

**THE PROPERTY TAX INCIDENCE DEBATE AND THE MIX OF
STATE AND LOCAL FINANCE OF LOCAL PUBLIC EXPENDITURES**

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1. INTRODUCTION

One of the “new directions in fiscal federalism” that several states in the U.S., including my home state of Texas, have taken in recent years is a change in the mix of state and local revenue sources used to finance local public expenditures, especially primary and secondary education, with local property taxes being replaced by various sources of state tax revenue. Of course, numerous court cases requiring that the levels of school expenditures be less dependent on local property wealth have played a crucial role in state assumption of a larger share of school finance in many states. Also important have been various property tax limitations, such as those enacted in California and Massachusetts; Texas also has a cap on the property tax rate for revenues used to finance school maintenance and operations.

In addition, more recently, rapid increases in residential housing prices coupled with state education aid rules under which the share of state aid declines as local housing property values increase have resulted in significant increases in the local share of education finance. For example, although house prices in Texas have not experienced growth as rapid as that in many other areas of the country, especially on the east and west coasts, they have increased enough so that the local share of education finance was projected to increase to two-thirds by 2007, up from slightly over one-half in the early 1990s – a local share that would have been the highest among the fifty states.

In Texas, negative public reaction to this increased reliance on the local property tax, coupled with widespread dissatisfaction with the state’s “Robin Hood” redistribution plan under which property tax revenues from the school districts that ranked in the top 10 percent in the state in terms of property per student were redistributed to the remaining districts in the state, was intense (Zodrow, 2004). After several years of contentious debate, the result was a sweeping reform in which school property taxes were reduced by a third, replaced by a new state business tax and other sources of revenue that will reduce the local share of primary and secondary education expenses to fifty percent.

A first reaction to these developments might be that they are favorable, as a longstanding tenet of state and local public finance has been that on efficiency grounds it is preferable to assess subnational taxes using jurisdictions that encompass greater areas and larger populations (e.g., state rather than local), as the interjurisdictional mobility of tax bases is significantly lower for such jurisdictions than for smaller jurisdictions; as a result, efficiency costs from suboptimal location decisions will be reduced, more progressivity in the tax structure may be introduced if deemed desirable, and economies of scale in revenue collection may be realized. The resulting state revenues can then be redistributed on a formulaic basis, reflecting not only service needs but also both interjurisdictional distributional concerns as necessary and adjustments for positive external benefits, to local governments that are better equipped to match public services provided to local tastes and are more accountable to local citizens due to increased transparency and the forces of interjurisdictional competition. As long as the distribution formula is perceived to be equitable (from both a legal and a social perspective) and efficient in the sense that state revenues finance inframarginal expenditures while local revenues are used for all marginal expenditures (apart from any state subsidies designed to correct for state-level public service externalities at the margin), the conventional wisdom suggests that this tax substitution should be desirable.

This traditional prescription has been challenged in the recent literature. In a recent survey, Oates (forthcoming) notes that excessive reliance on upper-level governments for transfers to finance public local services, including inframarginal units of such services, may lead to the pernicious problem of a “soft budget constraint” under which local governments are periodically “bailed out” of deficit situations; the relevance of this concern is, however, limited in the U.S. to the extent that local governments face binding budget constraints. Oates also notes that empirical work suggests strongly that the design of intergovernmental grant systems in practice falls far short of theoretical ideals, and is instead much more likely to be determined by political considerations. Finally, he observes that intergovernmental grants designed to reduce fiscal inequalities across jurisdictions may impede the migration of capital and employment to

lower wage areas that would otherwise narrow these inequalities over time. He concludes that the case against the use of intergovernmental grants rather than own-source revenues at the local level is “not easily dismissed” and argues that the “design and operation of an effective system of intergovernmental grants ranks, in my view, right at the top of the research agenda in fiscal federalism.”

Following in the same vein, there is another potential challenge to the traditional argument favoring the use of state-level grants to finance local public expenditures, which is simply that greater reliance on state tax instruments may be undesirable because the typical state revenue sources are relatively less efficient than the property tax finance typically used at the local level. Not surprisingly, a key question in investigating this issue is a resolution of the longstanding debate on the incidence of the property tax, and that debate is the focus of this paper, which proceeds as follows.¹ The following section examines, fairly briefly, the advantages and disadvantages of the various commonly used state-level taxes. It concludes that all of these tax instruments suffer from serious problems, so that it is certainly possible that substituting state taxes for local property tax revenues will be undesirable from an efficiency perspective. Section III begins by noting that the efficiency properties of the property tax depend primarily on which of two alternative views – referred to as the benefit tax view and the capital tax (or “new”) view – more accurately describes the economic incidence of the tax. The remainder of this section, which constitutes the bulk of the paper, examines the current state of our knowledge on this crucial tax incidence issue, focusing on recent efforts to reconcile the two views. The concluding section considers directions that future research might take to help narrow the range of opinion on the issue of the incidence of the property tax, and thus help to

¹ Of course, the same revenue sources could in principle be used at either the state or local level; for example, a statewide tax on non-residential property may be an attractive option relative to local use of the tax, and some local governments utilize income taxes. Nevertheless, the following analysis assumes that, for historical, political or other reasons, local governments rely on the local property tax and state governments rely on other taxes, primarily individual and corporate income taxes, sales taxes, asset taxes, and other commonly used state tax instruments.

resolve the directly related issue of whether greater reliance on state level tax sources coupled with reduced reliance on the local property tax is desirable.

