THE OPTIMAL PROGRESSIVITY OF THE MINNESOTA TAX SYSTEM:

A PRESENTATION AND ANALYSIS OF THE IMPORTANT ISSUES

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PREFACE

Many policymakers argue that the general purpose of state and local government should be the efficient provision of goods and services and that income redistribution should be in the domain of the federal government. This division of responsibilities has obvious implications for the degree of progressivity of a state's tax system. If this objective of state government is adopted, then progressivity will result only by chance if the set of efficient taxes happens to vary with income in a progressive manner.

Others argue that states should pursue redistributive goals if their residents have a preference for redistribution, preferences that may be stronger than the nation as a whole. In this case, progressivity becomes a goal of the state's tax system.

Attached is a paper by Joel Slemrod on the topic of how progressive should a state's tax system be. It is being distributed not as a discussion paper but as food for thought on an issue where Minnesota differs from the average state. Professor Slemrod, on leave from the University of Minnesota, is a member of the President's Council of Economic Advisors (CEA).

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Joel Slemrod

This paper is concerned with the important issues that are
relevant to a state's choice of how progressive its tax structure
should be. Because it explicitly adopts a state perspective, the
paper is not concerned with the implications for overall national
economic welfare of states' fiscal behavior, nor does it consider
potential federal response to state fiscal behavior. Because it is
about state tax policy rather than fiscal policy as a whole, it
does not deal with the distributional impact of alternative state
expenditure policies. However, many of the statements about tax
policy made herein are, technically speaking, about the overall
progressivity of the tax and expenditure systems taken together.
These statements do, though, apply equally well to comparisons
among alternative tax policies if it is assumed that the state's
expenditure policy is held constant and that budget deficits or
surpluses are ruled out. Thus it is concerned with how a given
level of taxes should be distributed among the state's taxpayers,
but not with what the total revenue raised by the tax system ought
to be.

The classic statement about the state's role in redistributional policy is due to Musgrave (1959, 1976). He portrayed the fiscal responsibilities of government as falling into three categories: stabilization, allocation, and distribution. Musgrave went on to maintain that the distributional role of government is solely a federal responsibility. He argued that regional differentiation among state redistribution policies would result in locational inefficiency to the extent that they affected the choice of location of individuals and businesses. Moreover, he claimed that regional measures for redistribution would be self-defeating, as the rich would leave and the poor would move to the more egalitarian-minded jurisdictions.

The most forceful statement of this view was made by Oates (1968). He labels any attempt by a local government to undertake an aggressive redistributive program as "disastrous" due to the mobility of the wealthy citizens. He recognizes that for geographically larger communities, such as states, the impediments to movement increase, thus increasing the capacity for successful redistributive programs. However, he claims (without supporting evidence) that mobility at the state level is large enough to render the scope of redistributive programs as "modest." He concludes that "the primary responsibility for implementing redistributive policies must in most cases rest with the central government." (1968, p. 45)

The implication of the Musgrave/Oates view is that, to the extent possible, the burden of state taxes should be set so as to

match the pattern of benefits received from state expenditures. For some goods provided by the state, where the benefits can be clearly and distinctly traced to the particular households that consume the good, user charges would be appropriate. Examples of such goods, labelled "private" goods by economists, include hospital services and (arguably) post-secondary education. For state-provided "public" goods, where the benefits are not confined to particular households, implementing this principle would require an estimate of how the benefits of the goods and services are distributed throughout the state population. Examples of public goods include public health programs and the state police. Because this view implies that the pattern of taxation should try to match the distribution of benefits, the progressivity of the state income tax is to be determined without direct reference to the ability to pay of the households. (Of course, if the benefits of the public goods are related to ability to pay, so will the appropriate tax payments.) If, for whatever reason, the total tax burden is to be related to the ability to pay taxes, this relationship should be established via the federal income tax system and not via the state income tax system.

