ACCEPTANCE SPEECH

Peter Mieszkowski, Rice University

FIRST, LET ME BEGIN BY SAYING HOW MUCH I want to thank the National Tax Association and its officers for awarding me the Holland medal. Truly, this honor means a great deal to me.

I knew and greatly respected Dan Holland. He encouraged and helped me during the early stages of my career.

The previous winners of the Holland medal are all very distinguished. One early recipient, Richard Musgrave, was my thesis advisor, and he suggested that I work on incidence theory from a general equilibrium perspective. Professor Musgrave recommended me highly for employment at a time when I had little in the way of completed research, and I had the privilege of co-authoring a paper with him, extending some ideas he had formulated 40 years earlier. Our paper was published in the *NTJ* in 1999.

Another Holland medal winner, Arnold Harberger, laid the foundations and much of the super structure for my work on incidence theory. Professor Harberger arranged for me to spend a year at the University of Chicago as a post-doctoral fellow and helped me greatly with the formulation of several of my early papers.

I would also like to salute Charles McLure, also a Holland medalist, who preceded me at Rice University. Among his many accomplishments, he was the principal architect, while at the U.S. Treasury, of the famous Tax Reform Act of 1986 passed under the direction of Secretary James Baker – who is the Honorary Chairman of the Baker Institute where I and my Rice colleagues are research scholars.

And let me add what a great pleasure it is to receive the Holland medal at the same time that George Zodrow, my friend and frequent collaborator, is the recipient of the Steven Gold award.

I have written in a number of subfields of applied microeconomics. Three issues in particular have been of long-standing interest to me: incidence theory, economies of scale as they relate to regional development, and the optimal design of income maintenance systems. I want to comment today on my contributions in these areas as well as discuss recent work by other researchers, which is much more complete than mine was. I will also sketch the work of several former students who made significant contributions to these literatures.

INCIDENCE

First of all, I would like to claim some credit for being a catalyst in initiating probably the first application of a fixed-point algorithm to the analyses of tax incidence and the excess burden of taxation. I was present in 1970 when Herb Scarf, with excitement and pleasure, described to a group of us his newly discovered algorithm that could solve for equilibrium in a Walrasian model of any dimension.

About a week later I was walking back from lunch with John Shoven and John Whalley. They were graduate students at the time, and they were looking for a topic for a term paper required in a course taught by Scarf. I suggested that they apply Scarf's new algorithm to an analysis of the Harberger model. For about five minutes, we discussed how they might introduce taxes into Scarf's system. Shoven and Walley went away and wrote their term paper. It was soon published and the article became an instant classic. I count this interaction among my most positive memories. What it shows is that if you're lucky enough to be around the right people you will see the development of a large literature, which began with a very general, fragmentary idea.

The "new" or capital view of the local property tax maintains that this tax system is distortionary and that one of its principal effects is to depress the return to capital. In contrast, the benefit view put forth by Bruce Hamilton (1975) claims that when zoning is sufficiently precise, the property tax is non-distortionary and is a benefit tax. George Zodrow and I, with George distinctly the senior author, developed two important implications of the capital view (1983, 1986). First, in a system of small open economies or regions, the optimal rate of taxation of capital is zero; and second, that when the property tax is distortionary, the level of public service provision will be too low relative to the social optimum.

It has turned out to be very difficult to develop empirical tests to discriminate between the capital view and the benefit view. William Fischel (2001) has used the large amount of evidence that property taxes and public service expenditures are capitalized into house values (as predicted by Hamilton, 1976), as evidence favoring the benefit view. But Zodrow and I (1989) pointed out that property tax differentials and expenditures differences between communities are also consistent with the capital view. Depending on the model and what assumptions are made, fiscal differences will be reflected in house rents, wages, or in the value of land. Capitalization is a relative phenomenon. Housing prices are high or low in heterogeneous communities relative to other heterogeneous communities, not relative to a set of benchmark communities, which are perfectly zoned, and in perfectly elastic supply.

Popular discussions of the tests of the efficient markets hypothesis help us understand the limitations of the evidence of relative capitalization. For instance, Paul Krugman, in a recent article in the magazine section of the Sunday *New York Times* of September 6, pointed out that finance theorists did not accept the Capital Asset Pricing Model and the efficient markets hypothesis simply because the theory was elegant. They accepted it because they had produced a great deal of empirical evidence, which at first seemed to support the theory. But the tests did not evaluate asset prices against fundamentals such as earnings. Instead, they tested whether asset prices make sense relative to other asset prices.

