FINAL REPORT
Analytical Services Relating to Property Taxation

PART 2: REVENUE COMPONENT

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I. INTRODUCTION

The interaction between the Save Our Homes assessment limit and Florida's housing boom created a property tax system riddled with inequities and inefficiencies. The inequities are obvious, and the newspapers are filled with examples: neighbors with similar houses but one paying twice the property tax of the other. A more subtle inequity is that Save Our Homes favors homesteaders over renters, who on average are less affluent. The inefficiencies are both economic and political. One economic inefficiency is called "lock-in." People want to move to houses that were larger, or smaller, or closer to work but are locked in by their Save Our Homes differentials. Another economic inefficiency is the shift of the burden of the property tax to businesses, already subject to high tax shares compared to their competitors in other southeastern states. The political inefficiency comes from the fact that Save Our Homes spares long-term homesteaders the burden of paying significantly higher taxes that accompany the jump in property values. Since these homesteaders are often the dominant political force, they can enjoy rising public expenditures without having to write larger checks for their property taxes.

The inequities and inefficiencies of Save Our Homes created a wild ride of proposals for reform. Early on the agenda was portability, to allow people to carry their Save Our Homes limits with them. Another early proposal was for boosting the homestead exemption. The most far-reaching proposal called for eliminating the property tax altogether, offsetting the lost revenue through an increase of cutting local expenditures and raising the sales tax. A final compromise rolled back a large share of local spending and placed a constitutional amendment on the ballot in January allowing homesteaders to replace their Save Our Homes limits with large tiered exemptions.

As a result of the rapidly changing legislative scene, our research, aimed at analyzing the consequences of property tax reform, tracked a moving target, first emphasizing portability and increasing the homestead exemption, then comparing sales taxes and property taxes, then looking at expenditure rollbacks, and finally analyzing the option to choose between switching irrevocably to large tiered exemptions and or staying with the Save Our Homes limits on assessed values. Among other things, this called for projecting the effects of the various proposals on taxable values county by county out to the year 2030.

The path of taxable property values over the long run depends on what the future will bring with respect to other long run variables, such as the growth of real per capita income, inflation, population growth, and the growth of housing prices and values. Obviously no one knows. An old canard about economists is that if you put ten of us in a room and ask us about the future of these measures, we will give you at least ten different answers. Well, that's an exaggeration, but it is the case that when a group of a dozen or so UF and FSU economists were put in the room together, we came up with at least two different answers, most importantly with respect to the future of housing values in Florida. We UF economists are rather more optimistic about that than are our FSU colleagues, for reasons that we go to some length to justify in our portion of the report.

Unfortunately, the difference turns out to matter for the long-run consequences of the various proposed changes in property tax regimes. Consequently, the original division of labor whereby the group at FSU was to prepare taxable value projections and we at UF were to analyze their consequences for the Florida Education Finance Program and for local governments, broke down. First, for their purposes, our colleagues at FSU needed detailed simulations with respect to turnover and the incidence of property taxes, which, along with the moving target effect as new proposals appeared on the horizon, delayed their projections to the point that we could no longer wait. Second, we became convinced that using their "pessimistic" projections would lead us to present overly conservative conclusions about the long-run results of the various reforms, conclusions that we would not believe. So, at the cost of some delay, we prepared our own brighter projections, at the risk of being thought less worthy practitioners of the dismal science.

With either the FSU or the UF assumptions about the future of house values, local governments are going to experience strong negative shocks to their tax bases in the short run. The difference, as noted, is in the long run and in the transition to the long run. With our projections, after the initial negative shock, the property tax bases of local governments will not only recover their strength relative to growing local government revenue requirements, but will go beyond where they are today, in most counties within a decade. Their difficulty will be during a transition period, a period that will proceed more rapidly the faster the rates of growth of population, income, and house values.

Our report begins by presenting the reasons for our assumptions about the future path of the variables noted above, developing a model showing the importance of assumptions about the income and price elasticities of demand for housing. Further, we show in some detail why Florida's property appraiser data are misleading about a crucial parameter, the ratio of the value of new development to the value of existing development. That ratio is much higher than the raw data would lead one to believe. Next, we present the implications of our projections for how major property tax reform proposals will interact with the complexities of Florida's education finance system.

We begin by showing that the education finance system has been fluid, adapting through the political process to dampen the variance of the distribution that would occur from a simple application of the Florida Price Level Index and the categorical allocations. We characterize that process econometrically and use the results for our projections, taking account of such complications as the 90% cap on the amount that a district must provide through its required local effort. We assume that, although funding is not the only perhaps not even the most important resource for good schools, Florida will want to catch up to other southeastern states, and project the requirements for doing so.

We then project the overall implications of major reform proposals for the budgets of local governments, county by county. To do this, we constructed aggregate county data, summing all of the 1995, 2000, and 2005 expenditures by counties, municipalities, and special districts up to the county level. This was necessary because the role of the various types of local government vary widely from one county to another, depriving comparisons of any one type of revenue of much meaning. Using these numbers and the

taxable value projections from the first half, we calculate county-by-county the increases in millage rates over time that would be required under the major proposals to match the revenue under the current property tax regime.

As noted earlier, one of the inefficiencies of the Save Our Homes limit is the lock-in effect, as people who want to move stay put in order to avoid seeing a large increase in their property taxes. We attempt to quantify the deadweight loss caused by the lock-in effect and come up with a very rough estimate on the order of half a billion dollars a year. This is a substantial inefficiency but we caution that our estimate is very crude. It may be that further study would refine this estimate, but we are not certain of that. Some of the required parameters would be hard to estimate precisely.

