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ABSTRACT

Federal estate taxes give very wealthy families incentives to transfer resources directly to distant generations in order to avoid taxes on successive rounds of transfers. Until recently such transfers were impeded by the rule against perpetuities, which prevented transfers to most potential not-yet-born beneficiaries. Many American states have recently repealed the rule against perpetuities, raising concerns that the combination of tax incentives and new legal rights encourages the devotion of vast wealth to perpetual trusts designed to benefit distant generations, avoid taxes, and maintain a degree of control over the financial affairs of descendants in perpetuity.

This paper analyzes the incentives created by federal transfer taxes, finding the tax benefits from establishing perpetual trusts to be quite modest, in representative cases ranging from 9-25 percent of just one component of the cost. Contrary to popular claims, tax benefits decline as investment returns rise. While U.S. states that have repealed the rule against perpetuities and adopted other policies to encourage trusts host substantial trust assets, evidence from tax returns suggests that perpetual trusts are unlikely to account for a significant portion of this business. Consequently, tax incentives may not be responsible for an important shift of assets into perpetual trusts.

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1. Introduction

Wealthy families face the enviable problem of how best to transmit property across generations. One of the major concerns that motivate estate planning is the potential burden of federal taxes, which apply both to gifts during lifetime and to transfers at death. In practice, only a small fraction of U.S. estates is taxable, reflecting that exemption levels are high and transfers to surviving spouses are entirely excluded from taxable estates; but those estates that are subject to federal taxation typically face high rates. Taxpayers commonly arrange their affairs to soften the impact of federal taxation. Mitigation strategies can include making inter vivos (lifetime) transfers that are subject to lower effective tax rates than transfers at death, transferring property through insurance trusts or grantor retained trusts, making gifts to charity, transferring minority business interests, taking maximal advantage of each spouse's opportunity for exempt transfers; and there are many others, not the least of which is simply spending more of one's resources during lifetime and thereby reducing total transfers.[1] None of these planning tools is costless, so despite their availability, federal taxation can, and typically does, impose significant burdens on large estates.

The largest of these estates confront their own special tax planning problems. Parents with wealth that is more than sufficient to provide for their children may also seek to support grandchildren and possibly successive generations. Federal wealth transfer taxes apply each time wealth is transferred, so resources that a parent leaves to children, and that are subsequently passed on to grandchildren, typically will be taxed twice. In the absence of other considerations, it would clearly be better, from a tax planning standpoint, to avoid the second round of taxable transfers by bequeathing some resources directly to grandchildren (or beyond), thereby skipping one or more rounds of taxable transfers.

The U.S. government imposes a generation-skipping transfer (GST) tax that is designed to address such tax planning strategies by subjecting transfers to grandchildren to an additional layer of transfer taxation. The part of an individual's estate that is left to grandchildren (or to beneficiaries in more distant generations) is not only subject to the estate tax, but the portion remaining after payment of the estate tax is subject to the GST tax, at a rate equal to the estate

[1] Schmalbeck (2001) reviews of the costs and benefits of many estate tax mitigation strategies.

tax rate, so such a transfer is effectively taxed twice. The generation-skipping transfer tax reduces many of the tax savings available from making direct transfers to distant generations, though with adept planning there can still be some tax savings from making gifts that span multiple generations.

One widely noted potential tax saving from multigenerational gifts comes from the availability of an exempt amount in the estate, gift, and GST tax. Under U.S. law prevailing in 2012, the first $5.12 million that an individual bequeaths to others is exempt from federal tax; and there is a $5.12 million exemption under the GST tax as well. Consequently, it is possible to leave up to $5.12 million to a distant relative without any federal transfer tax. For very wealthy families, there may be an incentive to leave significant resources, perhaps the entire exempt amount of $5.12 million, to as distant a generation as possible, in order to minimize the number of future intergenerational transfers and therefore the impact of future transfer taxes.

To how distant a generation can resources be transferred? Under U.S. law, it is not necessary that beneficiaries be alive at the time of transfer. In concept, a settlor (the person who creates a trust, and provides the resources for it) might create a perpetual trust, to which resources could be transferred either during life or at death; the trust would provide benefits for living children, their children, and subsequent descendants for all time. Such a trust could have payout rules that prevent resources from being dissipated by excessive distribution, so that at least a portion of the benefits of the trust accrue to distant generations. Consider the case of a trust beneficiary living ten generations after the trust settlor. Since the first nine generations following the settlor do not own the assets (despite receiving distributions from the trust), they are not deemed to have transferred the assets, so their actions do not trigger federal transfer taxes. If the settlor applies his $5.12 million estate and GST tax exemption to the resources transferred to the trust, then up to $5.12 million can thereby be transferred to current and future generations without subjecting any of the transfer to federal transfer taxes.

Until relatively recently it was infeasible to use the tax planning strategy just described, because it was not possible to create perpetual trusts, or indeed, to make any kind of property transfer to unborn and as-yet-unascertained members of sufficiently distant generations. The United States has a legal system inherited from the common law of England, and under the

common law rule against perpetuities, future interests, such as rights to receive trust distributions, are valid only in those cases in which they are certain to vest within 21 years of a life in being. The rule against perpetuities permits transfers to living great-grandchildren, including making these great-grandchildren beneficiaries of trusts that will distribute income to them many decades later, but the rule invalidates transfers to any who are not guaranteed to be born, and vested as beneficiaries, within 21 years of an identified lifespan of someone currently living. As a practical matter, therefore, the rule against perpetuities prevents the creation of perpetual trusts.

In the United States the rule against perpetuities is a feature of state laws, and these laws have changed in recent years, as several states have repealed the law against perpetuities or else extended the permissible duration of trusts to so many centuries that they approximate perpetuities. Prior to the 1986 introduction of the GST tax, only three states had repealed the rule against perpetuities; by 2012, roughly half have done so. Since it is possible to create a trust in a state other than one's state of residence, this means that it is now possible for settlors to create perpetual trusts by choosing an appropriate jurisdiction in which the trust can be established. Some (e.g., Dukeminier and Krier, 2004; Waggoner, 2011) have expressed concern that the combination of tax incentives to leave property to distant generations and new legal opportunities will encourage large numbers of wealthy families to create perpetual trusts to which they devote considerable resources, thereby ultimately restricting the ability of living generations to deploy resources that are subject to trust rules drafted by long-dead generations. And indeed, Sitkoff and Schanzenbach (2005) offer evidence that one measure of aggregate state-level trust activity appears to react positively and significantly to post-1986 state repeal of the rule against perpetuities, raising the possibility that settlors are devoting substantial resources to perpetual trusts designed to avoid federal transfer taxes.

