

# INHERITANCE AND INTERGENERATIONAL WEALTH TRANSMISSION IN EIGHTEENTH-CENTURY OTTOMAN KASTAMONU: AN EMPIRICAL INVESTIGATION

Boğaç A. Ergene  
Ali Berker

*This article investigates the relationship between inheritance and wealth in the context of eighteenth-century Ottoman Kastamonu. Based on the estate inventories of the deceased (sing. tereke) as recorded in Kastamonu court records (sicils), the article introduces a variety of quantitative techniques to measure the impact of Islamic inheritance practices on wealth accumulation across subsequent generations and to understand how it influenced wealth mobility among various socioeconomic groups. The estimations provided in this article suggest that while the inheritance practice in Kastamonu caused wealth fragmentation, the process also contributed to the durability of economic divisions within the provincial Ottoman society.*

**Keywords:** *Ottoman; inheritance; estate inventories; mobility; intergenerational wealth transmission; Anatolia*

This article represents a preliminary inquiry into the transmission of wealth across subsequent generations in the Ottoman context. To our knowledge, no empirical study to date has examined on a mass scale how inheritance may have influenced the wealth levels of successive generations in premodern Muslim societies. While an

---

Boğaç A. Ergene is an associate professor of history at the University of Vermont, Burlington. He is the author of *Local Court, Provincial Society and Justice in the Ottoman Empire: Legal Practice and Dispute Resolution in Çankırı and Kastamonu (1652-1744)* (Boston and Leiden: Brill, 2003), and most recently (with Ali Berker), "Wealth, Poverty, and Inequality in the Ottoman Empire: Observations from Eighteenth-Century Kastamonu," *International Journal of Middle East Studies*, 40:1 (2008), 23-46. His current research deals with legal practice and class relations in eighteenth-century Ottoman Anatolia.

Ali Berker is an assistant professor of economics at Abant İzzet Baysal University, Bolu, Turkey. His most recent articles include "Sibling Composition and Children's Health Outcomes" (in Turkish), *Toplum ve Hekim*, 22:6 (2007), and (with Boğaç A. Ergene) "Wealth, Poverty, and Inequality in the Ottoman Empire: Observations from Eighteenth-Century Kastamonu," *International Journal of Middle East Studies*, 40:1 (2008), 23-46. His research interests include migration, labor economics, and family economics.

*Journal of Family History*, Vol. 34 No. 1, January 2009 25-47

DOI: 10.1177/0363199008327642

© 2009 Sage Publications

informative body of legal literature offers some speculations as to how Islamic rules of inheritance may have affected the society across generations, researchers have not yet explored the actual role of inheritance in the process of intergenerational wealth accumulation.<sup>1</sup> This article aims to provide initial clues based on empirical evidence in relation to this issue in the context of eighteenth-century Ottoman Kastamonu.

Our earlier research on the probate estate inventories of eighteenth-century Kastamonu suggested that intergenerational wealth transmission may have played an important role in determining the wealth levels of subsequent generations.<sup>2</sup> In our analysis of about eight hundred estate inventories, we observed a significant positive association between testators' reported wealth levels and their fathers' military, religious, or administrative status as signified by their honorary titles. Since a strong relationship exists between testators' wealth levels and their honorific titles we interpreted this finding as indicative of considerable levels of intergenerational wealth transmission. Picking up where we left off in our previous study, this article represents a more elaborate exploration of inheritance as a mechanism of wealth transmission in the Ottoman context. Our analysis will also pinpoint and assess the significance of wealth-based and demographic factors that influenced the inheritance process.

A sizable literature now exists on inheritance and its effects on intergenerational wealth transmission in the European and North American contexts.<sup>3</sup> While this literature has provided the primary inspiration for our own work, the methodology and calculations we adopt here are incommensurate with the approaches offered by our non-Ottomanist colleagues because of the nature of our sources. In general, the vast majority of wealth-mobility studies in the European and North American contexts are based on a comparison of the wealth levels of succeeding generations. Because it is very difficult, if not impossible, to differentiate successive generations and their wealth levels from the evidence provided in Ottoman estate inventories, the quantitative techniques used in these studies cannot be applied in our case. This limitation of our sources compelled us to develop quantitative techniques that are uniquely suited to our sources. Thus, although these techniques do permit an analysis of inheritance patterns and their impact on wealth accumulation, our findings are not directly comparable to those of our colleagues in different fields.

The observations, calculations, and estimations presented in this article provide important insights as to how the inheritance process actually shaped wealth transmission and accumulation patterns in early-modern, north-central Ottoman Anatolia. More significantly, however, we propose a quantitative methodology that can be used in future studies on different Ottoman and Islamic contexts to make sense of the information that exists in Ottoman estate inventories. As of now, Ottomanists and other historians of Muslim societies possess no empirical information derived from large-scale data sets on the Islamic inheritance process and its economic impact on subsequent generations. It is only by developing a quantitative methodology that is suitable for our sources and applicable to different historical contexts that we can begin to fill this lacunae.

#### **ISLAMIC INHERITANCE LAW: A SYNOPSIS<sup>4</sup>**

Before we delve into a discussion of our contextual observations and empirical findings, let us summarize the rules of Islamic inheritance as they are prescribed in the classical jurisprudential traditions. According to Islamic inheritance law in its

classical Hanafi version, heirs are essentially divided into three groups: those who are entitled to a prescribed share, known as Qur'anic heirs (or quota-heirs; *dhawu'l-fara'id* in Arabic); those who are agnatic heirs (*'asaba* in Arabic); and people who are related to the deceased through his or her mother and fall into neither of the first two categories (*dhawu'l-arham* in Arabic). In the absence of all three, the estate goes to the public treasury.<sup>5</sup>

Joseph Schacht calls *'asaba* "the normal heirs; inheritance by others [including Qur'anic heirs] is only an exception." The agnates inherit in the following order: (1) the son and his descendants in the male line; (2) the father and his ascendants in the male line, with the provision that the father inherits before uncles; (3) the male descendants of the father: first the full brother, then the half-brother on the father's side, then the descendants of the full brother, then those of the half-brother on the father's side; (4) descendants of the paternal grandfather; and (5) descendants of the paternal great-grandfather. Within this ranking order of agnate relationships, any group of higher priority excludes from inheritance any group of lower priority, except that the brothers of the deceased are not excluded by the grandfather. Among members of the same group of priority, the nearer in degree to the deceased excludes the more remote. For example, in the group, a living son of the deceased excludes that son's son from inheritance.

Furthermore, the Qur'an specifically allots shares to daughters, parents, husbands and wives, and brothers and sisters. But the rules regarding daughters have been extended to daughters of a son, and those regarding parents, to grandparents. In addition, a distinction is made between a full sister, a half-sister on the father's side, and a half-sister on the mother's side. The following are the specific permutations of inheritance as they relate to the *dhawu'l-fara'id*: (1) A daughter who has no brothers is entitled to half the estate, and two or more daughters share equally in a portion worth two-thirds. But if daughters inherit along with sons, they receive half the portion allotted to sons. (2) The daughter of a son is subject to the same rules as a daughter. As the son's daughter is related to the deceased through his or her son, she is excluded from inheritance when the son himself inherits. A daughter, on the other hand, does not exclude a son's daughter from inheritance. At the same time, since daughters and sons' daughters together have only two-thirds of the estate as their quota, a son's daughter receives only one-sixth of the estate if she is the only daughter and nothing if there are two or more. (3) The father inherits one-sixth of the estate. In addition, he receives any residuum of the estate after deducting all Qur'anic quotas, unless there are male descendants of the deceased. (4) The father's father inherits one-sixth of the estate, but he is excluded if the father is alive. (5) The mother's portion is one-sixth of the estate if there are children, son's children, or two or more brothers or sisters of the deceased; otherwise, she receives one-third of the estate. (6) The grandmother inherits one-sixth of the estate, but the mother's mother is excluded if the mother is alive, and the father's mother is excluded by the father and mother. (7) In the absence of brothers, a full sister inherits one-half of the estate, and two or more sisters inherit two-thirds of the estate. Along with a full brother (or the grandfather), the sister receives half of the brother's share; along with the daughter or son's daughter, she also receives half of their shares. Sons, sons' sons, and the father exclude her from inheritance. (8) A half-sister on the father's side receives the same share as a full sister, but both are excluded from inheritance in the presence

of a son, a son's son, or the father. (9) Both a half-brother and a half-sister on the mother's side receive one-sixth, and two or more share a third among them, but they are excluded by descendants and male ascendants. (10) The husband receives a quarter if there is a descendant, and in the absence thereof, a half. (12) The wife inherits one-half of what the husband would receive under the same circumstances. If there are no agnates and the Qur'anic heirs do not exhaust the estate, the remainder is proportionately distributed among the Qur'anic heirs under the principle of reversion (*radd*). For example, if the deceased is survived by his mother and a daughter, their shares will be, respectively, one-sixth and one-half of the estate.

