadir BİYİKOĞLU. 2009. *Türk Savunma Sanayi Tarihi - Başarıya Giden Yolu Kendi Pusulasıyla Bulmuş Bir Endüstrinin Gelişimi*. İstanbul: İmge Tanıtım Danışmanlık.
- AKINCI, Mustafa. 1957. 'M.K.E.K. Gazi Fişek Fb. İmalatı Hakkında Kısa Malumat'. *Makine ve Kimya Endüstrimiz*. 34 (2): 15-18.
- AKPINAR, M. Kemal. 1984. 'Gazi Fişek Fabrikası', *MKEK Dergisi*. 13 (1): 3-10.
- AYDIN, Mustafa. 2009. '1939-1945: Savaş Kaosunda Türkiye, Görelî Özerklik'. In *Türk Dış Politikası-Kurtuluş Savaşından Bugüne Olgular, Belgeler, Yorumlar*, edited by Baskın Oran, 385-476. İstanbul: İletişim Yayınları.
- BAILEY, Frank E. 1940. 'The Economics of British Foreign Policy, 1825-50', *The Journal of Modern History*, 12 (4): 449-484.
- BAYKAL, Reşat. 2017. *İstanbul'un Fethi'nden Günümüze Tersanelerimiz ve Denizcilik Kuruluşlarımız*. İstanbul: İTÜ Vakfı Yayınları.
- BERBER, Aykut. 2013. *Klasik Yönetim Düşüncesi: Geleneksel ve Klasik Paradigmalarla Klasik ve Neo-Klasik Örgüt Teorileri*. İstanbul: Alfa Yayınları.

- BEŞİRLİ, Mehmet. 2004. 'Birinci Dünya Savaşı öncesinde Türk ordusunun top mühimmatı alımında pazar mücadelesi: Alman Friedrich Krupp Firması ve rakipleri', *Selçuk Üniversitesi Türkiyat Araştırmaları Dergisi*, 15: 169-203.
- BITZINGER, Richard A. 2015. 'Comparing defence industry reforms in China and India', *Asian politics & policy*, 7 (4): 531-553.
- BOIES, John, and Harland PRECHEL. 2002. 'Capital dependence, business political behavior, and change to the multilayered subsidiary form', *Social Problems*, 49 (3): 301-326.
- BORAN, Behice. 1968. *Türkiye ve Sosyalizm Sorunları*. İstanbul: Gün Yayınları.
- BORATAV, Korkut. 2013. *Türkiye İktisat Tarihi 1908-2009*. İstanbul: İmge Kitabevi.
- BRUSTOLIN, Vitelio. 2021. 'The Military Influence on Industrial Policies in Brazil During the 20th and Early 21st Centuries', *Brasiliana: Journal for Brazilian Studies*, 10 (2): 70-95.
- BUĞRA, Ayşe, and Osman SAVAŞKAN. 2014. *New Capitalism in Turkey: The Relationship Between Politics, Religion and Business*. Northampton, MA: Edward Elgar.
- BUĞRA, Ayşe. 1994. *State and Business in Modern Turkey*. Albany: State University of New York Press.
- CAMBAZ, Erdoğan. 2007. 'Demirköy Samakocuk'ta Osmanlı Dönemi Demir Dökümhanesi Mescidi Restorasyon Projesi'. Master Thesis, İstanbul: İstanbul Teknik Üniversitesi.
- CILLOV, Haluk. 1970. *Türkiye Ekonomisi*. İstanbul: İstanbul Üniversitesi İktisat Fakültesi Yayınları.
- CLARK, Edward. 1992. 'Osmanlı Sanayi Devrimi, Osmanlılar ve Batı Teknolojisi'. In *Osmanlılar ve Batı Teknolojisi*, edited by Ekmeleddin İhsanoğlu, 37-52. İstanbul: Edebiyat Fakültesi Basımevi.
- ÇAVDAR, Tevfik. 1970. *Osmanlıların Yarı-Sömürge Oluşu*. İstanbul: Ant Yayınları.
- ÇELİKBAŞ, Fethi. 2015. *İmparatorluğun Başkentinde. İstanbul Sanayi Odası'nın Altmışıncı Yılında Türk Sanayii*. İstanbul: İstanbul Sanayi Odası.
- ÇETİN, Birol. 2001. *Osmanlı İmparatorluğunda Barut Sanayi 1700-1900*. Ankara: T.C. Kültür Bakanlığı Eserleri.
- ÇEVİK, Mehmet, and Murat YILDIZ. 2014. 'Demokrat Parti İktidarının İlk Yıllarında Deniz İşletmeciliği ve Gemi İnşa Sanayisine Genel Bir Bakış (1950-1955)', *Uluslararası Sosyal Araştırmalar Dergisi*, 7 (33): 293-305.
- DİLEK, Saim. 1974. 'MKEK Kurumu Marangoz Fabrikasının Kuruluş ve Gelişimi', *MKEK Dergisi*, 3 (1): 41-44.
- DUCH-BROWN, Néstor, and Antonio FONFRÍA. 2014. 'The Spanish defence industry: an introduction to the special issue', *Defence and Peace Economics*, 25 (1): 1-6.
- DÜZCÜ, Levent. 2017. *Yelkenliden Buharlıya Geçişte Osmanlı Denizciliği (1825-1855)*. İstanbul: Doğu Kütüphanesi.
- ERBAKAN, Necmettin. 2018. *Davam*. Ankara: Yeni Devir Matbaacılık,.
- ERBAŞ, Fatih. 2019. *Doğu Akdeniz'de Güç Mücadelesi – 19. Yüzyılda Donanmalar*. İstanbul: Türkiye İş Bankası Kültür Yayınları.

