How Are Bequests Divided Among Children? The Case of Japan[1]

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Abstract

This paper analyzes how bequests are divided among children in Japan and what determines how they are divided using administrative data from inheritance tax returns filed during the 2014-21 period. We find that bequests in Japan are not divided equally among children, unlike in most other countries, and that males, especially eldest sons, tend to receive larger shares, even though the law dictates equal bequest division among

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children. This might be a vestige of social norms arising from Japan's traditional family system, the so-called *ie* system. We also find that minor children, disabled children, children who lived close to (and presumably provided care to) the decedent, and children who take over the family business receive larger shares of the bequest than other children, which provides support for altruistic, strategic, and dynastic bequest motives.

Key words: bequests, bequest division, estates, inheritances, intergenerational transfers, gender, wealth inequality, Japan
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1. Introduction

Wealth inequality has attracted increasing attention in recent years as there has been a resurgence in wealth inequality since the 1980s in many parts of the world (e.g., Piketty, 2014; Saez and Zucman, 2016). Indeed, it is widely recognized that household wealth is distributed less equally than income or consumption expenditure (Davies and Shorrocks, 2000). Household wealth arises primarily from life-cycle saving and/or from transfers from others, including bequests and *inter vivos* transfers from one's parents (hereafter referred to collectively as intergenerational transfers). Davies and Shorrocks (2000) come to the conclusion that a reasonable estimate of the contribution of intergenerational transfers to aggregate household wealth is about 35-45% based on a review of the existing work on the relative importance of such transfers. More recently, Piketty (2011) shows that the importance of bequests has been on the rise in France since the 1950s with an acceleration of the trend during the past 30 years. Intergenerational transfers are therefore likely to play an important role in determining wealth accumulation and hence wealth inequality.

If intergenerational transfers matter for wealth inequality, it is important to know how wealth is passed on across generations. Do parents divide their bequests equally among their children? Do they leave more or all to a given child such as the eldest son? Do they leave more to sons than to daughters? These are important questions not only for their own sake but also because they have profound implications for the extent to which wealth disparities are passed on from generation to generation. Nevertheless, data limitations pose a significant challenge for analyzing the division of bequests. Given that bequest division takes place after the bequeather passes away, information on the actual division

of bequests is hardly ever collected in household surveys. Moreover, while bequests tend to be left disproportionately by affluent households, such households are usually underrepresented in household surveys. As a result, empirical work on the division of bequests remains limited, especially outside the United States (US).

The main aim of this paper is to fill this gap in the literature by examining how bequests are divided among children in Japan and what determines how they are divided. The key contributions of this paper to the literature are twofold. First, this paper is the first paper ever written that uses administrative data from inheritance tax returns in Japan, which are collected by the National Tax Agency of the Government of Japan and provided by the National Tax College. The use of administrative data helps overcome the aforementioned data limitations and allows us to obtain a more accurate picture of bequest division in Japan. Doing such an analysis for Japan is meaningful because it enables us to determine whether the previous findings based on administrative data for the US and European countries apply to Japan, or more generally to Asian countries, where the family as an institution may be different from what it is in Western societies.

Second, to the best of the authors' knowledge, this paper is the first paper to carefully analyze the role of social norms relating to the gender and birth order of children in determining the division of bequests in a non-Western country that focuses on the upper tail of the wealth distribution instead of relying on a broader but smaller sample from a household survey. Given that a large share of bequests is left by affluent households, it is equally important, if not more so, to look at how bequests are divided among children at the upper tail of the wealth distribution. The findings of our analysis have important implications not only for wealth disparities among siblings but also for wealth inequality more generally.

The rest of the paper is organized as follows. Section 2 describes the theoretical framework. Section 3 reviews the literature with particular emphasis on the empirical evidence on bequest division. Section 4 explains the Japanese context. Section 5 describes the data and estimation methods. Section 6 presents descriptive statistics as well as the estimation results. Section 7 summarizes the key findings and discusses some policy implications.

2. Theoretical Framework

How parents divide their bequests among their children is closely related to why they leave bequests. There has been extensive theoretical and empirical work on bequest motives.[3] Theoretical models of bequest motives can be grouped largely into three categories depending on whether bequests are assumed to be accidental, altruistic, or strategic. This section goes through these models and discusses their implications for bequest division.

The first category of models is an extension of the life-cycle model whereby parents are assumed to have no bequest motive. According to this model, because of uncertain lifetimes and precautionary saving for unforeseen income or health shocks, a positive amount of wealth may be left unconsumed and passed onto the next generation (Davies, 1981; Hurd, 1987, 1989). Since such bequests can be considered accidental or involuntary, the model does not offer any predictions about how bequests will be divided among children.

The second category of models is based on the altruistic model. This model assumes that parents are altruistic vis-à-vis their children and that they derive utility from their own consumption as well as from their children's consumption (Barro, 1974; Becker and Tomes, 1979; Becker, 1991). Altruistic parents are thus assumed to care about the welfare of their children and to use transfers to compensate for the lower earnings of their children and/or earning differences among their children. What this model implies for bequest division is that parents will divide their bequests unequally, leaving more to children with less resources of their own and/or less earnings capacity.

The third category of models is based on the strategic model whereby parents are assumed to leave a bequest only if their children provide something in return such as providing care and financial assistance during old age or taking over the family business (Kotlikoff and Spivak, 1981; Bernheim et al., 1985; Cox, 1987). What this model implies for bequest division is that parents will divide their bequests unequally, leaving more or all of their bequests to children who provide something in return. Similarly, Chu (1991) constructs a theoretical model that assumes that parents care only about minimizing the probability of their family line becoming extinct. In this model, parents are expected to leave their entire

[3] See, for example, Arrondel and Masson (2006) and Laferrère and Wolff (2006) for a comprehensive review of the literature on bequest motives.

bequest to one child (e.g., the eldest son) because this is the bequest division rule that minimizes the risk of the extinction of the family line. This is sometimes referred to as the dynastic motive.

This review of theoretical models of bequest motives shows that each model has different implications for bequest division, but, interestingly, none of the models presented thus far predicts the equal division of bequests. As the next section reveals, this is in sharp contrast to what empirical studies find. Empirical studies predominantly find that bequests tend to be divided equally, at least in the US where the majority of previous studies have been conducted thus far. Such an inconsistency is sometimes referred to as the "equal division puzzle." In more recent years, a number of theoretical models have been proposed to explain this puzzle. For example, Stark (1998) constructs a theoretical model in which altruistic parents choose to divide their bequests equally among their children because their children experience disutility if they receive a smaller bequest than their siblings (what Stark (1998) calls "relative deprivation").

