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BEQUEST TAXES AND ACCUMULATION OF HOUSEHOLD WEALTH:
U.S. - JAPAN COMPARISON

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ABSTRACT

The objective of this paper is two-fold. 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. The magnitude of intergenerational transfers provides aid in determining how much outstanding wealth is obtained through intergenerational transfers, an issue of current controversy. In both Japan and the United States, a substantial portion of wealth, and especially of land in Japan, is bequeathed from one generation to the next.

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1. Introduction

The objective of this paper is two-fold. 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, distortions and incentives of those systems will be discussed. Our findings of the economic significance of bequests in household assets hold important implications for the controversy regarding how much outstanding wealth is obtained through 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 (Cox (1990), Hurd (1987), David and Menchik (1979), Menchik and David (1983), Bernheim, Shleifer and Summers (1985)). In particular, Kotlikoff and Summers (1981) pointed out that bequests play an important role in capital

accumulation: "American capital accumulation results primarily from intergenerational transfers" (p. 707). However, a consensus does not exist about the size and importance of intergenerational transfers as opposed to life-cycle saving in outstanding assets (Modigliani (1988) and Kotlikoff (1988) for 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,b).) 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 wealth transferred by bequest in Japan. Although the estimate is sensitive to assumptions about behavior in non-taxable 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 (collected by tax agencies) of the two countries in a comparative perspective, and to estimate bequeathed assets in proportion to outstanding assets from taxation data. The approach used in this paper may be contrasted with the survey method (Noguchi, Uemura and Kitoh (1988) for example) or the method of estimating lifetime income and consumption (Kotlikoff and Summers (1988), for example)).

The rest of this paper is organized as follows. Section 2 highlights the differences and similarities in the

intergenerational transfer tax in Japan and that in the United States. (Detailed description of the two tax systems are in the appendix. For the Japanese system, the tax reform of 1988 will be discussed as much as possible.) Section 3 shows the compositions of bequeathed properties in the two countries. Section 4 is devoted to analyzing the effects of tax distortions on portfolio behavior in Japan. Sections 5 and 6 give estimates of the proportion of assets obtained by intergenerational transfers in Japan and the United States, respectively.

2. Intergenerational transfer taxes in Japan and in U.S.

This section highlights similarities and differences of the bequest tax (the inheritance tax in Japan and the estate tax in the United States), and those of the gift tax of the two countries. (Detailed legal descriptions will be found in Appendices and also the Ishi (1990; Ch. 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.

2.A. 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 the given estate would lessen the total tax liability on the estate. (This was a known loophole for millionaires in Japan prior to 1988. The definition of statutory heirs 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. However, in Japan, land is assessed significantly below the 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 the bequest-minded elderly Japanese. This point will be examined later in this section.

The basic philosophies of 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 a transfer tax, with an intent to prevent inter vivos transfers that are meant to lessen 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 discourage inter vivos transfers, while the gift tax in the United States is integrated in the unified tax schedule of intergenerational transfer, not discriminating, in theory, inter vivos and post mortem 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. However, the extent of this loophole is much limited in Japan. In Japan, the basic deduction for tax-free gift is 600,000 yen (\$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. Parents could make \$20,000 of tax-free gifts to each recipient. In both countries, gifts within three years prior to death are recaptured as inheritance and are subject to presumably higher marginal rates. 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 Appendices.)

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

decendants. However, how this principle is reflected on 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 bequest (50% of "statutory" share, to be explained in Appendix). This is a direct intervention, rather than tax incentives, on intergenerational transfers. There is no legal limit for a person to designate to whom and how much his bequest to be given in the United States.

From the principle of taxing intergenerational transfers, the U.S. estate and gift tax systems makes any transfers, inter vivos or upon death, to a spouse tax-exempt. In Japan, there is a limit to tax-free bequest or gifts to spouse. A relatively large amount of tax credit is available for bequest to a spouse. In effect, the greater of half of the decedent's property, regardless of size, and 80 million yen (\$533,333) may be bequeathed to a wife tax-free. In the case of gifts, a gift of (own) residential housing valued up to 20 million yen (\$133,333) may be transferred for a "long-time spouse" (once per marriage of 20 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 bequest. Hence, there is a penalty for skipping generations in transfers in both countries. In Japan, if an asset is bequeathed

to a grandchild, a penalty of a 20% surcharge over the normal tax liability results. No such penalty exists in the 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 transfers (bequest or gift) in addition to payment of gift or estate tax. In both countries, if the grandchild's parent has pre-deceased her grandfather, the generation skipping tax does not apply.

2.B "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.)

Suppose that a spouse and two children survive the decedent. They constitute three statutory heirs and the spouse has a statutory share of 1/2 and each child has a statutory share of 1/4. In the case of a spouse and three children, that is four statutory heirs, each child has a statutory share of 1/6. If the spouse predeceased and three children are alive, each child has a statutory share of 1/3.

It is presumed in the civil law that, unless otherwise designated, a half of estate goes to a spouse and each child receives an equal share of the remainder. Moreover, the half of statutory share is a guaranteed bequest. For example, a spouse

and two children survive the decedent, then a wife is entitled to no less than 1/4 and each child is entitled to no less than 1/8 of the property. Even if the decedent leaves a will designating a sole recipient of an entire estate, statutory heirs may sue for their automatic entitlement. More importantly, regardless of the actual distribution of property, the number of statutory heirs and statutory shares determine the total inheritance tax liability. (See Appendix 1, Section A.3, for details)

2.C Bequest taxable property, exemption and tax base

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

Conditions under which life insurance policy of the decedent's life is 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 premiums of the father's life insurance, that share of proceeds is exempted from bequeathed property. However, the amount of 5 million yen times the number of statutory heirs is deductible from property value calculation.

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 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 of farm property and family businesses. This is essentially a tax incentive 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 burden on family farms and other family-owned business. In Japan, only agriculture qualifies this special provision, but land value of family-business properties may benefit from the land underassessment to be explained below.

In the United States, the benefit operates by permitting the estate to value qualifying property based upon the present discounted value of its current cash flow, rather than at its highest and best use. For example, a farm on the outskirts of an urban area may be valued based upon the present discounted value of the current cash flow generated by its crops, rather than at 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 his family must have used the property in its qualifying use (farming or family business) in at least 5 of the 8 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 10 years. The beneficiary must actively participate in the property's use. She 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 (in 6 months after death) and continue farming for 20 years. Failure to comply with the post-transfer requirement's 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 Internal Revenue Service in the United States, and organizations defined as specially defined 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.

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

2.D 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 following tax schedule shown in Table 2.1 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. The total tax liability is independent of actual division of property, and "actual" shares of inheritance may differ from what "statutory" shares presumes. Then "actual" tax liabilities are adjusted in proportion. (An example of how to calculate and distribute inheritance tax liability in the Appendix clarifies this description.)

**** Insert Table 2.1 ****

The schedule starts at 10 percent for the first 4 million yen (\$26,000). The marginal rate goes up to 70 percent at 500 million yen (\$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 may deduct from her inheritance tax liability the following amount:

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

To understand the above 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 a fraction of the estate statutory share (1/2), the inherited amount is free from inheritance tax, however 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 yen, however large a share of estate it may constitute, it is again free from inheritance tax.

Second, minors and the handicapped receive a tax credit. (See Appendix 1 for details.) Third, recall that any gifts that were made within three years of death are deemed as 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 his 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 20% surcharge on the amount of tax calculated above. So marginal rates for strangers

can top 80%. As explained above, this provision works against the generation-skipping bequests and lucky strangers.

2.E. Tax Rate Schedule, tax credit and surcharge in US

Under the 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. (See Table 2.2.) 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, making the effective marginal tax rate 60 percent.

**** Insert Table 2.2 ****

This schedule is applied to the estate, unlike the case of Japan, so that a direct comparison of Table 2.1 and Table 2.2 is meaningless.

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 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 which the federal government would otherwise tax. In Japan, there is 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 rate of gifts may be significantly lower than the effective rate of bequest, when the same amount of gift or bequest inclusive of tax liabilities is transferred. (See Appendix for an example.)

3 Composition of bequest: Japan vs. US

3.A. Composition of wealth of decedents in Japan

Table 3.1 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 1). Bequeathed property values (equivalent of 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 the later section on an analysis of breakdown of bequeathed property.)