Unfortunately for this view, the benefit principle does not provide a reasonable operational rule to guide state tax policy. In theory, under a general benefit tax a household's liability should be related to its own valuation of, or its "willingness to pay" for, the goods and services provided by the state government. However, willingness to pay depends on the preferences of the

households, and is a function of the price and income elasticities of the various goods provided. Such a general benefit tax could be proportional, progressive, or regressive. As Musgrave (1976) himself admits, this concept "does not permit easy implementation [because] the relevant price and income elasticities are not known or readily observed from market observations as in the case of private goods." Musgrave concludes that on the basis of the benefit principle, the question of rate structure "remains open [and] is of interest mainly as a theoretical concept."

As mentioned above, for some particular private goods supplied by the state government, benefit taxation may be implemented by means of user charges. However, many of the goods provided by state governments are characterized by decreasing cost. The efficient solution in these situations is to set the charge equal to marginal cost. In this case, though, revenue would not be sufficient to cover costs. In order to maintain efficiency, the deficit must be financed by charges unrelated to the usage of the commodity. Thus there is an inavoidable conflict between efficient user levies and strict adherence to the benefit principle.

In sum, then, the benefit principle argues for the use of user charges or taxes directly related to benefits received whenever possible, but it offers virtually no guidance about the proper means of financing the provision of pure public goods or private goods produced with decreasing cost. Furthermore, a state acting strictly in accord with the benefit principle would make no transfer payments to the poor. However, given the ground rule of

this paper that expenditure policy is to be taken as given, we can surely conclude that the benefit principle has nothing to say about how the current level of transfers is to be financed.

Our conclusion, then, is that the benefit principle does not provide a state with an operational guide to the appropriate degree of progressivity of the income tax system. We can, though, consider a broader interpretation of the Musgrave/Oates view: that states should not attempt to achieve any substantial redistributive goals in designing its tax system and should instead aim at an apparently distributionally "neutral" tax system such as a proportional tax. Even this weaker view can be effectively challenged.

In direct opposition to the Musgrave/Oates view, even broadly interpreted as above, several authors have argued that state and local governments ought not to abdicate responsibility for redistribution. One circumstance that suggests a state role in redistribution is when there are differences between states in their "tastes" for equality. As Break (1982) has argued, such differences may preclude the achievement of any national consensus on redistributive programs and require the introduction of ability-to-pay elements into state (and local) tax systems. Break, though, warns that "beyond some hard-to-define point, ... attempts by any one state or local government to make any significant move away from the norm are likely to be counterproductive."

Pauly (1973) presents a formal model in which it is desirable that sub-national governments play a role in

redistribution. In this model, the welfare of the poor is a public good, in that all citizens derive utility from it. Furthermore, it is a local public good, in the sense that citizens derive utility from the well-being of those poor people who live close to them, and derive less (or no) utility from the well-being of the poor who do not live nearby. Pauly argues that if the desire for redistribution has this kind of spatial quality, it turns out that local governments are an efficient mechanism for redistribution even when taxpayers can move. "Taxpayers who move away avoid welfare taxes, but they also lose the benefits of welfare payments in ameliorating an external diseconomy from the poor, since that diseconomy disapppears with distance." (p. 57) Pauly goes on to argue that if the desire for redistribution has "some" spatial quality, the efficient mechanism is a federal system, with payments between communities to reflect the interest of the members of one community concerning the poor in another community.

Pauly's argument rests critically on the presumption that non-poor individuals gain satisfaction from the increased well-being of the poor. Because of this, they are willing to forego some of their own income so that the poor will have a higher standard of living. States composed of more altruistic individuals will have more progressive tax systems than states composed of less altruistic individuals, and presumably in the long run individuals will sort themselves into states based on their tastes for equality.

Under the kind of scenario outlined by Pauly, it is

conceivable that a state composed of altruists would face the flight of some of its high-income residents if it changed to a less progressive tax system. These residents had concluded that their high tax liabilities were a worthwhile price to pay for the benefit they received from living in a relatively egalitarian society. A less progressive tax system changes the package the state offers to a lower tax, less equal society bundle, which may be inferior to what was previously offered.

Finally, Oakland (1983) has argued for a state role in redistribution due to regional differences in living costs and other amenities. Because of these differences, he shows that a system of nationally uniform transfers will fall short of the amount needed for equity in high-cost areas and above it in low-cost areas. He minimizes the importance of mobility in response to regional differentials in tax burdens. While appropriate, perhaps, for the intra-urban allocation of population, he claims that there is much less justification for it in the interregional allocation context.

