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ABSTRACT

This paper analyzes the merits of proposals to encourage saving for college by permitting families to use funds accumulated in Individual Retirement Accounts (IRA's) to pay postsecondary education expenses. The paper argues that tax treatment of such expenditures might parallel that for expenditures of IRA's for retirement purposes--deferring tax on both contributions and accumulated interest until withdrawal. Or, alternatively it could be made more generous by taxing withdrawals at a lower rate. The paper reviews savings incentives, and argues for policy analysis that would distinguish the use of saving incentives to stimulate aggregate total saving from their use in encouraging the reallocation of saving toward preferred uses. A look at alternative incentives for college savings describes how such a plan might operate through tax preferences or through direct expenditure programs. A further section discusses how to design an IRA for educational savings. The paper moves on to look at how such a program would operate as a family investment opportunity, covering tax implications, integration with the financial aid system, and alternative financing. The section following addresses public policy assessment covering cost, equity, and behavioral effectiveness. The final section summarizes the analysis. Contains seven references. (JB)

IRA's for College Savings

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IRA'S FOR COLLEGE SAVING

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I. Executive Summary

This paper examines the merits of proposals to encourage saving for college by permitting families to use funds accumulated in Individual Retirement Accounts (IRA's) to pay postsecondary education expenses. Tax treatment of such expenditures might parallel that for expenditures of IRA's for retirement purposes -- deferring tax on both contributions and accumulated interest until withdrawal. Alternatively, it could be made more generous by taxing withdrawals at a lower rate -- perhaps the child's rather than the parents' tax rate. We examine implications for both family financing and public policy.

Family Financing

Tax deferral on contributions and interest would provide modest incentives for families to accumulate college savings in IRA accounts; in our examples, such a tax preference increases the value to a family of accumulated college savings by roughly twenty to thirty percent, depending on the family's tax bracket.

Partial or complete exemption of withdrawls from taxation sharply raises the benefits to a family of holding savings in this form, but also increases greatly the cost of the proposal.

For families who might qualify for need-based financial aid, the treatment of IRA accumulations by the aid system is critical. If needs analysis regards these accumulations as parental assets, the "tax" imposed on the accumulation by the needs analysis system is smaller than the benefit provided by favorable tax treatment, and the investment remains worthwhile for the family. But if the accumulation is treated as a student asset, the needs analysis "tax" is likely to outweigh the federal tax saving and discourage use of IRA's for college savings.

Public Policy Implications

Cost. We estimate that deferment of tax on contributions and interest for an educational IRA would cost the Federal government roughly $2 billion per year -- an amount roughly comparable to a modest tax credit for college tuition. Exemption of withdrawals from taxation would raise the cost sharply, by a factor of more than two. These estimates are very sensitive to assumptions

about the number of participants and the average size of accumulations.

Equity. The tax benefits of an educational IRA are highly skewed toward upper income families, both because they are more likely to use such an instrument and because the tax benefits per dollar of expenditure from such accounts rise with income. The distributional effects of educational IRA's are more heavily biased toward higher incomes than are tuition tax credits.

Behavioral Effectiveness. Educational IRA's would probably have little effect on overall participation in higher education. However, for families who do participate in higher education, availability of educational IRA's would provide some encouragement for them to send their children to independent schools where the price of tuition is usually higher.

We have always assumed in this country that parents would bear a large share of the burden of financing their children's college education. But, as costs of college have risen, it has become increasingly unrealistic to suppose that most parents would be able to finance their share of college costs out of current income, especially if their children attend independent institutions. A search is therefore underway for devices that will help parents spread the costs of paying for college over longer periods of time. Loan schemes which allow parents to move costs of college into later years are one such device. But there is also great interest in encouraging parents to plan in advance for their children's college expenses -- that is, to encourage saving for college.

As Trygve Tonnessen has noted, the task of getting parents to save for college is made harder by the fact that many other uses of savings are implicitly or explicitly subsidized under current policies. Thus owner-occupied housing, a major use of most households' saving, receives substantial federal tax preference, as does retirement (through the tax treatment of Individual Retirement Accounts (IRA's) and pension accumulations) and life insurance. Although means exist for transferring assets to minors for the purpose of paying for college, these are relatively cumbersome and have some disadvantages. In 1982, fewer than 15,000 taxpayers had provided their children with tax-preferred trust funds of this sort. (Internal Revenue Services, 1985, p. 43.)

Both the difficulties families encounter in paying for college and the existence of subsidies for other uses of

saving have thus encouraged proposals to use federal resources to provide broadly based and easily accessible incentives for college saving. A further impetus is provided by the widespread presumption that encouragements to saving in general would benefit the U.S. economy.

The main purpose of this paper is to evaluate one major type of proposed tax incentive for college savings, namely, the extension of permitted uses of funds accumulated in IRA's to include expenditures on college. (For convenience, we shall sometimes refer to such accounts as educational IRA's.) Such an extension would not require extensive legislation or the creation of new kinds of accounts, and would offer relatively immediate benefits to colleges by providing access to existing accumulations. Most other proposals would not help parents or colleges until enough time had passed to allow funds to accumulate in new accounts. These considerations help explain the high level of interest in the "IRA-extension" option, and justifies our focus on it.