Table 3.2 shows the time series of outstanding assets and liabilities of the household sector at year end. The value of land holdings, and land's share of total assets, also is 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 3.3 shows the composition of bequeathed assets from data of the Taxation Bureau. Only those bequeathed assets belonging to a decedent whose heirs were subject to non-zero inheritance tax are reported here called, "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 non-taxable. The filing has to be completed within six months of death. If mistakes in filing are found later, correction may be submitted.

**** Insert Tables 3.1, 3.2, and 3.3 ****

Among bequeathed assets, land predominates. Its share fluctuates between 65 to 69 percent. Securities count only 10 to 13 percent. This table is an underestimation of what was really transferred from the decedents of 1976-1988 to the next. First, only taxable death 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 3, the assessed value is in practice half to 2/3 of the market value, and there is also a special provision for (additional) 50% exemption for small-sized residential lots. In fact, this incentive makes land a most favorite vehicle of bequest in Japan.

3.B. United States

Table 3.4 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 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. The appendix contains similar data for returns filed in 1977, 1982 and 1988.

**** Insert Table 3.4 ****

For comparison purposes, Table 3.5 presents estimates of aggregate net worth by major components for the U.S. based on the

Survey of Consumer Finance (1983 data), the Panel Study in Income Dynamics (1984 data) and the Survey of Income and Program Participation (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 comprised between 0.6 to 1.0 percent of private national wealth. This, of course, is an 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.

**** Insert Table 3.5 ****

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 decedents' estates is barely 0.4 percent of the value 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.

4. Distortions in the Japanese inheritance tax

4.A. 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, which is independent of how to actually divide properties, imposed upon actual heirs. Three features of the inheritance tax produce this result. First, a basic exemption depends on the number of statutory heirs. Second, the total property value after exemptions is divided by the the number of statutory heirs before a progressive tax schedule is applied. Third, 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 becoming adopted to someone else, one does not forfeit the legal right of statutory heir to one's biological parents.) This loophole was widely recognized and exploited by wealthy families. The next table reveals a strong correlation between the size of the estate and the number of statutory heirs.

**** Insert Table 4-1 ****

To close this loophole, the 1988 revision includes a cap on the number of adopted children counted toward statutory heirs. Under the new rule, an adopted heir could be counted toward statutory heir only if (i) the adopted heir is a biological child

of the spouse of the decedent; (ii) a grandchild (if there is no child); (iii) an adopted child under the special adoption clause (Civil Law, article 817, 2-11); and (iv.a) in addition to (i)-(iii), one adopted heir; or (iv.b) two adopted heirs, if there is no adopted heir in (i)-(iii), a natural child, or a grandchild).²

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 the difference in this kind of table. We conjecture that when we compute table 4-1 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 billionaire families.

4.B Land assessment

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

The first factor is due to pure 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 about 70 - 80 percent of the market value. The Rosen ka, for bequest, is about 50 - 70 percent of the Koji Kakaku. Homma and Atoda (1989, pp. 134-135) 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 out that in 1988, the gap ranged from 33.5 % (in Kyoto) to 94.1 % (in Kofu), with the average of 56.4 %. Hence, the ratio of Rosen ka, the assessment of land for bequest, to the market value is anywhere between 25 percent to 80 percent, but more likely around 40 - 50 percent.

The second factor for underassessment is a provision for the small-sized sites for residence such as rental housing or for business. The assessment for the 200 square meters of residential property is reduced by 50 percent, and by 60 percent for business sites. If the property was partly residential and partly for business, then the business portion is reduced by 60 percent, 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 authority admits that an assessed value is in practice less than the market value.) This rule still permits a tax advantage in the period of high land inflation. This change was effective of December 31, 1988.

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 household. In 1988, the former was 69%, while the latter was 53%. Second, the share of land in bequest property value is higher in Japan than in the United States. In Japan about 65 percent of bequest is in the form of land, while in the United States, only about 20 percent

of bequest is 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 on this above conclusion are due. There may be some reasons that the land component in bequest may become larger, even in the absence of underassessment for bequest purpose. First, if unrealized capital gains on the land of the elderly may avoid capital gains tax if bequeathed instead of being sold. Second, one might argue that the relatively high land component in Japan may not be a reflection of bequest motive and rational tax saving strategy, but a result of unexpected capital gains on land and premature death. Put differently, if precautionary saving in imputed housing services is prevalent, unexpected land price increases, such as in Japan, leaves a proportion of land value in bequest becomes large. In fact, it is true that 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 comensurate increases in second mortgages.

5. Estimating Bequeathed assets in outstanding assets in Japan

5.A. Simulation

In this section, an attempt is made 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, then this suggests intended and unintended bequests play an important role in asset accumulations, and lifecycle saving theory has to be revised as such.

Our method of inference is to measure the amount of bequest from deaths as a proportion to the outstanding household assets, and then multiply 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 asset. We identify several key problems below and offer ways to surmount them, by making explicit assumptions in inference. When possible, the reasonable lower and upper bound will be provided. When we have to make judgemental assumptions, we try to estimate the lower bound of intergenerational transfers.

First, we concentrate on the intergenerational transfers upon the deaths of couples, ignoring inter vivos transfers altogether. As mentioned in Section 2, one may transfer as gifts a significant amount to heirs 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, there is a problem of non-taxable deaths. Bequest taxation covers only those whom we call "taxable deaths." We have to assume how much wealth is transferred by those who do not (have to) file the bequest tax form, that is, non-taxable death. This is a problem common to both Japan and the United States. At the lower bound, non-taxable death can be assumed to leave zero wealth, and as a reasonable upper bound, non-taxable death may be assumed to leave a full deductible amount (that is the basic deductible amount, $40 + (3 * \text{the number of statutory heirs})$ million yen, in Japan and \$600,000 (the unified credit) in the United States. As a reasonable estimates, we infer the average assets

of non-taxable deaths from other sources.

Third, there is a possibility of double counting in taxable deaths. When a wealthy husband dies first, he bequeathes some portion to children and some portion to the widow. This shows up in the taxable death data. Some years later, the widow dies with a bequest to children still sufficiently large to be caught in bequest tax. Age and sex of decedents in the Japanese bequest taxation is not available, so that we may not know how extensive this problem is. We simply assume for the Japan data that the double counting problem is minor and that taxable deaths are all male and 50 years or older. (This is only assumption that might bias our estimate of intergenerational transfers upward.) The wealthiest persons certainly plan to avoid for double taxation, in addition to natural running down of assets by the widow. The widow typically receives only a portion of husband's bequest, and also she would have many years to spend this bequest and to 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 to be made about how much of a bequest, taxable and nontaxable, to a spouse 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 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. (Under 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 husband's bequest, and then to bequeath eventually the principal components of husband's assets bequeathed 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 5-1. Among all deaths, taxable deaths comprised only 2 percent in 1975 but rose to about 8 percent in 1987. In the thirteen years, inflation and wealth accumulation over a half generation increased the nominal value of bequeathed property, while virtually all tax deductions, credits, as well as brackets were kept unchanged.³

***** Insert Table 5-1 *****

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 (second column) in Table 5-1. The ratio of taxable deaths among deaths in the old, male cohort 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 5-1 show the land and total

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

Since non-taxable deaths did not get taxed, their bequeathed property value were less than the amount of basic deduction plus other deductions and values toward other credits, barring illegal transfers. Here we assume that non-taxable decedent bequeaths property that equals ratio, k , of basic deduction for three heirs (wife and two children).⁴ In the simulation, we allow k to vary from 0.0, 0.1, 0.2, ... 1.0. Of the bequeathed property, about half of the asset value was held in the form of land. In the next subsection, there will be discussed how to guess a reasonable 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 bequeathed gross amount is assumed to be the same for non-taxable 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 the asset she received upon her husband's death so that she would leave no asset to children, and the latter that a wife does not dissave the property, presumably living off her own life-cycle saving (including the inter vivos transfers from husband).

Third, suppose that one generation consists of 25 years. Hence, we take the average of the bequest transfers over 12 years and then blow up the average by 25. In the steady state, this procedure amounts to the following assumption. At one point in time, we would classify wealth into two categories, bequest wealth that are transferred from the ancestor and would hand down to heirs, and lifecycle wealth that are saved when young but would 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 on the bequest wealth, where the return being the same as other types of assets, are assumed to be compounding and be included in bequest wealth. Otherwise the steady state will not be holding.