Cutting homestead property taxes will almost inevitably result in some combination of higher business taxes or lower local government services provided to businesses. Since Florida is already shy of high value-added jobs, it is important to know how harmful this will be to nationally and internationally competitive firms based here. Seeking the answer, we turn to two types of studies, large-scale models and reduced-form single equation approaches. From these we find useful insights, but no really satisfactory answers. It seems clear to us that a further shift of the tax burden onto business is not in the state's best interest, but quantifying the effect satisfactorily eludes us and, we think, other analysts.

A major alternative source of revenue would be raising the sales tax to eight percent. We look at sales tax regimes in Florida and in other states, the difficulties posed by interstate commerce, and the regional incidence of the sales tax versus the property tax within Florida. Another major early proposal, which could well appear again, was portability. We asked Lynne Holt, who, while not a lawyer, is an experienced legislative analyst holding a Harvard doctorate and previously published in law reviews, to prepare for us a section on the sales tax and a section on constitutional issues likely to be raised if portability were to pass, and we are pleased to include that here.

In the appendices, we look at possibilities—mere examples—of efficient ways of for local governments to replace revenue lost in the near term to property tax reform. The most promising, in terms of revenue generation, would be a socially optimal boost to the gasoline tax. We consider why Florida might be a pioneer in that regard, but fail to find convincing reasons for thinking it will happen. Other possibilities include road congestion fees, higher parking fees (a very minor source of revenue, however), and privatization of roads. Although efficient means of raising modest revenue, none of these appears to be likely candidates for replacing short-run losses.

Property taxes are so fundamental to Florida's local governments that their effects reach through a wide variety that unfortunately we have not touched, or if so only lightly. These include effects on urban form, on which income groups bear the tax burden, on the composition of population growth, on municipal annexation and incorporation, on voter turnout, on the effectiveness of local government, on homeownership versus renting, and on local school governance. Largely as a consequence of this project, we, our colleagues,

and our students have research underway on several of these topics. We hope some of the results of these studies will become available in time to serve as one of many sources of information available to voters in January, to the Taxation and Budget Reform Commission as it deliberates, to local governments, and to future legislatures.

II. MODELING AND PROJECTING THE PROPERTY TAX BASE

II.1 Introduction

In this section of our report, we develop projections of Florida's property tax base. We do so to prepare data we will need in later sections to examine the impact of two types of property tax reforms, portability and the tiered super exemption proposed by the legislature, on the Florida Education Finance Program (FEFP) and on local government budgets. Since the FSU study contains an independent set of tax base projections, a few words regarding the differences between the two and why we developed our own projections seem warranted.

The projections produced by the FSU team treat certain aspects of the tax base in more detail than ours. In particular, they estimate turnover equations for homestead properties, so that turnover is endogenous in their model, whereas we take the probability of turnover to be constant within counties. The FSU team also allow real house price appreciation for each individual house to be a random draw from a distribution, whereas we project the tax base as if every house appreciated at the mean rate every year. On both of these counts, the FSU team's projections are more realistic than ours. So, why develop our own?

There are two reasons. First, while we initially planned to use the results of the FSU study, as so often happens with careful modeling work, it took the FSU team longer than planned to complete the projections. In part, that was because of the fine level of detail involved in their simulations. Since we could not really dig into our task of looking at the impact of tax base changes on budgets without those simulations, we decided to try to develop a set of projections that we could run more rapidly. Since our charge is to study the impact on school and local government budgets, we only need the aggregate to be accurate, whereas the FSU team was charged with explicitly studying turnover and the effect of SOH and portability on lock in, so they needed accuracy in those details. We hoped skipping those details would produce projections more quickly, while remaining accurate enough in the aggregate for our purposes.

Second, after working on our projections for some time, we realized that the projections in the FSU study might not be appropriate for our purposes anyway. When discussing school and local government expenditures in the following sections, we will argue that spending tends to grow proportionally to nominal income. Nominal income, in turn, grows at the sum of the rates of population growth, inflation, and, growth of real income per capita. The FSU projections build in long term growth in the nominal property tax base in response to population growth and inflation (and real house price appreciation), but, not real income per capita. For purposes of looking at the impact of SOH and portability on turnover and the distribution of assessments, this is not much of a problem. However, since richer residents demand proportionally more housing, and therefore more supporting commercial development, and also proportionally more public goods and services, and since real per capita income growth is likely to be somewhere between

1.4% and 2% annually, the FSU projections will underestimate the ratio of the tax base to public goods demand by 15-20% in ten years, and, by 30-50% in twenty years.

The highlights of this analysis are as follows. First, neither SOH in its current form nor SOH with portability are likely to require increases in millage rates over time to keep up with income growth. In that sense, neither will lead to additional pressure on school or local government budgets. This is because SOH allows the existing stock to increase in assessed value at the rate of inflation, and new property is added to keep up with growth in population and real per capita income. The newly proposed tiered exemption, however, creates an initial average reduction in the tax base, relative to income, of 9% on average across the state, and over 20% in some counties. Thus, it will indeed create a financial shortfall that must be met by other sources. New construction and house price appreciation will eventually overcome this initial shortfall. However, the larger the initial shortfall and the lower the real house price appreciation, the longer it will take to do so.

