

Determinants of cash waqf finance capital in the Ottoman Empire: an empirical investigation

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Abstract

Purpose – The purpose of this study is to offer a quantitative analysis of cash waqf capital in the Ottoman Empire, using data from cash waqf deeds (waqfiyyas) of Rumelia provinces from a long-term perspective.

Design/methodology/approach – Extracting information on capital levels, personal characteristics of founders, financed services, distance from Istanbul and witnesses, this study estimates aggregate measures of capital levels. This study uses regression analysis to identify how capital levels are determined by several factors.

Findings – The results of this study indicate that holding a title, number of services, distance from Istanbul and family waqfs are positively related to higher capital levels. The number of witnesses, gender and individual services have no influence on capital levels.

Practical implications – Although the financial capital of cash waqfs decreased significantly since the 19th century, their number continued to increase. This was mainly because of the continuing tendency of a significant segment of society to borrow from these organizations, rather than the increasing role of modern banks. During this period, lending with less paperwork preserved the role of these organizations in credit relations, especially in relatively small-scale towns far from Istanbul. In other words, banks did not replace cash waqfs during the 19th century. Cash waqfs played an important role in channeling medium-sized financial capital to the market. For recent times, this study suggests that modern cash waqfs and Islamic financial institutions should prioritize trust, diversification and sustainability while adapting to contemporary economic and regulatory contexts.

Originality/value – In addition to providing valuable insights into cash waqf capital patterns from a long-term perspective, this study contributes to the literature by providing findings based on a novel data set of cash waqf organizations outside Istanbul. This study, for the first time, provides a quantitative and systematic analysis on the development of cash waqf capital and its determinants in the Ottoman Empire. Of great significance, this study focuses on organizations in the Rumelia region, which has received limited attention in the Ottoman waqf and finance history literature and provides a quantitative analysis of a substantial number of cash waqfs, specifically, 972.

Keywords The Ottoman Empire, Cash waqfs, Rumelia, Finance capital, Temporal shifts

Paper type Research paper



1. Introduction

This research constitutes a preliminary investigation of cash waqf finance capital and its determinants in an Ottoman context. To our knowledge, only a small number of empirical studies have examined cash waqf organizations on a large scale and their variations over time in the Ottoman Empire (Adigüzel and Kuran, 2021; Özvar and Yıldırım, 2022). Economic historians are yet to conduct a quantitative analysis of capital and its determinants, while a substantial body of literature examines common practices regarding how cash waqfs operate

within the economic environment (Peri, 1992; Çizakça, 1995; Shatzmiller, 2001; Özcan, 2003; Ismail Abdel Mohsin, 2013; Singer, 2013; Khan, 2015; Kaya *et al.*, 2017; Azrai Azaimi Ambrose *et al.*, 2018). The significance of cash waqfs as financial institutions persists in present times, as the establishment of Islamic banks and finance has been informed by historical experiences (Ahmed and Salleh, 2016; Bulut and Korkut, 2016; Mohd Thas Thaker *et al.*, 2018; Mohd Thas Thaker, 2018; Shatar *et al.*, 2021; Ascarya and Sakti, 2022; Yusgiantoro *et al.*, 2024; Bulut and Korkut, 2024). By examining both past and contemporary periods through the lens of financial capital underpinning these organizations, this study seeks to offer a novel and original perspective on historical development that will enhance the understanding of the subject matter.

This study aims to provide an initial analysis based on novel empirical evidence related to this objective in the context of cash waqfs located in Southeast Europe during the Ottoman Empire. Five questions generated the main problems:

- RQ1. How did the number of new cash waqfs change in the long term?
- RQ2. How did the participation of various groups based on gender and title as founders change over time?
- RQ3. How do the functions financed by cash waqfs vary over time?
- RQ4. How do capital levels fluctuate in the long term?
- RQ5. Were there any systematic effects of founders' status and services on capital levels in cash waqfs in Ottoman Rumelia?

This study examines these questions by using information from 972 cash waqf deeds (waqfiyya) available in Rumelia waqf registers and court records spanning the 16th century to the early 20th century.

Cash waqfs played a pivotal role in Ottoman financial history, using liquid capital and profit-sharing loans to fund social welfare, education and infrastructure, while circumventing Islamic usury prohibitions. By the 16th century, cash waqfs became prevalent in urban centers such as Istanbul, Edirne and Bursa. In Istanbul, their number grew from 41 in the 15th century to 677 in the 16th century, a 17-fold increase (Barkan and Ayverdi, 1970, p. XXXI). One estimate found 150 cash waqfs in Üsküdar facilitated 1,061 loans between 1514 and 1566 (Özcan, 2003, p. 375). This increase continued into the early 20th century (Özvar and Yıldırım, 2022, p. 32; Özdeğer and Gürsoy, 2024, p. 45). Cash waqfs also expanded in Bursa, with 245 waqfs granting 2,656 loans between 1749 and 1785, averaging 10.84 loans per waqf (Çizakça, 1995, p. 335). In Üsküdar, the average was 7.07 loans per waqf. This growth was driven by merchants and producers (Çiftçi, 2004, p. 89). Outside Anatolia, cash waqfs also grew in Rumelia, although their credit-granting capacity was less clear (Altay, 2024, p. 182). In summary, the proliferation of cash waqfs reflected the rising demand for these financial institutions in the Ottoman economy.

This study provides a quantitative analysis of cash waqf capital in the Ottoman Empire, focusing on Rumelia from a long-term perspective. Using cash waqf deeds registered by Ottoman court officials, this study examines founders' socioeconomic status, location, initial capital and funded services. This study, for the first time, investigated the impact of these variables on the capital levels of 972 cash waqfs in the region. While previous studies have concentrated on Anatolian towns, such as Istanbul and Bursa (Barkan and Ayverdi, 1970; Çizakça, 1995; Özcan, 2003; Gürsoy, 2017, 2021; Adigüzel and Kuran, 2021; Özvar and Yıldırım, 2002; Gürsoy and Özdeğer, 2022), research on Rumelia

remains limited. This study addresses this gap by using primary sources to analyze the capital levels of cash waqfs in Rumelia.

This study identifies a decline in the real capital levels of cash waqfs from the early 19th century, correlating devaluation with long-term capital reductions. It explores how founders' socioeconomic backgrounds, such as gender, title and father's title, affect capital levels. Gender showed no significant impact, but title positively influenced capital. While the effects of distance from Istanbul and the number of witnesses were less pronounced, they showed a positive long-term relationship with capital. Financing the poor had positive effects, whereas funding tax aids negatively affected capital, as waqfs financing tax payments had lower capital levels. These findings align with the literature suggesting that cash waqfs hindered capital pooling, with much revenue allocated to services specified in deeds (Kuran, 2011). Real capital averages after the 19th century were weaker than earlier periods, contrasting with the higher capital levels of early modern banks and a 19th-century public bank funded by cash waqfs (Karagedikli and Tunçer, 2018, p. 257). This study contributes to the understanding of the role of cash waqfs in financing deeds and their limitations in terms of capital accumulation.

Between 1500 and 1914, Rumelia was vital for the Ottoman Empire's military and economic development. Despite limited modern data, it is evident that the region's trade and agricultural output were crucial. Key products included wool, cotton, wheat and hides, with additions such as tobacco, rice, olive oil, cattle and horses boosting production until the late 18th century (McGowan, 1981, p. 43). In Bulgaria, agricultural reforms led to a rise in corn exports from 296,000 to 1.6 million hectoliters between 1840 and 1848 (Palairat, 1997, p. 43), and growth continued into the late 19th century, particularly in Bulgaria and Macedonia (Lampe and Jackson, 1982, 136). Tax revenues highlight Rumelia's economic significance: in 1475, the region yielded 1.4m gold ducats, surpassing Anatolia (İnalçık, 1997, p. 56). By 1527/1528, Rumelia had provided 198m akçe out of 537m in total revenues (Barkan, 1953, p. 277), contributing 34% of revenues in the late 16th century (Çakır, 2006, p. 275). These figures underscore Rumelia's importance in the Ottoman economy.

2. Related literature

The waqf, a trust fund established under Islamic law in the Ottoman Empire, institutionalized the practice of providing alms. Early waqfs were low-capital organizations, typically funded by small farms, with limited revenue, mainly for poor support. Economic development in regions such as Egypt and Iraq from the 8th century (Pamuk and Shatzmiller, 2014, pp. 221–222) has led to higher capital accumulation, enabling waqfs to expand services beyond poor relief to include family support and education (Arjomand, 1998, p. 113). The Great Seljuk Empire and Mughal India continued this tradition by funding education, religious facilities and poor relief. In early modern Muslim empires, waqfs were often royal organizations established by elites to enhance their reputation and support family members (Kozłowski, 1995, p. 358).