Fourth, the assessment of land has to be adjusted. In Japan, land for bequest is underassessed, as argued in section 4.B. The value of land has to be inflated from taxation data, accordingly. 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 bound estimates for intergenerational transfer is obtained when u equals to one. However, more realistic number is like 0.56 (recall discussions about estimates by Homma and Atoda (1989) in Section 4.B.). However, if typical residential real estate is less than 200 sq. meters, then an assessment will further be reduced by 50% (so that u would be 0.28). Of course, some families own a second house or manage rental housing. The correction should not be 50% from 0.56. On the other hand, agricultural land has much more favorable treatment. Allowing for some large-size properties, it may be plausible to consider u somewhere between 0.26 and 0.56. Hence, for the simulation, we select $u = 0.34, 0.56, 0.78, \text{ and } 1.0$. We consider that the truth is somewhere between 0.34 and 0.56.

The last and most difficult stumbling block is how we will guess how much an average non-taxable decedent bequeath to heirs and how the assets are divided into land and others. We will make our best effort on this front in the next subsection.

5.B Estimation of transfers from non-taxable decedents

The next important step is to guess the amount of transfers

by the non-taxable decedents, and narrow down the upper and lower bounds of parameter k. The following calculation is done for calendar year 1988.

For the average assets of households, we may use a table from Family Savings Survey, which lists the average "savings" (financial assets, only) and liabilities of households classified by age brackets (See column (5) and (6) of Table 5-2). However, we have to make several adjustments. First, the statistics show only those elderly who remain as household heads. When the elderly person lives with his or her children (that is, forming a "merged" family), he typically is a dependent instead of a household head. (Usually, the household head is defined in various statistics as a person who earns the most in the family with the same address.) If those as household heads and those 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. 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 Basic Life Survey [Kokumin Seikatsu Kiso Chosa], statistics on the household status of the elderly (60 years plus) can be estimated. This survey classifies the elderly into eight different categories with respect to their relationship to household heads.⁵ 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 a half of the male elderly. With these assumptions, the average household head assets and liabilities statistics in Family Savings Survey are now corrected to become the average male elderly assets and liabilities, regardless of household head status. This is shown in line (8) of Table 5-2. In order to be consistent with the bequest tax statistics, where there is no age information available, line (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 yen.

Suppose that the Family Savings Survey samples both the millionaire and the poor correctly. (There is some doubt that the highest income bracket is under-sampled. But this would make our estimate for non-taxable decedent's asset biased downward.) Calculate that the average financial holdings of taxable decedent's from Table 3.3, to find 41,760,000 yen.

Recall that the ratio of taxable death in generation was 0.133 (Table 5-1). In order to arrive at 13,826,000 yen as an average of taxable and non-taxable death, the non-taxable death average financial asset is inferred as 9,541,000 yen.

The last adjustment we have to make is to estimate the land

holding of non-taxable decedent. The financial share in non-taxable 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 5-4c, later.) Since the home owner ratio does not seem to decline with age according to the Family Savings Survey. The assumption is not unreasonable. Then K, the average net asset holding of non-taxable decedent is calculated as 0.426.

5.C. Simulation

Since the parameter of land underassessment and that of non-taxable death may not be absolutely reliable, we will conduct simulations to check robustness of the results.

Results of simulation are shown in Tables 5-3 and 5-4. In the benchmark case, Table 5-3, the widow(er) is assumed to dissave 50% of the property inherited from the spouse. The widow(er) is assumed to dissave 0% in Table 5-4A and 100%, in Table 5-4B,

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

***** Insert Table 5-2, 5-3, and 5-4 *****

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 6.1 presents data for the United States which is roughly comparable to the data of Table 5.2 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 appropriate. To the extent the holdings of nonprofit organizations represent pension fund assets which 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 non-profit 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 6.1 exceeds the estimates of the PSID and SIP studies for 1983 cited in section 3.

*****Table 6.1*****

Table 6.2 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, and taxes against the value of financial assets in the estate. As such it is comparable to Table 6.1. Unlike the comparable data in Table 5.2 for Japan, this data is defined by those estates which filed returns, regardless of whether there ultimately was a tax liability.

*****Insert Table 6.2*****

Table 6.3 reports taxable estate tax returns as a percentage of annual deaths. Generally, for each taxable return filed, a non-taxable return is filed. Table 6.3 shows that the percentage of taxable deaths rose from 1940 to 1977 after 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 section 3, the Economic Recovery Tax Act of 1981 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 6.3 documents. However, even when the marital deduction results in no tax liability, a return must be filed. To arrive at a comparable figure for the United States for intergenerational deaths, we use the 1986 percentage of deaths of males aged 55 or older to total deaths, 42 percent.

*****Insert Table 6.3*****

In Table 6.4 we make a lower bound estimate of the ratio of transferred assets to outstanding assets. As discussed in section 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 the net bequest (as defined in Table 6.2) by the household sector's net worth (as reported in Table 6.1). This produces the bequest ratio in Table 6.4. As above, we multiply the bequest ratio 25 to convert the bequeathed stock of assets into a flow.

Lastly we make an adjustment to generational bequest ratio to account for the marital deduction permitted under the U.S. transfer taxes. The U.S. bequest data represents data on those who file, not

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 may 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 ($MM=1.0$).

*****Insert Table 6.4*****

This computation suggests that, at a minimum 5.4% 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 seven percent of decedents had to file federal estate tax returns, whereas since 1982 fewer than two 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 two percent of decedents. These figures are comparable to those for Japan when one recognizes that Table 5.2 generally represents the wealthiest six percent of Japanese decedents and the figures for the U.S. from the 1980s represent the wealthiest one to two percent.

This estimate for the United States likely substantially understates reality. As noted above, we have utilized 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 utilized. 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 non-filing 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 which the average non-filing decedent's bequeathed. (A value of $k = 1$ corresponds to an average bequest of \$600,000.) The value of such bequests was 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 6.4. In addition, we assume that each male decedent bequeaths 40 percent of his estate to a surviving spouse and the surviving spouse consumes half of the bequest ($MM=0.5$) and the surviving spouse consumes all of the bequest ($MM=0$). To these results, we add the corresponding 1987 adjusted generational bequest ratios of the estate tax filers. Table 6.5 reports the results.

*****Insert Table 6.5*****

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 non-filing 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.

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.

In both countries, all bequeathed property of the decedent becomes subject 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 purpose 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, through time, land ratio 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 life-cycle hump saving.

From the Japanese Family Savings Survey and Basic Life Survey, we consider in Japan that on average 24 million yen, 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 lifecycle 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 non-dissaving 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 which 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 lifecycle saving, do not show up as household assets while saving prior to retirement. This lowers the denominator of the transferred asset to total asset ratio. To the extent that the United States has more social security and corporate pension plans than 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 depress 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 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 that 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.

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Footnotes

1. The formula is complicated. The interested reader is referred to a detailed tax book (Ministry of Finance (1989)).
2. The special adoption clause was introduced in 1987 to give children adopted at an early age (younger than six years old) 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.
3. 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 inheritances taxes. However, a reduction in taxable deaths pushed back the clock by only two years, out of twelve years of bracket creep.
4. With three heirs, the basic exemption of $(20 + 4 \cdot 3)$ million yen from 1975 to 1987 and the current exemption of $(40 + 8 \cdot 3)$ million yen are completely tax free. In a sense, we assume 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 his wife in the taxation statistics.
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 maintain a household head status; (4) living with children, and the elderly is 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, but 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 multiplier "80 percent" 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.

6. Federal Reserve Board 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 includes 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.

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 which might alter the composition of the portfolios of American decedents. Prior to March 3, 1971, the Treasury could issue bonds which 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 rates 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 three percent of total estate tax liability, only eleven percent of the value of all

federal bonds in filers' estates, less than three percent of the value of all bonds in filers' estates, and approximately one half of one 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 ten percent of taxable returns redeemed flower bonds worth approximately ten percent of their tax liability, but less than two 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 2). Consequently, we do not believe that the existence of flower bonds has significantly altered the composition of the portfolios of American decedents.

