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10 Bequest Taxes and Accumulation of Household Wealth: U.S.-Japan Comparison

Thomas A. Barthold and Takatoshi Ito

10.1 Introduction

The objective of this paper is twofold. First, we describe and compare the gift and bequest (estate) tax systems in the United States and Japan. Second, we use tax data to estimate the magnitude of intergenerational transfers.

From the description of the bequest and gift tax systems in the two countries, we discuss distortions and incentives of those systems. Our findings of the economic significance of bequests in household assets hold important implications for the controversy regarding how much outstanding wealth is the result of intergenerational transfers. In Japan and the United States, a substantial portion of wealth, and especially of land in Japan, is bequeathed from one generation to the next. The study of the transfer tax system is also timely, because in both countries significant revisions have recently been made or have been proposed.

In the macroeconomic literature of saving, studies have suggested the existence of a bequest motive in Japan (Hayashi 1986; Hayashi, Ito, and Slemrod 1988; Hayashi, Ando, and Ferris 1988; Ishikawa 1988; Noguchi, Uemura, and Kitoh 1989). Other studies have estimated the magnitude of intergenerational transfers in the United States (Cox 1990; Hurd 1987; David and Menchik 1979; Menchik and David 1983; Bernheim, Shleifer, and Summers 1985). In particular, Kotlikoff and Summers (1981, 707) pointed out that be-

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quests play an important role in capital accumulation: "American capital accumulation results primarily from intergenerational transfers." However, a consensus does not exist about the size and importance of intergenerational transfers as opposed to life-cycle saving in determining outstanding wealth (Modigliani 1988 and Kotlikoff 1988 offer opposing views).

Despite proliferating studies on bequests in the United States, few studies have examined the effect of the transfer tax system on bequest behavior in Japan. (Notable exceptions are Dekle 1989a, 1989b.) If the Kotlikoff-Summers effect is strong and universal, is the high saving rate in Japan a result of a strong bequest motive combined with its transfer tax system? This paper presents an estimate of the amount of wealth transferred by bequest in Japan. Although the estimate is sensitive to assumptions about behavior in nontaxable deaths, the estimate takes a first step toward an understanding of the significance of bequests in Japan.

To our best knowledge, this paper is the first to analyze bequest taxation time-series data (collected by tax agencies) of the two countries in a comparative perspective, and to estimate bequeathed assets in proportion to outstanding assets from tax data. The approach used in this paper may be contrasted with the survey method (Noguchi, Uemura, and Kitoh 1989, for example) or the method of estimating lifetime income and consumption (Kotlikoff and Summers 1981, for example).

The rest of this paper is organized as follows. Section 10.2 highlights the differences and similarities between the intergenerational transfer tax systems of Japan and the United States. (Detailed descriptions of the two tax systems are in the appendices. For the Japanese system, the tax reform of 1988 will be discussed as much as possible.) Section 10.3 shows the compositions of bequeathed properties in the two countries. Section 10.4 is devoted to analyzing the effects of tax distortions on portfolio behavior in Japan. Section 10.5 and 10.6 give estimates of the proportion of assets obtained by intergenerational transfers in Japan and the United States, respectively.

10.2 Intergenerational Transfer Taxes in Japan and the United States

This section highlights the similarities and differences of the bequest tax and gift tax systems of Japan and the United States (the inheritance tax in Japan and the estate tax in the United States). (Detailed legal descriptions will be found in the appendices and in Ishi 1989, chap. 11.) All property of a decedent is subject to the inheritance tax in Japan and to the estate tax in the United States. The gift tax in both countries is a tax on the transfer of wealth during life.

10.2.1 Overview

The basic difference between the inheritance tax in Japan and the estate tax in the United States is that the tax is imposed on recipients (beneficiaries) of

bequest in Japan, while it is imposed on the estate of the decedent (benefactor) in the United States. One may think that this is a superficial difference. However, the structure of bequest taxation is affected by this philosophical difference. In Japan, a progressive rate schedule is applied to each statutory heir and then aggregated to calculate the total tax liability. More (statutory) heirs for a given estate lessens the total tax liability on the estate. (This was a known loophole for the wealthy in Japan prior to 1988. The term "statutory heir" and the tax-saving scheme will be explained later.) In the United States, the number of heirs is irrelevant in the calculation of the estate tax. The tax is assessed progressively on the value of the estate, regardless of its distribution. In both countries, agricultural land and family business properties benefit from special provisions to lessen their assessment value. In Japan, however, land generally is assessed significantly below its market value, partly due to a special assessment rate reduction and partly due to assessment in practice. There is no such provision in the United States. Such undervaluation of land should create some tax-induced portfolio shifting among bequest-minded elderly Japanese. This point will be examined later in this section.

The basic philosophies of the gift tax in relation to the bequest tax are rather different between Japan and the United States. The gift tax in Japan is defined as complementary to the bequest tax, with the intent to prevent inter vivos transfers that are meant to lessen the bequest tax. In the United States, the gift and estate taxes are, in principle, a unified transfer tax system in that one progressive tax is imposed on the cumulative transfers during the lifetime and at death. In sum, the gift tax in Japan discourages inter vivos transfers, while the gift tax in the United States is integrated in a unified tax schedule on intergenerational transfers, not discriminating, in theory, inter vivos and postmortem transfers.

In both countries, it is possible to take advantage of a basic deduction per transfer in the gift tax system, by making a small gift each year for many years in order to reduce bequest (inheritance or estate) tax liability. However, the extent of this loophole is more limited in Japan than in the United States. In Japan, this basic deduction for a tax-free gift is ¥600,000 ($4,000) per recipient, while in the United States, an individual can make annual gifts of $10,000 to any other individual without being subject to tax. Couples jointly can make $20,000 of tax-free gifts to each recipient. In both countries, gifts within three years prior to death are recaptured as inheritance or part of the estate and are subject to the bequest or estate tax. (See details in appendices.) In the United States, the difference in calculating tax liability on a tax-inclusive or tax-exclusive basis makes the gift tax liability less than the estate tax liability. (See details in appendix B.)

In both countries, the bequest and gift taxes are presumed, in principle, to be taxes on intergenerational transfers. There are various credits on transfers within the generation and penalties on transfers to recipients other than lineal descendants. However, the manner in which this principle is reflected in the

tax code is different in the two countries. In Japan, the Civil Code guarantees a spouse, a son, or a daughter a minimum share of the bequest (50 percent of the "statutory" share, explained in appendix A). This is a direct intervention, rather than a tax incentive, on the composition of intergenerational transfers. In the United States, there is no legal provision designating to whom or how much of a bequest is to be given.

From the principle of taxing intergenerational transfers, the United States' estate and gift tax system makes any transfers, inter vivos or upon death, to a spouse tax-exempt. In Japan, there is a limit on the size of a tax-free bequest or gift to a spouse. A relatively large tax credit is available for a bequest to a spouse. In effect, the greater of half of the decedent's property, regardless of size, and ¥80 million ($533,333) may be bequeathed to a spouse tax-free. In the case of gifts, a gift of (own) residential housing valued up to ¥20 million ($133,333) may be transferred to a "longtime spouse" (once per marriage of twenty years or more). Beyond this amount, theoretically even between spouses, gifts are taxable.

In theory, transfer taxes should apply to a family's wealth once per generation. Transfer of wealth from a grandfather to a grandchild would be taxed twice in a normal succession of bequests. Hence, there is a penalty for skipping generations in transfers in both countries. In Japan, if an asset is bequeathed to a grandchild, a 20 percent surcharge over the normal tax liability is imposed. No such penalty exists for gift taxation. In the United States, a flat rate of tax equal to the highest rate of the estate tax (55 percent) after allowing a $1 million exemption per taxpayer would be imposed on a generation-skipping transfer (bequest or gift) in addition to payment of gift or estate tax. In both countries, if the grandchild's parent has predeceased the grandparent, the generation-skipping tax does not apply.

10.2.2 "Statutory Heirs" and "Statutory Shares" in Japan

The Japanese civil law concept of "statutory heir" is critical to an understanding of the Japanese inheritance tax. We concentrate on the case where there are surviving children. (For other cases, see appendix A.)

Suppose that a spouse and two children survive the decedent. They constitute three statutory heirs, and the spouse has a statutory share of one-half and each child has a statutory share of one-fourth. In the case of a spouse and three children, that is, four statutory heirs, each child has a statutory share of one-sixth. If the spouse predeceased and three children are alive, each child has a statutory share of one-third.

It is presumed in the civil law that, unless otherwise designated, one-half of the estate goes to the spouse and each child receives an equal share of the remainder. Moreover, one-half of the statutory share is a guaranteed bequest. For example, assume a spouse and two children survive the decedent; the spouse is entitled to no less than one-quarter and each child is entitled to no less than one-eighth of the property. Even if the decedent leaves a will desig-

nating a sole recipient for the entire estate, statutory heirs may sue for their automatic entitlement. More important, regardless of the actual distribution of property, the number of statutory heirs and statutory shares determine the total inheritance tax liability. (See appendix A for details.)

10.2.3 Bequest Taxable Property, Exemption, and Tax Base

In principle, a decedent's gross estate (property value) is the market value of all the decedent's assets. (A notable deviation, which we will explain in detail shortly, involves the assessment of land in Japan.) We note several provisions that define what constitutes a decedent's assets and how to value assets. In Japan, a decedent's property includes a portion of his or her lump-sum severance (retirement) payment in excess of ¥5 million times the number of statutory heirs. (Severance payments, prevalent among all corporations, have been traditional in lieu of pension or annuity plans, and are on the order of two or three times annual salary.) In Japan, any gifts within three years prior to death are deemed to be bequeathed property.

Conditions under which proceeds from a decedent's life insurance policy are included are different between the two countries. In Japan, if premiums had been paid by the decedent, the policy is bequeathed property. In general, if a daughter pays a share of the premiums of her father's life insurance, that share of the proceeds is exempted from bequeathed property. However, the amount of ¥5 million times the number of statutory heirs is deductible from the property value calculation for life insurance.

In the United States, a decedent's gross estate includes the proceeds of a life insurance policy on the decedent's life if either (1) the proceeds are receivable by the executor or administrator or payable to the estate; or (2) the decedent at his or her death (or within three years of death) possessed any "incidents of ownership" in the policy. Incidents of ownership include the power to change the beneficiary of the policy, to assign the policy, to borrow against its cash surrender value, and to surrender or cancel it.

The gross estate does not include the proceeds of a life insurance policy if the decedent, at least three years prior to death, irrevocably designates beneficiaries of the policy and transfers all other incidents of ownership to another person. This exclusion holds even if the decedent pays all policy premiums. In Japan, such a policy would be included in decedent's bequeathed property.

Both in the United States and in Japan, there is substantially favorable treatment for farm property and the assets of family businesses. This provides a tax benefit to small family businesses. In the United States, an executor may elect to have certain real property used in farming and other closely held businesses valued at its current use, rather than at fair market value, for estate tax purposes. In Japan, only agriculture qualifies for this special provision, but land value of family business properties may benefit from the underassessment of land to be explained below.

In the United States, the benefit operates by permitting the estate to value

qualifying property based on the present discounted value of its current cash flow, rather than at its highest and best use. For example, the value of a farm on the outskirts of an urban area may be based on the present discounted value of the current cash flow generated by its crops, rather than on the land's value to a developer who would build suburban housing.

This provision is virtually the same in Japan. The difference comes in the qualification for this special treatment. In the United States, the decedent or a member of the family must have used the property in its qualifying use (farming or family business) in at least five of the eight years prior to death. The property must be bequeathed to a member of the decedent's family, and that beneficiary must use the property in its current use in each of the succeeding ten years. The beneficiary must actively participate in the property's use and cannot be an absentee landlord. In Japan, the qualification is that the decedent was engaged in agriculture at the time of death and the successor in family agriculture must be engaged in farming by the time of inheritance tax filing (within six months after death) and continue farming for twenty years. Failure to comply with the posttransfer requirements triggers a recapture of the benefit of the special valuation in both countries.

There are several deductions and exemptions. First, in the United States, the law permits an unlimited deduction for transfers between spouses. (In Japan, the favorable treatment of transfers to the spouse is technically done via tax credit, not deduction.) In addition, transfers and bequests to charities (to organizations certified by the Internal Revenue Service in the United States, and organizations specially defined as public welfare (interest) corporations in Japan) are deductible. Funeral and burial (or cremation) expenses and any liabilities are deductible in both countries. Expenses of administration of the estate are also deductible in the United States.

A minimum bequest amount escapes taxation regardless of other exemptions and deductions. Currently, in Japan the amount of ¥40 million plus ¥8 million times the number of statutory heirs is deducted from the property value. If a spouse and two children survived the decedent, bequests valued up to ¥64 million ($426,666) are tax free. A similar arrangement is done through a tax credit in the United States. In effect, bequests valued up to about $600,000 are tax free.

10.2.4 Tax Rate Schedule, Tax Credit, and Surcharge in Japan

In Japan, the total amount of inheritance tax owed by all heirs is determined as follows. First, assign the total tax base (property values after all deductions and exemptions) to each statutory heir by the statutory share (defined above). Then apply the tax schedule shown in table 10.1 to the assigned amount for each heir (that is, the total tax base times statutory share) to calculate a tax amount for each heir. Deduct any tax credit (to be explained shortly) from this individual tax amount. Then sum the individual tax amounts to arrive at the total inheritance tax liability. The total tax liability is independent of the actual

Table 10.1 Inheritance Tax Table in Japan (in millions of yen)

Old Schedule, 1975–87				New Schedule, 1988–present			
Taxable Transfer More Than	But Less Than	Tax	Plus MTR on Excess (%)	Taxable Transfer More Than	But Less Than	Tax	Plus MTR on Excess (%)
0	2	0	10	0	4	0	10
2	5	0.2	15	4	8	0.4	15
5	9	0.65	20	8	14	1.0	20
9	15	1.45	25	14	23	2.20	25
15	23	2.95	30	23	35	4.45	30
23	33	5.35	35	35	50	8.05	35
33	48	8.85	40	50	70	13.30	40
48	70	14.85	45	70	100	21.30	45
70	100	24.75	50	100	150	34.80	50
100	140	39.75	55	150	200	59.80	55
140	180	61.75	60	200	250	87.30	60
180	250	85.75	65	250	500	117.30	65
250	500	131.25	70	500	—	279.80	70
500	—	306.25	75				

Note: MTR = marginal tax rate.

division of property, and the actual inheritance may differ from that which the statutory shares presume. Then actual tax liabilities are adjusted in proportion. (Appendix A gives an example of how to calculate and distribute inheritance tax liability.)

The tax rate schedule starts at 10 percent for the first ¥4 million ($26,000). The marginal rate goes up to 70 percent at ¥500 million ($3.3 million). However, note again that this rate schedule is applied to a property value divided by statutory share.

In Japan the surviving spouse, minors, and the handicapped receive a tax credit. First, the surviving spouse receives a special tax credit. If a surviving spouse inherits property, she or he may deduct from the inheritance tax liability the following amount:

$$\text{Tax credit for spouse} = \text{Total inheritance tax} \times \frac{\text{Min (max [¥80 million, spouse's statutory share times taxable property value], value of property actually given to spouse)}}{\text{Total taxable property value}}$$

To understand the formula with respect to the spouse's tax liability, it is instructive to consider several examples. Assume a spouse and two children survive the decedent. If the spouse actually inherits less than the estate statutory share (one-half), the inherited amount is free from inheritance tax, how-

ever large the property is. Even if the spouse actually inherits more than the statutory share, if the bequest to the spouse is less than ¥80 million, however large a share of estate it may constitute, it is free from inheritance tax.

Second, minors and the handicapped receive a tax credit. (See appendix A for details.) Third, any gifts that were made within three years of death are deemed inheritance. In order to avoid double taxation, the gift tax paid for such gifts is credited against the inheritance tax. Fourth, if the decedent was a beneficiary of an inheritance within the ten years prior to death, an additional tax credit applies.[1]

If a beneficiary is not a child (or a grandchild if there are no children), a parent, or a spouse of a child (or a grandchild if there are no children), then there is a 20 percent surcharge on the amount of tax calculated above. So marginal rates for unrelated beneficiaries can exceed 80 percent. As explained above, this provision works to the disadvantage of generation-skipping bequests and lucky strangers.