Similarly, Bernheim and Severinov (2003) assume that each child's perception of parental affection directly affects his/her subjective well-being but that, as a result of an asymmetry of information, children cannot directly observe their parents' preferences and instead infer these preferences from their parents' actions, including bequests. These assumptions imply that parents will divide their bequests equally in order to signal that they love their children equally. The theoretical model of Bernheim and Severinov (2003) can also explain the fact that *inter vivos* transfers tend to be divided unequally, as the next section shows, given that *inter vivos* transfers are less observable and thus that parents do not need to worry about sending signals of favoritism. Conversely, Farmer and Horowitz (2011) show that equal division may also result if there is an asymmetry of information in the opposite direction. They show that, if parents do not know for sure how much affection each of their children has for them and how willing each child is to relocate to be close to them, they may decide to divide their bequests equally.

The theoretical models put forward by Stark (1998) and Bernheim and Severinov (2003) might be considered as variations of the altruistic model whereas the model of Farmer and Horowitz (2011) might be considered as a variation of the strategic model. Whichever bequest motive is assumed, these more recent models can explain the equal division of bequests among children.

Of the theoretical models reviewed in this section, which model applies in the case of Japan? Horioka (2014) conducts an international comparison analysis of bequest motives using data from the Preference Parameters Study of Osaka University, which was conducted in China, India, Japan, and the US. He finds that about 60% of Japanese respondents have no (or a weak) bequest motive (i.e., they are planning to leave bequests to their children only if there is something left over). This implies that a relatively large share of bequests can be considered as accidental in the case of Japan. By contrast, only about 30% of respondents have no bequest motive in the US. Horioka (2014) also finds that altruistic bequest motives are less common in Japan (34%) than in the US (67%) whereas the share of respondents with a strategic bequest motive (including a dynastic motive) is found to be relatively small in both Japan (6%) and the US (3%). Similar findings are obtained for Japan in Niimi (2019).

The fact that a relatively large share of parents have an altruistic bequest motive may explain the commonly obtained finding of equal bequest division in the case of the US if we consider the theoretical models of Stark (1998) and Bernheim and Severinov (2003). As for Japan, given that bequests tend to be accidental, we cannot resort to theoretical predictions about bequest division, and how bequests are divided is an empirical question. In addition, note that the previous work on bequest motives for Japan is based on household survey data in which affluent households are likely to be underrepresented. It is therefore not clear a priori whether affluent parents, on which the present analysis focuses, are also likely to have no (weak) bequest motive as the previous studies have shown (e.g., Horioka, 2014; Niimi, 2019). Hence, we will resort to an empirical analysis based on inheritance tax returns to see how bequests are divided among children in Japan.

3. Literature Review

This section reviews the literature on bequest division with a focus on empirical studies. By far the largest number of studies have been conducted in the US thus far. Earlier studies for the US primarily use probate records or estate tax returns and tend to find strong evidence in favor of equal division (e.g., Menchik, 1980; Tomes, 1988; Wilhelm, 1996; Edlund and Kopczuk, 2009). For example, Menchik (1980) analyzes probate records for the State of Connecticut and finds that bequests are divided equally between children of opposite sex and that first-born or earlier-born children do not receive larger shares than their later-born siblings. Similarly, Edlund and Kopczuk (2009) infer from

their findings concerning wealth mobility based on estate tax returns that the equal division of bequests had become the norm as early as the late nineteenth century.

Some of the more recent studies for the US use data from household surveys to analyze bequest division (e.g., Dunn and Phillips, 1997; McGarry, 1999; Behrman and Rosenzweig, 2004; Light and McGarry, 2004; Norton and Taylor, 2005; Fahle, 2025). For example, Behrman and Rosenzweig (2004) find, using data from a survey of twins from the Minnesota Twin Registry, that the majority of parents divide their bequests equally and that this tendency is observed throughout the wealth distribution, not just at the top of the tail, on which previous studies that are based on probate records or estate tax returns have focused. Similarly, using data from a longitudinal survey of deceased elderly persons linked to probate court records, Norton and Taylor (2005) show that between 70 and 83% of bequests are divided equally, depending on the strictness of the definition of equal division they employ. Using data from the Health and Retirement Study (HRS) and the Asset and Health Dynamics among the Oldest Old (AHEAD) survey, McGarry (1999) also finds that bequests tend to be divided equally among children though *inter vivos* transfers are likely to go disproportionately to less well-off children. Finally, Fahle (2025) looks at patterns of bequest division for different asset types based on HRS data and finds that bequests other than housing assets and life insurance are typically divided equally while housing assets and life insurance, particularly the former, are divided unequally, often being left to children who provided care.

Other studies examine parents' intentions regarding bequest division (e.g., Light and McGarry, 2004; Norton and Van Houtven, 2006; Francesconi et al., 2023). For example, using data on mother-to-child intergenerational transfers from the National Longitudinal Surveys of Young Women and Mature Women, Light and McGarry (2004) find that only 8% of women intend to divide their bequests unequally and those who are planning to divide their bequests unequally plan to do so for altruistic, strategic, or evolutionary motives (i.e., the desire to perpetuate one's genes), with the last motive implying that more is left to biological children than to adopted children or stepchildren. Similarly, Francesconi et al. (2023) find based on HRS data that nearly two-thirds of those with a will plan to divide their bequests equally while the remaining one-third plan to divide their bequests unequally among their children, with the latter tendency being stronger for those with stepchildren or genetic children with whom they have little or no contact. Norton and Van Houtven (2006) also find, using AHEAD survey data, that about 95% of respondents plan to divide their bequests equally and that their intentions are not

influenced by whether or not they receive care from their children. However, they do find that, if a parent gives any *inter vivos* transfers at all, he/she is more likely to give them to children who provide care.

In sum, empirical studies for the US predominantly show that bequests are divided equally among children although some studies find that *inter vivos* transfers tend to be distributed less equally (e.g., Dunn and Phillips, 1997; McGarry, 1999; and Norton and Van Houtven, 2006).