The remainder of this section of our report lays out the model we use for our projections, develops parameters and data needed, and presents and analyzes the basic results of the projections in light of likely general impacts on school and local government budgets. Specific consideration of detailed impacts on school and local government budgets is left for later sections. Where appropriate, we discuss the implications of differences between our assumptions and those of the FSU study.

II.2 Housing Demand

The just value of the stock of housing, V, is the product of the price per unit, P^h, and the number of units, Q. Here we are thinking of "housing" in a somewhat abstract way, in that every individual house as consists of some number of units of "housing," and adding up the quantity of "housing" in all units gives the total stock, Q. Demand at time t depends on the number of buyers, the real purchasing power of buyers, and the user cost, or rental equivalent, of housing, R. We employ the standard log-linear approximation of housing demand. We also assume that, all else equal, a given percentage increase in population, N, leads to an equal percentage increase in the demand for housing, so that the elasticity of demand with respect to population is unity. Additional notation is as follows: income elasticity of demand, η; price elasticity of demand, ε; log demand intercept, α; total nominal income, Y; consumption price index (like the CPI), p^c; and a residual, or demand shock, υ_t. The logarithm of housing demand is given by

$$\ln(Q_t) = \alpha + \ln(N_t) + \eta \ln\left(\frac{Y_t}{N_t p_t^c}\right) + \varepsilon \ln\left(\frac{R_t}{p_t^c}\right) + \upsilon_t , \tag{1}$$

and the logarithm of the nominal value of the housing stock is

$$\ln(V_t) = \ln(P_t^h Q_t) = \alpha + \ln(P_t^h) + \ln(N_t) + \eta \ln\left(\frac{Y_t}{N_t p_t^c}\right) + \varepsilon \ln\left(\frac{R_t}{p_t^c}\right) + \upsilon_t . \tag{2}$$

Estimates of both the income and price elasticity of demand are needed if this approximation is to be used in projecting property values.

II.3 Estimates of the Income Elasticity of Housing Demand

We focus first on the income elasticity of housing demand. Some early cross sectional studies found an income elasticity of demand considerably less than 1. Such a finding would be a bit puzzling since, in aggregate, a given percentage increase in income *must* lead to an equal percentage change in expenditures, and housing is a large share of the typical consumer's budget. Most of those studies, however, were flawed, in that they used current income as the explanatory variable. Housing is a very durable good, however, and typical homeowners live in their homes for many years, so housing consumption is likely to depend on permanent income, and therefore to be less influenced by transitory income. Studies that instead use a measure of permanent income have found the income elasticity of demand for housing to be much higher, generally near one.[1]

In a recent study, Belsky, Di, and McCue (2006) also control for the number of homes owned, since, for those owning more than one home, the sensitivity of expenditure on one residence or the other to changes in permanent income may differ from the sensitivity of total housing expenditure. They find the mean income elasticity of housing demand to be 1.18 for households owning only one residence, and, 0.83 for those owning 2. Since the group owning a second home is very small relative to the group owning only one home, this puts the estimated overall mean income elasticity of demand somewhat over one.

Given that most estimates of the permanent income elasticity of demand for housing are near one, and that in aggregate a given increase in income must lead to an equal increase in expenditures, we use 1.0 as our estimate of the income elasticity of demand. In that case, the above expression simplifies to:

$$\ln(V_t) = \alpha + \ln(Y_t) + \ln\left(\frac{P_t^h}{p_t^c}\right) + \varepsilon \ln\left(\frac{R_t}{p_t^c}\right) + \upsilon_t \,. \tag{3}$$

If the rental equivalent cost of housing tracks other prices over the long run but for small temporary disturbances, and if demand shocks are relatively small and temporary, the log of the nominal housing stock should just move with nominal income. If we further assume that other real property is roughly proportional to the housing stock (that is square feet of workplace and shopping space are proportional to square feet of living space), the nominal value of all property should track nominal income in the long run.

Figure II-1 below shows the nominal value of all structures and nominal GDP for the U.S. from 1929 to 2005, in billions of dollars, on a log scale. Indeed, structure value appears to move in step with income. (Descriptively, a regression of log structure value on log GDP gives a coefficient of .976.) Figure II-2 plots just value, taxable value, and personal income for Florida from 1975 to 2006, in billions of nominal dollars, on a log scale. Both just and taxable values closely track income.

[1] See, for example, Polinsky and Ellwood, 1979, and Goodman & Kawai 1982.

Figure II-1:

