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ISTANBUL TELEPHONE COMPANY FROM CONCESSION TO NATIONALIZATION: A STUDY IN BUSINESS HISTORY (1909-1936)

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ABSTRACT

I provide a business history study of introduction of commercial telephone network in Istanbul in 1913 by a consortium of foreign companies. After a short introduction of Ottoman post and telegraph policies in the nineteenth century, the timespan of the article covers a politically and economically turbulent historical era, the period between the auction process in 1909 and the nationalization of Istanbul telephone network in 1936. I focus on the relationship of Istanbul Telephone Company to the Ottoman/Turkish governments, financing mechanisms employed by the company, and development of reach of urban telephone network and technology transfer in Istanbul until nationalization. While compiling empirical backbone of the article, I employ a comprehensive search of English language newspapers that monitored and informed actors that participate into the financial markets in cities like London and New York, in addition to a wide array of sources in Turkish language. By doing so I provide a business history of Istanbul Telephone Company between 1909 and 1936 in the context of capitalist world economy and international financial markets. This history also has much to say about shaping of telecommunications policy in modern Turkish Republic.

Keywords: Telephone business, concession, Istanbul, Ottoman Empire, business history.

JEL Codes: N83, N84, N93, N94, L96.

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İMTİYAZDAN KAMULAŞTIRMAYA İSTANBUL TELEFON ŞİRKETİ: BİR İŞLETMECİLİK TARİHİ ÇALIŞMASI (1909-1936)

ÖZ

Bu çalışma İstanbul'daki ticari telefon şebekesinin 1913'te yabancı şirketlerden oluşan bir konsorsiyum tarafından kurulmasının işletmecilik tarihini incelemektedir. Makale, on dokuzuncu yüzyılda Osmanlı İmparatorluğu'nun posta ve telgraf politikalarını tanıtan kısa bir giriş yaptıktan sonra, politik ve ekonomik açıdan çalkantılı bir dönemi, 1909'daki ihale süreciyle 1936'daki telefon şebekesinin kamulaştırılması arasında geçen zaman aralığını ele almaktadır. Bu çalışmanın odaklandığı konular, İstanbul Telefon Şirketi ile Osmanlı/Türk hükümetleri arasındaki ilişkiler, şirket tarafından kullanılan finansman mekanizmaları ve kamulaştırmaya kadar İstanbul'da kentsel telefon şebekesine erişim ile teknoloji transferinin seyri şeklinde sıralanmaktadır. Makale, olgusal dayanağını oluşturmak için, Türkçe kaynakların geniş bir seçkisine ek olarak, Londra ve New York gibi şehirlerdeki finansal piyasalara katılan aktörleri takip eden ve bilgilendiren İngilizce gazetelerin kapsamlı bir taramasını kullanmaktadır. Böylece İstanbul Telefon Şirketi'nin 1909 ila 1936 arasındaki işletmecilik tarihini kapitalist dünya ekonomisi ve uluslararası sermaye piyasaları bağlamına oturtarak sunmuş olmaktadır. Bu tarihin modern Türkiye Cumhuriyeti'nde telekomünikasyon politikalarının biçimlenmesine ilişkin de söyleyebileceği çok şey bulunmaktadır.

Anahtar Sözcükler: telefon işletmeciliği, imtiyaz, İstanbul, Osmanlı İmparatorluğu.

Jel Kodu: N83, N84, N93, N94, L96.

1. INTRODUCTION: HISTORICAL BACKGROUND FROM TELEGRAPHIC PROTECTIONISM TO TELEPHONE SKEPTICISM OF OTTOMAN EMPIRE

This article provides a business history of Istanbul Telephone Company in the context of capitalist world economy and early development of international financial markets. Integration of peripheral geographies like Ottoman Empire into the world economy was based on increasing and intensifying economic relationships and dependency in the nineteenth century. Investment by foreign companies in infrastructure networks through concessions and financing by financial markets in Europe and US, was one of the main integration mechanisms, in addition to government debt and international trade. Istanbul Telephone Company sets a late example of these investments in infrastructure networks, as a consortium of English, French, and US companies won the auction in 1909 and launched services in 1913. The telephone company employed financial instruments like public offerings in London stock exchange in order to fuel their physical network expansions in Istanbul. However, these investments did not yield expectations of widespread access and technology transfer, as the timing of the commercial launch was an unfortunate date, just one year before the World War. Following the World War and Turkish Independence War the newly found Turkish Republic renewed the concession of company. However, a second catastrophic event, The Great Depression of 1930 hit the company and prevented its development in terms of providing widespread access and technology transfer. In the statist period of Turkish economic policies between 1930 and 1950

Turkish government decided to nationalize foreign companies in infrastructure networks. The nationalization pact of Istanbul telephone network was agreed and signed between Turkish government and Istanbul Telephone Company in 1935 and finalized in 1936. I focus on relationship between international telephone business and Ottoman/Turkish governments in different periods following each other, namely the telephone skepticism of Abdülhamit II (1886-1909), early liberal approach of Mehmed Cavid Bey and Committee of Union and Progress (1909-1914), war statism (1914-1923), early liberal approach of Republic (1923-1930), and finally Republican statism (1930-1950). This early shaping of relationship between Ottoman and Turkish governments to international telephone business had significant effects on the fate of future Turkish telecommunications policies.

Before further exploring the development of telephone network in Istanbul, I provide a sketch of Ottoman post and telegraph history, in order to posit Istanbul Telephone Company into the context of Ottoman communication policies. The incorporation of Ottoman Empire into the world economy, a process that intensified in the nineteenth century, created a demand for services provided by infrastructure networks in general and commercial communications services in particular. The increasing volume of international, transit, and domestic movement of commodities, money and people provided a basis for the profitable operation of infrastructure networks by the capitalists. To exploit these opportunities for profit, capitalists sought to acquire concessions for building and operating transportation and municipal networks. This also triggered a commercial appetite for telephone services in the 1880s and 1890s. In this period, US and European companies built urban-scaled telephone operators in the lively cities of peripheral countries. In this regard, an attention towards acquiring concessions for Istanbul, Izmir and other port cities in the Ottoman Empire was also in place. However, the political skepticism towards telephone, a skepticism that was rooted in the history of earlier communications services, prevented early introduction of commercial telephone services in the cities of Empire.

The history of Ottoman postal services provided historical background for Ottoman approach towards modern telecommunications. Postal services in the Ottoman Empire were in a chaotic condition in the nineteenth century due to the coexistence of multiple foreign postal services side by side with the Ottoman postal organization. The demand for commercial postal services was dependent on foreign post offices, as the transportation networks were under control of foreign companies and public transportation networks like inland roads were inadequate. This dependence on foreign controlled transportation networks was the basis of Ottoman postal dependence. The inability of Ottoman state to force a postal monopoly brought negative consequences in terms of state formation and fiscal gains. This kind of postal dependence was not unique to Ottoman Empire, as a series of semi-peripheral countries like China, Japan, and Ethiopia too was dependent on postal services by multiple foreign post offices (Üçer, 2018b).

The advent of electric telegraph was an opportunity for Ottoman Empire to form an independent and publicly owned communications network. The use of electricity for communications brought divorce of communications from expensive transportation infrastructure. Simple poles and wires were sufficient to carry electrical dispatches of telegraph,

which were cheap enough for Ottoman Empire to build a nationwide communications infrastructure itself. There was an impressive growth of publicly owned modern telegraph network in the second half of the nineteenth century. This network was a tool for government to rule its far regions, in addition to be a significant source of revenue. This was also the case for some other semi-peripheral countries like Japan and Korea that launched commercial telegraph services through publicly owned networks. Ottoman Empire's telegraphic protectionism characterized early policy formation in the telecommunications sector (Üçer, 2020).