Larry Summers famously mocked this procedure as equivalent to showing that 2-quart bottles of ketchup sell for twice as much as a 1-quart bottle of ketchup and concluding from this that the ketchup market is efficient. Krugman developed another complication when discussing a 2007 interview given by Eugene Fama, the father of the efficient market hypothesis. Fama declared that the word "bubble drives me nuts," and then argued that people are very careful when they buy houses and "that the bidding process is very detailed." (p. 41) However, as Krugman notes, people compare one house against other houses; this says nothing about whether the overall price of housing is correct.

These parallel developments in finance strongly suggest that Zodrow and I are correct in claiming that the capitalization of fiscal differentials between

jurisdictions does not demonstrate the validity of the benefit view of the property tax.

On the other hand, a number of writers have argued that, from the view point of a single jurisdiction, the burden of a property tax will fall on the residents of that community, so the benefits of additional expenditures better equal costs. Much of the efficiency and accountability properties of a system of decentralized communities go through even if the property tax is not a benefit tax and is at the margin distorting. For example, Caroline Hoxby (2000), in her study of the effects of Tiebout competition on school outcomes, reports that competition, as measured by the number of school districts in a metropolitan area, has a larger effect on school productivity in the regions where school districts depend primarily on local property tax finance relative to cities for which the primary source of finance comes from the state government. Hoxby argues that school administrations have a greater incentive to improve schools if they are dependent on local taxes as better schools in a district will increase housing prices and will generate greater school revenue at a given tax rate. For these incentives to work, the property tax need not be a perfect benefit tax as the capitalization Hoxby discusses is clearly a form of relative capitalization.

ECONOMIES OF SCALE AND REGIONAL ADJUSTMENT

In a recent book (2008) Edward Glaeser states that the connection between area size and per worker productivity and income is a core fact at the center of urban economics. To the best of my knowledge, the first person to present quantitative information on this relationship was Leo Sveikauskas, a Yale Ph.D. who published his results in the *QJE* in 1975. I was Leo's principal thesis advisor, and while I contributed little to this project except words of encouragement when Sveikauskas faltered in his efforts, I take considerable pleasure in his original contribution and its importance for contemporary discussion.

In 1974 Frank Flatters, Vernon Henderson, and I published a 2-region model with a private and a non-rival public good, which represent an endogenous form of increasing returns to scale. The objective was to determine whether free migration between regions differentially endowed with natural resources would result in a social

optimum. One basic efficiency condition that will be satisfied under very special circumstances is that $(MP_A - MP_C) = (C_A - C_C)$, where MP_A = marginal product of labor in Alaska, the poorly endowed region MP_C = the marginal product of labor in California and C_A and C_C represent the per-capita consumption of labor of the private good in Alaska and California.

This model is suggestive for a number of applied issues, and in 1983 in a volume edited by Charles McLure, I wrote about the taxation of petroleum in Alaska. One second-best consideration was whether the large petroleum revenues could be justified as an offset to the high levels of federal taxation in Alaska associated with the high cost of living differences in that state.

The analysis I developed there consisted of a simple numerical example and two short paragraphs. But the implication was clear: federal taxation should allow for the deductions of the cost of living differences between regions. I quote the discussant, Wayne Thirsk: "Finally, it seems to me that Mieszkowski has isolated an important flaw in the federal personal income tax. In taxing nominal rather than real income, wage rates in high cost-of-living areas will be forced to levels that are too high from an efficiency standpoint – Mieszkowski's paper represents an important first step in identifying channels which affect the efficiency of resource allocation in federations." (p. 149)

Did I take the second step? No.

This brings to mind a Texas saying that the dog would have caught the rabbit if only the dog hadn't stopped running.

There is, however, a happy ending to this story in that David Albouy, a winner of the National Tax Association Best Dissertation Award, has recently published a first rate paper in the *Journal of Political Economy* entitled "The Unequal Geographic Burden of Federal Taxation." He argues that cities with high productivity and low quality of life are overtaxed. Also, there are references in his paper to contributions on this issue by Louis Kaplow and a paper by Knoll and Griffith.

Albouy's work is based on the elegant general equilibrium model of Sherwin Rosen and Jennifer Roback. My only reservation about his formulation is that restrictions on the construction of new housing, to the extent they appear, do so through neutral shifts in the production function of housing.