10.2.5 Tax Rate Schedule, Tax Credit, and Surcharge in the United States

Under present law in the United States, the gift and estate tax rates begin at 18 percent on the first $10,000 of taxable transfers and reach 55 percent on transfers over $3 million (table 10.2). In addition, for transfers between $10 million and $21.04 million, the benefits of the lower rates and the unified schedule are phased out at a rate of 5 percent, creating an effective marginal tax rate of 60 percent. This schedule is applied to the estate, unlike the case of Japan, so that a direct comparison of tables 10.1 and 10.2 is meaningless.

The cumulative amount of any gift or estate tax is reduced by a unified credit. The gift or estate tax is computed without any exemption, and then the unified credit is subtracted to determine the amount of gift or estate tax payable before the allowance of other credits. The present amount of the credit is $192,800, which has the effect of exempting the first $600,000 of transfers from gift and estate tax. As a consequence, the first dollar of a taxable estate faces a 37 percent marginal tax rate. The unified credit is not indexed for inflation. Tax liability accounts for any prior gift taxes paid or unified credit claimed.

A limited credit is available for any state death or inheritance taxes paid. The state credit works as revenue sharing with the states, encouraging them to establish a death tax at least to soak up the benefit of the dollars that the federal government would otherwise tax. In Japan, there are no additional inheritance taxes at the prefecture (local) level.

While the credit is unified, the rate structure is not. The estate tax is calculated on a tax inclusive basis while the gift tax is calculated on a tax exclusive basis. This implies that the effective tax rate on gifts may be significantly lower than the effective tax rate on bequests, when the same amount of gift or

1. The formula is complicated. The interested reader is referred to a detailed tax book (Ministry of Finance 1989).

Table 10.2 **Unified Estate and Gift Tax Rate for U.S. Citizens and Residents (in dollars)**

Taxable Transfer More Than	But Less Than	Tax	Plus MTR on Excess (%)
0	10,000	0	18
10,000	20,000	1,800	20
20,000	40,000	3,800	22
40,000	60,000	8,200	24
60,000	80,000	13,000	26
80,000	100,000	18,200	28
100,000	150,000	23,800	30
150,000	250,000	38,800	32
250,000	500,000	70,800	34
500,000	750,000	155,800	37
750,000	1,000,000	248,300	39
1,000,000	1,250,000	345,800	41
1,250,000	1,500,000	448,300	43
1,500,000	2,000,000	555,800	45
2,000,000	2,500,000	780,800	49
2,500,000	3,000,000	1,025,800	53
3,000,000	—	1,290,800	55

bequest inclusive of tax liabilities is transferred. (See appendix B for an example.)

10.3 Composition of Bequest: Japan versus the United States

10.3.1 Composition of Wealth of Decedents in Japan

Table 10.3 shows property values, various exemptions, credits, and surcharges in 1977, 1987, and 1988 in Japan. Significant revision of the rate schedule, basic exemption, and tax credits occurred between 1987 and 1988 (detailed in appendix A). Bequeathed property values (equivalent to the gross estate in the United States) changed significantly from 1977 to 1987, under the same rate structure. This reflects both bracket creep due to inflation and wealth accumulation among the wealthy, in particular a rapid inflation in land prices. (See section 10.4.2 for an analysis of the composition of bequeathed property.)

Table 10.4 shows the time series of outstanding assets and liabilities of the household sector at year end. The value of landholdings and land's share of total assets also are shown. Land accounts for about one-half of the value of outstanding household assets in Japan. The ratio fluctuates according to land's price relative to other prices. The relative land price was much higher in 1973 and 1987 than in other years.

Table 10.5 shows the composition of bequeathed assets from data of the

Table 10.3 **Inheritance Tax Record (in billions of yen)**

	1977	1987	1988
Property value	2,002.220	8,990.381	10,488.777
Minus liability and funeral	128.691	774.323	891.776
Plus gifts within three years	10.724	34.843	41.054
Tax base	1,884.253	8,250.859	9,637.996
(Basic exemption)	(661.307)	(2,107.261)	(2,550.032)
Inheritance tax before surcharge and credit	337.843	2,371.289	2,773.637
Plus 20% surcharge	2.658	6.178	19.552
Gift tax (credit)	1.620	4.996	7.444
Spouse provision (credit)	74.456	675.342	934.865
Minors (credit)	0.549	2.256	2.593
Handicapped (credit)	0.519	1.782	1.760
Two in ten years (credit)	3.099	11.874	12.733
Net inheritance tax	300.259	1,681.209	1,833.788

Source: Ministry of Finance, Tax Bureau, *Tax Bureau Statistics Annual* (1977, 1988, 1989).

Notes: Years apply to those who died in that year (and whose filings were done by the end of June, the deadline for those who died on December 31 of the preceding year). Only those who were required to file are reported. Corrections in filing included.

Tax Bureau. Only those bequeathed assets belonging to a decedent whose heirs were subject to nonzero inheritance tax are reported here, as "taxable deaths." In Japan, those who do not pay the inheritance tax are not required to report to the Tax Bureau's office, except for a spouse who benefits from the special spouse tax credit to become nontaxable.

Among bequeathed assets, land predominates. Its share fluctuates between 65 and 69 percent. Securities account for only 10 to 13 percent. This table is an underestimation of what was really transferred from the decedents of 1976–88 to the next generation. First, only taxable deaths are covered. There are many decedents whose heirs did not have to pay inheritance taxes either because bequests were small or because the number of heirs was large. Second, land value reported in this table grossly underestimates the true market value. As explained in section 10.4.2, the assessed value is in practice one-half to two-thirds of the market value. There is also a special provision for an additional 50 percent exemption for small residential lots. In fact, this incentive makes land a favorite vehicle of bequest in Japan.

10.3.2 United States

Table 10.6 shows the composition of wealth reported on U.S. estate tax returns filed in 1985. In the majority of cases these returns represent wealth transfers resulting from deaths in 1984. The nearly 68,000 federal estate tax returns filed in 1985 represent less than 3.5 percent of total deaths in the United States in 1984. Those estates subject to tax represented less than 1.5

Table 10.4 **Household Outstanding Assets and Liability at the End of Year (in billions of yen)**

	Assets (1)	Land (% of assets) (part of 1)	Liability (2)	Net Assets (3) = (1) − (2)
1973	442.449.4	235.962.6 (53.33)	48.405.0	394.044.4
1974	469.683.8	233.825.4 (49.78)	54.175.3	415.508.5
1975	517.504.4	247.229.5 (47.77)	67.151.6	450.352.8
1976	583.453.4	263.566.8 (45.17)	78.002.6	505.450.8
1977	642.486.6	284.566.6 (44.29)	87.469.0	555.017.6
1978	738.848.3	326.573.8 (44.20)	102.381.0	636.467.3
1979	864.851.9	393.556.6 (45.50)	114.412.5	750.439.4
1980	984.954.3	467.210.9 (47.43)	129.168.7	855.785.6
1981	1.104.237.9	537.526.9 (48.67)	142.661.0	961.576.9
1982	1.182.808.1	574.418.3 (48.56)	154.977.9	1.027.830.2
1983	1.252.943.4	595.207.7 (47.50)	167.369.6	1.085.573.8
1984	1.340.621.0	627.389.4 (46.79)	181.583.3	1.159.037.7
1985	1.438.991.6	672.882.2 (46.76)	194.538.1	1.244.453.3
1986	1.674.186.7	831.247.4 (49.65)	209.501.5	1.464.685.2
1987	2.027.702.3	1.089.883.8 (53.74)	236.998.7	1.790.703.6
1988	2.249.380.3	1.198.149.0 (53.26)	264.287.0	1.985.093.3
Average		(48.3)		

Source: Economic Planning Agency (1990 and various issues)

percent of total deaths in the United States in 1984. The table is largely self-explanatory. The unified nature of the U.S. transfer tax system is exhibited by the inclusion of taxable lifetime transfers (gifts) in the gross estate. These represent 11.4 percent of the gross estate. The importance of the marital deduction is seen in that one-third of the value of gross estates for which returns were filed was exempted from tax by the marital deduction. Appendix B contains similar data for returns filed in 1977, 1982, 1983, 1984, 1986, 1987, and 1988.

For comparison purposes, table 10.7 presents estimates of aggregate net

Table 10.5 **Composition of Bequeathed Assets, Japan Taxable Death Only (in billions of yen; shares of total in parentheses)**

Year	Land[a]	Structures[b]	Business[c]	Securities[d]	Cash[e]	Miscellaneous	Total Assets	Liabilities	Funeral Expenses	Bequest Tax
1973	1,220.5	53.0	20.4	179.4	149.9	97.1	1,720.3	116.5		375.4
	(70.95)	(3.08)	(1.19)	(8.93)	(6.97)	(4.83)				
1974	1,437.8	63.3	24.8	182.2	169.2	132.6	2,010.0	133.3		437.7
	(71.53)	(3.15)	(1.23)	(9.06)	(8.42)	(6.60)				
Tax reform										
1975	1,121.0	44.4	15.2	169.8	138.4	104.0	1,592.8	74.5	16.7	241.0
	(70.38)	(2.79)	(0.76)	(8.45)	(6.89)	(6.53)				
1976	1,205.6	53.5	18.5	198.9	158.8	130.4	1,765.6	90.9	20.1	264.4
	(68.28)	(3.03)	(1.04)	(11.26)	(8.99)	(7.38)				
1977	1,349.1	64.7	21.4	219.9	175.7	158.5	1,990.4	102.2	24.3	300.3
	(67.78)	(3.25)	(1.07)	(11.04)	(8.82)	(7.96)				
1978	1,538.8	79.3	28.1	244.9	207.6	196.3	2,295.1	120.9	29.2	349.4
	(67.04)	(3.45)	(1.22)	(10.67)	(9.04)	(8.55)				
1979	1,728.8	88.0	35.3	273.7	236.5	243.7	2,606.1	153.1	34.8	398.1
	(66.33)	(3.37)	(1.35)	(10.50)	(9.07)	(9.35)				
1980	2,144.0	106.0	37.9	343.9	277.2	295.0	3,204.0	169.6	44.3	525.6
	(66.91)	(3.30)	(1.18)	(10.73)	(8.65)	(9.20)				
1981	2,773.5	129.5	39.8	401.0	331.4	380.7	4,056.0	211.1	54.0	672.0
	(68.38)	(3.19)	(0.98)	(9.88)	(8.17)	(9.38)				

1982	3,331.0	150.9	45.6	417.3	371.0	430.6	4,746.4	247.9	63.2	809.6
	(70.17)	(3.17)	(0.96)	(8.79)	(7.81)	(9.07)				
1983	3,656.0	170.8	48.7	501.6	425.9	496.6	5,299.6	269.7	71.6	914.6
	(68.98)	(3.22)	(0.91)	(9.46)	(8.03)	(9.37)				
1984	3,918.8	202.2	64.9	563.7	483.0	570.4	5,803.1	350.6	79.9	979.1
	(67.52)	(3.48)	(1.11)	(9.71)	(8.32)	(9.82)				
1985	4,437.4	233.9	54.9	703.3	576.3	653.3	6,659.2	382.0	92.8	1,158.4
	(66.63)	(3.51)	(0.82)	(10.56)	(8.65)	(9.81)				
1986	4,682.6	272.6	61.9	868.4	664.4	715.1	7.265.0	465.4	101.3	1,277.4
	(64.45)	(3.75)	(0.85)	(11.95)	(9.14)	(9.84)				
1987	5,747.3	326.9	68.2	1,152.3	811.1	850.6	8,956.6	653.1	120.6	1,681.2
	(64.16)	(3.64)	(0.76)	(12.86)	(9.05)	(9.49)				
Tax reform										
1988	7,411.5	358.7	59.0	1,220.9	911.3	737.7	10,699.3	755.8	113.3	1,833.8
	(69.27)	(3.35)	(0.55)	(11.41)	(8.51)	(6.89)				

Source: Ministry of Finance, Tax Bureau, *Tax Bureau Statistics Annual* (various issues).

[a]Including residential, rice paddy, field, and forest.

[b]Including houses.

[c]Family business property.

[d]Including bonds and stocks.

[e]Cash and deposits.

Table 10.6 U.S. Estate Tax Returns Filed in 1985

	Returns		Value	
	Number	%	Millions of $	%
Gross estate	67,961	100.0	62,805.4	100.0
Real estate	47,795	70.3	13,948.4	22.2
Bonds (total)	28,656	42.2	4,894.9	7.8
Federal savings	9,507	14.0	368.9	0.6
Federal other	10,118	14.9	1,409.7	2.2
State and local	16,073	23.7	2,761.9	4.4
Corporate and foreign	11,100	16.3	354.5	0.6
Corporate stock	45,126	66.4	15,001.2	23.9
Noncorporate business	16,721	24.6	1,981.4	3.2
Cash	58,036	85.4	8,439.7	13.4
Notes and mortgages	20,499	30.2	2,386.2	3.8
Life insurance	36,805	54.2	2,108.7	3.4
Annuities	12,131	17.8	1,011.0	1.6
Household goods	53,437	78.6	2,614.5	4.2
Lifetime transfers	8,777	12.9	7,181.8	11.4
Deductions (total)	67,961	100.0	31,364.4	49.9
Funeral expenses	63,820	93.9	378.7	0.6
Administrative expenses (total)	43,688	64.3	1,506.7	2.4
Executors' commission	19,488	28.7	524.5	0.8
Attorneys	35,429	52.1	624.8	1.0
Other	42,355	62.3	357.4	0.6
Debts and mortgages	56,005	82.4	3,608.4	5.7
Charity	11,713	17.2	4,543.1	7.2
Marital	31,823	46.8	21,327.5	34.0
Taxable estate	59,459	87.5	31,644.9	50.4
Adjusted taxable gifts	3,566	5.2	208.2	0.3
Adjusted taxable estate	59,459	87.5	31,925.1	50.8
Estate tax before credits	59,459	87.5	11,247.6	17.9
Credits (total)	59,459	87.5	6,212.2	9.9
Unified	59,459	87.5	5,038.9	8.0
State death taxes	33,060	48.6	1,077.6	1.7
Other	—[a]	—	95.7	0.2
Estate tax	30,518	44.9	5,035.4	8.0

Source: Internal Revenue Service, Statistics of Income Division.
[a]Number not disclosed to retain taxpayer confidentiality.

worth by major components for the United States based on the Survey of Consumer Finance (SCF, 1983 data), the Panel Study in Income Dynamics (PSID, 1984 data) and the Survey of Income and Program Participation (SIPP, 1984 data). Note that in the table secured debt is netted from the reported asset. By these data, bequeathable wealth reported on estate tax returns made up between 0.6 and 1.0 percent of private national wealth. This, of course, is an

Table 10.7 **Estimates of Aggregate Net Worth and Major Components (in billions of dollars)**

	SCF	PSID	SIPP
Vehicle equity	308	503	410
House equity	2,904	2,573	2,683
Other real estate equity	1,640	1,170	783
Liquid assets	1,032	1,204	965[a]
IRAs, Keoghs	149	—[b]	125
Common stock mutual funds	1,056	709	466
Farm/business equity	2,391	1,436	843
Other assets	1,260	820	365
Other debt	227	159	240
Net worth	10,505	8,254	6,401

Note: PSID = Panel Study in Income Dynamics (1984 data), SCF = Survey of Consumer Finance (1983 data), SIPP = Survey of Income and Program Participation (1984 data).

[a]Includes corporate, municipal, and tradable federal debt, which are included in "Other assets" in the SCF and PSID data. The SCF total for such bonds is $314 billion.

[b]Included partly in liquid assets, partly in common stock.

underestimate. Those who file estate tax returns represent a small percentage of all decedents, albeit the wealthiest of all decedents. At this aggregate level, bequeathable wealth appears to represent a larger fraction of total national wealth in the United States than in Japan.

10.4 Distortions in the Japanese Inheritance Tax

10.4.1 Token Adoption

It is apparent from the calculation of the inheritance tax that the number of statutory heirs plays an important role. The number of statutory heirs need not equal the true number of heirs. Having more statutory heirs reduces total inheritance taxes imposed upon actual heirs. This is independent of how the decedent actually divides his or her property. Three features of the inheritance tax produce this result. First, the basic exemption depends on the number of statutory heirs. Second, the total property value after exemptions is divided by the number of statutory heirs before a progressive tax schedule is applied. Third, a tax credit for life insurance payment and severance payment depends on the number of statutory heirs.

