

## **Did the Ottomans Import the Low Wages of the British in the 19th Century? An Examination on Ottoman Textile Factories**

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There are a limited number of studies regarding wages and living standards in the Ottoman Empire compared to Britain and other developed countries in the West. In recent years, although there has been a growing interest in Ottoman historiography, there was no long wage and price series to measure Ottoman workers' living standards. The wage series of Boratav et al. (1984) was the first attempt to create a wage series. They built a wage series for the period 1839-1913, using the wage of skilled construction workers and unskilled (non-agricultural and non-factory) workers.<sup>1</sup> After this attempt, Ergene tried to create a more balanced series in 1998 with agricultural and urban (non-factory) workers between 1836 and 1911.<sup>2</sup> Pamuk produced longer price and wage series for Ottoman economic history in 2000. Wage series were created with the wages of skilled and unskilled construction workers for both Istanbul and other cities for a long period between 1489-1914.<sup>3</sup> However, none of these series contains factory workers' wages and any separate series have not yet been created for factory workers until now. Kabadayı (2008) used wage ledgers of a state factory for investigating state-labour relations but could not have constructed a wage series because of the lack of adequate archival documents.<sup>4</sup> Today, Ottoman archives offer sufficient wage resources to shed light on factory workers' wages in the second half of the 19th century despite the cataloguing process continuing in the archive.

Ottoman Empire established some factories in the 1840s, especially in the textile sector, to meet its centralized-modernized army and bureaucracy's needs. The geographical centre of these factories absolutely was İstanbul and its surroundings.<sup>5</sup> Quataert claimed that these factories were not significant in terms of their production levels and their number of workers. Nevertheless, he advised us that many considerable details can be learned by examining state factories.<sup>6</sup> The Imperial Factory of Hereke, Veliefendi Calico Factory, Bursa Silk Factory, Imperial Fez Factory, and İzmit Cloth Factory were the main ones. For now, I have only reached the wage ledgers for Hereke, Veliefendi, and Bursa Factories via the Presidency of the Republic

<sup>1</sup> Korkut Boratav et al., "Osmanlı Ücretleri ve Dünya Ekonomisi 1839-1913," *Yapıt* no: 49, 1984; and the English version, see, Korkut Boratav et al., "Ottoman Wages and the World-Economy, 1839-1913," *Review (Fernand Braudel Center)*, vol. 8, no: 3, Winter 1985.

<sup>2</sup> Boğaç A. Ergene, "Wages in Nineteenth-Century Anatolia: A Comparison of Urban and Agricultural Trends," *New Perspectives on Turkey*, Fall, 1998: 125-128.

<sup>3</sup> Şevket Pamuk, *İstanbul ve Diğer Kentlerde 500 Yıllık Fiyatlar ve Ücretler, 1469-1998*, Ankara, Devlet İstatistik Enstitüsü, 2000.

<sup>4</sup> Mustafa Erdem Kabadayı, "Working for the State in A Factory in İstanbul: The Role of Factory Workers' Ethno-Religious and Gender Characteristics in State-Subject Interaction in the Late Ottoman Empire," *Unpublished Doctoral Dissertation*, Ludwig Maximilians Universität, München, 2008.

<sup>5</sup> Edward C. Clark, "The Ottoman Industrial Revolution," *International Journal of Middle East Studies*, vol. 5, no: 1, 1974: 66-67.

<sup>6</sup> Donald Quataert, *Ottoman Manufacturing in the Age of Industrial Revolution*, Cambridge, Cambridge University Press, 1993: 3.

of Turkey Directorate of State Archives. The records used in this study were collected mostly under the catalogue of “HH.d.” and rarely under the catalogue of “TS.MA.d.”. I accessed and used 114 wage ledgers for Hereke, 75 for Veliefendi, and 29 for Bursa to construct the wage series between 1848 and 1899.

The Hereke Factory is at the centre of this study because it has too many records than others. The factory employed workers in different wage systems: these are time wage system and piece wage system.<sup>7</sup> Salaries were paid for managers, civil officials, and masters. Daily wages, which are another version of time wages, were paid for the steam engine workers and the workers who were in the process of yarn production. As for piece wages, these were paid for the weavers. Apart from these, some workers were paid hybrids and their monthly wages were quite fewer than others. Their numbers increased greatly after the 1890s, which is the date the factory started to produce its famous carpets. The lowness of their wages was owing to their ages; they were children and young girls. To attain a balanced and uniform series, the salaried workers and low-paid young workers are excluded from the series.