This paper evaluates the incentives created by federal transfer taxation, and considers evidence of the likely impact of tax incentives and legal changes on U.S. trust activity. The modest size of the potential tax benefits raises serious questions about whether tax incentives could play an important role in motivating the establishment of significant numbers of perpetual trusts. The tax benefits of perpetual trusts stem from diverting resources from the next generation in order to reduce future taxable intergenerational transfers, a strategy that would

typically appeal only to families of considerable wealth, who in turn might be expected to establish large trusts. For these families, the modest size of exclusion ($5.12 million in 2012 but only $1.5 million as recently as 2005) makes the potential tax saving rather small in relation to the likely size of the contemplated trusts. Furthermore, close examination of the actual tax savings available from perpetual trusts indicates that, in representative cases, they range between 9-25 percent of the exclusion level, hence $135,000-$375,000 in 2005. A 9-25 percent tax saving is of the same order of magnitude as the tax saving available from making lifetime gifts rather than transfers at death, with the difference that the saving from making a lifetime gift applies to all of the transferred property, not merely the amount up to the exclusion level. While it is possible that a tax saving of this magnitude might motivate a very wealthy family to tie up many millions of dollars in a perpetual trust rather than permit unfettered access to their resources by succeeding generations, it seems unlikely that there would be such a strong price response.

Evidence from federal tax returns likewise suggests that there has not been a groundswell of perpetual trust creation despite the potential (modest) tax benefits. Certain distributions from perpetual trusts that are funded beyond the federal exemption level trigger GST tax liability, so widespread establishment of large perpetual trusts should be accompanied by extensive GST tax filings, yet there were only 207 GST tax filings of any kind in the United States for tax year 2008, many of which almost surely did not involve perpetual trusts. State-level data from federal trust income tax returns in 2010 indicate that states that have repealed the rule against perpetuities have more, and larger, grantor trusts than do other states, but that the effect of repeal is statistically insignificant. State population and income have very large, and statistically significant, effects on numbers and sizes of grantor trusts, suggesting that most trusts are formed where settlors live, and not established in other states with potentially more attractive legal or tax environments. And the evidence indicates that trusts formed in states that have repealed the rule against perpetuities do not have lower payout rates than trusts formed elsewhere, as would be expected based on tax incentives, but instead if anything have higher payout rates, thereby undermining the potential tax benefits if they were established as perpetual trusts designed to mitigate future tax liabilities.

2. Federal Taxation and the Rule against Perpetuities

The first U.S. federal estate tax was imposed as a stamp duty in 1797 and subsequently repealed in 1802. The stamp duty was reintroduced, along with an inheritance tax, in 1862, and both were repealed following the Civil War. A new estate tax was introduced in 1898, but again repealed in 1902. The modern U.S. estate tax was created in 1916, and, with the exception of a one-year hiatus in 2010, has remained in force ever since. The 1916 estate tax had an exemption of $50,000, so very few estates that year were subject to taxation, and a progressive rate structure with a top tax rate of 10 percent that applied only to taxable amounts exceeding $5 million.

Federal estate tax rates and exemptions have changed many times since 1916. Table 1 presents exempt amounts and top tax rates for the years since 1954,[2] the changing provisions reflecting the preferences and needs of successive governments. In addition to the estate tax, a federal gift tax was introduced in 1924, repealed in 1926, and permanently reintroduced in 1932. The gift tax was viewed as a necessary accompaniment to the estate tax, since in the absence of a gift tax it would be possible to avoid federal estate taxes altogether simply by transferring property during lifetime. During its early decades the gift tax operated separately from the estate tax, with its own rates and exemption levels that generally subjected lifetime transfers to lower tax rates than transfers at death. In 1976 Congress merged the federal estate and gift tax into a unified system that provides a single cumulative exemption level for lifetime gifts plus transfers at death. Congress also introduced the first generation-skipping transfer tax in 1976, but the 1976 tax applied only to transfers through trusts, was thought to be administratively cumbersome, and was later retroactively repealed; the modern GST tax was introduced in 1986.

Despite the unified structure of the estate and gift tax, there remains a strong tax incentive to transfer property during lifetime rather than waiting until death. Modest amounts of annual giving (in 2012 amounts up to $13,000 per recipient) are excluded altogether from gift taxation. Beyond this amount, gift and estate taxes are liabilities of the giver, not the recipient, and gifts are taxed on a tax-exclusive basis, whereas estates are taxed on a tax-inclusive basis: gifts are taxed based on what beneficiaries receive, while estates are taxed based on what decedents bequeath. Consequently, with a 40 percent tax and no exemption, it is necessary to bequeath $25

million in order for beneficiaries to receive $15 million, since the 40 percent tax is applied against the $25 million estate, leaving $15 million for beneficiaries. If instead $15 million is transferred to beneficiaries during lifetime, the transfer produces a tax liability of $6 million (40 percent of $15 million), for a total resource cost of $21 million. The cost difference arises because the tax law does not treat gift tax payments as taxable transfers to beneficiaries (though gift taxes paid within three years of death are included in taxable estates). As a result, there are tax incentives to make lifetime gifts rather than hold property only to transfer it at death, and considerable evidence that patterns of lifetime giving respond to these incentives.[3] Despite the incentives, and the apparent behavioral responsiveness, it is striking that more wealthy people do not avail themselves of the opportunity to make lifetime gifts.

The 1986 version of the GST tax was designed to discourage tax avoidance strategies that included transfers to distant generations. As noted, the then-prevailing rule against perpetuities effectively limited the ability to transfer resources to most not-yet-born individuals, though prior to 1986 three states – Idaho in 1957, Wisconsin in 1969, and South Dakota in 1983 – had repealed the rule against perpetuities. In principle, residents of any other state could have formed perpetual trusts in one of these three states either before or after 1986. After 1986, states that believed that there might be greater interest in perpetual trusts for tax or other reasons, and that were interested in attracting business for local banks and lawyers, began repealing the rule against perpetuities; by 2012, roughly half the states had done so.

Was demand for perpetual trusts driven by the opportunity to take advantage of the exempt amount under the GST tax responsible for these legislative developments? Several observers (e.g., Dukeminier and Krier, 2003) believe so, and it is certainly plausible, albeit difficult to verify with certainty. Sitkoff and Schanzenbach (2005, p. 372) draw attention to the potential value of transferring to perpetual trusts those assets with particularly high expected returns, since, if below the exempt amount at the time of trust formation, the future gains will remain forever exempt from federal transfer taxes. They note somewhat skeptically the calculations of a popular investment guide that extolls the virtues of perpetual trusts, that $1

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[2] Jacobson et al. (2007) describe the history of the federal estate tax, from which much of the data in Table 1 are drawn.