- ERDEM, Ekrem. 2016. 'Sanayi Devriminin ardından Osmanlı sanayileşme hamleleri: Sanayi politikalarının dinamikleri ve zafiyetleri', *Erciyes Üniversitesi İktisadi ve İdari Bilimler Fakültesi Dergisi*, 48: 17-44.
- EVSİLE, Mehmet. 1992. 'Atatürk Devri Harp Sanayii (1920-1938)'. PhD Thesis, Elazığ: Fırat Üniversitesi.
- FAROQHI, Suraiya. 2004. *The Ottoman Empire and the World Around It*. London: I.B. Tauris.
- FIRTINA, H. İbrahim. 2017. *Orgeneral Muzaffer Ergüder'in Havacılık Anıları 1922-1930*. İstanbul: Kırmızı Kedi Yayınevi.
- GANSLER, Jacques S.. 2011. *Democracy's arsenal: Creating a twenty-first-century defence industry*. Cambridge: MIT Press.
- GENÇ, Mehmet. 2016. *Osmanlı İmparatorluğu'nda Devlet ve Ekonomi*, İstanbul: Ötüken Neşriyat.
- GENÇOĞLU, Mustafa. 2015. 'Batı Bilgi ve Teknolojisinin Osmanlı Bahriyesine Aktarımı', *Tarih Araştırmaları Dergisi*, 34 (58): 603-628.
- GRANT, Jonathan. 2002. 'The sword of the Sultan: Ottoman arms imports, 1854-1914', *The Journal of Military History*, 66 (1): 9-36.
- GREENHALGH, Michael. 2002. 'French military reconnaissance in the Ottoman Empire during the eighteenth and nineteenth centuries as a source for our knowledge of ancient monuments', *The Journal of Military History*, 66 (2): 359-388.
- GÜLEN, Nejat. 1988. *Dünden Bugüne Bahriyemiz*. İstanbul: Kastaş A.Ş. Yayınları.
- GÜLER, Mediha. 1994. 'Türk Dericilik Sanayi ve Beykoz Fabrikası', *Endüstriyel Sanatlar Dergisi*, 3: 71-74.
- GÜRAN, Tevfik. 2017. *İktisat Tarihi*. İstanbul: Der Yayınları.
- GÜVENÇ, Serhat. 2011. *Osmanlıların Drednot Düşleri-Birinci Dünya Savaşı'na Giden Yolda*. İstanbul: Türkiye İş Bankası Kültür Yayınları.
- HÜLAGÜ, M. Metin. 2001. 'Osmanlı Devleti'nde Güherçile Üretimi ve Kayseri Güherçile Fabrikası', *Erciyes Üniversitesi Sosyal Bilimler Enstitüsü Dergisi*, 11: 73-93.
- ISSAWI, Charles. 1982. *An economic history of the Middle East and North Africa*. New York: Columbia University Press.
- İSTANBUL CHAMBER OF COMMERCE. 2012. *Osmanlı Ticaret ve Sanayi Albümü*. İstanbul: İstanbul Ticaret Odası Yayınları.
- İLGÜN, Canan. 1990. 'Barut A.Ş. ve Üretimler', *MKEK Dergisi*, 84: 14-19.
- İNALCIK, Halil. 2015. *Devlet-i Aliyye Osmanlı İmparatorluğu Üzerine Araştırmalar-I*. 55th ed. İstanbul: Türkiye İş Bankası Kültür Yayınları.
- JAMES, Andrew. 2002. 'Comparing European responses to defence industry globalization', *Defence & security analysis*, 18 (2): 123-143.
- KALYON, Levent. 2008. 'Cumhuriyet Dönemi Savunma Politikaları'. PhD Thesis, Ankara: Ankara Üniversitesi.