What further complicates the task of understanding various patterns of intergenerational wealth transmission in Islamic societies is the fact that Islamic law also allows Muslims to transfer their wealth to subsequent generations in other ways. Technically, the law allows individuals to bequeath only one-third of their estates to specific individuals of their choice because of concerns of fairness among heirs.<sup>6</sup> However, there is no legal constraint against distributing one's estate among specific individuals as gifts (*hiba* in Arabic, *hibe* in Turkish) or through fictitious sales to specific heirs at the expense of other heirs before one dies. It was also common in the Ottoman context to convert parts or the entirety of estates into charitable endowments (*waqf* in Arabic, *vakıf* in Turkish) and specify only particular individuals as the managers and benefactors of these establishments, which effectively alienated all other heirs.<sup>7</sup> Our sources indicate that such mechanisms were common in the Ottoman context as they permitted testators a great deal of flexibility to avoid complex and obtrusive laws of inheritance when they wished.<sup>8</sup> Unfortunately, we possess no quantifiable data to determine the extent of wealth that was transmitted through such mechanisms and how these processes shaped wealth accumulation and inequality patterns across generations. Thus, our observations and calculations in this study must remain limited to inheritance data as documented in court records.

Because of the complicated nature of Islamic inheritance regulations and the possibility of the division of estates among close and distant relatives in innumerable ways, in this study, we focus exclusively on sons and daughters the two primary agents of intergenerational wealth transmission. While grandsons, granddaughters, nephews, and the descendants of male agnates regularly inherited in eighteenth-century Kastamonu, inclusion of these individuals in our analysis would have enormously complicated our already difficult task.

## HISTORICAL CONTEXT AND CATEGORIES OF ANALYSIS

This study is based on information found in the estate inventories (*tereke*s) as recorded in early to mid-eighteenth-century court records of Kastamonu (1712–1760). Kastamonu in the eighteenth century was a small to midsized town in north-central Anatolia. By the mid-eighteenth century, Kastamonu subprovince (*sancak*), located on the Black Sea coast and part of the province (*eyalet*) of Anatolia, probably had a population of about thirty thousand households. The town of Kastamonu—the legal and administrative center of the subprovince—had a population of thirty-five hundred to four thousand households, including the inhabitants of its forty-one quarters and the villages located nearby.<sup>9</sup> We know very little about the town's demographic composition, especially in the eighteenth century. Based on

the observations of European travelers in the nineteenth century and our impressions from court records, we can surmise that Kastamonu was inhabited primarily by a Muslim Turkish population.<sup>10</sup> While court records indicate the presence of specific local and regional trade networks in the area that involved wool, cotton-cloth, and copperware trade, it is not clear to what extent these networks contributed to the town's economic welfare. Compared to other Anatolian urban centers such as Ankara, Bursa, and Kayseri, Kastamonu has not received much attention in modern scholarship, but because the town's court records are quite complete relative to its size, they are particularly well suited to the quantitative analysis presented here. Furthermore, our previous research on the socioeconomic characteristics of various groups that constituted the town's population provides us with a valuable contextual basis to interpret our findings and estimations in this article.

As we have discussed in detail elsewhere,<sup>11</sup> subjecting Ottoman estate inventories to quantitative analysis presents several methodological problems. Foremost among these is the difficulty of determining analytical categories pertinent to a variety of research questions. For example, our sources do not contain information that would allow us to easily identify the socioeconomic backgrounds of testators and sort them in ways suitable for a class analysis. In fact, information about particular testators is limited to the full name of the deceased, including his or her father's name and honorary title (if he belonged to the military or religious establishment), his or her religious epithets (signifying if he or she was a descendant of Prophet Muhammad or had made the pilgrimage to Mecca), his or her village or quarter, the names of his or her legal heirs, and occasionally, his or her occupation. Any quantitative analysis of estate inventories that aims to constitute a database of a significant size must construct its analytical categories from these variables. Thus, we have no other way to make distinctions among testators and their heirs other than by gender and title markers, occupational affiliations, religious signifiers, and residential locations. Some of these categories, such as gender, are self-evident. Others require some elucidation, especially for readers who are not familiar with the early-modern Ottoman context.

An important differentiation that we make among testators is based on honorary titles, which may be seen as one, if imperfect, indicator of relative socioeconomic status in the communal hierarchy. These markers were only used for men and signified whether an individual belonged to the military establishment (*seyfiyye*, in Ottoman Turkish) or the religious one (*ilmiyye*). If a man had no title attached to his name, he belonged to neither group; we will call such individuals "men without titles."

The military establishment included those men who had military and administrative responsibilities. For example, governors, their staff, members of the provincial cavalry, and provincial janissaries were all members of the military establishment. In this study, we identify the following honorary titles as primary indicators of military status: *Ağa*, *Beşe*, and *Beğ*.<sup>12</sup> The religious establishment, on the other hand, was composed of individuals with religious and judiciary responsibilities, such as local qadis, *muftis* (jurisconsults), *sufi* dervishes, and mosque imams. Such individuals carried the following titles: *Efendi*, *Molla*, *Halife*, *Şeyh*, *Çelebi*, and *Dede*.<sup>13</sup> Both military and religious title holders, who possessed elevated standing in their communities, were generally exempt from taxes, which made their positions economically as well as socially attractive.<sup>14</sup> Men without titles, on the other hand, were considered to be the masses, literally the "flock" (*reaya*), who were responsible for paying taxes.<sup>15</sup>

While title-based distinctions may have reflected occupational variations, it would be mistaken to categorize honorary titles simply as vocational markers. Rather, they should be taken more as signifiers of connection to particular estate-like structures, as Max Weber defined them, with specific economic, sociological, and ideological characteristics. This does not mean that the estate inventories do not provide information about the occupational characteristics of specific testators. In fact, they do, particularly when the deceased was an artisan or a merchant. Thus, we can distinguish at least these two occupational groups from the rest of our testators. In our study, we take advantage of this opportunity and identify specific patterns of inheritance among estates that belonged to artisan and merchant testators.<sup>16</sup>

Furthermore, we also make distinctions among testators based on their religious markers, commonly used as symbols of socioreligious status. Specifically, we distinguish estates owned by those who claimed descent from Muhammad (*Seyyid* for men, *Şerife* for women) and those who had made the pilgrimage to Mecca (*Elhac* or *Hacı* for men, *Hace* or *Hacıye* for women) from the rest of our sample.<sup>17</sup> There are reasons to suspect that both groups possessed unique patterns of inheritance. The descendants of Muhammad, in particular, constituted the social entity in the Ottoman context closest to a blood-nobility, with their own semi-independent social hierarchy, patterns of social conduct, networks of socialization, and marriage preferences.<sup>18</sup> Similarly, and as we demonstrated in our previous study, making the pilgrimage to Mecca required considerable resources, and thus represented unique socioeconomic characteristics that likely influenced reproductive choices and inheritance tendencies.<sup>19</sup>

Finally, we explore the relationship between variations in inheritance patterns and title- and status-based distinctions among testators' fathers to find clues about the nature of wealth accumulation through inheritance across three successive generations.

## DATA SET

Our findings are based on 615 estate inventories of Muslim adults from thirty-three court registers,<sup>20</sup> covering the forty-eight-year period from 1712 to 1760.<sup>21</sup> An estate inventory provides information about the wealth possessed by an individual at the time of his or her death, containing an itemized listing and monetary appraisal of the cash, property, and debt left behind by the deceased as well as the names of heirs and their shares from the estate.<sup>22</sup> To construct our data set, we first calculated the net value of individual estates by deducting the debts and outstanding obligations of the deceased from the monetary value of their assets. Then we deflated the net value of estates by the price-index constructed by Süleyman Özmucur and Şevket Pamuk to eliminate the impact of inflation and currency depreciation for our period.<sup>23</sup>

Lack of space precludes us from discussing here the limitations of *tereke*s as historical sources for quantitative research; such a discussion may, however, be found in our previous work.<sup>24</sup> Suffice it to say that *tereke*s tend to underrepresent female testators, non-Muslims, rural populations, and the poor, on one hand, and overrepresent the elderly on the other.<sup>25</sup> Furthermore, there is no way to ensure the accuracy of the court's assessment of the estates' values or to account for possible omissions from estate inventories by legatees to reduce the fees due the court for its services.<sup>26</sup> We are hopeful, however, that these limitations do not entirely compromise the ensuing

Table 1  
Inheritance Shares

| <i>Legatees</i> | <i>Observations</i> | <i>Average Share (in Gurus)</i> | <i>Coefficient of Variation</i> | <i>Mean Inheritance / Mean Estate Value</i> | <i>Average # of Son/ Daughter Legatees per Estate</i> | <i>Gini</i> |
|-----------------|---------------------|---------------------------------|---------------------------------|---|---|-------------|
| Sons            | 813                 | 382.6                           | 2.65                            | 0.30  | 2.26  | 0.68        |
| Daughters       | 873                 | 248.4                           | 2.86                            | 0.19  | 2.39  | 0.70        |

Table 2  
Portions of Estates Inherited by Sons and Daughters  
(in Terms of Percentages of *Terekes*)

| <i>Portion of Estate (%)</i> | <i>Sons (%)</i> | <i>Daughters (%)</i> |
|------------------------------|-----------------|----------------------|
| 0–25                         | 37.39           | 34.86                |
| 25–50                        | 22.65           | 21.92                |
| 50–75                        | 22.65           | 25.47                |
| 75–100                       | 17.31           | 17.75                |

analysis. Despite their shortcomings, *tereke*s constitute a unique source of data for the period being studied. Indeed, for reconstructing the economic and social history of Ottoman provincial life before modern times, they remain invaluable.