9. This is a consequence of an 1895 Supreme Court decision which invalidated the existing income tax which treated gifts and inheritances as income and taxable as such. The 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.

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

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

12. 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. 60 and 65 percent brackets also existed. The reduction from a top rate of 70 percent to the current rate structure was phased-in.

13. \$18,340,000 after 1992.

14. 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.

15. The rate structure for transfers of less than \$600,000, reported above, has been retained over the past 15 years. Lower end relief has been provided by increases in the unified credit. As noted above, the top bracket rates have been reduced.

16. 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 an historical anomaly, but its more than 60 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.

References

- Bernheim, B. Douglas. 1987. "Does the Estate Tax Raise Revenue?" in Lawrence H. Summers (ed.), Tax Policy and the Economy, vol. 1, (Cambridge: MIT Press).
- Bernheim, B. Douglas; Shleifer, Andrei; and Summers, Lawrence H. 1985. "The Strategic Bequest Motive." Journal of Political Economy, vol. 93, no. 6: 1045-1076.
- Cooper, George. 1979. A Voluntary Tax? New Perspectives on Sophisticated Tax Avoidance. (Washington, D.C.: The Brookings Institution).
- Cox, Donald. 1990. "Intergenerational Transfers and Liquidity Constraints." Quarterly Journal of Economics, vol. CV, February: 187-217.
- David, Martin and Menchik, Paul L. 1979. "The Effect of Social Security on Lifetime Wealth Accumulation and Bequest." Economica, vol. 52: 421-434.
- Economic Planning Agency. 19xx. Annual Report on National Accounts, various issues, Printing Bureau, Ministry of Finance, Japan.
- Hayashi, Fumio. 1986. "Why is Japan's Saving Rate So Apparently High." NBER Macroeconomics Annual, vol. 1, pp. 147-210.

Hayashi, Fumio; Ito, Takatoshi; and Slemrod, Joel. 1988. "Housing Finance Imperfections, Taxation and Private Saving: A Comparative Simulation Analysis of the United States and Japan." Journal of the Japanese and International Economies, vol. 2: 215-238.

Hayashi, Fumio; Ando, Alberto; and Ferris, Richard. 1988. "Life Cycle and Bequest Savings: A Study of Japanese and U.S. Households Based on Data from the 1984 NSFIE and the 1983 Survey of Consumer Finances." Journal of the Japanese and International Economies, vol. 2, no. 4: 417-449.

Hurd, Michael D. 1987. "Savings of the Elderly and Desired Bequests." American Economic Review, vol. 77 no. 3, June: 298-312.

Internal Revenue Service. Statistics of Income, Estate Tax Returns, selected years.

Kotlikoff, Laurence J. 1988. "Intergenerational Transfers and Savings." Journal of Economic Perspectives, vol. 2, no. 2, Spring: 41-58.

Kotlikoff, Laurence J. and Summers, Lawrence H. 1981. "The Role of Intergenerational Transfers in Aggregate Capital Accumulation." Journal of Political Economy, vol. 89, no. 4: 706-732.

Menchik, Paul L. and David, Martin. 1983. "Income Distribution Lifetime Savings, and Bequests." American Economic Review, vol. 73, no. 4, September: 627-690.

Ministry of Finance, Tax Bureau. 1987. An Outline of Japanese Taxes, 1986. Printing Bureau, Ministry of Finance, Japan.

Ministry of Finance, Tax Bureau. 1990. An Outline of Japanese Taxes 1989. Printing Bureau, Ministry of Finance, Japan.

Ministry of Finance, Tax Bureau. 19xx. Tax Bureau Statistics Annual, (in Japanese), various issues, Ministry of Finance, Japan.

Ministry of Welfare. 19xx. Population Dynamics Annual, (in Japanese) various issues, Printing Bureau, Ministry of Finance, Japan.

Modigliani, Franco. 1988. "The Role of Intergenerational Transfers and Life Cycle Saving in the Accumulation of Wealth." Journal of Economic Perspectives, vol. 2, no. 2, Spring: 15-40.

Munnell, Alicia H. with Nicole Ernsberger. 1988. "Wealth Transfer Taxation: The Relative Role for Estate and Income Taxes." New England Economic Review, November/ December.

Pechman, Joseph A. 1987. Federal Tax Policy. (Washington, Brookings Institution.

United States Board of Governors of the Federal Reserve System, Flow of Funds Accounts. 1990. "Balance Sheets for the U. S. Economy 1945-89." April 1990.

United States Board of Governors of the Federal Reserve System, Flow of Funds Accounts. 1988. "Financial Assets and Liabilities Year-End, 1964-87." September 1988.

United States Department of Commerce, Bureau of the Census. 1986. "Household Wealth and Asset Ownership: 1984, Data from the Survey of Income and Program Participation" Current Population Reports, Household Economic Studies, Series P-70, No. 7, July 1986.

Table 2-1 Inheritance tax table in Japan

(old schedule, 1975-87)				(new schedule, 1988-now)			
Taxable transfer more than (mil yen)	but not more than (mil yen)	TAX amount (mil yen)	plus MTR on excess	Taxable transfer more than (mil yen)	but not more than (mil yen)	TAX amount (mil yen)	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				

Table 2.2

Unified Estate and Gift Tax Rate
for U.S. Citizens and Residents

<u>Taxable transfer more than</u>	<u>But not more than</u>	<u>Tax</u>	<u>plus MTR on excess</u>
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%

Table 3.1
(billion yen)

Inheritance Tax Record

	1977	1987	1988
Property Value	2,002.220	8,990.381	10,488.777
Liability and funeral (less)	128.691	774.323	891.776
Gifts Within 3 years (add)	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
20% surcharge (add)	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

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

Source: MoF, Tax Bureau Statistics Annual (1977, 1988, 1989).

Table 3.2 :
Household Outstanding Assets and Liability, at the end of year
(billion yen)

	Assets	Land	Liability	Net Asset
1973	442449.4	235962.6 (53.33)	48405.0	394044.4
1974	469683.8	233825.4 (49.78)	54175.3	415508.5
1975	517504.4	247229.5 (47.77)	67151.6	450352.8
1976	583453.4	263566.8 (45.17)	78002.6	505450.8
1977	642486.6	284566.6 (44.29)	87469.0	555017.6
1978	738848.3	326573.8 (44.20)	102381.0	636467.3
1979	864851.9	393556.6 (45.50)	114412.5	750439.4
1980	984954.3	467210.9 (47.43)	129168.7	855785.6
1981	1104237.9	537526.9 (48.67)	142661.0	961576.9
1982	1182808.1	574418.3 (48.56)	154977.9	1027830.2
1983	1252943.4	595207.7 (47.50)	167369.6	1085573.8
1984	1340621.0	627389.4 (46.79)	181583.3	1159037.7
1985	1438991.6	672882.2 (46.76)	194538.1	1244453.3
1986	1674186.7	831247.4 (49.65)	209501.5	1464685.2
1987	2027702.3	1089883.8 (53.74)	236998.7	1790703.6
1988	2249380.3	1198149.0 (53.26)	264287.0	1985093.3
average		(48.3)		
	(1)	part of (1)	(2)	(3)=(1)-(2)

SOURCE: Economic Planning Agency, Annual Reports on National Accounts, 1990, and various issues.