Our argument so far is that the rule for determining state progressivity that comes out of the Musgrave/Oates view of state responsibility for redistribution, the benefit principle, offers little concrete operational guidance to the policy-maker. In addition, there are persuasive arguments that a state government ought to be actively considering the distributional impact of its tax policies, subject to some constraint imposed by the mobility of its citizens. Before we treat the important issue of mobility,

there is one other argument for the active consideration of progressivity in the state tax structure.

The standard argument for no subnational involvement in redistribution ignores a key detail of the U.S. income tax system, that state income tax payments qualify as an itemizable deduction. Because of this feature, the cost to an itemizing household of an additional dollar of state income tax liability is only 1-t, where t is the marginal federal income tax rate. (This calculation ignores, for the sake of simplicity, the fact that in certain states such as Minnesota federal taxes are deductible from state taxable income). The fact of this federal offset allows the state essentially to export some of its tax burden to the residents of other states in the form of higher federal tax rates than there otherwise would have to be.

Because the proportion of itemizing households is not distributed randomly with respect to income, the form of the state income tax can significantly affect the extent of the tax exporting. Because the proportion of itemizing households increases with income, in general the more progressive is the state income tax, the greater will be the degree of tax exporting. In a sense, by loading the tax burden onto those high-income taxpayers who tend to be itemizers and also have high marginal federal income tax rates, the total net tax burden borne by Minnesotans declines. The amount of exporting is sizable, and the difference between tax systems in the degree of exporting can also be large.

One cost of increasing progressivity to take advantage of

tax exporting is an increase in the horizontal inequity between itemizing households and non-itemizing households. Non-itemizing households in the higher brackets will pay more tax than itemizing households with the same income.

In Table 1 we present some illustrative estimates of the degree of exporting in the current Minnesota income tax system and how sensitive the degree of exporting is to changes in its progressivity. In order to keep the calculations relatively straightforward, two simplifying assumptions have been made. First, the taxpayer choice of whether to itemize deductions is assumed to be unaffected by changes in the Minnesota income tax structure. Second, the percentage of itemizers by income class and the overall distribution of income is assumed to be the same for Minnesota as it is for the U.S. as a whole. Note that the deductibility of federal taxes from state taxable income does not affect these calculations. We are concerned here only with the federal tax savings from a given pattern of Minnesota income tax liabilities. The deductibility of federal taxes influences what this pattern of liabilities turns out to be, but not the relationship between Minnesota tax burden and the accompanying federal tax reduction.

Table 1 first contains data about the current degree of tax exporting. Taxpaying units are arranged by their federal adjusted gross income. Columns B and C display the percentage itemizing and the average marginal tax rate on itemized deductions, respectively. The figure in Column C tells how much federal taxes would be saved

if the state income tax of an average taxpayer in this bracket increased by a dollar. The rate of increase reflects not only marginal tax rates increasing with income but also an increasing fraction of taxpayers who itemize their deductions. Column D gives the total Minnesota tax liability of taxpayers in the given federal AGI bracket. Finally, Column E gives the total federal tax saving due to state income taxes, and is equal to Column C multiplied by Column D. The total saving in federal taxes (the amount of income tax exporting) is equal to $305,728,000, or 21.6% of Minnesota income tax revenue in 1980.

The final two columns repeat the exercise with a less progressive variant of the Minnesota income tax. In particular, we investigate a tax system under which state tax liability is a fixed proportion of federal adjusted gross income. The rate of 4.77% is set in order to raise the same amount of revenue as the current tax system, assuming no behavioral response to the tax system change. The new Minnesota income tax liability by federal AGI class is shown in Column F. It is calculated by applying 4.77% to an estimate of federal adjusted gross income. Column G is equal to Column C times Column F and is the federal tax saving under the proportional tax system. The total saving in this case comes to $238,527,000, a decrease of $67,201,000 compared to the current system, or 4.7% of income tax revenues. Clearly the shift in tax liability toward non-itemizers reduces the amount of tax exporting implied by the system of deductibility. An interpretation of this result is that the progressivity of the current Minnesota tax

system provides an effective tax cut equal to 4.7% of current tax revenues, or 0.31% of total Minnesota taxable income.