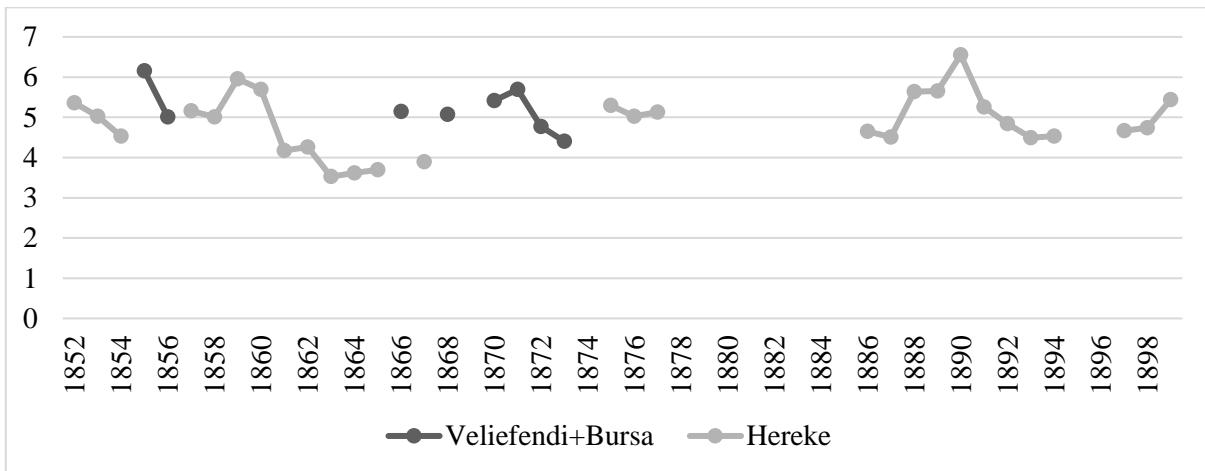
Data of piece wages workers and daily-paid workers were used together to represent as many workers as possible. Simultaneously, separate series was created for both the monthly wages and the daily wages. Thus, not only the workers' potential wages but also the workers' observed monthly wages will be able to analysed. Median values were preferred when creating monthly wage series. Median is more suitable for income data because it is not affected by outliers in the series as much as mean.<sup>8</sup> However, as for the daily-paid wages series, mean values were used because some workers-such as dozens of weavers in Veliefendi Factory- were paid the same daily wages throughout the years, leading to distorting the median wages because of repetition. Hereke's data have some missing years and I tried to fill them by using Veliefendi and Bursa's data for only daily wages. The series obtaining in this way was deflated by Pamuk (2000)'s price index and presented in Figure 1. According to Figure 1, real daily wages increased annually by just 0.029% from 1852 to 1899. Figure 2 showing monthly wages is right after Figure 1. The monthly real wages rose more than daily wages by 0.115% per year from 1848 to 1899. Although there are some fluctuations in some periods, there is only a very slight increase trend throughout the period. It can be clearly seen in Figure 3; how many days had been worked in a month affects the monthly wages directly. There is an upward trend in Hereke Factory and partially Veliefendi Factory. The rise in workdays can explain why the rise in monthly real wages exceeds in daily real wages.

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<sup>7</sup> Peter Scholliers, “Wage Systems,” *The Oxford Encyclopedia of Economic History*, vol. 5, New York, Oxford University Press, 2003: 210-211.