2. TRADITIONAL STATE REVENUE OPTIONS

Although, as described above, collecting revenues at the state level has certain distinct advantages, one could also argue that an important disadvantage of state level taxation is that the tax instruments typically used, especially as applied in practice, are not particularly desirable from an efficiency standpoint. Two familiar precepts regarding tax efficiency are especially relevant in the state context.

The first is that the well-known production efficiency theorem argues that taxes on production inputs should generally be avoided.² This in turn suggests that gross receipts taxes are especially undesirable because they result in highly inefficient tax pyramiding, with multiple layers of taxation applied to those products whose inputs are transferred among businesses at various stages in the production process. Under these circumstances, a gross receipts tax imposed at even a very modest rate can become a highly differentiated tax on business inputs that distorts decisions regarding input choices, creates a tax bias toward vertical integration and thus against small businesses including small service providers and, to the extent the tax is shifted forward as higher consumer prices, hampers the export prospects of state businesses and distorts consumer purchasing decisions. However, as will be discussed below, several of the most prominent state tax instruments have the characteristics of a gross receipts tax.

The second general tax policy precept follows from the fact that any state (even Texas!) approximates a small open economy, and thus should treat the after-tax return to capital (and the

² The Diamond and Mirrlees (1971) production efficiency theorem states that—under the appropriate circumstances—taxes on business inputs should be avoided entirely. The basic intuition behind this result is that the appropriate set of taxes on consumption goods alone can achieve any outcome that would obtain under taxation of production inputs, but consumption taxes avoid the distortions of input choices that arise with production taxes. This result is subject to a number of qualifications; in particular, it requires that commodity taxes be set optimally, and that any above-normal profits be subject to tax (Slemrod 1990). Nevertheless, the production efficiency theorem suggests that, at least to a first approximation, taxes on business inputs should be avoided, especially if—as seems inevitable—they are not explicitly designed to offset any problems that arise under the system of taxation of final goods in the state.

consumer prices of most tradable goods) as fixed. This of course implies that, apart from taxes levied in accordance with benefits of public services received or to offset negative externalities generated, source-based taxation of mobile capital at the state level is inefficient and indeed counterproductive, as perfectly mobile capital will leave the taxing jurisdiction until the before-tax rate of return to capital invested in the state rises by enough to entirely offset the tax. This in turn implies that local factors of production (land and labor, especially relatively immobile unskilled labor) will bear the full burden of the tax, including its efficiency costs due to capital emigration, a tax bias favoring labor-intensive goods, and any under-provision of public services to local tax competition (Zodrow, 2006a).

In the following discussion, I first consider how the most commonly used state tax instruments – state sales taxes and state personal and corporate income taxes – fare in terms of these and other efficiency criteria, and then turn to the intriguing but seldom-used alternative of a state-level value added tax.

2.1 State Sales Taxes

In principle, retail sales taxes could be a relatively efficient source of state tax revenue, as they are based on consumption rather than production and do not burden mobile capital. In addition, as a consumption-based tax, sales taxes avoid the distortions of savings and other decisions that characterize the income tax, and could in principle be assessed on a comprehensive and uniform basis.³ In practice, however, existing state retail sales taxes achieve few of these advantages. Because states are concerned about tax evasion in the form of business purchases of consumption goods (and because exemption of all business purchases would be very costly from a revenue standpoint), states are extremely harsh in limiting sales-tax-exempt purchases by businesses. As a result, consumer purchases form a surprisingly small fraction of the typical state sales tax base, estimated by Ring (1999) to be on the order of 60 percent on

³ Although uniform taxation is not necessarily efficient, it is likely to represent the most practically feasible approximation to an efficient commodity tax structure. In addition, sales taxes are destination based, and are thus at least loosely consistent with the benefit principle which suggests that state residents, who receive the benefits of state public services, should finance their provision.

average. Under such circumstances, the retail sales tax becomes a haphazard form of income tax rather than a consumption tax, and includes elements of both source-based capital income taxation and a gross receipts tax.

Furthermore, the base of the typical state sales tax is far from comprehensive, and is instead characterized by a wide variety of exemptions that are justified on distributional, social, administrative or historical grounds. The situation has been exacerbated by the advent of electronic commerce, since many remote (out-of-state) electronic vendors, like their mail order counterparts, avoid establishing a physical presence or “nexus” in most states and thus avoid any responsibility to collect tax on their remote sales. As a result, the efficiency gains from a neutral consumption-based tax are not realized.