Two factors created an unfriendly environment for early development of telephone services in the Ottoman Empire, a policy I call telephone skepticism. First one was the negative stance of Abdülhamit II, who decreed to remove telephone network in 1886 and prevented re-installation of telephone networks until his deposition in 1909. Second one was the resistance from public post and telegraph organization *Posta ve Telgraf Nezareti* (PT from now on) against authorization of a foreign company for a telephone concession. Actually, the resistance of PT was against private operation of telephone by a company, a competitor for their communications services. They preferred a publicly owned telephone network under their control. In other semi-peripheral countries like Japan the time between adoption of telegraph and telephone was not as long as Ottoman Empire. As a consequence, these countries had less resistance and skepticism towards telephone and had much larger early telephone networks relative to Ottoman one. In core and periphery, following a few decades of private operation telephone networks were nationalized in the twentieth century, with different timings. The timing of telephone nationalization in Turkey was 1930s, later than most of European countries, but earlier than China and India, and very earlier than the Latin American countries. This style of late advent and early nationalization of telephone in Turkey, with collective memories of postal dependence and telegraphic protectionism had long-term effects on modern time telecommunications policy and gave outcome of relatively late privatization of Türk Telekom in 2005 (Üçer, 2018a; 2019).

The present Turkish language academic literature on Istanbul Telephone Company consists of histories of Turkish PTT (Tanrıkut, 1984; Alşan 1990; Yazıcı, 1995; Demir, 2005; Tural, 2009), accounts of early republican telecommunications policy (Kubilay, 2003; Güzeliş, 2010), and monographies on company (Önay, 1995; Ersoy, 2017). The literature is predominately in Turkish language. These studies do not employ a theoretical and comparative perspective, except the study of Yavuz Selim Karakışla (2014), who focuses on worker movements and strike of women employees of company. There is a recent revival in academic interest in comparative social history of modern electric urban networks in the Ottoman Empire (İleri, 2017; Ülker, 2018), an area closely related to telephone, which was another part of modern electrified networks. Another significant line of studies focuses on development of Ottoman telegraph network as the main communication tool of the empire (Davison, 1990; Kaçar, 1995; Bektaş, 2000; Bektaş, 2001, Shahvar, 2002). I engage with the telegraph history elsewhere in detail (Üçer, 2020) and I emphasize need to connect these rich histories of Ottoman telegraph to studies on Ottoman telephone in specific and future course of Ottoman/Turkish telecommunications policy in general. This article contributes to the literature by bridging the

studies on Ottoman post and telegraph to Ottoman telephone and handling Ottoman telephone as a part of Ottoman communication policies in the nineteenth century. I also contribute by positing Ottoman telephone in broader concerns of comparative business history like business-government relationships, early forms of international/multinational companies, foreign investments in peripheral economies, and international financial markets. Such business history accounts engaging early development of telephone networks in various countries set a reference point for this article (Noam, 1992; Noam et al., 1994; Noam, 1999; Parapak, 1994; Choo & Kang, 1994; Rachty, 1999; Anchordoguy, 2001; Milne, 2007; Clifton et al. 2011; Gopika, 2014). I also employ English language newspapers as a source of business history, as a contribution to the academic field on business history of Ottoman networks. This article is also a part of my greater plan to author an historical account for Ottoman-Turkish communications policy history from nineteenth to twenty-first century in the context of comparative international finance and business history.

The organization of the text is as follows. Following this first section of introduction, the second section analyzes diffusion of telephone technology from capitalist cores to periphery. Third section analyzes the advent of telephone to the Ottoman Empire. Fourth section investigates the period after World War I until nationalization in 1936. The fifth section concludes and discusses effects of business history of Istanbul Telephone Company on contemporary telephone business and telecommunications policy in Turkey.

2. EXPANSION OF PRIVATE TELEPHONE BUSINESS FROM CORE TO PERIPHERY

As a further development in adaptation of electricity to communication following electric telegraph, patenting of telephone occurred in US in 1876 (Burns, 2004, 171-178; Smil, 2005, 227-236). Soon after the patenting, Bell Company launched commercial telephone services in the United States of America (US) in 1877. Bell Company guaranteed monopolistic privilege in telephone services against telegraph giant Western Union in 1879 and expanded telephone network rapidly (Burns, 2004, 178-180). Technology jumped through Atlantic, as the first concessions for telephone companies were issued in France and Britain respectively in 1879 and 1881 (Noam, 1992, 134-136; Milne, 2007). These companies were generally partnerships between Bell Company and European companies. However, expansion of telephone networks was not as smooth as it was in the US, because of reaction from existing public monopolies of post and telegraph. European telegraph networks were nationalized in the 1870s and 1880s in a consolidation with the postal network, a nationalization and consolidation that created the nucleus of modern PTT patterns without a second T. European PT organizations' persistent preference of telegraph over this expensive "toy" of telephone, their dominance on long distance communication, and their unwillingness to share commercial communications market with a new competitor were limits for initial development of telephone networks (Casson, 1910, 252-255). As a consequence, the telephone companies were limited to concessions for urban-scale monopolies in exchange of handsome royalty payments (Love, 2005, 67-68). The viewpoint of private telephone companies was another factor that determined their limits. Private telephone operators were based in port cities and other metropolises with high demand for communications services, as capitalists prioritized profit maximization, a

behavioral pattern that is called cherry picking or cream skimming (Noam, 1992, 55-57). The private telephone business did not have a long life in many core European countries. Germany preferred to start telephone services as a public monopoly in 1889 (Noam, 1992, 69-71). In the same year France nationalized existing urban telephone companies at the end of ten-year termed concessions (Noam, 1992, 136). Nationalization occurred in Britain in 1911, after an inconsistent private telephone business of three decades (Noam, 1992, 19-22). In some European countries, telephone business followed variated routes. For instance, private telephone business survived in Spain in the twentieth century in the form of national private monopoly of Telefonica (Clifton et al., 2011). Netherlands started to nationalize telephone business in 1907 and completed in 1940 (Noam, 1992, 169-170). In a similar manner, Italy adopted partial nationalizations in 1907, 1933, 1958, and 1965 (Noam, 1992, 240-241). The date was 1923 for Sweden and 1935 for Finland, as these Scandinavian countries developed a different approach to telephone technology (Noam, 1992, 203-204, 212-213).

Colonial periphery followed the footsteps of core countries, as they had to follow their colonizers in postal and telegraphic organizations. These countries too had a few decades of private operation of telephone in the port cities and other centers of colonial administration and commerce from 1880s up to nationalizations. Nationalization of telephone networks in South Africa occurred in 1910 (Horwitz, 2001, 28), in Egypt in 1918 (Rachty, 1999, 40), and in India in 1947 (Gopika, 2014, 26). Indonesia nationalized telephone networks in 1906, in accordance with the beginning of consolidation of telephone services under Dutch PTT between 1907 and 1940 (Parapak, 1994, 106). The private telephone business in the form of regional private telephone companies survived in Latin America until the second half of the twentieth century, as nationalization in Argentina occurred in 1969 (Hill & Abdala, 1993, 8-10), in Chile in 1971 (Rhodes, 2006, 51), in Mexico in 1972 (Noll, 2009, 366), and in Brazil in 1973 (Kingstone, 2003, 24). These late and fragmented character of nationalizations in Latin America facilitated telecommunications privatizations in these countries in the 1980s and 1990s.

Some semi-peripheral governments decided to start telephone services under public monopoly. Significant examples of this public launchers were Japan and Korea. Japan started its telephone services in 1890 under public monopoly just like the public launch of telegraph in 1869 (Ito & Iwata, 1994, 445). Decades of development of early telecommunications in Japan was also a period of transformation of Japan from a peripheral government to an imperialist and expansionist power. Before its colonization by Japan in 1911, Korea too launched telephone services under public monopoly in 1902 (Choo & Kang, 1994, 287). This engagement of these Far East governments with the telephone continued to be a significant contributor to their economic development in the second half of twentieth century (Anchordoguy, 2001; Larson & Park, 2014). An interesting case for early telecommunications development is Ethiopian case, as the Ethiopian government started a public monopoly of telephone in 1904. To form a public monopoly on telephone services in addition to public control on telegraphic and postal networks was a characteristic behavior for a semi-peripheral government that was in struggle to maintain its political independence, as independence in communications was significant to form an independent and capable state. As I explain above, China did not establish a monopoly over telegraph services like Japan or Ottoman Empire, as the Chinese public telegraph operator

developed side by side with the foreign telegraph companies. In accordance with its telegraph background, China did not monopolize the telephone services too and attracted the first private telephone investment in 1881 in Shangai, then to other big cities. Nationalization of telephone networks in mainland China occurred in 1949 following the revolution (Xiong-Jian & You-Nong, 1994, 73-74). Ethiopian case is an interesting one, as the telegraph and telephone were introduced in the same year in 1904 (Tsigie & Feyissa, 1999, 53). As a consequence, there was not a resistance against telephone by telegraph organization and telephone became the main medium of long-distance communication (Garretson, 1980). In this respect, there is a stark contrast between Ethiopia and Ottoman Empire in terms of approach towards telephone business.

