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RUMELİ PARA VAKIFLARI ÖRNEĞİNDE HİZMETLER VE SERMAYE ARASINDAKİ İLİŞKİNİN AMPİRİK BİR ANALİZİ

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ÖZ

Bu çalışma, nakit vakıflarla finanse edilen hizmetlerin Rumeli'deki sermaye düzeyleri üzerindeki etkilerini, para vakıflarından elde edilen niceliksel bilgilerden yararlanarak uzun vadeli bir perspektiften araştırmaktadır. Özellikle dini hizmetler, kamu mallarının finansmanı, fakirlere yardım ve aile desteği dahil olmak üzere sermaye düzeylerinin belirleyicilerini araştırtmaktadır. Regresyon analizi bu hedeflere ulaşmak için bu çalışmanın birincil yöntemini oluşturmaktadır. Bu çalışmanın bulguları, dini hizmetlerin ve aile desteğinin para vakıfları tarafından finanse edilen baskın işlevler olduğunu, kamu mallarının finansmanı ve yoksullara yardımın ise daha az yaygın olduğunu ortaya koymaktadır. Bu çalışmada uygulanan niceliksel analiz, kamu mallarının finansmanının etkisinin negatif ve anlamsız olmasına rağmen, baskın hizmetlere ilişkin katsayıların pozitif ve anlamsız olduğunu göstermektedir. Ancak bulgulara göre fakirlere desteğin sermaye seviyeleri üzerinde olumlu ve anlamlı bir etkisi olduğunu göstermektedir. Genel olarak, bu çalışmanın niceliksel analize dayalı bulguları, Rumeli'deki para vakıflarında kamu mallarının finansmanının ve yoksullara yardımın yaygın olduğu yönündeki literatürde genel olarak kabul edilen görüşe farklı sonuçlar ile katkı sunmaktadır.

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AN EMPIRICAL ANALYSIS OF THE RELATIONSHIP BETWEEN SERVICES AND CAPITAL IN THE CASE OF RUMELIA CASH WAQFS

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ABSTRACT

This study investigates the effects of cash waqf-financed services on capital levels in Rumelia from a long-term perspective by employing quantitative information obtained from cash waqf deeds. Specifically, it explores the determinants of capital levels, including religious services, financing of public goods, poor support, and family support. Regression analysis generated the primary method of this study to achieve these goals. The findings reveal that religious services and family support are the predominant functions financed by cash waqfs, while financing public goods and assistance to people experiencing poverty are less common. The quantitative analysis suggests that the coefficients for former services are positive and insignificant, although the effect of financing public goods is negative and insignificant. However, poor support had a positive and significant effect on capital levels. Overall, this study's findings challenge the widely accepted notion in the literature that financing public goods and assistance to people experiencing poverty are prevalent in cash waqfs in Rumelia.

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INTRODUCTION

A waqf is typically defined as a trust fund established with immovable assets at the request of the founders. The institutionalization of waqfs is rooted in the practice of providing alms, and over time, these organizations have evolved to offer a wider range of services. Each organization generates revenue from economic assets to finance the services specified by the founders at the time of establishment. While there is a common understanding of the basic purposes of these organizations, it is not necessary to delve into them at length. Suffice it to say that a substantial body of literature confirms that waqfs contribute to social welfare and urban development by producing public goods, making infrastructure expenditures, supporting investments in commercial activities, and providing support to vulnerable groups. Additionally, cash waqf institutions have emerged as an innovative model for waqf organizations. This new rule allows individuals to establish organizations with immovable assets and cash capital, despite significant controversy surrounding these organizations (Mandeville, 1979). However, their long-term financing practices remain largely unchanged. The only cause for this controversy is that the revenues generated from capital are based on credit relations. While there are ongoing discussions among various schools of Islam regarding cash waqfs, it is widely recognized that they played a significant role in the economic landscape of the Ottoman Empire.

Researchers of the Ottoman Empire's economic history have traditionally been intrigued by the formation and practice of cash waqfs, which played a significant role in providing various services and loans to borrowers. Through the collection and analysis of diverse data sources, such as waqf deeds, accounting records, and court documents, historians and economic historians have sought to understand the evolution of cash waqfs and their operational methods over time (Barkan & Ayverdi, 1970; Çizakça, 1995; Özcan, 2003; Kaya, 2010; Orbay, 2014; Kaya et al., 2017; Gürsoy, 2017, 2021; Karagedikli & Tunçer, 2018; Kaya and Durmuş, 2019; Altay, 2022; Gürsoy & Özdeğer, 2022; Özvar & Yıldırım, 2022). Additionally, these studies have investigated the defining features of cash waqfs by examining the social welfare services they financed, which have contributed to the well-being of society (Peri, 1992; Çizakça, 2000; Shatzmiller, 2001; Shechter, 2005; Singer, 2013). The literature provides a basis for new research on cash waqfs, offering opportunities for scholars to explore the temporal shifts in these organizations' main characteristics from various perspectives.