Moreover, the most commonly recommended sales tax reform – base broadening by including services that have historically been tax exempt – is not a particularly attractive option. Although base expansion to include untaxed consumer services is desirable from an efficiency perspective, the typical proposal continues to exempt most consumer services and instead involves a great deal of taxation of business services, which would only exacerbate the problems of source-based taxation of capital income and gross receipts taxation described above (Hendrix and Zodrow, 2003). Thus, replacing local property taxes with revenues raised from increased use of the retail sales tax may not be desirable on efficiency grounds, especially since the sales tax rates in many states are already relatively high, so that further rate increases would significantly exacerbate already large existing distortions.^{4 5}

2.2 State Income Taxes

The other main alternative state-level tax is an income tax system. At the individual level, the primary argument against this approach is that it exacerbates all the distortions of the

⁴ Note that another argument against such a reform is that the property tax is fully deductible against federal personal income tax liability while state sales taxes may not be deductible.

⁵ A more promising, but far less politically feasible, approach would be fundamental reform of the sales tax, involving expansion of the base to include as many consumption items as possible while offsetting the distributional consequences of this approach with a means-tested rebate, coupled with full exemption of all business purchases from tax (McLure, 2000).

federal income tax. Nevertheless, proponents of the state income tax approach argue that it results in a more equitable tax burden, with straightforward tax exemption of the poor and some progressivity (limited by interstate mobility of high-income individuals), has a relatively comprehensive base, is easy to administer as an add-on to the federal tax, has a base that grows proportionately with the economy, and has the important advantage of providing for residence-based taxation of capital income and is thus not subject to the flaws of source-based capital income taxation noted above.

However, at the corporate level, the income tax is far less attractive. For local firms, the tax is source-based tax on capital income, replete with distortions of decisions regarding inputs, financing mechanisms, organizational form and retention/payout policy. For firms with operations in many states, the tax is essentially a tax on the factors in the formula used to apportion the tax base across the states. To the extent that a property component is important, the tax is again a source-based tax on capital income. However, many states now double-weight sales and some, such as Texas, use a single sales factor which converts the tax to a tax on gross receipts. Indeed, the gross receipts nature of the tax is even more pronounced than with business purchases under the sales tax, since no exceptions are provided (in contrast to the state sales tax, where exceptions are typically provided for material purchased for resale, materials used in the manufacturing or processing of other goods, etc.).⁶

2.3 State Value Added Taxes

Perhaps the most attractive state level option is one that is virtually never used in the U.S. – a state level value-added tax or VAT.⁷ Although there are many alternative structures for such a state VAT, I will focus on the case of an origin-based, consumption-based tax calculated using

⁶ Some states also utilize various forms of asset taxes, which are also subject to the criticism that they are a form of source-based capital income taxation and, if utilized as a minimum tax in combination with a corporate income tax, create a tax bias against risk-taking, since some firms will be subject to the income tax if a risky venture is successful but will be subject to the asset tax if their venture fails and they fall into a loss situation. Statewide taxation of property is also an option, but one that is seldom used.

⁷ In the US, only New Hampshire and Michigan utilize forms of a state level VAT, and the Michigan tax is being phased out.

the subtraction method, sometimes referred to as a “business activities tax” or BAT. As a consumption-based tax (that allows expensing of all non-labor business-related purchases, including capital equipment), the BAT largely avoids source-based taxation of mobile capital income; the main exception is that it taxes above-normal returns to capital, which results in an efficient source of revenue in the case of location-specific economic rents, but acts to discourage investment by businesses with highly mobile firm-specific rents. Moreover, because firms are allowed deductions for all business-related purchases, the BAT avoids the problems associated with gross receipts taxes.⁸

The BAT is of course not without its own problems. As a source-based tax on labor income, it creates a disincentive for the hiring of labor, a fatal flaw from the perspective of many politicians, even if taxes on relatively immobile labor are preferable to taxes on highly mobile capital from an efficiency perspective. In addition, businesses are likely to object strenuously to paying taxes when they have no profits – although it should be noted that this argument is inappropriate to the extent taxes paid are viewed as payment for public services received. As a proportional tax, the BAT may be perceived as objectionable on equity grounds, although this concern might be tempered if firms were allowed a minimum deduction per employee, say, roughly equal to the poverty level of income. As a new tax that could not readily be “piggybacked” on an existing federal tax, the BAT would also be relatively expensive from an administrative standpoint (although firms would not have to provide any information not already required for federal income taxes).⁹

In summary, none of the common state level tax instruments, especially as applied in practice, is especially attractive from an efficiency perspective. Moreover, although a state level

⁸ In addition, the BAT can be justified as a proxy for a benefit related tax on businesses, assuming that this is demand for public services is roughly proportional to the value added attributable to production in the state (Cline, 1978; Bird, 2000).