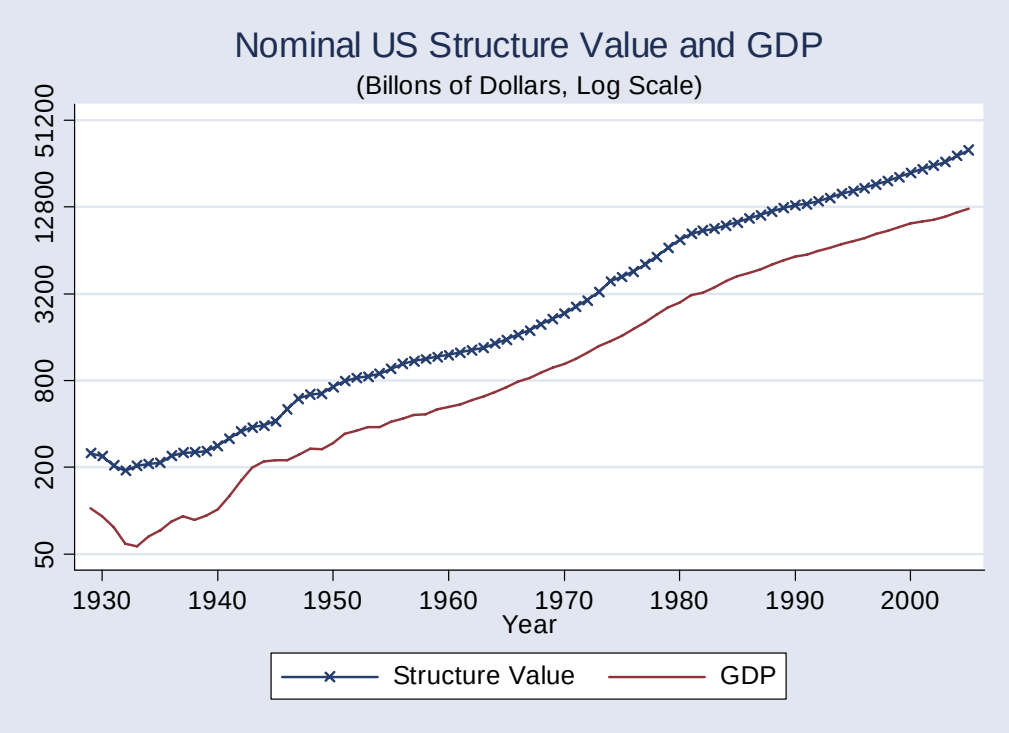
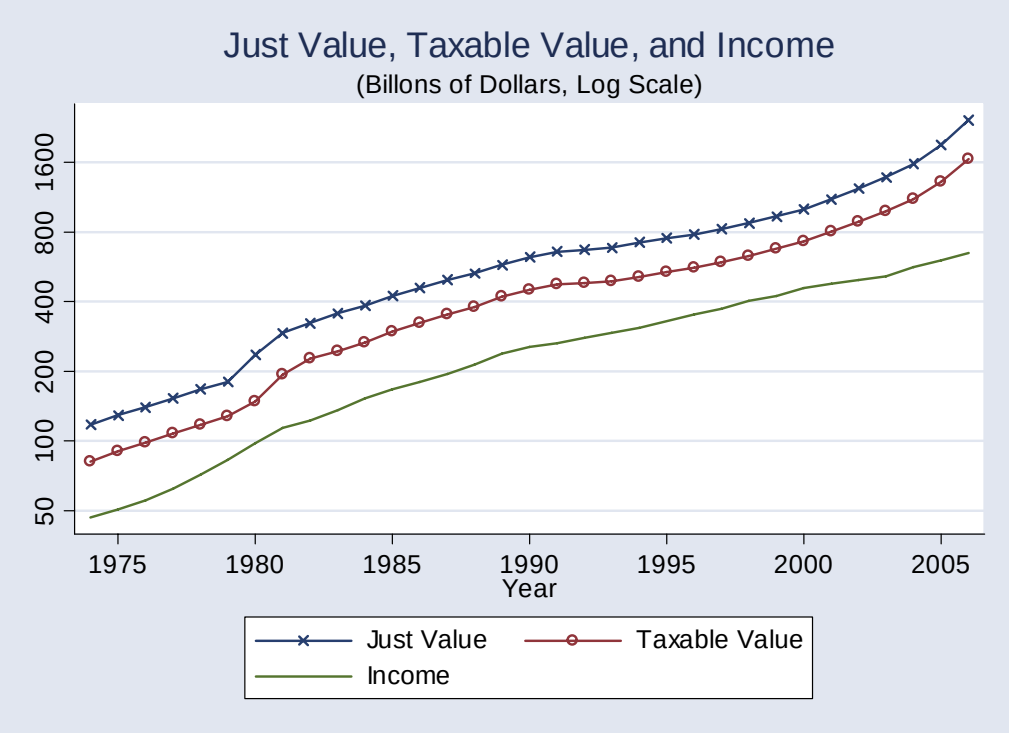


Figure II-2:



From Figures II-1 and II-2, it is readily apparent that a model of the aggregate property tax base intended to make intermediate or long run projections should have income as a major driver. The purpose of our study - to analyze the impacts of changes in the property

tax system on school, county, and municipal governments - makes this particularly important. To foreshadow what is to come, local government expenditures have also tracked income closely over time, so our projections of expenditure targets rise with income growth. Projections of the tax base that do not allow for the link between income growth and growth in the value of the stock of real property – that is the positive income elasticity of housing demand - will find that changes in the property tax system that reduce taxable value will be much more likely to put pressure on local budgets, and, for that pressure to persist over time, purely as an artifact of comparing expenditure projections that grow with income against property value projections that do not.

II.4 Estimates of the Price Elasticity of Housing Demand

Of course, income alone is not the only important story in Florida. In particular, from 2000 to 2006, house prices have far outpaced inflation. This explains the more rapid growth of the tax base over that period. But the exact impact of this depends on why prices are rising and on the responsiveness of demand to price changes.