The systematic analysis of cash waqf organizations in the Ottoman Empire has not been extensively explored using quantitative methods. Recent research has shown temporal variations in cash waqfs within the Ottoman context, but no attempt has been made to thoroughly investigate the factors contributing to changes in capital levels over time. The identification of services as determinants of cash waqf capital is particularly important for Ottoman cash waqfs, as it may provide evidence of inefficient capital accumulation. A long-standing assumption suggests that the privately funded nature of cash waqfs prevents the pooling of capital within larger organizations, thus limiting their ability to finance larger-scale investments (Kuran, 2003, 2005, 2016). Before the early nineteenth century, no regulations facilitated the merging of cash waqfs for capital accumulation. Additionally, services specified in cash waqf deeds are believed to absorb a significant portion of revenue, leading to lower capital accumulation in these organizations. This study aims to quantitatively examine relevant phenomena by identifying the primary services financed by cash waqfs and assessing their impact on capital levels. This study is one of the first efforts to enrich the literature by employing quantitative and systematic analyses. The central purpose of this study is to assess the extent to which cash-waqf-financed services impact capital.

This study examines the temporal fluctuations in services financed by cash waqfs and their correlation with capital levels in Ottoman Rumelia from a long-term perspective. Employing data derived from cash waqf deeds (waqfiyya) as documented in waqf records, this study conducted a unique quantitative analysis using primary sources. This study illustrates the potential impact of services on capital levels through regression analysis. Although the results are preliminary and cannot be compared owing to the scarcity of similar studies, the methodology and data utilized in this research are significant contributions to future research in this area.

Since cash waqfs played a pivotal role in the Ottoman economy, the Rumelian provinces also had great economic significance. As one of the most significant fiscal regimes, the Ottoman Empire relied heavily on tax revenues to sustain its economic, political, and military powers. From the beginning of the empire, rulers were motivated to expand their territories over Rumelian provinces. Although data limitations impeded economic historians from examining the long-term economic performance of the Rumelia provinces, tax revenues were sufficient to demonstrate the economic importance of this particular region in the Ottoman Empire. In the late fifteenth century, the tax revenues of Rumelia provinces were approximately 4.3 times higher than those of Anatolia provinces (İnalcık, 1997, p. 56). A well-known study that focused on Ottoman budgets in 1527/28 revealed that the tax revenues of Rumelia covered approximately 37 percent of all revenues, whereas this figure was about 24 percent for Anatolia (Barkan, 1953, p. 277). This trend in tax revenues of the Rumelia and Anatolia provinces persisted over time. During the second half of the sixteenth century, the share of Rumelia provinces in tax revenues ranged from 26 to 39 percent, which was the highest share in aggregate tax revenues (Çakır, 2006, p. 175). These figures indicate the relatively higher economic performance of Rumelia compared to other regions of the Ottoman Empire. Therefore, an investigation of cash waqfs as financial organizations in Rumelia, a relatively developed region of the Ottoman Empire, would contribute to the economic history of this region.

This study had three main findings. First, it reveals that cash waqfs increased in the Rumelia provinces during the eighteenth century. Second, while a significant portion of these cash waqfs was used to finance religious services, the proportion of cash waqfs allocated to other services, such as public goods and support for people with low incomes, remained low. Additionally, this study highlights the significant share of family support in these organizations. Third, the findings suggest that providing aid to the poor had a positive and significant impact on capital levels, whereas religious services had positive but insignificant effects. Furthermore, the study found that financing public goods had insignificant and negative effects on capital levels and that family support had a positive but statistically insignificant effect on capital. These findings are based on primary sources and quantitative analysis, and they partially support recent scholarship suggesting the negative effects of irrevocable deeds on capital pooling. Although cash waqf revenues are often used to finance unproductive services because of the limited capital accumulation in these organizations, this study questions the suggestion that cash waqfs operate as credit institutions, like their European counterparts. Instead, this study suggests that a more comprehensive discussion is needed to fully understand the true nature of these organizations.

CASH WAQFS OF OTTOMAN RUMELIA: DATA, METHOD, LIMITATIONS

This study is based on data extracted from cash waqf deeds as documented in the waqf registers of Rumelia, a region comprising the western part of the Ottoman Empire (Bulut et al., 2019). The sample encompasses 972 cash waqf deeds, spanning a considerable period from 1506 to 1921. A cash waqf deed typically includes information on the location of the organization, the socioeconomic makeup of the founders, capital, profit rates, and services financed through revenues, as well as the date of establishment. In this study, the capital and services determined by the founders at the time of establishment were used as key variables.

This study examines 972 cash waqfs, all of which are established using only cash capital. Excluding organizations with immovable property in their capital, this study included only cash waqfs in its analysis. For instance, cash waqf, which includes immovable properties such as shops or houses, can also finance services with the rental income of the real estate. However, the difficulty in determining the value of real estate can cause significant deviations in waqf capital and even lead to misleading values. Therefore, this study only considers data from organizations established with cash capital to avoid such issues. Moreover, the inclusion of organizations that hold both money and real estate may cause deviations in the capital averages. The lower cash donations of founders, especially those who donate real estate, may also be one of the most important reasons for this. To minimize these limitations, this study only analyzed organizations established with cash capital.

Furthermore, there are several limitations to using cash waqf deeds as historical sources. These documents tend to underrepresent cash waqfs that emerged in the sixteenth and seventeenth centuries while overrepresenting those established during later periods. Additionally, it is likely that the proliferation of cash waqfs in Rumelia was slower than that in Istanbul and Anatolia. Changes in record-keeping practices and the possibility of early records being lost also likely contributed to the unequal distribution of cash waqfs. This uneven distribution can result in deviations in the average capital levels from a long-term perspective. As this study primarily focuses on capital levels and services financed by cash waqfs, the most significant limitation is the sporadic nature of cash waqfs established in earlier periods. To address this issue, this study employs a dataset with 11-year periods rather than annual data and focuses on newly established cash waqfs, as it is difficult to determine the survival of earlier cash waqfs in subsequent periods.