Waqf organizations played a vital role in the social and economic fabric of Seljuk Anatolia since the 12th century, promoting town development (Rogers, 1976, p. 76). This practice continued under the Ottomans, where waqfs financed infrastructure, education and public services, driving urban growth (Çizakça, 1995, p. 313; Peri, 1992, p. 167; Shechter, 2005, pp. 262–263; Azrai Azaimi Ambrose *et al.*, 2018; Usman and Ab Rahman, 2021). They supported infrastructure such as roads, bridges and waterways (Arjomand, 1998, p. 112; Wilson, 2015, p. 37; Ascarya and Masrifah, 2023) and funded poverty relief through soup kitchens, shelters and clothing (Kamel, 2014, p. 233; Khan, 2015, p. 983; Haneef *et al.*, 2015). Waqfs, including cash waqfs, remained key to financing urban services and public

goods until the early 20th century. Their bottom-up structure, with founders and trustees attuned to societal needs, made them effective in supporting public goods and complementing state efforts (Wilson, 2015, p. 41).

In the 16th century, cash waqfs emerged as a new institution in the Islamic world, sparking debates about their legitimacy because of concerns over waqf perpetuity and the ban on interest. Unlike traditional waqfs based on immovable assets, cash waqfs faced opposition, particularly from the Shafiite School, while the Hanafi School, supported by figures like Ebu Suud Efendi, adopted a more flexible stance (Mandeville, 1979). Critics argued that cash waqfs were risky, as inflation could erode their value, but proponents highlighted their practicality amid rising maintenance costs and declining revenues from agricultural waqfs (Orbay, 2014, pp. 985–986). To address currency depreciation, Hanafi jurists developed mechanisms such as *Muamele-i Şerriye* [1] (Özcan, 2003, p. 375). Cash waqfs also enabled broader societal participation in capital accumulation (Gürsoy, 2017, p. 162), aligning with the Hanafi view and fostering their proliferation, particularly in the Ottoman Empire.

The development of cash waqfs in the Ottoman Empire marked a key evolution in Islamic economic practices, particularly as credit providers (Bulut and Korkut, 2019a). Lending at fixed profit margins, they became vital financial intermediaries in urban centers, supporting small-scale producers, merchants and artisans (Bulut and Korkut, 2019b, p. 124). Their formalized lending practices ensured accountability, while their credit offerings proved invaluable during economic uncertainty (Çizakça, 2000). In cities like Bursa and Istanbul, cash waqfs managed significant endowments, extending thousands of akçe in loans to fund commerce, trade and urban economies. Fixed repayment terms and ethical constraints fostered stable economic relationships. The Ottoman state indirectly supported cash waqfs to sustain economic activity and social cohesion (Korkut, 2024). However, structural limitations such as restrictions on reinvesting profits hindered their long-term competitiveness with European financial institutions by the 18th century. Despite these challenges, cash waqfs exemplified a community-focused credit system that blended financial and ethical principles, highlighting the Ottoman Empire's innovative approach to finance (Bulut and Korkut, 2019a).

The emergence of cash waqfs as financial institutions raises questions about why the Ottoman administration relied on foreign debts, despite their existence. The foreign debt problem of the 18th and 19th centuries arose because of military defeats, administrative inefficiencies and costly modernization, culminating in bankruptcy in 1875 (Hassan *et al.*, 2024). The cash waqfs failed to address this debt for several reasons. First, as autonomous, locally focused institutions, waqfs prioritized social welfare over state finances (Kuran, 2005). Second, their small-scale loans and localized operations could not generate large capital reserves (Çizakça, 1995; Çiftçi, 2004). Third, legal and religious restrictions prevented waqf funds from being used for state debt (Kuran, 2013). Fourth, waqfs operated on modest capital bases, focusing on preserving endowments, rather than addressing large-scale fiscal emergencies. Finally, the state favored foreign loans for their ability to quickly raise large sums. Even waqf-based banks had less capital than institutions such as the Ottoman Bank (Karagedikli and Tunçer 2018). The decentralized structure of cash waqfs and localized focus rendered them unsuitable for addressing macroeconomic challenges, highlighting the distinct roles of waqfs and state finance in the Ottoman economy.

The literature on cash waqf organizations highlights contrasting views on their economic impact. One perspective argues that they enhanced social welfare, reduced government expenditure and promoted economic growth by funding public goods and poor relief, lowering deficits and interest rates and boosting private investments (Çizakça, 2000, p. 2). In contrast, another view criticizes their role in developing modern financial institutions, noting their limited capital and the diversion of income to deeds, which restricted profits from credit

activities (Kuran, 2003, 2005, 2013, 2016). Empirical testing of these claims is challenging, as financial institutions, such as banks, emerged in the 19th century, while cash waqfs peaked in the early 20th century. This study aligns with the latter view, finding that aggregate capital in waqfs primarily financed religious services, rather than productive economic activities.

3. The cash waqfs of Rumelia: data, source and major trends

This study is based on information obtained from cash waqf contracts recorded in waqf registers of Ottoman sharia courts in Rumelia from the early 16th century to the first decades of the 20th century. The data set comprises 972 cash waqf contracts sourced from several primary sources, covering a 415-year period, from 1506 to 1921. The microfilm copies of these contracts stored in the T. R. Directorate General Foundations, including those from the Sarajevo Gazi Hüsrev Bey Library and the courts of Edirne and Rodoşuk, were consulted for this research. The sample is representative of all cash waqf organizations in Ottoman Rumelia. A reliable secondary source focused on these organizations in Rumelia is used to control the data set (Bulut *et al.*, 2019). To construct the data set, information on the initial capital at the time of establishment is used. As currencies vary over the centuries, monetary values are converted into akçe using exchange rates from reliable secondary sources (Pamuk, 2000; Bulut and Altay, 2022). The primary source for the data sets is cash waqf deeds (waqfiyya), which detail the founder's socioeconomic status (title, gender, father's title), the waqf's location, founding capital, profit shares, conditions, financed services and employee wages. They also specify if the waqf is a family waqf and include the establishment date and witness names. All capital and variables were drawn from these deeds at the time of establishment.

The limitations of cash waqf deeds as historical sources must be addressed in any quantitative research on this subject. These limitations arise from several factors:

- a tendency to underrepresent female and commoner founders, while overrepresenting males and titled founders, which can affect the results of the analysis;
- the problem of whether the sample of cash waqf deeds represents all organizations, which can cast doubt on the validity of any conclusions drawn from the data;
- it is possible that registration methods/principles changed over time and this is the reason why more cash waqfs were registered in the 18th century; and
- long-term analysis prevents the use of periodic external factors in the study.

Because of data limitations, the effects of these external factors can only be measured by including the silver content of the money in the analysis. The most difficult limitation to overcome is the lack of complete documentation of cash waqf deeds in Rumelia Province, as the primary sources often fail to provide all relevant documents. This study offers an evaluation of its findings, taking into account the limitations presented.

In the 16th century, Rumelia included numerous sub-provinces such as Üsküp, Prizren and Yanya, while Bosnia consisted of Bosna, Hersek and others. The shifting boundaries of these provinces complicate the classification of cash waqf organizations over time, so Rumelia is considered a single region. Figure 1 shows the long-term trend of the newly founded cash waqfs, revealing a general upward trend. Initially, one waqf was established every two years on average. In the 18th century, this number increased to two waqfs annually, continuing for the following centuries. In the final period, the annual average increased to almost nine.