- KARAKÖSE, Nejdett. 2010. 'Askeri, Siyasi ve Silah Sanayicisi Kişiliği İle Nuri Paşa (Killigil)'. PhD Thesis, İzmir: Dokuz Eylül Üniversitesi.
- KARAOĞLU, Ömer. 1994. 'XIX. Yüzyıl Osmanlı Sanayileşme Teşebbüsleri ve Zeytinburnu Demir Fabrikasının Kuruluşu'. Master Thesis, İstanbul: İstanbul Üniversitesi.
- KARPAT, Kemal. 2017. *Osmanlı Modernleşmesi Toplum, Kuramsal Değişim ve Nüfus*. İstanbul: Timaş Yayınları.
- KAZGAN, Haydar. 1991 *Osmanlı'dan Cumhuriyet'e Şirketleşme*. İstanbul: Creative Yayıncılık.
- KESKİN, Cengiz. 2007. '1892-1900 Dönemi İrade-i Seniyelerine Göre Osmanlı Bahriyesi'. Master Thesis, Sakarya: Sakarya Üniversitesi.
- KILINÇ, Erol. 1990. 'Gazi Fişek Fabrikası Üretim Hatları ve Yeni Yatırımlar', *MKEK Dergisi*, 82: 30-32.
- KILINÇOĞLU, Deniz T. 2012. *The Political Economy of Ottoman Modernity: Ottoman Economic Thought During the Reign of Abdülhamid II (1876-1909)*. Princeton, NJ: Princeton University.
- KOMATSU, Kaori. 2001. 'Financial problems of the navy during the reign of Abdülhamid II.', *Oriente moderno*, 81 (1): 209-219.
- KUBAN, Doğan. 1970. 'İstanbul'un Tarihî Yapısı', *Mimarlık Dergisi*, 70 (5): 45-46.
- KURÇ, Çağlar. 2017. 'Between defence autarky and dependency: the dynamics of Turkish defence industrialization', *Defence Studies*, 17 (3): 260-281.
- KURT, Burcu. 2015. 'Osmanlı Donanmasında Modern Teknolojiyi Yakalamak: Bahriye Sanayi Alayları', *Uludağ Üniversitesi Fen-Edebiyat Fakültesi Sosyal Bilimler Dergisi*, 16 (28): 79-111.
- KURTOĞLU, Mahmut. 1974. 'Çelik Fabrikasının Kısa Tarihçesi ve Gelişimi', *MKEK Dergisi*, 1-2 (1): 15-16.
- KURUÇ, Bilsay. 1988. *Belgelerle Türkiye İktisat Politikası (1929-1932)*. Ankara: Ankara Üniversitesi Siyasal Bilgiler Fakültesi Yayınları.
- LARCHER, Maurice. 2018. *Büyük Harpte Türk Harbi*, translated by Mehmed Nihad. Vol. 1: Harbin Anâsır ve Mukaddemâtı ve Hey'et-i Umûmiyesinin Hulâsası. İstanbul: Ötüken Neşriyat.
- LEWIS, Bernard. 1993. *Modern Türkiye'nin Doğuşu*. Ankara: Türk Tarih Kurumu Basımevi.
- LIPARTITO, Kenneth. 2015. 'Historical Sources and Data'. In *Organizations in Time: History, Theory, Methods*, edited by Marcelo Bucheli and R. Daniel Wadhvani, 284-304. UK: Oxford University Press.
- MACLENNAN, Ken. 2003. 'Liechtenstein and Gribeauval: 'Artillery revolution' in political and cultural context', *War in History*, 10 (3): 249-264.
- MCGHEE, George. 1990. *The US-Turkish-NATO middle east connection: How the Truman doctrine and Turkey's NATO entry contained the soviets*. New York: Palgrave Macmillan.