[3] See, for example, Bernheim et al. (2004), Joulfaian (2005), Joulfaian and McGarry (2004), Kopczuk (2007), McGarry (1999, 2001), Nordblom and Ohlsson (2006), Page (2003) and Poterba (2001).

million invested at a 5 percent annual return produces a trust worth $132 million in 100 years, whereas the same investment if subject to a GST tax levied every 25 years would be worth only $10 million after 100 years – but there remains an intuitive appeal to earning high yields that are exempt from transfer taxes.

Despite their potential tax advantages, perpetual trusts impose restrictions on distribution and access to assets that make them unappealing to many potential settlors. Unborn generations have needs and constraints that can be only dimly anticipated in the present, so tax-motivated restrictions on the use of resources in the future may entail significant costs. As Waggoner (2011) notes, there is extremely little genetic connection between the settlor of a perpetual trust and the beneficiaries after even a few generations. His calculations indicate that by the 14th generation, and assuming that descendants mate randomly outside the family, the settlor would share just a 0.006 percent of a descendant's genes, which is roughly the same percentage that unrelated individuals share today. It may be little wonder that they are seldom used.

Sitkoff and Schanzenbach (2005) analyze a state-level panel of bank data on trust assets managed by fiduciaries from 1985-2003, finding that states that repeal the rule against perpetuities experience a rise in managed trust assets. Their point estimates suggest that the rule against perpetuities has an enormous impact on the allocation of trust assets, with (by 2003) roughly $100 billion of trust assets moving to states that repealed the rule, and more assets predicted to move subsequently. These data cover only a portion of total trust assets, those that are held by federally reporting institutional trustees, so the total effect of repeal of the rule against perpetuities is, by the study's logic, presumably even greater than this. The Sitkoff and Schanzenbach study notes some anomalous features of their empirical evidence, including that in many cases average trust sizes are so large that vast non-GST exempt assets appear to be influenced by the availability of the rule against perpetuities, which implies either that tax considerations are unimportant or that settlers form other trusts, or very large perpetual trusts, for tax reasons despite the availability of tax benefits for only a portion of the trust assets. In a follow-up study, Schanzenbach and Sitkoff (2006) offer evidence that the three states that repealed the rule against perpetuities prior to 1986 did not in subsequent years accumulate significantly greater trust assets than other states (if anything, they accumulated rather fewer assets), concluding that the evidence suggests that it was the interaction of the GST tax and

repeal of the rule against perpetuities that is largely responsible for the rise of trust assets in states repealing the rule since 1986.

3. How Large Are the Tax Incentives to Establish Perpetual Trusts?

Taxpayers clearly benefit from avoiding taxed intergenerational transfers, which is why it may be reasonable to expect abolition of the rule against perpetuities to be accompanied by the establishment of large numbers of perpetual trusts. Of course, tax minimization is not the only consideration in the establishment of such trusts. It is possible that wealthy individuals wanted all along to provide resources for distant generations, whether or not such provision was tax advantaged, and that legal restrictions prevented them from doing so. In this scenario the considerable pent-up demand to establish perpetual trusts for nontax reasons would be released upon repeal of the rule against perpetuities, thereby accounting for the apparent success of repeal states in attracting trust business. This interpretation of the evidence does not explain why repeal of the rule against perpetuities became so much more popular in state legislatures after introduction of the GST tax in 1986, though there are multiple possible explanations for these legislative developments.

Are the tax benefits associated with the use of perpetual trusts large enough to account for their apparent popularity? There are at least four reasons to doubt that tax considerations have played an important role in the establishment of perpetual trusts in recent years. The first reason is that so few trusts have been subject to the GST tax; the second is that the beneficial tax treatment applies only to a limited portion of the funds used to establish a perpetual trust; the third reason is that, even for this portion, the tax benefits associated with a perpetual trust represent a minor percentage of the cost of the trust; and the fourth reason is that the evidence from trust tax returns is not entirely consistent with an important role played by perpetual trusts.

The first reason to question whether GST tax avoidance accounts for recently observed trust formation patterns is that so few U.S. trusts are subject to the GST tax. Tax avoidance strategies that entail using the GST tax exemption to create perpetual trusts typically also include making transfers that trigger GST tax liability; examples include distributions to skip persons

from trusts, and direct gifts to skip persons, such as great-grandchildren. Families with resources sufficient to make it worthwhile to create perpetual trusts for tax reasons will commonly have resources well in excess of exempt amounts under the GST tax, and will use other tax-conscious strategies to distribute these funds to distant generations. The figures in Table 2 indicate that very few American families avail themselves of transfers that generate GST tax liability, and there is little indication that the numbers or dollar amounts have grown rapidly in recent years. It is admittedly what might be classified as indirect inference to examine tax payments to find evidence of tax avoidance, but the financial situations of families that are apt to benefit from establishing perpetual trusts as tax avoidance devices are such that they are also apt to trigger GST tax liability, which has not happened in large numbers.

The second, and related, reason to doubt whether tax avoidance has promoted widespread use of perpetual trusts is that GST tax exemption levels are relatively modest by the standards of families sufficiently wealthy to establish perpetual trusts for tax reasons. As noted in Table 1, the exempt amount under the estate tax (and therefore also the GST tax) was $600,000 from 1987-1997, covering the first eleven years following the 1986 introduction of the GST tax. An estate planning strategy that includes the avoidance of taxable transfers makes sense for a family concerned that resources left to the next generation will ultimately be transferred to subsequent generations. It is possible that $600,000 or less bequeathed to children will ultimately be transferred to their children or more distant generations, particularly if beneficiaries have considerable wealth of their own; but this consideration is more commonly associated with families of considerable wealth, for whom $600,000 is only a small fraction of the total. A decision to devote family resources to a perpetual trust is unlikely to be motivated by tax saving on only a small fraction of the resources that are committed to the trust.

A third reason to doubt the importance of tax incentives in the creation of perpetual trusts is the relatively small size of the potential tax saving even for that portion of a trust investment that is exempt from estate and GST taxes. In order to evaluate the potential saving it is helpful to compare perpetual trusts that are entirely exempt from tax with perpetual trusts that must pay estate taxes at each generational transition. Since in practice there are ways to mitigate the impact of estate taxation, a simple comparison of exempt perpetuities with perpetuities that meekly pay estate taxes at each generation certainly overstates the tax advantages of perpetuities.

Nevertheless, this comparison offers an interesting window into the potential tax benefits of establishing perpetual trusts.