In other work, David Albouy has distinguished between three changes, or factors, which affect the population of a city or region:

1. Increases in the productivity of labor in the export sector of the local economy.
2. Improvements in the production of home goods or non-traded goods such as an increase in the supply of land or improvements in local transportation.
3. Improvement in the quality of life.

The three factors will increase the population of the region and the area or size of the city and they will also increase the number of housing units at both the extensive and intensive margins of the metro area. All these changes are predicated on the assumption that there are no restrictions on the construction of new housing. If, on the other hand, restrictive land use regulations decrease the elasticity of housing supply significantly, the increase in worker productivity or the other improvements will be largely capitalized into the value of developed land.

Ed Glaeser (2008) and his colleagues (Glaeser and Gyourko, 2003) have shown that in some coastal cities on the east and west coasts, restrictions on population density have created a large gap between the intensive and extensive values of land. A house in San Francisco selling for a million dollars consists of $100,000 of structure on $900,000 of land. To modify the federal tax system to allow residents a deduction for the high cost of living on the grounds that these areas are under-populated may have little effect on the size of the population and will simply drive land values to even higher levels.

INCOME MAINTENANCE — DEMO GRANTS OR WAGE SUBSIDES?

In 1967, I wrote a paper with two very senior colleagues, James Tobin and Joseph Pechman, entitled, "Is the Negative Income Tax Practical." This paper was quite influential and we have on good authority that it help persuade President Nixon to support the ill-fated family assistance plan, a modified NIT.

I also wrote a paper for the Joint Economic Committee on the effect of wage subsides and public employment programs. This was in response

to suggestions of many writers to introduce work incentives to replace cash transfer programs. One issue analyzed was whether the benefits of a wage subsidy would accrue primarily to recipients or would benefit, in part, employers through an increase in labor supply and lower wages. I note that a wage subsidy, unlike the EITC, which depends on total earnings, is paid according to the level of the hourly wage rate of the worker relative to a target wage rate or wage norm.

In a recent NBER working paper (May 2009), Jesse Rothstein argued that by encouraging work, an EITC would decrease wages, and a substantial portion of the income transfer would accrue indirectly to employers.

However, the labor supply effects on wages and net transfers are one of perhaps three core issues pertaining to the design of income maintenance programs. I will discuss the other two. The first of these is the possible effect of a wage subsidy on the acquisition of skill. On this question I draw on some of the results of a 2000 Rice Ph.D. dissertation by Alexei Zarovnyi, who wrote under my direction. Zarovnyi extended the Mirrlees model of optimal income taxation by assuming that wages are a function of native ability and education, or skill acquisition, which requires the expenditure of money and time by individuals. The amount of skill acquisition is endogenously determined. The government observes the hourly wages of workers but not their skill level.

The essential insight of this model is that the optimal income maintenance system is a combination of a demo grant and a wage subsidy. In this model there are two incentive margins – a work/leisure tradeoff and a skill acquisition margin. A demo grant or tax credit discourages work effort, and a wage subsidy discourages skill acquisition. So the optimal policy design is to use both policy instruments together. I want to point out one other interesting result. When the government has high positive general revenue requirements, the optimal demo grant may be negative, equivalent to a lump sum tax. So in these circumstances the wage subsidy has a very large potential to redistribute income. Not surprisingly, when the labor supply is inelastic, the demo grant is favored for purposes of redistribution, and when the skill acquisition function is inelastic with respect to wages, a greater weight should be placed on wages subsidies.

The last contribution that I want to discuss is the introduction into the literature for the first time of the importance of the distinction between the intensive margin of labor supply adjustment where workers vary their hours or intensity of work on the job and adjustments along the extensive margin where persons decide whether or not to enter the labor force. This distinction is well known to labor economists, but Emanuel Saez (2002) is the first to show that the margin of behavior is a key element to take into consideration when designing an optimal transfer system. The work of Mirrlees and those that follow him, including Zarovnyi, have focused almost exclusively on the intensive margin.

Saez uses a discrete form of the optimal income tax model and concludes that if responses along the extensive margin are large (which means that non-participants can be induced to work by a EITC), the standard result of optimal tax theory — that the marginal tax rate cannot be negative — breaks down and a larger transfer should be given to someone who participates or who works more than to a nonparticipant or someone who works little. In other words, the case for EITC depends on the size of the response along the extensive margin. On the other hand, responses in labor supply that occur primarily along the intensive margin imply a greater reliance on the NIT for purposes of redistribution. If people can and will work if given the incentive, it is important to make work pay as under the EITC. If on the other hand many persons are unable or unwilling to work a significant number of hours, greater reliance must be placed on transfers for income support. Although the case for the EITC may be compromised by wage changes associated with program-induced labor supplies, as argued by Rothstein, Saez's paper, which does not account for these effects, is nevertheless very illuminating from both a conceptual and practical standpoint.