- MELMAN, Seymour. 1997. 'From private to state capitalism: How the permanent war economy transformed the institutions of American capitalism: Remarks upon receiving the Veblen-Commons Award', *Journal of Economic Issues*, 31 (2): 311-332.
- MERCAN, Evren. 2012. 'Osmanlı Bahriyesi'nde İlk Denizaltılar: Abdülhamid ve Abdülmecid', *Güvenlik Stratejileri Dergisi*, 8 (15): 163-184.
- METE, A. Serdar. 2012. 'Osmanlı İmparatorluğu'ndan Türkiye Cumhuriyeti'ne Türk Ordusunda Mavzer Tüfekleri'. Master Thesis, İstanbul: Yeditepe Üniversitesi.
- METEL, Raşit. 1966. *Atatürk ve Donanma*. İstanbul: T.C. Genelkurmay Başkanlığı Deniz Kuvvetleri Komutanlığı.
- MOKYR, Joel. 1999. 'Editor's Introduction; The New Economic History and the Industrial Revolution'. In *The British Industrial Revolution: An Economic Perspective*, edited by Joel Mokyr, 1-127. USA: Westview Press.
- MUNSON IV, Howard A. 2012. 'The Joint American Military Mission to Aid Turkey: Implementing the Truman Doctrine and Transforming US Foreign Policy, 1947-1954'. PhD thesis, Washington: Washington State University.
- MURRAY, Williamson, A. 2020. 'The Industrialization of War, 1815-1871'. In *The Cambridge History of Warfare*, edited by Geoffrey Parker, 221-250. Cambridge: Cambridge University Press.
- MÜLLER-WIENER, Wolfgang. 1992. '15-19. Yüzyılları Arasında İstanbul'da İmalathane ve Fabrikalar'. In *Osmanlılar ve Batı Teknolojisi*, edited by Ekmeleddin İhsanoğlu, 53-120. İstanbul: Edebiyat Fakültesi Basımevi.
- NIKOLAYEV, Aleksey Yevgenyevich. 2012. 'Russia's defence industry modernization: learning from history', *Economic and Social Changes: Facts, Trends, Forecast*, (6): 76-87.
- OĞUZ, Abdullah. 2006. 'Kırıkkale'nin Kuruluşunda Silah Sanayinin Rolü'. Master Thesis, Kırıkkale: Kırıkkale Üniversitesi.
- OKAR, Avni. 2018. *Türkiye'de Tayyarecilik 1910-1924*, İstanbul: Yapı Kredi Yayınları.
- ORAL, Atilla. 2012. *İlk Silah Fabrikatörü Şakir Zümre*. İstanbul: Demkar Yayınevi.
- ORAL, Atilla. 2016. *Enver Paşa'nın Kardeşi Nuri Killigil*. İstanbul: Demkar Yayınevi.
- ORTAYLI, İlber. 1981. *İkinci Abdülhamid Döneminde Osmanlı İmparatorluğunda Alman Nüfuzu*. Ankara: Ankara Üniversitesi Siyasal Bilgiler Fakültesi Yayınları.
- OWEN, Roger, and Şevket PAMUK. 1998. *A history of Middle East economies in the twentieth century*. Cambridge, MA: Harvard University Press.
- ÖNIŞ, Ziya. 1995. 'International context, income distribution and state power in late industrialization: Turkey and South Korea in comparative perspective', *New Perspectives on Turkey*, 13: 25-49.
- ÖNSOY, Rifat. 1988. *Tanzimat Dönemi Osmanlı Sanayii ve Sanayileşme Politikası*. İstanbul: Türkiye İş Bankası Kültür Yayınları.
- ÖZÇAYLAK, Aysu. 2017. *Cumhuriyet Dönemi Ekonomisinde Yerli Malı Politikaları ve Uygulamaları*. Ankara: Atatürk Araştırma Merkezi Yayınları.