Trusts earn annual returns and distribute property to beneficiaries. It greatly simplifies the analysis to evaluate trusts that snap into operation upon their formation, earning income, and making distributions. Consider first a trust that is exempt from the GST tax. Letting *X* represent the value of the resources transferred to the trust at its inception, *r* represent the (unchanging, for simplicity) annual after-tax return earned by trust investments, and *b* denote the fraction of annual earnings distributed each year,[4] then after *n* years, the trust holds assets of $X\left[1+r\left(1-b\right)\right]^n$. In year *n* the trust distributes a fraction *b* of the pretax earnings earned by these assets.

How many additional initial resources would the settlor need to provide in order to permit a trust that is subject to the GST tax to mimic these distributions over the infinite horizon? If the settlor supplements the trust assets by an amount *Y* that earns the same after-tax rate of return as other trust assets, but is not distributed, then at the end of *n* years the trust assets are:

(1) $$Y\left(1+r\right)^n + X\left[1+r\left(1-b\right)\right]^n .$$

Suppose that every *n* years there is a turnover of generations, so trust assets in year *n* are subject to GST tax at rate *t*. The value of trust assets remaining after payment of the tax is:

(2) $$Y\left(1-t\right)\left(1+r\right)^n - tX\left[1+r\left(1-b\right)\right]^n + X\left[1+r\left(1-b\right)\right]^n .$$

The third term in expression (2) is the value of assets that the trust would contain after *n* years if it were not subject to tax and had an initial investment of *X*. Consequently, the sum of the first two terms in expression (2) equals the amount of additional assets that the trust contains after *n* years due to the extra initial investment of *Y* and after subtracting the tax payments in year *n*. Suppose that the initial investment of *Y* is just sufficient to cover the required tax payments over the infinite horizon of the trust. Since the trust is a perpetuity, one can think of the trust as

[4] Strictly speaking, distributions to beneficiaries can be deducted in calculating annual taxable trust income (and the distributions represent taxable income of the beneficiaries), so *b* represents the fraction of pretax earnings that is distributed.

effectively starting over again once the taxes are paid in year *n*. Hence the additional resources that the trust contains to pay the taxes – the sum of the first two terms in expression (2) – must bear the same relationship to the value of other assets in the trust (the third term in expression (2)) that *Y* bears to *X*. This can be expressed as:

$$\frac{Y}{X} = \frac{Y(1-t)(1+r)^n - tX\left[1+r(1-b)\right]^n}{X\left[1+r(1-b)\right]^n}. \tag{3}$$

Equation (3) then implies:

$$Y = X\frac{t}{\left\{(1-t)\left[\frac{1+r}{1+r(1-b)}\right]^n - 1\right\}}. \tag{4}$$

Equation (4) identifies the additional initial investment needed to pay for transfer taxes that recur every *n* years. Some aspects of this formula are evident from inspection. Unless $\left[\frac{1+r}{1+r(1-b)}\right]^n > \frac{1}{(1-t)}$, then the implied value of *Y* is negative, which is nonsensical, and reflects that no value of *Y* would be sufficient to pay the taxes in perpetuity. Forever is a long time, so it is necessary that the trust resources earn sufficient after-tax and after-distribution returns to maintain an asset base sufficient to pay taxes on generational turnover. Higher tax rates are associated with higher values of Y, as are greater distribution rates (*b*), lower annual investment returns (*r*), and longer stretches of time between years when generations succeed each other (*n*).

How much tax saving is available from the availability of perpetual trusts together with the exempt amount under the GST tax? Table 3 presents the implied values of $\frac{Y}{(X+Y)}$ from equation (4) for differing parameter values; this ratio equals the saving expressed as a fraction of the resources that would need to be invested in the absence of an exempt amount. The top panel of Table 3 presents results for the common case in which *b = 0*, and the trust distributes all of its pretax income to beneficiaries; the bottom panel of Table 3 presents results for the case in which

$b = 0.8$, which permits accumulation over time. The table presents results for tax rates of 35 and 45 percent, which are not only recent statutory tax rates, but also may approximate effective tax rates on estates in an era when statutory tax rates were 55 percent but taxpayers could mitigate this tax burden with one or more forms of avoidance.

As is evident from the entries in Table 3, the potential tax savings from perpetual trusts are quite modest in magnitude. For trusts that earn five percent annual returns and distribute all of their returns to beneficiaries ($b = 1$ and $r = 0.05$), the tax saving available from not being subject to the GST tax equals between 9 and 25 percent of the investment that is required if the trust is subject to the GST tax. Panel B of Table 3 indicates that the tax saving with a five percent annual return but only an 80 percent payout rate ($b = 0.8$ and $r = 0.05$) equals between 14 and 37 percent of the initial investment. The tax saving declines at higher rates of return, at lower tax rates, and as the length of time between generations increases.

Why are the potential tax savings so small? The reason is that the portion of the initial investment devoted to meeting tax obligations grows at a faster rate than the portion of the initial investment devoted to providing resources for distribution to beneficiaries. At higher rates of return, greater distribution rates, and longer spans of accumulation between taxable transfers, this difference in growth rates becomes more pronounced, thereby reducing the required initial investment. Perhaps ironically, features of the economic environment that raise investment returns and thereby make perpetual trusts look attractive are the same features that reduce the tax saving associated with exemption levels under the GST tax.

It is instructive to compare the potential tax saving from using a perpetual trust to the tax saving available from making a lifetime gift rather than leaving an ordinary bequest. Disregarding exemptions, in order to ensure that a beneficiary receives Z after tax, it is necessary to leave $Z/(1-t)$ in an estate. By contrast, it costs $Z(1+t)$ to transfer Z to a beneficiary during lifetime. The difference is $Zt^2/(1-t)$, or the product of t^2 and the amount that would need to be left in an estate. At a tax rate of 35 percent, t^2 is 0.12; at a tax rate of 45 percent, t^2 is 0.20. The figures in Table 3 are roughly of the same order as these, and for assets substantially exceeding the exempt amount the tax benefits will be significantly greater for lifetime gifts than for testamentary perpetual trusts, since there is no limit on the amount of property that can be

transferred as a gift. Consequently, the tax saving from using the exempt amount to establish a perpetual trust is roughly similar to the tax saving that arises from making a lifetime gift. In this context it is noteworthy that, despite this potential saving, and the econometric evidence that lifetime gifts are sensitive to their tax treatment, Americans make surprisingly few taxable lifetime gifts: U.S. tax revenues on 2007 gifts were just $2.1 billion, whereas U.S. estate tax revenues that year were $24.6 billion. It is of course possible that the tax benefits of perpetual trusts encourage a groundswell of trust formation even though similar tax benefits for lifetime gifts fail to have large effects, but if so it would be useful to know why.