3. ADVENT OF TELEPHONE IN OTTOMAN ISTANBUL

> *"Grand Vizier: "It is night. I am fast asleep. Suddenly my slumbers are disturbed by the ringing of a bell within a few inches of my head. (...) I rouse myself. I take a part of the machine in my hand and hold it to my ear. I recognize a voice from Yildiz. (...) The voice tells me to proceed at once to the palace, as his majesty wishes to see me immediately. (...) That would happen every[ ]night. I should never ha[ve had] a moment's sleep. I suffer enough quite enough from the palace as it is. Take the thing away. It is an invention of the evil one, and I will have nothing to do with it." (...) ...[I]t is more than probable that the view entertained by the average Turk with regard to its merits does not materially differ from that expressed by his highness, the Grand Vizier* (New - York Tribune, 1915)*."*

This was an orientalist explanation for the shocking retard of transfer of telephone to the "Turks" (Ottoman Empire), made by an anonymous journalist of *New - York Tribune* in 1915. I totally disagree with this argument about sleepy statesmen of Ottoman Empire. Nevertheless, I concede the fact that title of this "news report" signifies the extraordinarily and exceptionally retarded Ottoman timing for adopting telephone. The telephone business in the capitol city of Ottoman Empire started its services in 1913, 36 years after the first telephone service by Bell Company in the US. This late timing of launch of telephone business contrasts with the early adoption of electric telegraph by the Ottoman Empire in 1855, only 18 years after the opening of first commercial telegraph line in Britain. The commercial launches of telephone and other modern electric urban infrastructures, namely electric lighting and electric tram in Istanbul were late comers too, when compared to other peripheral ports (Table 1).

Ottoman Empire took a totally different route with a strange timing, which makes it difficult to posit its early telephone development in a category. Still Ottoman Empire's semi-peripheral character of early postal and telegraphic development has a merit to explain early evolution line of Ottoman approach to telephone, which I call telephone skepticism. This skepticism was a mixture consequence of factors like censorship policies of Abdülhamit II and early introduction of telegraph as a publicly owned and operated network.

Table 1. Launch Dates of Commercial Urban Electric Infrastructures in Some Peripheral Ports (1878-1928)

City	Telephone	Electric Lighting	Electric Tram
Cape Town (South Africa/UK)	1878	1882	1896
Shanghai (China)	1881	1882	1908
Hong Kong (China/UK Colony)	1882	1890	1904
Timişoara (Romania/Habsburg)	1879	1884	1899
Tokyo (Japan)	1890	1886	1895
Osaka (Japan)	1899	1886	1903
Kolkata (India/UK Colony)	1881	1900	1902
Istanbul (Ottoman Empire/Turkey)	1913	1914	1914
Izmir (Ottoman Empire/Turkey)	1927	1924	1928

Source: Compiled by the author.

In this section, I introduce English language newspapers as sources of Ottoman business history, despite their orientalist evaluations. Because attention of these newspapers towards infrastructure investments in general and Ottoman telephone business in specific is an indicator of significance of Ottoman/Turkish business in the eyes of financial markets of Europe and US. These news reports demonstrate how business circles see early conditions of telephone business in the Ottoman cities and provide a rich source of details for issues like company compositions, financing instruments, and concession agreements. Naturally possibilities of employing these news reports as sources of business history go beyond issue of telephone and covers all activities of international business in Ottoman/Turkish infrastructure networks.

When studying business history of telephone in Istanbul, it is necessary to separate technological experiments, exclusive networks built for official purposes, and commercial services of telephone that accepts ordinary people as subscribers. This article puts emphasis on business history of commercial telephone services in Istanbul. Actually, the technologic development of telephone was not completely stranger to the Ottoman society and had early repercussions in the Empire. First experiment of telephone technology in Istanbul was made in the telegraph factory of *Posta ve Telgraf Nezareti* in 1877. In this experiment Emile Henri Lacoine (1835-1899) who works for telegraph factory in Istanbul manufactured a simple telephone line with two ends. This line was never used for commercial ends (Demir, 2005, 155). A small non-commercial network for government was built by Ottoman engineers of PT in Istanbul in 1881. This non-commercial network was connecting government offices in the historical peninsula and some banks in Galata to each other. This network was not operated as a commercial service provider and were closed for ordinary subscribers (Demir, 2005, 155-156). The ordinary way to follow was development of the official network and expansion of it to other regions in the following years. However, the intervention by Abdülhamit II stopped

this expected development. Abdülhamit II decreed removal of government telephone network in Istanbul on August 16, 1886, except a line between Karaköy and Kilyos in Istanbul (Demir, 2005, 156). This decision was a crucial set-back for development of telephone technology in the Ottoman Empire. One may argue that 1880s was too early to develop an extensive telephone network financed by Ottoman government, as the telephone devices and telephone infrastructure was too expensive. However, like Japanese (Ito & Iwata, 1994, 445) and Ethiopian (Garretson, 1980; Tsigie & Feyissa, 1999, 53) cases, it was possible to build an extensive official network in 1890s, as the backbone infrastructure inputs became much cheaper. It was also possible for Ottoman PT to take a step forward and became PTT by offering commercial services to ordinary subscribers. Ottoman technical expertise in the realm of telegraph would have been a decent starting point for developing an empire-wide telephone network. However, this development had to wait until modern Turkish Republic's investments in 1920s.

When we shift our focus back to private telephone business in Ottoman Empire, we see that the first application for a concession for telephone business was made in 1879. In this case, an entrepreneur called Langevich applied for a fifty-year license in name of a foreign company. This concession was not granted (Demir, 2005, 155).[2] All other attempts for private telephone business were rejected too until 1909. One of the factors behind refusal of concessions for commercial telephone was Ottoman PT's resistance against introduction of a foreign competitor under control of foreigners. But the main factor that prevented development of telephone business in Ottoman Empire was Abdülhamit II's skepticism towards telephone technology and telephone business.

The main motive of Abdülhamit II was to stop confidential communication beyond his abilities of Ottoman surveillance bureaucracy. Telephone conversations were perceived to be secret and dangerous and the opportunities to record and listen were not yet known. A telephone network in capital was dangerous as it may have motivated opposition to use telephones as a communication device under cover. As another example of Abdülhamit II's motivation to prevent confidential communication was his negative stance against urban post in Istanbul. The urban postal networks in Ottoman Empire developed relatively late when compared to other countries. When it finally started operations, Abdülhamit II banned sending letters with closed envelopes by Ottoman urban postal network in Istanbul. Closed envelopes were liberalized in 1908 (Demir, 2005, 30-32). Instead of telephone, Abdülhamit II promoted investments in telegraph network as the backbone of Empire's telecommunications network, a network that produced archivable papers of correspondence suitable for surveillance. Perhaps an Ottoman public telephone network similar to Japanese and Ethiopian cases would have been established when inputs got cheaper in the 1890s, if Abdülhamit II was not skeptic towards telephone.

It is crucial to emphasize that the skepticism of Abdülhamit II against telephone business contrasts with his support for infrastructure investments, especially railway and telegraph investments. On one hand, he was motivated to improve transportation and communications networks in order to increase state capacity to govern far regions (Berkes, 2002, 344; Fortna,

[2] The name of the comoany represented by Langevich is written as *Otovinkler G.* in Turkish texts. I cannot detect the full name of Langevich. I also cannot detect original name of the company.

2008, 57-58). On the other hand, he was in fear of suicides and conspiracies covered by confidentiality of telephone correspondences. It is possible to detect exaggerated news reports by English language newspapers about Abdülhamid II's skepticism towards telephone (The Atalanta Constitution, 1905). English language newspapers also compared Abdülhamid II's skeptic stance to successor Mehmed V's enthusiasm for telephone (Detroit Free Press, 1909; Los Angeles Times, 1909).