## ANALYSIS PART I: PRELIMINARY OBSERVATIONS AND CALCULATIONS

Let us start with some basic calculations. As indicated in Table 1, sons and daughters inherited 382.6 and 248.4 *gurus*, respectively, on average, which constituted about 30 and 19 percent, respectively, of the average estate value in our sample. Our data set also indicates that sons and daughters both inherited less than 25 percent of their parents' property in more than one-third of the *tereke*s in our sample; they both inherited more than 75 percent in about 17 percent of estate divisions (Table 2). This picture demonstrates how, exactly, Islamic inheritance practices contributed to wealth fragmentation in mid-eighteenth-century Kastamonu.<sup>27</sup>

How large were the average shares of inheritance for sons and daughters in relative terms? Based on our price observations in the court records, sons' and daughters' average inheritance shares were worth, respectively, 3,850 and 2,500 kilos of mutton, 7,250 and 4,600 kilos of beef, 1,250 and 800 kilos of olive oil, 3,250 and 2,100 kilos of rice, 45,000 and 28,800 loaves of bread, 1,500 and 950 kilos of Aleppine soap, 1,500 and 950 kilos of honey, 190 and 121 mattresses, or 15 and 10 silver clocks. The same sums of money could have purchased, again respectively,

*Table 3*  
Sons' Inheritance Shares according to Testators' Wealth Status

| Testators   | Observations<br>(Heirs) | Average<br>Share<br>(in Gurus) | Coefficient of<br>Variation | Mean Inheritance/<br>Mean Estate<br>Value | Average<br># of Sons<br>per Estate |
|-------------|-------------------------|--------------------------------|-----------------------------|---|------------------------------------|
| Richest 20% | 189                     | 1,192.8                        | 1.58                        | 0.29                                      | 2.53                               |
| Fourth 20%  | 163                     | 274.8                          | 0.55                        | 0.32                                      | 2.28                               |
| Third 20%   | 176                     | 114.4                          | 0.60                        | 0.35                                      | 2.35                               |
| Second 20%  | 156                     | 73.4                           | 0.50                        | 0.34                                      | 2.12                               |
| Poorest 20% | 129                     | 30.9                           | 0.66                        | 0.39                                      | 1.90                               |

*Table 4*  
Daughters' Inheritance Shares according to Testators' Wealth Status

| Testators   | Observations<br>(Heirs) | Average<br>Share<br>(in Gurus) | Coefficient of<br>Variation | Mean Inheritance/<br>Mean Estate<br>Value | Average<br># of Daughters<br>per Estate |
|-------------|-------------------------|--------------------------------|-----------------------------|---|---|
| Richest 20% | 201                     | 786.3                          | 1.71                        | 0.18                                      | 2.7                                     |
| Fourth 20%  | 197                     | 171.3                          | 0.55                        | 0.20                                      | 2.68                                    |
| Third 20%   | 163                     | 84.2                           | 0.60                        | 0.20                                      | 2.35                                    |
| Second 20%  | 164                     | 51.2                           | 0.65                        | 0.23                                      | 2.06                                    |
| Poorest 20% | 148                     | 19.6                           | 0.67                        | 0.24                                      | 2.00                                    |

two and one average-sized houses, three and two average-sized shops, fifteen and ten horses, eight and five cows, or two and one adult male slaves.

Unfortunately, we know next to nothing about the standards of living in Ottoman Kastamonu. Yet, one possible indicator of minimum requirements for survival in early- to mid-eighteenth-century Kastamonu are the *nafakas* reported in court records. The term *nafaka* refers to the monetary allowance allocated by the court to a divorced or widowed woman from the assets or inheritance of her ex-husband or late husband to cover her household's (including children's and slaves') daily expenses for food, clothing, and shelter. Between 1739 and 1748, the *nafaka* rates for single adult women ranged from 9 to 21 *akçes* per day, or 26.5 to 62 *gurus* per (lunar) year, depending on women's social and economic backgrounds. Based on these figures, it is reasonable to establish 30 *gurus*/year as the poverty line for a single adult female in early- to mid-eighteenth-century Kastamonu. Assuming that a single adult male would have required more food, he would have needed 40 to 50 *gurus*/year for survival.

Our estimations for the Gini coefficients of the sons' and daughters' inheritance shares are not significantly different from the Gini that we calculated for inherited estates (0.68), and therefore, provide no evidence of increasing inequality across subsequent generations through inheritance.<sup>28</sup> Our calculations also indicate that inheritance levels varied considerably at different wealth levels. Tables 3 and 4 above present information about sons' and daughters' inheritance shares for five different wealth categories identified in our sample of inherited estates.



As is evident in Tables 3 and 4, sons and daughters generally inherited larger portions of poorer estates, which reflects the fact that wealthier estates, compared to poorer ones, were divided among larger numbers of sons and daughters. The data indicate that wealthier testators left behind more children in general. Given that Islamic inheritance law prohibits primogeniture, this situation appears to have contributed to further division of wealth across generations among wealthier families.

When similar calculations were conducted for different male testator groups of title holders, occupations, religious status, and residential affiliation (urban and rural), little variation was observed. For the majority of these groups, sons' inheritance shares ranged from 28 to 33 percent of the inherited estates, and daughters' shares ranged from 16 to 22 percent.<sup>29</sup> The only exception to this picture is found among the descendants of Muhammad. Inheritance shares in estates owned by the descendants constituted as much as 46 percent for sons and 26 percent for daughters. In these estates, the average numbers of son and daughter heirs appear to be significantly lower than those for other groups: 1.61 for sons and 1.93 for daughters. We suspect that this finding owes to the descendants' inclination to marry spouses from among their own kind, which must have limited the pool of eligible candidates and effectively decreased the marriage and remarriage numbers in relative terms. Although Muhammad's descendants frequently married nondescendants, this was probably not the preferred situation, especially for those who took pride in their familial connections with the Prophet's household.

Our findings presented in the above paragraph are for male testators only. In the estates owned by female testators, sons' inheritance shares constituted about 38 percent of their mothers' estates, on average, and daughters' shares constituted about 31 percent. Such relatively high figures suggest that female testators had fewer children than male testators, which reflects, perhaps, both the permissibility of polygyny in Islam and men's legitimate sexual access to their female slaves. We calculated the average number of son and daughter heirs for each female-owned estate as 1.79 and 1.86, respectively.<sup>30</sup>

Finally, our estimations of the Gini coefficients for estates from different gender, status, occupational, and residential groups and those for the inherited shares of sons and daughters do not significantly differ, which demonstrates that inequality levels within these groups did not increase across generations.

We have observed so far that Islamic inheritance practices generally contributed to wealth fragmentation in mid-eighteenth-century Kastamonu. Yet, how did the inheritance process affect relative wealth mobility among different social groups? We can tackle this question by comparing quintile distributions of the heirs' inheritance shares with the quintile distributions of testators' net estate values. In what follows, we classify heirs whose quintile inheritance share brackets are lower than the quintile estate value brackets of their testators as "movers-down." Correspondingly, heirs whose quintile inheritance share brackets are higher than the quintile estate value brackets of their testators are classified as "movers-up," and heirs whose inheritance brackets are identical with the estate value brackets of their testators are labeled "stayers." For example, if a particular share is included in the fourth-richest (second) quintile bracket in our sample of sons' and daughters' shares, and the estate from which it is derived is included in the second-richest (fourth) quintile bracket in the sample of estates, this particular share would be considered a mover-down. If, on

the other hand, a particular share is large enough to be included in the richest (fifth) quintile bracket in our sample of shares, and the estate from which it is derived is included among the third-richest (third) quintile bracket in the sample of estates, this particular share would be considered a mover-up.

The most significant finding of Table 5 is that inheritance processes, for the most part, contributed to the durability of the economic hierarchy within the provincial community: about 60 percent of the heirs in our sample of about seventeen hundred occupy the same quintile bracket as their testators (stayers). It is also significant that the share of movers-down in the sample (27.5 percent) is more than twice the share of movers-up (12.5 percent), which indicates that the inheritance process caused more downward mobility than upward mobility in eighteenth-century Kastamonu.

Table 5 also demonstrates that intergenerational wealth accumulation patterns varied across gender, title, status, and occupational groups. This observation becomes clear if we focus on the percentage figures in bold, which indicate each group's shares in different mobility categories. For example, while inheritance shares derived from female-owned estates constituted about 15.7 percent of all movers-down, these shares constituted about 32.1 percent of all movers-up. If we compare these figures to those shares derived from estates owned by men (84.3 percent mover-down, 67.9 percent mover-up), we can deduce that shares derived from female-owned estates were considerably more upwardly mobile than shares derived from estates owned by men. The table also allows us to make similar comparisons among other groups: accordingly, estates owned by members of the religious establishment generated a greater degree of upward mobility than estates belonging to military title holders and men without any titles. Pilgrims, on the other hand, left behind more mover-down shares than those who did not carry this epithet. Finally, it is also remarkable that the inheritance shares of those sons and daughters who had title-holding grandfathers were more upwardly mobile, in relative terms.