⁹ Note also that the BAT would have to be apportioned for multistate firms. The most logically consistent approach would be to use payroll or total labor compensation as the apportionment factor, since the BAT is primarily a tax on labor. Alternatively, both payroll and property could be used in the apportionment formula on the grounds that the BAT taxes above normal returns to capital, as well as returns to existing capital (Zodrow, 2004).

value-added tax such as the BAT may be more desirable on efficiency grounds, experience thus far strongly suggests that it is not a viable political option. A natural question, then, is whether replacing local property taxes with such state level taxes is likely to be desirable. The answer to this question of course depends on the relative efficiency properties of the property tax, the issue considered next in the analysis.

3. THE EFFECTS OF THE PROPERTY TAX

The effects of the property tax, including its economic incidence, efficiency properties and distributional implications, have been the subject of a long and contentious debate, summarized recently in Zodrow (2001) and Fischel (2001). The primary issue is whether the property tax is best described by the “benefit tax view,” that is, as an efficient benefit tax paid in exchange for local public services received along the lines envisioned in the celebrated Tiebout (1956) model, or as a distortionary tax on the use of capital within a local jurisdiction, as described in the seminal derivation of the “new view” of the property tax by Mieszkowski (1972) – hereafter, referred to as the “capital tax view”.¹⁰

3.1. The Benefit Tax View

The benefit tax view argues that the property tax plays the role of the head tax envisioned by Tiebout (1956) in his model of efficiency in the provision of local public services in the presence of perfect consumer mobility and interjurisdictional competition. In the case of the residential property tax, this theory was developed by Hamilton (1975) who followed Tiebout in assuming that individuals sort themselves into local jurisdictions according to demands for public services. He then added the assumptions that these communities utilize binding zoning constraints that establish a minimum house value for each community, and that there are enough communities to accommodate all desired bundles of housing and government services. These assumptions are sufficient to establish an equilibrium in which all communities are

¹⁰ A third “traditional view” of the property tax, which argues that the property tax is fully shifted forward to consumers in the form of higher prices, can be shown to be a special case of the capital tax view (Wildasin, 1986).

homogeneous with respect to both demands for public services and housing; in particular, the zoning constraints preclude individuals from “free-riding” on their neighbors by enjoying local public services while living in a relatively inexpensive home, and the availability of homogeneous high-income communities ensures that no one will choose to live in a relatively expensive home and subsidize local public service provision. In the same tradition, Fischel (1985, 1995) argues that zoning ordinances, defined comprehensively to include a wide variety of land use regulations, are sufficiently restrictive in practice to convert the residential property tax into a benefit tax in the manner envisioned by Hamilton.¹¹

Since complete homogeneity of house values within all communities is unrealistic, a natural question is whether the benefit view logic can be extended to communities that are non-homogeneous with respect to housing values (although still homogeneous with respect to demands for public services). Hamilton (1976) argues that in fact this is the case, if all communities are fully developed (so that housing stocks cannot change in response to the property tax) and homogeneous communities are always available as an option (so that no individual is willing to pay property taxes that exceed benefits received). Under these fairly stringent assumptions, Hamilton shows that capitalization of fiscal differentials into house values converts the property tax into an efficient benefit tax, as relatively expensive (inexpensive) homes sell at a discount (premium) in the heterogeneous community, reflecting the present value of the excess (deficit) of property taxes paid relative to the value of services received.

The implications of the benefit view are striking – the property tax is effectively a user charge that is paid in exchange for the benefits of local public service, and thus distorts neither housing consumption nor the level of public services provided. If the benefit view is accurate, replacing local property taxes with any of the typical state-level tax instruments described above

¹¹ In addition, Fischel (1975) and White (1975) argue that the nonresidential property tax can also be viewed as a benefit tax in the presence of interjurisdictional competition for firms, the appropriate zoning restrictions, and one-on-one negotiations between firms and government officials.

is certain to reduce efficiency. In addition, the benefit view implies that the property tax has no effects whatsoever on the distribution of income.

3.2. The Capital Tax View

In marked contrast, the “capital tax view” or what was initially called the “new view” of the property tax, developed by Mieszkowski (1972) and extended by Zodrow and Mieszkowski (1986b), argues that the property tax is a differential capital tax that distorts the allocation of capital across local jurisdictions, with its residential component distorting decisions regarding the consumption of housing. Moreover, since the property tax is a source-based tax on mobile capital and local jurisdictions are small open economies, local use of the tax suffers from all the problems of such taxes noted above (Mieszkowski and Zodrow, 1983). Furthermore, to the extent that local governments are constrained to use the property tax, they are likely to inefficiently under-provide local public services to avoid driving mobile capital out of their jurisdictions – the familiar tax competition problem described by Oates (1972) and analyzed by Zodrow and Mieszkowski (1986a), Wilson (1986) and Wildasin (1989).¹²