In conclusion, I have learned much in preparing these remarks – First, what George Zodrow and I have referred to as relative capitalization is a special case of a much more general problem of not being able to test for or against fundamental values. Secondly, those deeper and more general analyses of regional adjustment and the design of the federal tax should account for developments in urban economics, which deal with the impact of land use regulations on the elasticity of housing supply. Third, that optimal tax theory can enhance

our understanding of systems of redistribution by incorporating margins such as skill acquisition and the decision whether to participate or not. These factors in the standard analysis are either ignored or taken for granted.

Finally, I would like to thank the members of the panel and the chair for their very generous remarks.

References

Albouy, David. The Unequal Geographical Burden of Federal Taxation. *Journal of Political Economy* 117 (2009): 635-667.

Fischel, William A. Municipal Corporations, Homeowners, and the Benefit View of the Property Tax. In Wallace E. Oates, ed. *Property Taxation and Local Government Finance*. Cambridge, MA: Lincoln Institute of Land Policy, 2001, pp. 33-77.

Frank Flatters, Vernon Henderson, and Peter Mieszkowski. Public Goods, Efficiency, and Regional Fiscal Equalization. *Journal of Public Economics* 3 (1974): 99-112.

Glaeser, Edward L. *Cities, Agglomeration, and Spatial Equilibrium* (The Lindahl Lectures). New York: Oxford University Press, 2008.

Glaeser, Edward L. and Joseph Gyourko. The Impact of Building Restrictions on Housing Affordability. *Economic Policy Review* 9 (June 2003): 21-39.

Hamilton, Bruce W.
Zoning and Property Taxation in a System of Governments. *Urban Studies* 12 (June 1975): 205-211.
Capitialization of Intrajurisdictional Differences in Local Tax Prices. *American Economic Review* 66 (December 1976): 743-753.

Hoxby, Caroline. Does Competition Among Public Schools Benefit Students and Taxpayers? *American Economic Review* 90 (December 2000): 1209-1238.

Krugman, Paul. How Did Economists Get it So Wrong? *New York Times Magazine*, September 6, 2009, pp. 36-43.

McLure, Charles E., Jr., ed. *Tax Assignment in Federal Countries.* Canberra, Australia: Australian National Press, 1983.

Mieszkowski, Peter. The Indirect Market Effects of Wage Subsidy and Public Employment. In *Public Employment and Wage Subsidies*, *Studies in Public Welfare*, No. 19. Washington, D.C.: U.S. Congress, Joint Economic Committee, 1974, pp. 138-163.

Mieszkowski, Peter, James Tobin, and Joseph Pechman. Is the Negative Income Tax Practical? *Yale Law Journal* 77 (November 1967): 1-27.

Mieszkowski, Peter and George Zodrow.
The Incidence of the Property Tax. The Benefit View Versus the New View. In George R. Zodrow, ed, *Local Provision of Public Services: The Tiebout Model After Twenty-Five Years*. New York: Academic Press, 1983, pp. 109-129.
Taxation and the Tiebout Model: The Differential Effects of Head Taxes, Taxes on Land Rents, and Property Taxes. *Journal of Economic Literature* 27 (September 1989): 1098-1146.

Rothstein, Jesse. Is the EITC Equivalent to an NIT? Conditional Cash Transfers and Tax Incidence. Cambridge, MA: National Bureau of Economic Research, 2009. NBER Working Paper 14966.

Saez, Emmanuel. Optimal Income Transfer Programs: Intensive versus Extensive Labor Supply Responses. *Quarterly Journal of Economics* 117 (August 2002): 1039-1073.

Sveikauskas, Leo A. The Productivity of Cities. *Quarterly Journal of Economics* 89 (August 1975): 393-413.

Zarovnyi, Alexei. Wage Subsidy in an Optional Redistributive Program. Unpublished manuscript. Rice University, Houston, TX, 2000.

Zodrow, George and Peter Mieszkowski. 1986, Pigou, Tiebout Property Taxation and the Underprovision of Public Goods. *Journal of Urban Economics* 19 (May 1986): 356-370.