There remains the question of the extent to which potential settlors of perpetual trusts appreciate the limited value of the available tax benefits, and plan their estates accordingly. It is possible that some individuals believe that the tax benefits of perpetual trusts are greater than they actually are, and therefore respond more strongly to their availability than they would with a better appreciation of the tax saving entailed. It is also possible that large numbers of individuals accurately assess the tax savings, and feel that their magnitude, however modest, warrants the formation of perpetual trusts. And a third possibility is that, despite the availability of some tax savings from avoiding multiple transfers between generations, there has not been a groundswell of reaction that takes the form of perpetual trust creation. The evidence from trust tax returns is consistent with this third interpretation, which is therefore the fourth reason to question whether tax considerations are responsible for widespread formation of perpetual trusts.

4. Evidence of Behavior from Trust Tax Returns

This section considers the evidence of the impact of state policies on trust formation and characteristics.

4.1 Data

Trusts are taxable on income that is not distributed to beneficiaries, so potentially taxable trusts are required to file federal tax returns on an annual basis. Data contained in these tax returns afford the opportunity to measure the impact of state laws on trust formation. Unfortunately, the estate tax return data do not contain explicit information that distinguishes

perpetual trusts from other trusts, so, as with other trust studies, inferences about the formation of perpetual trusts must be made indirectly.

The Statistics of Income division of the Internal Revenue Service provides information culled from estate tax returns (http://www.irs.gov/uac/SOI-Tax-Stats---Estate,-Gift--and-Trust-Statistics). The tax return data distinguish "simple" trusts, which must distribute all of their income each year to beneficiaries, from "complex" trusts, which do not have such requirements. Data are not available on trust balance sheets, so inferences about the magnitude of trust assets come primarily from annual income items. Trust tax return data distinguished by state of residence are available only for tax year 2010, so all inferences about the impact of state policies come from cross-sectional comparisons for this year. Data on state populations and per capita income are reported by the U.S. Census (http://2010.census.gov/2010census/data/). State legal treatment of resident trusts, including the status of the rule against perpetuities and whether a state may tax income earned by trusts established by out-of-state residents, is described by Sitkoff and Schanzenbach (2005); their data are updated to 2010 in the statistical analysis.

Perpetual trusts could take either simple or complex form, though the benefits of deferring distributions to later dates make it unlikely that the terms of perpetual trusts would include the restrictions that would classify them as simple trusts. Consequently, the statistical analysis of complex trusts is the focus of the analysis identifying patterns consistent with establishment of perpetual trusts, and evidence concerning simple trusts is used largely to identify a benchmark behavior of a group of trusts that is unlikely to include significant participation by perpetual trusts. This use of a benchmark is particularly helpful in evaluating the impact of state legislation, since there is always the possibility of misinterpreting regression evidence due to the impact of correlated omitted variables. States that repeal the rule against perpetuities in order to attract trust business are also likely around the same time to enact other provisions, and have other features, that make it attractive to do trust business locally. It is extremely difficult to distinguish the impact of these changes, even in a panel setting, without some kind of even an informal control group against which the same effects can be measured.

4.2 Regression evidence

Panel A of Table 4 presents regressions in which the dependent variable is the natural log of the number of complex trusts in a state (including the District of Columbia) in 2010. Not surprisingly, states with greater populations and larger incomes have more trusts; the 0.9801 coefficient on log population in the regression in column one suggests that trust numbers track population very closely. As noted in section 2, it is not necessary to establish a trust in the state of one's residence; but as a practical matter, it is very common to do so. Greater per capita income is also associated with largers numbers of trusts, as reflected in the 0.7633 coefficient in column 1 of Table 4.

The regression in column 2 of Table 4 adds a dummy variable for state repeal of the rule against perpetuities. The estimated 0.2445 coefficient on the dummy variable indicates that there are greater numbers of complex trusts in states that have repealed the rule against perpetuities; taken literally, the magnitude of the coefficient suggests that repeal is associated with 24 percent greater numbers of complex trusts than would be predicted on the basis of population and per capita income alone. Of course, this inference omits consideration of legal, tax, and other considerations that vary across states, may affect trust formation, and can be correlated with repeal of the rule against perpetuities. The regression presented in column 3 of Table 4 adds a dummy variable for whether a state imposes a tax on fiduciary income. The -0.2109 coefficient on this variable implies that such a tax reduces the number of complex trusts by 21 percent. The sign of this coefficient is to be expected, though it is worth bearing in mind that the magnitude of the estimated coefficient reflects not only the effect of the tax but also the effects of other policies and state attributes that are correlated with introduction of the tax. Adding the fiduciary income tax variable to the regression reduces to 0.1745 the estimated magnitude of the coefficient on the dummy variable for repeal of the rule against perpetuities, and leaves this estimate statistically indistinguishable from zero.

The regressions reported in columns 2-3 of Table 4 suggest that repeal of the rule against perpetuities increases the number of complex trusts in a state, though this effect becomes statistically insignificant once a control is introduced for state fiduciary income taxes. To the extent that state policies encourage the formation of perpetual trusts, they are likely to appear in the data as complex trusts rather than simple trusts. Complex trusts are able to distribute less than 100 percent of annual income, which makes it possible to backload distributions and

thereby add to the impact of a perpetual trust. Furthermore, as Panel B of Table 4 indicates, distributions of less than 100 percent of income contribute to the tax saving associated with a perpetual trust.

Columns 4-6 of Table 4 present estimated coefficients from regressions in which the dependent variable is the natural logarithm of the number of simple trusts in a state. The pattern of regression coefficients is very similar to that in the regressions presented in columns 1-3 for complex trusts: larger and more affluent states have greater numbers of simple trusts. The estimated coefficients on the natural logarithm of state population in the regressions in columns 4-6 are consistently between 0.985 and 0.986, indistinguishable from 1.0, and also indistinguishable from the corresponding coefficients for complex trusts in the regressions presented in columns 1-3. The estimated coefficients on the natural logarithm of state per capita income range from 0.485-0.504, somewhat smaller than the income coefficients in the regressions reported in columns 1-3, though nonetheless sizeable and on the border of statistical significance.

The regressions reported in columns 5-6 of Table 4 include the dummy variable for state repeal of the rule against perpetuities. Estimated coefficients on this dummy variable are 0.161 in the column 5 specification without the fiduciary income tax variable, and 0.148 in the column 6 specification that includes the fiduciary income tax variable. These estimates are not statistically distinguishable from zero, nor are they distinguishable from corresponding coefficients in regressions explaining numbers of complex trusts. State imposition of a fiduciary income tax has a very small, and statistically insignificant, estimated negative effect on numbers of simple trusts in the regression reported in column 6.