The earliest recorded instance of a cash waqf, dating back to 1506, belonged to Yahya Pasha, a member of the military elite who endowed 38.5 thousand akçe [2]. This



Source(s): Author's calculations from Bulut *et al.* (2019)

Figure 1. Annual averages of newly established cash waqf organizations by centuries

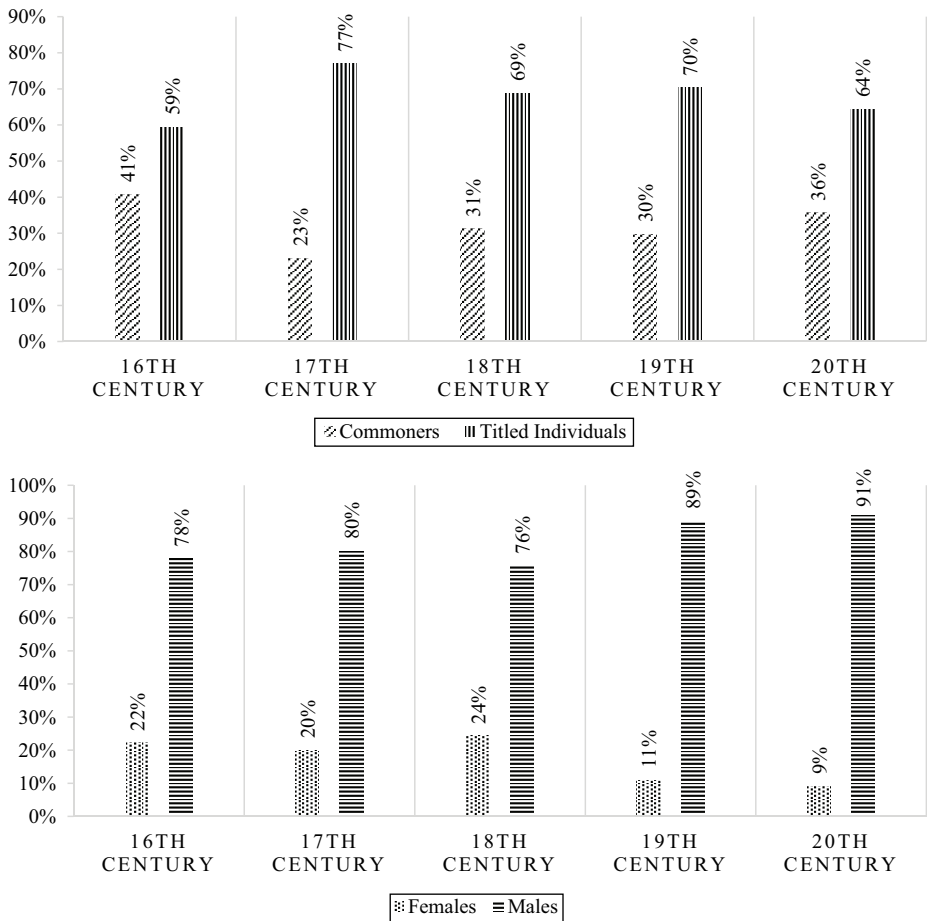
organization was located in the town of Skopje, Macedonia. The founder imposed a 10% profit rate (*ribh*) [3] to generate revenue for financing the services. Although this practice corresponded to interest-based borrowing, it used a mechanism based on the exchange of a commodity, thus allowing for the legitimization of credit relations. Revenues generated through loans financed four major services: religious, educational, commercial facilities and infrastructure. Additionally, Yahya Pasha provided financial resources for his descendants by designating them as trustees of the organization. This practice transformed the organization into a family waqf, with family support being another service financed by the organization.

The proliferation of cash waqfs accelerated in the 18th century because of factors such as population growth, increased commercial ties between villages and cities and the rise of a monetary economy. While the low rates in the 16th and 17th centuries may stem from poor record-keeping or lost records, these alone do not explain the five-fold increase. Quantitative studies show an increase in cash waqf activity, with an example from the 16th century, where a waqf in Üsküdar provided an average of seven loans, while by the 18th century, this increased to 12 in Bursa (Özcan, 2003, p. 375; Çizakça, 1995, p. 335), indicating growing demand for cash waqfs and financing.

The second aspect pertains to the main characteristics of the waqfs. Historically, waqfs were established with real estate and cultivable land, which funded services and salaries. However, economic shifts could reduce the income from these assets, with real estate depreciation becoming a financial burden (Çiftçi, 2004, p. 84). Cash waqfs alleviated these costs and reduced the risks of agricultural dependencies, making them more reliable economic organizations (Orbay, 2014, p. 1012). Additionally, cash waqfs enabled broader societal inclusion in institutional activities (Kaya *et al.*, 2017, p. 51; Gürsoy, 2017, p. 162). Although the exact effects are difficult to measure, the overall trend shows a long-term increase in cash waqf organizations. Third, egalitarian inheritance laws promoted the distribution of bequests among heirs, as seen in earlier Islamic periods (Kuran, 2005, 800–801). Cash waqfs emerged as a means for founders to preserve their assets and prevent

wealth fragmentation (Layish, 1997). While these waqfs aimed to safeguard capital, founders often appointed themselves or relatives as trustees to direct revenue to heirs, potentially acting opportunistically rather than strictly following inheritance laws (Çizakça, 2000).

The data depicted in Figure 2 provide a visualization of the allocation of cash waqf organizations for various social groups across centuries. During the initial three subperiods, the percentage of female founders was approximately 20% and remained stable. However, since the 19th century, this figure dropped to 10%. The decline in the percentage of female founders is perplexing, particularly during the last two subperiods, as their shares are more than halved. However, the historical context does not offer a clear explanation for this trend. While there is evidence suggesting that the share of female founders was 20% in Edirne in the early 16th century (Gerber, 1983, p. 37), it is important to note that this includes both waqf and cash waqf organizations. The observations reveal only one cash waqf organization



Source(s): Author's calculations from Bulut *et al.* (2019)

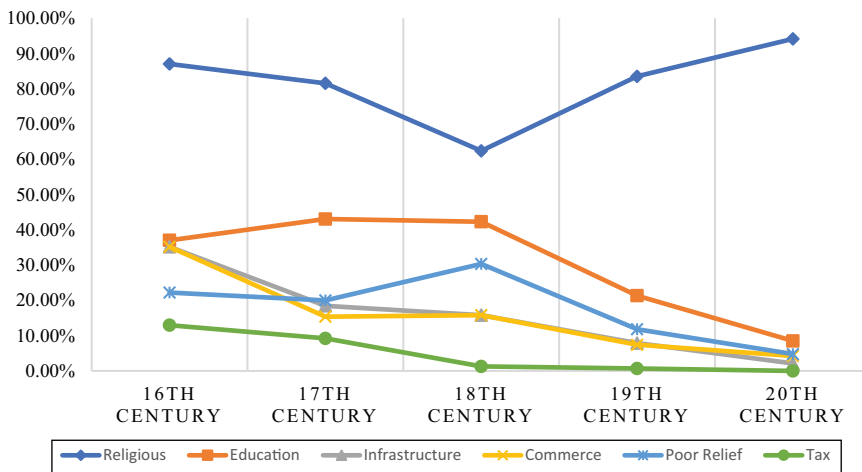
Figure 2. Allocation of cash waqfs by social groups

established by a female during the 16th century in Edirne [4]. Emine Hatun, who endowed three thousand akçe to construct a mosque and support the poor in her neighborhood, established the first cash waqf organization by a female founder in 1550 [5]. In contrast to the declining trend in cash waqf organizations established by female founders, the percentage of male founders demonstrated an increasing trend, reaching 90% in the long term. Furthermore, while females established an average of 0.34 cash waqf organizations per year, males founded 1.96, indicating that on average, males established an organization every two years, while females established one every three years.

The classification of social groups based on founder titles presents challenges because of the lack of detailed socioeconomic information on cash waqf deeds. Titles may be honorific and distinctions within groups remain ambiguous. Ottoman society was traditionally divided into askeri (officials exempt from taxes) and reaya (taxpayers); however, waqf deeds provide only titles and not precise statuses. Military ranks (Agha, Bey, Beşe) and religious titles (Efendi, Kadi, Müfti, Molla, Halife and Çelebi) do not consistently indicate exact roles (Barkan, 1968, pp. 15-17; Tülüveli, 2005, pp. 17-28). To address these uncertainties, this study classifies founders into two broad categories: commoners and titled individuals.

Figure 3 illustrates the fluctuating proportions of commoners and titled individuals among the cash waqf founders. In the 16th century, commoners constituted 41% of cash waqf founders; however, this percentage decreased to 23% in the 17th century before subsequently increasing, reaching its apex in the 19th century. By the early 20th century, their representation had stabilized at 36%, the second highest among all subperiods. The proportion of titled founders exhibited an inverted U-shaped trend over time. Longitudinally, commoners established an average of 0.72 cash waqfs per annum, while titled founders instituted 1.58.