We shall not discuss in detail the many difficult questions of design and administration that would be involved in implementing a plan of this kind.[1] Instead, we shall focus on the basic economic and financial issues raised by any plausible version of such a plan. These principally involve questions of the cost and equity of such a plan, its attractiveness to families, and its likely effects on enrollment behavior. There are also important questions about the integration of an IRA arrangement with the need-based financial aid system.

Following this introduction, Section II of the paper describes the major existing federal savings subsidies and summarizes economists' evaluations of their effectiveness. Section III briefly reviews some leading options for subsidizing college saving. Section IV considers some basic options for implementing an IRA for college saving -- who could contribute, how it might be taxed, how systems of needs analysis for awarding student financial aid might take account of accumulations in such accounts, and so on. Section V examines the costs and benefits to a family investing in such an instrument, under differing

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1. Should graduate students be included? Should transfers other than those between parents and children be allowed? How should allowable college expenses be defined? These are samples of such questions.

assumptions about the rules governing it. Section VI examines the IRA extension from the standpoint of public policy, reviewing considerations of distribution, cost, and efficiency. Our conclusions are in Section VIII.

II. Savings Incentives: An Overview.[2]

Most federal encouragements for saving operate through the tax side of the federal budget, rather than through direct expenditures. The U.S. has elected to have an income tax, rather than a consumption tax (which would generally exempt saving from taxation), but has nevertheless chosen to reduce or eliminate federal tax on certain forms of savings. The cost to the government of such "tax expenditures" can be determined by estimating the amount by which tax revenues would rise if the special treatment were eliminated. Among the most prominent of these tax preferences are the following:

1. A principal form of savings for many U.S. households is through building up equity in a house. The tax system encourages this by permitting interest and property tax payments to be deducted from income tax while failing to tax the "in-kind" income generated by living in one's own home rent-free. Gains from increases in the value of a house are, like other capital gains, taxed at a preferential rate and are subject to further special provisions that reduce capital gains tax on owner occupied housing. These preferences cost the Treasury a total of over $35 billion per year. (Office of Management and Budget (OMB), 1985, Table 9-2.)

2. Employer contributions to pension plans, as well as a variety of retirement plans to which employees may contribute, are exempt from taxation at the time contributions are made. The tax is instead deferred to the time when withdrawals are made. Thus, accumulations of interest on contributed funds (which, under the normal rules of our tax system, would be taxed every year as income) are not taxed until withdrawal. The combined effect of defferring tax on contributions and not taxing interest as it accumulates can be shown to be equivalent to exempting the income on these accounts from tax. Moreover, contributors typically benefit further by paying tax at a lower rate during their retirement years than the rate they would have faced if the contributions were taxed when

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2. For more detailed discussion see Galper and Steurle (1983) and Steurle (1985, ch. 9).

made. The revenue loss from these exclusions is estimated at $45 billion per year. (OMB, 1985, Table 9-2.)

3. Since 1981 all families have been permitted to make contributions to Individual Retirement Accounts, which permit tax deferment in the same manner as pension plans. There is a ceiling on annual contributions of $2,000 for single earner families and of $2,250 for two-earner families. These exclusions cost the Treasury $12 billion in 1985.

4. Tax on increases in the value of life insurance and annuity policies is generally deferred until withdrawals are made. ($2 billion.)

5. Limited amounts of dividend and interest income are excluded from taxable income. ($0.5 billion.)

6. A variety of provisions provide special advantages for income derived from certain categories of financial and real estate investments.

How do economists appraise this bewildering variety of tax preferences for saving and investment? Two main purposes of such preferences are recognized: 1) to raise the level of private saving in the United States and 2) to direct families' investments and savings along preferred lines. Most economists are quite skeptical of the effectiveness of existing incentives from the standpoint of the first goal. One source of difficulty is that taxpayers can benefit from many of these preferences without doing any new saving. Thus, for example, one can purchase an IRA out of existing assets and receive the tax deferral advantages without doing any new saving. Also, since there is a ceiling on annual contributions to IRA's, those households who would have more than that ceiling amount even without a tax advantage have no incentive to increase their saving because of the tax preference -- they will simply hold a portion of their annual savings in the tax-preferred form.

The prospects for benefitting from these tax preferences by reorganizing one's portfolio are strengthened by the opportunities for "tax arbitrage". One can, for example, borrow to buy an IRA or a tax-exempt security. Technically, one cannot directly use the proceeds of a loan to buy a tax exempt activity. But this requirement can be circumvented easily. One obtains a tax advantage on the purchased asset while, at the same time deducting interest payments from income. It can be shown that when interest payments are fully deductible and tax on interest receipts is deferred, the same tax benefit is

obtained from "tax arbitrage" as from new saving in the tax preferred form. (Galper and Steurle, 1983.) On balance, most economists conclude that the existing pattern of tax preferences provides little incentive for households to save more.