The capital tax view was derived in the context of a general equilibrium model with a fixed national capital stock and two types of local jurisdictions, those characterized by relatively high tax rates and those characterized by relatively low tax rates. In this context, Mieszkowski showed that property tax rates that exceed the national average drive capital out of the high-tax jurisdictions into the relatively low-tax jurisdictions, with opposing effects occurring in relatively low tax jurisdictions. Property tax differentials thus result in an inefficient misallocation of capital across jurisdictions. In terms of incidence, the “average burden” of all of the property taxes imposed across the nation – the “profits tax effect” of the tax – is borne by capital owners generally. In marked contrast to the benefit tax view, this profits tax effect implies that the property tax is relatively progressive (at least with respect to annual income). In

¹² Note, however, that interjurisdictional tax competition may also generate efficiency benefits, especially in restraining tendencies toward over-consumption of government services, as described in Wilson (1999), Zodrow (2003), and Wildasin and Wilson (2004).

addition, Mieszkowski stressed that property tax differentials about the national average result in “excise tax effects” in the form of housing and commodity price increases and wage and land price declines in relatively high tax jurisdictions, with offsetting effects in relatively low tax jurisdictions. Since these roughly symmetric excise tax effects tend to cancel, the profits tax effect is the primary factor affecting the distribution of the tax burden under the capital tax view. If the capital tax view is accurate, replacing local property taxes with any of the typical state-level tax instruments will have uncertain effects on efficiency, depending on how the efficiency costs of capital misallocation and government service underprovision under the property tax compare to those under the state tax instruments chosen.

Given the dramatically different implications of the debt and capital tax views, it is perhaps not surprising that there has been considerable skepticism about the possibility of reconciling the two views. For example, Fischel (2001, p. 170), in arguing for the benefit view, stresses that the “difference between my view and the “capital tax” review promoted by Mieszkowski and Zodrow is profound ... No amount of tinkering with the parameters of the capital-tax view can reconcile it with the approach I have advocated here.” Similarly, Mieszkowski (1999, p. xv), in a discussion of the two competing views, concludes that “no reconciliation or hybrid theory as possible.” At one level, this is certainly correct. The economic effects of the capital tax view arise due to tax-induced reallocations of housing capital, while such reallocations are precluded under the benefit tax view through either the appropriate zoning constraints or perfect capitalization in the context of fully developed communities. Nevertheless, several researchers have constructed hybrid models that include some features of both views. These models can be grouped into three general categories, which are considered in the following three subsections.

3.3. Hybrid Models with Immobile Residents

One problem with the original exposition of the capital tax view by Mieszkowski (1972) is that it was derived within the context of the model of national tax incidence developed by Harberger (1962), and thus ignored many of the aspects of local government use of the property

tax stressed by proponents of the benefit view. Mieszkowski and Zodrow (1986a) reformulated the capital tax view to incorporate many of these factors explicitly, including interjurisdictional competition, individual utility functions that include varying tastes for local public services, individuals that are immobile but are segregated into differing communities according to tastes for local public services, and a simple form of land use zoning. Within this context, they show that the national effects of the capital tax view still obtain – as long as capital is mobile across jurisdictions but is fixed in total national supply – and that local jurisdictions tend to inefficiently under-provide local public services due to concerns about tax-induced capital emigration. In addition, following Brown (1924) and Bradford (1978), Mieszkowski and Zodrow (1983) show that the profits tax effect of the capital tax view obtains in the context of a single small taxing local jurisdiction. That is, even though the after-tax rate of return to capital can reasonably be viewed as fixed from the perspective of the taxing jurisdiction, a local tax increase reduces that rate of return very slightly, which, when applied to a large national capital stock, implies that capital bears the full burden of the tax. At the same time, however, the tax-induced outflow of capital from the taxing jurisdiction implies lower returns to relatively immobile factors such as local land and labor and/or higher prices to local consumers. Indeed, for the standard case in which the local jurisdiction is a small open economy, the tax burden borne by local factors, in the form of lower wages and land rents or higher prices, approximates the total burden of the tax (Kotlikoff and Summers, 1987).

The implication of the latter point is that even though these models clearly obtain capital tax view results, they also have a striking benefit tax view flavor. Specifically, even though the property tax causes inefficiencies in the form of capital misallocation and government service underprovision, the burden of increases in local government expenditures financed with

increases in the local property tax is borne entirely by local residents, an essential characteristic of the benefit tax view.

Although these models establish that the burden of the property tax is borne by local residents, they do not derive the distribution of that burden between labor and land (since both are fixed), between factor owners and consumers, and among consumers of different goods. In ongoing research, Athiphat Muthitacharoen and I are investigating this issue in the context of a two-sector (e.g., housing and a tradable good) open-economy model in which labor is mobile across sectors (although fixed in total supply) but land is not.