One important limitation of this study is the inclusion of services financed by cash waqfs in quantitative and econometric analyses. It is challenging to separate these services because of their intertwined nature. Moreover, determining the share of these financed services in cash income through waqf deeds is difficult. To address this limitation, the proportion of cash waqfs that finance these services is used to classify the services below (see Figure 3). Specifically, the percentage of cash waqfs in an 11-year sub-period that financed certain services was included in the analysis. The rates of services within waqf revenue were not used. For instance, 12 new cash waqfs were established between 1671 and 1681, and while five of these organizations financed educational services, this ratio was determined to be 42 percent (the proportion of education was 0.42). If an evaluation were made based on the total income of these 12 cash waqfs, accounting records would have to be handled separately, and each item, from employee wages to expenses of educational activities, would have to be determined in a labor-intensive manner. Even in this process, the complexity that arises can cause large deviations. For this reason, it has been understood that it is appropriate to finance the services derived from the information in waqf deeds and include them in the analysis using the simple method above.

Figure 1. Cash Waqf Shares from a Long-term Perspective

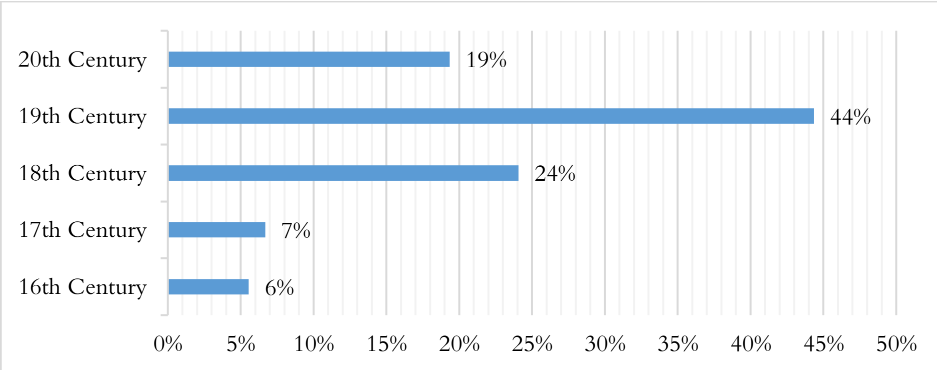


Figure 1 provides a visual representation of the allocation of cash waqfs over centuries. It is important to note that these cash waqfs represent newly established waqfs from various periods. As previously mentioned, the lowest percentage of waqfs tended to be found in the earlier centuries. For example, the percentage of cash waqfs in the sixteenth and seventeenth centuries was approximately 6 percent. However, the data have improved over the following centuries. In the eighteenth century, the percentage of cash waqfs increased to 24 percent, and this figure continued to rise to 44 percent in the next century. Although the percentage of these organizations declined to 19 percent during the early twentieth century, this period included only the first 21 years. From another perspective, this decline could be a misleading outcome. The data allowed for a comparison of the annual averages of cash waqf formation. These figures indicate that the founders established an average of 4.31 cash waqfs per year during the nineteenth century, which increased to 8.54 in the early twentieth century. In other words, the formation of cash waqfs showed an increasing trend in terms of annual averages from the sixteenth to early twentieth centuries.

From a different viewpoint, the average number of new cash waqfs established annually in Ottoman Rumelia during the sixteenth and seventeenth centuries was 0.54 and 0.65, respectively. However, it should be noted that these figures may be lower because of record-keeping practices and the possibility of documents being lost in the early periods. Despite these limitations, the data still suggest that the number of cash waqfs has increased over time. Even if we consider the annual averages for the early periods to be three or four times higher, they still do not compare with the numbers seen in the nineteenth century.

Additionally, in the eighteenth century, when registration numbers began to rise, the average number of new cash waqfs established per year was 2.33. Therefore, it can be concluded that the number of cash waqfs in Ottoman Rumelia generally increased over time, although the rate of increase may vary because of data limitations.

Previous studies have reported similar results. In the sixteenth century, it was estimated that there were 677 cash foundations in Istanbul compared to only 41 organizations in the previous century (Barkan and Ayverdi, 1970, p. XXXI). A study based on Davudpaşa court records showed that while there were only 26 registered cash waqfs until the end of the eighteenth century, this number increased to 177 in the nineteenth century (Gürsoy, 2017, p. 167). Additionally, the Yeniköy court records indicate an increase in the number of cash waqfs over time (Gürsoy, 2021, p. 177). In Bursa, an important commercial city of the Ottoman Empire, the number of cash waqfs increased, particularly during the eighteenth century (Çizakça, 1995). According to the data, 71.5 percent of waqfs were established with only cash capital, whereas 21 percent were established with both money and real estate (Çiftçi, 2004, p. 82). The rate of organizations based solely on real estate remained low, at 7.5 percent. In Ottoman Bosnia, one study showed that the increase in cash waqfs accelerated, especially from the second half of the eighteenth century (Altay, 2022, p. 60). The reasons for the increase in cash waqfs may include record-keeping practices and the possibility that records from previous periods disappeared. However, it would be inaccurate to define high increase rates based solely on this limitation. In other words, it would be reasonable to approach rapid increases with caution while still accepting them.

What could be the reasons for the increase in cash waqfs? The increase in cash waqfs can be attributed to several factors, making it difficult to identify a singular cause for this increase. Various explanations have been proposed in the academic literature, and while none dominate others, they are not mutually exclusive. The rise in cash waqfs can be understood in three dimensions: structural, economic, and social. Structurally, these organizations have emerged as innovative solutions to decrease the costs associated with traditional waqfs. Over time, the deterioration of real-estate-based waqf properties and the increase in their maintenance costs led to an increase in the share of costs in waqf income (Çiftçi, 2004, p.