In addition to Abdülhamid II's motivation to prevent confidential communication, the stance against telephone was a part of a general skepticism towards technology of electricity (Mazak, 2007; Özdemir, 2016). As I demonstrate in Table 1, private business in sectors of electric lighting and electric tramway were blocked too. Instead of electric power, the city lights in Istanbul persisted to be dependent to gas from 1856 to 1914 (İleri, 2017, 285).[3] In a similar manner, the horse tramway network which was commercially launched in 1871 survived in Istanbul until electrification of the lines in 1914 (Ülker, 2018).[4] In a newspaper column, one can observe surprise about lack of electrical networks in Istanbul in the first decade of the twentieth century: "In this European city, the Capital of the Turkish Empire, with a population larger than Vienna, there are neither telephones, nor electric lights, nor electric trams, and the very last place to find a guide book or plan of Constantinople is Constantinople itself (The Times of India, 1904; also see South China Morning Post, 1907)." Another impression from a correspondent column contrasts Istanbul with and without electricity, the effect of eight years operation of telephone, along with tramway and electric (The Manchester Guardian, 1922). Despite the fact that telephone was forbidden, there were some instances of *de facto* use in private properties and smuggling of various telephone devices into Ottoman cities (Tanrıkut, 1984, 683).

Following the Young Turk Revolution in 1908, Abdülhamit II was deposed in 1909 (Fortna, 2008, 60-61). Immediately after the deposition, Ottoman PT established a small-scale telephone network for governmental use in Istanbul in 1909 (Tanrıkut, 1984, 684; Demir, 2005, 157). Different ministries and agencies too purchased telephone systems in a rush, a behavior that caused a chaotic and heterogeneous official telephone structure. There was a telephone-mania (*telefon iptilası*) within the Ottoman society too, as the families and companies imported private telephone systems in a rush (Tanrıkut, 1984, 683). Also, there were applications for concessions of commercial telephone networks. The stance of PT was against private ownership and business of commercial telephone networks, as it defended public ownership, which almost became an international standard in the 1890s and 1900s (Holcombe, 1911). Their main argument for public ownership was that a private telephone network would decrease their telegraph income. PT defended that they were technically able to build the commercial telephone network themselves. According to Ali Galip Bey, who was former chief of PT and a

[3] It is significant to note that Nurçin İleri (2017) put emphasis on resistance by gas lighting business and potential conflicts between separate concessions for gas and electric lighting in Istanbul as factors that delayed introduction of electric lighting.

[4] The horse tramway was providing abundant cheap or free fertilizers to fruit and vegetable gardens of Istanbul. Electrification in 1914 ended abundance of fertilizers. (Biçen, 2020, 12-13; Akşam, 1942).

member of the first *Meclis-i Ayan*[5] after Young Turk Revolution in 1908, the construction of governmental telephone network in 1909 in Istanbul was a *fait accompli* by PT. This was made in order to prove that PT was capable of building network itself, instead of a foreign telephone company. Ali Galip Bey's speeches in *Meclis-i Ayan* provides rich arguments in defense of public ownership of telephone network (TBMM, 1910, 704-714; Ersoy, 2017, 91-111). There were also reports of PT to Ministry of Interior and Ministry of Public Works that aim to explain merit of public ownership of telephone network in 1908 (Tanrıkut, 1984, 684-685). The social wave of nationalist boycotts of foreign companies (Çetinkaya, 2015) and the unhappiness about persistent existence of foreign post offices (Üçer, 2018b) were other significant factors that motivate PT and some other statesmen for public ownership of telephone. Still there was an inclination of government to allow private enterprise in telephone, as the Young Turks were in seek of rapid economic development. Main arguments were state's inability to build a publicly owned commercial network, due to the limited technical capacity of PT and scarcity of public funds. Speeches of government members in *Meclis-i Mebusan* and *Meclis-i Ayan* demonstrates their arguments for private operation of telephone network (TBMM, 1909, 99-117; Malhut, 2009, 169-221; Ersoy, 2017, 88-91).

PT was placed under Ministry of Interior and Ministry of Public Works at the first place in 1870. In 1909 PT was transformed into a directorate (*Umumi Müdüriyet*) and transferred under the authority of Ministry of Finance (Demir, 2005, 158). Minister of Finance of the time, Mehmed Cavid Bey (1875-1926), who was well-known of his liberal economic approach (Eroğlu, 2002), was convinced to grant a concession by English engineer Herbert Laws Webb (1864-1931), who was a die-hard supporter of private enterprise in telephone business and a representative of companies in seek of expansion (Tural, 2009, 207-208; Ersoy, 2017, 83-87). Webb wrote a book on the evolution of telephone business in Europe. He supports private business telephone against European nationalizations of time (Webb, 1910; J. E. K., 1931). For private telephone business, as a result of rising trend of nationalization in Europe, seeking of new investment opportunities was crucial. In this respect, concession opportunity in Istanbul was valuable enough to motivate Webb to negotiate with Mehmed Cavid Bey. An article by Levant Trade Review, the magazine of American Chamber of Commerce for Turkey emphasized significance of Istanbul concession for international telephone business (Levant Trade Review, 1911).

Despite opposite recommendation by PT, the tender for Istanbul telephone concession was organized by government in 1909. The winner was a consortium of US, British and French companies, which was being represented by Webb. The full names and origins of companies

[5] *Meclis-i Ayan* and *Meclis-i Mebusan* were two wings of Ottoman parliament in Istanbul. *Meclis-i Ayan* was un-elected Ottoman senate, whose members were selected by Sultan. *Meclis-i Ayan* was consisted of men older than 40 years, who are from higher ranks of bureaucracy and military, former cabinet members, mayors, and religious community leaders. The second wing of the Ottoman parliament was *Meclis-i Mebusan*, Ottoman house of deputies. *Meclis-i Ayan* and *Meclis-i Mebusan* first convened in 1876 following the advent of the First Constitutional Monarchy, *Birinci Meşrutiyet* in accord with the first modern Ottoman constitution *Kanun-i Esasi*. However, Abdülhamit II closed *Meclis-i Ayan* and *Meclis-i Mebusan* in 1877. Following the proclamation of Second Constitutional Monarchy, *İkinci Meşrutiyet* in 1908, *Meclis-i Ayan* and *Meclis-i Mebusan* was formed again. Ottoman parliament in Istanbul was closed by British invasion administration in 1920. The new Turkish parliament in Ankara, *Türkiye Büyük Millet Meclisi* convened in 1920 and accepted deputies of *Meclis-i Mebusan* as natural members (Akyıldız, 2003).

that formed consortium were as follows. National Telephone Company from UK, the Western Electric Company from US, the British Insulated and Helsby Cables from UK, and Thomson-Houston Company from France (The Christian Science Monitor, 1909a; The Christian Science Monitor, 1909b; The Manchester Guardian, 1909; The New York Times, 1909). A thirty years term concession contract was signed by Mehmed Cavid Bey and Webb in 1911. According to this contract, in addition to the historical peninsula of Istanbul, concession was including financial and commercial downtown in Galata-Pera (Beyoğlu side of Golden Horn), Scutari (Üsküdar and other Asian side districts), Princess Islands, and the surrounding small settlements. Contract stipulated that, in exchange of a monopoly in these areas, the company was committed to pay 15% royalty to the government. It was planned to install a network with a capacity of 10.000 subscribers. Government had right to purchase network after ten years (Wall Street Journal, 1910; The Christian Science Monitor, 1911; The Irish Times, 1911). The network was built by English engineers, who had to overcome obstacles like hilly areas, connecting land masses divided by Golden Horn and Bosphorus by submarine cables (The Times of India, 1911). As planned, the laying down of telephone exchanges and lines was completed in two years. Constantinople Telephone Company (*Dersaadet Telefon Kumpanyası*) started its commercial services in Istanbul in 1913 (Tanrıkut, 1984, 685).

In addition to the initial capital invested in by partners, Constantinople Telephone Company raised money by public offerings to finance its investments in Istanbul. For instance, there was a public offering that aimed to raise £300.000 in 1911 (The Irish Times, 1911). A second public offering in February 1914 was organized by the company to finance new investment in network that aimed to raise £200.000 (The Irish Times, 1914). Public offerings in particular and use of financial instruments of capital markets in the core countries in general were crucial ways to finance infrastructure investments of private companies in peripheral countries. Abundancy of English language news reports on Constantinople Telephone Company in particular and infrastructure companies in various peripheral countries in general was to meet demand from popular base of financial investors in seek of profitable assets. This financial appreciation towards infrastructure investments in peripheral countries in the 1890s and 1900s was damaged by the Great War (1914-1918) and was nearly devastated by the Great Depression (1929-1930). After these turning points, public funds became the main financing source for infrastructure investments. In accordance with this transformation of financing patterns, publicly owned networks of SOEs substituted private companies.