Since a house is a durable asset, its price reflects the present value of the flow of housing services provided over time. The per unit cost of using a house to provide housing services for one period depends on: 1) the cost of having money tied up in the house instead of invested elsewhere, given by the interest rate, i; 2) the property tax rate, τ; 3) the rate of maintenance, m; 4) the rate of depreciation, δ; 5) the expected rate of house price appreciation, a, and 5) the marginal income tax rate, t, since interest expenses and property taxes are deductible. Specifically, the relationship between equivalent rent and price is given by $R = UP^h$ where:

(4) $$U = (1-t)(i+\tau) + m + \delta - a\,.$$

Thus, changes in interest rates, appreciation rates, tax rates, or house prices can all affect the cost of housing services. This is made even more complicated by the fact that expected house price appreciation is not determined exogenously, but rather reflects the expected future path of equilibrium house prices. In a full model of the housing market, the rates of population growth, house price appreciation, conversion of undeveloped land are all determined through the interaction of supply and demand. While such a model is beyond the scope of this project, we can substitute $R_t = U_t P_t^h$ into the equations above to shed some light on the separate effects of house prices and the other factors that affect the rental equivalent. Doing so yields:

(5) $$\ln(V_t) = \alpha + \ln(Y_t) + \ln\left(\frac{P_t^h}{p_t^c}\right) + \varepsilon \ln\left(\frac{U_t P_t^h}{p_t^c}\right) + \upsilon_t\,, \text{ or}$$

(6) $$\ln(V_t) = \alpha + \ln(Y_t) + (1+\varepsilon)\ln\left(\frac{P_t^h}{p_t^c}\right) + \varepsilon \ln(U_t) + \upsilon_t\,.$$

To take this further requires an empirical estimate of the price elasticity of demand for housing. While demand curves all slope down, estimates of the price elasticity of demand have consistently been less than 1 in absolute value, mostly ranging from less than 0.25 to just below 1. For example, Pollinsky and Ellwood (1979) estimate the price elasticity

of housing demand to be -0.7, while Hanushek and Quigley (1980) produce estimates nearer -0.5 (some above, some below). However, there is no clear clustering of the estimates in the literature. Further, unlike the income elasticity of demand, which must be unitary at least when aggregated across all goods (since the budget share weighted sum of income elasticities equals 1 by definition of the consumer's budget constrain), there is no theoretical reason to find one price elasticity estimate more reasonable than another. Therefore, for simplicity, and to avoid giving an undue appearance of precision given the range of estimates in the literature and the inherent uncertainty in this type of modeling, we adopt a price elasticity of demand of negative one-half (-0.5). The fact that we do not expect rapid rates of changes in house prices makes a highly precise estimate of the value of this parameter less important than it would be if house price appreciation continued at recent levels.

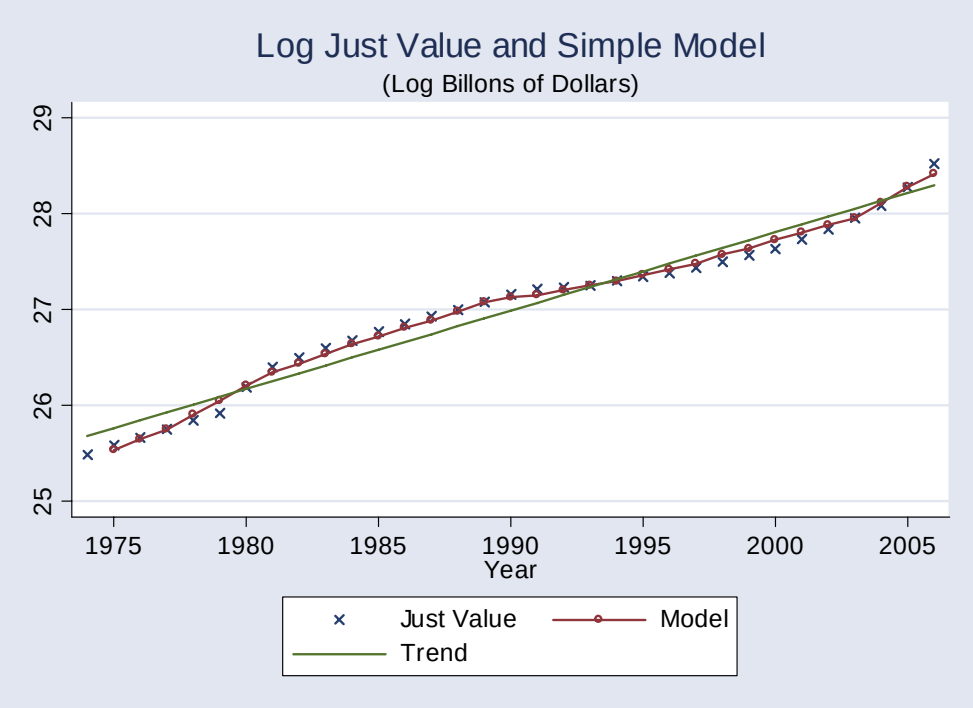
Using -0.5 for the price elasticity of housing demand and differencing from mean values (denoted by ^) gives:

$$(7) \qquad \ln V_t = \ln \hat{V}_t + \ln Y_t - \ln \hat{Y}_t + 0.5\left(\ln \frac{P_t^h}{p_t^c} - \ln \frac{P^h}{p^c} \right) - 0.5\left(\ln U_t - \ln \hat{U}_t \right) + \upsilon_t \quad .$$

Using the CPI for p_t^c, the Office of Federal Housing Enterprise Oversight's (OFHEO) house price index for P_t^h, and relegating changes in user cost to the error term, we use this approximation to construct a model for the log of just value for the period from 1975 to 2006. The results are shown in Figure II-3. The simple model tracks log just value very well, much better than the log linear trend. The average absolute log deviation from trend is .14 log points, while the average absolute log deviation from the model is only .04 log points.