Hence, a family may reduce inheritance tax liability by adopting children to increase the number of statutory heirs, with an understanding that the adopted children receive only a nominal compensation for this service. (By being adopted by someone else, one does not forfeit the legal right of being the statutory heir to one's biological parents.) This loophole was widely recognized and exploited by wealthy families. Table 10.8 reveals a strong correlation between the size of the estate and the number of statutory heirs.

Table 10.8 **Number of Statutory Heirs in Relation to Property Values, 1988**

Tax Base (in millions of yen)	Number of Statutory Heirs											
	0	1	2	3	4	5	6	7	8	9	10	11+
0–30	39	257	158									
30 < 40	10	597	798	495	264							
40 < 50	11	604	1,124	904	586	710	70	57				
50 < 100	12	913	4,630	4,472	3,233	3,170	603	279	121	70	27	112
100 < 200	14	545	2,780	3,644	3,305	2,563	864	467	244	113	61	141
200 < 300	11	123	726	1,105	1,143	842	347	226	136	54	33	71
300 < 500	19	94	435	779	854	582	327	155	113	60	32	49
500 <	2	67	305	568	799	559	335	261	136	83	42	85

Source: Ministry of Finance, Tax Bureau, *Tax Bureau Statistics Annual* (various issues).

Note: The median number of statutory heirs for each bequeathed taxable income bracket was 1 for 0–30 (million yen); 2 for 30–40; 3 for 40–50; 3 for 50–100; 4 for each of 100–200, 200–300, 300–500, and over 500.

To close this loophole, the 1988 revision included a cap on the number of adopted children counted as statutory heirs. The effective date for this change was not until December 31, 1988, unlike most other changes, which became effective on January 1, 1988. Hence, we have to wait one more year to see the difference in this kind of table. We conjecture that when we compute table 10.8 for 1989, the number of statutory heirs among the wealthy will be significantly reduced. That would prove that adopted children, real or token, have been significantly lowering the tax liability of wealthy families.

10.4.2 Land Assessment

All bequeathed assets, securities, and real estate are, in principle, valued at their fair market value. In practice, two deviations from this principle exist. Real estate, such as residential land, and land and structures for family business, are assessed at less than their market value. This results partly because assessments for inheritance purpose are underestimated and partly because there is a special provision for small property.

The first factor results from administrative practice. Land, which is a major portion of real property in Japan, is assessed for inheritance tax according to a valuation map (known as Rosen Ka) in the Tax Bureau's office. This is different from the land price survey (known as Koji Kakaku) done by the Land Agency of the Japanese government, or the land valuation for real estate taxes (imposed by municipal governments). Each of these three government assessments (Koji Kakaku, Rosen Ka, and real estate tax assessment) is below the market value of property.

Experts widely follow a rule of thumb. The Koji Kakaku, polled once a year, is approximately 70 to 80 percent of the market value. The Rosen Ka, for bequest evaluation, is approximately 50 to 70 percent of the Koji Kakaku. Homma and Atoda (1989, 134–35) investigated the gap between the Koji

Kakaku and Rosen Ka at the places of highest Rosen Ka in the capital cities of prefectures. They found that in 1988 the gap ranged from 33.5 percent in Kyoto to 94.1 percent in Kōfu, with an average of 56.4 percent. Hence, the ratio of Rosen Ka, the assessment of land for bequest, to the market value is anywhere between 25 and 80 percent, but more likely around 40 to 50 percent.

The second factor for underassessment is a provision for small sites for residences such as rental housing or for business. The assessment for the 200 square meters of residential property is reduced by 50 percent and for business sites by 60 percent. If the property is partly residential and partly business, the business portion is reduced by 60 percent, and the residential portion is reduced by 40 percent, providing that the average rate is above 50 percent.

In sum, a bequest carried in the form of real estate is subject to less inheritance tax than that carried in the form of securities. Moreover, since the amount of debt is deductible in full, an effective way to reduce inheritance tax is to borrow a large sum of money to purchase real property, preferably shortly before death, so that the property is still highly levered at the time of intergenerational transfer.

To curtail such tax planning, the 1988 tax reform mandated that any real estate (land and structures, excluding the decedent's personal residence) purchased within three years of the date of death is assessed at its purchase price. (This is evidence that the tax authority admits that assessed values are in practice less than the market value.) This rule still permits a tax advantage in periods of high land inflation.

We expect that this favorable assessment induces the elderly with a bequest motive to shift their portfolio into real estate. The evidence suggests that is the case. First, the share of land in tax-filing bequeathed property value is higher than the share of land in outstanding property value of households. In 1988, the former was 69 percent, while the latter was 53 percent. Second, the share of land in bequest property value is higher in Japan than in the United States. In Japan about 65 percent of bequests are in the form of land, while in the United States, only about 20 percent are in land. Even under the most generous interpretation, which would accept the SIPP data as the most accurate and count none of the farm and business property as real estate, and at the same time attribute no debt to the real estate claimed on the estate tax returns, the percentage of real estate in decedent's estates is barely 0.4 percent of U.S. wealth represented by real estate. This figure is less than half of the comparable figure for Japan. This may reflect the substantial benefit in Japan to the decedent holding his or her wealth in real estate at the time of death.

However, some cautious notes to the above conclusion are due. There may be some reasons that the land component in bequests may become larger, even in the absence of underassessment for bequest purposes. First, unrealized capital gains on the land of the elderly may avoid capital gains tax if bequeathed instead of sold. Second, one might argue that the relatively high land component in Japan may not reflect a bequest motive and rational tax saving strategy,

but may result from unexpected capital gains on land and premature death. Put differently, if precautionary saving in imputed housing services is prevalent, unexpected land price increases, as in Japan, create a large proportion of land value in bequests. In fact, in Japan the land proportion has increased at times of land price increases.

Both arguments stress that land prices have increased faster in Japan than the United States. The ratio of land to total bequest has been consistently higher in Japan than in the United States, by a large margin. Moreover, if the (intended) bequest motive is weak, financial borrowing (second mortgage) among the elderly against unrealized capital gains should increase as unexpected land price inflation takes place. Existing data do not reveal commensurate increases in second mortgages.

10.5 Estimating Bequeathed Assets in Outstanding Assets in Japan

10.5.1 Simulation

In this section, we make an attempt to estimate how much assets are transferred from one generation to another. This is a relevant question in the controversy of Modigliani (1988) and Kotlikoff (1988). If intergenerationally transferred assets constitute only a minor share of outstanding assets, then asset accumulation can be regarded mostly as a life-cycle phenomenon. However, if intergenerational transfers are large compared to outstanding assets, this suggests intended and unintended bequests play an important role in asset accumulation, and life-cycle saving theory has to be revised as such.

Our method of inference is to measure the amount of bequest from deaths as a proportion of the outstanding household assets, and then multiply by 25 to obtain the generational transfer. (For other methods of inference, see Modigliani 1988.)

In estimating intergenerational transfers from bequest tax data, there are several stumbling blocks on the way from bequest taxation data to bequeathed assets. We identify several key problems below and make explicit assumptions to surmount them. When possible, the reasonable lower and upper bound will be provided. When we have to make judgmental assumptions, we try to estimate the lower bound of intergenerational transfers.

First, we concentrate on intergenerational transfers upon the deaths of couples, ignoring inter vivos transfers altogether. As mentioned in section 10.2, one may transfer a significant amount to heirs as gifts without taxes if transfers were planned for many years. In this sense, our estimates constructed solely from bequest data constitute the lower bound of intergenerational transfers.

Second, bequest taxation covers only those we call "taxable deaths." We have to assume how much wealth is transferred by those who are not required to file the bequest tax form, that is, nontaxable deaths. This is a problem common to both Japan and the United States. At the lower bound, nontaxable

death can be assumed to leave zero wealth, and as a reasonable upper bound, nontaxable death may be assumed to leave a full deductible amount (that is the basic deductible amount, 40 + (3 × the number of statutory heirs) million yen in Japan and $600,000 (the unified credit) in the United States. As a reasonable estimate, we infer the average assets of nontaxable deaths from other sources.

Third, double counting is possible in taxable deaths. When a wealthy husband dies first, he bequeaths a portion to children and a portion to his widow. This shows up in the taxable death data. Some years later, the widow dies with a bequest to children that is still sufficiently large to be caught in bequest tax. Age and sex of decedents in the Japanese bequest taxation are not available, so that we may not know how extensive this problem is. We simply assume for the Japanese data that the double counting problem is minor and that taxable deaths are all male and 50 years or older. This is the only assumption that might bias our estimate of intergenerational transfers upward. The wealthiest persons certainly plan to avoid double taxation, in addition to natural depletion of assets by the widow. The widow typically receives only a portion of the husband's bequest, and she would have many years to spend this bequest and make inter vivos transfers to children. By the time of her death, we assume that the wealthiest widows' assets are substantially reduced so that they would not be taxable. This leads to another stage of assumption, about how much of the bequest, taxable and nontaxable, to a spouse ultimately is handed down to children.

Fourth, we will reduce the amount of bequest in the calculation of intergenerational transfers, as an allowance for the widow who consumes the bequeathed assets. In Japan, the amount bequeathed to the widow is inferred from the amount of tax credit for a spouse. Then we calculate the upper and lower bounds for intergenerational transfers. At the lower bound, the wife is assumed to consume all assets bequeathed to her. (In this case, the double counting problem above disappears automatically.) At the upper bound, the widow is assumed to live off her own assets and returns from her husband's bequest and to bequeath eventually the principal components of her husband's bequeathed assets to children. (Under this assumption, the double counting problem above would additionally bias the estimate upward.)

In order to correct for taxable versus nontaxable deaths, we examine the proportion of taxable deaths in table 10.9. Among all deaths, taxable deaths were only 2 percent in 1975 but rose to about 8 percent in 1987. During those thirteen years, inflation and wealth accumulation over a half generation increased the nominal value of bequeathed property, while virtually all tax deductions, credits, and brackets were kept unchanged.[2]

2. The reduction from 1987 to 1988 is due to the tax reform of 1988. The 1988 tax reform was advertised as a revenue-neutral package consisting of an introduction of a consumption tax and a reduction in income, excise, and inheritance taxes. However, a reduction in taxable deaths pushed back the clock by only two years, out of twelve years of bracket creep.

Table 10.9 **Death, Taxable Death, and Land and Total Bequest per Taxable Decedent, Japan**

	Deaths					Per Taxable Death	
	All Ages, Both Sexes (1)	50+ Years, Males (2)	Taxable (3)	TAXDTHR (%) (3/1)	TAXD50MR (%) (3/2)	Land (billions of yen) (Land/3)	Total (billions of yen) (Total/3)
1973	709,416	300,655	29,231	4.12	9.72	0.0417536	0.058852
1974	710,510	302,497	32,896	4.63	10.87	0.0437074	0.061102
				Tax Reform			
1975	702,275	301,456	14,587	2.08	4.84	0.0768492	0.109193
1976	703,270	305,528	15,932	2.26	5.21	0.0756716	0.103854
1977	690,074	301,741	17,853	2.58	5.91	0.0755671	0.104403
1978	695,821	307,504	20,208	2.90	6.57	0.0761481	0.106146
1979	689,664	307,715	22,658	3.28	7.36	0.0762998	0.106726
1980	722,801	326,795	26,789	3.70	8.19	0.0800328	0.111617
1981	720,262	327,472	31,569	4.38	9.64	0.0878552	0.120083
1982	711,883	326,199	35,944	5.04	11.0	0.0926719	0.123395
1983	740,038	341,630	39,523	5.34	11.5	0.0925031	0.125454
1984	740,247	344,846	43,025	5.81	12.4	0.0910819	0.124872
1985	752,283	352,822	48,114	6.39	13.6	0.0922268	0.128536
1986	750,620	353,563	51,822	6.90	14.6	0.0903593	0.129256
1987	751,172	357,195	59,007	7.85	16.5	0.0974003	0.138677
				Tax Reform			
1988	793,014	377,996	50,625	6.38	13.3	0.1464000	0.194177

Note: Bequest tax statistics do not contain information on the age and sex of decendent.TAXDTHR = ratio of taxable deaths to all deaths; TAXD50MR = ratio of taxable deaths to deaths of males age fifty and over.

Sources: Ministry of Health and Welfare, *Vital Statistics Japan* (various issues); Ministry of Finance, Tax Bureau, *Tax Bureau Statistics* (various issues).

As a proxy for a death of a representative member of a "generation," the number of deaths among the male cohort of 50 years or older is shown in table 10.9 (second column). The ratio of taxable deaths to deaths in this cohort of older males was 5 percent in 1975 and 16.5 percent in 1987, assuming that all taxable deaths are part of generational deaths.

The last two columns of table 10.9 show land and total wealth per taxable death (in billions of yen). The jump in these two values from 1988 to 1989 reflects both the truncation of the sample due to the tax reform and high land price inflation.

Since nontaxable deaths did not get taxed, their bequeathed property value was less than the amount of the basic deduction plus other deductions and values toward other credits, barring illegal transfers. Here we assume that a nontaxable decedent bequeaths property that equals ratio K of the basic deduction for three heirs (wife and two children).[3] In the simulation, we allow K to

3. With three heirs, the basic exemption of ¥(20 + 4 × 3) million from 1975 to 1987 and the current exemption of ¥(40 + 8 × 3) million are completely tax free. In a sense, we assume

vary from 0 to 1. Approximately half of the asset value of bequeathed property was held in the form of land. In section 10.5.2 we discuss how to guess a reasonable value for K.

We require a series of assumptions to undertake our simulations. First, liabilities, funeral expenses, and bequest taxes (after tax credit) are deducted in the calculation of intergenerational transfers of taxable decedents. The ratio of these liabilities, etc., to the bequeathed gross amount is assumed to be the same for nontaxable deaths, too.

Second, an assumption is made with regard to how the transfers to the widow(er) will be dissaved before the widow(er)'s death. Recall that bequests to a spouse receive a special tax credit in Japan (unlike in the United States where unlimited deduction is possible). Thus, "intra"-generational transfers are estimated from the ratio of claimed spouse tax credit to the total bequest tax (before tax credit). Then, it is assumed that a constant fraction, MM, (benchmark is $MM = 0.5$) of the transfers to the spouse is later bequeathed to children, upon the widow(er)'s death. The transfer is assumed to be free from the inheritance tax, because only a portion of the original property was given to the spouse, and then a portion is dissaved by the spouse. As variations, we prepare two tables with $MM = 0.0$ and 1.0 The former implies that a wife consumes all of the assets she received upon her husband's death so that she would bequeath no assets to her children, and the latter that a wife consumes none of the assets, presumably living off her own life-cycle savings (including any inter vivos transfers from her husband).

Third, suppose that one generation consists of twenty-five years. Hence, we take the average of the bequest transfers over twelve years and blow it up by 25. In the steady state, this procedure amounts to the following assumption. At one point in time, we would classify wealth in two categories, bequest wealth that is transferred from the ancestor and will be handed down to heirs, and life-cycle wealth that is saved when young but will be dissaved when old. We consider that the steady state is defined by a constant ratio of bequest wealth to total wealth. Conceptually, the returns of the bequest wealth, with the return being the same as on other types of assets, are assumed to be compounding and included in bequest wealth. Otherwise the conditions of the steady state would be violated.

Fourth, the assessment of land has to be adjusted. In Japan, land for bequest is underassessed, as argued in section 10.4.2. Accordingly, the value of land has to be inflated from that reported in the taxation data. The ratio of Rosen Ka (assessment for bequest tax) to Koji Kakaku (the monitoring price that is believed to be used in National Accounts, Stock Division survey) is defined as U. The lower bounds estimate for intergenerational transfer is obtained when $U = 1$. However, a more realistic number is 0.56 (recall discussion of

two parents are on average survived by two children, but at the time of the husband's death, the wife is still alive. Therefore, a male decedent of 50 years or older is assumed to be survived by two children and and wife in the taxation statistics.

the estimates by Homma and Atoda 1989 in section 10.4.2). If the typical residential real estate is less than 200 square meters, however, an assessment will further be reduced by 50 percent (so that $U = 0.28$). Of course, some families own a second house or manage rental housing. The correction should not be 50 percent from 0.56. On the other hand, agricultural land has much more favorable treatment. Allowing for some large properties, it may be plausible to consider U somewhere between 0.26 and 0.56. Hence, for the simulation, we select $U = 0.34$, 0.56, 0.78, and 1.0. We believe the truth is a value of U somewhere between 0.34 and 0.56.

The last and most difficult stumbling block is to guess how much an average nontaxable decedent bequeaths to heirs, and how the assets are divided among land and other assets. We will make our best effort on this front in the section 10.5.2.