The advent of telephone business to Ottoman Empire was 36 years after the first commercial telephone service of world in US in 1877. This retard of transfer of commercial telephone was too long, when it is compared to the installation of first commercial telegraph line in 1854, 15 years after the first commercial telegraph line in Britain in 1839 (Davison, 1990). This was also a great retard when it is compared to the quick adaptation of telephone technology by semi-peripheral countries like Japan (1890), Korea (1902), China (1881), and Ethiopia (1894). Despite the explanation of factors like Abdülhamid II's skepticism towards telephone and PT's resistance against a possible competitor, it is hard to make sense of this extraordinarily late timing. This late adaptation to the commercial telephone services had

significant consequences for economic and cultural structure of Turkish society, as a topic yet to be studied in depth.

Istanbul was not the only city that attracted applications for telephone concession after Young Turk Revolution. For example, Dikran Bey, a transportation entrepreneur in Beirut applied for a 99-year termed telephone concession in 1908 but was refused (Demir, 2005, 156-157). In addition to Beirut, a search in the Ottoman archives detects telephone concession applications for autonomous region of Mount Lebanon (BOA, 1912), Thessaloniki (BOA, 1908), Serres (BOA, 1909a), Damascus (BOA, 1909b), and Xanthi (BOA, 1911). Famous but failed Chester Project too included laying down of telephone networks in coordination with construction of an extensive railway network (The Times of India, 1923). Besides official applications for telephone concessions, there were some de-facto commercial telephone operations in the Empire. Telephone services by foreign post offices in Izmir were *de facto* operations that work without concessions (Güzeliş, 2010, 191). It is reasonable to assume that there were some other *de facto* telephone operations by foreign post offices or private entrepreneurs elsewhere in the Ottoman Empire. For example, there was a *de facto* commercial telephone operation of 350 lines in Samsun by an entrepreneur called Avni Bey and his two partners. This line was confiscated by Samsun mayor during the Independence War. In Trabzon, municipality was operating a commercial telephone network of 100 lines that was built during the Russian invasion (Alşan, 1990, 412).

The timing of commercial start of telephone company in Istanbul in 1913 was not a lucky one. Constantinople Telephone Company was nationalized by the Ottoman government in 1915, during the Great War, as a part of a war-time policy to control communications services, in parallel with the closing of foreign post offices in 1914 (Tanrıkut, 1984, 686). In this short period, company was not able to achieve a great economic success. According to data of International Telegraph Union (ITU), the company had 4.156 subscribers in 1915, with a traffic of 5,15 million conversations. In addition to subscribers, there were 60 public telephone points. Company was employing 207 workers (Bureau International de L'Union Télégraphique, 1917, 11), including a cosmopolitan group of multi-lingual women that operated manual telephone exchanges. Karakışla (2014) provides a comprehensive and competent study on women employees of telephone company in Istanbul. Male employees established a soccer team named *Telefoncular FC* that competed in Istanbul league in the season 1913-1914. The soccer team was the tail ender in Istanbul league. They lost against Galatasaray 5-0 and Fenerbahçe 9-0 -a sportive performance similar to poor business performance of the company (TFF, 1992, 25).

According to ITU, in 1915 telephone business had 144.419 commercial telephone subscribers in Russia, 35.700 in Spain, 4.314 in Bulgaria, 70.231 in Argentine, 30.221 in South Africa, and 235.621 in Japan (Bureau International de L'Union Télégraphique, 1917). These numbers show that with a figure of 4.156 subscribers the telephone business in the Ottoman Empire was one of the smallest networks of the peripheral world, as a consequence of extraordinarily late launch of commercial services in 1913.

4. TURKISH TELEPHONE AFTER THE FIRST WORLD WAR: FROM URBAN NETWORKS TO NATIONALIZATION

In 1918 after the Mudros Armistice, the company reclaimed its telephone concession in Istanbul, as the last Ottoman governments in Istanbul recognized company's concession (Demir, 2005, 158-159). In the early 1920s, Turkey was in a period of political transition from Empire to republic, under Ankara government headed by Mustafa Kemal Atatürk. During the Independence War, in 1920, Ankara government placed PTT under Ministry of Interior (Tanrıkut, 1984, 299). PTT under Ankara government started telephone business under public ownership in small scale in the early 1920s (Güzeliş, 2010, 195). When it became clear that Ankara government had a military victory and took over control of Istanbul, the private telephone operator in Istanbul was also under its authority. Before the Lausanne Peace Treaty, Ankara government agreed to renew the concession of Istanbul Telephone Company with some slight revisions in June 1923 (Kubilay, 2003, 154-156). After the proclamation of republic in October 1923, law no 406 was legislated in 1924 that put telephone business under government monopoly, with exceptions for Istanbul and Izmir (Güzeliş, 2010, 195). Early telephone policy of republic was to improve public owned networks in capital city Ankara and other small cities and to maintain private operations in Istanbul and Izmir. This preference to maintain private telephone operation in Istanbul was in coordination with the renewal of concessions in other infrastructure sectors, a policy that aimed to prove economic friendship with core governments and to prevent additional financial burden to young republic. In this period, Istanbul Telephone Company had a modest rate of growth in terms of number of subscribers, from 9.649 in 1925 to 11.737 in 1930, and 12.079 in 1935 (Figure 1).

In 1925, the telephone workers in Istanbul organized a strike. This was a significant strike for the history of working classes in Turkey, as the employees of telephone company were predominately women (Karakışla, 2014). As a consequence of multi-lingual services of company, these women operating telephone switches were ethnically diverse. According to The New York Times (1925b), in this strike "[t]he leaders are Turks, but the Greeks and Jews will join them "in perfect unanimity," as their ultimatum reads, "without distinction of race or religion." Actually, the telephone strike in Istanbul was a part of a general revival of worker movements in Turkey after a long period of war. The strikes and other movements by workers in the late 1910s and early 1920s were predominately in infrastructure sectors like transportation, communication, and energy. The densification of worker unrest in the infrastructure sectors was also a fact for the strikes and movements in the Ottoman Empire before 1914 (Yıldırım, 2013, 357-367). This was a direct consequence of peripheral integration into the world economy, an integration that brought a higher degree of capitalist development for infrastructure sectors relative to manufacturing sectors.

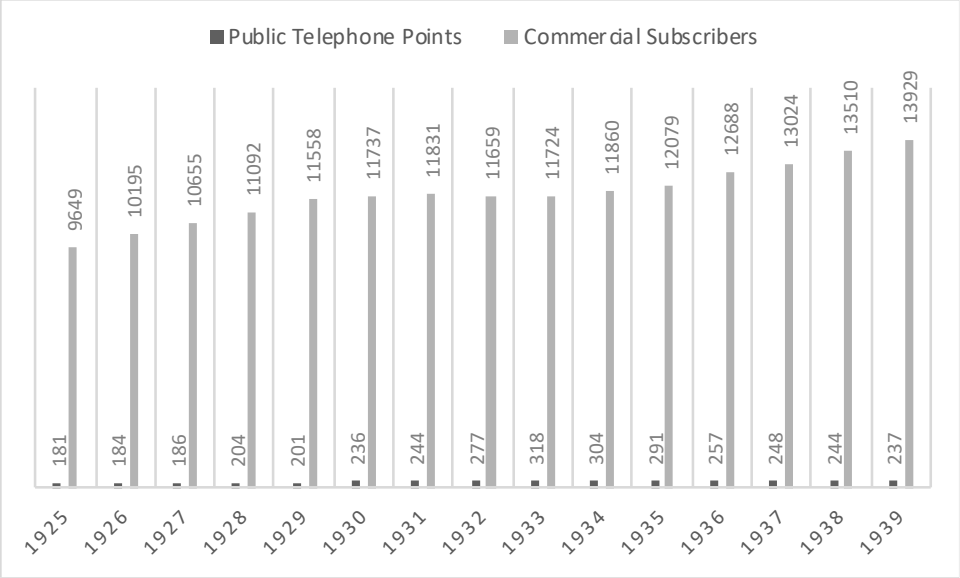

Figure 1. Number of public telephone points and commercial subscribers of Istanbul Telephone Company, 1925-1939.