Table 5 presents estimates of the impact of state characteristics and laws on total trust income; the dependent variable in these regressions is the natural logarithm of total trust income, by type of trust. The results closely match those in the regressions presented in Table 4. Estimated coefficients on the natural log of state population in the Panel A regressions explaining total incomes of complex trusts lie between 0.94 and 0.95, differing significantly from zero and not from 1.0. Estimated coefficients on the natural log of state per capita income range from 1.575 to 1.708, again significantly different from zero, and much larger in magnitude than

the corresponding income coefficients in the Table 4 regressions explaining numbers of trusts. The 0.4707 estimated coefficient on the dummy variable for repeal of the rule against perpetuities in the regression reported in column 2 suggests a sizeable effect of this rule on formation of complex trusts, but the coefficient declines in size to 0.3093 and becomes statistically insignificant in the column 3 regression that adds a dummy variable for a state fiduciary income tax. In the regression reported in column 3, the dummy variable for the state fiduciary income tax has a large and statistically significant estimated -0.4860 coefficient, suggesting that the imposition of such a tax reduces (pretax) income earned by complex trusts.

The dependent variable in the regressions reported in columns 4-6 of Table 5 is the natural logarithm of income earned by simple trusts. The coefficient pattern in these regressions is very similar to the pattern in the regressions reported in columns 1-3 of Table 5 explaining income earned by complex trusts, though the estimated coefficients in the regressions for simple trusts are of uniformly smaller magnitude. State population and income are highly correlated with income earned by simple trusts, and repeal of the rule against perpetuities has a positive but insignificant effect on trust income. The impact of a fiduciary income tax is negative but insignificant.

Tax-motivated perpetual trusts are likely to be much larger than other types of trusts, since they are designed to avoid rounds of intergenerational transfers by intermediate generations made affluent in part by the availability of trust resources. Consequently, one test of the impact of legal and tax changes is whether repeal of the rule against perpetuities is associated with greater average trust size.

Table 6 presents regressions in which the dependent variable is average trust income, which is the best proxy in the trust tax return data for trust size. State population has only a negligible effect on average trust income in all six of the regressions presented in Table 6, whereas in the column 1-3 regressions explaining average income of complex trusts, state per capita income has estimated coefficients close to one. Both of these patterns are consistent with the interpretation that state residents generally establish trusts in their own states. The dummy variable on repeal of the rule against perpetuities has a positive but insignificant coefficient in the regressions presented in columns 2, 3, 5, and 6 of Table 6, and the fiduciary income tax a

negative and insignificant coefficient in the regressions presented in columns 3 and 6. It is noteworthy that repeal of the rule against perpetuities does not appear to have a significant effect on average trust size.

Table 7 presents ratios of aggregate distribution deductions to aggregate trust income for simple and complex trusts, distinguished by state legal treatment of perpetual trusts. It is evident that mean payout ratios for complex trusts are considerably higher (0.632) in states that have repealed the rule against perpetuities than they are (0.474) in states that have maintained the rule against perpetuities. This is entirely the opposite of what one should expect if the repeal of the rule against perpetuities had an important effect on the establishment of tax-motivated perpetual trusts. The desire to avoid taxes triggered by transfers between generations should motivate payout policies that limit distributions out of trust income, particularly in the early years of perpetual trusts. The same difference of mean payout rates does not appear among simple trusts, which generally have 100 percent payout rates, so any deviation from that rate reflects simply accounting quirks rather than substantive differences. Nevertheless, it is noteworthy that measured mean payout rates for simple trusts are slightly smaller (0.895) in states that have repealed the rule against perpetuities than they are (0.952) in states that maintained the rule against perpetuities, suggesting that accounting issues if anything mitigate against observing the pattern that appears for complex trusts.

Table 8 presents estimated coefficients from regressions that consider this payout pattern controlling for the effects of other variables. The dependent variable in the Table 8 regressions is the ratio of beneficiary distributions to total trust income. State population and state per capita income have insignificant effects in all of these regressions. In the case of complex trusts examined in regressions reported in columns 2 and 3, repeal of the rule against perpetuities has a positive (albeit statistically insignificant) effect on the distribution ratio. Repeal of the rule against perpetuities appears to have little if any effect on distributions from simple trusts in the regressions reported in columns 5 and 6, and fiduciary income taxes are associated with greater (though statistically insignificant) payout ratios for both types of trusts.

4.3 Interpretation

Taken together, the regression evidence presented in Tables 4-6 and 8 does not suggest that tax considerations have an important effect on the formation of perpetual trusts, or indeed, that perpetual trusts represent a significant portion of U.S. trusts. States that have abolished the rule against perpetuities have greater numbers of trusts, and more trust income, than would be predicted on the basis of their populations and income levels, but this effect becomes statistically insignificant when regressions include a dummy variable indicating the presence of a state fiduciary income tax. Similar results appear in regressions explaining average trust sizes. Of much more consequence to trust formation and trust income is state size and per capita income, strongly suggesting that most trusts stay at home, and do not, for example, flee to trust-friendly jurisdictions. To the extent that repeal of the rule against perpetuities is associated with greater numbers of trusts, or trust income, it is difficult to distinguish the impact of removing the legal restriction on perpetual trusts from the effect of a trust-friendly legal environment, with the large number of private trust providers that likely accompanies it.

Most telling are the sample means in Table 7 and the regressions reported in Table 8, in which it appears that complex trusts have if anything higher income distribution rates in states that have repealed the rule against perpetuities than they do in other states. This is the opposite of what would be expected if there were an important effect of repeal of the rule against perpetuities on the formation of perpetual trusts, and contributes to the interpretation of these and other published findings that the apparent effect of repeal of the rule against perpetuities reflects the impact of correlated omitted variables on trusts that are not perpetuities.

5. Conclusion

Many observers have expressed concerns that the incentives created by the 1986 introduction of the GST tax, together with newfound opportunities to create perpetual trusts, might stimulate the formation of trusts that make it difficult for succeeding generations to have access to family resources. The potential transfer tax saving from perpetual trusts appears, however, to be quite modest, making the tax saving unlikely by itself to motivate a rational decision to restrict access to trust resources in perpetuity. This suggests three possibilities: one, that the formation of perpetual trusts is extremely sensitive to small tax benefits, so these trusts

have grown in popularity due to the tax benefits; two, that the formation of perpetual trusts would not be sensitive to small tax benefits if properly perceived, but that U.S. taxpayers have misunderstood the benefits and as a result rushed to form perpetual trusts; and three, that taxpayers have not responded en masse to the opportunity to form perpetual trusts. Data from federal tax returns are largely consistent with the third of these interpretations, though the evidence is sufficiently limited that it is difficult to draw strong conclusions.