- ÖZLÜ, Hüsnü. 2006. 'İkinci Dünya Savaşı'ndan Günümüze Türkiye'de Savunma Sanayinin Gelişimi (1939-1990)'. PhD Thesis, İzmir: Dokuz Eylül Üniversitesi.
- PAMUK, Şevket, and Jeffrey G. WILLIAMSON. 2011. 'Ottoman de-industrialization, 1800-1913: assessing the magnitude, impact, and response', *The Economic History Review*, 64: 159-184.
- PAMUK, Şevket. 2015. *Türkiye'nin 200 Yıllık İktisadi Tarihi*. İstanbul: Türkiye İş Bankası Kültür Yayınları.
- POPP, Andrew, and Susanna FELLMAN. 2017. 'Writing business history: Creating narratives', *Business History*, 59 (8): 1242-1260.
- QUATAERT, Donald. 1983. *Social Disintegration and Popular Resistance in the Ottoman Empire, 1881-1908: Reactions to European Economic Penetration*. New York: New York University Press.
- REGELE, Lindsay S.. 2018. 'Industrial Manifest Destiny: American Firearms Manufacturing and Antebellum Expansion', *Business History Review*, 92 (1): 57-83.
- SÁNCHEZ, Esther. 2010. 'The French armament firms and the Spanish market, 1948-75', *Business History*, 52 (3): 435-452.
- SANDER, Oral. 2012. *Siyasi Tarih İlkçağlardan 1918'e*. İstanbul: İmge Kitabevi.
- SANDER, Oral and Kurthan FIŞEK. 2007. *Türk-ABD Silah Ticaretinin İlk Yüzyılı (1829-1929)*, İstanbul: İmge Kitabevi.
- SARC, Ömer C.. 1940. *Tanzimat ve Sanayimiz*. İstanbul: Maarif Matbaası.
- SARISIR, Serdar. 1998. 'Atatürk Dönemi Millî Hava Harp Sanayii İçinde Kayseri Tayyare Fabrikasının Yeri'. Master Thesis, Kayseri: Erciyes Üniversitesi.
- SATTERTHWAITE, Joseph C.. 1972. 'The Truman doctrine: Turkey', *The Annals of the American Academy of Political and Social Science*, 401 (1): 74-84.
- SERFATI, Claude. 2001. 'The adaptability of the French Armaments industry in an era of globalization', *Industry and Innovation*, 8 (2): 221-239.
- SEYMEN, M. Kemal. 1984. 'Pirinç Fabrikası', *MKEK Dergisi*, 12 (1): 3-8.
- SHAW, J. Stanford and Ezel K. SHAW. 1997. *History of the Ottoman Empire and Modern Turkey: Volume 2, Reform, Revolution, and Republic: The Rise of Modern Turkey 1808-1975*. Cambridge: Cambridge University Press.
- SZYLIOWICZ, S. Joseph. 1991. *Politics, Technology and Development Decision-Making in the Turkish Iron and Steel Industry*, London: Palgrave Macmillan.
- ŞENEL, Esra. 2009. '1975-1978 Yılları Arasında Türkiye'ye Uygulanan Ambargonun Türk Savunma Sanayine ve Teknoloji Yönetimine Etkisinin Analizi'. PhD Thesis, Ankara: T.C. Kara Harp Okulu Savunma Bilimleri Enstitüsü.
- ŞENER, Sefer. 2007. 'Osmanlı Sanayileşme Süreci ve Bu Süreçte Özel Girişimin Rolü', *Dokuz Eylül Üniversitesi Sosyal Bilimler Enstitüsü Dergisi*, 9 (3): 56-90.
- TETİK, Fatih, and Serdal SOYLUER. 2017. 'Silah İthalatı ve Kara Harp Sanayi'. In *Osmanlı Askeri Tarihi: Kara, Deniz ve Hava Kuvvetleri 1792-1918*, edited by Gültekin Yıldız, 141-172. İstanbul: Timaş Yayınları.