Sources: (Başbakanlık İstatistik Umum Müdürlüğü, 1935, 654; İstanbul Belediyesi Neşriyat ve İstatistik Müdürlüğü, 1940, 430)

A telephone network under public ownership was established in Ankara in 1926 (Güzeliş, 2010, 191-194). Ericsson Telephone Company of Sweden built the network and installed automatic switches of their own production (The New York Times, 1925a). This publicly owned network open for commercial subscribers was launched in 1926 with 189 official and 462 commercial subscribers, and 11 employees (Başbakanlık İstatistik Umum Müdürlüğü, 1941, 545). In a decade the number of subscribers exceeded 2,000 (Figure 2). Inter-urban telephone lines of PTT from Ankara to Istanbul, Eskişehir, and then to other Anatolian cities were in service in the end of 1920s. For example, in 1937 there was a traffic of 167 million calls between Ankara and other cities in Anatolia. (Başbakanlık İstatistik Umum Müdürlüğü, 1941, 545). The establishment of publicly owned Ankara telephone network and its connections to other cities marked first steps of a transition from urban scale telephone business to a nationwide telephone network. As a consequence of this development, share of telephone income in overall PTT income increased during 1920s and 1930s, from 0,07% in 1922 to 2,43% in 1926, 7,05% in 1930, %11 in 1935 (Figure 3).

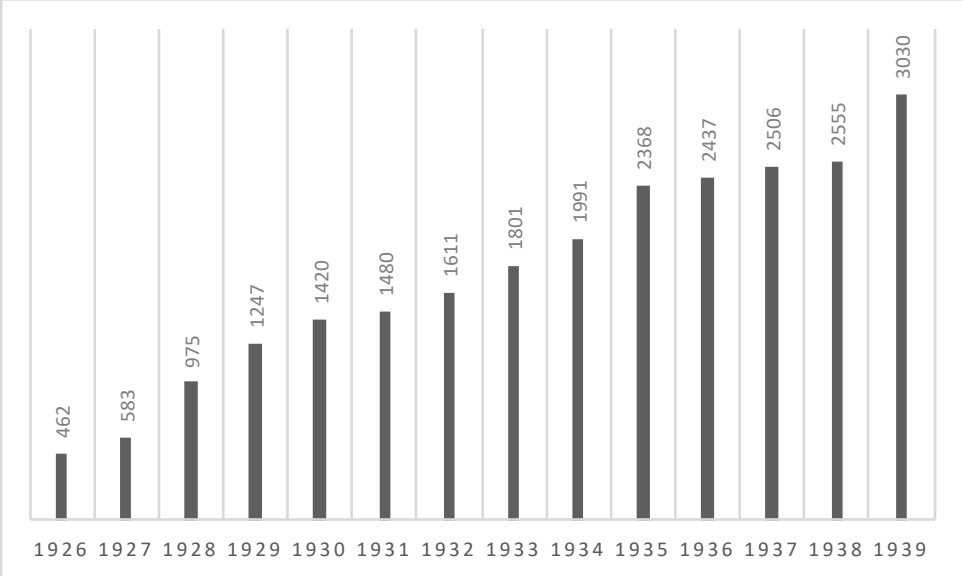

Figure 2. Number of subscribers of publicly owned telephone network in Ankara, 1926-1939.

Source: *Compiled by the author based on Başbakanlık İstatistik Umum Müdürlüğü,* İstatistik Yıllığı Cilt 11 1939-1940, *545.*

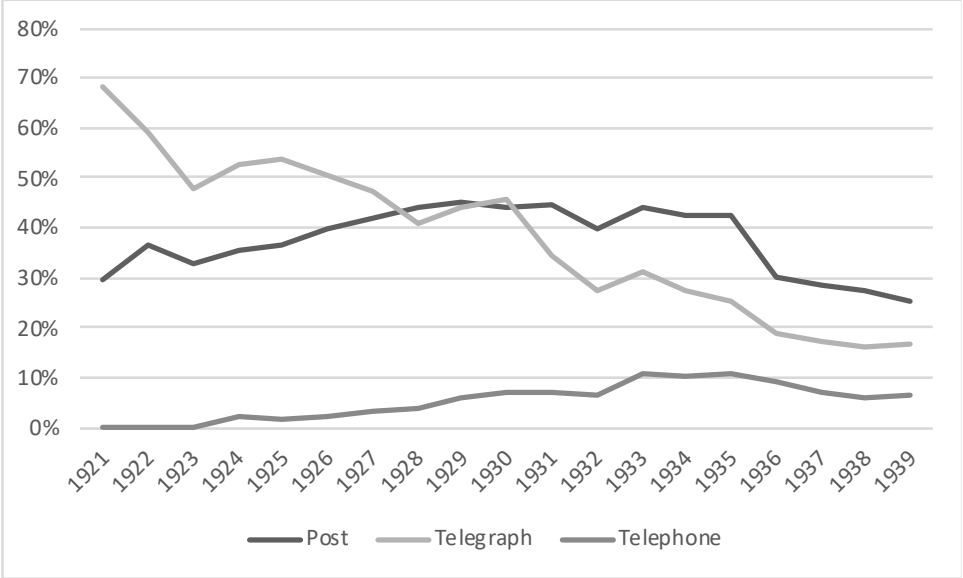

Figure 3. Shares of post, telegraph, and telephone services in overall PTT Income, 1921-1939 (%).

Source: (Başbakanlık İstatistik Umum Müdürlüğü, 1941, 539).

Izmir was a significant port city that played an integral role in integration of its Anatolian hinterland to the international markets. Transportation networks of steamships and railways connected Izmir to its Anatolian hinterland and other significant port cities of world. As a consequence, Izmir was a focus of infrastructure investments by foreign companies (Kasaba, 1993). In addition to the inter-urban and international transportation networks, urban scale infrastructure networks were developed by foreign companies, as a response to the commercial demand from enriched and cosmopolitan segments of Izmir population. There were also demand for communications services and foreign post offices were active in Izmir, as I explain

above in section 1. These foreign post offices started *de facto* telephone services after Young Turk revolution without a concession. In 1924, this fragmented structure was consolidated by Izmir municipality, which was granted a concession for telephone monopoly in Izmir (Güzeliş, 2010, 191-194). However, financing capacity and technical expertise of Izmir municipality was not adequate, and this situation necessitated a foreign partner to further expand and update telephone network. In 1926, a partnership between municipality and Ericsson was formed for telephone. Emergent company's 51% share was owned by the municipality and 49% by Ericsson (The New York Times, 1927; Kubilay, 2003, 157-159). Izmir and Environs Telephone Company started commercial services in 1928 with 122 official, 711 commercial subscribers and 49 employees (Başbakanlık İstatistik Umum Müdürlüğü, 1941, 545-546). However, the company did not grow sufficiently and was in loss in 1929, 1930, 1931, 1932, and 1936. The number of commercial subscribers barely exceeded 2,000 in 1937 (Figure 4).

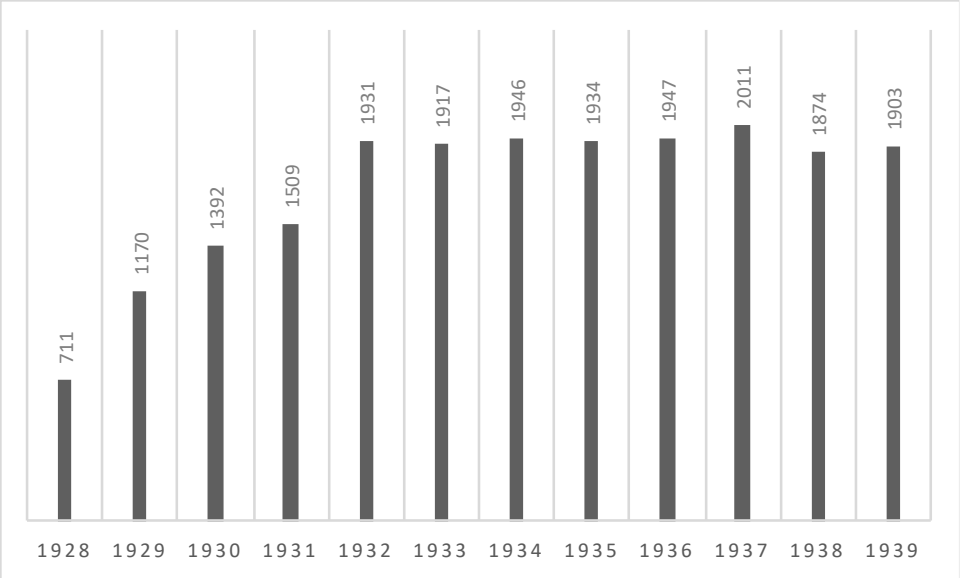

Figure 4. Number of commercial subscribers of telephone network in Izmir, (1928-1939).
Source: (Başbakanlık İstatistik Umum Müdürlüğü, 1941, 545-546).