Even in this relatively simple model, the incidence of the property tax is fairly complex, primarily because labor is mobile across the two production sectors and because forward shifting can occur only in the non-tradable good sector. As expected, land in the two sectors bears the full burden of the land component of the property tax, and a significant fraction of the capital portion. However, all of the other effects of the tax are theoretically ambiguous. In particular, the effect of the tax on wages is ambiguous, as the property tax drives out mobile capital which tends to reduce labor productivity and thus wages but, since labor is mobile across sectors, the tax is more likely to be borne by land owners in the two production sectors and by consumers in the nontradable goods sector. Specifically, wages tend to increase if it is relatively easy to substitute labor for capital in the two production sectors when the tax drives up the cost of capital, and if the relative increase in costs due to the increase in the cost of capital is larger in the nontradable good sector, where the tax can be shifted forward as higher consumer prices (rather than backward to labor).

Given these theoretical ambiguities, we simulate the effects of introducing a property tax in the model. Preliminary results suggest that the property tax falls primarily on landowners in the two production sectors. In addition, some forward shifting to consumers of the nontradable

good occurs, on the order of 10-30 percent of the burden of the tax. But the most striking result is that typically very little or none of the burden of the property tax is borne by labor; indeed, wages typically increase when the property tax increases, primarily due to over-shifting of the tax to land as well as some increases in the price of the nontradable good. This result obtains despite the fact that there is capital flight from both production sectors in response to the imposition of the business property tax.¹³

3.4. Hybrid Models with Perfectly Mobile Residents

Although the models in the previous section have many of the features that characterize the benefit tax view approach, including households that are segregated according to their demands for public services, they do not allow for the perfectly mobile households assumed by both Hamilton and Tiebout. Perfect consumer mobility is a central feature of the models of the property tax constructed by Hoyt (1991), Krellove (1993) and Wilson (1997) which, in the case of identical individuals, implies that all households must attain the same level of utility. As described in the excellent recent paper synthesizing this work by Wilson (2003), this line of research stresses that with perfect consumer mobility, the property tax has an important benefit tax aspect in that the property tax payment by each household within a jurisdiction equals the marginal cost of providing it with local public services. Nevertheless, in these hybrid models, the property tax is, as Wilson (2003, p. 220) describes it, a “distortionary benefit tax” in that consumption of both housing and local public services are set at inefficiently low levels.

More specifically, when head tax finance is available in these models, land value maximizing governments ensure an efficient level of public services by setting the head tax equal to marginal congestion costs. (In addition, if there are economies of scale in local public

¹³ This result is in the same vein as those obtained by Gravelle and Smetters (2006) in their analysis of the

service provision so that average costs exceed marginal costs, a land tax should be used to balance the budget as described in Flatters, Henderson and Mieszkowski (1974); I shall, however, ignore this complication on the grounds that most empirical evidence suggests that the services provided by local governments are largely constant cost “publicly provided private goods.”) Surprisingly, when head tax finance is replaced with property tax finance, the marginal tax payment still equals the marginal cost of providing a new household with public services, as occurs under the benefit tax view. Nevertheless, the property tax still distorts housing consumption decisions (there is no zoning in these models) and results in underprovision of local public services, and the capital tax portion of the property tax is borne by capital – all features that are clearly characteristic of the capital tax view of the property tax.¹⁴

3.5. A Model of Intra-jurisdictional Capitalization

The hybrid models considered thus far are all characterized by local jurisdictions that are comprised of identical households. However, as described above, the more realistic of the two models constructed by Hamilton provides for jurisdictions that are heterogeneous with respect to housing while still homogeneous with respect to demands for public services, with perfect capitalization of fiscal differentials into the prices of a fixed nonhomogeneous housing stock converting the property tax into a benefit tax. Indeed, in making his case that the combination of comprehensive zoning and fiscal capitalization converts the property tax into a benefit tax, Fischel (2001a, b) argues that that the extensive literature on the capitalization of property taxes and public services implies that fiscal “capitalization is everywhere” (Fischel, 2001a, p. 56). He

incidence of the U.S. corporate tax in a world economy, although they focus on the roles of imperfect substitution in product markets and imperfectly mobile capital.

¹⁴ However, Wilson (2003) shows that the congestion tax feature of the property tax implies that the degree of underprovision of local public services is less under the property tax than it would be under a land tax.

goes on to conclude that empirical support of fiscal capitalization provides compelling evidence that the benefit tax view accurately describes the effects of the property tax.

In some ongoing research (Zodrow, 2006b), I am examining the contention that the phenomenon of fiscal capitalization in heterogeneous communities confirms the validity of the benefit tax view. Of course, the discussion in Section 3.3 makes it clear that interjurisdictional capitalization is consistent with both views of the property tax. That is, the small open economy interpretation of the capital tax view implies that the burden of a local property tax will be borne by local factors of production in the jurisdiction, especially land if labor is at least partially mobile – that is, property taxes across jurisdictions will be capitalized into land values. The goal of this research project is to determine whether, as suggested without proof by Mieszkowski and Zodrow (1989), the same result obtains for the *intra*jurisdictional capitalization of fiscal differentials stressed by Hamilton (1976).