The effect of these preferences in influencing the kinds of assets households accumulate and the purposes for which they save are more complex. It seems clear, for example, that the tax code provides strong incentives to invest in owner-occupied housing, an outcome that the government clearly has wanted to encourage. Tax deferment of pension and life insurance assets presumably has encouraged provision for retirement and for survivors. The effectiveness of the IRA in this respect is less clear because of the cap on annual contributions. Households who would save for retirement more than the limit set by the cap get the tax benefit without increasing their provision. On the other hand, those who would not save so much, or who would spend their savings before retirement, are provided with an incentive to increase their retirement saving. (How effective such an incentive is in changing household behavior is another question.)

In sum, it is crucial for policy analysis to distinguish the use of savings incentives to stimulate aggregate total saving (existing incentives are poorly designed from this standpoint) from their use in encouraging the reallocation of savings toward preferred uses. Existing incentives have more impact from this second perspective. Whether that is a good thing depends on one's judgment about whether such a reallocation is socially desirable.

III. Alternative Incentives for College Saving

Federal policy to encourage families to save more for college might operate through tax preferences or through direct expenditure programs. Three options have received the most discussion.

1. A federal program to match savings accumulated in a specially designated account. Such a program could be designed to make the matching rate vary with family resources. Federal resources would come from the expenditure side of the budget. A version of this plan called the "Timmons plan" is under active investigation at the American Council on Education.

2. The creation of a specially designated form of savings account, often called an Educational Savings Account (ESA), which would receive preferential tax treatment. The prime use of such accounts would be to pay for college expenses. The accounts themselves might be owned by parents or children who would use them for college. Presumably there would be penalties imposed on those who used the accounts for other purposes.

3. Extension of the permitted uses of Individual Retirement Accounts to include paying for college. The options on rules governing ownership and use of such accounts would be similar to those available for the ESA, with the important differences that no novel financial instrument would need to be created and that existing IRA accumulations could be made available for the purpose of paying college expenses.

Besides these three widely discussed options, it should also be noted that a tax credit for contributions to an ESA, instead of a deferment, is a possibility. Such an arrangement could be made quite similar to the "Timmons plan", except that it would operate on the tax side of the budget. Finally, it should be noted that any Federal arrangement providing a tax advantage for expenditure on college, such as a tax credit for college tuition, raises the incentive to save for college, since it increases the payoff for educational savings.

IV. Design of an IRA for Educational Savings

The model for an education IRA is very similar to that of a retirement IRA. Basically, the parents of a prospective student (and perhaps grandparents or others) contribute to an account during the years before the student enters postsecondary education. Only then can the money be withdrawn and used for educational expenses. The contributions and the interest accrued on the funds in the account could be tax-deferred or (partially or completely) tax-exempt. Specific limits on the amount of contributions that can be made per year could be set and the kind of financial instrument in which the funds must be kept could be regulated. Unlike the retirement IRA, when the funds of a education IRA are withdrawn, they are restricted to use as a resource for the student's educational expenses.

The IRA model used for educational purposes could be viewed by the tax system in two ways. The first is that the funds that are put into parents' retirement IRA's could be used for educational purposes. Presumably, the rules regarding the structure and tax benefits of the IRA would

remain the same with the possible exception of an increase in the annual contribution limits. In effect, early withdrawals from IRA's for educational purposes would no longer be subject to the 10 percent penalty on withdrawals before age 59 1/2. When a withdrawal is made to pay education expenses, that amount would become subject to tax.

The second way an education IRA could be established is to have the child "own" the IRA. For these, the contributions made by parents would continue to be tax deductible. This type of structure raises some complications, however. If the IRA is in a child's name, then when a withdrawal is made, the amount could be taxed at the child's marginal rate, typically zero. The IRA becomes a tax-exempt account. Alternatively, the child might be taxed during his or her early years of employment at a rate greater than zero but normally lower than the parents' rate. In addition, there may or may not be restrictions on the amount that parents could shift from their retirement IRA into their child's education IRA. (This could increase the opportunities for tax benefit to the parents. Finally, there may be or may not be restrictions on who, besides parents, could contribute to a child's IRA (thus raising the possibility of serious administrative complications in trying to track down various contributors and their contributions).

The tax benefits of using an IRA for educational purposes differ somewhat from using it for retirement. For instance, an attractive aspect of an IRA is that the proceeds of the account at the time of withdrawal for educational purposes would probably take place before the parents reach retirement. If the proceeds of an educational account are taxed at the parents then-current rate, the tax savings would be less generous than in retirement. If parents are allowed to establish an IRA in a child's name and have the proceeds taxed at the child's rate, the account becomes essentially tax-exempt and is used more liberally than the tax deferment in a retirement account. The relative benefits of tax-deferment and tax exemption are shown in Table 1. The marginal tax rate of the family determines the magnitude of the benefits.

V. Analysis of Family Investment Opportunities

The duality of the education IRA provides a neat division of the analysis of family opportunities. The first step in the analysis looks at the tax side of the education IRA: the benefits that accrue from favorable tax treatment of contributions. The second step looks at how

the student aid system might treat the funds in the IRA as a resource for financing postsecondary education. The distinction in the analysis is important because, for families that might be eligible for aid, their decision whether or not to invest in an education IRA must include both the tax implications of contributing to an IRA as well the implications for how the money will be treated as a resource for college and the possible reduction in the amount of student aid received.