In the 1920s, Turkey's infrastructure networks were still in radar of international companies. Following the investment of Ericsson in Izmir, International Telegraph and Telephone (IT&T) from US invested in Turkey too. IT&T was one of archetypical examples of international telecommunications giants, which acquired telephone operators in Spain and Latin American countries Cuba, Mexico, Porto Rico, Peru, Chile, Argentina, Uruguay, and Brazil in the 1920s (The New York Times, 1930a). IT&T was controlling a total of 55 companies in 1929, which consist of a series of telephone operators with 582.135 subscribers, in addition to telephone manufacturers, telegraph, and radio companies -was capable to raise as much as US$36,6 million with a single public offering (Barron's, 1930). IT&T was in competition against Ericsson of Sweden and Siemens of Germany, alternative international telecommunications companies. The New York Times (1930b) was reporting that acquisition of Istanbul Telephone Company by IT&T was "…an important step in the brisk competition between the American company and the Siemens & Halske interests of Germany and the L. M. Ericsson group of Sweden for telephone concessions or contracts throughout the world." IT&T

also gained a share in Istanbul telephone company when it acquired Western Electric of US in 1924 (Kubilay, 2003, 163) and Thomson Houston of France in 1925 (New York Times, 1930c). In 1930, IT&T captured controlling stake in Istanbul Telephone Company when it purchased share of British company, with the approval of Turkish government. The approval by government included the commitment of IT&T to modernize the network by installing new automatic telephone switches in Istanbul (New York Herald Tribune, 1930; Wall Street Journal, 1930). Investment of IT&T fulfilled its promises of technology transfer, as the share of automatic switches rose between 1930 and 1935 (Figure 5).

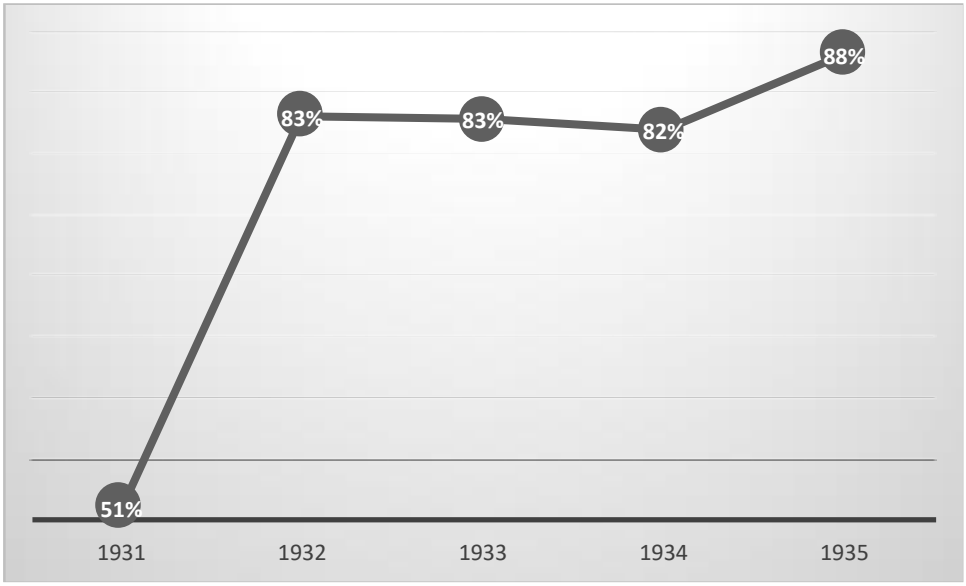

Figure 5. Percentage of Subscribers Connected to Automatic Switches in Turkey, 1931-1935.

Sources: (Bureau International de L'Union Télégraphique, 1933, 35; Bureau International de L'Union Télégraphique, 1934, 33).

The modernization of network in Istanbul by IT&T was also an opportunity to transfer old manual telephone switches to Anatolian cities to start small urban networks under PTT ownership. However, this technology transferring foreign investment had a very unfortunate timing, as the negative consequences of Great Depression in 1930 was at the doorstep. The debt burden created by rapid expansion of IT&T in 1920s forced company to withdraw from some peripheral operators like the one in Istanbul (Barron's, 1931). I cannot properly document withdrawal of IT&T from Turkey and I do not know exact year of their withdrawal. Still I am sure the fact that they left Turkey between 1931 and 1935, as the nationalization agreement in 1935 took over Istanbul Telephone Company from a majority British interest, as I explain below.

When the foreign investments in Turkish telephone networks in the early republican era is evaluated, it is clear that Turkish government did not hesitate to work in cooperation with foreign companies. Ericsson's business in Ankara and Izmir and IT&T's business in Istanbul was partnered by government and PTT, with the condition of transferring latest technologies of the day, namely rotary automatic exchanges.

The proclamation of the republic was not a rupture, when the recognition of Ottoman infrastructure concessions by republic government was taken into account. However, the Great Depression acted as the actual turning point for the fate of private operation of infrastructure networks in Turkey. From the viewpoint of foreign companies, under the conditions of Great Depression, it became harder to find financing for expansionist acquisitions and network developments in peripheral countries. As a consequence of decreasing volume of international trade, demand for transportation and communications services in peripheral cities decreased too. This decrease in peripheral populations' power of purchase was another factor that motivated foreign companies to withdraw. From the viewpoint of semi-peripheral governments, the inadequate investment by foreign companies was bad for economic development. The concerns of modern state formation necessitated a consistent tempo of investment that expand transportation and communications networks, as well as energy and water services. Another factor was the rise of modern urban citizen, who demanded universal access to services provided by infrastructure services. Citizens' right to access services of transportation, communication, energy, and water was becoming a corner stone for legitimacy of European model of modern nation states in the early twentieth century. These developments shifted the focus of infrastructure policies from meeting commercial demand in metropolises to guaranteeing universal access through nation-scale publicly owned networks. These factors of pull and push brought a nationalization policy in Turkey in the 1930s, a bit later than Europe, but earlier than Latin American countries and many other peripheral countries.

As a part of a general policy of nationalization of companies operating infrastructure sectors to create nationwide publicly owned networks, agreement for nationalization of the telephone business in Istanbul was signed in 1935. Baker (1935, 108) states that Turkish government's "…latest acquisition is the Istanbul Telephone Company, which was purchased from British interests for approximately $4,000,000, payable in forty annuities of $100,000 each, the first to be paid in 1939." According to The New York Times, nationalized company was consisting of a British major interest and an American minority share (New York Times, 1935). The nationalization was completed in 1936. In 1935, financially frustrated board of telephone company in Izmir decided to apply for nationalization. The company in Izmir was nationalized in 1938 (Güzeliş, 2010, 194). These were integrated into the existing publicly owned telephone network of PTT. These nationalizations of urban telephone businesses did not end dependence on international telecommunications manufacturers like IT&T, Ericsson, and Siemens, which continued to have a foot on Turkish market for telecommunications equipment throughout the twentieth century, as the Turkish PTT system did not evolve into a postal-industrial complex that own telecommunications manufacturing branches like examples in Europe, Far East, and some peripheral countries like India and South Africa (Üçer, 2018a, 135-136).

5. CONCLUSION

The companies rooted in the core countries invested in telephone networks in the peripheral countries in the late nineteenth century and in the early twentieth century. In this period, the investment in telephone networks was a part of a larger process of expansion of private investments in infrastructure networks, namely transportation, energy, water, and telecommunications services. It was a period of increase in the volume of trade and capital movements. In the nineteenth century, the core economies with growing industrial sectors like textile penetrated into the peripheral geographies to access markets for their manufactured goods. This trade expansion based on penetration of manufactured goods to the markets of peripheral countries was the driving force of integration of world economy. Trade expansion brought the collapse of productive sectors except exporting ones in the peripheral countries and trade dependence of peripheral countries on the core countries. Along with the trade expansion, the volume of capital transfers from core to periphery increased, in the form of credits for peripheral governments, credits for traders, loans to exporting sectors of periphery, and direct investments in the periphery. These capital transfers were made possible by the accumulation of capital in the core, capital accumulated by the industrial production, in seek for opportunities of profit elsewhere.