As far as European countries are concerned, the Royal Commission on the Distribution of Wealth (1977) analyzes a sample of estates probated in England and Wales in 1973 and finds that bequests are divided unequally in more than half of the cases, with the most favored child in two-child families receiving, on average, about 62% of the total bequest to children. By contrast, using data from the Survey of Health, Ageing and Retirement in Europe (SHARE), Angelini et al. (2025) show for various European countries that bequests, being more visible and subject to legal restrictions on their division, tend to be divided equally among children while *inter vivos* transfers are less conspicuous and often distributed unequally. In the case of Sweden, Ohlsson (2007) analyzes data on estate reports for 230 widows, widowers, and divorcees from the city of Stockholm and finds that only 7-25% of bequests are divided unequally. Similarly, using administrative data on all Swedes who passed away during the 2002-04 period, Erixson and Ohlsson (2019) find that only 14-16% of decedents divide their bequests unequally. Thus, although the number of empirical studies for Europe is limited, they suggest the tendency of equal division of bequests, as in the case of the US, with the possible exception of the United Kingdom (UK).

As for Asian countries, Ho (2022) shows, using data from the 2018 Singapore Life Panel, that approximately three-quarters of parents intend to divide their bequests equally among their children in Singapore and that those who do not intend to divide their bequests equally plan to leave more to coresident children, children who provide greater material support, or children in whom they confide frequently. By contrast, Kim and Lim-Soh (2024) show, using data from the Korean Longitudinal Study of Ageing, that bequests are divided unequally in South Korea, with first-born sons receiving the lion's share, followed by first-born daughters and later-born sons, and later-born daughters receiving the least. They also show that, while physical contact and caregiving increase a child’s likelihood of receiving a larger share, they do not alter patrilineal traditions in bequest division.

Turning finally to studies for Japan, Hamaaki et al. (2019) analyze data from the Family and Lifestyle Survey and find that the division of bequests at the time of the death of the surviving spouse (so-called secondary inheritances) deviates from equal division in about 70% of cases. Their empirical analysis of the determinants of bequest division among heirs shows that bequests are divided partly in accordance with dynastic and strategic motives but not in accordance with altruistic motives. For example, they find that children who live with their parents (and presumably provide care to them) tend to receive a larger share of the bequest, which suggests that bequests can be regarded as an implicit payment for care that children provided to their parents.

While Hamaaki et al. (2019) analyze data on actual bequest division, there are some studies that analyze parents' intentions regarding bequest division in Japan. For example, using data from the Comparative Survey on Saving in Japan and the US, Horioka et al. (2000) find that, among those who intend to leave a bequest to their children, about 47% of Japanese respondents plan to divide their bequests equally among their children, about 31% plan to leave more or all of their bequests to the child or children who take care of them, and about 8% plan to leave more or all of their bequests to their eldest child even if he/she did not take care of them whereas the corresponding figures for the US are about 87%, 3%, and 2%, respectively. Similar findings are obtained for Japan using data from a different survey in Horioka (2002).

Taken together, the empirical evidence suggests that equal division is the most common bequest division method in the US where the majority of previous studies on bequest division have been conducted. As for other countries, the evidence is mixed. The tendency of equal division is found in most European countries and Singapore while it is less common in Japan, South Korea, and the UK. However, note that empirical evidence remains scarce outside the US and that, in the case of Japan, Hamaaki et al. (2019), the only empirical study of actual bequest division, relies on a relatively small sample. The present study therefore aims to fill the gap in the literature by examining how bequests are divided among children using data from inheritance tax returns filed during the 2014-2021 period. In particular, it tries to carefully analyze the role of social norms relating to the gender and birth order of children in determining the division of bequests.

4. The Japanese Context

This section briefly describes the Japanese context regarding bequests with a focus on transfers from parents to children.

Inheritance Law

The family law portion of Japan's postwar Civil Code, which was passed in 1947, stipulates that all parental assets be divided equally among one's children. This was a significant modification from the prewar Civil Code passed in 1898, which stipulated that all parental assets go to the eldest son and that all other children receive nothing. More specifically, according to the current Civil Code, in the case of the death of one of the spouses, the surviving spouse's statutory share is half of the bequest of the decedent and the other half is divided equally among the children. In the case of the death of the surviving spouse, the bequest is divided equally among the children. In either case, parents can divide their bequests among their children in a different way if they leave a will, but they cannot totally disinherit any of their children and need to leave each child at least one-half of his/her statutory share.

Inheritance Tax System

Japan's inheritance tax system is unique in the sense that it incorporates elements of both the estate tax system and the inheritance tax system.[4] In the case of Japan, while the person receiving the bequest (the heir) bears the tax liability, the amount of tax to be paid by the heir is determined not only by the value of the bequest that he/she received but also by the total value of the bequest left by the decedent as well as the number of statutory heirs and their statutory shares.[5] More specifically, to determine the tax amount, the basic deduction is first subtracted from the estate value. It is then assumed that the remaining amount is divided among statutory heirs according to their statutory shares regardless of the actual division of the bequest. Based on this assumption, the statutory amount of the bequest corresponding to each statutory heir is calculated and a progressive tax rate is applied to this amount for each statutory heir to calculate his/her tax amount. The total amount of inheritance tax is then calculated as the sum of the tax amount for all statutory

[4] This subsection is based mainly on Niimi (2019). See also Niimi (2023) for more details.

[5] In Japan, if the decedent has one or more children, statutory heirs, in principle, consist of the surviving spouse and his/her child(ren) in the case of primary inheritances and of his/her child(ren) only in the case of secondary inheritances.

heirs. Finally, the total tax amount is allocated among heirs according to the actual share of the bequest received by each heir to calculate his/her individual tax liability. At this stage, tax credits, such as those for spouses and minors, are taken into account based on the relationship between the decedent and the heir in order to determine each heir's final tax liability.[6]

Under the current system, the basic deduction of the inheritance tax is set at "30 million yen plus 6 million yen multiplied by the number of statutory heirs." For example, if the decedent had a wife and two children, the number of his statutory heirs would be three and the basic deduction in this case would be 48 million yen (about US$300,000).[7] The level of the basic deduction was lowered by 40% from "50 million yen plus 10 million yen multiplied by the number of statutory heirs," effective January 1, 2015, pursuant to the 2013 Tax Reform. If the total value of the decedent's estate exceeds the level of the basic deduction, his/her heirs are required to pay an inheritance tax on the taxable amount of the bequest received unless they claim tax credits that reduce their tax liability to zero. As part of the 2013 reform, the number of tax brackets for the inheritance tax was also increased from six to eight and the tax rate for the highest bracket (a taxable amount of more than 600 million yen (about US$3.75 million)) was raised from 50% to 55%.

As for *inter vivos* transfers, a gift tax is imposed on the value of such transfers in Japan. There is an annual exemption of 1.1 million yen (about US$6,875) per recipient. Effective January 1, 2015, the gift tax structure was also revised so that a lower tax rate applies to the children or grandchildren of the donor. On the other hand, the tax rate for the highest bracket (a taxable amount of more than 45 million yen (about US$280,000) in the case of transfers from parents or grandparents to children or grandchildren and of more than 30 million yen (US$187,500) in other cases) was raised from 50% to 55%. In addition, there are currently various tax exemptions for gifts from parents and grandparents that are used for housing acquisition, education, marriage, or childcare.