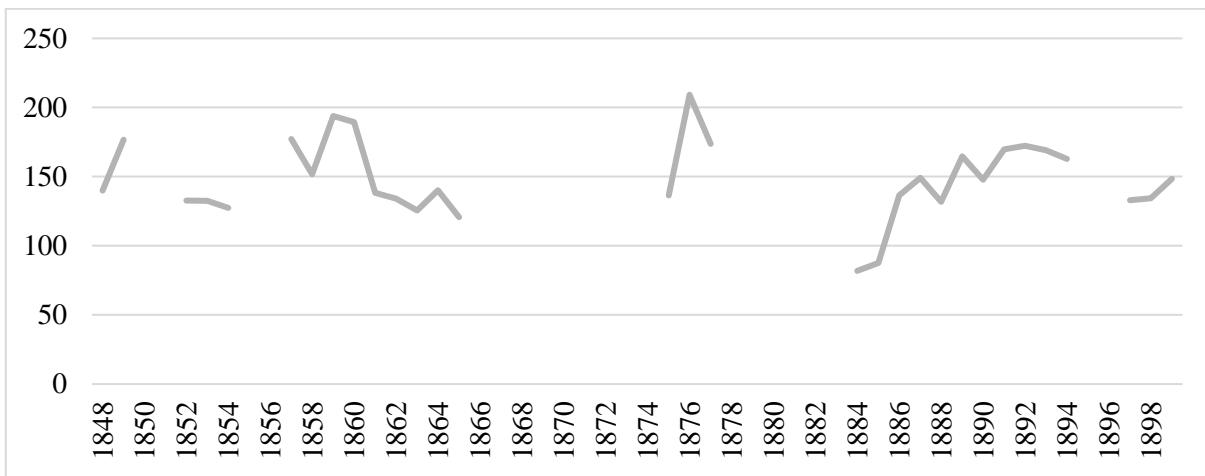
<sup>8</sup> Paul Newbold, William L. Carlson, and Betty M. Thorne, *Statistics for Business and Economics*, 8th Edition, Edinburgh, Pearson, 2013: 60-63; David J. Hand, *Statistics A Very Short Introduction*, New York, Oxford University Press, 2008: 29-32.

**Figure 1:** Real Daily Wages of Horeke Factory Workers (kuruş, 1852 base year=1)



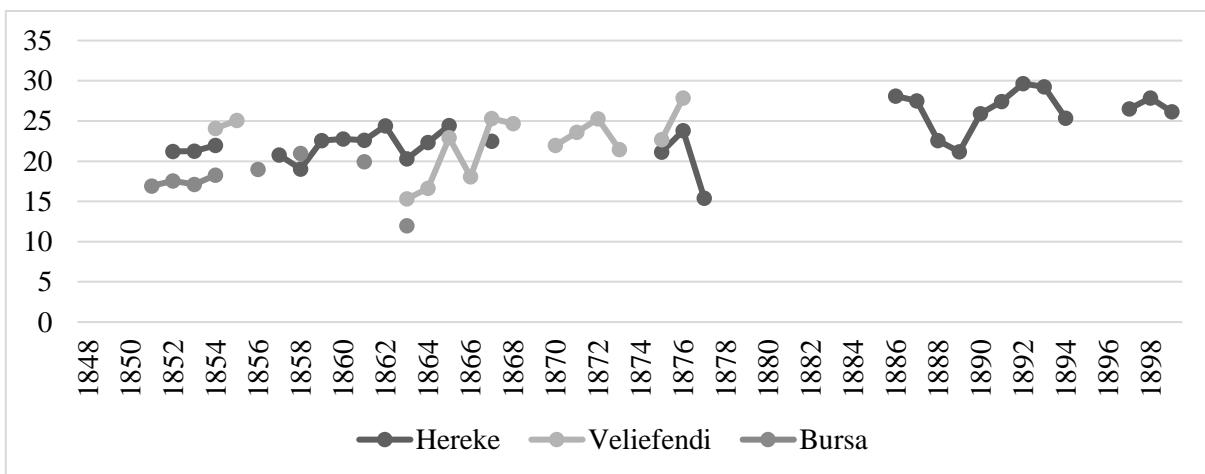
**Source:** BOA, HH.d. and TS.MA.d catalogues, ibid.; Şevket Pamuk, İstanbul ve Diğer Kentlerde 500 Yıllık Fiyatlar ve Ücretler, 1469-1998, ibid.

**Figure 2:** Real Monthly Wages of Horeke Factory Workers (kuruş, 1848 base year=1)



**Source:** See the sources for figure 1.

**Figure 3:** Average Workdays in Horeke, Veliefendi, and Bursa Factories (monthly workdays)



**Source:** BOA, HH.d. and TS.MA.d catalogues, ibid.

Beyond the minor differences between monthly and daily real wages, my data shows that factory workers' real wages did not rise in the second half of the 19th century. As seen in Table 1, limited but prominent examinations of the Ottoman wage history showed that construction (especially skilled ones), urban, and agricultural workers' daily wages increased, albeit at different rates in the same period. A few years difference in data ranges might contribute considerable effects on annual increase rates in the meantime. Nevertheless, there is a considerable difference in terms of wage increases between factory and construction/agricultural workers in either cases. Real wages in urban areas increased more than those in rural areas. Moreover, the real wages of skilled urban workers rose significantly more than those unskilled. How can we explain the increase in non-industrial wages while the industrial wages were stagnant?