The fact of federal deductibility also plays a role in the relative use of income taxes versus user charges. We argued above that the benefit principle suggests the imposition of user charges wherever possible. However, user charges do not qualify as an itemizable deduction whereas income taxes (as well as property and sales taxes) do qualify. Thus, the effective cost to Minnesotans of a dollar of user charges exceeds that of a dollar of income tax liability. Using the data of Table 1 we can calculate that, given the current Minnesota income tax structure, reducing everyone's income tax liability by one percent and making up the lost Minnesota tax revenue with non-deductible user charges would effectively cost Minnesotans 21.6 cents for every dollar transferred. Thus, the federal offset provides an incentive for a state to use taxes rather than user charges just as it provides an incentive for progressivity in the tax structure.

We now come to the issue of the effect of the tax system on individuals' and firms' locational decisions. This is what Musgrave had in mind when he referred to state-originated redistributional programs as "self-defeating," and why Break said that attempts by any one state to have a significantly different redistributional program are likely to be "counterproductive." There are two distinct issues to be considered. First, what is the evidence about mobility in response to fiscal differences? Second, how should the fact of potential migration be incorporated into an

analysis of progressivity? We now discuss each of these issues in turn.

First of all, there is no evidence documenting that individual location among states is directly influenced by the tax system. There is some evidence of mobility of low-income households in response to the generosity of state welfare programs, but the consensus of research seems to be that low-income families have not migrated to high-payment areas in significant numbers in order to benefit from such programs (Bahl (1983), p. 23). At the same time, there is no conclusive evidence ruling out the possibility that there is some level of fiscal disparity that would influence locational decisions. What that level is and whether Minnesota is at or near that level is, however, not known.

Concentrating on the direct effects of the tax system on mobility may, though, be misleading because it ignores the general equilibrium, or long-run, consequences of fiscal policy. For example, in equilibrium a state with a highly progressive income tax may have a relatively high wage rate for high-skill occupations in order to attract and retain people with these skills. This may affect the locational decisions of firms. There is evidence that local wage rates do play a role in firm locational decisions, although the empirical results are still controversial and the magnitude of the effect is uncertain.

In sum, the empirical evidence on the importance of migration in response to state tax policy is not conclusive, though it certainly does not strongly suggest a large response to tax

differentials of the magnitude currently observed.

Let us suppose, for the sake of argument, that mobility responses are significant. How does this affect the determination of tax progressivity?

Insight into this question from the public finance literature comes from a perhaps unexpected source -- considerations of the "brain drain" from underdeveloped to developed countries. Several papers have investigated the choice of an income tax system faced by a country with potential emigration of its most talented members in search of higher incomes and perhaps more professional challenge elsewhere.

An early paper of this genre by Hamada (1975) concluded that the degree of progressivity of a tax system should be lower for an open economy with the possibility of emigration than for a closed economy. The critical assumptions of Hamada's model were that there is (i) no emigration for those with less than average ability, (ii) non-negative emigration for others, with emigration increasing with higher marginal tax rates, and (iii) the government only considers the well-being per capita of those left behind. The intuition underlying this result is fairly straightforward. In a closed economy, the optimal degree of progressivity involves a tradeoff between the benefits of a more equal distribution of well-being and the efficiency/disincentive costs of higher marginal tax rates. The possibility of outmigration of the most able adds another element of cost to increased progressivity -- the dilution of the per capita tax base and the simple loss of a relatively more

affluent household.

Several papers following Hamada have explored variations in this model structure and obtained results in the same spirit. What concerns us here is not the details of the alternative modellings and precise results but instead what they teach us about the critical elements of the problem.

An instructive way to approach this is to examine the assumptions of Hamada's model. The first assumption is that there is no possibility of emigration for those with less than average ability or income. While this may make some sense in an international context, in an interregional context it is not plausible. In- or out-migration of lower-income households in response to changes in their net fiscal burden is certainly conceivable. In fact, as mentioned above, the only evidence that exists about interregional mobility in response to fiscal incentives applies to potential welfare recipients.