Table 3.3: Composition of bequeathed asset (taxable death only), Japan

Billion yen and (shares of total in brackets)							
YR	BEQLAND	STRUC	BUSIN	SECUR	CASH	MISC	TTL(TOTAL)
1973	1220.5	53.0	20.4	179.4	149.9	97.1	1720.3
	(70.95)	(3.08)	(1.19)	(8.93)	(6.97)	(4.83)	
1974	1437.8	63.3	24.8	182.2	169.2	132.6	2010.0
	(71.53)	(3.15)	(1.23)	(9.06)	(8.42)	(6.60)	
-----tax reform							
1975	1121.0	44.4	15.2	169.8	138.4	104.0	1592.8
	(70.38)	(2.79)	(0.76)	(8.45)	(6.89)	(6.53)	
1976	1205.6	53.5	18.5	198.9	158.8	130.4	1765.6
	(68.28)	(3.03)	(1.04)	(11.26)	(8.99)	(7.38)	
1977	1349.1	64.7	21.4	219.9	175.7	158.5	1990.4
	(67.78)	(3.25)	(1.07)	(11.04)	(8.82)	(7.96)	
1978	1538.8	79.3	28.1	244.9	207.6	196.3	2295.1
	(67.04)	(3.45)	(1.22)	(10.67)	(9.04)	(8.55)	
1979	1728.8	88.0	35.3	273.7	236.5	243.7	2606.1
	(66.33)	(3.37)	(1.35)	(10.50)	(9.07)	(9.35)	
1980	2144.0	106.0	37.9	343.9	277.2	295.0	3204.0
	(66.91)	(3.30)	(1.18)	(10.73)	(8.65)	(9.20)	
1981	2773.5	129.5	39.8	401.0	331.4	380.7	4056.0
	(68.38)	(3.19)	(0.98)	(9.88)	(8.17)	(9.38)	
1982	3331.0	150.9	45.6	417.3	371.0	430.6	4746.4
	(70.17)	(3.17)	(0.96)	(8.79)	(7.81)	(9.07)	
1983	3656.0	170.8	48.7	501.6	425.9	496.6	5299.6
	(68.98)	(3.22)	(0.91)	(9.46)	(8.03)	(9.37)	
1984	3918.8	202.2	64.9	563.7	483.0	570.4	5803.1
	(67.52)	(3.48)	(1.11)	(9.71)	(8.32)	(9.82)	
1985	4437.4	233.9	54.9	703.3	576.3	653.3	6659.2
	(66.63)	(3.51)	(0.82)	(10.56)	(8.65)	(9.81)	
1986	4682.6	272.6	61.9	868.4	664.4	715.1	7265.0
	(64.45)	(3.75)	(0.85)	(11.95)	(9.14)	(9.84)	
1987	5747.3	326.9	68.2	1152.3	811.1	850.6	8956.6
	(64.16)	(3.64)	(0.76)	(12.86)	(9.05)	(9.49)	
-----tax reform							
1988	7411.5	358.7	59.0	1220.9	911.3	737.7	10699.3
	(69.27)	(3.35)	(0.55)	(11.41)	(8.51)	(6.89)	

Notes:

- BEQLAND - Land, including residential, rice paddy, field and forest
- STRUC - Structures, including houses
- BUSIN - Family Business property
- SECUR - Securities, including bonds and stocks
- CASH - Cash and deposits
- MISC - Other miscellaneous

Table 3.3 (continued)

Bequeathed Liabilities and Funeral Expenses

	Liabl.	Funeral	Bequest Tax	
1973	116.5		375.4	
1974	133.3		437.7	
-----				tax reform
1975	74.5	16.7	241.0	
1976	90.9	20.1	264.4	
1977	102.2	24.3	300.3	
1978	120.9	29.2	349.4	
1979	153.1	34.8	398.1	
1980	169.6	44.3	525.6	
1981	211.1	54.0	672.0	
1982	247.9	63.2	809.6	
1983	269.7	71.6	914.6	
1984	350.6	79.9	979.1	
1985	382.0	92.8	1158.4	
1986	465.4	101.3	1277.4	
1987	653.1	120.6	1681.2	
-----				tax reform
1988	755.8	113.3	1833.8	

SOURCE: NATIONAL TAX BUREAU, Tax Bureau Annual, various issues

Table 3.4
Estate Tax Returns Filed in 1985

	Returns	%	Value (millions \$)	%
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
Fed'l savings	9,507	14.0	368.9	0.6
Fed'l other	10,118	14.9	1,409.7	2.2
State & local	16,073	23.7	2,761.9	4.4
Corporate & Foreign	11,100	16.3	354.5	0.6
Corporate stock	45,126	66.4	15,001.2	23.9
Non-corp business	16,721	24.6	1,981.4	3.2
Cash	58,036	85.4	8,439.7	13.4
Notes & 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
Admin expns (total)	43,688	64.3	1,506.7	2.4
Executors cmmssn	19,488	28.7	524.5	0.8
Attorney	35,429	52.1	624.8	1.0
Other	42,355	62.3	357.4	0.6
Debts & 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
Adjst taxable gifts	3,566	5.2	208.2	0.3
Adjst 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	**	--	95.7	0.2
Estate Tax	30,518	44.9	5,035.4	8.0

** - number not disclosed to retain taxpayer confidentiality.

Source: U. S. Internal Revenue Service

Table 3.5

Estimates of Aggregate Net Worth and Major Components
(billions of dollars)

	<u>SCF</u>	<u>PSID</u>	<u>SIPP</u>
Vehicle equity	308	503	410
House equity	2904	2573	2683
Other real estate equity	1640	1170	783
Liquid assets	1032	1204	965 ^a
IRAs, Keoghs	149	b	125
Common stock mutual funds	1056	709	466
Farm/business equity	2391	1436	843
Other assets	1260	820	365
Other debt	227	159	240
Net Worth	10,505	8,254	6,401

^a includes corporate, municipal, and tradeable 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.

Table 4-1
The number of statutory heirs in relation to property values
1988

Tax Base mil. 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	1124	904	586	710	70	57					
50 < 100	12	913	4530	4472	3233	3170	603	278	121	70	27	112	
100 < 200	14	545	2780	3644	3305	2563	864	467	244	113	61	141	
200 < 300	11	123	726	1105	1143	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	

Note: The median number of statutory heirs for each bequeathed taxable income bracket was 1 for 0-30 (mil. 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.

Table 5.1:
Death, taxable death, Land and total Bequest Per taxable decedent, Japan

YR	--- Death (persons) ---			TAXDTHR (%)	TAXD5OMR (%)	-- per taxable death --	
	All age both sexes	50yrs + males	taxable			Land (bil. yen)	Total (bil. yen)
73	709416	300655	29231	4.12	9.72	0.0417536	0.058852
74	710510	302497	32896	4.63	10.87	0.0437074	0.061102
-----tax reform-----							
75	702275	301456	14587	2.08	4.84	0.0768492	0.109193
76	703270	305528	15932	2.26	5.21	0.0756716	0.103854
77	690074	301741	17853	2.58	5.91	0.0755671	0.104403
78	695821	307504	20208	2.90	6.57	0.0761481	0.106146
79	689664	307715	22658	3.28	7.36	0.0762998	0.106726
80	722801	326795	26789	3.70	8.19	0.0800328	0.111617
81	720262	327472	31569	4.38	9.64	0.0878552	0.120083
82	711883	326199	35944	5.04	11.0	0.0926719	0.123395
83	740038	341630	39523	5.34	11.5	0.0925031	0.125454
84	740247	344846	43025	5.81	12.4	0.0910819	0.124872
85	752283	352822	48114	6.39	13.6	0.0922268	0.128536
86	750620	353563	51822	6.90	14.6	0.0903593	0.129256
87	751172	357195	59007	7.85	16.5	0.0974003	0.138677
-----tax reform-----							
88	793014	377996	50625	6.38	13.3	0.1464000	0.194177

	(1)	(2)	(3)	(3)/(1)	(3)/(2)	BEQLAND/(3)	TTL/(3)

Note: Bequest tax statistics do not contain information on the age and sex of decedent.

SOURCE: Ministry of Health and Welfare, Vital Statistics, Japan, various issues; Tax Agency, National Tax Annual, various issues

Table 5.2: Average net assets of Japanese Households, 1988

Age	Households (number, 1000)			Non household head		FSS weights (4)
	male (1)	female (2)	both sexes (3)=(1)+(2)	male (N1) (N1)	(hp)=(1)/(1)+(N1)	
50-54	4,200	250	4,450	0	1.00	0.1248
55-59	3,600	200	3,800	0	1.00	0.1029
60-64	2,458	354	2,812	470	0.839	0.0893
65-up	4,285	1,220	5,505	1,253	0.773	0.1139

Age	Financial (1000 yen)		Net asset male household head (7)	Net asset of male person (8)=(7)*(hp)	male death persons (9)
	Asset (5)	Liability (6)			
50-54	13,108	3,808	9,568	9,568	22,209
55-59	15,749	3,204	12,884	12,884	32,928
60-64	19,333	1,625	18,897	15,854	38,238
65-up	17,412	1,307	18,111	14,000	285,044
					378,419
Weighted Average of (8), being weighted by (9)				13,826	

Notes:

(1). For age groups, 60-64 and 65-up, Male single household, male couple household, plus (0.8*those who are classified as household heads of the elderly who live with child(ren)). The last term does not have the break down to male and female, so that 0.8 was multiplied 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 (4). This is a guess.