Tax Implications of Saving

The amount one saves along with the interest that accrues on that amount is generally part of taxable income. Money invested in retirement IRA's is deferred from taxation, as is the interest accrued, until the money is withdrawn. The attractions of this kind of investment are (1) that deferral of the tax on interest allows funds to accumulate more rapidly, and (2) that the tax can be deferred until a time when the individual is in a lower marginal tax bracket. The result of the tax deferment is, then, a higher after-tax amount of savings.

The situation is not quite parallel to education IRA's because parents who save for their child's postsecondary education will likely be in a higher tax bracket at the time their child starts college than when they start saving. However, the impact of deferring the tax on the interest accruing in a saving account is significant. If a family in the 38 percent marginal tax bracket (about $50,000 in adjusted gross income) saves $1,000 per year in a tax defered account for 10 years, and obtains a 10 percent interest rate, it would end up with $10,869 after paying taxes upon withdrawal. If, instead, the family had to pay taxes on the contributions and interest as they accrued, they would wind up with $8,760. The difference, $2,109, represents the value of the tax deferral. Of course, the influence of the tax system on the level of after-tax savings is sensitive to both the interest rate and the marginal tax bracket of the family. For instance, if the interest rate is set at 5 percent, the difference in after-tax savings drops to $1,333. On the other hand, if the family is in the 50 percent marginal tax bracket (about $170,000 in gross income) and the interest rate is 10 percent, the difference increases to $4,324.

Any cost estimate of the education IRA must include the cost to the federal government of the foregone tax revenue. The differences in after-tax levels of savings described above represent that lost tax revenue. This

reduction in tax revenue is the minimum amount because only the interest is tax-free. If withdrawals are fully tax exempt, then the tax on $17,531, or $6,661 (for a family in the 38 percent tax bracket), would be lost to the Treasury. Intermediate treatments are also possible. Federal cost implications are discussed further in section VI below.

The attraction of the retirement IRA's and its tax deferred status has led to more sophisticated schemes for avoiding taxation. For instance, an individual can borrow an amount of money to put into a retirement IRA. Not only is the contribution to IRA and the interest tax-deferred, but the individual also can deduct the interest on the loan from his adjusted gross income.

Integration with the Financial Aid System

A family who has saved for their child's postsecondary education faces the moment of truth when the family's financial well-being is assessed by the financial aid system for determing financial aid eligibility. What may have seemed like an asset during the period of saving becomes a liability when determining financial need. The amount of savings of a family is included as part of its assets. A proportion of the value of total family assets is included in the family's contribution to college costs. At present, retirement IRA's are excluded from assets in the "uniform methodology" for computing financial need. However, that provision dates from a time when IRA's were only available to self-employed workers and others without private pensions. Since other pension assets are excluded from assets, it seemed fair to exclude IRAs as well. It is likely, now that everyone is eligible for IRA's, that they will come to be included as assets in the uniform methodology. However this is decided, the case for excluding an education IRA from assets would not hold water. Since the purpose of an education IRA is to provide resources for a child's education, it must be included in some way as an asset. The treatment of the education IRA would have a direct impact on the family's decision to save.

An education IRA could be treated as an asset in three ways: it could be excluded, as is currently the case for retirement IRA's; it could be treated as a parental asset; or it could be treated as a student's asset. If the education IRA is included as a parental asset, it could be subject to "tax" by the needs analysis system at an annual rate of from 2 to 5.6 percent depending on the family's financial position. Most aid-eligible families with net

assets would face the 5.6 percent rate. If the education IRA is considered to be the student's asset, then the assessment rate is 33 percent. Obviously, the most advantageous treatment of an education IRA from the family's point of view (if total exclusion is ruled out) is as a parental asset. As an illustration of the magnitude of the differences, we can use the amounts saved over 10 years described above. Table 2 below shows the differences in the contribution resulting from the after-tax savings when those savings are treated as a parental asset and as a student asset. The differnces are remarkable: the $787 taken from the parent asset is only one-seventh the $5,685 contribution from the student asset. This difference in treatment could be the decisive factor in estimating a family's eligibility for financial aid.

An interesting way to put together the family's tax strategy decision with the strategy of the financial aid system is to assume that a family knows it wants to spend a certain amount each year from an education IRA. In this way, the education IRA is designated by the family as being a primary source of finances to meet educational expenses. For example, suppose a family wishes to spend $5,000 per year in each of four years. How much will it need to have in savings to meet this requirement, and how will different tax treatments affect the amount of savings? Table 3 shows the results. In order to have enough money to pay $5,000 each year, a family needs $17,434 when the interest is not taxed and $18,316 if the interest is taxed. In order to attain these amounts with a plan of 10 years of savings, the family that faces annual taxation must save $300 per year more than the family in a tax-deferred environment.