Why did males and titled individuals have higher participation in cash waqf formation in the long term? Data limitations do not fully elucidate the disparities among socioeconomic groups. The emergence of cash waqfs as financial entities reflects their founders' affluence. However, there were no capital restrictions on their establishment. Titled individuals and



Source(s): Author's calculations from Bulut *et al.* (2019)

Figure 3. The distribution of services by centuries

men who were more engaged in commerce were represented disproportionately. Loan data from the late 18th century indicate that titled individuals, tradesmen and men borrowed an average of 10,200 akçe, whereas commoners and women borrowed 8,640 kuruş, underscoring their greater economic participation (Çiftçi, 2004, pp. 87-90).

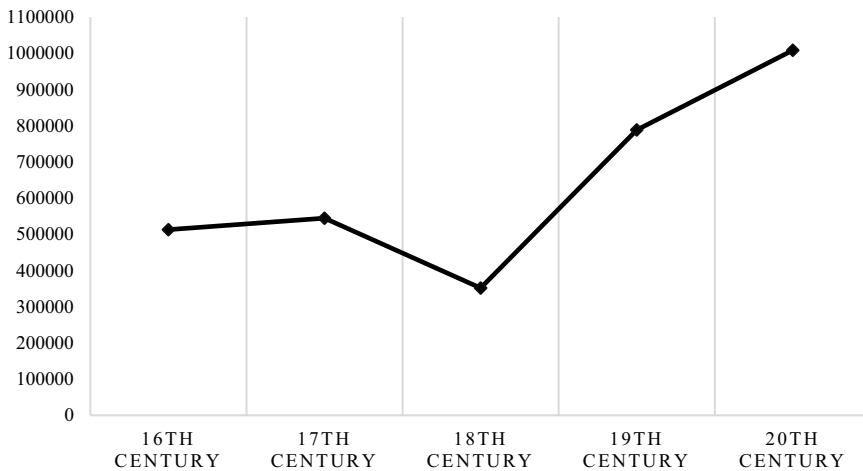
Second, the predominance of titled individuals and men in cash waqfs could be attributed to their political and economic privileges in the Ottoman system. These groups possessed tax-levying rights and used cash waqfs to redistribute wealth and acquire social prestige (Singer, 2013). Furthermore, inheritance laws incentivized wealthy families to establish waqfs, thereby preserving their capital and facilitating the proliferation of these institutions among the elite strata of society.

Although various social groups participated in establishing cash waqf organizations in the Ottoman Empire, the functions of these organizations were not independent of one another. Founders often established these organizations for the purpose of financing religious and social services, while also gaining material benefits for themselves and their relatives. Despite their explicit purposes, existing literature shares common beliefs about these functions, as mentioned above. However, this literature is insufficient in demonstrating how these different functions changed over time and location. Cash waqfs in the Ottoman Empire served both societal and individual interests, funding religious and social services while benefiting founders and their relatives. The extant literature acknowledges these dual functions but lacks analysis of their changes over time and across regions. This data set provides long-term insights into these noneconomic roles. The data set provides information on these functions as non-economic variables from a long-term perspective.

The six functional categories of cash waqfs include religious functions, such as Quran readings, facility upkeep and clergy salaries; education, funding schools, scholars and students (Tuğrul and Bulut, 2021, pp. 612-627); infrastructure, including roads, waterways and bridges; commercial facility construction and funding; poor relief, supporting public kitchens, shelters and aid for the disadvantaged; and tax payments for specific neighborhoods. The total share exceeds 100% as 32% of cash waqfs funded multiple services. Religious services are predominant (81%), followed by education (26%). Poor relief constitutes 16%, while infrastructure and commercial activities each represents 11% of the share. Only 2% fund extraordinary taxes. These findings elucidate the primary role of religious financing, with education as a secondary focus, whereas other services remain less prevalent in Ottoman Rumelia.

Figure 3 demonstrates that religious services remained the predominant function of cash waqfs, with proportions ranging between 60% and 90%. The lowest proportion (60%) occurred in the 18th century; however, it subsequently increased in the 19th and early 20th centuries, surpassing 16th-century levels. Other services, including education, infrastructure and commerce, were significant in the 16th century but subsequently declined, particularly in the 19th century. Poor relief reached a maximum of 30%, whereas infrastructure and commercial services decreased below 20%. By the early 20th century, religious services had become dominant, exceeding 90%. Family waqfs were more prevalent in Istanbul, constituting 70% of cash waqfs from the 15th to the early 20th centuries, compared to 44% in Ottoman Rumelia (Adigüzel and Kuran, 2021, p. 19). Their proportion in Rumelia peaked at 60% in the 18th century but declined to 44% in the 19th century and 22% in the early 20th century. This evidence suggests that family waqfs are more common in Istanbul than in Rumelia.

Figure 4 illustrates three distinct patterns in the average capital levels in akçe. In the initial two sub-periods, capital levels remained stable, reflecting the consistent number of new cash waqfs (Figure 1). The 18th century witnessed rapid growth in cash waqf formation, accompanied by a decline in average capital, which is potentially attributable to increased



Source(s): Author's calculations from Bulut *et al.* (2019)

Figure 4. Average capital levels of cash waqfs by centuries (in akçe)

participation by commoners and females (Figure 3). In the early 20th century, capital levels began to increase, possibly because of higher participation from males and titled founders as well as long-term inflationary effects.

4. A quantitative analysis: Determinants of capital levels

This section presents a quantitative analysis of the variables influencing capital levels in cash waqf organizations. Variables such as founders' titles, gender, service types (Figure 3), family waqfs, fathers' titles, distance from Istanbul, witness numbers and changes in the silver content of Ottoman akçe may affect capital. The analysis incorporates these independent variables through regression analysis, as socioeconomic structures, shifts, functional differences and macroeconomic trends simultaneously impact capital. This study follows prior literature on long-term capital trends (Karagedikli and Tunçer, 2018; Adıgüzel and Kuran, 2021; Özvar and Yıldırım, 2022; Altay, 2022) and uses a Tobit model to estimate the effects on real capital levels, with the dependent variable being the natural logarithmic form of real capital.

This analysis examines seven explanatory variables: the silver content of akçe, distance from Istanbul, number of witnesses, number of services, socioeconomic status (founders' titles, fathers' titles and gender), type of service and family waqfs. The silver content of the akçe, measured in natural logarithms, reflects its long-term devaluation because of fiscal policies and economic pressures. Over time, debasement reduced the silver content, making nominal comparisons of waqf funds misleading without adjusting for this factor. Using silver content allows historians to express financial data in real terms, enabling accurate comparisons across periods. Fluctuations in silver content also highlight broader economic trends such as inflation, trade imbalances and shifts in global metal flows. Linking these trends to cash waqf capital contextualizes their financial resilience and role within the Ottoman economy. This approach aligns with economic history methodologies emphasizing real measures for long-term analysis.

The second category examines the impact of distance from Istanbul on cash waqf organizations, as these institutions were spread across Rumelia. Istanbul, as the capital and administrative center, likely provided cash waqfs with better access to capital, markets and imperial support. Proximity to Istanbul may have facilitated higher capital levels because of greater trade, demand for loans and administrative oversight. In contrast, distant regions faced challenges such as weaker market integration, limited credit access and reduced economic growth, potentially affecting waqf capital. Additionally, regions farther from Istanbul often struggled with mismanagement, communication delays and external risks like conflicts or insurrections. Thus, distance from Istanbul helps explain regional disparities in waqf capital and the efficiency of their operations, highlighting the influence of geographic and administrative factors on financial sustainability.

The third explanatory variable is the number of witnesses in cash waqf deeds, with the hypothesis that high-capital waqfs will have more witnesses. The number of witnesses reflects social trust and community involvement, suggesting that more witnesses could enhance the waqf's credibility, leading to higher donations and investments. Waqfs with substantial capital or managed by prominent individuals likely attracted more witnesses, which could help sustain or increase capital levels. A higher number of witnesses also provides stronger legal backing, reducing risks of disputes and mismanagement. Over time, more witnesses may indicate better community integration, access to credit markets and financial resilience. This variable serves as a proxy for the legal and social dynamics influencing waqf capital accumulation.

The fourth variable concerns the number of services financed by the waqfs. High-capital waqfs are expected to finance more services, reflecting the founder's intentions. This variable, in logarithmic form, helps assess how changes in the number of services impact capital levels.

The fifth category examines the impact of founders' socioeconomic backgrounds using dummy variables for titles, gender and fathers' titles. Titles are classified as either with (1) or without (0), and the same applies to fathers' titles [6]. Gender is also differentiated with a dummy variable for males (1) and females (0). The sixth category uses dummy variables for services, where a value of 1 indicates the service is financed and 0 means it is absent. The seventh category distinguishes between family waqfs (1) and non-family waqfs (0).