Note that the basic deduction of the inheritance tax was raised previously in 1988 in response to a sharp rise in asset prices. This resulted in a significant increase in the

[6] In Japan, the surviving spouse is entitled to a substantial tax credit of 160 million yen (about US$1 million) or the amount of his/her statutory share of the estate, whichever is larger. Minors under the age of 18 and those with disabilities are also eligible for a tax credit. There is also a separate tax payment postponement system for business and agricultural assets that facilitates the succession of family businesses and farms.

[7] Conversions are made based on an exchange rate of US$1 = 160 Japanese yen throughout the paper.

average amount of taxable estates and a reduction in the proportion of decedents with taxable estates in that year. The reduction in the basic deduction of the inheritance tax in 2015 can therefore be considered as a reflection of the government's desire to restore the deduction level to the level prior to the 1988 reform in the face of declining asset prices. In other words, the reduction in the basic deduction of the inheritance tax as well as the increase in inheritance tax rates in 2015 were implemented mainly to respond to the significant reduction in land values since the collapse of the bubble economy and to prevent the persistence of inequality. While the proportion of taxable estates reached almost 8% in 1987, it had been just over 4% since the mid-2000s (4.4% in 2014).[8] However, as a result of the aforementioned inheritance tax reform that became effective on January 1, 2015, it nearly doubled to 8.0% in 2015.

In terms of comparisons with other countries, the share of wealth transfer tax (i.e., estate, inheritance, and gift tax) revenue in GDP was about 0.51% in Japan in 2022.[9] Although this is lower than that in France (0.70%), South Korea (0.68%), and Belgium (0.65%), it is higher than that in other OECD countries. These figures indicate that wealth transfer taxes are not a major source of revenue in most countries. Moreover, a number of countries have repealed such taxes entirely since the 1970s, including Australia, Austria, Canada, New Zealand, Norway, and Sweden.

Inheritance Customs

Japan's traditional family system (the so-called "*ie*" system) that dates back to the Edo Period (1603-1868) stipulates that the eldest son becomes the new household head, inherits the family estate, and carries on the family line after the death of the father. The Civil Code that was enacted in 1898 during the Meiji Period (1868-1912) incorporated this tradition and specified that the eldest son would receive the parents' entire estate.[10] Hence, the social norm during this period was for the eldest son and his wife to live with his parents, to take care of his parents, and to receive his parents' entire estate although this social norm was not necessarily adhered to universally.

[8] The figures in this paragraph were taken from the Ministry of Finance (https://www.mof.go.jp/tax_policy/summary/property/e07.htm, accessed on February 2, 2025).
[9] The figures in this paragraph were taken from OECD Revenue Statistics (https://stats.oecd.org/Index.aspx?DataSetCode=REV, accessed on February 2, 2025).
[10] See Ohtake (1996) and Hamaaki et al. (2019) for more details regarding inheritance customs in Japan.

The same social norm continues to be followed to some extent even during the postwar period, but as noted earlier, the postwar Civil Code that was enacted in 1947 specifies that bequests be divided equally among children regardless of the gender or the birth order of the child. In this regard, the prewar social norm is in principle inconsistent with Japan's postwar Civil Code, and families cannot adhere to this norm unless parents leave a will (although they cannot totally disinherit any of their children, as noted earlier) and/or all children other than the eldest son voluntarily relinquish their right to inherit. Partly as a result, prewar social norms have weakened over the course of the postwar period although they have not disappeared entirely.

In the case of Japan, it is uncommon for parents to leave a will. According to Hamaaki et al. (2019), less than 10% of decedents leave a will in Japan. Moreover, as noted in the previous section, parents tend to have no (or a weak) bequest motive and bequests are therefore likely to be accidental in the case of Japan. This implies that parents may have no strong opinion regarding how bequests should be divided among their children. If that is the case, heirs may follow what the Civil Code stipulates, leading to equal division among children. Nevertheless, in practice, the division of bequests is usually decided through negotiations among heirs in Japan and all heirs are required to agree to the distribution of the bequest before an inheritance tax return can be filed. Hence, the bargaining power of each heir is likely to play as important a role in bequest division as social norms and statutory shares, but the bargaining power of each heir itself may be influenced by social norms. We may therefore not observe the equal division of bequests among children in Japan despite what the Civil Code states. Furthermore, it is not clear a priori whether affluent parents, on whom the present analysis focuses, have no (or a weak) bequest motive, as previous studies on bequest motives for Japan, which rely on household survey data, have shown (e.g., Horioka, 2014; Niimi, 2019). Thus, how bequests are divided among children and what determines the way bequests are divided in Japan is an empirical question. In the following sections, we present empirical evidence on these two issues.

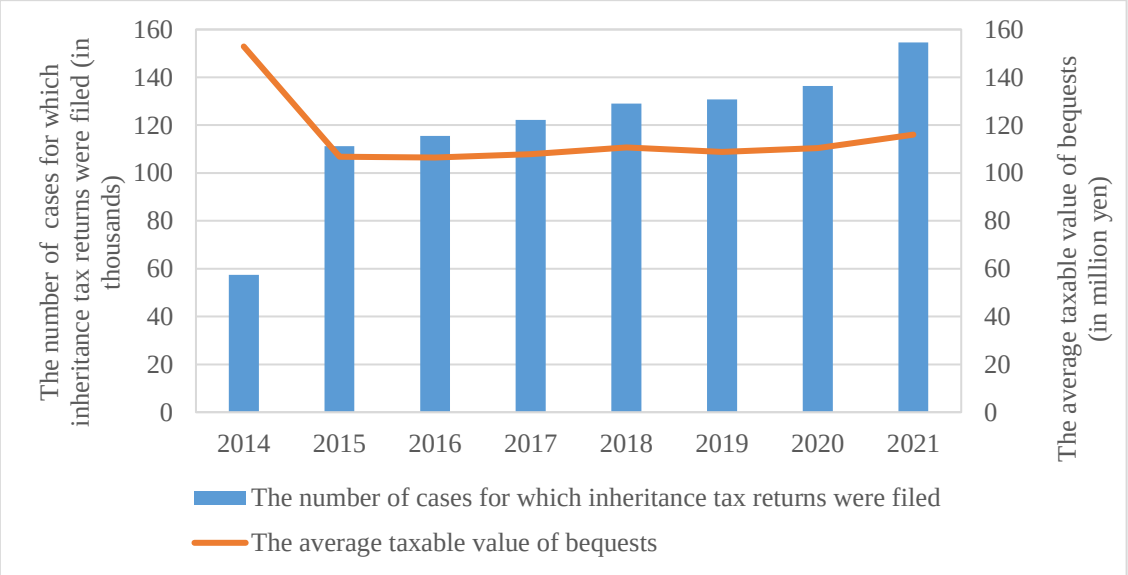
5. Data and Empirical Methods

5.1 Data

For our empirical analysis, we use administrative data from inheritance tax returns filed during the 2014-21 period, which were collected by the National Tax Agency of the