- TETİK, Fatih. 2018. *Sultanın Silahları-II. Abdülhamid Dönemi Savunma Sanayii ve Silah Teknolojisi*, İstanbul: Dergâh Yayınları.
- TOPRAK, Zafer. 1982. *Türkiye’de Millî İktisat*. Ankara: Yurt Yayınları.
- TUTSAK, Sadiye. 2014. ‘Türk İstiklâl Harbi’nde Alman Silahları ve Askerî Mühimmatı’, *Ankara Üniversitesi Osmanlı Tarihi Araştırma ve Uygulama Merkezi Dergisi*, 36: 229-260.
- TÜRK, A. Cengiz. 1983. ‘Gazmaske Fabrikası’, *MKEK Dergisi*, 3 (1): 11-13.
- YALÇIN, Osman. 2009. ‘Mühürdarzade Nuri bey’in (Demirağ) Hayatı ve Çalışmaları (1886-1957)’, *Ankara Üniversitesi Türk İnkılâp Tarihi Enstitüsü Atatürk Yolu Dergisi*, 11 (44): 743-769.
- YALÇIN, Osman. 2016. *Türk Hava Harp Sanayii Tarihi*. İstanbul: Türkiye İş Bankası Kültür Yayınları.
- YARIŞ, Sümeyra. 2012. *İstanbul’un 100 Sanayi Kuruluşu*. İstanbul: İstanbul Büyükşehir Belediyesi Kültür A.Ş. Yayınları.
- YORULMAZ, Naci. 2018. *Büyük Savaşın Kara Kutusu*, İstanbul: Kronik Kitap.
- YURTOĞLU, Nadir. 2017. ‘Türk Savunma Sanayiinde Girişimci Bir Kuruluş: Makine ve Kimya Endüstrisi Kurumu (MKEK) 1950-1960’, *Yakın Dönem Türkiye Araştırmaları*, 16 (31): 103-104.
- ZENGİN, Ersoy. 2015. *Tophane-i Amire’den İmalat-ı Harbiye’ye Osmanlı Devleti’nde Harp Sanayii (1861-1923)*. PhD Thesis, Erzurum: Atatürk Üniversitesi.

Website Contents

- ‘Defence News Top 100’, 15 March 2021, <https://people.defencenews.com/top-100/>
- ‘SIPRI Military Expenditure Database’, 19 February 2021, <https://www.sipri.org/databases/milex>

La transformació de la indústria de defensa turca des de l'època de l'Imperi otomà fins a la República de Turquia, 1834-1950

RESUM

Aquest estudi examina la transformació de la indústria turca de defensa entre el 1834 i el 1950. Distingeix entre diferents períodes per a revelar l'estructura i les condicions de la indústria al llarg dels anys considerats. El primer, entre els anys 1834 i 1923, l'identifiquem com un període de «d'esforços de modernització i dependència de les importacions». En aquest període va començar el procés de modernització i les iniciatives estatals van introduir la màquina de vapor en la indústria de defensa turca. Tanmateix, les activitats desenvolupades durant aquests anys van tenir un èxit limitat i cap a finals de segle la indústria de defensa va passar a dependre completament de les importacions. El segon dels períodes identificats transcorre entre els anys 1923 i 1950 i pot definir-se com un període que es caracteritza pels «intents de producció nacional». En aquests anys, especialment durant l'època d'Atatürk (1923-1938), Turquia va intentar establir una indústria local i una classe industrial amb estrets vincles amb l'estat. Aquesta política industrial es va acabar després de l'ajuda militar britànica, la Segona Guerra Mundial i l'entrada de Turquia a l'OTAN.

PARAULES CLAU: indústria de defensa turca, Imperi otomà, República de Turquia, transformació

CODIS JEL: O14, L26, L64, N80

La transformación de la industria de defensa turca desde la época del Imperio otomano hasta la República de Turquía, 1834-1950

RESUMEN

Este estudio examina la transformación de la industria turca de defensa entre 1834 y 1950. Distingue entre diferentes períodos para revelar la estructura y las condiciones de dicha industria a lo largo de los años considerados. El primero de esos períodos tuvo lugar entre 1834 y 1923, y se caracteriza por sus «esfuerzos de modernización y dependencia de las importaciones». En él se inició el proceso de modernización, y las iniciativas estatales introdujeron la máquina de vapor en la industria de defensa turca. Sin embargo, las actividades emprendidas durante esos años tuvieron un éxito limitado y, hacia finales de siglo, la industria de defensa pasó a depender completamente de las importaciones. El segundo de los períodos identificados transcurre entre los años 1923 y 1950, y puede definirse por sus «intentos de producción nacional». En estos años, especialmente durante la época de Atatürk (1923-1938), Turquía trató de establecer una industria local y una clase industrial con estrechos vínculos con el Estado. Esta política industrial llegó a su fin tras la ayuda militar británica, la Segunda Guerra Mundial y la entrada de Turquía en la OTAN.

PALABRAS CLAVE: industria de defensa turca, Imperio otomano, República de Turquía, transformación.

CÓDIGOS JEL: O14, L26, L64, N80.



Copyright © 2022. This document is under a Creative Commons Attribution 4.0 International License. To see a copy of this license click here <https://creativecommons.org/licenses/by/4.0/>.