It is of course possible to "fit" the 32 years of data slightly more precisely by running a regression of just value on nominal income and real house prices (in logs). Doing so allowing for the autocorrelation apparent in Figure II-3 gives 0.98 and -0.36 as estimates of the income and price elasticity of demand, and, "explains" 99.95% of the variation in the log of aggregate property values, while the model above "explains" 0.45% less, at 99.5%. However, our view is that there is a large degree of uncertainty associated with projecting the property tax base, so the analysis is best viewed as a story that illustrates the most likely kinds of impacts of property tax reform and highlights likely winners and losers, not as an estimate that will be extremely exact. Using the numbers that just happen to "fit" the relatively small amount of aggregate data for Florida both ignores evidence on elasticities from published studies and provides an unwarranted appearance of precision.

Figure II-3:



II.5 Projecting the Aggregate Value of the Property Tax Base

As mentioned above, a full model would allow for population, house prices, and the quantity of housing to be jointly determined in the model. We, however, proceed more simply by taking reasonable projections for population, income, house price appreciation, and, inflation from outside the model. Letting m, a, and π represent the continuous compound growth rates of real per capita income, real house price, and overall consumer prices, and taking the value of all property in 2006 as the starting point, value at year t is then approximated by:

$$V_t = V_{2006} \frac{N_t}{N_{2006}} e^{(m+\pi+0.5a)(t-2006)}. \quad (8)$$

Equation (8) is equivalent to equation (7), but using 2006 as the base, not the mean from 1975 to 2006. To implement this, and then to produce estimates of taxable value, we require projections of population, and, estimates of the rates of inflation, per capita real income growth, and real house price appreciation. We now discuss each of these in turn.

Population

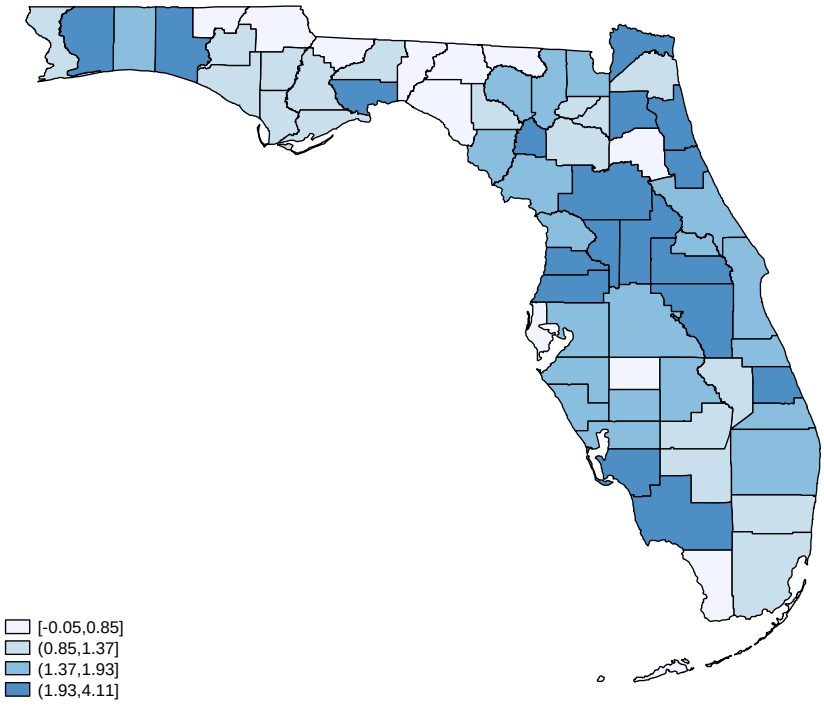
A key determinant of local government revenues and expenditures is population. Florida's growth has been unevenly distributed across counties. Some have grown rapidly while others have grown slowly and a few have even declined. This inter-county variation is expected to continue in the future, and as a result, population projections should reflect this variability. We follow BEBR's medium projections on this matter.[2] To

[2] Figures in this section are based on BEBR's "Florida Population Studies", Volume 40, Bulletin 147, February 2007. Actual projections are based on more recent BEBR projections.

project population, we use BEBR's published county level medium population projections. Since these are published for 5 year intervals, we interpolate intervening years assuming continuous compound growth at a constant rate within each period.

BEBR predicts that population will grow at an average yearly rate of 1.6% in the next 25 years, which will be distributed among counties with a standard deviation of 0.76%. The Figure II-4 plots the differences in growth rates among counties.