Government of Japan and provided by the National Tax College. During this 8-year period, a total of 1,309,750 inheritance tax returns were filed. However, there were cases in which multiple inheritance tax returns were filed for the same decedent either because multiple heirs filed separate returns, because the same heir filed multiple returns (the original return as well as revised returns), or both. For the present analysis, we analyze cases in which only one inheritance tax return was filed for a given decedent to avoid possible inconsistencies among the returns filed for the same decedent in the case of multiple returns. This consists of 994,072 cases. Cases in which only one inheritance tax return was filed for a given decedent are basically cases in which the heirs filed their inheritance tax returns jointly. In the case of Japan, heirs tend to file their inheritance tax returns jointly rather than filing them separately, perhaps partly because of how the amount of inheritance tax is calculated for each heir, as described in the previous section. After removing cases in which information on the relationship between the decedent and the heir is missing, the taxable value of the bequest left by the decedent is zero, and the total taxable value of the bequest left by the decedent and the sum of the taxable values of the bequest that each heir received do not match, we are left with 956,781 cases.

Figure 1. The number of cases for which inheritance tax returns were filed (in thousands) and the average taxable value of bequests (in million yen) by year



Note: The average taxable value of bequests is expressed in 2020 prices.
Source: Authors' calculations based on administrative data from inheritance tax returns collected by the National Tax Agency of the Government of Japan and provided by the National Tax College.

Figure 1 shows the number of cases for which inheritance tax returns were filed in each year based on the 956,781 cases described above. There was a significant increase in the number of such cases in 2015 because of the reduction in the basic deduction of inheritance tax in that year, as explained earlier, and it has been steadily increasing since then. Indeed, according to the Ministry of Finance, the proportion of taxable estates increased from only about 4.4% in 2014 to about 9.9% in 2023.[11]

Figure 1 also shows the average taxable value of bequests (expressed in 2020 prices) for each year. In inheritance tax returns, the taxable value of bequests is calculated as follows: First, the value of assets acquired through inheritance and the value of gifted assets that are subject to the Taxation System for Settlement at the Time of Inheritance are added.[12] The value of funeral expenses and that of any debts that the decedent left are then subtracted from the above figure. If this net value is negative, it is treated as zero. Finally, the value of assets gifted within three years prior to the commencement of the inheritance is added to the net value. The average taxable value of bequests, shown in Figure 1, is the sum of the taxable value of bequests received by all heirs from a given decedent. Due to the reduction in the basic deduction of inheritance tax in 2015, we observe a decline in the average taxable value of bequests in that year.

Given that heirs are required to file inheritance tax returns only if the sum of the taxable value of bequests received by all heirs from a given decedent exceeds the basic deduction of the inheritance tax in Japan, the administrative data that we use for our empirical analysis contain, in principle, only cases in which the decedent left an estate whose value exceeded the basic deduction.[13] As a result, it should be borne in mind that the present analysis focuses on the upper tail of the wealth distribution.

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[11] The Ministry of Finance (https://www.mof.go.jp/tax_policy/summary/property/e07.htm, accessed on February 2, 2025). Note that while the statistics provided by the Ministry of Finance represent the proportion of estates for which heirs had to pay inheritance tax, the number of cases for which inheritance tax returns were filed, shown in Figure 1, includes cases in which heirs were not liable for inheritance tax due to various tax deductions and credits even though they filed inheritance tax returns.

[12] The Taxation System for Settlement at the Time of Inheritance is a gift tax option, which allows people aged 60 and above to transfer up to 25 million yen (about US$156,000) tax-free to lineal descendants (i.e., children or grandchildren) aged 18 and above, with taxes settled later upon the donor's death. Gifts are taxed at a flat rate of 20% if the total value of assets gifted in a given year exceeds the annual basic deduction of 1.1 million yen and the lifetime special deduction of up to 25 million yen. The amount of gift tax paid, if any, is regarded as prepayment of future inheritance tax liabilities. This option was introduced in 2003 to encourage earlier transfers of wealth to younger generations. To avail oneself of this system, one has to file a Report on Selection of the Taxation System for Settlement at the Time of Inheritance.

[13] Note that there are cases in which heirs were not required to pay any inheritance tax due to various tax deductions and credits even though they filed tax returns (about 16% of 956,781 cases). As a robustness check, we ran regressions without such cases, but the results were largely unchanged.

The average number of heirs for a given decedent was about 2.6 during the 2014-2021 period. As for the composition of heirs, cases in which only the surviving spouse, child(ren), or both were heirs constituted about two-thirds of all cases. Since the main aim of this paper is to examine how the bequest of the decedent is divided among children, we include only the latter two cases in our estimation sample. For the same reason, we exclude cases in which the number of statutory heirs excluding the surviving spouse is less than 2 and cases in which no child received any bequest even though their names were noted in the tax return documents. Furthermore, given that we are interested in how the gender and birth order of children affect bequest division among children, we include in the sample only cases in which all children were listed in inheritance tax returns (i.e., cases in which the number of children noted in the tax return documents equaled the number of statutory heirs excluding the surviving spouse).[14, 15] We also exclude cases in which information on the gender and birth order of any of the children as well as other required information for the regression analysis are missing. Our final estimation sample consists of 460,068 cases with 1,092,708 children.

5.2 Estimation Method

Since we are interested in examining how parental estates are divided among their children, we disregard the share of the decedent's estate that is received by the surviving spouse in the case of primary inheritances and define the actual share received by each child as the amount received by each child as a proportion of the total amount received by all children in the family. We then calculate the deviation ratio of each child's actual share from his/her statutory share (which is the reciprocal of the number of children since Japan's postwar Civil Code specifies equal division, as explained earlier). More specifically, following Hamaaki et al. (2019), child *i*'s deviation ratio is defined as:

$$deviation_{ij} = \frac{s_{ij} - \frac{1}{n_j}}{\frac{1}{n_j}} \tag{1}$$

where s_{ij} is the actual share of child *i* in family *j* in the total amount of bequests received

[14] Heirs are asked to indicate the number of statutory heirs in inheritance tax returns.