10.5.2 Estimation of Transfers from Nontaxable Decedents

The next important step is to guess the amount of transfers by the nontaxable decedents, and narrow the upper and lower bounds on parameter K. The following calculation is done for calendar year 1988.

For the average assets of households, we use a table from the Family Saving Survey, which lists the average "savings" (financial assets only) and liabilities of households classified by age brackets (see columns 5 and 6 of table 10.10). However, we have to make several adjustments. First, the statistics show only those elderly who remain as household heads. The elderly person who lives with his or her children (that is, forming a "merged" family) is typically a dependent instead of a household head. (Usually, the household head is defined in various statistics as the person who earns the most in the family located at the same address.) If the household heads and the merged have different asset characteristics, we have to adjust for the difference. Second, the survey does not have information on the sex of household heads. Third, the survey has only financial saving.[4] However, the survey does contain a "home ownership ratio," that is the ratio of "owner-occupied" household heads to all household heads.

In order to correct for the first point, from the Basic Life Survey (Kokumin Seikatsu Kiso Chosa), statistics on the household status of the elderly (sixty years and over) can be estimated. This survey classifies the elderly into eight different categories with respect to their relationship to household heads.[5]

4. Takayama (1991) estimated the value of landholdings by age of household heads from individual responses to the National Survey of Family Income and Expenditure. In 1987 the *median* of land values held by those aged 60–64, 65–69, 70–74, and 75 and over is ¥22, ¥24, ¥22, and ¥24 million, respectively. The *mean* of land values for the same age groups is ¥44, ¥44, ¥38, and ¥44 million. Dekle (1990) used a different survey and estimated landholdings of the typical household head of age 60–64, 65–69, and 70–74 to be ¥27, ¥30, and ¥34 million.

5. The eight categories are as follows: (1) single household (the elderly becomes household head); (2) household with the elderly couple only (the elderly becomes household head); (3) living with children but maintaining a household head status; (4) living with children, and the elderly is

Table 10.10 **Average Net Assets of Japanese Households, 1988**

Age	Households (in thousands) Male (1)	Female (2)	Both Sexes (3 = 1 + 2)	Non-household-head Males (in thousands) (N1)	(hp = 1/(1 + N1))	Weights (4)	Financial Assets (thousands of yen) (5)	Financial Liability (thousands of yen) (6)	Net Assets Male Household Head (7)	Net Assets of Males (8 = 7 × hp)	Male Deaths (9)
50–54	4,200	250	4,450	0	1.00	0.1248	13,108	3,808	9,568	9,568	22,209
55–59	3,600	200	3,800	0	1.00	0.1029	15,749	3,204	12,884	12,884	32,928
60–64	2,458	354	2,812	470	0.839	0.0893	19,333	1,625	18,897	15,854	38,238
65–up	4,285	1,220	5,505	1,253	0.773	0.1139	17,412	1,307	18,111	14,000	285,044
Average of (8) weighted by (9) 13,826											

Notes: Column 1: For age group 60–64 and 65–up, one-man households, male-headed households of couples, plus (0.8 times those who are classified as household heads of the elderly who live with child[ren]). The last term does not have a breakdown to male and female, so that it was multiplied by 0.8 to allow for female household heads living with child(ren). The multiplier 0.8 is a guess (Basic Life Survey 1988). For age groups 50–54, and 55–59, inferred from column 4. This is a guess.

Column 2: For age groups 60–64 and 65–up, one-woman households. For age groups 50–54 and 55–59, inferred from 4. This is a guess.

Column N1: Male population for that age bracket minus column 1.

Column hp: ratio of male household heads to total males.

Column 4: Estimated weights of household number for that age bracket used in the Family Savings Survey (1988).

Columns 5 and 6: Family Savings Survey (1988).

Column 7: First, subtract liabilities form assets. Then assume that a household headed by female has a net asset equal to half of a male-headed household. (7) = ((5 − (6)) × (3)/((1) + (2)/2).

Column 8: Correct for those who are not household heads. Assume those who are not a household head own 0 assets. These are typically merged in children's household.

Column 9: Ministry of Health and Welfare, *Vital Statistics Japan*.

Average net financial assets	A = ¥13,826,000
Taxable decedent's average net financial assets	B = ¥ 41,760,000
(securities + cash + miscellaneous − liabilities, tables 10.4 and 10.5)/50,625	
Weight (TAXD50MR in table 10.9)	w = 0.133
Nontaxable decedent's average financial assets	N
Weight (1 − TAXD50MR)	0.867
$N = (A) - (B \times w)/(1 - w) =$	¥9,541,000
Nontaxable decedent's average financial assets plus land (assessed at Rosen Ka)	N/M
$K = (N/M)/64{,}000{,}000 =$	0.426

From the survey, we may infer the numbers of the male household heads and male non–household heads. The non-household-head elderly are assumed to hold zero assets (an underestimate bias); and the female household heads are assumed to hold half the assets of the male. With these assumptions, the average household head assets and liabilities statistics in the Family Saving Survey are corrected to become the average male elderly assets and liabilities, regardless of household head status. This is shown in column 8 of table 10.10. In order to be consistent with the bequest tax statistics, where no age information is available, column 8 is aggregated over age brackets with weights taken from the frequency of death by age bracket. Finally, we obtain the inferred average net asset for an average dying male person, ¥13,826,000.

Suppose that the Family Saving Survey samples both the wealthy and the poor correctly. (It may be that the highest income bracket is undersampled. This would make our estimate for nontaxable decedents' assets biased downward.) We then calculate the average financial holdings of taxable decedents from table 10.5 to be ¥41,760,000.

Recall that the fraction of taxable deaths per generation was 0.133 (table 10.9). In order to arrive at ¥13,826,000 as an average of taxable and nontaxable deaths, the nontaxable death average financial asset is inferred to be ¥9,541,000.

The last adjustment we have to make is to estimate the landholding of nontaxable decedents. The financial share in a nontaxable decedent's portfolio is denoted by M. Here, we assume a ratio similar to the taxable decedent, $M = 0.35$. (The case for $M = 0.5$ is shown in table 10.12.) Since the home owner ratio does not seem to decline with age according to the Family Saving Survey, the assumption is not unreasonable. Then K, the average net asset holding of nontaxable decedents, is calculated as 0.426.

10.5.3 Simulation

Since the parameter of land underassessment and that of nontaxable death may not be absolutely reliable, we conducted simulations to ascertain the robustness of the results.

Results of simulation are shown in tables 10.11 and 10.12. In the benchmark case, table 10.11, the widow(er) is assumed to dissave 50 percent of the

a spouse of the household head (typically, the female elderly, where the male elderly is a household head); (5) living with children, and a child is a household head; (6) living with children, and the elderly is a parent of the spouse of the household head; (7) living with children with other kinds of relationships; and (8) other living arrangements. For categories 1, 2, and 8, male and female statistics are shown separately. Only the sum of 3 through 7 can be decomposed into males and females. The male household heads are calculated as the sum of 1, 2, and 80 percent of 3. The 80 percent multiplier in the last term is necessary because for 3, male and female decomposition is not available, and some household heads living with children are females. If taken as 100 percent of 3, the highest age bracket would have a higher household head ratio than the second highest age bracket. Consequently, we made the 80 percent adjustment.

Table 10.11 Simulation of the Ratio of Bequest Wealth to Total Wealth, Japan

	$u=0.34$		$u=0.56$		$u=0.78$		$u=1.0$	
K	Land	Asset	Land	Asset	Land	Asset	Land	Asset
0.0	29.8	17.9	18.1	11.5	13.0	8.7	10.1	7.1
0.1	38.8	23.6	23.6	15.3	16.9	11.7	13.2	9.7
0.2	47.9	29.4	29.0	19.1	20.8	14.7	16.2	12.2
0.3	56.9	35.1	34.5	23.0	24.8	17.7	19.3	14.7
0.4	65.9	40.9	40.0	26.8	28.7	20.7	22.4	17.3
0.426	68.3	42.3	41.4	27.8	29.7	21.5	23.2	17.9
0.5	74.9	46.6	45.5	30.7	32.6	23.7	25.4	19.8
0.6	84.0	52.4	51.0	34.5	36.6	26.7	28.5	22.4
0.7	93.0	58.1	56.5	38.3	40.5	29.7	31.6	24.9
0.8	102.0	63.9	61.9	42.2	44.5	32.7	34.7	27.4
0.9	111.1	69.6	67.4	46.0	48.4	35.7	37.7	30.0
1.0	120.1	75.3	72.9	49.9	52.3	38.7	40.8	32.5

Notes: This simulation assumes $M = 0.35$, $MM = 0.5$, and $K = 0.426 = (9{,}541/M)/64{,}000$.

M = (portfolio parameter of nontaxable decedent) the ratio of financial assets to total net assets among the nontaxable decedent's portfolio.

MM = (dissaving of widow parameter) the ratio of the widow's bequest to children to husband's bequest to the wife.

K = (nontaxable death wealth parameter) the ratio of assets (financial and land) to the basic deduction amount for nontaxable death. If an estimate of average net "financial" asset for nontaxable death of ¥ 9,541 million in 1988 is adopted, and if $M=0.35$, then K is equal to 0.426.

U = (underassessment of land) the ratio of land value for bequest to land value of National Accounts.

property inherited from the spouse. The widow(er) is assumed to dissave 0 percent in table 10.12A and 100 percent in table 10.12B.

In the benchmark case, suppose that the land underassessment ratio is 0.56 and that nontaxable deaths on average leave 0.426 of the basic deduction. Then 41 percent of land and 28 percent of net household assets are obtained by bequest. If the land underassessment ratio is 0.34, then 68 percent of land and 42 percent of net household assets are obtained by bequest.

10.6 Estimating Bequeathed Assets in Outstanding Assets in the United States

In this section, we attempt to make an estimate, comparable to those estimates for Japan, of the proportion of national wealth transferred from one generation to the next in the United States. Table 10.13 presents data for the United States which are roughly comparable to the data of table 10.10 for Japan. Unfortunately, the Federal Reserve's definition of household includes the assets and liabilities of personal trusts and nonprofit organizations. While it is certainly appropriate to include personal trusts in an analysis of bequest and gift behavior, the inclusion of nonprofit organizations may or may not be

Table 10.12 **Simulations, Japan**

	$u = 0.34$		$u = 0.56$		$u = 0.78$		$u = 1.00$	
K	Land	Asset	Land	Asset	Land	Asset	Land	Asset
	A. $M = 0.35, MM = 0.00, K = 0.426 = (9{,}541/M)/64{,}000$							
0.3	45.8	29.2	27.8	19.4	20.0	15.2	15.6	12.8
0.4	53.7	34.2	32.6	22.8	23.4	17.8	18.2	15.0
0.426	55.8	35.5	33.9	23.6	24.3	18.5	18.9	15.6
0.5	61.6	39.2	37.4	26.1	26.8	20.4	20.9	17.2
0.6	69.6	44.2	42.2	29.5	30.3	23.0	23.6	19.4
	B. $M = 0.35, MM = 1.0, K = 0.426 = (9{,}541/M)/64{,}000$							
0.3	69.1	41.5	41.9	26.7	30.1	20.3	23.5	16.7
0.4	79.3	47.9	48.1	31.0	34.5	23.7	26.9	19.6
0.426	81.9	49.6	49.7	32.2	35.7	24.6	27.8	20.3
0.5	89.4	54.4	54.3	35.4	39.0	27.1	30.4	22.4
0.6	99.6	60.9	60.5	39.7	43.4	30.4	33.8	25.3
	C. $M = 0.5, MM = 0.5, K = 0.298 = (9{,}541/M)/64{,}000$							
0.298	50.5	32.8	30.6	22.0	22.0	17.3	17.1	14.7
0.3	50.6	32.9	30.7	22.1	22.0	17.4	17.2	14.7
0.4	57.6	37.9	34.9	25.6	25.1	20.3	19.5	17.3
0.5	64.5	42.9	39.2	29.2	28.1	23.2	21.9	19.8
0.6	71.5	47.9	43.4	32.7	31.1	26.1	24.3	22.4

Table 10.13 **Household Assets and Liabilities at Year End 1976–89, United States** (in billions of dollars)

Year	Assets	Liabilities	Net
1976	6,052.6	869.2	5,183.4
1977	6,730.9	1,006.2	5,724.7
1978	7,695.8	1,172.2	6,523.6
1979	8,866.1	1,344.6	7,521.5
1980	10,129.7	1,472.0	8,657.7
1981	10,971.9	1,589.7	9,382.2
1982	11,508.6	1,664.0	9,844.6
1983	12,587.8	1,832.1	10,725.7
1984	13,376.5	2,050.4	11,326.1
1985	14,716.2	2,319.6	12,396.6
1986	16,066.5	2,627.9	12,438.6
1987	17,151.8	2,891.4	14.260.4
1988	18,464.3	3,185.4	15,278.9
1989	20,278.4	3,468.1	16,810.3

Source: U.S. Board of Governors of the Federal Reserve System, Flow of Funds Accounts (1990).

Note: Includes holdings and liabilities of households, personal trusts, and nonprofit organizations. However, the holdings of land, residential structures, and plant and equipment by tax-exempt organizations are deleted from the compilation of assets, while liabilities of tax-exempt debt are deleted from the compilation of liabilities.

Table 10.14 **Composition of Bequeathed Assets, United States** (in millions of dollars)

Year	Real Estate	Financial Assets[a]	Other Assets[b]	Funeral and Administrative Expense	Liabilities	State Taxes[c]	Federal Taxes	Net Bequest[d]
1976	12,920.9	30,508.1	4,772.6	2,022.1	2,649.0	552.3	4,979.1	37,999.1
1981	10,974.3	26.722.1	7,263.5	1,654.0	2,600.7	919.7	6,226.0	33,559.1
1984	13,948.4	35,823.1	9,796.3	1,885.4	3,608.4	1,077.6	5,035.4	47,961.0
1987	13,564.8	43,401.1	13,659.5	1,898.1	3,238.2	1,567.5	6,299.2	57,662.4

Source: Internal Revenue Service, Statistics of Income Division.

[a]Includes value of noncorporate businesses.

[b]Sum of household goods and lifetime transfers.

[c]Value of state death tax credit, hence an underestimate of all state taxes.

[d]Calculation nets all expenses, liabilities, and taxes against total assets.

appropriate. To the extent the holdings of nonprofit organizations represent pension fund assets that are held on behalf of individuals, the net holdings should be included. To the extent the holdings of nonprofit organizations are endowments of universities or other charitable organizations, the net holdings should be excluded.

The inclusion of trusts and nonprofit organizations has a large effect. For example, in 1984 the Federal Reserve calculated the holdings of financial assets of households at $8.8 trillion and the holdings of financial assets of individuals at $6.9 trillion. The liabilities of households were $2.1 trillion and the liabilities of individuals were $3.2 trillion.[6] Consequently, the net financial assets of households were $6.7 trillion and the net financial assets of individuals were $3.7 trillion. To partially correct for this we have netted from the asset data the value of residential structures, plant and equipment, and land held by tax-exempt organizations. We also have netted from the liability data the value of tax-exempt debt, which presumably can only be issued by tax-exempt organizations. However, we are unable to make any consistent corrections for holdings of financial assets by tax-exempt organizations. We observe that the estimated net worth of households reported in table 10.13 exceeds the estimates of the PSID and SIPP studies for 1984 cited in section 10.3.

Table 10.14 provides a composition of bequeathed assets for the years 1976, 1981, 1984, and 1987 for taxpayers who filed estate tax returns in 1977, 1982, 1985, and 1988. The data do not precisely correspond to bequests for each year because some estate tax returns filed in any particular year are not returns for a death in the year immediately preceding filing. We calculated the net bequest (last column on the right) by subtracting all liabilities, expenses,

6. Federal Reserve Boards of Governors, "Financial Assets and Liabilities Year-End, 1964–87," September 1988. In addition to the exclusion of trusts and nonprofit organizations, the data for individuals include the assets and liabilities of nonfarm noncorporate businesses and corporate farms. The Federal Reserve does not separately report the assets and liabilities of nonprofit organizations.

and taxes against the value of financial assets in the estate. As such it is comparable to table 10.13. Unlike the comparable data in table 10.10 for Japan, these data are defined by those estates that filed returns, regardless of whether there ultimately was a tax liability.