Figure II-4: BEBR Projections. Annual Population Growth Rates, 2006-2030



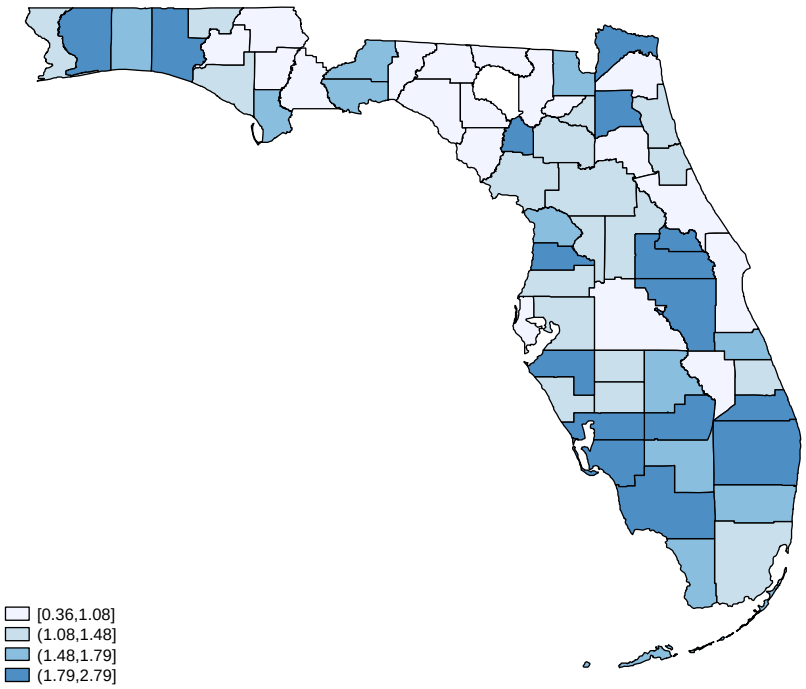
The population forecasts prepared by BEBR are based on purely demographic methods, essentially projections that past migration, mortality, and fertility trends will continue. They contain no influence at all from projections of employment or of other economic variables. As a test of whether that matters, we purchased data from a commercial firm, Woods & Poole, that builds its population projections on forecasts of employment. The employment projections are derived from an economic base modeling approach for each of the country's 172 economic areas, as designated by the U.S. Bureau of Economic Analysis. Then "future [economic area] and county migration patterns for population by age, sex, and race are based on employment opportunities. Individuals and families are, with two exceptions, assumed to migrate, at least in part, in response to employment opportunities: for population aged 65 and over and for college or military-aged population, migration patterns over the forecast period are based on historical net

migration and not economic conditions."[3] County projections are constrained to sum up to the economic area projections.

In most respects, the BEBR and Woods & Poole projections are quite close. Woods & Poole projects the state's 2030 population to be 26,195,000, within 1% of BEBR's 26,419,000. Moreover the correlation across counties between the two projections is high, 0.995. There are perhaps three differences worthy of note:

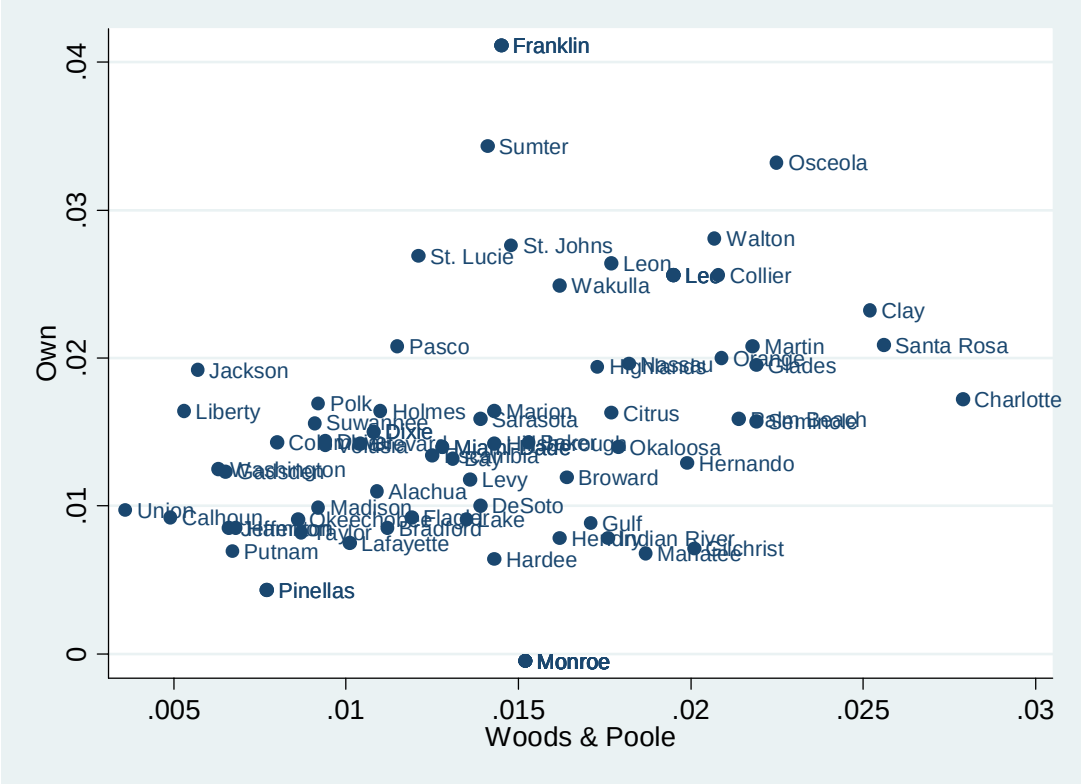
1. Woods & Poole projects that the 2030 population of Broward and Palm Beach counties will sum to a little over 500,000 more than the BEBR projection, or 4,859,000 versus 4,352,000, a difference of 12%.
2. In compensation, Woods & Poole projects that the 2030 population of a set of six counties farther north on the Atlantic coast—Duval, Flagler, Volusia, Saint Johns, Brevard, and Saint Lucie—will sum to only 3,022,000, or 543,000 less than BEBR's projected 3,565,000, a difference of minus 18%.
3. Woods & Poole projects that five counties near Orlando—Lake, Marion, Sumter, Osceola, and Polk—will sum to only 2,008,000, or 393,000 less than BEBR's projected 2,401,000, a difference of minus 20%.