Combined with our calculations in our previous study, these findings indicate that estates belonging to richer groups were subject to a greater degree of depreciation in the course of inheritance. Our prior calculations demonstrated that men compared to women, *Ağas* and *Efendis* compared to other title holders and men without titles, pilgrims compared to nonpilgrims, and individuals with title-holding fathers compared to individuals with titleless fathers possessed significantly larger estates at the time of their death.<sup>31</sup> The figures in the first five rows of Table 5 ("wealth-based distinctions") also attest to this situation: a comparison of the calculations for the second, third, and fourth wealth brackets demonstrates that proportionately larger numbers of movers-down are found among larger estates.

As revealing as the findings in Table 5 may be, one shortcoming is that the particular social, religious, and economic categories included in this table are not exclusive of others. For example, in our sample of testators, many *Ağas* and *Efendis* were also pilgrims, and their fathers, for the most part, also possessed military and religious titles. Similarly, a large number of craftsmen were found in the ranks of the *Beşes*. Thus, to isolate the degree of association between a specific testator category and the nature of wealth mobility through inheritance, we need a different kind of approach. In what follows, we conduct regression analyses to solve this problem. In particular, we run regressions of the mobility statuses of the sons' and daughters' inheritance shares in logarithmic scale on specific testator and heir categories. Since the problem of group overlap is largely limited to male testators, the following estimations will use observations produced solely by estates owned by male testators.<sup>32</sup>

*Table 5*  
Heirs' Wealth Mobility according to Testators' Characteristics

| Characteristics of Testators           |                           | Mover-down                    | Stayer                        | Mover-up                      |
|--|---------------------------|-------------------------------|-------------------------------|-------------------------------|
| Wealth-based Distinctions              | Richest 20%               | 109 (27.95%)<br><b>23.49%</b> | 281 (72.10%)<br><b>27.85%</b> | —                             |
|  | Fourth 20%                | 136 (37.78%)<br><b>29.31%</b> | 176 (48.89%)<br><b>17.44%</b> | 48 (13.33%)<br><b>22.54%</b>  |
|  | Third 20%                 | 131 (38.64%)<br><b>28.23%</b> | 147 (43.36%)<br><b>14.57%</b> | 61 (17.99%)<br><b>28.64%</b>  |
|  | Second 20%                | 88 (27.50%)<br><b>18.97%</b>  | 170 (53.13%)<br><b>16.85%</b> | 62 (19.38%)<br><b>29.11%</b>  |
|  | Poorest 20%               | —                             | 235 (84.84%)<br><b>23.29%</b> | 42 (15.16%)<br><b>19.72%</b>  |
| Gender-based Distinctions              | Women                     | 72 (24.32%)<br><b>15.72%</b>  | 156 (52.70%)<br><b>15.73%</b> | 68 (22.97%)<br><b>32.08%</b>  |
|  | Men                       | 386 (28.26%)<br><b>84.28%</b> | 836 (61.20%)<br><b>84.27%</b> | 144 (10.54%)<br><b>67.90%</b> |
| Geographical Distinctions              | Urban                     | 512 (33.51%)<br><b>87.67%</b> | 847 (55.43%)<br><b>91.37%</b> | 169 (11.06%)<br><b>97.61%</b> |
|  | Rural                     | 72 (45.57%)<br><b>12.33%</b>  | 80 (50.63%)<br><b>8.63%</b>   | 6 (3.8%)<br><b>3.43%</b>      |
| Title-based Distinctions               | Ağa                       | 20 (16.81%)<br><b>4.31%</b>   | 93 (78.15%)<br><b>9.22%</b>   | 6 (5.04%)<br><b>2.82%</b>     |
|  | Beğ                       | 16 (35.56%)<br><b>3.45%</b>   | 25 (55.56%)<br><b>2.48%</b>   | 4 (8.89%)<br><b>1.88%</b>     |
|  | Beşe                      | 64 (33.86%)<br><b>13.79%</b>  | 95 (50.26%)<br><b>9.40%</b>   | 30 (15.87%)<br><b>14.08%</b>  |
|  | Efendi                    | 43 (39.45%)<br><b>9.27%</b>   | 51 (46.79%)<br><b>5.05%</b>   | 15 (13.76%)<br><b>7.04%</b>   |
|  | Halife                    | 7 (18.92%)<br><b>1.51%</b>    | 24 (64.86%)<br><b>2.38%</b>   | 6 (16.22%)<br><b>2.82%</b>    |
|  | Molla                     | 13 (30.23%)<br><b>2.80%</b>   | 27 (62.79%)<br><b>2.68%</b>   | 3 (6.98%)<br><b>1.41%</b>     |
|  | Çelebi                    | 17 (13.08%)<br><b>3.66%</b>   | 96 (73.85%)<br><b>9.51%</b>   | 17 (13.08%)<br><b>7.98%</b>   |
|  | Others                    | 3 (10.70%)<br><b>0.65%</b>    | 18 (64.29%)<br><b>1.78%</b>   | 7 (0.25%)<br><b>3.29%</b>     |
|  | Men without titles        | 276 (28.45%)<br><b>59.48%</b> | 573 (59.07%)<br><b>56.79%</b> | 121 (12.47%)<br><b>56.81%</b> |
|  | Occupational Distinctions | Merchants                     | 7 (12.07%)<br><b>1.51%</b>    | 45 (77.59%)<br><b>4.46%</b>   |
| Artisans                               |                           | 77 (27.70%)<br><b>16.59%</b>  | 169 (60.79%)<br><b>16.75%</b> | 32 (11.51%)<br><b>15.02%</b>  |
| Other men                              |                           | 380 (28.00%)<br><b>81.90%</b> | 801 (59.03%)<br><b>79.39%</b> | 176 (12.97%)<br><b>82.63%</b> |
| Distinctions Based on Religious Status | Pilgrims                  | 192 (35.56%)<br><b>41.38%</b> | 320 (59.26%)<br><b>31.71%</b> | 28 (5.19%)<br><b>13.15%</b>   |
|  | Descendants of Muhammad   | 7 (12.96%)<br><b>1.51%</b>    | 37 (68.52%)<br><b>3.67%</b>   | 10 (18.52%)<br><b>4.69%</b>   |
|  | Other men                 | 270 (24.43%)<br><b>58.19%</b> | 659 (59.64%)<br><b>65.31%</b> | 176 (15.93%)<br><b>82.63%</b> |

(continued)

Table 5 (continued)

| Characteristics of Testators        |                            | Mover-down                    | Stayer                        | Mover-up                      |
|-------------------------------------|----------------------------|-------------------------------|-------------------------------|-------------------------------|
| Testators' Fathers' Characteristics | Military title holders     | 12 (12.50%)<br><b>2.59%</b>   | 73 (76.04%)<br><b>7.23%</b>   | 11 (11.46%)<br><b>5.16%</b>   |
|                                     | Religious title holders    | 22 (14.77%)<br><b>4.74%</b>   | 96 (64.43%)<br><b>9.51%</b>   | 31 (20.81%)<br><b>14.55%</b>  |
|                                     | Pilgrims                   | 84 (25.85%)<br><b>18.10%</b>  | 201 (61.85%)<br><b>19.92%</b> | 40 (12.31%)<br><b>18.78%</b>  |
|                                     | Men without titles/markers | 390 (29.79%)<br><b>84.05%</b> | 766 (58.52%)<br><b>75.91%</b> | 153 (11.69%)<br><b>71.83%</b> |
|                                     |                            |                               |                               |                               |

Note: Percentages in parentheses indicate shares in specific testator groups. Percentages in bold indicate shares in corresponding mobility categories.

## ANALYSIS PART II: REGRESSION ANALYSIS

### Model

In the following analysis, we continue to recode heirs as movers-down, movers-up, and stayers. Within this definitional framework, the conditional probability that an individual heir is assigned to a given group  $j$  ( $j = 1, 2, 3$ ) can be written as

$$\Pr(P_{ij} | X_i) = f(X_i), \quad (1)$$

where  $X_i$  denotes a vector of various characteristics for heir  $i$ . Assuming that the above conditional probability function can be approximated by a multinomial logistic model, we estimate the following equations as follows:

$$\Pr(P_{ij} | X_i) = \frac{e^{X_i' \beta_j}}{\sum_{k=1}^3 e^{X_i' \beta_k}} \quad (2)$$

Since each heir must belong to only one group, we choose stayers as a reference group. Therefore, we can write log odds for both mover-up and mover-down groups as follows:<sup>33</sup>

$$\ln \left( \frac{P_{imoverup}}{P_{istayer}} \right) = \ln \left( \frac{e^{X_i' \beta_{moverup}}}{e^{X_i' \beta_{stayer}}} \right) = X_i' \beta_{moverup} \quad (3)$$

and.

$$\ln \left( \frac{P_{imoverdown}}{P_{istayer}} \right) = \ln \left( \frac{e^{X_i' \beta_{moverdown}}}{e^{X_i' \beta_{stayer}}} \right) = X_i' \beta_{moverdown} \quad (4)$$

Thus,  $\beta_{moverup}$  and  $\beta_{moverdown}$ , respectively, measure the impact of the variables  $X$  on the log odds of being a mover-up or a mover-down relative to being a stayer.<sup>34</sup> In addition, we also provide estimates for the marginal effects of independent variables of interest for each mobility status. Table 6 presents the results for the above model.