**Table 1:** Annual Real Wage Changes in Different Sectors in the Ottoman Empire (%)

Ranges	Skilled construction-unskilled (non-factory and non-agricultural)	Boratav et al.		Ergene		Pamuk		Hereke Factory	
		Agricultural	Urban skilled	Urban skilled-unskilled	Unskilled construction	Skilled construction	Monthly wages	Daily wages	
1848-1899	1.199	0.993	1.188	1.314	0.570	1.024	0.115		
1851-1899	0.785	0.635	0.416	0.555	-0.198	0.271			
1852-1899									0.029

**Note:** All wages data in this table were deflated by Pamuk (2000)'s price index.

**Source:** Korkut Boratav et al. "Osmanlı Ücretleri ve Dünya Ekonomisi 1839-1913," ibid.; Şevket Pamuk, İstanbul ve Diğer Kentlerde 500 Yıllık Fiyatlar ve Ücretler, 1469-1998, ibid.; Boğaç A. Ergene, "Wages in Nineteenth-Century Anatolia: A Comparison of Urban and Agricultural Trends," ibid.; BOA, HH.d. and TS.MA.d catalogues, ibid.

When we compare the wage changes of construction, agricultural and industrial workers in the Ottoman Empire in the second half of the 19th century, it reminds us of Britain's famous pattern started with the second quarter of the 19th century. Robert Allen argued that the mechanisation of the textile industry lowered wages. Three sectors' lines of wages diverged in the 1830s to the detriment of textile workers. Construction workers were receiving the highest wages. Textile workers received the lowest wages while the agricultural workers were in an intermediate position after the divergence.<sup>9</sup> Inventing labour-saving machinery could play a role in Ottoman textile workers' low wages? Ottomans did not invent the machines used in their factories. They imported them from industrialized countries with the workers who operated them.

With the help of machines, the price of 100 hanks yarn dropped from 38 shillings in 1786 to 5.17 shillings in 1812 in Britain. As a result of this serious decline in prices, while cotton products' share in Britain's total exports was slightly higher than 0.5% in 1785, exceeded 38% in 1815.<sup>10</sup> Increasing British cotton exports took place in Ottoman imports with 80%

<sup>9</sup> Robert C. Allen, "The High Wage Economy and the Industrial Revolution: A Restatement," *Economic History Review* 68, no. 1, 2015: 18-19.

<sup>10</sup> Thomas Ellison, *The Cotton Trade of Great Britain*, London, Effingham Wilson, Royal Exchange, 1886: 54-55.

between 1827-1850.<sup>11</sup> According to a calculation, imports of Ottoman cotton yarn increased between 25 to 50 times in the 19th century.<sup>12</sup> While Ottoman producers were able to produce 97% of the textile products needed by the country in the 1800s, this rate decreased to 25-35% by the 1870s, and the rest of the need was imported. The rate of domestic production fell below 20% in the 1910s. The prices of textile products coming from abroad were constantly decreasing in contrast to their quantity. Prices decreased by almost 70% in 1860 compared to 1800. The rate of decrease in prices rose to 80% in 1880 and exceeded 83% in 1913.<sup>13</sup> Especially after the 1838 Anglo-Turkish Convention, when cheap British products reached the Ottoman Empire's shores, producers started to look for cheap labour sources. Many observations on the Ottoman cities have shown that industrial production, particularly in the textile sector, shifted from urban to rural or from craft workshops to houses to compete with cheap British yarn and fabric in the 19th century.<sup>14</sup> Donald Quataert argued that Ottoman manufacturing in the 19th century was underestimated because of ignoring rural and home manufacturing, although there is no clear quantitative data.<sup>15</sup>