Federal estate, gift, and GST taxes have changed significantly over time, particularly in the years since 1997, and give no indication of yet reaching a permanent configuration. One of the important considerations in the design of federal transfer taxes is the likely impact of taxation on behavior, including not only the actions of taxpayers, whose estate plans may be affected by federal taxes, but also the actions of state legislatures, whose statutory regimes regulating intergenerational property transfers are conceivably influenced by federal taxation. In enacting the GST tax in 1986, it is unlikely that Congress anticipated that several states would subsequently repeal the rule against perpetuities, or that this repeal might be motivated by potential GST tax savings. Whether or not the states that repealed the rule against perpetuities in fact did so in search of business from taxpayers seeking methods of avoiding transfer taxes, their actions serve as useful reminders that federal tax changes can have unforeseen consequences.

It is extremely difficult for the federal government to commit itself to future tax policies, a political reality that limits the effectiveness of certain tax measures but also ensures that Congress has the opportunity to modify its policies if it feels subsequently that a change is warranted. Perpetual trusts do not share this property. Wealthy families that establish perpetual trusts might ultimately discover that they have unanticipated tax or non-tax consequences, but by then they are unable to modify the trust terms. Perhaps it is in part this irrevocability that cautions many prudent potential settlors against establishing perpetual trusts, and accounts ultimately for their limited appeal.

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Table 1

Federal Estate Tax Exemptions and Top Tax Rates

Years	Exemption	Top Tax Rate
1954-1976	$ 60,000	77 %
1977	120,000	70
1978	134,000	70
1979	147,000	70
1980	161,000	70
1981	175,000	70
1982	225,000	65
1983	275,000	60
1984	325,000	55
1985	400,000	55
1986	500,000	55
1987-1997	600,000	55
1998	625,000	55
1999	650,000	55
2000-2001	675,000	55
2002	1,000,000	50
2003	1,000,000	49
2004	1,500,000	48
2005	1,500,000	47
2006	2,000,000	46
2007-2008	2,000,000	45
2009	3,500,000	45
2010	No Estate Tax	
2011	5,000,000	35
2012	5,120,000	35
2013-beyond (scheduled)	1,000,000	55

Note to Table 1: the second column of the table presents federal estate tax exemption levels, in current dollars, for tax years specified in column 1. Exemption levels represent maximum net values of taxable estates that generate zero federal tax liabilities. The top tax rate represents the highest marginal federal estate tax rate for the specified years.

Table 2

Generation-Skipping Transfer Tax Filings and Revenue

Year	Number of GST Tax Returns	GST Tax Collections
1997	269	$65,225,392
2003	461	71,778,906
2004	135	22,847,955
2005	60	15,879,665
2006	226	25,978,589
2007	290	33,419,536
2008	207	38,518,872

Note to Table 2: the second column of the table presents numbers of generation-skipping transfer tax returns filed for the indicated tax years. The third column presents total federal GST tax collections, in current dollars.

Source: Statistics of Income Division, IRS.

Table 3

Savings Available from the GST Exemption

Panel A: b = 1

	$r = 0.06$	$r = 0.05$	$r = 0.04$	$r = 0.03$
$n = 30$ $t = 35\%$	.11	.16	.24	.38
$n = 30$ $t = 45\%$	.17	.25	.36	.57
$n = 40$ $t = 35\%$	.06	.09	.14	.24
$n = 40$ $t = 45\%$	.09	.14	.22	.36

Panel B: b = 0.8

	$r = 0.06$	$r = 0.05$	$r = 0.04$	$r = 0.03$
$n = 30$ $t = 35\%$	.18	.24	.35	.52
$n = 30$ $t = 45\%$	.27	.37	.53	.80
$n = 40$ $t = 35\%$	.10	.14	.22	.34
$n = 40$ $t = 45\%$	.15	.22	.33	.52

Note to Table 3: the table presents ratios that describe the tax saving available from the GST tax exemption for perpetual trusts with differing trust distribution rules, rates of investment return,

tax rates, and time between generations. The numerator of the ratio is the amount by which the GST tax exemption permits initial trust principal to decline without reducing payouts to beneficiaries; the denominator is trust principal in the absence of the GST tax exemption. Panel A of the table presents ratios for trusts that distribute 100 percent of after-tax annual income to current beneficiaries; panel B presents ratios for trusts that distribute 80 percent of after-tax annual income to current beneficiaries, and accumulate the remaining 20 percent. The variable *r* represents annual after-tax rates of return to investment; *n* represents the number of periods between generational transfers; and *t* represents the GST tax rate.

Table 4:

State Characteristics and Numbers of Trusts in 2010

Dependent variable: ln(number of 2010 trusts)

	Panel A: Complex Trusts			**Panel B: Simple Trusts**		
Constant	-13.41 (2.74)	-13.36 (2.64)	-12.71 (2.59)	-11.39 (3.11)	-11.36 (3.09)	-11.24 (3.15)
ln (population)	0.9801 (0.0561)	0.9811 (0.0539)	0.9777 (0.0527)	0.9856 (0.0636)	0.9857 (0.0632)	0.9851 (0.0639)
ln (per capita income)	0.7633 (0.2284)	0.7478 (0.2195)	0.7034 (0.2155)	0.5041 (0.2587)	0.4939 (0.2573)	0.4855 (0.2615)
Rule against perpetuities		0.2445 (0.1092)	0.1745 (0.1131)		0.1612 (0.1280)	0.1480 (0.1373)
Fiduciary income tax			-0.2109 (0.1144)			-0.0398 (0.1388)
R-squared	.86	.88	.89	.83	.84	.84
No. obs.	51	51	51	51	51	51

Note to Table 4: the table presents estimated coefficients from regressions in which the dependent variable is the natural logarithm of the number of federal trust tax returns filed for trusts in a state (or the District of Columbia) for tax year 2010. Panel A, columns 1-3, presents regressions using data for complex trusts; Panel B, columns 4-6, presents regressions using data for simple trusts. "ln (population)" is the natural log of a state's population and "ln (per capita income)" is the natural log of a state's per capita income; in both cases these represent U.S. Census figures for 2010. "Rule against perpetuities" is a dummy variable that takes the value 1 if a state had effectively repealed the rule against perpetuities by 2010, and zero otherwise. "Fiduciary income tax" is a dummy variable that takes the value 1 if state statutes may impose income tax on trusts established by out-of-state residents; the coding follows that of Schanzenbach and Sitkoff (2005), updated to 2010. Robust standard errors are in parentheses.