*Table 6*  
Regression Analyses (Aggregated for Title Holders)

|   | Mover-down | Stayer   | Mover-up  | Mover-down as a Factor of Stayer | Mover-up as a Factor of Stayer |
|---|------------|----------|-----------|----------------------------------|--------------------------------|
| Geographic distinctions (relative to rural estates)   |            |          |           |                                  |                                |
| Urban estates   | -0.131***  | 0.077**  | 0.054***  | 0.62**                           | 2.2*                           |
| Title-based categories (relative to estates owned by men with no military titles)               |            |          |           |                                  |                                |
| Military estates  | 0.072**    | -0.083** | 0.011     | 1.41**                           | 1.34                           |
| Religious estates (relative to estates owned by men with no religious titles)                   | 0.095**    | -0.09**  | -0.005    | 1.51**                           | 1.11                           |
| Occupational markers (relative to estates owned by men with no specific occupations)            |            |          |           |                                  |                                |
| Artisan estates   | 0.077**    | -0.089** | 0.012     | 1.44**                           | 1.36                           |
| Merchant estates  | -0.128**   | 0.106    | 0.023     | 0.54*                            | 1.08                           |
| Religious markers (relative to estates owned by men with no religious markers)                  |            |          |           |                                  |                                |
| Pilgrim estates   | 0.093***   | -0.021   | -0.072*** | 1.34**                           | 0.39***                        |
| Descendants of Muhammad   | -0.092     | -0.064   | 0.028     | 0.67                             | 1.22                           |
| Testators' father's title (relative to estates owned by men with fathers who had no titles)     |            |          |           |                                  |                                |
| Military  | -0.211***  | 0.239*** | -0.028    | 0.3***                           | 0.45                           |
| Religious   | -0.223***  | 0.182*** | 0.041     | 0.3***                           | 1.15                           |
| Testators' father's Religious marker (relative to estates owned by men with nonpilgrim fathers) |            |          |           |                                  |                                |
| Father pilgrim  | -0.055*    | 0.072**  | -0.017    | 0.75*                            | 0.5                            |
| Number of observations: 1,391   |            |          |           |                                  |                                |
| Pseudo <i>R</i> -squared: .039  |            |          |           |                                  |                                |

*\*10% significance level; \*\*5% significance level; \*\*\*1% significance level.*

It must be emphasized here that the models presented in Table 6 are not meant to suggest causality-based relationships among different variables. Instead, we intend to demonstrate degrees of association.

The first three columns in Table 6 present our predictions for each testator category of a specific mobility outcome while all other variables are kept constant. For example, the first column of Table 6 indicates that if inheritance shares derived from urban estates are increased one percentage point, mover-down shares would decrease about thirteen percentage points, compared to shares derived from rural estates. The second and third columns of the same table indicate that a similar increase among inheritance shares derived from urban estates is estimated to have an increase among stayers of about eight percentage points, and among movers-up, of about five percentage points, again compared to shares from rural estates.

The fourth and fifth columns of Table 6, calculated by using the estimations given in the first three columns, provide the odds of inheritance shares' being included in the mover-up and mover-down categories relative to the odds of remaining stayers, holding other variables constant. For example, compared to shares from rural estates, the odds that shares from urban estates are movers-down is 0.62 times their odds of

remaining stayers, and the odds of the shares' being movers-up is 2.2 times their odds of remaining stayers. These calculations provide easy-to-interpret indicators of the direction of wealth mobility associated with a change in a particular testator category: For example, our calculations for urban estates indicate that their chance of generating mover-up shares is significantly larger than their chance of generating stayers, which is, in turn, considerably larger than their chance of generating mover-down shares.

## INTERPRETATIONS OF ESTIMATIONS

Overall, the regression results provide our estimations of the strength of association between specific types of mobility and particular testator characteristics.<sup>35</sup> In what follows, we provide more specific interpretations of our calculations and then offer more general findings. Our comments will focus on statistically significant findings at conventional levels.

1. As indicated above, compared to shares derived from rural estates, shares based on urban estates are negatively associated with mover-down shares and positively associated with stayers and movers-up.
2. Estates owned by artisans and merchants appear to have dissimilar patterns of mobility compared to estates that belonged to testators with no occupational markers: While shares derived from artisan-owned estates are negatively associated with stayers, shares derived from merchant-owned estates are negatively associated with movers-down. As such, our calculations predict that whereas the odds of artisan estates' generating mover-down shares is larger than the odds of generating stayers, merchant estates are more likely to generate stayers than movers-down, both compared to estates owned by men with no occupational markers.
3. Our calculations for shares derived from pilgrim-owned estates indicate a pattern of relative downward mobility: compared to estates owned by men with no religious markers, the odds of pilgrim estates generating mover-down shares are larger than the odds of generating stayers, which are also greater than the odds of generating movers-up.
4. Shares derived from estates owned by testators with title-holding fathers appear to have a powerful negative association with mover-down shares and positive association with stayers, compared to shares derived from estates with fathers who had no titles. Shares from estates owned by individuals with religious title-holding fathers demonstrate a similar type of relationship with mover-down and stayer shares, although the strength and statistical significance of these relationships are not as pronounced. For both estate types, the odds of being a mover-down versus a stayer are low. These findings are particularly interesting in light of the fact that,
5. shares from estates owned by both military and religious title holders are positively associated with movers-down and negatively associated with stayers, compared to shares from estates owned by men without title. Consequently, and unlike what we have observed for estates that belonged to individuals with title-holding fathers, estates owned by title holders were more likely to generate movers-down than stayers, relative to estates owned by non-title holders. A similar result was obtained for estates owned by testators with pilgrim fathers.

*Table 7*  
Regression Analyses (Disaggregated for Title Holders)

|                                       | Mover-down  | Stayer    | Mover-up  | Mover-down as a Factor of Stayer | Mover-up as a Factor of Stayer |
|---------------------------------------|---|-----------|-----------|----------------------------------|--------------------------------|
| Geographic distinctions               | (relative to rural estates)                                       |           |           |                                  |                                |
| Urban estates                         | -0.129***   | 0.081*    | 0.048***  | 0.62**                           | 1.96                           |
| Title-based categories                | (relative to estates owned by men with no military titles)        |           |           |                                  |                                |
| Military estates                      | (relative to estates owned by men with no military titles)        |           |           |                                  |                                |
| Ağa                                   | -0.062  | 0.091     | -0.029    | 0.71                             | 0.56                           |
| Beğ                                   | 0.227***  | -0.19**   | -0.037    | 2.47***                          | 0.79                           |
| Beşe                                  | 0.095**   | -0.138*** | 0.043     | 1.67***                          | 2.09**                         |
| Religious estates                     | (relative to estates owned by men with no religious titles)       |           |           |                                  |                                |
| Efendi                                | 0.241***  | -0.254*** | 0.012     | 3.02***                          | 2.03*                          |
| Molla                                 | 0.01  | 0.016     | -0.026    | 1.0                              | 0.65                           |
| Halife                                | 0.176**   | -0.178*   | 0.002     | 2.18**                           | 1.5                            |
| Çelebi                                | -0.067  | 0.086     | -0.019    | 0.71                             | 0.65                           |
| Other                                 | -0.061  | -0.06     | 0.121*    | 0.93                             | 2.9**                          |
| Occupational markers                  | (relative to estates owned by men with no specific occupations)   |           |           |                                  |                                |
| Artisan estates                       | 0.095***  | -0.110*** | 0.016     | 1.58***                          | 1.49                           |
| Merchant estates                      | -0.121**  | 0.091     | 0.03      | 0.57*                            | 1.2                            |
| Religious markers                     | (relative to estates owned by men with no religious markers)      |           |           |                                  |                                |
| Pilgrim estates                       | 0.081***  | -0.014    | -0.068*** | 1.28*                            | 0.4***                         |
| Descendants of Muhammad               | -0.02   | -0.034    | 0.054     | 1.0                              | 1.83                           |
| Testators' father's title             | (relative to estates owned by men with fathers who had no titles) |           |           |                                  |                                |
| Military                              | -0.193***   | 0.205***  | -0.013    | 0.35***                          | 0.61                           |
| Religious                             | -0.242***   | 0.210***  | 0.032     | 0.26***                          | 1.03                           |
| Testators' father's religious markers | (relative to estates owned by men with nonpilgrim fathers)        |           |           |                                  |                                |
| Father pilgrim                        | -0.033  | 0.044     | 0.011     | 0.84                             | 0.8                            |
| Number of observations:               | 1,391   |           |           |                                  |                                |
| Pseudo R-squared:                     | .058  |           |           |                                  |                                |

\*10% significance level; \*\*5% significance level; \*\*\*1% significance level.

At the same time, our estimations for shares from estates belonging to title holders should not discount the fact that variations exist within the two title-based estate categorizations. This fact becomes obvious in Table 7, in which we disaggregate military and religious titles.

Among estates owned by military title holders, those belonging to *Beğs* and *Beşes* appear to have had a greater propensity to generate movers-down than stayers, compared to estates owned by men without military titles. On the other hand, no such observation could be made for estates owned by *Ağas*. Among religious title holders, on the other hand, only estates owned by *Efendis* and *Halifes* appear to have had downward mobility. Finally, estates owned by *Dedes* and *Şeyhs* (categorized as "other" religious titles in Table 7) seem to have had a rare tendency to generate movers-up.