On the other hand, especially in Hereke Factory, can low wages be understood by looking at labour relations? Hereke is located on the shores of the Sea of Marmara but outside of İstanbul. The factory's labour supply was not based on a crowded city. On the contrary, most of the Factory's labour source were the villagers living around the factory. The factory needed the workers at least as many workers' need for the factory as and it was not possible that the peasants' only source of income was the wages, they received from the factory. But the peasants probably considered that the wages are more regular income as compared to unsteady agricultural revenues. Furthermore, the state supported the factory's labour force in terms of social welfare such as education, health, retirement, and social aids. As it was stated in the most comprehensive research<sup>16</sup> ever on labour organizations and movements; some workers tried to provoke others to go on strike only in 1908 when the date a wave of strikes began across the Empire. In some cases, strikes helped to increase wages as in bakery workers<sup>17</sup>, while in other

<sup>11</sup> Orhan Kurmuş, *Emperyalizmin Türkiye'ye Girişi*, İstanbul, Yordam Kitap, 2007: 96.

<sup>12</sup> Donald Quataert, *Ottoman Manufacturing*, ibid., p. 26.

<sup>13</sup> Şevket Pamuk and Jeffrey G. Williamson, "Ottoman de-Industrialization, 1800-1913: Assessing the Magnitude, Impact, and Response," *The Economic History Review*, vol. 64, no: 1, 2011, p. 167, 172.

<sup>14</sup> For Ampelakia see, David Urquhart, *Turkey and Its Resources*, London, Saunders and Otley, 1833: 148. for Thessaly see, Socrates D. Petmezas "Patterns of Protoindustrialization in the Ottoman Empire. The Case of Eastern Thessaly, ca. 1750-1860," *The Journal of European Economic History* 19, no. 3, 1990: 581-582.; for Plovdiv see, Nikolay Todorov, "19.ču Yüzyılın İlk Yarısında Bulgaristan Esnaf Teşkilatında Bazı Karakter Değişmeleri," *İstanbul Üniversitesi İktisat Fakültesi Mecmuası* 27, no. 1-2, 1967: 2-3, 5, 12, 32-33 and Fatma Öncel, "Proto Industrialization in the Mid-Nineteenth-Century Balkan Countryside: Textile Manufacturing in Villages of Plovdiv," Unpublished Doctoral Dissertation, Boğaziçi University, Institute for Graduate Studies in the Social Sciences, İstanbul, 2012: 111-113, 150; for Egypt see, John Chalcraft, "The End of Guilds in Egypt: Restructuring Textiles in the Long Nineteenth Century," *Crafts and Craftsmen of the Middle East Fashioning the Individual in the Muslim Mediterranean*, Ed. Suraiya Faroqhi and Randi Deguilhem, London, I.B. Tauris, 2005: 344-345 and Judith Tucker, "Egyptian Women in the Work Force: An Historical Survey," *MERIP Reports* 50, 1976: 7-8; for Damascus see, Sherry Vatter, "Journeymen Textile Weavers in Nineteenth-Century Damascus: A Collective Biography," *Struggle and Survival in the Modern Middle East*, ed. Edmund Burke and David N. Yaghoubian, Berkeley, University of California Press, 2006, p. 83-88

<sup>15</sup> Donald Quataert, *Ottoman Manufacturing*, p. 175-177.

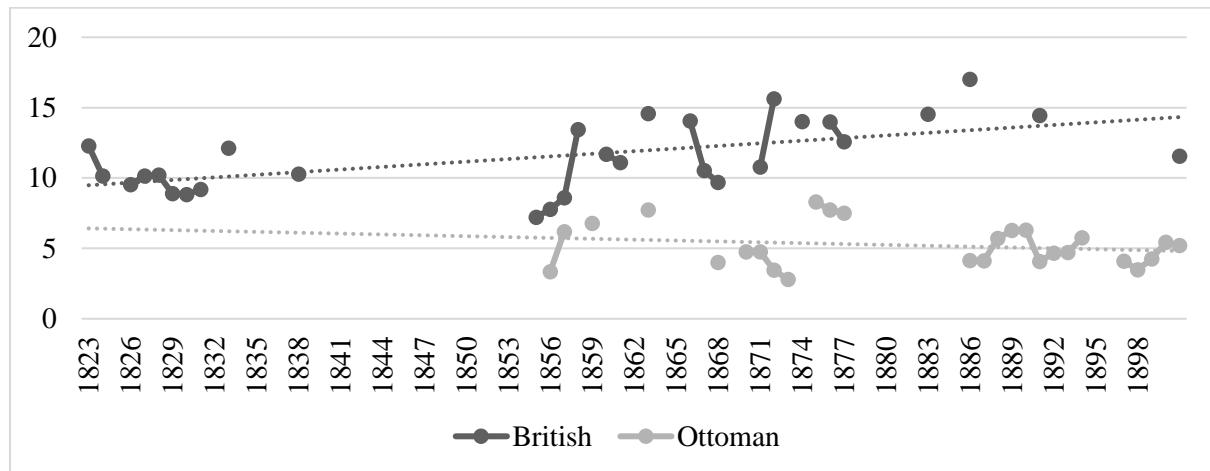
<sup>16</sup> Kadir Yıldırım, *Osmانlı'da İşçiler (18780-1922) Çalışma Hayatı, Örgütler, Grevler*, İstanbul, İletişim Yayınları, 2013: 259.