(2) For age groups, 60-64 and 65-up, Female single household. For age groups, 50-54 and 55-59, inferred from (4). This is a guess.

(N1) Male population for that age bracket minus (1).

(4) Family Savings Survey. Estimated weights of household number for that

age brackets used in the Family Savings Survey, 1988.

(5), (6) Family Savings Survey, 1988. Financial assets and liabilities.

(7). First, subtract liabilities from assets. Then assume that a household headed by female has an net asset equal to a half of male-headed household.

$$= ((5)-(6))*3/((1)+(2)/2)$$

(8) Correct for those who are not household heads. Assume those who are not householdhead own 0 yen asset. There are typically merged in children's household.

(9) Persons, death, male, Vital Statistics

.....

(A) Average net financial assets	13,826,000 yen
(B) Taxable decedent's average net financial assets (SECUR+CASH+MISC-Liab, table 3-5 & 3-4)/(50625)	41,760,000 yen
w Weight (TAXD5OMR in 6-1)	0.133
(N) Nontaxable decedent's average financial assets	unknown N
Weight (1-TAXD5OMR)	0.867
N - ((A) - ((B)*w)/(1-w) -	9,541,000 yen
Nontaxable decedent's average financial assets plus land (assessed at RosenKa)	- N/M
k - (N/M)/64,000,000	- 0.426

Table 5.3: Simulation, the ratio of bequest wealth to total wealth, Japan

ASSUMPTION: M = 0.35
 MM = 0.5
 K = 0.426 = (9541/M)/64000

U	0.34		0.56		0.78		1.0	
	LAND	ASSET	LAND	ASSET	LAND	ASSET	LAND	ASSET
K								
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

M = [Portfolio parameter of nontaxable decedent] The ratio of financial assets to total net assets among the non-taxable decedent's portfolio.

MM = [Dissaving of widow parameter] The ratio of the widow's bequeath 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 non-taxable death, 9.541 million yen 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.

TABLE 5.4.A: SIMULATIONS, Japan

M = 0.35, MM = 0.00, K = 0.426 - (9541/M)/64000

U	0.34		0.56		0.78		1.00	
	LAND	ASSET	LAND	ASSET	LAND	ASSET	LAND	ASSET
K	-----		-----		-----		-----	
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

TABLE 5.4.B: SIMULATIONS, MM = 1.0

M = 0.35, MM = 1.0, K = 0.426 - (9541/M)/64000

U	0.34		0.56		0.78		1.00	
	LAND	ASSET	LAND	ASSET	LAND	ASSET	LAND	ASSET
K	-----		-----		-----		-----	
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

Table 5.4.c: Simulations

M = 0.5, MM = 0.5, K = 0.298

U	0.34		0.56		0.78		1.00	
	Land	Asset	Land	Asset	Land	Asset	Land	Asset
K	-----		-----		-----		-----	
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 6.1
Household Assets and Liabilities^{1/}
At Year End 1976-1989

United States
(billion \$)

<u>Year</u>	<u>Assets</u>	<u>Liabilities</u>	<u>Net</u>
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

1 - 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.

source: Board of Governors of the Federal Reserve System, "Balance Sheets for the U.S. Economy, 1945-1989," Flow of Funds Accounts, April 1990.

Table 6.2
Composition of Bequeathed Assets

Year	United States (millions \$)					Federal Taxes	Net Request ^{4/}
	Real Estate	Financial Assets ^{1/}	Other Assets ^{2/}	Funeral and Administrative Expense	Liabilities		
1976	12,920.9	30,508.1	4,772.6	2,022.1	2,649.0	552.3	37,999.1
1981	10,974.3	26,722.1	7,263.5	1,654.0	2,600.7	919.7	33,559.1
1984	13,948.4	35,823.1	9,796.3	1,885.4	3,608.4	1,077.6	47,961.0
1987	13,564.8	43,401.1	13,659.5	1,898.1	3,238.2	1,567.5	57,622.4

^{1/} Includes value of non-corporate businesses.

^{2/} Sum of household goods and lifetime transfers.

^{3/} Value of State death tax credit, hence an underestimate of all State taxes.

^{4/} Calculation nets all expenses, liabilities, and taxes against total assets.

SOURCE: United States Internal Revenue Service, Statistics of Income.

Table 6.3
Number of Taxable Estate Tax
Returns Filed as a Percentage of Adult Deaths,
Selected Years 1935-1988
United States

<u>Year</u>	<u>Deaths</u>	<u>Taxable estate tax return filed¹</u>	
		<u>Number</u>	<u>Percent of deaths</u>
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 ²	3.90
1970	1,796,940	93,424 ²	5.20
1973	1,867,689	120,761 ²	6.47
1977	1,819,107	139,115 ²	7.65
1982	1,897,820	41,620 ^{2,3}	2.19
1983	1,945,913	35,148 ^{2,3}	1.81
1984	1,968,128	31,507 ^{2,3}	1.60
1985	2,086,440	30,518 ^{2,3}	1.46
1986	2,105,361	23,731 ^{2,3}	1.13
1987	2,123,323	21,335 ^{2,3}	1.00
1988	2,167,999	18,948 ^{2,3}	0.87

¹ Estate returns need not be filed in the year of the decedent's death.

² 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.

³ 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.

Sources: Joseph A. Pechman, Federal Tax Policy (Washington, Brookings Institution), 1987; Internal Revenue Service, Statistics of Income; and U.S. National Center for Health Statistics

Table 6.4

Bequeathed Assets as a Percentage of
Net Household Assets

United States

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

Table 6.5
Estimates of Bequeathed Household Assets
in Proportion to Outstanding Assets

United States
(percent)

<u>k</u>	Adjusted Generational Bequest Ratio		
	<u>MM=1</u>	<u>MM=0.5</u>	<u>MM=0</u>
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

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APPENDIX

BEQUEST TAXES AND ACCUMULATION OF HOUSEHOLD WEALTH:
U.S. - JAPAN COMPARISON

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Appendix 1: Transfer Taxation in Japan

A.1.1 Historical Background (Based on Ministry of Finance (1990))

Japan established its first transfer tax in 1905. Until 1949, the tax 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 Dr. 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 of the inheritance tax. Without the gift tax, a person could distribute his wealth to his heirs prior to his 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 to distribute wealth 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 on non-statutory 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 later.

A.1.2 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, either in Japan or in foreign countries. A limited taxpayer is responsible for bequeathed assets in Japan, but not those in foreign countries. A Japanese national who keeps a job in Japan is an unlimited taxpayer even if he or she was temporarily travelling or residing in a foreign country. (Ministry of Finance, (1990).)

Note that the inheritance tax in Japan is paid by those who receive properties as opposed to an 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 to the Tax Bureau's branch that covers the resident of the decedent. Inheritance and gift taxes

in Japan are a national tax. Each tax has the same rate schedule, exemptions, and tax credit applies to all properties in Japan. No local government may impose additional bequest or gift tax.

A.1.3 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. (i) Lineal descendants. When there are surviving children, the spouse and children become statutory heirs. If there are no surviving children, but there are grandchildren alive, the grandchildren substitute for the children. (ii) Lineal ascendants. When there are no children (or grandchildren), the spouse and the parents of the deceased constitute statutory heirs. (iii) 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 to be explained below. The concept of statutory heirs also determines an estate's "statutory shares" (Civil Law, article 900). In case of (i), the spouse is entitled to a half of the estate and each child is entitled to the half divided by the number of children. (However, a child born out of wedlock, or born under a different spouse, is entitled only a half of a share of child.) In case (ii), the spouse is entitled

to $2/3$ and parents receive $1/3$ (or each parent receives a half of $1/3$). In case (iii), the spouse is entitled to $3/4$ and brothers and sisters receive $1/4$ (or each brother and sister receives $1/4$ divided by the number of brothers and sisters).

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 a total transfer as a sole recipient of an entire estate, statutory heirs may sue for the automatic entitlement of bequest, that is a half of statutory share. More importantly, regardless the actual distribution of property, the statutory shares determine the total inheritance tax liability.