Table 10.15 reports taxable estate tax returns as a percentage of annual deaths. Generally, for each taxable return filed, a nontaxable return is filed. Table 10.15 shows that the percentage of taxable deaths rose from 1935 to 1977, since which time it has declined. As discussed above, in the absence of changes in the estate tax, inflation and the growth in per capita wealth causes more decedents' estates to incur an estate tax liability. This was the case until 1977. The Tax Reform Act of 1976 increased the estate tax exclusion from $30,000 to $60,000. The Economic Recovery Tax Act of 1981 further increased the annual exclusion to $600,000.[7] In addition, as discussed in appendix B, the 1981 act created an unlimited marital reduction, which further reduces the number of estates subject to tax. The increase in the estate tax exclusion and the marital deduction removed a substantial number of estates from federal estate taxation, as table 10.15 documents. Even when the marital deduction results in no tax liability, however, a return must be filed. To arrive at a comparable figure for the United States for intergenerational deaths, we use the 1986 ratio of deaths of males aged 55 or older to total deaths, 42 percent.

In table 10.16 we make a lower bound estimate of the ratio of transferred assets to outstanding assets. As discussed in section 10.2, U.S. law and practice generally value all assets at market value. In addition, unlike Japan, the U.S. data reveal no preference for real estate or other specific assets as a tax planning device.[8] To arrive at an estimate of generational bequests we divide

7. The 1976 increase in the exclusion was phased in over 1977 to 1980, and the 1981 increase was phased in annually from 1982 through 1987.

8. Patric Hendershott has raised to us the question of whether "flower bonds" constitute a significant preference that might alter the composition of the portfolios of American decedents. Prior to March 3, 1971, the Treasury could issue bonds that could be redeemed at par in payment of an estate or gift tax liability, if the taxpayer had purchased such bonds prior to his or her death. The Treasury issued limited series of such bonds, which became known as flower bonds. When issued in the 1950s and early 1960s, flower bonds carried competitive coupon rates. Subsequent increases in the rate of inflation and interest rates have caused the outstanding bonds to trade at substantial discounts to par. Consequently, purchase of the bonds at discount for redemption at par to pay estate taxes may be quite profitable, even though the value of the bonds must be carried at par for purposes of determining the gross estate.

Since 1980 only nine series of these bonds have been outstanding (all issued prior to 1964). At present, only five series of flower bonds have yet to reach maturity. In 1988, approximately 1,000 estates redeemed approximately $200 million worth of flower bonds at par to pay the estate tax. More than 18,000 taxable estates were taxable that year. Moreover, the value of bonds redeemed at par represented approximately 3 percent of total estate tax liability, only 11 percent of the value of all federal bonds in filers' estates, less than 3 percent of the value of all bonds in filers' estates, and approximately 0.5 percent of the value of the gross estate of those filers who incurred a tax liability. In earlier years flower bonds were more prominent. In 1982 approximately 10 percent of taxable returns redeemed flower bonds worth approximately 10 percent of their tax estate of their tax liability, but less than 2 percent of value of the gross estate of those filers who incurred a tax liability. However, the composition of estates looks quite similar in 1982 and 1988 (see appendix

Table 10.15 **Number of Taxable Estate Tax Returns Filed as a Percentage of Adult Deaths, Selected Years 1935–88, United States**

Year	Deaths	Taxable Estate Tax Return Filed[a]	
		Number	Percentage of Deaths
1935	1,172,245	8,655	0.74
1940	1,237,186	12,907	1.04
1945	1,239,713	13,869	1.12
1950	1,304,343	17,411	1.33
1955	1,379,826	25,143	1.82
1961	1,548,665	45,439	2.93
1966	1,727,240	67,404[b]	3.90
1970	1,796,940	93,424[b]	5.20
1973	1,867,689	120,761[b]	6.47
1977	1,819,107	139,115[b]	7.65
1982	1,897,820	41,620[b,c]	2.19
1983	1,945,913	35,148[b,c]	1.81
1984	1,968,128	31,507[b,c]	1.60
1985	2,086,440	30,518[b,c]	1.46
1986	2,105,361	23,731[b,c]	1.13
1987	2,123,323	21,335[b,c]	1.00
1988	2,167,999	18,948[b,c]	0.87

Sources: Pechman (1987); Internal Revenue Service, Statistics of Income Division; U.S. National Center for Health Statistics.

[a]Estate returns need not be filed in the year of the decedent's death.

[b]Not strictly comparable with pre-1966 data. For 1966 and later years, the estate tax after credits was the basis for determining taxable returns. For prior years, the basis was the estate tax before credits.

[c]Although the filing requirement was for gross estates in excess of $225,000 for 1982 deaths, $275,000 for 1983 deaths, and $325,000 for 1984 deaths, the data are limited to gross estates of $300,000 or more. The filing requirement increased to $400,000 for 1985 deaths, $500,000 for 1986 deaths, and $600,000 for deaths in 1987 and thereafter.

Table 10.16 **Bequeathed Assets as a Percentage of Net Household Assets, United States**

Year	Net Bequests (millions of $)	Net Total Assets (billions of $)	Bequest Ratio (%)	Generational Bequest Ratio		
				$MM=1$	$MM=0.5$	$MM=0$
1976	37,999.1	5,183.4	0.733	18.33	14.66	11.00
1981	33,559.5	9,382.2	0.358	8.94	7.15	5.36
1984	47,961.0	11,326.1	0.423	10.58	8.46	6.35
1987	57,622.4	14,260.4	0.404	10.10	8.08	6.06

B). Consequently, we do not believe that the existence of flower bonds has significantly altered the composition of the portfolios of American decedents.

the net bequest (as defined in table 10.14) by the household sector's net worth (as reported in table 10.13). This produces the bequest ratio in table 10.16. As above, we multiply the bequest ration by 25 to convert the bequeathed stock of assets into a flow.

Lastly we make an adjustment to the generational bequest ratio to account for the marital deduction permitted under the U.S. transfer taxes. The U.S. bequest data are for those who file, not for taxable returns. A husband could die and his estate would file a return, even if under the marital deduction all his wealth was bequeathed to his wife. If the wife died the next year, her estate would file a return, which could contain nearly the identical assets. When this occurs, assets bequeathed to the surviving spouse would be counted twice in our analysis. Consequently, we compute an "adjusted generational bequest ratio."

In practice, the data reveal that decedents do not leave their entire estate to their surviving spouse. The 1977 estate tax data report approximately 20 percent of the gross estate claimed the marital deduction. However, prior to 1982 not all assets bequeathed to a surviving spouse qualified for the marital deduction. The experience from 1985 and 1988 when an unlimited marital deduction was in effect reveals that approximately one-third of the gross estate is bequeathed to the surviving spouse. For 1988 returns, this represents approximately 40 percent of the net after-tax bequest. To be conservative, we assume each estate has a surviving spouse to which 40 percent of the net bequest is made. We present three possible scenarios: (1) the surviving spouse consumes none of the bequeathed assets and bequeaths the assets to the next generation upon death ($MM = 0$); (2) the surviving spouse consumes one-half of bequeathed assets and bequeaths the remaining assets upon death ($MM = 0.5$); and (3) the surviving spouse consumes all of the assets, passing on none to the next generation ($M = 1.0$).

This computation suggests that, at a minimum, 5.4 percent of U.S. household wealth in the 1980s is intergenerational bequeathed wealth. The result for 1976 substantially exceeds that of the other years because in 1976 more than 7 percent of decedents had to file federal estate tax returns, whereas since 1982 fewer than 2 percent have had to file. These data may suggest that the next five percentiles of decedents bequeath 75 percent as much wealth as the wealthiest 2 percent of decedents. These figures are comparable to those for Japan when one recognizes that table 10.10 generally represents the wealthiest 6 percent of Japanese decedents and the figures for the United States from the 1980s represent the wealthiest 1 to 2 percent.

This estimate for the United States likely substantially understates reality. As noted above, we have used for our measure of household wealth an adjusted version of the Federal Reserve's accounting of household wealth, which includes the financial holdings of tax-exempt organizations. For example, for 1984 the generational bequest ratio would be even greater if the

PSID or SIPP wealth data, which do not include tax exempt organizations, were used. In addition, many observers believe that the U.S. estate tax is ineffectual in taxing intergenerational wealth transfers. See, for example, Cooper (1979), Bernheim (1987), and Munnell (1988). They argue that substantial opportunities exist for legal tax avoidance.

We attempt to estimate adjusted generational bequest ratios for net wealth while recognizing that many nonfiling decedents make bequests by the following procedure. We use 1987 deaths (1988 filing) as our base year. From the almost 2.2 million deaths in the United States that year, some 43,000 estate tax returns were filed. We assume that 42 percent of the remaining 2.1 million decedents were males aged 55 or older. We let K represent the fraction of the $600,000 exemption level that the average nonfiling decedent bequeathed. (A value of $K = 1$ corresponds to an average bequest of $600,000.) The value of such bequests is then divided by the 1987 value of net household assets and multiplied by 25. If we assume that all such bequests either go directly to the next generation or that any bequest received by a surviving spouse is not consumed and ultimately bequeathed intact, further adjustment is not necessary. This is equivalent to the case of $MM = 1$ in table 10.16. In addition, we assume that each male decedent bequeaths 40 percent of his estate to a surviving spouse and the surviving spouse consumes half ($MM = 0.5$) or all ($MM = 0$) of the bequest. To these results, we add the corresponding 1987 adjusted generational bequest ratios of the estate tax filers. Table 10.17 reports the results.

Obviously, a value of $K = 1$ is unlikely to represent the average bequest of nonfilers. However, we observe that the SIPP data report that for 1984 the median net worth of householders aged 55 to 64 was $130,498 and for householders age 65 and older, $104,851. With growth in net worth, this would imply a value of K of at least 0.2. We would hazard the guess that in the United States at least one-quarter of national wealth is transferred from one generation to the next.

To add some perspective, recall that for $MM = 1$, for 1976, the generational bequest ratio was 18.33. If all nonfiling decedents made an average bequest of $6,000 ($K = 0.2$), the generational bequest ratio equals 20.27. This is only modestly lower than the similar calculation for 1987 decedents in table 10.17.

10.7 Summary and Concluding Remarks

We have compared the transfer taxation systems in Japan and the United States, and we have estimated the amount of transfers through bequests. We also have estimated the share of bequeathed assets in total household assets in the two countries.

Table 10.17 **Estimates of Bequeathed Household Assets in Proportion to Outstanding Assets, United States (%)**

	Adjusted Generational Bequest Ratio		
K	$MM=1$	$MM=0.5$	$MM=0$
0.0	10.10	8.08	6.06
0.1	19.50	15.60	11.70
0.2	28.89	23.11	17.34
0.3	38.29	30.63	22.97
0.4	47.69	38.15	28.61
0.5	57.08	45.67	34.25
0.6	66.48	53.18	39.89
0.7	75.88	60.70	45.53
0.8	85.27	68.22	51.16
0.9	94.67	75.73	56.80
1.0	104.07	83.25	62.44

In both countries, all bequeathed property of the decedent becomes subject to bequest or estate tax. However, the estate tax in the United States is imposed on the bequeathed estate (the donor side), while the bequest tax of Japan is imposed on beneficiaries of the bequest (the donee side). In Japan, there are presumed heirs, called statutory heirs. As the number of statutory heirs becomes large, so that the per person bequest becomes small, the tax burden is reduced. There is no such system in the United States, that is, the size of the estate determines the basic tax liability. In Japan, at least up to a half of bequeathed property may be given to a spouse tax free, while in the United States any bequest to a spouse is tax free.

Land and real estate are assessed for bequest tax purposes at a value substantially lower than the market value in Japan. There is no such favorable treatment in the United States. This incentive induces the Japanese elderly who intend to bequeath to invest heavily in real estate. At least three-quarters of the Japanese taxable bequest is in real estate. Only one-quarter of the U.S. taxable bequest is in real estate.

This paper does not distinguish between intended and unintended bequests. If unintended capital gains occurred, in particular in the value of land and housing, in favor of the elderly, then it may be difficult for the elderly to realize the gain in the form of an additional annuity in a world of imperfect markets. Land inflation in Japan would tend to increase the amount of unintended bequests. However, the relatively stable ratio, through time, of land in bequeathed property value implies that a significant portion of bequest was planned.

In the United States, the ratio of taxable deaths to total deaths is much lower than in Japan, so that our simulations are very sensitive to the parameter K. Suppose that on average \$120,000 (that is, 20 percent of the maximum basic

deduction) is bequeathed by the nontaxable decedents in the United States. Then at least one-quarter of household assets in the United States are obtained by intergenerational transfers, as opposed to live-cycle hump saving.

From the Japanese Family Saving Survey and Basic Life Survey, we consider that on average ¥24 million, that is, 40 percent of the maximum basic deduction, is bequeathed by an average nontaxable (male) decedent (of age 50 or more). Then, at least 30 to 40 percent of the household wealth and 40 to 60 percent of land were formed by intergenerational transfer.

Our results from our most preferred case for Japan ($K = 0.426$ with $U = 0.56$) and the United States (K between 0.2 and 0.3) show that the ratio of transferred saving as opposed to life-cycle saving is somewhat greater in Japan than in the United States. Hayashi, Ando, and Ferris (1988) have conjectured that the higher Japanese saving rate is due to nondissaving of the elderly. Their conjecture would be consistent with the results derived here.

However, for some simulations the United States ratio is higher than the Japanese. Given the high Japanese personal saving rate, this may be counterintuitive. We offer two factors that raise the U.S. ratio of transferred assets compared to the Japanese ratio. First, social security and corporate pensions, which essentially constitute a form of life-cycle saving, do not show up as household assets while accumulating prior to retirement. This lowers the denominator of the transferred assets to total asset ratio. To the extent that the United States has more social security and corporate pension plans than does Japan, the ratio is biased comparatively upward in the United States. (If pensions, or retirement severance payments, are unfunded, and the liabilities are reflected in the value of corporate stock, which is ultimately owned by the household sector, then the bias would disappear.)

Second, corporate pensions in the United States are predominantly distributed as an annuity, while the Japanese corporate pensions are traditionally paid as a lump-sum severance payment upon retirement. With lump-sum distribution, household assets in Japan typically increase upon retirement, that is, at age 55 to 60. This would increase the denominator of the ratio. Moreover, a lump-sum payment as opposed to an annuity payment leaves a larger possibility of intended and unintended bequests.

Our results suggest that in both Japan and the United States a substantial portion of the national capital stock is the result of intended and unintended intergenerational transfers. Kotlikoff and Summers (1981) suggested that between 15 and 70 percent of the American capital stock resulted from such transfers and argued that, in fact, the intergenerational transfers were primarily responsible for the existing capital stock. Utilizing a different methodology, our preferred cases suggest that for the United States and Japan between 25 and 40 percent of the capital stock results from intergenerational transfers, which is roughly the middle of the Kotlikoff and Summers range. Whether our calculations or those of Kotlikoff and Summers are closer to the truth requires further research.

Appendix A
Transfer Taxation in Japan

Historical Background[9]

Japan established its first transfer tax in 1905. Until 1949, it was an estate tax, in that the tax base was the value of properties of the decedent. In 1950, in accordance with the tax mission of Carl Shoup, it became an accession tax, in that the tax was imposed on the recipient of inherited properties, gifts, or bequests, and the value of properties used as the tax base was computed cumulatively over the recipient's lifetime. The 1953 revision divided the accession tax into an inheritance tax and a gift tax, and the method of cumulative taxation was repealed.

The gift tax was introduced as a complement to the inheritance tax. Without the gift tax, one could distribute one's wealth to one's heirs prior to death in order to avoid or reduce the inheritance tax burden. Each heir (or donee in the case of the gift tax) was separately liable for the tax on the property received. Hence, how wealth was distributed among heirs (or donees) could make a great difference in the total tax burden. In some cases, distribution was distorted in order to reduce the tax burden.

In 1958, the system was revised, so that the inheritance tax is calculated on the basis of the total property bequeathed and the number of statutory heirs (and not distribution among them or nonstatutory heirs). The 1988 tax reform included revision of inheritance and gift tax schedules and some revisions closing loopholes. The method of calculating the bequest tax will be explained in detail below.

Taxpayers

Residency status and location of the transferred property determine potential tax liability. An individual who acquires property by inheritance, bequest, or gift and who has a domicile in Japan at the time of acquisition of such property is an "unlimited taxpayer." An individual who acquires any property located in Japan by inheritance, bequest, or gift and who has no domicile in Japan at the time of acquisition of the property is a "limited taxpayer" (Ministry of Finance 1990).