The socioeconomic status of waqf founders often determines the magnitude of initial endowments, with elites such as state officials, merchants and ulema contributing more substantial capital. This higher capital enabled waqfs to generate greater revenue and achieve long-term financial stability. Founder characteristics, including gender, also influence waqf outcomes. Elite women, particularly from prominent families, established waqfs to secure wealth and ensure philanthropic use, which can impact capital dynamics. Founders from higher social strata typically had better access to credit networks and skilled administrators, which contributed to higher returns and more sustainable capital. In contrast, waqfs founded by individuals of lower status may face challenges in accessing these resources, leading to stagnation.

Family waqfs, often established to benefit descendants, reflect efforts to preserve wealth across generations while serving public goods. These waqfs may face different pressures, such as greater scrutiny or restrictions on reinvestment. Elite-founded waqfs, particularly those by individuals with administrative titles, often have broader economic and social impacts, leveraging political influence for loans, asset protection and expansion. Analyzing the socioeconomic status of founders helps reveal wealth distribution trends and their influence on waqf capital dynamics, offering insights into how social hierarchies shaped waqf sustainability and growth in Ottoman financial history.

Table 1 presents descriptive statistics of the variables used in the regression analysis, excluding dummy variables. The analysis regresses these variables on capital levels across the six models with various combinations of variables, as shown in Table 2. The coefficients of devaluation are consistently positive and statistically significant (ranging from 0.69 to 0.84), indicating that a 1% decline in the silver content of Ottoman akçe resulted in an increase in capital levels. Distance from Istanbul also exhibits a positive and significant effect, while the number of witnesses is predominantly positive, but statistically insignificant, with the exception of Model 3. The number of services consistently demonstrates a greater positive impact on capital levels than other variables such as distance and devaluation.

The analysis investigates the influence of socioeconomic structure on capital levels by examining founder titles, father titles and gender in various combinations (Models 5–7). The results indicate that fathers with titles consistently demonstrate positive and statistically significant effects on capital levels across all the models. Founders with titles also exhibit positive coefficients (approximately 0.25), whereas male founders show positive but statistically insignificant effects. Gender does not demonstrate a significant impact on capital levels when controlling for other variables. These findings suggest that titles, whether associated with founders or fathers, are key determinants of high capital in cash waqf establishments, aligning with the recent literature that links titles to social and economic privileges (Ergene and Berker, 2008; Coşgel and Ergene, 2012).

This analysis investigates the impact of services financed by cash waqf organizations on capital levels using dummy variables for six services (Models 6 and 7). As organizations fund multiple services, a value of 1 is assigned to financed services and 0 to others. The results presented in Table 2 indicate that financing religious services, infrastructure and commerce has negative and statistically insignificant effects on capital. Financing educational services demonstrates a positive but statistically insignificant effect. Supporting the impoverished exhibits a positive and statistically significant effect, with coefficients approximating 0.55, while funding tax payments shows a negative but statistically significant effect. The final model reveals that family waqfs significantly increase capital levels despite their lower proportion (44%) compared to non-family waqfs (56%), suggesting that founders allocate greater capital to family waqfs.

While regression analysis of Ottoman cash waqfs provides valuable insights, several limitations must be considered. Waqf registers may not capture all waqfs, especially those dissolved, mismanaged or informal, leading to selection bias. Variables like silver content of akçe or distance from Istanbul may not fully reflect the economic or geographical realities, potentially distorting their impact. The data may also overlook historical events such as wars, revolts or economic crises that affected waqf operations (Orbay, 2014, pp. 985-986). Unmeasured factors like macroeconomic policies or legal frameworks could bias the results. Relationships may be bidirectional, such as higher capital attracting more witnesses or elite

Table 1. Descriptive statistics

Variables	Mean	SD
Ln (capital levels)	7,91	1,83
Ln (silver content)	-3,65	1,41
Ln (distances from Istanbul)	1,24	1,10
Ln (witnesses)	6,26	0,77
Ln (services)	0,28	0,43

Source(s): Authors' own work

Table 2. Regression analysis of the determinants of capital levels (dependent variable: Ln [capital levels])

Variables	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7
Ln (silver)	0.79*** (0.03)	0.84*** (0.03)	0.82*** (0.03)	0.70*** (0.03)	0.69*** (0.03)	0.69*** (0.03)	0.69*** (0.03)
Ln (distance)		0.55*** (0.05)	0.57*** (0.06)	0.48*** (0.05)	0.42*** (0.05)	0.44*** (0.05)	0.46*** (0.05)
Ln (witness)			0.10** (0.04)	0.02 (0.04)	0.01 (0.04)	0.00 (0.04)	-0.00 (0.04)
Ln (service)				1.04*** (0.11)	0.98*** (0.11)	0.87* (0.47)	0.76* (0.47)
Father has a title					0.46*** (0.09)	0.39*** (0.09)	0.37*** (0.08)
Founder has a title					0.27** (0.12)	0.25** (0.11)	0.25** (0.11)
Male founder					0.09 (0.15)	0.17 (0.15)	0.18 (0.15)
Religious services						-0.20 (0.28)	-0.11 (0.28)
Educational services						0.15 (0.28)	0.20 (0.28)
Infrastructure						-0.05 (0.26)	-0.01 (0.26)
Commercial services						-0.19 (0.28)	-0.14 (0.28)
Poor relief						0.53* (0.28)	0.55* (0.28)
Tax aids						-1.00*** (0.37)	-0.96*** (0.37)
Family support							0.31*** (0.08)
Constant	10.80*** (0.12)	7.53*** (0.37)	7.17*** (0.39)	7.13*** (0.38)	7.08*** (0.38)	7.05*** (0.44)	6.69*** (0.44)
N	972	972	972	972	972	972	972
R ²	0.37	0.42	0.43	0.47	0.50	0.52	0.53
F	575.3	356.9	240.9	217.8	136.8	79.6	75.8

Note(s): Figures in parentheses are standard errors. *** indicates significance at 1%, ** at 5% and * at 10%

Source(s): Authors' own work

founders, complicating causal interpretations. Findings may not apply uniformly across regions or periods because of regional and temporal differences, such as waqfs in provincial towns versus major urban centers. Linear models may oversimplify complex interactions, and some statistically significant variables may have negligible real-world effects. Regression analysis also cannot fully capture qualitative factors like founders' motivations or local dynamics. Additionally, modern econometric techniques may not align with historical contexts, especially regarding gender or religious services. Aggregating data across regions or periods could obscure important variations. To address these limitations, careful model design, robustness checks and qualitative analyses are necessary, combining quantitative findings with historical, cultural and institutional insights for a more nuanced understanding of Ottoman cash waqfs and their financial dynamics.

5. An assessment over findings and implications

Factors with positive and significant effects can be summarized as follows. The positive effect of silver content highlights the importance of real currency value in determining waqf capital. Higher silver content preserved the purchasing power of the akçe, enabling waqfs to sustain and grow capital through investments and loans. The significant effect of distance from Istanbul suggests that peripheral waqfs accumulated more capital, likely because of reduced competition and greater reliance on local institutions for credit and services. The number of witnesses positively influenced waqf capital, enhancing legal and social legitimacy, fostering community support and encouraging investments. Diversification of services funded by waqfs also bolstered financial resilience by attracting broader support. Elite patronage positively impacted waqf capital, as founders with higher social status had access to more resources and networks. Family waqfs and poor relief services contributed to capital growth by ensuring continued support and enhancing public trust, encouraging donations and lending.

Factors with positive but statistically insignificant effects offer diverse insights. The insignificance of male founders suggests gender alone does not significantly affect waqf capital, aligning with evidence that elite women were also influential in founding cash waqfs (Özvar and Yıldırım, 2022; Altay and Bulut, 2024). This may be because of the long-term nature of returns from educational investments, where support for schools and scholars, while prestigious, did not immediately impact capital levels.

Factors with negative but statistically insignificant effects, such as religious services, infrastructure investment and commercial services, show varied outcomes. The negative effect suggests these services do not directly drive waqf capital growth. Religious services and infrastructure investments may have been seen as obligatory or non-revenue generating, while commercial services, though valuable, could have been perceived as risky or less impactful for sustaining capital.

The only factor with a negative and statistically significant effect is tax aid financed by cash waqfs. The negative effect likely reflects the economic burden of fulfilling state obligations, reducing funds for reinvestment and eroding capital over time. This highlights the vulnerability of cash waqfs to external fiscal pressure.