A dying person cannot control the distribution of bequeathed property. A half of the statutory share is reserved for each statutory heir, no matter how the dying person wishes to distribute his property postmortem. (Civil Law, article 1028). (In the case that there is no child, grandchildren, or a spouse, the guaranteed share of parents of decedent is one-third.) This guaranteed minimum share is called "Iryubun" (Pflicht Teil in German, and Re'serve in French, no word in an Anglo-Saxon law). If a view of strategic bequest (Bernheim, Shleifer, and Summers (1985)), Iryubun makes the threat point of parents very

disadvantageous for them. Unless parents have illiquid assets, such as land and structures, heirs are assured of wealth transfer with an uncertain timing in the future. Hence, this would reduce the amount of children's care of parents in equilibrium. In contrast, if the parent-heir relationship is essentially a cooperative game in an exchange of terminal care and bequest, then the Iryubun works as a precommitment that would increase utilities both the elderly and heirs-to-be. However, these economic analysis of Iryubun is beyond the scope of this paper.

A.1.4 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, any life insurance and severance payments paid upon his or her death. Benefits of life insurance or accidental death insurance are included provided that the decedent had paid insurance premium. In addition, all gifts made during the last three years of life are added to the total. 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.

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 ot 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 gift is higher than that of the inheritance tax if the same amount is given, there is a possibility to lower a 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.

The bequeathed properties, securities and real estates, 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 on the book for a small-sized property, and partly because an assessment for inheritance purpose is in practice underestimation.

The former aspect is a provision for the small-sized 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, then the business portion is reduced by 60 percent, the residential portion is reduced by 40 percent, provided that the average rate is above 50 percent.

The latter aspect is due to pure practice. Land, which is a

major portion of real properties in Japan, for bequest purpose 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.

There is another provision which effectively produces underassessment for agricultural land. This is done in the form of 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 inheritance tax. Property acquired through inheritance by a person or an organization engaged in religious, charitable, scientific or other activities for public welfare, 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 the life insurance payment and the severance payment are included in property value, there are deductions for those payment. (Corporate severance payments in Japan are prevalent. The one-time, lump-sum payment upon retirement usually amounts to three times of annual salary. They played a role of

annuity and pensions in the U.S. workers.) Tax credit to each of these payments is equal to 5 million yen times the number of statutory heirs.

 There were changes in the amounts of these types of exemptions in the 1988 reform.

	Old exemption (1975-87)	New exemption (1988-now)
Severance pay due to death	2 million * # statutory heirs	5 million * # statutory heirs
Life insurance pay	2.5 million * # statutory heirs	5 million * # statutory heirs

In addition to special exemptions, all bequests benefit from a basic exemption. The basic exemption under current law is, 40 million yen + (8 million yen * the number of statutory heirs) where statutory heirs are defined in the preceding subsection. The following table summarize the history of changes in the amount of basic deduction.

 History of basic deduction: (in million yen)

1958-61,	1.5 + (0.3 * # statutory heirs)
1962-65,	2.5 + (0.5 * # statutory heirs)
1966-70,	4.0 + (0.8 * # statutory heirs) + (4.0 maximum spouse allowance)
1971-72,	6.0 + (0.8 * # statutory heirs) + (4.0 maximum spouse allowance)
1973-74,	6.0 + (1.2 * # statutory heirs) + (6.0 maximum spouse allowance)
1975-87,	20.0 + (4.0 * # statutory heirs)
1988-now,	40.0 + (8.0 * # statutory heirs)

A.1.5 Tax Base, Tax Table, and Calculation of Tax

The total amount of inheritance tax owned 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 following tax schedule 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. An example of how to calculate and distribute inheritance tax liability later in this section will clarify any questions from this description.

A.1.6 Tax Credit and Surcharge

Let us elaborate on some of tax credit provisions explained in Section 2.D.

(i) Spouse provision

A surviving spouse receives a special property value deductibles which works like a tax credit. Recall the formula explained in text. The formula could be understood as follows. 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 in 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 is no children as statutory heir, since the statutory share of the spouse becomes greater than a half in

that case. Second, even if the spouse actually inherits more than a statutory share, if the bequest to the spouse is less than 80 million yen, it is again free from inheritance tax. The amount was raised from 40 million yen in the 1988 tax reform. (This is in line with other changes on other deductible amounts concerning inheritance tax.)

(ii) Tax credit to certain heirs and certain kinds of property

After the bequest tax is calculated, there are several provisions for tax credit. First, if the beneficiary is a child of decedent and a minor (age under 20), the tax liability is reduced by 60,000 yen for each year the child is short of its twentieth birthday. Second, if a beneficiary is a handicapped child of the decedent, a further tax reduction is provided, the credit equals the 60,000 yen times the number of years until the handicapped will be 70 years. The amount doubles for the severely handicapped.

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 beneficiary. This alleviate an excess burden imposed by the succession of inheritance from one generation to the grandchildren's generation.

Tax Credit, summary

Unit = 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

(iii) Other tax credit

As explained in text, the gift tax paid for gifts made in three years of death is applied as tax credit for inheritance tax, since such gifts are deemed as inheritance. If the decedent was a beneficiary of inheritance within ten years prior to death, a certain tax credit will apply. (See Ministry of Finance (1989)).

A.1.7 Example

Suppose that a property valued at 200 million yen is bequeathed to a spouse and four children. (This example is taken from Ministry of Finance (1990, p.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), namely a total of 80 million yen. Assuming no other exemptions, the tax base is 120 (=200-80) million yen. Next, the statutory share assigns the following distribution of tax base: For the spouse, $120 * 1/2 = 60$ million; for each child, $120 * 1/8 = 15$ million. Then

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 ($=100/4$) million. The spouse provision in tax credit applies in full, so that there is zero tax liability for the spouse. Assuming no other tax credits, each child's tax from statutory share is 2.45 million yen (from tax table). Hence the total amount of tax is 27.1 million yen, and an actual amount of tax paid by is 27.1 million multiplied by $(25/200)$. This is exactly same as the individual tax amount, calculated in the process of calculating the total tax liability. This is straightforward.

Case (B). A confusing case comes up when the "actual" distribution of the property deviates from the statutory share. A key in this 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) 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:

$$\text{For } C_1, \quad 27.1 * (40/200) = 5.42$$

$$\text{For } C_2, \quad 27.1 * (30/200) = 4.065$$

For C₃ 27.1 * (20/200) = 2.71

For C₄ 27.1 * (10/200) = 1.355.

Case (C). Note that Cases (A) and (B) consider only one aspect of intergenerational transfers. Suppose Case (A), and, in addition, assume that the surviving spouse dies without spending 200 million yen some years later. Then that amount is bequeathed to four children again. The basic deduction this time is 72 (= 40 + (8 * 4)) million yen. Hence 128 (=200-72) million yen in total is the tax base, implying that each statutory heir is responsible for 32 (=128/4) million yen. From tax table, that would trigger 7.15 million yen per person, or the total inheritance tax of 28.6 million yen.

Hence, the total inheritance tax for intergenerational transfer (in two transactions) is 27.1 + 28.6 million yen for a 200 million estate.

A.1.8 Special Treatment and Agricultural Land

When a farmer bequeath a farm land to a heir, and the heir continues agricultural (family) business, then the inheritance tax on the difference between the value as an agricultural land and the value otherwise may be deferred, and will be exempted (i) if the beneficiary continues agricultural business for 20 years after the inheritance; (ii) if the beneficiary dies; or (iii) the beneficiary makes a gift to a person who continues farming.

Suppose that there is a piece of land in the residential

area. It is not productive as a agricultural business, to that the 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. Then an heir would be better off to continue farming after inheriting the piece of land for 20 years to get exemption for the inheritance tax for most of the land value. After 20 years, the heir may turn around and sell for a higher price. If the heir quits farming before ten years, then a recapture provision for higher tax would kick in.

A.1.9 Filing Requirement

After these calculation, 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 became non-taxable. The filing has to be completed within six months of death. If mistakes in filing are found later, correction may be submitted.

A.1.10 Amount of inheritance tax paid

The next table shows the amount of property values, various exemptions, credits and surcharges in 1977, 1987 and 1988. The difference between 1977 and 1987 shows changes in nominal wealth of the elderly generation over the ten years, since the tax table and other provisions basically stayed the same. Recall that there were a significant revision of the tax table, basic

exemption and tax credits between 1987 and 1988.