Alternative Financing Strategies

A family can choose any one of several strategies for providing resources for their child's education. A full evaluation of an education IRA should compare all alternative strategies open to families. One strategy that many families currently follow is to rely on the Guaranteed Student Loan program. Parents may or may not help their child to repay the loan, but the GSL program is a viable alternative for delaying any financial outlay or entirely shifting the burden of loan repayment to their child.

Currently, there are two types of loans available to students and their parents. Guaranteed Student Loans are subsidized with the current interest rate on new loans at 8 percent. The interest is forgiven while the student is in school and repayment begins in the year following graduation. There is a needs test and a $2,500 per year

borrowing limit on these loans for undergraduates. The second type of loans is designed primarily for parents. They are known as Parents Loans for Undergraduate Students (PLUS). These loans have a much longer subsidy and repayment begins while the student is still in school. Each state has its own set of rules regarding PLUS loans. For simplification, this paper treats PLUS loans as if they are generic unsubsidized loans with a 15 percent interest rate. The attraction of loans for parents (beyond the fact they are not necessarily responsible for their repayment) is that the outlay is pushed far out into the future. In periods of significant inflation, the loan is repaid with cheaper dollars. There is an additional aspect of loans that also could be attractive to parents if they want to repay the loan: the interest on the loan is tax deductible.

An appropriate comparison of whether savings for college is better than borrowing for college is the present value of the payments required under each alternative, brought to a common point in time, such as the point at which the child enters college. What underlies this comparison is the relative costs of saving, even with a tax deferment for an educational IRA, versus the subsidy and tax deductibility of the interest on a loan. If the present value of the payment stream of a loan is less than the stream of contributions to a savings account, then it is financially advantageous for a family to borrow rather than to save.

As an illustration, suppose that a family wants to spend $1,000 per year for four years. There are three ways to finance this amount: save enough money so that the money can be contributed each year; borrow a subsidized GSL at 8 percent; or borrow an unsubsidized loan at 15 percent. Both loans are assumed to be repaid over 10 years. Table 4 shows the values of each alternative. The amount of saving needed is based on the same methodology that underlies Table 3. The differences occur because of the different tax treatments. The present values represent the amount that is needed to finance $1,000 per year. The present values of the loans are the present values of the 10 years of repayments. It is interesting to note that the deductibility of interest on loan repayments has a substantial impact on the present value of the loan. Without tax deductibility of interest, taking an unsubsidized loan would be costlier than undertaking a tax-deferred savings plan. But with tax deductibility, borrowing even without subsidy is more attractive than saving with tax deferment -- and of course subsidized borrowing is even more attractive. Providing tax

preferences for college saving would certainly increase the inducement to accumulate college savings compared with present arrangements, but it is important to recognize that the inducements to borrow remain quite strong.

VI. Public Policy Assessment

In assessing the proposal for an education IRA from the standpoint of public policy, it's useful to have a benchmark for comparison. A good benchmark is provided by the notion of federal tax credits for college tuition, an idea that has been advanced in various forms over the last twenty years. A simple form of the tax credit would permit families to subtract from their taxes a fraction of the college tuition they pay up to some maximum. In a version of the proposal evaluated by David Breneman in 1983, the credit rate was 50 percent on tuition expenditures and the maximum credit was $500. Some versions of the proposal would make the credit rate and/or ceiling depend on family income.

Breneman appraised the tax credit proposal against the criteria of equity, cost, and effectiveness in changing college-going behavior, and found it lacking on all three counts. He noted that even the modest 50 percent/$500 proposal would cost over $2 billion dollars annually, a significant amount in the context of federal student aid expenditures. Regarding equity, he noted that a disproportionate share of a tuition tax credit would go to higher income families. He estimated that in 1977 45 percent of a nonrefundable tuition tax credit of $255 would have gone to families in the top 14 percent of the income distributions (those with 1977 adjusted gross income over $25,000), and only 8.6 percent to families with 1977 incomes under $10,000. Finally, he argued that the proposed credit would have little or no impact on decisions about whether or where to enroll in college. "Needy students are much more generously and effectively served by grant and loan programs, he argued, "while the educational decisions of wealthy families not eligible for such aid are unlikely to be influenced by the receipt of a $500 credit on an investment that costs from $4000 to $11,000 per year. Even the decision where to enroll would be little affected because, unlike elementary-secondary school, virtually all public colleges charge tuition."

How does the proposal for an educational IRA stack up to the tuition tax credit proposal on Breneman's three criteria? We can note several principal differences between the two kinds of tax expenditures for educational spending. First, the educational IRA, with its tax

deferral (and perhaps tax exemption) features, functions as a tax deduction rather than a credit -- that is, use of an IRA reduces the amount of income subject to tax rather than directly reducing the amount of tax directly. Second, the IRA is available only to those families that have provided in advance by setting up an appropriate account; the tax credit would be available to all who pay tuition. Third, plausible versions of the IRA provide a smaller percentage tax benefit per dollar of college expenditure than the 50 percent in the tax credit proposal (tax deferral would be worth about 20 cents per dollar of expenditure to a family in the 38 percent marginal tax bracket), but would provide benefits on a potentially much larger number of dollars. Families could readily accumulate enough money in IRA's to spend more than $500 in tax preferred money per year on college. These differences are clearly important for equity, cost, and behavioral effectiveness.