An unlimited taxpayer is responsible for all bequeathed assets, located either in Japan or in foreign countries. A limited taxpayer is responsible for bequeathed assets located only in Japan, but not those in foreign countries. A Japanese national employed in Japan is an unlimited taxpayer even if he or she is temporarily traveling or residing in a foreign country (Ministry of Finance 1990).

Note that the inheritance tax in Japan is paid by those who receive proper-

9. This section is based on Ministry of Finance (1990, section IV).

ties as opposed to the estate of the decedent in the United States. Beneficiaries, however, have to mutually agree on how to divide the properties. The inheritance tax form signed by beneficiaries is usually filed at the Tax Bureau's branch that covers the residence of the decedent. Inheritance and gift taxes in Japan are a national tax. The same rate schedule, exemptions, and tax credit applies to all properties in Japan. No local government may impose additional bequest or gift tax.

Statutory Heirs and Statutory Shares

The Japanese civil law concept of "statutory heir" is critical to an understanding of the inheritance tax. There are three mutually exclusive ways to calculate the number of statutory heirs. (1) Lineal descendants. When there are surviving children, the spouse and children become statutory heirs. If there are no surviving children, but grandchildren are alive, the grandchildren substitute for the children. (2) Lineal ascendants. When there are no children (or grandchildren), the spouse and the parents of the deceased constitute statutory heirs. (3) Lateral. When there are no children and parents, statutory heirs consist of the spouse and brothers and sisters of the decedent.

The total number of statutory heirs determines the size of the basic exemption (explained below). The concept of statutory heirs also determines an estate's "statutory shares" (Civil Law, article 900). In case 1, the spouse is entitled to half the estate and each child is entitled to the other half divided by the number of children.[10] In case 2, the spouse is entitled to two-thirds and parents receive one-third (or each parent receives a half of one-third). In case 3, the spouse is entitled to three-quarters, and surviving siblings receive one-quarter (or each brother and sister receives one-quarter divided by the total number of surviving siblings).

When no will exists, heirs may mutually decide how to divide the property (Civil Law, article 902). However, when heirs cannot reach a mutually acceptable agreement on the division of property the statutory shares actually determine the division of property (Civil Law, articles 900, 901). Moreover, even if the decedent leaves a will specifying transfer of the entire estate to a sole recipient, statutory heirs may sue for the automatic entitlement of bequest, that is, a half of statutory share.[11] More important, regardless of the actual

10. A child born out of wedlock, or born to a different spouse, is entitled to only a half of a share of child.

11. A dying person cannot control the distribution of bequeathed property. One-half of the statutory share is reserved for each statutory heir, no matter how the dying person wishes to distribute his or her property postmortem (Civil Law, article 1028). (In the case where there is no child, grandchild, or spouse, the guaranteed share of the parents of the decedent is one-third.) This guaranteed minimum share is called *iryubun*. (*Pflichtteil* in German, and *réserve* in French. There is no word in Anglo-Saxon law.) From the perspective of a strategic bequest motive (Bernheim, Shleifer, and Summers 1985), *iryubun* creates a very weak threat point for the parents. Unless parents have illiquid assets, such as land and structures, heirs are assured of wealth transfer with an uncertain timing in the future. This would reduce the amount of children's care of parents

distribution of property, the statutory shares determine the total inheritance tax liability.

Taxable Property, Exemptions, and Tax Base

The inheritance tax base is equal to the value of all the property owned by the decedent at the time of his or her death, including any life insurance and severance payments paid upon death. Benefits of life insurance or accidental death insurance are included, provided that the decedent had paid insurance premiums. In addition, all gifts made during the last three years of life are added to the total.[12] From this total, the funeral expenses, liabilities of the decedent, and exemptions for charity, life insurance, and retirement severance are subtracted. Lastly, the basic exemption is subtracted from this amount to determine total taxable property.

The bequeathed properties, securities, and real estate are in principle valued at the fair market price. However, there are two well-known deviations from the principle. Real estate, such as residential land and land and structures for self-employed business, is in practice assessed less than the market price, partly because there is a special provision for small property and partly because, in practice, assessments for inheritance purposes are underestimated.

The former aspect is a provision for the small sites for residence or for business, such as rental housing. The assessment for the portion of 200 square meters of such property is reduced by 50 percent, and by 60 percent for business sites. If the property was partly residential and partly for business, the business portion is reduced by 60 percent and the residential portion is reduced by 40 percent, provided that the average rate is above 50 percent.

The second source of undervaluation is entirely due to ministerial practice. Land, which is a major portion of real properties in Japan, for bequest purposes is assessed by a valuation map (known as Rosen Ka) in the Tax Bureau's office. This is different from the land price survey (known as Koji Kakaku) done by the Land Agency of the Japanese government, or the land valuation for real estate (property) tax (imposed by municipal government). This problem will be discussed later.

Another provision effectively underassesses the value of agricultural land. This is accomplished by a special deferment and eventual exemption of inheritance tax if a beneficiary continues agriculture on that piece of property. This will be explained later.

There are four major categories for special exemptions from the inheritance tax. Property acquired through inheritance by a person or an organization engaged in religious, charitable, scientific, or other activities for public welfare

in equilibrium. In contrast, if the parent-heir relationship is essentially a cooperative game involving an exchange of terminal care and bequest, then the *iryubun* works as a precommitment that would increase the utility of both the elderly and the heirs-to-be. However, an economic analysis of *iryubun* is beyond the scope of this paper.

and to be used for public purposes is exempt from taxation. Payment from the mutual aid systems for handicapped persons carried out by local public entities according to their regulations is exempt from taxation.

Although life insurance payments and severance payments are included in property value, there are deductions for those payments. (Corporate severance payments are prevalent in Japan. The onetime, lump-sum payments upon retirement usually amount to three times annual salary. They play the role of annuity and pensions for U.S. workers.) A tax credit to each of these payments is equal to ¥5 million times the number of statutory heirs.[13]

In addition to special exemptions, all bequests benefit from a basic exemption. The basic exemption under current law is ¥40 million + (¥8 million × the number of statutory heirs).[14]

Tax Base, Tax Table, and Calculation of Tax

The total amount of inheritance tax owed by all heirs is determined as follows. First, assign the total tax base (property values after all exemptions) to each statutory heir by the statutory share (defined above). Then apply the tax schedule shown above in table 10.1 to the assigned amount for each heir (that is, the total tax base times statutory share) to calculate a tax amount for each heir. Deduct any tax credit (to be explained shortly) from this individual tax amount. Then sum up the individual tax amounts to the total inheritance tax liability. Below we provide an example of how to calculate and distribute inheritance tax liability to clarify any questions arising from this description.

Tax Credit and Surcharge

Spouse Provision

A surviving spouse receives a special property value deductible that works like a tax credit. If a surviving spouse inherits property, she or he may deduct

12. If a beneficiary of inheritance received properties by gift from the deceased within three years before his or her death, the value of such properties are included in the value of total properties bequeathed. The gift tax with respect to such properties is credited against the inheritance tax due to the beneficiary. This eliminates the potential double taxation of the gift. Although the marginal tax rate for gifts is higher than that of the inheritance tax if the same amount is given, it is possible to lower the total tax burden if only a portion of the intended bequest is given as an inter vivos transfer near death. This provision is intended to deter a near-death rush to divide up properties.

13. There were changes in the amounts of these types of exemptions in the 1988 reform. The old exemption (1975–87) for severance pay due at death was ¥2 million × number of statutory heirs; the new exemption (1988–present) is ¥5 million × number of statutory heirs. The old exemption for life insurance payments was ¥2.5 million × number of statutory heirs; the new exemption is ¥5 million × number of statutory heirs.

14. History of basic deduction: (in million yen) 1958–61, 1.5 + (0.3 × number of statutory heirs); 1962–65, 2.5 + (0.5 × number of statutory heirs); 1966–70, 4.0 + (0.8 × number of statutory heirs) + (4.0 maximum spouse allowance); 1971–72, 6.0 + (0.8 × number of statutory heirs) + (4.0 maximum spouse allowance); 1973–74, 6.0 + (1.2 × number of statutory heirs) + (6.0 maximum spouse allowance); 1975–87, 20.0 + (4.0 × number of statutory heirs); 1988–present, 40.0 + (8.0 × number of statutory heirs).

from her or his inheritance taxable property value the following amount (but not exceeding the inheritance tax less any applicable gift tax credit):

$$\text{Tax credit for spouse} = \text{Total inheritance tax} \times \frac{\text{Min (Max [¥80 million, spouse's statutory share times taxable property value], value of property actually given to spouse)}}{\text{Total taxable property value}}$$

In order to understand the above formula with respect to the spouse's tax liability, it is instructive to consider several scenarios. First, if the spouse actually inherits only up to the portion of statutory share, the inherited amount is free from inheritance tax, however large the property is. This is a revised clause from the 1988 tax reform. In the old formula, this part read "a half of taxable property value." The consequences of the new and old clause differ when there are no children as statutory heirs, since the statutory share of the spouse becomes greater than one-half in such a case. Second, even if the spouse actually inherits more than a statutory share, a bequest to the spouse of less than ¥80 million is again free from inheritance tax. The amount was raised from ¥40 million in the 1988 tax reform. (This revision was commensurate with other revisions of other deductible amounts in the inheritance tax.)

Tax Credit to Certain Heirs and Certain Kinds of Property

After the bequest tax is calculated, there are several provisions for tax credit (table 10A.1). First, if the beneficiary is a child of the decedent and a minor (under age twenty), the tax liability is reduced by ¥60,000 for each year the child is short of his or her twentieth birthday. Second, if a beneficiary is a handicapped child of the decedent, a further tax reduction is provided. The credit equals ¥60,000 times the number of years until the handicapped child attains age seventy. The amount doubles for the severely handicapped.

Other Tax Credits

Recall that any gifts that were made within three years prior to the death are counted toward an inheritance property value. In order to avoid double taxation, the gift tax paid for such gifts is applied as tax credit for inheritance tax.

If the decedent had received property by inheritance within ten years of his or her death, a certain percentage of inheritance tax is reduced for the new

Table 10A.1 **Tax Credit Summary** (in yen)

	Old (1975–87)	New (1988–present)
Handicapped	(70 − age) × 30,000	(70 − age) × 60,000
Severely handicapped	(70 − age) × 60,000	(70 − age) × 120,000
Minor	(20 − age) × 30,000	(20 − age) × 60,000

beneficiary. This alleviates an excess burden imposed by the succession of inheritance from one generation to the grandchildren's generation. The formula is complicated; an interested reader should consult a detailed tax book (Ministry of Finance 1989).

Surcharge

If a beneficiary is not a child (or a grandchild if there are no children), a parent, or a spouse of a child (or a grandchild if there are no children), then there is a 20 percent surcharge on the amount of tax calculated above. This provision works against a generation-skipping inheritance as well as lucky strangers.

Example

Suppose that a property valued at ¥200 million is bequeathed to a spouse and four children. (This example is taken from Ministry of Finance [1990, 129], but case C is added to take into account a second bequest from a spouse to children.) The amount of basic exemption is ¥40 million (a constant) plus ¥8 million times 5 (a spouse and four children), for a total of ¥80 million. Assuming no other exemptions, the tax base is ¥120 million (200 − 80). Next, the statutory share assigns the following distribution of tax base: for the spouse, ¥60 million (120 × ½); for each child, ¥15 million (120 × ⅛). Applying the tax table, individual tax amounts are ¥17.3 million for the spouse and ¥2.45 million for each child. The total tax liability, before tax credit, is thus, ¥27.1 million (17.3 + 2.45 × 4).

Case A. Suppose that heirs decide to actually distribute the property of ¥200 million according to the statutory share. Each child receives ¥25 million (100/4). The spouse tax credit applies in full, so there is zero tax liability for the spouse. Assuming no other tax credits, each child's tax liability is ¥27.1 million multiplied by (25/200), or ¥3.3875 million. The total tax liability is ¥13.55 million.

Case B. A confusing case arises when the actual distribution of the property deviates from the statutory share. The key in such a case is that the total tax liability, ¥27.1 million, does not change. Suppose that the actual distribution of the property is such that the spouse receives a half (that is, ¥100 million) as in case A, but four children, say C_1, C_2, C_3, and C_4, receive ¥40, ¥30, ¥20, and ¥10 million, respectively. Then the actual tax liability becomes, for C_1, 27.1 × (40/200) = ¥5.42 million; for C_2, 27.1 × (30/200) = ¥4.065 million; for C_3, 27.1 × (20/200) = ¥2.71 million; and for C_4, 27.1 × 10/200) = ¥1.355 million. The total tax liability remains ¥13.55 million.

Case C. Note that Cases A and B consider only one aspect of intergenerational transfers. Suppose case A, and assume that the surviving spouse dies some

years later without spending the ¥100 million. Then that amount is bequeathed to the four children. The basic deduction this time is ¥72 million (40 + (8 × 4)). Hence the total tax base is ¥28 million (100 − 72), implying that each statutory heir is responsible for ¥7 million (28/4). From the tax table, that would trigger a tax liability of ¥0.85 million per person, for a total inheritance tax of ¥3.4 million. Hence, the total inheritance tax on the intergenerational transfer (in two transactions) is ¥13.55 plus ¥3.4 million for a total of ¥16.95 million on a ¥200 million estate.

Special Treatment and Agricultural Land

When a farmer bequeaths farmland to an heir and the heir continues to use the land in an agricultural (family) business, the inheritance tax on the difference between the value as an agricultural land and the value otherwise may be deferred, and will be exempted if (1) the beneficiary continues agricultural use for twenty years after the inheritance, (2) the beneficiary dies, or (3) the beneficiary makes a gift to a person who continues farming.

Suppose that there is a parcel of land in a residential area. It is not productive as an agricultural business, so that its value as agricultural land would be relatively low. (In practice, the value is calculated as a present discounted value of agricultural income from the land.) However, if it is converted to residential use, the market value would be ten times its agricultural value. An heir generally would be better off to continue farming for twenty years to gain an exemption from the inheritance tax for most of the land value. After twenty years, the heir may sell at the higher market price. If the heir quits farming before ten years, a recapture provision for higher tax applies.

Filing Requirement

After these calculations, those who do not owe any inheritance tax are not required to report to the Tax Bureau's office, except for a spouse who benefits from the special spouse tax credit to become nontaxable. The filing has to be completed within six months of death. If mistakes in filing are found later, corrections may be submitted.

Inheritance Tax Distortion

Token Adoption

It is apparent from the calculation of the inheritance tax that the number of statutory heirs plays an important role. The number of statutory heirs need not equal the true number of heirs. More statutory heirs reduces total inheritance taxes imposed upon actual heirs. This is independent of how a decedent actually divides his or her properties. Three features of the inheritance tax produce this result. First, the basic exemption depends on the number of statutory heirs. Second, the total property value after exemptions is divided by the number of statutory heirs before a progressive tax schedule is applied. Third, the

tax credit for life insurance payment and severance payment depends on the number of statutory heirs.

Hence, a family may reduce inheritance tax payments by adopting children to increase the number of statutory heirs, with an understanding that the adopted children receive only a nominal compensation for this service. This loophole was widely recognized and exploited by wealthy families. Table 10.8 reveals a strong correlation between the size of the estate and the number of statutory heirs.

To close this loophole, the 1988 revision included a cap on the number of adopted children counted toward statutory heirs. Under the new rule, an adopted heir may be counted as a statutory heir only if the adopted heir is (1) a biological child of the spouse of the decedent; (2) a grandchild (if there is no child); or (3) an adopted child under the special adoption clause (Civil Law, article 817, 2–11);[15] *and* (4) the only adopted heir or one of only two adopted heirs, if there is no adopted heir in (1)–(3), a natural child, or a grandchild.

However, the effective date for this change was not until December 31, 1988, unlike most other changes, which became effective on January 1, 1988. Hence, we have to wait one more year to see what difference this tax reform has made.

Use of Real Estate

As explained in the text, real estate is a good vehicle for integenerational transfers. The value of real estate is in practice assessed at about half to two-thirds of the market value. In addition, assessments on up to 200 square meters of bequeathed residential property are further reduced by 50 percent (60 percent for business).

Bequests carried in the form of real estate are subject to less inheritance tax than those carried in the form of securities. Moreover, since the amount of debt is deductible in full, an effective way to reduce inheritance tax is to borrow a large sum of money to purchase real property, preferably shortly before death, so that the property is still highly leveraged at the time of intergenerational transfer.