[15] This is likely to create a bias in favor of equal division, and thus our estimates of the likelihood of equal division should be regarded as an upper bound. Note, however, that we also tried estimating the regressions including such cases in the sample, but the results remained largely unchanged.

by all children in the family and n_j is the number of statutory heirs (excluding the surviving spouse in the case of primary inheritances, i.e., the number of children). Note that we use data on the taxable value of bequests, described above, in order to calculate the actual share of each child. Using this deviation ratio as our dependent variable, we estimate the following equation with family fixed effects:

$$deviation_{ij} = \alpha + \beta X_{ij} + \lambda_j + u_{ij} \quad (2)$$

where X_{ij} is a vector of the child i's characteristics, λ_j is a family fixed effect that varies across families but is shared by children in the same family, and u_{ij} is an error term.[16] Estimating a family fixed effect model allows us to control for observed and unobserved decedent- and family-level characteristics. The estimated coefficients therefore measure how each child's deviation ratio is related to his/her characteristics relative to other children in the family. Standard errors are clustered at the family level.

Our main variables of interest are dummy variables for the gender and the birth order of children. More specifically, we create five dummy variables, namely first-born eldest son, later-born eldest son, non-eldest son, first-born eldest daughter, and later-born eldest daughter, with non-eldest daughters being the reference category. Including these variables in the estimation model allows us to examine the importance of gender relative to the birth order of children for bequest division. If families adhere to what the postwar Civil Code dictates, we should observe the equal division of bequests among children and none of the coefficients on these dummy variables should be significant. However, if social norms still affect bequest division in Japan despite the revision of the Civil Code in 1947, we would expect the coefficients on some or all of these variables to be positive and significant.

We also include explanatory variables that allow us to assess the implications of the parent's bequest motive for bequest division. To test for the importance of the altruistic motive, we include dummy variables that equal one if the child is a minor or disabled. We identify children who are minors or disabled based on the information on whether or not they claimed the tax credit for minors or the disabled. If the decedent had an altruistic motive, we would expect him/her to allocate more to such children given that children

[16] While the dependent variable is left-censored at −1 by construction, the mass of observations at the censoring point is relatively small (about 4.9% of the estimation sample). Hence, the potential bias from ignoring the lower bound is likely to be limited in the present analysis.

who are minors or disabled are likely to have limited earning capacity (until they begin working in the case of minors). In this case, the coefficients on these variables should be positive and significant.

For the strategic motive, we include a dummy variable that equals one if the child is the only child who resided in the same municipality as the decedent. Unfortunately, we have no information on whether the child coresided with the decedent or whether the child provided care to the decedent. We therefore treat this variable as a proxy for the child's provision of care to the decedent on the grounds that the child is more likely to provide care to the decedent than his/her siblings if he/she was the only child who lived in the same municipality as the decedent. If the decedent had a strategic motive, we would expect the coefficient on this variable to be positive and significant.

For the dynastic motive, we include a dummy variable that equals one if the child is the only child who took over the family business or farm. We identify children who took over the family business or farm based on information on whether or not they inherited a positive amount of business or agricultural assets. If the decedent cared about the continuation of his/her family business or farm, he/she is likely to have allocated more to the child who took over the family business or farm. Hence, the coefficient on this variable should be positive and significant if the decedent had a dynastic motive.

Finally, we control for the age of the child by including in the estimation model his/her age and its square.

6. Empirical Results

6.1 Descriptive Statistics

Table 1 presents descriptive statistics for the variables used in the empirical analysis. To examine the prevalence of equal bequest division among children in more detail, Table 2 presents the percentage of children who received bequests according to their statutory shares (i.e., equal division). We also adopt less stringent definitions of equal division (i.e., we regard bequests as being divided equally if each child receives an equal share ±2%, 5%, or 10%). The table shows that only about 11% of children received bequests that exactly equaled their statutory shares. Even with the least stringent definition of equal division, only about 33% of children received bequests according to their statutory shares.

This suggests that, despite the fact that the Civil Code stipulates the equal division of bequests among children in Japan, this is not commonly practiced in reality. These figures are in sharp contrast to what has been found in the US or Sweden. For example, in the case of Sweden where parents are not allowed to totally disinherit their children, as in the case of Japan, Erixson and Ohlsson (2019) find that only 84-86% of decedents divide their bequests equally or roughly equally (equal share ± 2%), which is significantly larger than what we find for Japan.

Table 1. Descriptive statistics

Variables	Mean	Standard deviation
Deviation ratio	-1.51e-11	0.610
Child's gender and birth-order		
First-born eldest son	0.220	
Later-born eldest son	0.131	
Non-eldest son	0.174	
First-born eldest daughter	0.201	
Later-born eldest daughter	0.125	
(Non-eldest daughter)	0.149	
Child's age	54.913	10.611
Child's age squared	3128.054	1092.532
Bequest motive-related variables		
Minor	0.006	
Disabled	0.044	
Living in the same municipality	0.184	
Took over the family business/farm	0.028	
Number of observations	1,092,708	

Source: Calculations based on administrative data from inheritance tax returns collected by the National Tax Agency of the Government of Japan and provided by the National Tax College.

In the case of Japan, Hamaaki et al. (2019) find that bequests are divided equally in about 30% of secondary inheritance cases. Given that Hamaaki et al. (2019) use survey data, equal share in their case might be more in line with our broader definitions of equal division (i.e., equal share ± 5% or 10%) due to possible recall error. If that is the case, our figures for the prevalence of equal division in the case of secondary inheritances (not shown in the table but about 22% and 31% in the case of equal share ± 5% and 10%, respectively) are broadly consistent with the figure presented in Hamaaki et al. (2019) even though our sample consists only of relatively affluent decedents whereas Hamaaki et al. (2019) use a broader sample. Moreover, the prevalence of unequal division of bequests among children for Japan is similar to what Kim and Lim-Soh (2024) find for South Korea. They find that only about one-third of children received an equal share of

the bequest.

Table 2. The share of children who received bequests according to their statutory shares (%)

	Statutory share	Statutory share ± 2%	Statutory share ± 5%	Statutory share ± 10%	Number of observations
All	11.03	18.77	24.96	32.58	1,092,708
Mixed siblings	8.90	15.56	21.21	28.29	697,316
Male only	11.44	20.21	27.07	35.45	226,983
Female only	19.30	30.13	37.63	46.49	168,409
Urban	12.33	20.64	27.00	34.90	696,711
Rural	8.74	15.49	21.37	28.52	395,997
Deceased age					
70 or older	10.19	17.87	24.07	31.75	1,016,513
Younger than 70	22.24	30.76	36.76	43.66	76,195

Source: Calculations based on administrative data from inheritance tax returns collected by the National Tax Agency of the Government of Japan and provided by the National Tax College.