Equity. The fact that an educational IRA takes the form of a tax deduction rather than a credit implies that even more of the benefits would go to upper income families than in the tax credit proposal sketched above. The value of a deduction or a deferral of tax is greater for a family whose income is higher because that family will be in a higher tax bracket, while the value of a credit is independent of family income. Thus, lower income participants in an educational IRA will receive less of a tax benefit than higher income participants for any given level of expenditure from their accounts.

This inequity is reinforced by two further considerations. First, lower income families are likely both to participate less in higher education and to spend less when they do participate, further reducing the benefits they can expect to receive. Second, because they receive greater tax benefits and because they have more liquid assets for investment, higher income families are much more likely to own the IRA's from which educational benefits can be derived. Thus, in 1983, fewer than 10 percent of families earning under $20,000 owned IRA's, while 55 percent of those with incomes over $50,000 did. (See Table 5).

In sum, the educational IRA scores lower on grounds of distributive equity than does the tuition tax credit.

Cost. The cost of an educational IRA is harder to determine than the cost of a tax credit for tuition expenditures for several reasons. First, one need not only estimate how many people will attend college, as with a tax credit, but also estimate how many of them will use IRA

accumulations to pay for college. There is also some difficulty in deciding how to calculate the federal cost of the IRA. To the degree that IRA's for educational purposes are used at the expense of other federally subsidized saving, the savings on other programs will offset the costs of the educational IRA. Suppose for example that the ceiling on annual contributions to IRA's was left where it is, while the uses of IRA's were expanded to include education. In that case, much of the tax-deferred educational spending would not involve a net cost to the government. On the other hand, to the extent that the accumulation of IRA's for education comes about through new saving or through transfer of currently unsubsidized asset holdings into IRA's, the foregone tax revenues are a real cost to the government. We think it is reasonable to assume that higher ceilings on annual IRA contributions would accompany expansion in the permitted uses of IRA's and that much if not all of the tax expenditure on educational use of IRA's would represent a real cost.[3]

Perhaps the most useful way to think about the potential magnitude of educational use of IRA's is to consider how many families might use IRA's for this purpose once the system has had time to mature, and to guess how much they might spend in this way. Such estimates are obviously highly conjectural. We might conservatively suppose that half of all private college families and a quarter of all public college families will use IRA's to

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3. To the degree that tax-deferred educational spending replaces other tax preferred uses of saving, we can expect that supporters of other uses of federal tax preferences would raise strong objections. In the case of IRA's, those groups concerned with their retirement use would be heard from.

help pay for college. We further suppose that the average private college user spends $5000 (after taxes) per full-time-equivalent student per year from this source and that the average public college user spends $2500. With about 6 million full-time-equivalent undergraduates in public institutions and 1.5 million in private institutions, one might have annual expenditures out of these accounts of $7.5 billion per year.

The revenue the government loses on these accounts dependes on the period over which they are accumulated and the interest rate. If we assume, as in Section V above, that the period is ten years and the interest rate 10 percent, the tax loss is about 20 percent of the final after-tax accumulation.[4]

So tax deferment would, on these assumptions, cost about $1.5 billion per year. If, in addition, the accumulations were taxed at a preferred rate when spent (at the child's rate, for example, or at the average of the rates of the parent and child), the cost would be higher.

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4. This assumes that the average marginal tax rate of owners of these accounts is 38 percent, which corresponds to an adjusted gross income of $50,000. Currently more than half of all IRA accumulations are held by families with incomes above this level.

If half the tax due at the time of expenditure were forgiven, that would cost another approximately $2.25 billion per year.[5]

It thus appears that an educational IRA with a reasonably high participation level might be somewhat less costly to the federal government than a modest tuition tax credit -- provided that the tax benefit were limited to deferral of tax on contributions and interest. The federal cost rises rapidly if the expenditure of funds from these accounts is taxed at a preferred rate. Costs in the program would also be higher if participation levels were greater than assumed here. If participation were much less, it's doubtful that the program could be judged effective.

Behavioral Effectiveness. The case for the ineffectiveness of tuition tax credits in influencing students' college choices is clear. The amount of money involved is too small to influence the decision of whether to attend school. And the ceiling on the credit a family can claim makes the tax credit scheme very "tuition insensitive": among schools costing over $1000 per year in tuition, the amount of credit a family can receive does not rise when the student attends a more expensive school. We would therefore not expect such a credit to have much affect on the choice between public and private schools, or indeed on the choice available within either sector.

This is less clear with the educational IRA. Families that make extensive use of the plan clearly could get a total tax benefit far exceeding the $500 maximum on the version of the tax credit examined here, and they could get added benefits on additional college expenditures up to quite a large amount. If, for example, a family accumulated $2000 per year for 15 years -- perhaps the outer limit of a plausible saving program for college -- The family would have over $50,000 to spend on its children's college education from tax preferred funds.