84). Establishing a cash waqf reduces these costs within the waqf's income. Furthermore, allowing waqfs to be established with cash has increased the participation of various welfare groups in society (Kaya et al., 2017, p. 51). Thus, it is logical that structural changes in cash waqfs would result in an increase in the number of such organizations over time.

From an economic perspective, one reason for the increase in cash waqfs over time is the growing demand for cash. Population growth from the sixteenth century, the intensification of commercial relations between villages and cities, and the acceleration of urbanization and the use of money played a role in the rapid spread of these organizations (Çiftçi, 2004, p. 81). The increasing importance of these organizations from the eighteenth century onwards, particularly in significant ports and commercial cities such as Bursa and Thessaloniki, has been explicitly presented (Çizakça, 1995; Aydın, 2014). Cash waqfs offer practical advantages over traditional waqfs. Organizations established with cash rather than real estate can quickly bring together labor and capital while ensuring that savings remain active (Gürsoy, 2017, p. 162). Moreover, the income of real-estate-based waqfs may be affected by production from land, and their income may face the risk of a significant decrease due to factors such as disasters and climatic conditions (Orbay, 2014, p. 1012). By contrast, organizations established with cash face lower risks regarding these factors. Cash waqfs have at least some chances of having advanced information about their income to be obtained in the next period, resulting in lower information costs regarding the future income of the organization.

In social terms, growth in cash waqfs over time is linked to the broader acceptance of borrowers from diverse segments of society. Unlike traditional financial institutions, waqf organizations provided loans that align with societal beliefs (Özcan, 2003; Kaya et al., 2017). Moreover, they simplified the cumbersome paperwork often required by banks (Quataert, 1975, pp. 213-214). As an innovative method of charitable giving, waqf institutions' primary objective was to facilitate charitable activities and perpetuate philanthropic practices. Specifically, individuals from all backgrounds were empowered to participate in charitable giving by legally sanctioning the use of cash capital to establish these organizations. In conclusion, considering these factors, it is accurate to suggest that the prevalence of cash waqfs has increased over time.

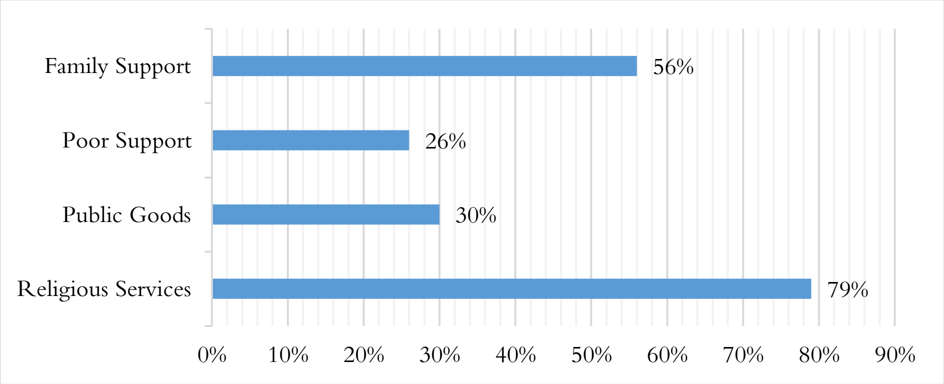
The next step required scanning cash waqf deeds and categorizing them according to the services they financed from a long-term perspective. Unfortunately, this process is inconvenient and challenging. To facilitate categorization, this study used four main categories based on the recent scholarship and cash waqf deeds: religious services, public goods, poor support, and family support. Religious services contain various deeds, as determined by the founders, and represent a collective body of these deeds, including the maintenance of religious facilities, employee wages, and Quran readings. These services were most commonly found in cash waqf deeds.

The second category includes services that provide public good. Public goods have appeared in various forms, with education being the most common public good supported by cash waqfs in Rumelia. Cash waqf deeds revealed that founders provided financial resources for education by funding the maintenance of educational facilities, employee compensation, and student scholarships. Other public goods supported by cash waqfs include healthcare services and infrastructure investments, such as roads, waterways, and bridges. All these services were grouped under public goods provided and financed by cash waqfs.

The third category involves direct aid to people in need. Cash waqfs located in Rumelia provide financial resources for people experiencing poverty, mostly in the form of cash benefits, food allowances, and shelters. The fourth category differed from the first three, as it involved founders financing themselves, their relatives, or future generations through the organization. Services within these categories could be further divided into subgroups; however, this approach resulted in categories with very low percentages, which posed the most significant obstacle to empirical studies. This method was deemed the most effective after numerous preliminary research and analysis attempts.