Recognition that all citizens are potentially mobile does not in itself necessarily change the implications of the optimal progressivity model; in fact, it may strengthen them. It does, though, clarify the implications of a tax policy aimed at encouraging the immigration (or preventing the emigration) of high-income residents. For a given pattern of state expenditures, such a policy also encourages the emigration (or discourages the immigration) of low-income households, who find the net tax burden higher than otherwise. Firms may find it necessary to pay higher wages for low-skill occupations than otherwise, and thus find

location in Minnesota less attractive.

The point here is that the state is faced with a zero-sum problem. In order to improve the net fiscal position of one group of taxpayers, a deterioration of the net position of some other group must occur. Thus encouraging the immigration (or discouraging the emigration) of one group implies encouraging the emigration (or discouraging the immigration) of another group.

Why would a state want to design its tax (or any other) policy to favor a change in its population mix, say toward high-income people? An answer to this question requires an examination of Hamada's third assumption: that the state government only considers the well-being per capita of those left behind. The focus on per capita well-being seems reasonable, beause it rules out policies that appear favorable because they attract more residents on net, and thus increase aggregate state income. On the other hand, stating the state government's objective in terms of those left behind is a critical assumption and merits further inspection.

When both immigration and emigration are possible, consideration of those "left behind" is equivalent to consideration of those who are residents after any tax change has been instituted. That implies that the well-being of those who emigrated in response to the fiscal system is explicitly not considered, and the well-being of the new residents explicitly is considered. With this kind of objective, social welfare is presumed to increase if a poor household is replaced by a rich

household, even if both households pay exactly the same amount of taxes to the state. Per capita well-being rises in this case, but it is difficult to tell a convincing story that Minnesota as a whole is thereby better off. After all, the rich family at the margin that decides to emigrate would, by assumption, be approximately as well off if they lived in any other state.

If we rule out any definition of state objectives that would favor a trading of rich households for poor, holding the welfare of all other households constant, the case for reducing progressivity a la Hamada is weakened. It is not, though, destroyed. Because the rich household may be asked to pay more taxes than the poor household, the change in population may enable other residents to be better off due to the higher tax base.

Mirrlees (1982) has argued, in the context of the brain drain problem, that an attractive alternative specification of the government's objective is the per-capita well-being of "nationals," which would include emigrants and presumably exclude immigrants. An interpretation of this suggestion is that the state only consider the well-being of its residents before the institution of any tax change. This criterion would impel the state government to take into account the reduced well-being of any individuals who are induced to move to another state. In addition, it would value the immigration of high-income residents only to the extent that their high tax base allows a reduction of the tax liability of current residents.

The simple models of optimal progressivity in the presence

of emigration possibilities leave out some elements which may be important. A particular population balance may be desired by residents on its own merits, for "aesthetic" reasons. For example, higher-income families may be desirable if they bring cultural interests which enrich the community. Diversity of classes may be valued for its own sake. There may also be complementarities in production between low-skilled workers and high-skilled workers, making it desirable for there to be available supplies of both kinds of labor. Finally, all the models assume full employment of resources at all times, an apparently unrealistic assumption. While this is a shortcoming of the modelling approach, dispensing with it is analytically difficult and would not change the results in any obvious way.

This concludes our discussion of the important issues concerning the optimal progressivity of the Minnesota tax system. Before drawing the operational implications of this study, it may be useful to summarize the points made so far. They are:

1. The traditional view that state governments should entertain no distributional goals provides little operational guidance to the progressivity of the tax system.

2. There are compelling reasons to believe that differences in state residents' "tastes" for equality should be reflected in the distribution of tax burdens. This implies, for example, that to the extent that Minnesotans have an especially strong commitment to minimizing inequalities of well-being, its tax structure should be more progressive than that of other states.

3. The system of federal deductibility of state taxes provides a strong financial incentive to retain progressivity. It also favors the use of income taxation compared to user charges.

4. In principle, the possibility of outmigration of high-income households places a limit on the progressivity of the state tax system. However, there is no compelling empirical evidence that this is a significant factor in the range of state tax systems that exist today.