To curtail such tax planning, the 1988 tax reform mandated that any real estate (land and structures, excluding the decedent's personal residence) purchased within three years of the date of death is assessed at its purchase price. (This is evidence that the tax authorities admit that assessed value is in practice less than the market value.) This rule still permits a tax advantage in a period of high land inflation. This change is also effective as of December 31, 1988.

We expect that this kind of tax incentive will manifest itself in land's repre-

15. The special adoption clause was introduced in 1987 to make children adopted at an early age (younger than six years) have rights and obligations in the family relationship similar to biological children. Unlike traditional adoption, special adoption severs the child's ties with his or her biological parents.

senting a larger fraction of bequests than otherwise. First, the share of land in tax-filing bequeathed property value is higher than the share of land in outstanding property value of a household. In 1988, the former was 69 percent, while the latter was 53 percent. Second, the share of land in the value of bequeathed property is higher in Japan than in the United States.

Gift Tax

A person may receive a gift of up to ¥600,000 a year free of gift tax. In addition, without gift tax, a spouse who has been married for more than twenty years may receive a gift of residential property of up to ¥20 million for personal use or a financial gift up to ¥20 million toward a purchase of residential property for personal use. This clause was created in 1966 with a twenty-five-year marriage requirement and with a ¥1.6 million deductible. The requirement had been twenty years since 1971, and the deductible amount was ¥10 million from 1975 to 1988.

A gift beyond these exemptions is subject to gift tax according to the tax schedule in table 10A.2. Table 10A.3 shows the gift tax filings for recent years.

Table 10A.2 **Gift Tax Table** (in millions of yen, beyond exemptions)

Old Taxable Transfer (1975–87)			New Taxable Transfer (1988–present)		
More Than	But Less Than	MTR (%)	More Than	But Less Than	MTR (%)
0.0	0.5	10	0.0	1.0	10
0.5	0.7	15	1.0	1.5	15
0.7	1.0	20	1.5	2.0	25
1.0	1.4	25	2.0	3.0	30
1.4	2.0	30	3.0	4.0	35
2.0	2.8	35	4.0	6.0	40
2.8	4.0	40	6.0	8.0	45
4.0	5.5	45	8.0	12.0	50
5.5	8.0	50	12.0	20.0	55
8.0	13.0	55	20.0	30.0	60
13.0	20.0	60	30.0	70.0	65
20.0	35.0	65	70.0	—	70
35.0	70.0	70			
70.0	—	75			

Source: Ministry of Finance, Tax Bureau, *An Outline of Japanese Taxes* (various issues).

Table 10A.3 **Gift Tax Filing Record** (in billions of yen)

	1986	1987	1988
Gift property value	960.600	1,418.543	1,109.786
Spouse exemption	165.018	357.432	179.096
Basic exemption	252.259	303.400	275.873
Tax base	543.213	772.927	653.528
Gift tax	151.858	225.454	168.670

Note: There was a tax reform (reduction) in 1988.
Source: Ministry of Finance, Tax Bureau, *Tax Bureau Statistics Annual* (various years).

Appendix B
Transfer Taxation in the United States

Overview

United States law formally structures the gift and estate taxes as excise taxes on the transfer of wealth.[16] A gift tax is imposed on transfers by gift during life, and an estate tax is imposed on transfers at death. The gift and estate taxes are a unified transfer tax system in that one progressive tax is imposed on the cumulative transfers during the lifetime and at death.

In theory, the tax applies to a family's wealth once per generation. In its present configuration, U.S. transfer taxes treat husband and wife as a family unit for purposes of transfers. Transfers between spouses are free of tax. However, the husband and wife independently use the basic exemption and tax rate schedule.

Taxable Estate and Taxable Gift

A decedent's gross estate is the market value of all the decedent's assets.[17] The law permits an unlimitied deduction for transfers between spouses. In addition, transfers and bequests to charities are deductible.[18] Funeral and burial expenses and expenses of administration of the estate are also deductible. Consequently, in its simplest terms, the taxable estate is the market value of all assets less the estate's expenses, charitable bequests, and transfers to the surviving spouse.

An individual may make annual gifts of $10,000 to any other individual

16. This is a consequence of an 1895 Supreme Court decision that invalidated the existing income tax, which treated gifts and inheritances as income and taxable as such. Congress enacted the current form of the estate tax in 1916. To eliminate avoidance through inter vivos transfers, Congress enacted the gift tax in 1932.

17. Special-use valuation of farm and other property is discussed in the main text and below.

18. Transfers are charitable only if they go to qualifying organizations. The Internal Revenue Service certifies qualifying charitable organizations.

without being subject to tax.[19] A husband and wife may jointly make $20,000 of tax-free gifts to each recipient. For example, a husband and wife with three children may annually transfer $20,000 to each child free of any gift tax, for a total of $60,000 in tax-free transfers. Moreover, a husband and wife may transfer $20,000 annually to each child for as long as they live. Such transfers are free from transfer taxes, and they do not constitute taxable income to the children. A program of annual giving permits the transfer of considerable wealth free of tax. Our hypothetical husband and wife could transfer $1.2 million tax free to their three children over a twenty-year period.

Prior to the Economic Recovery Tax Act of 1981 the treatment of interspousal transfers and other gifts was not quite as liberal. At that time the annual gift tax exclusion was $3,000 ($6,000 for joint gifts). The entire value of the first $100,000 of lifetime transfers between spouses was exempt from tax. Thereafter, a deduction was allowed for 50 percent of interspousal lifetime transfers in excess of $200,000. The estate tax marital deduction generally was equal to the greater of $250,000 or one-half of the decedent's adjusted gross estate.

Rates and Unified Credit

Under present law, the gift and estate tax rates begin at 18 percent on the first $10,000 of taxable transfers and reach 55 percent on transfers over $3 million.[20] In addition, for transfers between $10 million and $21,040,000,[21] the benefits of the lower rates and the unified schedule are phased out at a rate of 5 percent, making the effective marginal tax rate 60 percent. After this phase-out range, the marginal and average tax rate equals 55 percent.

The cumulative amount of any gift or estate tax is reduced by a unified credit. The gift or estate tax is first computed without any exemption, and then the unified credit is subtracted to determine the amount of gift or estate tax payable before the allowance of other credits. The Tax Reform Act of 1976 created a unified credit of $47,000, which had the effect of exempting transfers of up to $175,625 from tax. The Economic Recovery Tax Act of 1981 increased the credit in six annual steps to $192,800, which has the effect of exempting transfers of up to $600,000 from tax.[22] As a consequence, the first dollar of a taxable estate faces a 37 percent marginal tax rate.[23] The unified

19. Payment of qualifying educational expenses, such as the tuition and fees charged by a university, and medical expenses do not count toward the annual limit.

20. In 1993 the top rate is scheduled to be reduced to 50 percent. Prior to 1981, the top rate was 70 percent for transfers in excess of $5 million. Brackets at 60 and 65 percent also existed. The reduction from a top rate of 70 percent to the current rate structure was phased in.

21. $18,340,000 after 1992.

22. The unified credit was $62,800 for 1982, $79,300 for 1983, $96,300 for 1984, $121,800 for 1985, and $155,800 for 1986.

23. The rate structure for transfers of less than $600,000, reported above, has been retained over the past fifteen years. Lower-end relief has been provided by increases in the unified credit. As noted above, the top bracket rates have been reduced.

credit is not indexed for inflation. Tax liability accounts for any prior gift taxes paid or unified credit claimed.

While the gift and estate taxes are unified and unlimited tax-free transfers are permitted between spouses, the husband and wife do not jointly face one tax rate schedule for transfers of household wealth. This implies that simple tax planning can reduce significantly taxes on transfers. Suppose a husband and wife receive an annuity that provides for their living expenses and the husband owns $1.2 million of assets. The husband could bequeath all assets to his wife, and his estate would pay no tax. Upon the wife's subsequent death, however, $1.2 million would be in her estate. After using the unified credit, the estate would owe $235,000 in tax, and $965,000 would be bequeathed to their children. The superior strategy is for the husband to bequeath $600,000 to his wife, which is untaxed under the marital deduction, and to bequeath $600,000 to their children, which is untaxed by his estate's use of the unified credit. Upon the wife's subsequent death, her estate could transfer the remaining $600,000 to their children free of tax as her estate uses the unified credit. With an increasing marginal tax rate schedule, equal bequests from each spouse minimize the total tax burden.

A limited credit is available for any state death or inheritance taxes paid.[24] The state credit works as revenue sharing with the states, encouraging them to establish a death tax at least to soak up the benefit of the dollars that the federal government would otherwise tax. Twenty-six states impose only a so-called soak-up or pick-up tax. For example, Florida has such a tax. Nine states, for example, New York, impose estate taxes in excess of what is creditable against the federal estate tax, thereby increasing the total tax burden. Another eighteen states, for example, Pennsylvania, impose a bequest tax in addition to an estate soak-up tax.[25] Such taxes also increase the total tax burden.

Tax-Inclusive versus Tax-Exclusive Rate Structures

While the credit is unified, the rate structure is not. The estate tax is calculated on a tax-inclusive basis while the gift tax is calculated on a tax-exclusive basis. What this means is that, for transfers from an estate, bequests are paid from the after-tax estate. The tax is "included" in the estate. For gifts, the amount transferred defines the tax base. The tax is "excluded" from the gift received by the beneficiary. Hence, to think of the gross of tax transfer, one must gross up the gift by the tax subsequently paid.

Assume Smith has $1.5 million in wealth and that the transfer tax rate is 50

24. The current state death tax credit provides a credit for state death taxes up to 80 percent of the tax imposed by the 1926 federal tax rate schedule. It is somewhat of a historical anomaly, but its more than sixty-year existence and the off-budget revenue sharing it provides make it unlikely that it will be modified in the future, although an attempt was made to convert it to a deduction in 1987.

25. The U.S. Advisory Commission on Intergovernmental Relations (1991) describes the estate or bequest tax rate structure of each state.

percent. Assume Smith wants to transfer wealth to Jones. If Smith accomplishes the transfer by bequest, Smith's estate applies the 50 percent tax rate (inclusive) and pays $750,000 to the government. Jones receives $750,000. However, if Smith made a gift to Jones of $1 million, a 50 percent tax is assessed (exclusive) on the gift, and Smith must pay $500,000 to the government. Smith faced an effective tax rate of 50 percent on his wealth when transferred through his estate and an effective tax rate of 33 percent on his wealth when transferred by gift.

Taxation of Life Insurance

In the main text we explained that the gross estate does not include the proceeds of a life insurance policy if the decedent, at least three years prior to death, irrevocably designates beneficiaries of the policy and transfers all other incidents of ownership to another person. Such a strategy effectively avoids all estate taxes but not necessarily gift taxes, as payments of the insurance premium may be a taxable gift. For example, if a father pays a $12,000 insurance premium on a policy that is owned by his son, the father has made a taxable gift of $2,000 ($12,000 less the $10,000 annual exclusion).

Taxation of Farm Property and Closely Held Businesses

As explained in the text, an executor may elect to have certain real property used in farming and other closely held businesses valued at its current use, rather than at fair market value, for estate tax purposes. The election effectively lowers the estate tax burden on family farms and other family-owned businesses. In addition, where the estate is illiquid, the tax may be paid, with interest, over a fifteen-year period. To the extent that the interest rate charged is less than the heirs' opportunity cost, this can present a substantial deferral advantage.

Generation-Skipping Transfers

In 1976 Congress created a generation-skipping transfer tax to apply to transfers that deviate from the normal succession of bequests by skipping one or more generations. Prior to 1977, trusts were used frequently to effect generation skips, because the death of a life beneficiary in the trust did not necessarily create a taxable transfer to the trust's remainderman. Pechman (1987) presents evidence that in the 1940s and 1950s more than 60 percent of millionaires in the United States transferred at least some of their property in trusts and trusts accounted for more than one-third of the value of noncharitable transfers by millionaires. The 1976 legislation effectively taxed the assets in a generation-skipping trust at the marginal estate tax rate of the life beneficiary. The Tax Reform Act of 1986 simplified this tax by imposing the tax at a flat rate, independent of the tax status of the life beneficiary. The 1986 legislation also extended this tax to apply to direct generation skips (outright gifts that skip a generation).

This tax subjects generation-skipping transfers to a flat rate of tax equal to the highest rate of the estate tax (currently 55 percent) after allowing a $1 million exemption per taxpayer. A gift from grandparent to grandchild is potentially subject to both the gift tax and the generation-skipping transfer tax. If the grandchild's parents have predeceased his or her grandparent, the generation-skipping tax does not apply. The generation-skipping transfer tax is imposed only once per transfer. The tax liability created by a gift from parent to great-grandchild is no different than the tax liability created by a gift from parent to grandchild.

Composition of Wealth of Decedents in the United States

In the main text we presented data on the composition of wealth of decedents from estate tax returns filed in 1985. Tables 10B.1 through 10B.7 present comparable data from estate tax returns filed in 1977, 1982, 1983, 1984, 1986, 1987, and 1988. It is important to note that in 1981, as discussed above, substantial changes were made to the estate tax, some of which were not fully phased in until 1987.

Table 10B.1 Estate Tax Returns Filed in 1977

	Returns		Value	
	Number	%	Millions of $	%
Gross estate	200,747	100.0	48,201.7	100.0
Real estate	159,032	72.9	12,920.9	26.8
Bonds (total)	90,093	44.9	3,897.8	8.1
Federal savings	51,922	25.9	730.9	1.5
Federal other	18,438	9.2	1,260.3	2.6
State and local	13,184	6.6	1,192.5	2.5
Corporate and foreign	38,519	19.2	714.1	1.5
Corporate stock	128,817	64.2	12,483.6	25.9
Noncorporate business	25,871	12.9	1,010.3	2.1
Cash	195,016	97.1	8,444.3	17.5
Notes and mortgages	50,426	25.1	1,736.0	3.8
Life insurance	124,231	61.9	2,683.0	5.6
Annuities	17,478	8.7	253.1	0.5
Household goods	172,757	86.1	1,538.7	3.2
Lifetime transfers	25,329	12.6	3,233.9	6.7
Deductions (total)	200,747	100.0	28,065.4	58.2
Funeral and administrative expenses	197,159	98.2	2,022.1	4.2
Debts and mortgages	162,562	81.0	2,649.0	6.2
Charity	24,401	12.2	2,993.9	6.2
Marital	94,578	47.1	9,952.4	20.7
Exemption	174,139	86.7	10,445.9	21.7
Orphans	72	0.0	1.9	0.0
Taxable estate	148,194	73.8	20,904.2	43.4
Estate tax before credits	148,194	73.8	6,172.0	12.8
Credits (total)	91,272	45.5	1,192.9	2.5
State death taxes	81,292	40.5	552.3	1.1
Federal gift taxes	1,450	0.7	28.1	0.1
Unified credit in lieu of exemption	21,633	10.8	523.6	1.1
Other	8,489	4.2	88.9	0.2
Estate tax	139,115	69.3	4,979.1	10.3

Source: Internal Revenue Service, Statistics of Income Division.

Table 10B.2 Estate Tax Returns Filed in 1982

	Returns		Value	
	Number	%	Millions of $	%
Gross estate	59,597	100.0	45,412.0	100.0
Real estate	48,166	80.8	10,974.3	24.2
Corporate stock	47,978	80.5	11,889.4	26.2
Bonds (total)	29,795	50.0	3,538.6	7.8
Federal savings	10,151	17.0	245.3	0.5
Federal other	11,446	19.2	1,370.7	3.0
State and local	12,976	21.8	1,452.1	3.2
Corporate and foreign	14,918	25.0	470.4	1.0
Cash	56,851	95.4	5,993.7	13.2
Notes and mortgages	21,994	36.9	1,466.3	3.2
Life insurance	35,902	60.2	1,854.4	4.1
Annuities	8,205	13.8	441.8	1.0
Noncorporate business	16,323	27.4	1,537.8	3.4
Household assets	52,204	87.6	1,807.7	4.0
Lifetime transfers	12,678	21.3	5,455.8	12.0
Deductions (total)	—	—	17,897.5	39.4
Funeral expenses	56,781	95.3	214.2	0.5
Administrative expense (total)	50,945	85.5	1,439.8	3.2
Executors	22,337	37.5	430.3	0.9
Attorneys	42,882	72.0	626.8	1.4
Other	49,698	83.4	382.7	0.8
Debts and mortgages	51,560	86.5	2,600.7	5.7
Charity	8,728	14.6	2,250.2	5.0
Marital	31,753	53.3	11,385.7	25.1
Orphans	236	0.4	6.8	0.0
Taxable estate	57,928	97.2	27,567.9	60.7
Adjusted taxable gifts	917	1.5	31.0	0.1
Adjusted taxable estate	57,928	97.2	27.598.8	60.8
Estate tax before credits	57,927	97.2	9,775.3	21.5
Credits (total)	57,914	97.2	3,549.3	7.8
Unified	57,914	97.2	2,520.1	5.5
State death taxes	41,716	70.0	919.7	2.0
Other	—	—	109.6	0.2
Estate tax	41,620	69.8	6,226.0	13.7

Source: Internal Revenue Service, Statistics of Income Division.