Table 3. Average actual share of bequests in the case of families with two children (%)

Birth order and gender of children	Sons	Daughters
First-born son + daughter	59.42	40.58
First-born daughter + son	60.26	39.74

Source: Calculations based on administrative data from inheritance tax returns collected by the National Tax Agency of the Government of Japan and provided by the National Tax College.

Table 2 also shows that bequests are less likely to be divided equally among children with siblings of mixed gender than among those with siblings of the same gender. It is interesting to find that bequests are most likely to be divided equally among children if children are all females. These findings suggest that birth order matters more in the case of sons than in the case of daughters. To shed more light on the relative importance of gender and birth order, Table 3 shows that the average actual share of bequests received by children by gender for families with two children of opposite sex. It shows that sons receive a larger share of the bequest than daughters regardless of whether they are older or younger with their share of the bequest being about the same (about 60%) in either case. In other words, the gender of the child seems to matter much more than birth order for bequest division in Japan, and eldest sons receive a larger share of the bequest than

other children whether or not they are the first-born child.

Table 2 also shows some other interesting trends. The equal division of bequests seems less prevalent in rural areas than in urban areas. This suggests that social norms may play a greater role in bequest division in rural areas than in urban areas[17]. Similarly, when the decedent passed away at a relatively young age (69 or younger), bequests are more likely to be divided equally among children than otherwise. This might be due to the fact that decedents who passed away at a young age are more likely to have passed away suddenly without having had time to consider how to divide their bequests among their children, as a result of which the bequest was divided equally pursuant to the Civil Code.

6.2 Estimation Results

We now turn to the estimation results. Table 4 shows the regression results for the full sample as well as for various subsamples. Looking first at the regression results for the full sample, we find some interesting trends. First, sons seem to receive more bequests than daughters, even after controlling for birth order. Looking at the magnitudes of the effects, in comparison to non-eldest daughters, being the first-born eldest son in the family, *ceteris paribus*, increases the deviation of actual share from statutory share by about 57 percentage points while being the first-born eldest daughter increases this deviation by only about 12 percentage points, and similarly for later-born eldest sons/daughters and non-eldest sons/daughters.

Looking at the impact of birth order controlling for gender, the amount by which the deviation of actual share from statutory share exceeds that of non-eldest daughters is higher for both first-born eldest sons and later-born eldest sons (about 57 and 64 percentage points, respectively) than it is for non-eldest sons (about 32 percentage points), suggesting that birth order matters considerably in the case of males. Moreover, note that the deviation of actual share from statutory share is substantial both for first-born eldest sons and later-born eldest sons, suggesting that what is important is whether the child is the eldest son, not whether he/she is the first-born child. By contrast, the amount by which the deviation of actual share from statutory share exceeds that of non-eldest daughters is only slightly higher for both first-born eldest daughters and later-born eldest daughters (about 12 and 16 percentage points, respectively), suggesting that birth order does not

[17] Following Hamaaki et al. (2019), we define urban areas as Saitama, Chiba, Tokyo, Kanagawa, Aichi, Kyoto, Osaka, Hyogo, and Fukuoka prefectures and rural areas as all other prefectures.

matter significantly in the case of females. This is consistent with what Table 3 shows.

Taken collectively, these results suggest that gender matters the most and that birth order matters more in the case of males than in the case of females, with the eldest son receiving the largest share whether or not he is the first-born child.

Turning to the impact of bequest motives for the division of bequests, the positive and significant coefficients on bequest motive-related variables suggest that parents' bequest motives play a role in bequest division. For example, the fact that being a minor or disabled increases the child's share of the bequest suggests that parents leave bequests partly for altruistic reasons. Similarly, we find that being the only child who lived in the same municipality as the decedent increases his/her share of the bequest. If we assume that having lived closest to the decedent is a proxy for the child's provision of care to his/her parent, the result seems to be in line with the theoretical model of the strategic bequest motive. Alternatively, given that bequest division tends to be decided through negotiations among heirs in Japan, having provided care to the decedent may give the child greater bargaining power in these negotiations. Finally, we find that the child is likely to receive a larger share of the bequest than otherwise if he/she is the only child who took over the family business or farm. This supports the theoretical model of the dynastic bequest motive, but this result might also be due partly to the fact that business assets are largely indivisible, meaning that it is more difficult to divide the bequest equally if business assets are included in the estate.

Table 4. Regression results

	All		Primary inheritance		Secondary inheritance	
	Coefficients	**S. E.**	**Coefficients**	**S. E.**	**Coefficients**	**S. E.**
Child's gender and birth-order (Non-eldest daughter)						
First-born eldest son	0.572***	0.005	0.631***	0.008	0.521***	0.007
Later-born eldest son	0.641***	0.004	0.679***	0.006	0.607***	0.005
Non-eldest son	0.316***	0.005	0.383***	0.007	0.261***	0.006
First-born eldest daughter	0.119***	0.003	0.122***	0.004	0.118***	0.004
Later-born eldest daughter	0.156***	0.004	0.168***	0.007	0.153***	0.006
Child's age	0.005***	0.002	0.007***	0.003	2.83e-4	0.002
Child's age squared	-5.96e-5***	1.38e-5	-7.24e-5***	2.2e-5	-2.26e-5	1.96e-5
Bequest motive-related variables						
Minor	0.458***	0.029	0.552***	0.033	-0.074	0.055
Disabled	0.305***	0.010	0.441***	0.016	0.196***	0.012
Living in the same municipality	0.333***	0.002	0.340***	0.003	0.328***	0.003
Took over the family business/farm	0.902***	0.007	0.901***	0.009	0.894***	0.010
Constant	-0.502***	0.044	-0.616***	0.061	-0.309***	0.067
Within R^2	0.221		0.235		0.209	
Number of observations	1,092,708		531,406		561,302	

Notes: *** denotes statistical significance at the 1% level. Standard errors are robust standard errors clustered at the family level.
Source: Estimation based on administrative data from inheritance tax returns collected by the National Tax Agency of the Government of Japan and provided by the National Tax College.