The increase in movement of goods, money and people, between different countries as well as inside the borders of individual countries created a great demand for services produced by infrastructure sectors. Among these, especially transportation services had a great demand from various segments of society as the movement of traders and tradeable goods required various transportation services. The increase in the movement of goods and people created an increasing demand for conveying of messages that carried information about trade issues. In the peripheral countries, the demand for the infrastructure services were intensified in the cities which were the conduits between local economies and the metropolises of world economy. These cities with the increasing demand for transportation services were especially port cities (like Izmir) and other economic-political nodes and capitals (like Istanbul). In addition to transportation, a demand for energy, communication, and water services in the municipal scale emerged in these vivid cities of periphery. A general increase in the demand for various infrastructure services motivated core companies to invest in infrastructure sectors of peripheral countries. As the demand for services was intensified in the port cities and capitals, the investments positioned in these cities within municipal scales. The urban-scale telephone operators in various peripheral countries including two companies in Istanbul and Izmir were among these investments.

From the perspective of companies of core economies, the investments in these vivid cities of peripheral countries became attractive. This was in part a consequence of over-accumulation of finance capital in the core economies, large amounts of funds in search of profitable investments. Another factor that motivated the investment in periphery by the core companies was the matured markets of core countries. As the growth opportunities in the infrastructure markets of core economies depleted, the companies started to seek opportunities of business in the geographies of potential growth. The intensified trade relationships with the peripheral economies along with the military and political expeditions in these countries made

it possible to detect potentials of economic growth in the form of growing demand for infrastructure services. The infrastructure services in the peripheral countries were more advantageous relative to the productive sectors of manufacturing as the services produced by infrastructure networks were untradeable goods. The services of these infrastructure sectors were not able to be imported in contrast with the goods produced by manufacturing sectors which were substitutable with the cheaper imports produced whereas in world. All these factors motivated core companies to invest in infrastructure sectors, especially ports, railways, and municipal services, urban-scale energy, water, and telecommunications business.

From the perspective of peripheral governments, the infrastructure investment by the foreign companies was a complicated issue. On the positive side, the investment burden to build infrastructure was being divided between foreign companies and peripheral governments (stance of Mehmed Cavid Bey). On the negative side, the foreign domination of infrastructure diminished the political authority of governments and privatize revenues of these services (stance of Ottoman PT). Actually, the relationship between the foreign companies and the peripheral governments was not an equal one, as the core companies were backed by the diplomatic and military pressure capacity of core governments, if not by the direct colonization of peripheral country by one of great powers.

The Ottoman Empire was not one of peripheral countries which were directly colonized and lost their political independence. Instead, the Empire protected its political independence taking advantage of rivalry between great powers of Europe. While protecting its political independence, the Ottoman Empire was incorporated to the world economy, a status similar to countries like China, Japan, and Ethiopia. This is why Ottoman Empire was a semi-peripheral country.

The position of semi-periphery brought a special character for these countries in the terms of early postal organizations in the form of competition among multiple foreign postal networks. In contrast with the semi-peripheral countries, the direct colonies received postal monopoly model primarily from the core country that colonized it, as a copy of model adopted in the parent country (like India and Indonesia). The chaotic competition between different postal networks were a negative side-effect of persisted political independence, which created a specific historical character that created the disadvantageous basis for the economic development in the following periods.

The chaotic structure of postal services in China and Ottoman Empire were the most striking examples of historical characteristic of semi-peripheral postal organization. The competition between various foreign post offices in these countries seemed strange to the eyes of visiting Westerners. European and American visitors in China were shocked to observe competition between multiple foreign postal organizations, instead of government monopoly model in their home country. They expressed that China was the only country in the world with a multiplicity of postal organizations. In a similar manner, visitors of Ottoman Empire too expressed that Turkey was the only country with multiple foreign post offices. Actually, this was a shared characteristic of semi-peripheral countries China, Japan, Ottoman Empire, and Ethiopia. In contrast with these semi-peripheral countries, direct colonies in Americas, Africa, Asia and Oceania had postal monopolies deployed by the colonizer powers, modeled after the

postal organization in the parent country. In this respect, the postal organization in the South Africa was a version of British one – a similar relationship between Indonesia and Netherlands, India and UK. On one hand, this was a consequence and fortifier of absolute control of colonizer power. On the other hand, deployment of a postal monopoly, a standard organization nationwide provided a healthy base for development in contrast with the chaotic postal structures in the politically independent peripheral countries.

Before the advent of telecommunications, conveying of a message was dependent on the transportation networks. In other words, the postal networks were dependent on transportation networks like steamship lines, ports, and railways. The development of national post monopolies of Europe brought about the development of land routes made up of roads suitable for driving horse carriages. The development of inland road network was also necessary to form a national economy and to harness potential of natural resources and markets which did not have access to water ways. A large inland road network was useful for political and military ends of modern state formation, along with the proper conveying of post messages. In the peripheral economies, the inland road networks were inadequate. Available routes were not suitable for horse carriages (and automobiles later), as they were built for animals like horses, donkeys, and camels. As a consequence, the postal networks of peripheral countries were dependent on the sea ways and railways more than the core postal networks. The domination of ferry lines and railways by the foreign companies gave an additional advantage to the foreign postal networks active in the peripheral countries like Ottoman Empire and China. Moreover, some transportation companies were also de-facto offering postal services. These handicaps significantly decelerated the national postal organizations of peripheral governments.

The advent of electric telegraph was a great opportunity to divorce communications network from transportation network and create an independent communications network. Ottoman public telegraph network had been useful for Ottoman governments as a tool to centralize power at the hands of Istanbul. The network also provided a consistent flow of revenue from sales of communications services. Around this network, the first modern infrastructural SOE of Turkey grew. *Posta ve Telgraf Nezareti* formed a base for a strong nationwide bureaucracy. The fortification of telegraph as the essential Turkish tool of communications went further under reign of Abdülhamit II, who was skeptic towards telephone. As a consequence, a well-established telegraph monopoly emerged and resisted against introduction of a telephone network out of its control. However, Young Turks at power had different opinions and Mehmed Cavid Bey granted concession for a telephone business in Istanbul. Unfortunately, this was a very unlucky timing just prior to the Great War.

The actual rupture from private telephone business in particular, and infrastructure business in general to a nationalization policy was not the founding of Republic of Turkey in 1923. Nascent Republic recognized and renewed concessions for infrastructure companies in the 1920s. However, the modest economic revival of private infrastructure business in the peace time that followed Great War came to an end in the 1930s when the negative consequences of Great Depression became clear. International financial markets became much more hesitant to finance adventurous investments in peripheral countries like Turkey. In the meantime, Turkish policy for infrastructure networks shifted to nationalization of private companies and merging

them into the modern SOEs of nationwide infrastructure networks. Public financing substituted financing from international capital markets. The urban-scale telephone operators in Istanbul and Izmir were nationalized in the 1930s, respectively in 1936 and 1938.

The nationalization of telephone companies in 1930s was a remarkably early timing among peripheral countries. Other peripheral countries nationalized telephone companies later and in a more fragmented style. In this respect, Latin American nationalizations sharply contrast with the Turkish nationalization, as they happened in the second half of the twentieth century and they protected regional divisions. This specific timing and unified style of Turkish telecommunications nationalization had long-term consequences that affected privatizations of 1990s and 2000s. The institutional basis of telecommunications in Turkey was PTT, which was formed as the imperial postal organization in 1840. In 1855 the second ancestor of Turkish PTT, Ottoman telegraph organization was founded. In 1870, these two were merged to form *Posta ve Telgraf Nezareti,* in other words Turkish PT, the true ancestor of modern Turkish PTT. In the 1930s, the telephone operations were completely taken over by PT-T. This institutional base of bureaucrats protected collective memories of foreign dominance on postal services, telegraphic protectionism, and nationalization policies of 1930s.

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