Like the other work described above, the structure of the model in Zodrow (2006b) is chosen to be consistent with the assumptions of the Tiebout-Hamilton tradition. In particular, a limited form of land use zoning (fixed amounts of land for high and low value housing, the two types of housing in the model) is introduced so that land value capitalization is a possibility. This assumption is essential since, as stressed by Ross and Yinger (1999), in the absence of zoning all land within a jurisdiction would in the long run sell for the same price so that capitalization would be impossible.¹⁵ In addition, all households are perfectly mobile with an exogenous source of income and an exogenously specified level of welfare, there are two types of households differentiated by their demand for housing, and there are enough jurisdictions to satisfy all taste for local public services. In the initial equilibrium, head taxes are allowed so that

efficiency in both housing consumption and local public service provision is achieved. Property taxes on all land and capital within the jurisdiction are then introduced, with the revenues used to reduce the level of head taxation, holding the level of public services per capita fixed.¹⁶

The main result of this differential tax incidence analysis is that, evaluated at the initial head tax equilibrium (so the excess burden effects are zero), the land price capitalization effects under the capital tax view are identical to those under the benefit tax view, despite the very different mechanisms giving rise to these capitalization effects under the two views. Under the benefit view, these capitalization effects simply reflect the differentially high (low) property taxes paid by high (low) value homes, holding housing capital stocks fixed. By comparison, under the capital tax view, capitalization effects arise because households alter their housing consumption in response to the imposition of the property tax. Specifically, capital is reallocated out of the production of large houses, where property taxes are high relative to benefits received, and into production of smaller homes, where the property tax bill is low relative to benefits received. As a result, land rents unambiguously increase for land used for small houses, and unambiguously decrease for land used for large houses, and it is these changes in land rents that are capitalized into land prices.

The key result of the analysis is that these land value capitalization effects under the capital tax view are precisely the same as the capitalization effects calculated under the benefit tax view, implying that empirical evidence of *intra*jurisdictional capitalization does not allow one to distinguish between the validity of the benefit tax and capital tax views of the property

¹⁵ For example, such an equilibrium, with all land prices equalized, characterizes the model constructed by Wilson (2003).

¹⁶ An obvious direction for future research is to make the level of public services endogenous, as in Zodrow and Mieszkowski (1986a, b) and Wilson (2003).

tax.¹⁷ Nevertheless, as in the other hybrid views of the property tax described above, local use of the property tax has some of the characteristics of a benefit tax, as residents pay for net local public services received (those not financed with head taxes) in the form of higher housing prices. Moreover, since fiscal differentials are capitalized into land values, the net effect of the property tax burden and land value capitalization of the fiscal differential is that in equilibrium both types of households effectively pay only for services received.¹⁸ Thus, as in the hybrid models described above, residents “pay for what they get” under both views. However, under the capital tax view, land value capitalization occurs due to capital reallocations across housing types, implying inefficiency in the housing market. By comparison, under the benefit tax view, capitalization occurs with respect to fixed housing capital stocks, and there is no distortion of the allocation of housing capital.

4. CONCLUSION

Although the pure versions of the benefit and capital tax views of the property tax are fundamentally incompatible, the various hybrid views discussed in this paper – all of which, in my view, are considerably closer to the capital tax view than to the benefit tax view – represent important steps toward reconciling the long-standing debate in the literature about which view more accurately describes the effects of the property tax. All of the hybrid views, however, deviate from the benefit tax view in that they assume that zoning does not impose binding constraints on the consumption of housing at the margin, so that the property tax distorts housing

¹⁷ In addition, housing consumption declines unambiguously for both types of households, requiring that total population in the jurisdiction must increase and, as in Hamilton (1976), the net effect of all property tax capitalization effects on aggregate land value within the taxing jurisdiction is zero.

¹⁸ It is important to note, however, that this result obtains only in equilibrium. That is, when the tax is initially imposed, the land value capitalization effects that occur at the time of implementation do not reflect benefits received. It is only after the effects of a tax increase are capitalized into land values – that is, for subsequent

consumption decisions. Empirical evidence to support this assumption would be extremely useful.

At least two avenues for future empirical research are promising. The first is a determination of the extent to which actual zoning constraints are binding on marginal housing decisions. As stressed by Fischel (1992, 1995), there is no question that the practice of zoning is widespread and a wide variety of zoning restrictions are utilized; these include minimum lot sizes (and one home per lot), setbacks, height restrictions, requirements for off-street parking, restrictions to single family use, minimum square footage, differential building code requirements, the designation of certain areas as off limits for environmental or other reasons and requirements for the provision of infrastructure at the expense of the developer. Nevertheless, as stressed by Mieszkowski and Zodrow (1989), the Hamilton (1975) version of the benefit view obtains only if zoning requirements are binding at the margin, and it is much more difficult to demonstrate empirically that this is the case. Indeed, in contrast to the position taken by Fischel, various observers have argued that zoning ordinances, the matter how prevalent, are not likely to be sufficiently binding for the benefit view to obtain. For example, Ross and Yinger (1999) note that many studies have demonstrated considerable heterogeneity with respect to house values and income levels in suburban jurisdictions, suggesting that zoning constraints are typically not binding, and argue that “zoning tools, such as lot size restrictions and set-back rules, appear far too blunt to control H (housing) precisely.”¹⁹ Similarly, Rubinfeld (1987, p. 591) concludes that “there is reason to believe that actual zoning policies deviate substantially from the one which transforms a property tax into a head tax.” Nevertheless, these

purchasers of the housing – that the benefit view applies, a result that is clearly a serious weakness of the benefit tax view interpretation of the implications of perfect capitalization of fiscal differentials.