Table 4. Regression results (continued)

	Urban		Rural		Decedent (≥70)		Decedent (<70)	
	Coefficients	**S. E.**	**Coefficients**	**S. E.**	**Coefficients**	**S. E.**	**Coefficients**	**S. E.**
Child's gender and birth-order (Non-eldest daughter)								
First-born eldest son	0.483***	0.007	0.722***	0.009	0.572***	0.005	0.552***	0.021
Later-born eldest son	0.532***	0.005	0.822***	0.007	0.647***	0.004	0.541***	0.014
Non-eldest son	0.281***	0.006	0.370***	0.007	0.315***	0.005	0.336***	0.019
First-born eldest daughter	0.102***	0.004	0.147***	0.005	0.119***	0.003	0.106***	0.011
Later-born eldest daughter	0.145***	0.006	0.169***	0.007	0.157***	0.005	0.154***	0.018
Child's age	0.010***	0.002	-0.004	0.003	7.45e-4	0.002	0.002	0.004
Child's age squared	-1.02e-4***	1.72e-5	1.39e-5	2.29e-5	-2.31e-5	1.71e-5	5.79e-5	6.37e-5
Bequest motive-related variables								
Minor	0.445***	0.035	0.474***	0.051	-0.006	0.137	0.499***	0.030
Disabled	0.271***	0.012	0.347***	0.017	0.297***	0.010	0.474***	0.052
Living in the same municipality	0.287***	0.003	0.423***	0.004	0.339***	0.002	0.236***	0.009
Took over the family business/farm	0.873***	0.010	0.893***	0.010	0.893***	0.007	1.035***	0.027
Constant	-0.578***	0.055	-0.330***	0.073	-0.377***	0.055	-0.538***	0.075
Within R^2	0.174		0.302		0.223		0.191	
Number of observations	696,711		395,997		1,016,513		76,195	

Notes: *** and * denote statistical significance at the 1% and 10% levels, respectively. Standard errors are robust standard errors clustered at the family level.
Source: Estimation based on administrative data from inheritance tax returns collected by the National Tax Agency of the Government of Japan and provided by the National Tax College.

To examine whether the determinants of bequest division differ between primary and secondary inheritances,[18] between rural and urban areas, and between relatively young decedents and otherwise, we ran regressions separately for these cases. As Table 4 shows, the results are broadly similar to those obtained for the full sample. In all cases, we find that the gender of the child seems to matter more than his/her birth order for bequest division although birth order still plays a role in bequest division among children of the same gender, especially males. However, the table shows that such tendencies seem to be stronger in rural areas than in urban areas, suggesting that social norms relating to the gender and birth order of children in determining the division of bequests play a greater role in rural areas.

We also find that the gender and birth order of children play a greater role in determining bequest division in the case of primary inheritances than in the case of secondary inheritances. This suggests that parents conform to social norms more than their children since the surviving spouse presumably has some say in the negotiations in the case of primary inheritances. Our findings also show that the impact of being a minor or being disabled is significantly larger in the case of primary inheritances than in the case of secondary inheritances, which suggests that surviving spouses are more altruistic than the children themselves. Finally, we find that deviations from equal division tend to be smaller for relatively young decedents. This might be due to the fact that decedents who passed away at a relatively young age are more likely to have passed away suddenly without having had time to consider how to divide their bequests among their children, as a result of which the bequest was divided equally pursuant to the Civil Code.

7. Discussion and Conclusion

In this paper, we analyzed how bequests are divided among children in Japan and what determines how they are divided using administrative data from inheritance tax returns filed during the 2014-21 period that were collected by the National Tax Agency of the Government of Japan and provided by the National Tax College. We found that bequests are not divided equally among children in Japan, and our regression results suggest that the gender and birth order of children, especially gender, matter for bequest division and that the eldest son receives the largest share whether or not he is the first-born child. This

[18] While our analysis focuses on the division of bequests among children in the case of both primary and secondary inheritances, we need to be cautious when comparing the results for the two cases given that, in the case of primary inheritances, one of the heirs is the surviving spouse who is entitled to a generous tax credit, which may have an important bearing on the division of bequests among the heirs.

is in sharp contrast to what has been found in Western societies where the equal division of bequests among children is more prevalent and suggests that bequest division in Japan continues to be dictated at least partly by social norms arising from Japan's traditional family system (the so-called *ie* system). We also found that minor children, disabled children, children who lived close to (and presumably provided care to) the decedent, and children who take over the family business receive larger shares of the bequest than other children, which provides support for altruistic, strategic, and dynastic bequest motives. It thus appears that bequests are divided unequally among children in Japan for a variety of reasons, including social norms and parental bequest motives.

The only remaining question is how parents are able to divide their bequests unequally among children even though the postwar Civil Code stipulates the equal division of bequests among children and even though it is relatively uncommon for decedents to leave a will in Japan. One possibility is that the decedent conveys his/her wishes verbally or informally to his/her heirs before his/her death even though he/she does not leave an explicit will. Alternatively, when decedents live a long life, they will have had time to carefully consider how to divide their bequests among their children, making it less likely that they will divide it equally pursuant to the Civil Code. Our finding that deviations from equal division tend to be smaller for relatively young decedents who are more likely to have passed away unexpectedly without having had time to consider how to divide their bequest among their children suggests that this explanation is at least partly applicable.

There are also a number of alternative explanations, all of which rely on the fact that the division of bequests is decided through negotiations among heirs in the case of Japan. First, it could be that the surviving spouse, who often plays a central role in the negotiations, makes sure that the decedent's wishes are carried out. This explanation applies only in the case of primary inheritances, and the fact that the impact of variables relating to the gender and birth order of children and the altruistic motive is larger in the case of primary inheritances than in the case of secondary inheritances suggests that this explanation has some validity. Second, it could be that the heirs themselves adhere to traditional social norms and that, for example, sons who are not eldest sons and daughters voluntarily agree to less than an equal share. Third, it could be that the outcome of negotiations among heirs is influenced by how much bargaining power each heir has and that sons, especially eldest sons, children who lived close to (and presumably provided care to) the decedent, and children who take over the family business receive a larger

share of the bequest because they have more bargaining power. Unfortunately, our data do not allow us to determine which of these three explanations is the correct one.

Turning finally to the policy implications of our findings, our finding that bequest division is highly unequal in Japan and that sons, especially eldest sons, receive larger shares of the bequest even though Japan's Civil Code stipulates equal division implies that bequests will exacerbate intra-household wealth disparities, especially gender disparities. Unless social norms in Japan change toward greater gender equality within the household, it will be difficult to ensure the equal division of bequests and greater gender equality in wealth holdings. Japan's experience shows that merely revising the Civil Code is not enough to eradicate long-standing social norms.

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