This study provides mixed validation for arguments in contemporary literature on cash waqf establishment and capital levels in the Ottoman Empire. Most results are unit-free, making direct comparisons with other studies difficult. Capital in cash waqfs was notably high in Istanbul and nearby provinces (Karagedikli and Tunçer, 2018, p. 252). For example, waqfs in Istanbul held around 201m akçe, while those in Rumelia had approximately 111m akçe (Karagedikli and Tunçer, 2018, p. 249). The study shows that as the number of services increases, so does the capital, indicating that funds are transferred to services. Commercial

and infrastructure investments negatively impacted capital, suggesting inefficient financial allocation. Despite this, family waqfs positively influenced capital, aligning with the literature that family waqfs contribute to less effective financial organizations (Kuran, 2013, p. 400; Kuran, 2016, p. 430).

In conclusion, the positive significance of witnesses, founders' titles and service diversification highlights the importance of social legitimacy, elite patronage and community involvement in sustaining waqf capital. Transparency and local integration boost public trust, attract donations and enhance financial support. The positive effect of silver content underscores the role of currency stability in preserving waqf capital's purchasing power, demonstrating waqfs' sensitivity to fiscal policies. Supporting multiple services, like poor relief, improved financial resilience, while negative effects from religious or infrastructure investments suggest non-revenue-generating activities strained resources. The negative impact of tax aid shows waqfs' vulnerability to state fiscal demands, eroding capital. The insignificant impact of male founders and education indicates that gender and long-term investments may not directly influence short-term capital outcomes, requiring further investigation. This study highlights the complex interplay of economic, social and administrative factors in shaping waqf capital, revealing both their resilience and limitations as financial institutions in the Ottoman Empire.

This study offers valuable implications for modern cash waqfs and Islamic finance. The positive role of witnesses and elite patronage in historical waqfs highlights the importance of trust-building mechanisms in modern institutions, such as transparent governance and independent audits, to attract contributors and ensure sustainability. The influence of silver content emphasizes the need for stable financial instruments and currencies, prompting modern waqfs to consider investments that mitigate inflation and currency volatility. The success of waqfs supporting multiple services, like poor relief and education, shows the benefits of diversifying services and investment portfolios. However, non-revenue-generating activities, like religious or infrastructure investments, can strain resources, signaling the need for a balance between social impact and financial sustainability. The negative impact of tax aid underscores the importance of favorable tax policies and regulatory environments. The insignificant role of male founders in historical waqfs points to the value of inclusivity, especially encouraging women's participation in modern waqfs. These insights suggest that modern institutions should focus on sustainable investments, such as real estate or sukuk (Islamic bonds), to ensure growth while meeting social and religious obligations (Korkut and Bulut, 2017). By adapting these lessons, modern waqfs and Islamic financial institutions can effectively serve both financial growth and social welfare.

6. Conclusion

Drawing on the cash waqf deeds of Rumelia, this study represents a different effort in the domain of the quantitative analysis of capital levels during the Ottoman Empire. By doing so, it effectively bridges the critical knowledge gap regarding the determinants of cash waqf capital in this particular region. Although economic historians have recently delved into some aspects of the economic and non-economic variables associated with cash waqf organizations, there is a shortage of understanding of their influence on capital levels. Consequently, the findings of this study are expected to not only stimulate further research on the capital levels of cash waqf organizations in other regions of the empire but also provide valuable insights for future studies in the field.

The study finds that the capital levels of cash waqf organizations are positively influenced by devaluations, distance from Istanbul and the number of services. Notably, waqfs in geographically distant regions showed higher capital levels, likely because of reduced state

intervention or centralized control, allowing greater operational autonomy. Regression analysis was used to examine this relationship, with the result's robustness dependent on model specification, sample size and distance measures. Further analysis, including interaction terms or regional fixed effects, could clarify the role of distance. It is essential to assess the statistical significance and explanatory power of this finding to understand its practical relevance in Ottoman cash waqf financial dynamics.

The number of witnesses does not significantly impact capital levels, except in Model 3. This outcome may result from additional control variables, interaction terms or alternative functional forms that better capture the relationship between witnesses and capital. This discrepancy highlights the sensitivity of findings to model design and potential multicollinearity. If Model 3 more accurately reflects historical and social factors, it could improve reliability. However, caution is needed, and robustness checks across multiple specifications are crucial to validate the conclusions.

Titles positively and significantly affect capital levels, supporting the idea that social and economic status influenced Ottoman cash waqfs' financial dynamics (Altay, 2022, 2024). Titles often reflect wealth, influence and access to resources, allowing elite individuals to endow waqfs with larger initial capital and attract greater community support. This finding shows that waqfs were not only philanthropic but also instruments for projecting social status. It reinforces the idea that founders' socioeconomic characteristics shaped waqfs' ability to accumulate and sustain capital, highlighting the interplay between wealth, status and charity in the Ottoman Empire. Additionally, gender does not significantly impact capital levels, as women's waqfs, especially since the 18th century, had comparable or even higher capital than those of men (Altay and Bulut, 2024, pp. 638-639).

This study found that financing most common services had insignificant effects on capital, except for poor support and tax aid. Family waqfs had a positive and significant impact on capital. However, a direct comparison with similar studies is lacking, as no systematic, quantitative analyses of cash waqf capital determinants exist. Most Ottoman cash waqf literature focuses on descriptive statistics and specific cases (as discussed in the literature review). Related studies, such as those on Malaysian Islamic banking (Shatar *et al.*, 2021) and micro-enterprise human capital development (Thaker *et al.*, 2021), highlight trust, accessibility and targeted economic initiatives as factors influencing contributions. Though not directly comparable, these studies emphasize the importance of institutional credibility and focus. This study contributes by empirically measuring various factors' effects on capital, using original data from establishment deeds.

This study offers practical implications for both historical and contemporary cash waqf management. The positive impact of titles and family waqfs suggests that leveraging founders' social status and networks can enhance waqf sustainability. Policymakers and scholars could apply these lessons by engaging local elites in waqf initiatives to boost community-driven financial projects. The role of distance from Istanbul emphasizes regional autonomy in fostering waqf success, informing decentralization strategies in similar historical contexts. These findings can guide the development of region-specific waqf policies, optimize fund allocation and enhance social trust through localized governance. Moreover, the study highlights how waqfs contribute to community welfare, offering a model for integrating philanthropy with financial sustainability, potentially informing modern Islamic finance systems in regions with similar historical or cultural ties.

This study has several limitations that should be addressed in future research. First, the data may not fully represent all regions and periods of the Ottoman Empire, limiting the generalizability of the findings and potentially underrepresenting smaller waqfs. Second, while the econometric models are robust, they may not fully capture the complex historical,

social and economic factors affecting cash waqf capital, with some variables possibly omitted or inadequately measured. Future research should supplement quantitative analysis with historical and contextual insights for a more comprehensive understanding.

Future research on Ottoman cash waqfs should combine quantitative and qualitative approaches to overcome the limitations of regression analysis. Expanding data sets to include regional and temporal variations, such as local economic conditions and inflation trends, will help capture omitted variables. Advanced econometric techniques like instrumental variable regressions or structural equation modeling can address endogeneity and clarify causal relationships. Micro-level case studies using archival records can offer insights into founder motivations and community dynamics. Comparative studies with similar institutions in other regions or periods will provide broader context and assess the generalizability of the findings. Integrating diverse methods will deepen our understanding of cash waqf operations and their long-term impacts.

This study provides insights for modern cash waqfs and Islamic finance by emphasizing the importance of transparency, diversification and social trust in sustaining capital growth. Understanding the historical links between founder characteristics, service diversification and capital levels can help modern waqfs balance financial sustainability with social impact. Additionally, addressing vulnerabilities to external pressures, such as tax obligations, can guide contemporary Islamic financial institutions in navigating regulatory challenges and optimizing their philanthropic and financial roles.