Table 5:

State Characteristics and 2010 Trust Income

Dependent variable: ln(aggregate 2010 trust income)

	Panel A: Complex Trusts			**Panel B: Simple Trusts**		
Constant	-19.63 (5.40)	-19.54 (5.20)	-18.03 (5.05)	-13.50 (4.19)	-13.44 (4.11)	-12.60 (4.09)
ln (population)	0.9491 (0.1105)	0.9493 (0.1064)	0.9415 (0.1024)	0.9132 (0.0858)	0.9133 (0.0840)	0.9090 (0.0830)
ln (per capita income)	1.708 (0.449)	1.678 (0.433)	1.575 (0.419)	1.1214 (0.3489)	1.103 (0.342)	1.046 (0.340)
Rule against perpetuities		0.4707 (0.2155)	0.3093 (0.2201)		0.2955 (0.1702)	0.2057 (0.1783)
Fiduciary income tax			-0.4860 (0.2225)			-0.2703 (0.1803)
R-squared	.62	.66	.69	.70	.72	.74
No. obs.	51	51	51	51	51	51

Note to Table 5: the table presents estimated coefficients from regressions in which the dependent variable is the natural logarithm of aggregate gross trust income reported on federal trust tax returns filed for trusts in a state (or the District of Columbia) for tax year 2010. Panel A, columns 1-3, presents regressions using data for complex trusts; Panel B, columns 4-6, presents regressions using data for simple trusts. "ln (population)" is the natural log of a state's population and "ln (per capita income)" is the natural log of a state's per capita income; in both cases these represent U.S. Census figures for 2010. "Rule against perpetuities" is a dummy variable that takes the value 1 if a state had effectively repealed the rule against perpetuities by 2010, and zero otherwise. "Fiduciary income tax" is a dummy variable that takes the value 1 if state statutes may impose income tax on trusts established by out-of-state residents; the coding follows that of Schanzenbach and Sitkoff (2005), updated to 2010. Robust standard errors are in parentheses.

Table 6:

State Characteristics and Average 2010 Trust Size

Dependent variable: ln(trust income/number of trusts)

	Panel A: Complex Trusts			**Panel B: Simple Trusts**		
Constant	-6.223 (4.241)	-6.182 (4.211)	-5.324 (4.198)	-2.106 (2.512)	-2.082 (2.494)	-1.363 (2.426)
ln (population)	-0.0319 (0.0868)	-0.0318 (0.0862)	-0.0362 (0.0852)	-0.0725 (0.0514)	-0.0724 (0.0511)	-0.0761 (0.0492)
ln (per capita income)	0.9443 (0.3531)	0.9300 (0.3508)	0.8719 (0.3486)	0.6173 (0.2092)	0.6088 (0.2078)	0.5602 (0.2014)
Rule against perpetuities		0.2262 (0.1746)	0.1348 (0.1380)		0.1342 (0.1034)	0.0576 (0.1058)
Fiduciary income tax			-0.2752 (0.1850)			-0.2306 (0.1069)
R-squared	.14	.17	.21	.21	.24	.31
No. obs.	51	51	51	51	51	51

Note to Table 6: the table presents estimated coefficients from regressions in which the dependent variable is the natural logarithm of the ratio of aggregate gross trust income to the number of federal trust tax returns filed for trusts in a state (or the District of Columbia) for tax year 2010. Panel A, columns 1-3, presents regressions using data for complex trusts; Panel B, columns 4-6, presents regressions using data for simple trusts. "ln (population)" is the natural log of a state's population and "ln (per capita income)" is the natural log of a state's per capita income; in both cases these represent U.S. Census figures for 2010. "Rule against perpetuities" is a dummy variable that takes the value 1 if a state had effectively repealed the rule against perpetuities by 2010, and zero otherwise. "Fiduciary income tax" is a dummy variable that takes the value 1 if state statutes may impose income tax on trusts established by out-of-state residents; the coding follows that of Schanzenbach and Sitkoff (2005), updated to 2010. Robust standard errors are in parentheses.

Table 7:

2010 Trust Payout Ratios in States with and without the Rule against Perpetuities

State legal regime	Simple Trusts	Complex Trusts
Maintain the rule against perpetuities	0.952	0.474
Repealed the rule against perpetuities	0.895	0.632

Note to Table 7: the table presents ratio of aggregate trust distribution deductions to aggregate trust gross income for tax year 2010, distinguished by state treatment of the rule against perpetuities. The second column presents ratios for simple trusts; the third column presents ratios for complex trusts.

Table 8:

State Characteristics and 2010 Trust Payout Ratios

Dependent variable: (distributions/trust income)

	Panel A: Complex Trusts			**Panel B: Simple Trusts**		
Constant	-0.1266 (3.0862)	-0.098 (3.069)	-0.9056 (3.0098)	2.227 (1.114)	2.216 (1.109)	1.905 (1.801)
ln (population)	0.0210 (0.0618)	0.0210 (0.0628)	0.0252 (0.0611)	-0.0179 (0.0228)	-0.0179 (0.0270)	-0.1063 (0.0293)
ln (per capita income)	0.0337 (0.2570)	0.0237 (0.2557)	0.0784 (0.2499)	-0.0964 (0.0928)	-0.0928 (0.0924)	-0.0717 (0.0898)
Rule against perpetuities		0.1576 (0.1272)	0.2437 (0.1312)		-0.0564 (0.0460)	-0.0232 (0.0471)
Fiduciary income tax			0.2591 (0.1327)			0.0998 (0.0477)
R-squared	.002	.03	.11	.03	.06	.14
No. obs.	51	51	51	51	51	51

Note to Table 8: the table presents estimated coefficients from regressions in which the dependent variable is the ratio of aggregate trust distribution deductions to aggregate trust gross income for trusts in a state (or the District of Columbia) for tax year 2010. Panel A, columns 1-3, presents regressions using data for complex trusts; Panel B, columns 4-6, presents regressions using data for simple trusts. "ln (population)" is the natural log of a state's population and "ln (per capita income)" is the natural log of a state's per capita income; in both cases these represent U.S. Census figures for 2010. "Rule against perpetuities" is a dummy variable that takes the value 1 if a state had effectively repealed the rule against perpetuities by 2010, and zero otherwise. "Fiduciary income tax" is a dummy variable that takes the value 1 if state statutes may impose income tax on trusts established by out-of-state residents; the coding follows that of Schanzenbach and Sitkoff (2005), updated to 2010. Robust standard errors are in parentheses.