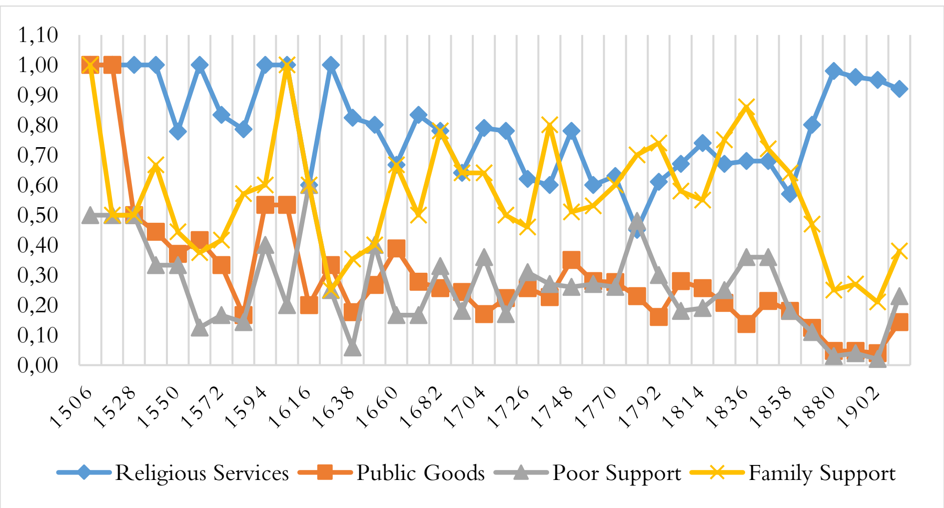
Without a doubt, differentiation based on this categorization may run counter to the nature of waqf. The primary objective of such institutions is to provide charitable services. These charitable services are provided through various means, as illustrated in Figure 2, which shows the categorization of the services through which charitable work is carried out. This categorization was established tangibly, as demonstrated by the following example: Between 1781 and 1791, 33 cash waqfs were established. Some of these organizations provide financial resources for several services, whereas others provide resources for a single service. Interestingly, 45 percent of these organizations allocate resources to religious services, whether for a single service or multiple services. In other words, 15 cash waqfs financed religious services. Although the rate of education was 33 percent when the same method was used, the rate of direct aid to people experiencing poverty was 48 percent. Commercial buildings and infrastructure investments were financed by 33 percent of 33 cash waqfs. In brief, the data provided in Figure 2 are rates of cash waqfs; however, no concrete data based on the ratio of services to income were used. The primary reason is that charities are naturally intertwined in certain cases. Overall, this classification method was used for comparisons with similar studies. Given that a cash waqf can finance multiple services, the share of services naturally increases to more than 100 percent under this categorization method.

Figure 2. Shares of Services in Cash Waqfs of Rumelia



The shares depicted in Figure 2 exceed 100 percent because a waqf can fund multiple services. The data analyzed in this study demonstrate that approximately 32 percent of cash waqfs finance two or more services. Religious services were the most prevalent, followed by substantial family support. Of all cash waqfs, 79 percent finance religious services, while family support accounts for 56 percent. A case study indicates that the share of religious services is about 84 percent, whereas this figure was approximately 16 percent in Rize, a town located in northern Anatolia (Kıvrım, 2016, p. 102). The remaining 44 percent can be considered non-family waqfs. Since family support is more common in Istanbul, the share of non-family waqfs appears higher than that of family waqfs in Bosnia (Adıgüzel & Kuran, 2021, p. 18; Altay, 2022, p. 63). The remaining two categories appear only in a few cash waqfs. The share of public goods is 30 percent; among these, education services comprise 41 percent, while infrastructure investments account for approximately 48 percent. In contrast, healthcare services receive only 11 percent of the cash waqfs within this category. Poor support was the least common function, appearing in only 26 percent of cash waqf deeds. These results suggest that the founders' primary objectives are to finance religious services and wealth sheltering. Public goods and poor support are less common among founders, and the choices that have received considerable attention in cash waqf literature are less frequently selected by founders of cash waqfs. The data suggest that funding for religious services and family support was prevalent in the Rumelia provinces, as with other regions, but the provision of public goods and assistance for the poor remained low, contrary to the expectations of these organizations (Figure 2).

Figure 3. Major Trends in Shares of Services from a Long-term Perspective



The major trends in service share from a long-term perspective are illustrated in Figure 3. As previously discussed, religious services are the most prominent among all the services. The share of religious services ranged from 80 to 100 percent during the sixteenth century. Although this service declined until the second half of the nineteenth century, the share of religious services decreased by only 50 percent. In the last period, these figures increased to approximately 100 percent. In contrast, family support showed a different long-term trend. While the share of family support was higher until the early nineteenth century, a sharp decline occurred from the second half of the nineteenth century onwards. However, family support declined by up to 20 percent in earlier periods, and these declines emerged in shorter periods. By contrast, a more pronounced declining trend is observed for public goods in the long term. A straight declining trend can be seen in Figure 3. Although there are fluctuations in poor support, the shares of this service are close to each other in the long term.

The primary trends in services depicted in Figure 3 are largely determined by the level of cash waqf capital. These organizations provide financial resources to these services through revenue generated from cash capital. As financial organizations, cash waqfs rely on credit relationships to generate revenue. Consequently, it is not feasible to finance these services without resorting to the initial capital. It is anticipated that the greater the capital, the more services that will be financed. The quantitative relationship between capital and these services underscores the importance of this study.

Table 1. Capital Levels of Cash Waqfs (in Nominal Akçe)

	Average Capital	Median Capital	Aggregate Capital	N
16^{th} Century	512.949	29.500	27.699.263	54
17^{th} Century	544.634	90.000	35.401.220	65
18^{th} Century	351.657	79.020	82.287.643	234
19^{th} Century	788.435	180.000	339.815.340	431
20^{th} Century	1.008.488	148.800	189.595.680	188
Full Sample	694.238	144.000	674.799.164	972

Table 1 provides an overview of the general observations for both the full sample and the sub-sample of cash waqfs in Rumelia. A comparison of observations from different periods raises questions about the representativeness of the earlier periods. According to Table 1, the last three sub-periods appear to be more indicative of cash waqfs than the earlier periods. It is worth noting that the number of observations has increased since the eighteenth century. It is possible that the lower number of cash waqfs in earlier periods may have included founders who belonged to wealthy groups, resulting in higher average capital levels compared with subsequent periods.