Bequeathed property values changed significantly from 1987 to 1988. This reflects a rapid inflation in land prices. (See the later section on an analysis of breakdown of bequeathed property.)

A.1. 11 Japanese Gift Tax

The gift tax is imposed on the receipt of properties transferred by gift in a calendar year. The properties are appraised on the basis of current price or value at the time of gift transfer. The basic deduction is 600,000 yen per recipient per year. When a spouse who are married for 20 years or more receives residential a property for her (his) own use as a residence or the money for acquiring such a property from her (his) spouse by gift, she (he) may be allowed, in addition to the above basic exemption, a spouse allowance up to 20 million yen. The spouse allowance, however, may be claimed only once in her (his) marriage period. This clause was created in 1966 with 25-year marriage requirement with a 1.6 million yen deductible. The requirement had been 20 years since 1971, and the deductible amount was 10 million yen from 1975 to 1988.

There is a limited-time special deduction toward a gift by parents or grandparents to a child for acquiring a residence. When a person receives as a gift from his (her) parents or grandparents money for acquiring residential properties, he (she) is allowed the following special tax treatment for the

computation of the gift tax for the period from 1984 to 1989. The amount of the gift (up to 5 million yen) is divided by five and the amount of tax computed for that one-fifth multiplied by five to obtain the tax due for the year. But in the following four years, when the person receives another gift, gift tax for that year is computed presuming one-fifth of the gift of the first year was received in that year in addition to the actual gift during that year. This treatment applied=s only to those whose annual income do not exceed 8 million yen.

Gift Tax Table

(in million yen, beyond exemptions)

Old (1975-1987)			New (1988 - now)		
Taxable transfer more than	but not more than	MTR	Taxable transfer more than	but not more than	MTR
-----	-----	-----	-----	-----	-----
0	0.5	10 %			
0.5	0.7	15			
0.7	1.0	20			
1.0	1.4	25	0	1.0	10 %
1.4	2.0	30	1.0	1.2	15
2.0	2.8	35	1.5	2.0	25
2.8	4.0	40	2.0	3.0	30
4.0	5.5	45	3.0	4.0	35
5.5	8.0	50	4.0	6.0	40
8.0	13.0	55	6.0	8.0	45
13.0	20.0	60	8.0	12.0	50
20.0	35.0	65	12.0	20.0	55
35.0	70.0	70	20.0	30.0	60
70.0	--	75	30.0	70.0	65
			70.0	--	70

A.1. 12 Gift Tax Record

The gift tax filings for recent years are listed below.

Gift Tax filing Record

(billion 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.

Appendix 2: Transfer Taxation in the United States

A.2.1 Overview

United States law formally structures the gift and estate taxes as excise taxes on the transfer of wealth.⁹ 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.

A.2.2 The Taxable Estate and Taxable Gift

A decedent's gross estate is the market value of all the decedent's assets.¹⁰ The law permits an unlimited deduction for transfers between spouses. In addition, transfers and bequests to charities are deductible.¹¹ 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, less charitable bequests, less transfers to the surviving spouse.

An individual may make annual gifts of \$10,000 to any other individual without being subject to tax. 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 year for as long as they live. Such transfers are free from transfer taxes, nor do they constitute taxable income to the children. A program of annual giving permits the transfer of consider wealth free of tax. Our hypothetical husband and wife could transfer \$1.2 million tax free to their three children over a 20 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.

A.2.3 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.¹² In addition, for transfers between \$10 million and \$21,040,000¹³ 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 equal 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 the unified credit and established the credit at \$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.¹⁴ As a consequence, the first dollar of a taxable estate faces a 37 percent marginal tax rate.¹⁵ The unified 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 which provides for their living expenses and, in addition, the husband owns \$1.2 million of assets. Upon the husband's death, he could bequeath all assets to his wife and pay no tax. However, upon the wife's subsequent death, \$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 \$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. 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 which the federal government would otherwise tax. Florida has such a tax. Some states, for example New York, impose taxes in excess of what is creditable against the Federal estate tax, thereby increasing the total tax burden.¹⁶

A.2.4 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, the tax must first be paid, and then 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 percent. Assume Smith wants to transfer wealth to Jones. If Smith accomplishes the transfer by bequest upon his death, 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.

A.2.5 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 which is owned by his son, the father has made a taxable gift of \$2,000 (\$12,000 less the \$10,000 annual exclusion).

A.2.6 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 15 year period. To the extent that the interest rate charged is less than the heirs' opportunity cost, this can present a substantial deferral advantage.

A.2.7 Generation Skipping Transfers

In 1976 Congress created a generation skipping transfer tax to

apply to transfers which deviated 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 non-charitable 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 which skip a generation).

This tax subjects generation skipping transfers to a flat rate of tax equal to the highest rate of the estate tax (55 percent) after allowing a \$1 million exemption per taxpayer. A gift from grandfather to grandson is potentially subject to both the gift tax and the generation skipping transfer tax. If the grandchild's parents have pre-deceased his grandfather, 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 father to great-grandchild is no different than the tax liability created by a gift from father to grandchild.

A.2.8 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. The following tables 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.

*****Insert Table A.2.1*****

*****Insert Table A.2.2*****

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*****Insert Table A.2.5*****

*****Insert Table A.2.6*****

*****Insert Table A.2.7*****

Table A.2.1
Estate Tax Returns Filed in 1977

	Returns	%	Value (millions \$)	%
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 & local	13,184	6.6	1,192.5	2.5
Corporate & Foreign	38,519	19.2	714.1	1.5
Corporate stock	128,817	64.2	12,483.6	25.9
Non-corp business	25,871	12.9	1,010.3	2.1
Cash	195,016	97.1	8,444.3	17.5
Notes & 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 & administrative expenses	197,159	98.2	2,022.1	4.2
Debts & 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

Table A.2.2
Estate Tax Returns Filed in 1982

	Returns	%	Value (millions \$)	%
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 & local	12,976	21.8	1,452.1	3.2
Corporate & Foreign	14,918	25.0	470.4	1.0
Cash	56,851	95.4	5,993.7	13.2
Notes & 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
Non-corp 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
Admin. 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 & 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

Table A.2.3
Estate Tax Returns Filed in 1983

	Returns	%	Value (millions \$)	%
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 & local	13,636	21.6	1,978.0	3.9
Corporate & Foreign	11,779	18.6	399.1	0.8
Cash	51,126	80.8	5,878.5	11.7
Notes & 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
Non-corp 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
Admin. 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 & 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	*	*	*	*
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	*	*	*	*
Estate tax	35,148	55.6	5,170.0	10.3

* / Information not disclosed.

Table A.2.4
Estate Tax Returns Filed in 1984

	Returns	%	Value (millions \$)	%
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 & local	14,454	24.0	1,831.1	3.7
Corporate & Foreign	11,415	18.9	338.1	0.7
Cash	48,742	80.8	5,547.6	11.1
Notes & 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
Non-corp 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
Admin. 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 & 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	*	*	*	*
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	*	*	*	*
Estate tax	31,507	52.2	4,666.7	9.3

* / Information not disclosed.

Table A.2.5
Estate Tax Returns Filed in 1986

	Returns	%	Value (millions \$)	%
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 & local	16,806	39.9	3,927.9	6.6
Corporate & Foreign	10,350	24.6	408.8	0.7
Cash	40,957	97.2	6,853.3	11.5
Notes & 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
Non-corp 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
Admin. 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 & 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

Table A.2.6
Estate Tax Returns Filed in 1987

	Returns	%	Value (millions \$)	%
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 & local	18,361	40.7	5,028.6	7.6
Corporate & Foreign	10,679	23.7	567.4	0.9
Cash	43,726	96.9	7,212.2	10.8
Notes & 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
Non-corp 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
Admin. 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 & 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

Table A.2.7
Estate Tax Returns Filed in 1988

	Returns	%	Value (millions \$)	%
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 & local	19,521	44.7	5,823.1	8.2
Corporate & Foreign	9,391	21.5	471.9	0.7
Cash	42,345	96.9	7,614.4	10.8
Notes & 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
Non-corp 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
Admin. 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 & 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	*	*	*	*
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

* / Information not disclosed.

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