¹⁹ Ross and Yinger (1999) also stress the zoning is consistent with alternative models of housing and local public goods determination.

conjectures do not take the place of the admittedly onerous task of conducting a detailed property-by-property study to determine the extent to which the zoning requirements impose binding constraints on marginal housing consumption decisions.

A second approach would be to investigate the extent to which relatively high property taxes reduce housing consumption in practice or reduce the capital intensity of housing production (and non-housing production as well), as predicted by the capital tax view. Wassmer (1993) provides some intriguing evidence on these questions. He constructs a sample of 62 cities and tests whether positive property tax differentials, relative to the average level of taxation for the sample, reduce the capital intensity of production or are reflected in lower property values in due to capitalization effects. Although his results are generally supportive of the capital tax view, the effects are quite modest. Moreover, Wassmer's sample is cities that are typically geographically separated, rather than the suburban communities that are the focus of the Tiebout-Hamilton benefit tax view. Further empirical investigation of these issues would appear to be fruitful areas for future research.^{20 21}

Turning next to fiscal federalism issues, the relative desirability of replacing local property taxes with state-level taxes obviously depends on the state level instrument chosen. For example, in the Texas case, despite a long debate regarding numerous reasonable potential tax instruments, the final outcome was a so-called "margin tax," which can loosely be described as a modified gross receipts tax, where firms get a choice between a deduction for the cost of

²⁰ Housing rents provide a limited test of the two views -- forward shifting of the property tax in housing rents would be consistent with both views, but backward shifting to property owners would be consistent with the capital tax view. Although numerous early studies yielded inconclusive results on this issue, Carroll and Yinger (1994) argue that these studies suffer from numerous methodological problems. They analyze a sample of 147 towns and cities in the Boston metropolitan area, correct for the methodological problems noted above, and find that landlords bear a large fraction of property tax increases in these communities, consistent with the capital tax view of the property tax.

materials and the cost of labor, with no additional deductions. The tax is thus a haphazard form of gross receipts tax that shares all the problems of such taxes (including effective tax rates that will in many cases significantly exceed the nominal rate of 1 percent), and a variety of other problems as well. In particular, as a tax that allows no deductions whatsoever for capital expenditures – not even for depreciation – the tax is highly biased against capital formation, even though creating a tax system that would be favorable to capital accumulation was one of the rationales often provided for reducing the property tax. The new Texas margin tax is thus likely to be highly distortionary, not to mention the obvious incentives it creates for organizing business activities so that one entity is labor-intensive and chooses to be taxed under the component of the margin tax that allows deductions for labor compensation, while another entity takes maximum advantage of the deduction for cost of goods sold (and capital is located in an out-of-state entity). If such a state tax instrument is used to replace local property tax revenues, the case for such a reform becomes exceedingly weak.

More generally, the desirability of replacing local property taxes with state tax revenues should be analyzed in the context of a dynamic general equilibrium model that can weigh the relative efficiency costs of the various tax substitutions contemplated. Such a model would have to have a rich business structure, so that it could capture the production inefficiencies associated with sales taxes that impinge significantly on business input purchases and with gross receipts taxes that create tax burdens that vary with the degree of vertical integration. Again, such investigations would appear to be a promising avenue for future research. Note, however, that replacing local property taxes with any of the typical state tax instruments has one serious disadvantage. Specifically, a primary distortion of the property tax is that tends to reduce

²¹ Interpretations of the empirical evidence on the debate vary considerably. For example, Ross and Yinger (1999) argue that “the evidence against the benefits view is overwhelming,” while Oates (1994, p. 142) concludes

housing consumption. However, this feature of the tax may simply offset the tax bias favoring the consumption of housing due to the fact that the federal income tax does not tax the imputed rent on owner-occupied housing while allowing deductions for home mortgage interest (and for property taxes). Thus, it is possible that the housing consumption “distortion” associated with the property tax is actually efficiency enhancing. On the other hand, state use of corporate and individual income taxes tends to exacerbate the many distortions of the federal income tax system, and state sales taxes are likely to have similar effects, especially with respect to decisions regarding labor supply. Thus, on efficiency grounds, there is a presumption that replacing local property taxes with state-level taxes is likely to reduce economic efficiency, a presumption that can be reversed only with explicit modeling of the efficiency gains obtained in other areas from such a tax substitution.

that, “As things stand, it is impossible to reject either the new view or the benefits view in favor of the other.”

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