Would a subsidy of this form have important effects on college-going behavior? Our sense is that it likely would not much effect total college enrollment. Families that make extensive use of an educational IRA would be concentrated in the higher income ranges, and there is evidence that such families are less sensitive to price in

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5. This assumes that the average marginal tax rate of own of owners of these accounts is 38 percent.

making college enrollment decisions than lower income families. (McPherson, 1978.) Moreover, it seems likely that families who would embark on such a saving plan (that is, who would invest in IRA's beyond their anticipated retirement needs) are ones who more or less are committed already to sending their children to college.

However, it seems more likely that such a subsidy would influence the amount of money families are willing to spend on college. Unlike a tax credit with a low ceiling, the educational IRA reduces the relative cost to a family of sending their child to a more expensive college. Moreover, by offering the subsidy to those who are willing to accumulate funds in advance, the educational IRA may have some success in "picking out" subsidy families who attach value to educational spending and whose educational choices may therefore respond to the subsidy.

These "relative price" arguments are reinforced by liquidity considerations. Families' decisions about how much to spend on college probably are influenced not only by their total wealth and income compared to college costs, but also by the amount of cash they can readily lay their hands on. Families with substantial assets "tied up" in housing equity, retirement IRA's, and pension and life insurance assets may be reluctant to convert or to borrow against those assets to finance college expenses. In some cases,there are also legal restrictions on families' ability to convert or to borrow against such assets without penalty.

Evidence from the Federal Reserve System's 1983 Survey of Consumer Finances (Avery and others, 1984 (a) and (b) suggests that liquidity constraints may be a real factor for many families sending their children to college. Table 6 shows that families with heads of households in the age range of most college parents hold a substantial portion of their assets in the form of equity in their own home, and have substantial mortgage debt obligations. Median amounts of consumer debt roughly offset median holdings of liquid assets, and holdings of non-liquid financial assets (stocks, bonds, trusts) are small for the median family. If we focus on upper income families (those most likely to hold educational IRA's if they become available), the situation is not too dissimilar.[6]

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6. Cross-tabulations of holdings by age and income would be valuable, but have not been reported from the survey. In any case it is not clear that the sample size of the survey is large enough to support that much detail.

As Table 7 shows, much of their wealth is in housing and they owe substantial mortgage debt. While families with incomes above $50,000 have more substantial liquid and non-liquid assets, their holdings are not large compared to college costs.

Over time, we can expect that families will hold increasing portions of their financial wealth in IRA's, even if the permitted uses and annual contribution ceilings are not allowed to expand.7 (Families wishing to take advantage of the tax preference granted to IRA's will shift their portfolios over time by making the largest permitted contribution each year.) It is easy to foresee a future in which many affluent families will have nearly all of their wealth in housing, IRA's and other relatively non-liquid tax-preferred assets. (Pension wealth, not discussed in the reports on the Survey of Consumer Finances that are so far available, is another non-liquid, tax preferred holding that has grown rapidly.) To the degree that families in this situation are reluctant to borrow, they might be discouraged from choosing expensive colleges for their children.

Permitting educational use of IRA's would obviously combat this tendency. Thus these liquidity considerations increase the likelihood that an educational IRA would be more effective than a tuition tax credit in affecting family spending on college.

In sum, an educational IRA could hardly be less behaviorally effective than a tuition tax credit, in influencing college enrollment and choice and it likely would be more effective. In particular, the form of subsidy involved in an educational IRA would probably be relatively effective at encouraging families to enroll their students in higher cost institutions. However, we should make clear that it is also true that a large portion of the tax benefits of an educational IRA would undoubtedly go to families whose choice of college is not at all affected by those subsidies. This, of course, is true of other forms of higher education subsidies as well -- and, indeed, is a general consequence when subsidies are used to encourage purchase of a good or service.

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7. The Survey of Consumer Finances treats an IRA as a liquid asset.

VII. Summary and Conclusions

Permitting IRA accumulations to be used to pay college expenses is a straightforward way of modifying the federal tax system to encourage saving for college. If withdrawals from IRA's for this purpose are taxed at the rate of the person who contributed the funds (typically, in our analysis, a parent), the tax advantage the IRA provides would be the exemption interest from tax. Our analysis of family finances suggests that this would provide a modest but non-trival encouragement to families to accumulate funds in this form and use them for college expenses. The cost to the government of such tax deferral depends on how heavily the program would be used, but it appears from our rough calculations that the cost would be on the order of $2 billion per year when the program was mature. This is roughly comparable to the cost of tax credit programs for college tuition that have been discussed. Such an IRA could be fairly easily accommodated in the financial aid system, by treating the IRA accumulation as a parental asset in determining family ability to pay.

Some observers have proposed a larger tax subsidy by adding to the deferral of tax on IRA contributions a provision that would tax withdrawals at a preferred rate -- for example, at the child's rather than the parent's rate. This tax treatment is more generous than exempting the income on these accounts from tax. This would make educational IRA's very attractive investments, but would add quite substantially to federal costs. Such an arrangement would also raise awkward problems with respect to the treatment of families who had such accounts and also qualified for financial aid. If such accumulations were treated as student assets, which would seem natural in light of the tax treatment, they would be "taxed" by the aid system at a very high rate, which would largely offset the value of the tax preference.