Approximately 60 percent of founders held titles in cash waqfs established during the sixteenth century, which increased to 77 percent during the seventeenth century. This perspective aligns with recent scholarship examining the wealth levels of titled individuals (Ergene & Berker, 2008, 2009; Coşgel & Ergene, 2011, 2012). In addition to the uneven distribution of the founders' socioeconomic composition, inflationary effects may have contributed to the decrease in capital levels. In the following section, we incorporate the consumer price index (CPI) into our analysis to estimate the impact of price levels on capital levels (Özmucur & Pamuk, 2002).

There was an increasing trend in average capital levels from the sixteenth century to the early twentieth century. However, the average capital levels fluctuated within a range of approximately 500 thousand akçe in the first two sub-periods before declining to around 350 thousand akçe in the eighteenth century. In the last two sub-periods, there was an upward trend, resulting in average capital levels increasing to approximately one million akçe. With regard to the median capital levels, there is an approximate U-shaped trend in the long term. This suggests that some sub-periods, such as the nineteenth century, had significantly higher median capital levels than other periods. Outliers were likely to contribute to the overall increase in average capital levels. As expected, the number of cash waqfs increased over time, and there was a positive relationship between aggregate capital levels and trends in the number of waqfs.

ANALYSIS: THE EFFECTS OF SERVICES ON CASH WAQF CAPITAL

Given that the existing literature on cash waqfs and their functions has identified multiple trends among organizations in the Ottoman Empire, there has been a lack of quantitative analysis examining the relationship between these variables. In alignment with the arguments put forth by previous studies, the present investigation employs data extracted from cash waqf deeds to conduct a regression analysis of the determinants of capital. The dependent variable in this analysis was the average capital level, which was entered on a logarithmic scale.

This analysis divides the factors that determine capital into three general categories: CPI, services financed by cash waqfs, and family support. The main factor of interest in the first category is the natural log of the CPI. The logarithmic specification allows us to examine the effects of CPI on capital levels through the same term. In other words, the findings are obtained as percentage changes in the price index and their effects on capital.

This analysis considered the type of service provided in the second category. As the deeds provided detailed information about services financed by cash waqfs, this analysis included different categories of services, as previously mentioned. The most prevalent category was religious services. Based on the information provided in cash waqf deeds, the second category includes various services, which this study identifies as public goods. The third determinant of cash waqf capital was family support. Based on the literature, the main purpose of the founders was to shelter their wealth through waqf organizations. It can be expected that founders who were motivated to finance themselves or their relatives through cash waqfs would endow higher capital than other founders.

Table 2. Descriptive Statistics

	Min.	Max.	Mean	Standard Deviation
Ln (Capital)	4.59	6.92	5.64	0.51
Ln (CPI)	0.15	2.91	1.15	0.79
Proportion of cash waqfs financing religious services	0.45	1.00	0.79	0.16
Proportion of cash waqfs financing public goods	0.04	1.00	0.30	0.21
Proportion of cash waqfs financing poor support	0.02	0.60	0.26	0.14
Proportion of cash waqfs financing family support	0.21	1.00	0.56	0.19

Table 2 summarizes the dependent and independent variables used in the regression analysis. Unfortunately, owing to the limited data available, this study was unable to explore the influence of exogenous factors on capital levels. Despite this, it is widely recognized that factors such as declining population, uprisings, and climate change can have a considerable impact on the capital levels of cash waqfs (Orbay, 2014, pp. 985-986). It is crucial to consider these variables when interpreting results. Furthermore, the use of CPI as a measure of inflation has limitations, particularly when comparing prices across different regions. While it is suggested that the prices of goods were relatively similar in Istanbul and other provinces, this may not be the case for more remote regions (Ceylan, 2016). Therefore, it is essential to exercise caution when assessing the impact of the CPI on capital. Additionally, the other variables in the analysis are constant; an increase in the CPI is expected to have a positive effect on capital. As is evident in Table 2, a significant difference in the proportion of services is observed in the cash waqfs of Rumelia.

The data in Table 2 demonstrate the proportion of services financed by cash waqfs. With regard to religious services, the lowest percentage of cash waqf financing during a subperiod was 45 percent, while the highest was 100 percent. The financing of public services by cash foundations was also substantial, primarily because of the inclusion of educational services, trade, and infrastructure investments in this category. However, the lowest value in the table indicates that the percentage of cash waqfs financing public goods dropped to 4 percent during some periods. A similar trend is observed for in-kind and direct aid provided to those in need, which are added to the econometric model (OLS) as a proportion. This method has been widely used in various studies based on historical data (Coşgel and Ergene, 2011, pp. 266-268; Coşgel and Ergene, 2012, p. 325; Ergene et al., 2013, p. 16).

Using regression analysis to examine the relationship between the Consumer Price Index (CPI), services, family support, and cash waqf capital, this study simultaneously regressed these variables on average capital levels. To establish the robustness of the findings, several configurations of these variables were incorporated into the regression equation; the outcomes are presented in Table 3. As previously mentioned, given the transformation of the CPI into natural logarithmic values and services expressed as proportions, the coefficients associated with these variables signify the elasticity of capital levels, also in natural logs, in response to changes in CPI and services. Overall, the method employed in this analysis is commonly used for examining historical data (Coşgel and Ergene, 2011).