While we cannot, at this point, provide explanations of our findings for specific testator groups, Tables 6 and 7 offer sophisticated illustrations of variations in relative wealth mobility in the context of eighteenth-century Ottoman Kastamonu. These tables indicate that geographical and occupational variations implied differences in terms of how inheritance contributed to intergenerational wealth accumulation patterns. They also establish that compared to estates owned by men without titles, estates owned by title holders, despite in-group variations, tended to generate downward mobility.<sup>36</sup> As explained above, these findings are statistically preferable to the raw data presented in Table 5 because they permit us to represent variations in wealth mobility among different groups while eliminating the impact of group overlaps in our data set.

One of the most important findings of our analysis is the strong association between testators' fathers' titles and various types of wealth mobility. Since there is a close relationship between wealth differences and title-based variations in a particular generation of testators,<sup>37</sup> it is possible to interpret our findings as evidence for the durability of wealth distinctions across three subsequent generations, despite the fact that the inheritance process appears to have contributed to wealth fragmentation from one generation to the next one among military and religious families, many of which included both title-holding fathers and sons. Here, it needs to be reiterated that inheritance was only one mechanism of wealth transmission across generations. Gifts and fictitious sales before death as well as nonmonetary services provided to offspring—such as education, sociocultural capital, and access to kin-based and professional networks of support—also must have contributed to the wealth levels of successive generations. Although our calculations involving testators' fathers may indirectly reflect the impact of such variables on mobility, there is no way for us to quantify the economic significance of variables other than inheritance on intergenerational wealth accumulation.

In very general terms, it is noteworthy that while a majority our independent variables demonstrate powerful and statistically significant associations with downward and steady mobility, the relationship between the same variables and upward mobility, by and large, appears to be weak and insignificant. The last two columns of Tables 6 and 7 demonstrate this tendency clearly: in Table 6, there are eleven statistically significant "odds" estimations; of these eleven, five indicate a greater chance of downward mobility than steady mobility, four indicate a greater chance of steady mobility than downward mobility, and one indicates a greater chance of steady mobility than upward mobility. Only one of our statistically significant estimates (for urban estates) demonstrates a greater chance of upward mobility than steady or downward mobility. This tendency confirms that the inheritance process must not have significantly contributed to wealth accumulation among subsequent generations.

Although it is not our intention in this article to explain why a particular testator group was more likely to generate a specific type of mobility, our analysis can provide clues to assessing the relative importance of specific factors in determining different mobility outcomes. As we noticed in the previous section, wealth distinctions among estates as well as the number and composition of heirs seem to have had some influence on inheritance shares. This observation suggests that these variables may also have some bearing on the strength and direction of wealth mobility. In Table 8, we present our estimations of the strength and significance of the relationship between specific wealth-based and demographic variables and particular types of mobility.



*Table 8*  
Regression Analysis—Wealth-based and Demographic Factors

|                                 | Mover-down   | Stayer    | Mover-up  | Mover-down as a Factor of Stayer | Mover-up as a Factor of Stayer |
|---------------------------------|--|-----------|-----------|----------------------------------|--------------------------------|
| Wealth distinctions             | (relative to estates included in the first wealth group) |           |           |                                  |                                |
| Second wealth group             | 0.366***   | -0.364*** | 0.002     | 4.98***                          | 1.42                           |
| Third wealth group              | 0.146***   | -0.133*** | -0.013*** | 2.06***                          | 0.31***                        |
| Demographic variables           |  |           |           |                                  |                                |
| Ratio of sons to all heirs      | 0.717***   | -0.662*** | -0.055*** | 32.37***                         | 0.003***                       |
| Ratio of daughters to all heirs | 0.401***   | -0.373*** | -0.027*** | 7.02***                          | 0.06***                        |
| Number of heirs                 | 0.833***   | -0.78***  | -0.054*** | 57.7***                          | 0.004***                       |
| Number of observations:         | 1,389  |           |           |                                  |                                |
| Pseudo <i>R</i> -squared:       | .37  |           |           |                                  |                                |

\*\*\*1% significance level.

Before we comment on our calculations in Table 8, we should explain the categories used in our analysis. The variables representing the wealth distinctions in the regressions are loosely based on the categories used in Table 5, but we had to modify them since it is impossible to estimate downward mobility in the estates included in the first quintile and upward mobility in the estates included in the fifth quintile. Thus, we aggregated the estates in the first and second quintiles into the first wealth group and estates in the fourth and fifth quintiles into the third wealth group. The second wealth group is composed of the estates in the second quintile. As for demographic variables, there are three: “Ratio of sons to all heirs” and “ratio of daughters to all heirs” are included in our analysis account for the impact of gender composition on wealth mobility. “Number of heirs,” on the other hand, was included to demonstrate how the size of the pool of heirs influenced the inheritance process across generations.

Our calculations demonstrate very strong and statistically significant relationships between our wealth-based and demographic variables and almost all types of wealth mobility. This finding might be interpreted to mean that wealth distinctions and the number and composition of heirs strongly influenced the nature of wealth mobility, although we cannot discount the possibility that a strong—and possibly, causal—relationship also existed between wealth-based and demographic variables. On one hand, our estimations indicate that estates owned by higher-wealth groups were much more closely associated with mover-down shares compared to those owned by lower-wealth groups (first and second quintiles). On the other hand, the coefficients we estimate for the ratio of sons as heirs and the number of total heirs in the regressions involving mover-down and stayer shares are the largest and most significant ones that we have found. These findings strongly suggest, if not prove, that the type of wealth mobility associated with each social, occupational, and status-based group is largely a consequence of that group’s wealth levels and demographic characteristics, most notably the ratio of sons as heirs and total number of heirs.

## IN PLACE OF CONCLUSION: HYPOTHETICAL SCENARIOS OF WEALTH MOBILITY

We would like to conclude this article by bringing together what we have dissipated in our regression analysis. In what follows, we present estimations of the cumulative effects of various male testator characteristics on wealth mobility in hypothetical real-life situations. Table 9 provides nine scenarios for male testators, for each of which we estimate the probability of three different types of mobility by using the coefficients of the multinomial logit regression model introduced in the previous section.<sup>38</sup> The probability estimations for different types of mobility are given in the last three columns of Table 9. These values range from 0 (indicating statistical impossibility) to 1 (indicating statistical certainty), and they collectively add up to 1. Our scenarios do not include female testators because of our very limited ability to distinguish among females in terms of their socioeconomic and status-based characteristics. Based on the information found in our data set, we can only make distinctions among them based on geographical variations and their father's title or marker. Such distinctions mirror the ones that we have found for their male counterparts (see Note 36).

The individual scenarios are designed to simulate a variety of possibilities involving different socioeconomic positions in eighteenth-century Kastamonu while continuing to control our predictions for the impact of the group overlap problem we encountered in the first part of our analysis. For example, whereas cases 1 and 4 represent top military and religious echelons with elevated family pedigrees in the urban context, case 3 represents a rural *timar*-holder (provincial cavalry officer). Cases 8 and 9, on the other hand, represent the lower echelons of the community in rural (peasant) and urban (artisan) contexts.

The most important finding of Table 9 is the virtual unattainability of upward mobility through inheritance. The probability of upward mobility approaches 0 percent in two cases (cases 3 and 5); even at its highest (case 4), it does not exceed 11 percent. On the other hand, the highest probability in five of the nine cases (1, 3, 4, 7, and 9) is of steady mobility. In two cases (2 and 5), the chances of downward mobility are more pronounced, and in the other two cases (6 and 8), the chances of downward and steady mobility are almost equal. These observations suggest, once again, that the inheritance process, aside from its tendency to fragment wealth, generally contributed to the stability of existing economic divisions from one generation to the next one.

In this general context, it is significant that the chances of downward mobility are lowest among the highest echelons of military and religious title holders with significant family pedigrees (cases 1 and 4), while the odds of upward mobility are most considerable among the estates that belonged to the highest ranking members of the religious establishment with title-holding fathers (case 4). On the other hand, the chances of steady mobility are the lowest in those cases in which the scenarios involve testators who are from lower-middle echelons of the two title groups and have no title-holding fathers (cases 2 and 5). Finally, our estimations for cases 7, 8, and 9 suggest that testators from the lowest social and status groups—testators with no titles and no title-holding fathers—also possessed relatively elevated probabilities of steady mobility. As such, our findings collectively depict a relatively complex relationship between inheritance and intergenerational wealth mobility in eighteenth-century Kastamonu.