Notes

1. This case study focused on cash waqf organizations of the Ottoman Empire, indicating that 82% of loans were granted under *Muamele-i Şerriye* during the 16th century. In this practice, borrower bought a commodity with a price equal to amount of debt and its interest. A credit relation based on an exchange of commodities allowed for avoiding direct interest payments.
2. General Directorate of Foundations Archive (VGMA), Register: 629, Page: 422-429, Serial: 332 (629/422-429/332).
3. The terms of ribh and riba contain systematic differences. Riba means to usury in which loans were granted with higher interest rates. Contrary to the riba, the ribh represents borrowing practices based on legally determined interest rates ranged between 9% and 20% under the institutional structure of cash waqfs. Hereafter, this study uses the term of ribh as legal interest rates determined in waqf deeds.
4. Hürrem Şah Hatun was the founder of this cash waqf dated 1556 in Edirne. The initial capital was 16.8 thousand akçe, and the revenues generated through credit relations financed religious and educational facilities as well as infrastructure investments. This organization had also the characteristics of being a family waqf. See, The Waqf of Hürrem Şah Sultan bt. Abdullah, Edirne Sharia Court Records, no. 08453.00014.
5. The Waqf of Emine Hatun bt. Durak, Rodosçuk Sharia Court Records, 08457.00012, v. 23b.
6. For more information about titles, see, [Tülüveli \(2005\)](#), [Coşgel and Ergene \(2011\)](#).

References

Primary sources

- Bulut, M., Çınar, H., Ademi, R., Demir, A., Doğan, M., Kudat, A., Korkut, C., Çam, M., Tuğrul, M., Öz Saraç, Y., Demirtaş, H., Altay, B., Yavuz, F. and Akçatepe, R.E. (2019), *Osmanlı Dönemi Rumeli Para Vakıfları, 1-12*, Istanbul Zaim University Publishing, Istanbul.
- Rodosçuk Sharia Court Records, 08457.00012, v. 23b.

Secondary sources

- Adıgüzel, F.S. and Kuran, T. (2021), "The Islamic waqf: instrument of unequal security, worldly and otherworldly", *Economic Research Initiatives at Duke (ERID) Working Paper No. 305*, pp. 1-55.
- Ahmed, H. and Salleh, A.M.H.A.P.M. (2016), "Inclusive Islamic financial planning: a conceptual framework", *International Journal of Islamic and Middle Eastern Finance and Management*, Vol. 9 No. 2, pp. 170-189.
- Altay, B. (2022), "Cash waqfs of Ottoman Bosnia, 1526-1914: a temporal analysis through capital levels", *Vakıflar Dergisi*, Vol. 57 No. 57, pp. 51-76.
- Altay, B. (2024), "Cash waqfs of Greece and Bulgaria in the ottoman empire from a comparative perspective, 1544–1912", *Mediterranean Historical Review*, Vol. 39 No. 2, pp. 179-201.
- Altay, B. and Bulut, M. (2024), "A temporal and gender-based analysis on the ottoman cash waqfs in southeast Europe, 1506-1921", *Journal of the Economic and Social History of the Orient*, Vol. 67 No. 7, pp. 617-645.
- Arjomand, S.A. (1998), "Philanthropy, the law and public policy in the Islamic world before the modern era", in Ilchman, W.F., Katz, S.N. and Queen, E.L. (Eds), *Philanthropy in the World's Traditions*, IN University Press, Bloomington, pp. 109-132.
- Ascarya, A. and Masrifah, A.R. (2023), "Strategies implementing cash waqf system for Baitul Maal wat Tamwil to improve its commercial and social activities", *International Journal of Islamic and Middle Eastern Finance and Management*, Vol. 16 No. 1, pp. 130-153.
- Ascarya, A. and Sakti, A. (2022), "Designing micro-fintech models for Islamic micro financial institutions in Indonesia", *International Journal of Islamic and Middle Eastern Finance and Management*, Vol. 15 No. 2, pp. 236-254.
- Azrai Azaimi Ambrose, A.H., Gulam Hassan, M.A. and Hanafi, H. (2018), "A proposed model for waqf financing public goods and mixed public goods in Malaysia", *International Journal of Islamic and Middle Eastern Finance and Management*, Vol. 11 No. 3, pp. 395-415.
- Barkan, Ö.L. (1953), "H. 933-934 (M. 1527-1528) Mali yılına ait bir bütçe örneği", *İstanbul Üniversitesi İktisat Fakültesi Mecmuası*, Vol. 15 Nos 1/4, pp. 251-329.
- Barkan, Ö.L. (1968), "Edirne askeri kassamına ait tereke defterleri (1545-1659)", *Belgeler*, Vol. 3, pp. 1-479.
- Barkan, Ö.L. and Ayverdi, E.H. (1970), *İstanbul Vakıfları Tahrir Defteri*, Istanbul Fetih Cemiyeti, İstanbul.
- Bulut, M. and Korkut, C. (2016), "A comparison between ottoman cash waqfs and modern interest free financial institutions", *Vakıflar Dergisi*, Vol. 46, pp. 23-45.
- Bulut, M. and Korkut, C. (2019a), "A look to the cash waqfs as Islamic financial institutions and instruments", in Efendić, V., Hadžić, F. and Izhar, H. (Eds), *Critical Issues and Challenges in Islamic Economics and Finance Development*, Palgrave Macmillan, Cham, pp. 85-96.
- Bulut, M. and Korkut, C. (2019b), "A look at the cash waqfs as an indicator of ottoman financial mentality", *Vakıflar Dergisi*, pp. 115-132.
- Bulut, M. and Altay, B. (2022), "The ottoman economy (1870-1913): preliminary second-generation estimates", *Turkish Journal of Islamic Economics*, Vol. 9 No. 1, pp. 95-118.
- Bulut, M. and Korkut, C. (2024), "Understanding ottoman microcredit mechanism: the case of cash waqfs", Avallone, P. and Strangio, D. (Eds), *Different Forms of Microcredit and Social Business. Palgrave Studies in the History of Finance*, Palgrave Macmillan, Cham, pp. 65-85.

- Çakır, B. (2006), "Geleneksel dönem (tanzimat öncesi) osmanlı bütçe gelirleri", in Genç M. and Özvar E. (Eds), *Osmanlı Maliyesi Kurumlar ve Bütçeler 1*, Osmanlı Bankası Arşiv ve Araştırma Merkezi, İstanbul, pp. 167-196.
- Çiftçi, C. (2004), "18. Yüzyılda bursa' da Para vakıfları ve kredi işlemleri", *Tarih Araştırmaları Dergisi*, Vol. 23 No. 36, pp. 79-102.
- Çizakça, M. (1995), "Cash waqfs of bursa, 1555-1823", *Journal of the Economic and Social History of the Orient*, Vol. 38 No. 3, pp. 315-354.
- Çizakça, M. (2000), *A History of Philanthropic Foundations: The Islamic World from the Seventh Century to the Present*, Boğaziçi University Press, İstanbul.
- Coşgel, M. and Ergene, B.A. (2011), "Intergenerational wealth accumulation and dispersion in the ottoman empire: Observations from eighteenth-century kastamonu", *European Review of Economic History*, Vol. 15 No. 2, pp. 255-276.
- Coşgel, M. and Ergene, B.A. (2012), "Inequality of wealth in the ottoman empire: War, weather, and long-term trends in eighteenth-century kastamonu", *The Journal of Economic History*, Vol. 72 No. 2, pp. 308-331.
- Ergene, B.A. and Berker, A. (2008), "Wealth and inequality in 18th-century kastamonu: estimations for the Muslim majority", *International Journal of Middle East Studies*, Vol. 40 No. 1, pp. 23-46.
- Gerber, H. (1983), "The waqf institution in early Ottoman Edirne", *Asian and African Studies: Journal of the Israel Oriental Society*, Vol. 17 Nos 1/3, pp. 29-43.
- Gürsoy, Ç. (2017), "Para vakıfları kapsamında sosyo-ekonomik bir analiz: Davudpaşa mahkemesi kayıtları (1634-1911)", *Bellekten*, Vol. 81 No. 290, pp. 159-190.
- Gürsoy, Ç. (2021), "İstanbul yeniköy mahkemesi Para vakfı kayıtları (1591-1883)", *Journal of Ottoman Studies*, Vol. 57, pp. 171-202.
- Gürsoy, Ç. and Özdeğer, M. (2022), "Ebediyete bağış: balat şer'iyeye sicillerinde Para vakfı kayıtları", *Bellekten*, Vol. 86 No. 306, pp. 567-602.
- Haneef, M.A., Pramanik, A.H., Mohammed, M.O., Bin Amin, M.F. and Muhammad, A.D. (2015), "Integration of waqf-Islamic microfinance model for poverty reduction: the case of Bangladesh", *International Journal of Islamic and Middle Eastern Finance and Management*, Vol. 8 No. 2, pp. 246-270.
- Hassan, M.K., Kazak, H., Akcan, M.B. and Azazi, H. (2024), "Was the interest burden of the ottoman public debt sustainable? A cliometric analysis", *Journal of Islamic Accounting and Business Research*.
- İnalçık, H. (1997), *An Economic and Social History of the Ottoman Empire, Volume 1: 1300-1600*, Cambridge University Press, Cambridge.
- Ismail Abdel Mohsin, M. (2013), "Financing through cash-waqf: a revitalization to finance different needs", *International Journal of Islamic and Middle Eastern Finance and Management*, Vol. 6 No. 4, pp. 304-321.
- Kamel, L. (2014), "Whose land? Land tenure in the late nineteenth and early twentieth century Palestine", *British Journal of Middle Eastern Studies*, Vol. 41 No. 2, pp. 230-242.
- Kaya, S., Durmuş, M.E. and Bektaş, A.A. (2017), "Muhasebe kayıtları ışığında 18. yüzyıl Para vakıflarının nakit işletme yöntemleri", *International Journal of Islamic Economics and Finance Studies*, Vol. 3 No. 3, pp. 50-62.
- Khan, M.T. (2015), "Historical role of Islamic waqf in poverty reduction in Muslim society", *The Pakistan Political Review*, Vol. 54 No. 4, pp. 979-996.
- Korkut, C. (2024), "Effects of cash waqfs on sustainable economic development in the Balkans during the early modern period", in Bulut, M., Altay, B. and Korkut, C. (Eds), *Islamic Financial Institutions from the Early Modern Period to the 20th Century: Comparative Perspectives on the History and Development of Cash Waqfs*, Palgrave Macmillan, Cham, pp. 79-95.