Table 3. Regression Analysis of the Determinants of Cash Waqf capital (Dependent Variable: Ln (Capital))

	Model 1	Model 2	Model 3
Ln (CPI)	0.29*** (0.09)	0.32*** (0.12)	0.30*** (0.13)
Religious Services		0.74 (0.58)	0.95 (0.66)
Public Goods		-0.65 (-0.26)	-0.83 (0.65)
Poor Support		1.47*** (0.69)	1.39*** (0.70)
Family Support			0.35 (0.50)
Constant	5.30*** (0.13)	4.49*** (0.53)	4.22*** (0.67)
N	972	972	972
R2	0.20	0.30	0.31
F	8.99	3.51	2.86

The coefficient of CPI consistently exhibits a positive and statistically significant presence across the various specifications. Notably, the values of this coefficient remain relatively close, hovering around 0.30, as the analysis controls for different combinations of the other variables. This finding aligns with the expected outcome as inflation increases capital levels. To explore the impact of services, the analysis incorporated individual functions into the regression analysis across different combinations (Models 2 and 3). Model 2 includes the proportions of the three main services financed by cash waqfs, specifically differentiating the differential effects of cash waqfs associated with religious services, public goods, and poor support. In the subsequent model, the analysis concentrated on the influence of family support by specifying proportions based on whether cash waqfs financed founders and their relatives, with the reference category comprising non-family waqfs.

Historians and economic historians have traditionally considered religious services and the provision of public goods as the primary purpose of cash waqf formation. However, these findings raise the question of why these services do not significantly affect capital, even if we assume that the coefficients of religious services are positive. This may be due to the peculiarity of the sample. Further research is required to determine the accuracy of these inferences.

Another well-known argument is that one of the main purposes of cash waqfs is to provide public goods in the economic environment. Interestingly, the coefficients of public goods are negative, hovering around -0.65 and -0.83, in both Models 2 and 3, and the effect of this service is insignificant in all models. Insignificant outcomes may also emerge from the peculiarity of the sample, as with religious services. The outcome of the study on public goods demonstrates that capital levels are negatively impacted, and founders show reduced motivation to invest in such services. In contrast, the coefficients for poor support are persistently positive and noteworthy across all specifications, with values ranging from around 1.47 to 1.39.

In Model 3, family support was also incorporated into the regression analysis, and the coefficient for this variable was found to be positive, indicating that founders are inclined to allocate more financial resources for their own or their relatives' benefits. A statistically insignificant predicted effect of 0.35 on capital was observed, possibly due to constraints in the available data.

IMPLICATIONS

The findings of this study offer a mixed level of support for certain well-known arguments proposed in recent literature regarding the proliferation of cash waqfs and their functions in the Ottoman Empire. Given that the dataset used in this research suggests a pattern of increasing cash waqf formation from the eighteenth century onwards, the results are directly comparable to those of other studies. To better understand the implications of cash waqfs in Rumelia, this section compares the findings with those from various regions of the Ottoman Empire, including Istanbul, which is the most developed town. By doing so, this study aims to shed light on regional variations in cash waqf formation and their services.

The neighborhood of Üsküdar is widely regarded as the most significant district in Ottoman Istanbul, as it served as the focal point for cash waqf activities (Özcan, 2003; Kaya, 2010; Kaya et al., 2017). A specific study conducted in this district estimated that approximately 81 cash waqfs with a capital of around 7.5 million akçe existed in the eighteenth century (Kaya, 2010, p. 131). However, a more comprehensive study later identified 291 cash waqfs in the same century, with a total capital of about 22.7 million akçe (Kaya et al., p. 56). This translates to an average capital of approximately 78,000 akçe for cash waqfs in Üsküdar. By comparison, the average capital for cash waqfs established in Ottoman Rumelia was approximately 351.000 akçe (see Table 1). It is important to note that there are other relatively developed cities in Ottoman Rumelia, and thus the average capital for cash waqfs in that region may be higher than in other areas.

The results of a study on cash waqfs in the Balat neighborhood of Istanbul indicated a declining trend in the formation of cash waqfs from the second half of the sixteenth century to the first half of the nineteenth century. In the second half of the sixteenth century, an average of 0.71 cash waqfs were established annually, which sharply declined to 0.16 in the period between 1800 and 1849 (Gürsoy & Özdeğer, 2022). In contrast, a rising trend was observed in the cash waqfs established within the Davudpaşa neighborhood of Istanbul. While approximately 0.16 cash waqfs emerged per year in the period between 1634 and 1799, this figure increased to 1.58 cash waqfs per year between 1800 and 1911 (Gürsoy, 2017). In the Yeniköy neighborhood of Istanbul, a declining trend was observed in the formation of cash waqfs; however, it was steadier in comparison to the Balat cash waqfs. During the seventeenth century, an average of 0.31 cash waqf was established per year, which declined to 0.20 in the eighteenth century. A slight decline was observed during the nineteenth century, with an average of 0.18 cash waqfs per annum (Gürsoy, 2021).