Table 9  
Scenarios of Wealth Mobility (for Male Testators)

| Cases | Testator Characteristics |     |      |        |                           |        |        |                      |                       |                   |       |                          |         |          | Predicted Probabilities (between 0 and 1) |                        |                 |                  |                 |                |            |        |          |
|-------|--------------------------|-----|------|--------|---------------------------|--------|--------|----------------------|-----------------------|-------------------|-------|--------------------------|---------|----------|---|------------------------|-----------------|------------------|-----------------|----------------|------------|--------|----------|
|       | Titles                   |     |      |        | Geographical Designations |        |        | Occupational Markers |                       | Religious Markers |       | Fathers' Characteristics |         |          | Stayer                                    | Mover-up               |                 |                  |                 |                |            |        |          |
|       | Ag'a                     | Beg | Beşe | Etendi | Molla                     | Halife | Çelebi | Hoca                 | Other Religious Title | No Title          | Urban | Rural                    | Artisan | Merchant | Pilgrim                                   | Descendant of Muhammad | Father Military | Father Religious | Father No Title | Father Pilgrim | Mover-down | Stayer | Mover-up |
| 1     | X                        |     |      |        |                           |        |        |                      |                       | X                 |       |                          |         |          | X   |                        | X               |                  | X               |                | 0.014      | 0.983  | 0.003    |
| 2     |                          |     | X    |        |                           |        |        |                      |                       | X                 |       | X                        |         |          |   |                        | X               |                  | X               |                | 0.678      | 0.316  | 0.006    |
| 3     |                          | X   |      |        |                           |        |        |                      |                       | X                 |       |                          |         |          |   |                        | X               |                  |                 |                | 0.241      | 0.759  | ~ 0      |
| 4     |                          |     |      | X      |                           |        |        |                      |                       | X                 |       |                          |         |          | X   |                        |                 | X                |                 | X              | 0.087      | 0.807  | 0.105    |
| 5     |                          |     |      |        |                           | X      |        |                      |                       | X                 |       |                          |         |          |   |                        |                 |                  | X               |                | 0.759      | 0.241  | ~ 0      |
| 6     |                          |     |      |        |                           |        |        | X                    |                       | X                 |       |                          |         |          |   |                        |                 | X                |                 | X              | 0.510      | 0.484  | 0.006    |
| 7     |                          |     |      |        |                           |        |        |                      |                       | X                 |       |                          |         | X        |   |                        |                 |                  | X               |                | 0.158      | 0.835  | 0.006    |
| 8     |                          |     |      |        |                           |        |        |                      |                       | X                 |       |                          | X       |          |   |                        |                 |                  | X               |                | 0.487      | 0.510  | 0.005    |
| 9     |                          |     |      |        |                           |        |        |                      |                       | X                 |       | X                        |         |          |   |                        |                 |                  | X               |                | 0.370      | 0.630  | 0.001    |

This article has explored techniques for calculating the impact of the inheritance process on wealth transmission from parents to their children in the eighteenth-century Ottoman context. To this end, we have devised a methodology uniquely suited to our sources, Ottoman estate inventories whose potential for generating empirical studies on intergenerational wealth transmission and accumulation patterns has not been exploited until now. We hope that the quantitative techniques introduced here will help to facilitate much-needed future research on related topics in other Ottoman and Islamic contexts.

### ACKNOWLEDGMENTS

The authors are grateful to Mr. Berk Yavuzoğlu and Dr. Charlotte Weber for their assistance in the production of this article.

### NOTES

1. See, among others, David Powers, *Studies in Qur'ān and Hadīth: The Formation of the Islamic Law of Inheritance* (Berkeley: University of California Press, 1986); *ibid.*, "Introduction: The Islamic Inheritance System," *Islamic Law and Society* 5, no. 3 (1998): 285-90; *ibid.*, "Islamic Inheritance Law: A Socio-Historical Approach," in *Islamic Family Law and the State*, ed. Chibli Mallat and Jane Connors (London: Trotman, 1990), 11-29; Matha Mundy, "The Family Inheritance and Islam: A Re-examination of the Sociology of Farā'id Law," in *Islamic Law: Social and Historical Contexts*, ed. Aziz al-Azmeh (London and New York: Routledge, 1988), 1-123; Richard Kimber, "The Qur'anic Law of Inheritance," *Islamic Law and Society* 5, no. 3 (1998): 291-325. Also see Timur Kuran, "The Islamic Commercial Crisis: Institutional Roots of Economic Underdevelopment in the Middle East," *Journal of Economic History* 63 (2003): 414-46, for a discussion of how Islamic inheritance rules might have contributed to the socioeconomic underdevelopment of the Middle East.

2. Boğaç A. Ergene and Ali Berker, "Wealth and Inequality in 18th-century Kastamonu: Estimations for the Muslim Majority," *International Journal of Middle East Studies* 40, no. 1 (2008): 23-46.

3. See, among others, Luc Arrondel and Cyril Grange, "Transmission and Inequality of Wealth: An Empirical Study of Wealth Mobility from 1800 to 1939 in France," *Journal of Economic Inequality* 4 (2006): 209-32; *ibid.*, "The Accumulation and Transmission of Wealth over a Long Period: Example of a Rural Family from Loire-Atlantique in the 19th and 20th Centuries," *The History of the Family: An International Quarterly* 8 (2003): 103-34; Alan S. Blinder, "Inequality and Mobility in the Distribution of Wealth," *Kyklos* 2 (1976): 607-38; Paul Menchik, "Intergenerational Transmission of Inequality: An Empirical Study of Wealth Inequality," *Economica* 46 (1979): 749-62; Kerwin Charles and Erik Hurst, "The Correlation of Wealth across Generations," *Journal of Political Economy* 111 (2003): 1155-82; John A. Brittain, "Research on the Transmission of Material Wealth," *American Economic Review* 63 (1973): 335-45; *ibid.*, *Inheritance and the Inequality of Material Wealth* (Washington, DC: Brookings Institution, 1978); Colin D. Harbury and D. M. W. N. Hitchens, *Inheritance and Wealth Inequality in Britain* (London: Allen and Unwin, 1979); David L. Bevan, "Inheritance and the Distribution of Wealth," *Economica* 46 (1979): 381-402; E. R. Brennan, A.V. James, and W. T. Morrill, "Inheritance, Demographic Structure, and Marriage: A Cross-Cultural Perspective," *Journal of Family History* 7 (1982): 289-98; Eugene A. Hammel, "Review Essay: Family and Inheritance," *Journal of Family History* 3 (1978): 203-10; Samuel Bowles, Herbert Gintis, and Melissa O. Groves, eds., *Unequal Exchanges: Family Background and Economic Success* (New York: Princeton University Press, 2005); Robert K. Miller and Stephen J. McNamee, eds., *Inheritance and Wealth in America* (New York: Plenum, 1998).

4. Our discussion in this section is largely based on the following sources, which provide detailed information on the general rules of Islamic inheritance: Muhammad Hashim Kamali, "Islamic Law: Personal Law," *Encyclopedia of Religion*, 2nd ed., vol. 7, 4705-12 (Detroit: Macmillan Reference); Joseph Schaht, "Mirath," *Encyclopedia of Islam*, 2nd ed., vol. 7, 106-11. (Leiden: Brill).

5. According to Shafi'i teachings, the public treasury gets the shares of the *'asaba*, if there are no agnatic heirs. According to this interpretation, the *dhawul'l-arham* are allowed to inherit only if there are neither Qur'anic heirs nor *'asaba* and the state treasury is not administered according to law to benefit Muslims.

6. Jurists agree that a person who is adult and sane has the capacity to make a bequest, while bequests made by a minor, a mentally defective person, or a person acting under compulsion or under temporary loss of reason (through, for example, intoxication) are void. All free individuals, juristic persons, and fetuses in the womb, whether Muslim or non-Muslim, may receive bequests. Any object of value that is considered as goods, including income and usufruct arising from the property owned by the testator, may be given and received as a bequest. However, a bequest is invalid if made in pursuit of unlawful purposes, such as promoting a brothel. See Kamali, "Islamic Law," 4710.

7. For the history of such charitable giving in the Ottoman context, see Ömer Lütfi Barkan, "Şer'i Miras Hukuku ve Evlatlık Vakıflar," in *Türkiye'de Toprak Meselesi* (Istanbul: Gözlem Yayınları, 1980), 212-13. Also see Alan Duben, "Turkish Families and Households in Historical Perspective," *Journal of Family History* 10, no. 1 (1985): 82-83.

8. Cf. Haim Gerber, "Anthropology and Family History: The Ottoman and Turkish Families," *Journal of Family History* 14, no. 4 (1989): 412.

9. Boğaç A. Ergene, *Local Court, Provincial Society and Justice in the Ottoman Empire: Legal Practice and Dispute Resolution in Çankırı and Kastamonu (1652-1744)* (Leiden: Brill, 2003), ch. 1.

10. Colin Heywood claims that the Christian inhabitants of the town (predominantly Greek Orthodox with some Armenian families) constituted between 7.5 and 15 percent of the population in the nineteenth century; Colin Heywood, "Kastamonu," *Encyclopedia of Islam*, 2nd ed., vol. 4, 738 (Leiden: Brill). There are no references to Jews in Kastamonu court records or the secondary literature.

11. Ergene and Berker, "Wealth and Inequality," 25-26.

12. Other military designations indicating specific military-administrative responsibilities, such as *çavuş*, *subaşı*, *kethüdayeri*, and *mütesellim*, always accompanied these three honorific titles, which is why we designate the three as the primary markers of military-administrative status. According to Ömer Lütfi Barkan, the titles *Ağa*, *Beğ*, and *Beşe* do not reveal an individual's exact military ranking, nor do these terms indicate whether he belonged to the janissary corps, was a member of the provincial cavalry, or was identified with any other military subgroup; see Ömer Lütfi Barkan, "Edirne Askeri Kassamı'na Ait Tereke Defterleri (1545-1659)," *Belgeler* III (1968): 15-17. In fact, it is difficult to make *any* kind of intragroup distinction based on titles. It may be a fact that an *Ağa* in eighteenth-century Kastamonu had a higher military ranking and greater prominence than a *Beşe*, but we cannot easily make the same kind of distinction between a *Beşe* and a *Beğ*, given that these two titles were occasionally used interchangeably in court records. On this confusion, see Güçlü Tülüveli, "Honorific Titles in Ottoman Parlance: A Reevaluation," *International Journal of Turkish Studies* 11 (2005): 21-23.