<sup>17</sup> E. Atilla Aytekin, *Tarlalardan Ocaklılara, Sefaletten Mücadeleye Zonguldak-Eregli Kömür Havzası İşçileri 1848-1922*, İstanbul, Yordam Kitap, 2006: 64-65.

cases did not help as in coal mines.<sup>18</sup> Moreover, Hereke Factory's workers in this strike, instead of asking for an increase in their wages, requested the money collected in the pension fund to be returned to them.<sup>19</sup>

If we compare the Ottoman industrial wages with British in terms of purchasing power parity by wheat, we can see that; even decreased wages in Britain compared to the 18th century have at least averagely twice the Ottomans' purchasing power the second half of the 19th century.

**Figure 4:** Comparison of British and Ottoman Daily Industrial Wages in Wheat (kg)



**Source:** See the sources for figure 1; Arthur L. Bowley, "The Statistics of Wages in the United Kingdom During the Last Hundred Years. (Part IX.) Wages in the Worsted and Woollen Manufactures of the West Riding of Yorkshire", *Journal of the Royal Statistical Society*, 1902, vol. 65, no: pp. 102-126; Gregory Clark, "The Price History of English Agriculture, 1209-1914", *Research in Economic History*, vol. 22, 2004, pp. 41-123; *Shilling Values-United Kingdom*, (online) <https://www.allcoinvalues.com/united-kingdom/uk-shilling-coin-values2c-1801-to-1966.html>, 18.01.2021; Şevket Pamuk, A Monetary History of the Ottoman Empire, Virtual Publishing, Cambridge University Press, 2000, p. 209; *Weight vs. Volume*, Allen-Unger Global Commodity Prices Database, (online) [http://gpih.ucdavis.edu/files/Weight\\_vs\\_volume.xls](http://gpih.ucdavis.edu/files/Weight_vs_volume.xls), 18.01.2021; Cengiz Kallek, "Kile," *TDV İslam Ansiklopedisi*, (online) <https://islamansiklopedisi.org.tr/kile>, 18.01.2021.

It is a fact that, regardless of the reasons, textile workers' real wages diverged negatively from wages of other sectors' workers between 1848 and 1899 in the Ottoman Empire. However, Hereke Factory is the only example supporting this hypothesis; numerous studies in the Ottoman industrialisation literature in the 19th-century support the same argument even without offering a wage series. It is impossible to think that these foreign trade prices affecting the Ottoman economy did not affect the factories. A document regarding the examined factories proved this situation and stated that it is unacceptable that the production cost in factories was higher than those purchased from abroad.<sup>20</sup> Finally, apparently, the Ottomans not only imported British textile products in the 19th century but also imported the low wages of textile workers, which Robert Allen asserted to have emerged in the 1830s by mechanization in Britain.

<sup>18</sup> Yavuz Selim Karaklışla, "1908 Strike Wave in the Ottoman Empire," *Turkish Studies Association Bulletin*, vol. 16, no. 2, 1992.

<sup>19</sup> BOA, BEO, 3607/270466 (26.07.1909); BEO, 3413/255901 (05.10.1908); DH. MKT., 2625/34 (06.10.1908); BEO, 3422/256604 (13.10.1908); BEO, 3425/256815 (03.11.1908).

<sup>20</sup> BOA, MB.İ., 25/75, 04.Ş.1288 (19.10.1871).