We found it useful in developing a public policy evaluation to compare the educational IRA to a tuition tax credit. From the standpoint of cost, the two seem roughly comparable, at least if the tax preference is limited to deferral of tax on contributions and interest. From the standpoint of encouraging family expenditure on college, the educational IRA seems clearly superior to standard forms of tuition tax credit.

The largest drawback to the educational IRA is its distributive inequity. Currently, use of IRA's is heavily concentrated among high income families. This would likely be true for educational IRA's as well, since the tax preferences are worth more to such families and since they

have more resources to invest in IRA's. The distributional consequences of an educational IRA clearly would be substantially worse than those of a tuition tax credit, which itself scores poorly on equity measures. These adverse distributional consequences could be alleviated in principle by limiting the eligibility of higher income families for their use. This would, however, add considerably to the complexity of the scheme, especially because it would introduce an asymmetry in the treatment of educational and retirement IRA's.

In broader perspective, the proliferation of tax preferences for various forms and uses of savings may well be regarded as a misfortune: a source of complication in the tax code, of distributive inequity, and of distortions in the allocation of capital. A strong case could be made for eliminating the whole range of tax preferences for household assets, thereby putting alternative uses of funds on an equal footing. Consumer saving then could be encouraged by restricting tax preferences for borrowing and by lowering tax rates. This, unfortunately, is a first best argument in a distinctly second best world.

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Table 1. Values of Tax Benefits Under Tax Deferral and Tax-Exemption by Income Level[1]

Family Income Level (thousands of $)	Marginal Tax Rate (percent)	Value of Tax Deferral[2] (in $)	Value of Tax Exemption[3] (in $)
20,000	16	1,285	4,090
30,000	25	1,742	6,125
50,000	38	2,109	8,771
75,000	42	2,155	9,518
100,000	45	2,172	10,061

Note: The table shows the gain obtained by a family from favorable tax treatment of college savings. The family is assumed to save $1,000 per year for 10 years.

1. The marginal tax brackets are based on 1984 levels for joint filers in a family of four. Income is adjusted gross income.

2. Difference between accumulated value if (a) contributions and interest are taxed as accrued, versus if (b) they are exempt from tax until withdrawals are made.

3. Difference between accumulated value if (a) contributions and interest are taxed as accrued, versus if (b) they are tax exempt. This is equivalent to assuming that the owner of the account faced a zero tax rate on withdrawal, which would often be true if the "owner" were a child.

Table 2. Contribution of After-Tax Savings to the Family Contribution

Savings		Savings Treated as Parental Asset	Savings Treated as Student Asset
$10,869	(tax-deferred)	$608	$3,587
8,760	(after tax)	490	2,841
17,531	(tax-exempt)	982	5,785

Table 3. Amounts of Savings Needed in Order to Spend $5,000 Per Year for Four Years Under Different Tax Treatments

Assumptions: 38 percent marginal tax rate
10 percent interest rate

	Subject to Tax as Accrued	Tax Deferred
Amount needed at beginning of college to spend at $5,000 per year for four years	$18,316	$17,434
Amount need to save each year for 10 years preceding college to reach needed amount	$ 1,296	$ 994

Table 4. Comparison of a Savings Plan, Borrowing a Subsidized Loan, and Borrowing an Unsubsidized Loan

	Fully Taxed	Tax-Preferred
Amount needed to pay $1,000 per year for four years	$3,663	$3,486
Amount to repay per year on $4,000 loan at 8 percent	$ 596	$ 521
Amount to repay per year on $4,000 loan at 15 percent	$ 797	$ 646

Compare the present value at the time school begins.[1]

Savings	$3,663	$3,486
Loan 8 percent	2,751	2,405
Loan 15 percent	3,679	2,982

1. A discount rate of 10 percent is assumed.

Table 5. Ownership of IRA and Keogh Accounts by Family Income, 1983

Family Income (dollars)	Percentage of Families Owning IRA's or Keoghs
Less than $10,000	2
10,000 - 19,999	7
20,000 - 29,999	16
30,000 - 49,999	30
50,000 and more	55

Source: Avery and others (1984a).

Table 6. Median Holdings of Various Assets and Liabilities for Families with Head Aged 35-44 and 45-54, 1983

	Head Aged 35-44	Head Aged 45-54	
Mortgage debt	25,268	16,167	
Net equity in own home		40,600	50,000
Consumer debt outstanding		3,030	3,152
Liquid assets	3,000	3,308	
Non-liquid Financial assets	750	823	
Net worth	28,721	43,797	

1. For families owing such debts.

2. For non-farm homeowners; net equity is house value net first mortgage.

3. For families owning such assets.

Source: Avery and others, 1984a and b.

Table 7. Median Holdings of Various Assets and Liabilities for Upper-Income Families, 1983

	Family Income of $40,000-49,999	Family Income of $50,000 and above
Mortgage debt	25,242	36,411
Net equity in own home	36,206	74,756
Consumer debt outstanding	4,365	5,529
Liquid assets	7,828	19,886
Non-liquid financial assets	2,803	11,772
Net worth	63,941	130,851

(notes as previous table)