As is clear from this summary, no precise policy prescriptions can be made solely on the basis of economic reasoning. Nevertheless, I believe that some general principles to guide policy making are suggested by this review. These principles are as follows:

1. The State of Minnesota should not give up autonomous control of its tax progressivity. This rules out systems such as having state tax liability being a fixed proportion of federal tax liability, which would tie Minnesota's tax progressivity to federal tax progressivity and cede local autonomy. At the same time, the simplification advantages of conformity with the federal tax system can be achieved by starting from federal adjusted gross income or taxable income and then applying a Minnesota-determined rate schedule.

2. The degree of tax progressivity in Minnesota should strike a balance between the desire of its citizens to allocate the burden of taxation "fairly" and the objective of minimizing the disincentive effects, including outmigration, of the tax system.

Because what is fair is entirely a value judgment not susceptible to economic analysis, and the disincentive effects are of unknown but potentially significant magnitude, it is impossible to say where in the range of progressivity this balance lies. On the one hand, there is certainly no compelling argument for a radical reduction in progressivity such as replacing the current graduated system of rates with a "flat" tax. On the other hand, policy makers should bear in mind that Minnesota is just one of many states, and be concerned with the potential for migration of human and other resources due to its fiscal policies. This paper suggests that, although migration and its relationship to tax policy are important issues, they are also complex ones that merit serious consideration concerning their implications for tax policy.

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TABLE 1

FEDERAL OFFSET UNDER ACTUAL 1980 AND FLAT–RATE INCOME TAX SYSTEMS

A	B	C	D	E	F	G
Federal AGI Bracket	Fraction Itemizing	Effective Marginal Federal Tax Offset In State Tax Payments	1980 Minnesota Income Tax ($000)	1980 Federal Tax Offset ($000)	Flat–Rate Tax Payments ($000)	Flat–Rate Federal Tax Offset ($000)
less than $4000	0.5146D-02	0.3651D-03	2827	0	19354	0
$4000 - $8000	0.1550D-01	0.1781	21572	38	78619	140
$8000 - $10,000	0.3106D-01	0.4002	27471	110	54159	217
$10,000 - $12,000	0.6750D-01	1.207	38028	152	57478	694
$12,000 - $14,000	0.8738D-01	1.671	45659	763	62756	1049
$14,000 - $16,000	0.1202	2.541	52235	1327	64290	1634
$16,000 - $18,000	0.1920	4.411	56155	2477	66949	2953
$18,000 - $20,000	0.2235	5.418	61137	3312	66707	3614
$20,000 - $22,000	0.2525	6.311	70006	4418	72359	4567
$22,000 - $24,000	0.3065	8.044	70006	5631	71174	5725
$24,000 - $26,000	0.3848	10.67	71786	7660	74405	7939
$26,000 - $28,000	0.4953	14.31	73566	10527	68807	9059
$28,000 - $30,000	0.4693	13.99	73566	10292	66007	9234
$30,000 - $32,000	0.5635	17.72	43744	7751	61046	10817
$32,000 - $34,000	0.5824	18.75	43744	8202	55488	10404
$34,000 - $36,000	0.6658	22.27	43744	9748	44491	9908
$36,000 - $38,000	0.6291	21.65	43744	9471	40528	8774
$38,000 - $40,000	0.7504	26.98	43744	11802	35251	9551
$40,000 - $45,000	0.7528	29.54	109361	32305	70266	20757
$45,000 - $50,000	0.8116	33.15	109361	36253	48757	16163
$50,000 - $55,000	0.8331	36.96	19299	7133	35062	12959
$55,000 - $60,000	0.8411	38.08	19299	7349	24867	9469
$60,000 - $70,000	0.8591	40.49	38598	15628	34849	14115
$70,000 - $80,000	0.8804	42.71	38598	16485	21967	9382
over $80,000	0.9223	48.78	198638	96896	120220	58645
TOTALS	N/A	N/A	1416033	305128	1416033	238527

Sources: A,B,C; National Bureau of Economic Research tax simulation model.
       D; Author's calculations, based on data from the Minnesota Department of Revenue office.
       E; C x D
       F; Author's calculations, based on 0.0477 times an estimate of federal adjusted gross income in the bracket.
       G; C x F