13. Other designations that indicate affiliation with the religious establishment accompanied these titles. *Efendi* was a title used for the most respected and higher ranking members of the religious establishment. The names of virtually all *qadis*, *miiftis*, and other important members of the religious establishment were accompanied by this title. *Molla* was a title officially given to high-ranking judges and *medrese* teachers. In Kastamonu, however, this title frequently referred to *medrese* students and dropouts as well as individuals who had low-ranking religious and scribal positions in local charitable endowments. *Halife* is a designation generally used in mystical orders. Yet, in Kastamonu, this title was frequently used for the lower ranking members

of the religious establishment, most notably prayer leaders (*imams*) in neighborhood mosques. *Çelebi* was a generic title used, at least in eighteenth-century Kastamonu, generally for individuals who possessed some religious education or were affiliated with influential *ulema* families; for other uses of this title in different contexts, see Tülüveli, "Honorific Titles," 17-28. A *Şeyh* was a head of a *tarikât*, and the title *Dede* was specifically used for senior dervishes. Cf. Gustav Bayerle, *Pashas, Begs, and Effendis: A Historical Dictionary of Titles and Terms in the Ottoman Empire* (Istanbul: Isis, 1997).

14. We have never encountered a military title holder who is later identified by a religious title or vice versa. And to the extent that we could determine, the use of titles for specific individuals remains constant in Kastamonu court records. For example, an Ahmed Ağa bin Hasan is never called Ahmed bin Hasan in a different entry.

15. However, and contrary to what one might expect from the above discussion, it is difficult to make assumptions about the economic position of a particular title holder or a man without title. Our earlier calculations indicate that in general, military and religious title holders were richer than men without titles. At the same time, we also discovered a significant degree of variation within each group. In particular, Ağas within the military and *Efendis* within the religious establishments appear to have been wealthier than their in-group counterparts. We also discovered that some men without titles were almost as wealthy as the richest members of the military and religious establishments. See Ergene and Berker, "Wealth and Inequality," 29-34.

16. Until recently, it was commonly assumed that the members of the military and religious establishments did not participate in artisanal and mercantile activities. This assumption has recently been discredited, especially for the period being studied in this article. In fact, we have found among the artisan testators in our sample many individuals from the lower echelons of the military establishment, in particular *Beşes*, a title that probably indicated membership in local Janissary divisions; cf. Eunjeong Yi, *Guild Dynamics in Seventeenth-Century Istanbul: Fluidity and Leverage* (Leiden and Boston: Brill, 2004), 132-43; André Raymond, *Cairo* (Cambridge, MA: Harvard University Press, 2000), 219; Bayerle, *Pashas, Begs, and Effendis*, 32. However, there is less evidence for the involvement of religious title holders in artisanal and mercantile endeavors.

17. Such religious markers did not qualify these individuals as members of the religious establishment; in fact, the epithets *Elhac*, *Seyyid*, and *Şerife* were frequently used by people from all status groups, including the military establishment and people with no other title attached to their names.

18. Cf. Hülya Canbakal, "On the 'Nobility' of Provincial Notables," *Provincial Elite in the Ottoman Empire*, ed. Antonis Anastasopoulos (Rethymno: Crete University Press, 2005), 39-50.

19. See Ergene and Berker, "Wealth and Inequality," 34-36. Also, see Suraiya Faroqhi, "Anatolian Townsmen as Pilgrims to Mecca: Some Evidence from the XVIth-XVIIth Centuries," in *Soliman le Magnifique et son temps, Recontres de l'École du Louvre*, ed. Gilles Veinstein (Paris: La Documentation Française, 1992), 309-25.

20. We excluded from our sample incomplete estates and estates without sons or daughters as heirs. We also excluded inventories of those who were not inhabitants of Kastamonu but died while they were visiting the town.

21. For this study, we consulted the microfilm copies of Kastamonu court records stored in the National Library of Turkey, in Ankara. This collection begins in 1684 and includes the eighteenth and nineteenth centuries. Some of the earliest registers, however, are in relatively poor condition and lack significant numbers of pages. Hence, we chose to start our research at a later date, when the quality of documentation improves.

22. Estate inventories prepared in court only included the private holdings (*mülk*) of the deceased. Tax farms and state-owned land (*miri*) to which individuals had usufruct rights (*mukataa*) were not included in these inventories. Such sources of revenue could devolve from father to son (and sometimes to wife and daughter) in perpetuity but could also be taken away by the government at any moment. See Ömer Lütfi Barkan, "Türk Toprak Hukuku Tarihinde

Tanzimat ve 1274 (1858) Tarihli Arazi Kanunnamesi,” in *Türkiye’de Toprak Meselesi* (Istanbul: Gözlem Yayınları, 1980), 172; also, see Duben, “Turkish Families,” 83.

23. Süleyman Özmucur and Şevket Pamuk, “Real Wages and the Standards of Living in the Ottoman Empire, 1469-1914,” *Journal of Economic History* 62, no. 2 (2002): 293-321. We took the period between 1740 and 1749 as our base period since a majority of the price observations used in this article are from circa 1745.

24. See Ergene and Berker, “Wealth and Inequality,” 26. Also, see Rossitsa Gradeva, “Towards a Portrait of ‘the Rich’ in Ottoman Provincial Society: Sofia in the 1670s,” in *Provincial Elite in the Ottoman Empire*, ed. Antonis Anastasopoulos (Rethymno: Crete University Press, 2005), 152-63; Jean-Paul Pascual and Colette Establet, *Familles et fortunes à Damas: 450 foyers damascains en 1700* (Damascus: Institut français de Damas, 1994), 31-32.

25. There is, however, no indication that females are underrepresented as heirs; cf. Margaret Meriwether, *The Kin Who Count: Family and Society in Ottoman Aleppo 1770-1840* (Austin: University of Texas Press, 1999), 153-77.

26. *Terekes* also fail to indicate how long after the testator’s death estates were divided among heirs. According to Meriwether, delaying the divisions, sometimes as much as thirty years, was common in Ottoman Aleppo; *ibid.*

27. Cf. Meriwether, *Kin Who Count*, 153-77; Kuran, “Islamic Commercial Crisis.”

28. As a measure of wealth inequality, the Gini coefficient can be any value between 0 and 1. It would be 0 if wealth were distributed absolutely equally and 1 if one single individual were to possess all wealth in a given society; see Frank Cowell, *Measuring Inequality* (London: Prentice Hall, 1995), 25. The Gini coefficient ranges from 0.24 (Japan) to 0.41 (United States) in the industrialized world, from 0.19 (Azerbaijan) to 0.41 (Turkmenistan) in the former Eastern Bloc countries, and from 0.29 (Rwanda) to 0.74 (Namibia) in the rest of the world; see *U.N. Human Development Report 2006* (New York: Palgrave Macmillan, 2006), 335-38.

29. The average number of sons per testator ranged from 2.14 (among estates that belonged to religious title holders) to 2.71 (among estates that belonged to pilgrims). For daughters, this figure ranged from 2.37 (religious title holders) to 2.97 (pilgrims).

30. Since there are very few female pilgrims and descendants of Muhammad in our sample, we made no attempt to differentiate their inheritance patterns from those of other female testators. This will also be the case for the estimations presented in the rest of this article.

31. Cf. Ergene and Berker, “Wealth and Inequality.”

32. As indicated, title-based distinctions are specific to men. So are occupational markers. Although we found pilgrims and descendants of Muhammad among female testators, their numbers are too few to reliably estimate the differences between estates owned by these women and the rest of the female-owned estates.

33. Because the stayer group is a reference group by construction, we normalize by setting the coefficients for stayers to zero ( $\beta_{\text{stayer}} = 0$ ).

34. To make the interpretation of results accessible, we reported  $e^{\beta_{\text{moversup}}}$  and  $e^{\beta_{\text{moversdown}}}$ .

35. In our calculations, we did not distinguish between shares inherited by sons and daughters, because we are not interested in the absolute differences between these types of shares. According to Islamic law of inheritance, the shares inherited by sons and daughters are supposed to have a constant relationship in a given estate, so no difference should be expected between them in terms of their wealth mobility.

36. We have also made regression estimations using female-owned estates to identify geographical (urban vs. rural) and generational (fathers’ title and religious status) variations among inheritance shares with different types of mobility. Our calculations of the size and statistical significance of the relevant coefficients are not considerably different from those that we calculated for estates owned by men.

37. Ergene and Berker, “Wealth and Inequality.”

38. Our calculations excluded the variables not included in particular scenarios. Furthermore, we decided to include in our calculations only the average values of the wealth-based and demographic factors (introduced in Table 8) for our sample, because these variables are highly correlated with the title-based, geographical, occupational, and generational variables used in the estimations.