Table 10B.3 Estate Tax Returns Filed in 1983

	Returns		Value	
	Number	%	Millions of $	%
Gross estate	63,251	100.0	50,390.4	100.0
Real estate	43,302	68.5	12,009.1	23.8
Corporate stock	40,263	63.6	11,509.8	22.8
Bonds (total)	26,946	42.7	4,049.9	8.0
Federal savings	8,089	12.8	313.9	0.6
Federal other	9,229	14.6	1,358.9	2.7
State and local	13,636	21.6	1,978.0	3.9
Corporate and foreign	11,779	18.6	399.1	0.8
Cash	51,126	80.8	5,878.5	11.7
Notes and mortgages	19,957	31.6	1,904.0	3.8
Life insurance	36,975	58.5	1,952.0	3.9
Annuities	7,576	12.0	403.5	0.8
Noncorporate business	14,828	23.4	2,060.1	4.1
Household assets	47,866	75.7	2,079.2	4.1
Lifetime transfers	8,671	13.7	4,729.3	9.4
Deductions (total)	—	—	24,321.9	48.3
Funeral expenses	59,187	93.6	345.1	0.7
Administrative expense (total)	42,120	66.6	1,256.0	2.5
Executors	18,497	29.2	400.8	0.8
Attorneys	34,383	54.4	543.5	1.1
Other	40,529	64.1	311.8	0.6
Debts and mortgages	53,979	85.3	3,209.5	6.4
Charity	9,949	15.7	2,545.4	5.1
Marital	32,247	51.0	16,964.9	33.7
Orphans[a]	—	—	—	—
Taxable estate	55,588	87.9	26,235.4	52.1
Adjusted taxable gifts	2,905	4.6	247.8	0.5
Adjusted taxable estate	55,601	87.9	26,483.3	52.6
Estate tax before credits	55,585	87.9	9,264.8	18.4
Credits (total)	55,585	87.9	4,094.8	8.1
Unified	55,585	87.9	3,155.0	6.3
State death taxes	36,971	58.5	848.0	1.7
Other[a]	—	—	—	—
Estate tax	35,148	55.6	5,170.0	10.3

Source: Internal Revenue Service, Statistics of Income Division.

[a]Information not disclosed.

Table 10B.4 Estate Tax Returns Filed in 1984

	Returns		Value	
	Number	%	Millions of $	%
Gross estate	60,316	100.0	49,953.6	100.0
Real estate	41,915	69.5	10,316.9	20.7
Corporate stock	40,363	66.9	13,267.7	26.6
Bonds (total)	26,346	43.7	3,423.4	6.9
Federal savings	7,749	12.8	169.3	0.3
Federal other	7,758	12.9	1,090.0	2.2
State and local	14,454	24.0	1,831.1	3.7
Corporate and foreign	11,415	18.9	338.1	0.7
Cash	48,742	80.8	5,547.6	11.1
Notes and mortgages	17,818	29.5	1,625.6	3.3
Life insurance	32,798	54.4	1,958.8	3.9
Annuities	12,247	20.3	950.8	1.9
Noncorporate business	14,251	23.6	1,746.1	3.5
Household assets	47,415	78.3	2,098.5	4.2
Lifetime transfers	7,823	13.0	5,606.2	11.2
Deductions (total)	—	—	25,553.3	51.2
Funeral expenses	55,639	92.2	307.0	0.6
Administrative expense (total)	39,640	67.7	1,090.9	2.2
Executors	15,849	26.3	357.2	0.7
Attorneys	31,505	52.2	479.2	1.0
Other	37,304	61.8	254.5	0.5
Debts and mortgages	49,394	81.9	2,722.0	5.4
Charity	9,151	15.2	3,091.3	6.2
Marital	29,691	49.2	18,341.7	36.7
Orphans[a]	—	—	—	—
Taxable estate	54,472	90.3	26,420.7	52.9
Adjusted taxable gifts	3,745	6.2	279.5	0.6
Adjusted taxable estate	54,473	90.3	26,700.2	53.5
Estate tax before credits	54,473	90.3	9,378.6	18.8
Credits (total)	54,473	90.3	4,711.9	9.4
Unified	54,473	90.3	3,760.7	7.5
State death taxes	32,851	54.5	867.1	1.7
Other[a]	—	—	—	—
Estate tax	31,507	52.2	4,666.7	9.3

Source: Internal Revenue Service, Statistics of Income Division.

[a]Information not disclosed.

Table 10B.5 Estate Tax Returns Filed in 1986

	Returns		Value	
	Number	%	Millions of $	%
Gross estate	42,125	100.0	59,805.0	100.0
Real estate	32,806	77.8	12,361.6	20.7
Corporate stock	33,747	80.1	17,029.1	28.5
Bonds (total)	—	—	6,315.2	10.6
Federal savings	6,308	15.0	321.6	0.5
Federal other	10,365	24.6	1,656.9	2.8
State and local	16,806	39.9	3,927.9	6.6
Corporate and foreign	10,350	24.6	408.8	0.7
Cash	40,957	97.2	6,853.3	11.5
Notes and mortgages	14,663	34.8	1,917.1	3.2
Life insurance	23,741	56.4	1,866.2	3.1
Annuities	11,244	26.7	1,349.8	2.3
Noncorporate business	11,202	26.6	2,069.9	3.5
Household assets	38,017	90.2	2,346.2	3.9
Lifetime transfers	8,581	20.4	7,696.7	12.9
Deductions (total)	42,124	100.0	28,312.9	47.3
Funeral expenses	39,318	93.3	177.4	0.3
Administrative expense (total)	—	—	1,494.9	2.5
Executors	15,615	37.1	533.6	0.9
Attorneys	27,200	64.6	591.2	1.0
Other	31,337	74.4	370.1	0.6
Debts and mortgages	35,890	85.2	2,941.7	4.9
Charity	7,835	18.6	3,573.3	6.0
Marital	20,010	47.5	20,125.7	33.7
Taxable estate	38,054	90.3	31,634.7	52.9
Adjusted taxable gifts	3,650	8.7	438.4	0.7
Adjusted taxable estate	38,124	90.5	32,073.2	53.6
Estate tax before credits	38,134	90.5	12,074.4	20.2
Credits (total)	—	—	5,691.3	9.5
Unified	38,033	90.3	4,243.1	7.1
Other	25,166	59.7	1,448.2	2.4
Estate tax	23,731	56.3	6,383.1	10.7

Source: Internal Revenue Service, Statistics of Income Division.

Table 10B.6 Estate Tax Returns Filed in 1987

	Returns		Value	
	Number	%	Millions of $	%
Gross estate	45,113	100.0	66,564.1	100.0
Real estate	35,519	78.7	12,826.6	19.3
Corporate stock	34,987	77.6	18,667.8	28.0
Bonds (total)	—	—	7,544.7	11.3
Federal savings	6,552	14.5	289.7	0.4
Federal other	9,990	22.1	1,659.0	2.5
State and local	18,361	40.7	5,028.6	7.6
Corporate and foreign	10,679	23.7	567.4	0.9
Cash	43,726	96.9	7,212.2	10.8
Notes and mortgages	13,290	29.5	1,823.7	2.7
Life insurance	24,489	54.3	1,990.0	3.0
Annuities	11,981	26.6	1,494.1	2.2
Noncorporate business	11,354	25.2	2,736.9	4.1
Household assets	40,947	90.8	2,516.0	3.8
Lifetime transfers	8,889	19.7	9,752.3	14.7
Deductions (total)	45,084	99.9	30,873.4	46.4
Funeral expenses	42,246	93.6	199.7	0.3
Administrative expense (total)	—	—	1,678.4	2.5
Executors	16,128	35.8	612.7	0.9
Attorneys	27,634	61.3	622.5	0.9
Other	32,874	72.9	443.2	0.7
Debts and mortgages	38,067	84.4	3,566.6	5.4
Charity	8,987	19.9	3,978.0	6.0
Marital	20,191	44.8	21,540.9	32.4
Taxable estate	40,874	90.6	35,913.7	54.0
Adjusted taxable gifts	3,648	8.1	541.4	0.8
Adjusted taxable estate	40,935	90.7	36,455.0	54.8
Estate tax before credits	40,908	90.7	13,767.3	20.7
Credits (total)	—	—	7,409.3	11.1
Unified	40,907	90.7	5,803.4	8.7
Other	25,128	55.7	1,605.9	2.4
Estate tax	21,335	47.3	6,358.0	9.6

Source: Internal Revenue Service, Statistics of Income Division.

Table 10B.7 Estate Tax Returns Filed in 1988

	Returns		Value	
	Number	%	Millions of $	%
Gross estate	43,683	100.0	70,625.4	100.0
Real estate	35,077	80.3	13,564.8	19.2
Corporate stock	34,333	78.6	19,638.8	27.8
Bonds (total)	26,803	61.4	8,077.5	11.4
Federal savings	6,225	14.3	243.3	0.3
Federal other	9,239	21.2	1,539.2	2.2
State and local	19,521	44.7	5,823.1	8.2
Corporate and foreign	9,391	21.5	471.9	0.7
Cash	42,345	96.9	7,614.4	10.8
Notes and mortgages	12,568	28.8	1,708.7	2.4
Life insurance	23,741	54.3	2,150.0	3.0
Annuities	11,985	27.4	1,692.3	2.4
Noncorporate business	10,916	25.0	2,519.4	3.6
Household assets	39,374	90.1	2,547.4	3.6
Lifetime transfers	9,382	21.5	11,112.1	15.7
Deductions (total)	43,596	99.9	33,523.9	47.5
Funeral expenses	40,274	92.2	197.5	0.3
Administrative expense (total)	31,846	72.9	1,700.6	2.4
Executors	15,408	35.3	632.6	0.9
Attorneys	25,702	58.8	604.9	0.9
Other	30,762	70.4	463.1	0.7
Debts and mortgages	35,514	81.3	3,238.2	4.6
Charity	8,376	19.2	4,822.1	6.8
Marital	20,593	47.1	23,539.6	33.3
ESOP[a]	—	—	—	—
Taxable estate	39,480	90.4	37,250.2	52.7
Adjusted taxable gifts	4,582	10.5	918.2	1.3
Adjusted taxable estate	39,551	90.5	38,168.4	54.0
Estate tax before credits	39,551	90.5	14,588.7	20.7
Credits (total)	39,550	90.5	8,187.3	11.6
Unified	39,550	90.5	6,559.5	9.3
State death taxes	21,900	50.1	1,567.5	2.2
Other	919	2.1	60.3	0.1
Estate tax	18,948	43.4	6,299.2	8.9

Source: Internal Revenue Service, Statistics of Income Division.

[a]Employee Stock Ownership Plan; information not disclosed.

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Comment Ching-huei Chang

I offer the following comments on Thomas Barthold's and Takatoshi Ito's paper. In terms of the first objective of this paper, they did a very good job in detailing the bequest (inheritance) and gift tax systems in Japan and the United States. But it seems to me this paper would be more helpful if the authors made a comparison between the two tax systems, rather than concentrating on the institutional elements. Some important questions could have been addressed. For example, what are the two systems' similarities and differences? What accounts for these differences? Do these differences have implications for variations in households' bequest, saving, and other economic behaviors?

My second comment is more on the U.S. tax system than on the paper itself. It seems to me that there is a fundamental difference between the two systems. Japan treats inheritance and gift taxes as supplements to income taxes. The theoretical basis of these taxes is the concept of ability to pay. Therefore, corresponding to the individual income tax, there are exemptions, a tax base, credits, and a progressive rate structure in the Japanese transfer tax system. On the other hand, as Appendix 2 indicates, the United States treats these taxes as excise taxes on the transfer of wealth. If it is so, why does the United States use a progressive rate structure? As I understand it, progressive rates are usually related to the ability-to-pay principle. In the case of an excise

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tax, there may be different rates for different commodities or services, depending on price elasticities in demand. I do not see any justification for using a progressive rate system in estate and gift taxes.

Third, Ito and Barthold point out in section 10.4.1 the loopholes in Japan's transfer tax system, loopholes created by relying on the number of statutory heirs, rather than true heirs, in calculating liability for inheritance tax. They also provide a set of statistical data that reveal a positive correlation between the size of an estate and the number of statutory heirs. An estimate of the size of the distortion, however rough it is, would make a great contribution to our understanding of how serious the problem is. An estimate of the size of the distortion caused by the use of real estate would also be useful.

Finally, if I understand the paper correctly, Ito and Barthold seem to imply that the fact that at least one-third of household assets in Japan and the United States are obtained by intergenerational transfers is against the life-cycle model of saving. But suppose that a person saves in the way the life-cycle model predicts; that is, he accumulates wealth during his working period and plans to consume the total amount of wealth after he retires. Due to an unexpected accident, however, he dies earlier than he expected. Thus he leaves an estate to his daughter. Statistical data show us an intergenerational transfer of wealth, which is evidence against the life-cycle saving behavior, but, in fact, the person followed the life-cycle model. Of course, this is only a hypothetical example, but it may have some relevance to any policy implications drawn from statistical evidence.

Comment

Hiromitsu Ishi

This ambitious paper addresses a difficult issue that many economists have attacked. Although the arguments need strong reservations to be accepted by other economists, this seems to be a pioneering paper.

Statistics of inheritance tax are only one available data source to estimate bequest assets transferred from one generation to another. However, coverage of the inheritance tax data is so limited that anyone would hesitate to attempt such an empirical study. In fact, the ratio of decedents shows only 5 or 6% are taxable in Japan, and consequently some technique is required to expand the sample data to full, nationwide coverage of bequest transfers.

Thomas Barthold and Takatoshi Ito begin with a detailed explanation of inheritance and gift tax structure. In addition, they explain a little bit about the current situation of land issues in Japan in connection with the inheritance tax.

In this paper, the most crucial point is how to handle bequests from nontax-

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able decedents, because the tax data never cover this type of bequest and this amount must be substantial. Barthold and Ito use a "k ratio" hypothesis by which the maximum basic exemption is multiplied. If k is 50%, it means that half the basic exemption was left by a nontaxable decedent for his or her heirs.

Since it is impossible to get directly an accurate value of k, Barthold and Ito give various values between 1.0 and 0 on an ad hoc or arbitrary basis. As a preliminary approach this rough procedure might be permitted, but they might make more effort to determine the k value within a certain significant range, not relying on guesswork.

May I propose a couple of enhancements to the reliability of the k value?

First, the authors haven't already done so, they should interview tax collectors or tax assessors in the division of inheritance tax at the National Tax Administration. I think one could obtain some useful information about the bequest of a nontaxable decedent. This is merely an indirect approach.

Second, they might address the time period of institutional change. For instance, in 1974 and 1988, basic exemption levels were greatly raised, from one threshold to another. If one compares the number of taxpayers and other related data in two successive years before and after tax changes, one might gather some information about untaxable bequests, which are dropped from the new tax code. This is imperfect information but useful.

Third, I think the k value must change depending on business conditions, in particular on land price variations. During periods of higher land prices, k may be reduced. Therefore, the estimation period might be divided into two or three variations of land price, instead of using one period of 1976–88.

I would like to add one more point, apart from the k ratio issues. In conclusion Barthold and Ito stress that *at least one third* of household assets in Japan and the United States are obtained by intergenerational transfers, as opposed to life-cycle lump-sum saving. In spite of their painstaking estimates, they might need to explain further, to strengthen their position. In order to reject life-cycle saving behavior, is the value of one-third enough? Is there a critical percentage that would be more convincing, say 40 or 50%? What kind of theoretical implications can Barthold and Ito derive from their estimated results? How do they explain the same ratio of bequests in the United States and Japan, given different levels of household savings?