- Korkut, C. and Bulut, M. (2017), "XV. ve XIX. yüzyıllar arasında osmanlı Para vakıfları ve modern finans kurumlarının karşılaştırılması", *ADAM ACADEMY Journal of Social Sciences*, Vol. 7, pp. 167-194.
- Kozłowski, G.C. (1995), "Imperial authority, benefactions and endowments (awqāf) in Mughal India", *Journal of the Economic and Social History of the Orient*, Vol. 38 No. 3, pp. 355-370.
- Kuran, T. (2003), "The Islamic commercial crisis: institutional roots of economic underdevelopment in the Middle east", *The Journal of Economic History*, Vol. 63 No. 2, pp. 414-446.
- Kuran, T. (2005), "The absence of the corporation in Islamic law: origins and persistence", *The American Journal of Comparative Law*, Vol. 53 No. 4, pp. 785-834.
- Kuran, T. (2011), *The Long Divergence: How Islamic Law Held Back the Middle East*, Princeton University Press, Princeton, NJ.
- Kuran, T. (2013), "The political consequences of Islam's economic legacy", *Philosophy and Social Criticism*, Vol. 39 Nos 4/5, pp. 395-405.
- Kuran, T. (2016), "Legal roots of authoritarian rule in the Middle East: civic legacies of the Islamic waqf", *American Journal of Comparative Law*, Vol. 64 No. 2, pp. 419-454.
- Lampe, J.R. and Jackson, M.R. (1982), *Balkan Economic History, 1550-1950: From Imperial Borderlands to Developing Nations*, IN University Press, Bloomington.
- Layish, A. (1997), "The family waqf and the shar'i law of succession in modern times", *Islamic Law and Society*, Vol. 4 No. 3, pp. 352-388.
- McGowan, B. (1981), *Economic Life in Ottoman Empire: Taxation, Trade and the Struggle for Land, 1600-1800*, Cambridge University Press, Cambridge.
- Mandeville, J.E. (1979), "Usurious piety: the cash waqf controversy in the ottoman empire", *International Journal of Middle East Studies*, Vol. 10 No. 3, pp. 289-308.
- Mohd Thas Thaker, M.A. (2018), "A qualitative inquiry into cash waqf model as a source of financing for micro enterprises", *ISRA International Journal of Islamic Finance*, Vol. 10 No. 1, pp. 19-35.
- Mohd Thas Thaker, M.A., Mohd Thas Thaker, H. and Allah Pitchay, A. (2018), "Modeling crowd funders' behavioral intention to adopt the crowdfunding-waqf model (CWM) in Malaysia: the theory of the technology acceptance model", *International Journal of Islamic and Middle Eastern Finance and Management*, Vol. 11 No. 2, pp. 231-249.
- Orbay, K. (2014), "Edirne muradiye vakfı'nın Mali yapısı ve gelişimi", *Belleten*, Vol. 78 No. 283, pp. 983-1031.
- Özcan, T. (2003), *Üsküdar Para Vakıfları: Kanuni Dönemi Üsküdar Örneği*, Türk Tarih Kurumu, Ankara.
- Özdeğer, M. and Gürsoy, Ç. (2024), "Tarihle diyalog kurmada osmanlı vakıflarının yeri ve önemi: Mahmut paşa mahkemesi Para vakıfları (1834-1914)", *Vakıflar Dergisi*, Vol. 61 No. 61-Haziran 2024, pp. 27-50.
- Özvar, E. and Yıldırım, S. (2022), "Long-term changes in the creation of new cash waqfs in İstanbul", *Bilig*, Vol. 102 No. 102, pp. 27-51.
- Palairt, M. (1997), *The Balkan Economies c. 1800-1914*, Cambridge University Press, Cambridge.
- Pamuk, Ş. and Shatzmiller, M. (2014), "Plagues, wages, and economic change in the Islamic Middle east, 700-1500", *The Journal of Economic History*, Vol. 74 No. 1, pp. 196-229.
- Pamuk, Ş. (2000), *A Monetary History of the Ottoman Empire*, Cambridge University Press, Cambridge.
- Peri, O. (1992), "Waqf and ottoman welfare policy: the poor kitchen of Hasseki sultan in eighteenth-century Jerusalem", *Journal of the Economic and Social History of the Orient*, Vol. 35 No. 2, pp. 167-186.
- Rogers, M. (1976), "Waqfiyyas and waqf registers: new primary sources for Islamic architecture", *Kunst de Orients*, Vol. 11 Nos 1/2, pp. 182-196.

- Shatar, W.N.A., Hanaysah, J.R. and Tahir, P.R. (2021), "Determinants of cash waqf fund collection in Malaysian Islamic banking institutions: empirical insights from employees' perspectives", *ISRA International Journal of Islamic Finance*, Vol. 13 No. 2, pp. 177-193.
- Shatzmiller, M. (2001), "Islamic institutions and property rights: the case of the 'public good' waqf", *Journal of the Economic and Social History of the Orient*, Vol. 44 No. 1, pp. 44-74.
- Shechter, R. (2005), "Market welfare in the early-modern ottoman economy: a historiographic overview with many questions", *Journal of the Economic and Social History of the Orient*, Vol. 48 No. 2, pp. 253-276.
- Singer, A. (2013), "Giving practices in Islamic societies", *Social Research: An International Quarterly*, Vol. 80 No. 2, pp. 341-358.
- Thaker, M.A.M.T., Amin, F., Thaker, H.M.T., Khaliq, A. and Pitchay, A.A. (2021), "Cash waqf model for micro enterprises' human capital development", *ISRA International Journal of Islamic Finance*, Vol. 13 No. 1, pp. 66-83.
- Tuğrul, M. and Bulut, M. (2021), "Osmanlı şehirlerinde vakıflar ve kültürel hayat: Selanik ve sofya", *Journal of Balkan Research Institute*, Vol. 10, pp. 601-633.
- Tülüveli, G. (2005), "Honorific titles in ottoman parlance: a reevaluation", *International Journal of Turkish Studies*, Vol. 11 Nos 1/2, pp. 17-27.
- Usman, M. and Ab Rahman, A. (2021), "Funding higher education through waqf: a lesson from Pakistan", *International Journal of Islamic and Middle Eastern Finance and Management*, Vol. 14 No. 2, pp. 409-424.
- Wilson, R. (2015), *Islam and Economic Policy: An Introduction*, Edinburgh University Press, Edinburgh.
- Yusgiantoro, I., Pamungkas, P. and Trinugroho, I. (2024), "The sustainability and performance of bank wakaf mikro: waqf-based microfinance in Indonesia", *International Journal of Islamic and Middle Eastern Finance and Management*, Vol. 17 No. 1, pp. 86-101.

Further reading

- Özmucur, S. and Pamuk, Ş. (2002), "Real wages and standards of living in the Ottoman Empire, 1489-1914", *The Journal of Economic History*, Vol. 62 No. 2, pp. 293-321.

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