In Rumelia, the pattern of cash waqf formation exhibited an increasing trend, particularly during the eighteenth century. Throughout the sixteenth and seventeenth centuries, the average annual establishment of cash waqfs increased from 0.54 to 0.65. In the subsequent century, this figure increased significantly to 2.34. During the nineteenth century, founders established 4.31 cash waqfs per year, which almost doubled in the early twentieth century to 8.54 cash waqfs per annum (See Table 1). Notably, Rumelia encompassed a vast territory, and the data collected included relatively developed towns and neighborhoods rather than those in Istanbul. Another study analyzed the aggregate number of cash waqfs in Istanbul and found that the number of cash waqfs increased during the seventeenth century and declined during the seventeenth century. This study indicates an upward trend in cash waqf formation in the nineteenth century. These figures illustrate the distinct characteristics of cash waqf formation in various neighborhoods, provinces, and large regions.

Another comparison can be made in terms of the capital level. The average capital level of cash waqfs situated in the Balat neighborhood was approximately 200 thousand akçe in the second half of the sixteenth century (Gürsoy & Özdeğer, 2022). By contrast, the average capital level of cash waqfs in Rumelia was approximately 375 thousand akçe during the same period. By the first half of the seventeenth century, the average capital level of cash waqfs in Balat decreased to 50 thousand akçe, whereas the average capital level of cash waqfs in Rumelia rose to 780 thousand akçe. Although the average capital level of cash waqfs in Balat increased to 77 thousand akçe during the second half of the eighteenth century, it remained lower than the average capital level of cash waqfs in Rumelia, which was around 244 thousand akçe. Throughout the period between 1634 and 1799, the average capital level of cash waqfs in the Davudpaşa neighborhood was around 48 thousand akçe, which increased to 310 thousand akçe during the period between 1800 and 1911 (Gürsoy, 2017). In the former period, the average capital level in Rumelia was approximately 328 thousand akçe. Between 1800 and 1911, this figure rose to an average of 698 thousand akçe. Although a comparable pattern was observed in the Yeniköy cash waqfs, their levels remained below those in the Rumelia cash waqfs (Gürsoy, 2021). In the second half of the nineteenth century, the average capital of the Yeniköy cash waqfs stood at 860 thousand akçe, while in the Rumelia region, it was around 1.6 million akçe. Due to regional disparities, there was a significant divergence in the average capital levels between Istanbul and Rumelia, resulting in an increasing trend evident in all regions.

Although this study has provided comparative findings on services financed by cash waqfs, there remains a need to examine the characteristics of cash waqfs in Rumelia and compare them with a region of central importance in Istanbul, such as Üsküdar. This comparison is particularly relevant given that studies based on Üsküdar cash waqfs have largely focused on the eighteenth century, which is also the period covered by this study. As demonstrated above, the primary characteristics of cash waqfs in Ottoman Rumelia during the eighteenth century were financing religious services and family foundations. However, there is a significant disparity in the ratio of cash waqfs established for these two purposes compared to organizations that provide public goods and direct or in-kind support to people in need (as illustrated in Figure 3). This pattern differs from the characteristics of organizations in Üsküdar during the same period, where the majority of waqf revenues (approximately 70–80 percent) were allocated to public expenditures, while approximately 10–15 percent were allocated to operating expenses (Özcan, 2003, pp. 312-313; Durmuş, 2016, pp. 132-148; Kaya & Durmuş, 2019).

This study provides a quantitative analysis of cash waqf capital and services financed by organizations located in Ottoman Rumelia, an area in which recent literature has been lacking. The findings of this study indicate that while religious services and family support are substantial in Rumelia's cash waqfs, the provision of public goods and support to people experiencing poverty is less common. However, the effect of providing these services on capital levels is not statistically significant. The only significant and positive effect was the provision of support for people experiencing poverty. The findings of this study are based on a quantitative analysis; however, the results are not absolute and may be influenced by data problems. Findings based on Rumelia cash waqfs suggest that providing public goods and support for people experiencing poverty, often discussed in the literature, are not common among cash waqf founders living in Rumelia provinces.

CONCLUSION

This study employed data from cash waqf deeds in Rumelia provinces to investigate the patterns of cash waqf formation and the impact of changing services on capital levels. The systematic and quantitative analysis presented here constitutes an initial attempt to explore the long-term relationship between capital and services. The variables used in this analysis provide new insights into the formation of cash waqf and the long-term effects of services on capital during the Ottoman Empire. Future research employing similar methodologies will elucidate whether the findings derived from Rumelia provinces can be generalized to the Ottoman Empire as a whole.

Overall, the results indicated that the proliferation of cash waqfs accelerated in Rumelia provinces from the eighteenth century onwards. These organizations mostly provided financial resources for religious services and family support compared to providing public goods and poor support. In other words, these findings suggested an opposite argument against the widely funded services that have received much attention in the literature. Quantitative analysis, however, showed that the effects of religious services and family support on capital levels are positive and insignificant. Contrary to these services, the effect of poor support is significant and positive on capital. The most interesting finding occurred in the effect of public goods, which is negative and insignificant. Secondly, the capital levels of these organizations in Rumelia had an increasing trend in nominal terms. The average levels were relatively higher than those of certain Istanbul neighborhoods. Although it is difficult to make a reliable comparison between Rumelia provinces and neighborhoods of Istanbul, the findings indicated that cash waqf capital increased in different provinces of the Ottoman Empire over time.

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AUTHORS' PERCENTAGE-BASED CONTRIBUTION

The contributions of the author to the study by percentages are as follows: The percentage-based contributions of the author are %100 respectively.

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All rules within the scope of "Instruction on Research and Publication Ethics for the Higher Education Institutions" were observed throughout the study. No actions mentioned in the Instruction's second chapter titled "Actions Against to Scientific Research and Publication Ethics" were taken in the study.

PEER-REVIEW

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