Figure II-5: Woods & Poole's Population Growth Projections, 2006-2030



[3] Woods & Poole Economics, *2006 State Profile, Florida: CD-ROM Technical Documentation*, Washington, January 2006, p. 17.

Figure II-6: BEBR and Woods & Poole's Population Growth Rates, 2006-2030



In our view, export-base employment projections are probably more useful for counties that depend heavily on a small set of industries. In high-amenity areas such as Florida, in contrast, whenever a particular industry encounters difficulties, often land and infrastructure are freed for retiree developments, and growth becomes more, not less rapid. Examples include the freezing of the orange groves in Lake, the depletion of the phosphate mines in Polk, the diminished tax breaks for race horses in Marion, and the Mexican competition with tomatoes from Manatee. In each case the weakening of a base industry was followed by strong population growth. The retirees became the new base, drawing in working age people to provide the services they need.

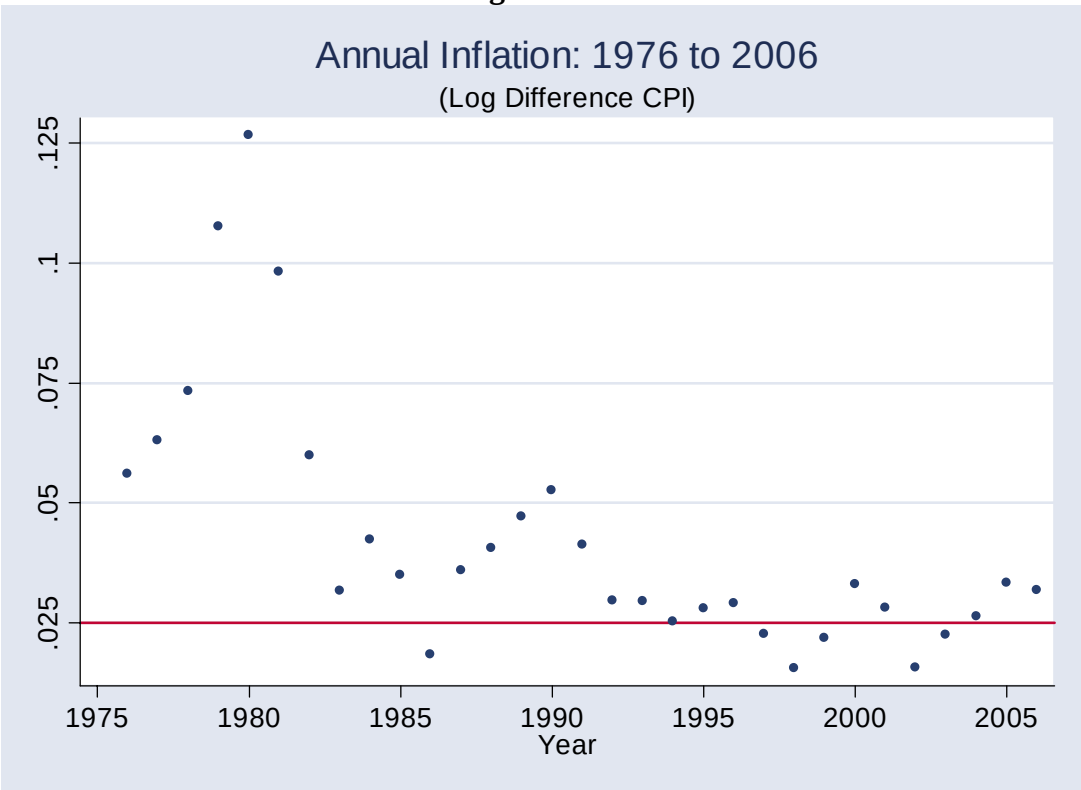
In the context of the overall uncertainty of population projections the differences between BEBR and Woods & Poole are relatively minor, even though they are derived through methods that differ markedly. Consequently, we think that presenting alternative FEFP and total spending projections based on the Woods & Poole population projections would not add enough insight to warrant the extra complexity that doing so would add to our report. Rather, we must keep in mind that are projections are more a story to illustrate the types of impacts of various reforms, rather than highly precise estimates of exactly what will occur in the future.

Inflation

We use the consumer price index (CPI) as our measure of inflation. While economists think that the CPI overstates inflation, it is the most commonly used measure. Further, it

is the upper bound on appreciation of assessed value of homestead homes under Florida's current property tax system, making it the most convenient measure for our purposes. Figure II-7 shows the annual change in the natural log of the CPI from 1976 to 2006. The log difference is the continuous growth rate. From 1996 through 2006, the continuous growth rate averaged .02507. We assume that from 2006 to 2030 the CPI will continue to rise at an annual rate of 2.5%.

Figure II-7:



Real Income Growth Per Capita

For projecting the growth of income per resident for Florida's economies over the coming decades, we have three considerations. (1) What will be the average rate of growth of real or inflation-adjusted income per resident, and will it be faster or slower than the U.S. average growth rate? (2) Will income per resident grow more rapidly in poorer counties such as Lafayette ($15,638) than in richer counties such as Palm Beach ($50,371)? That is, will the poorer counties catch up with the richer ones? In order to answer this question, the analysis of convergence needs to be addressed. In the economics literature, the catching up phenomenon is called "beta convergence."[4] Finally, another question to be addressed is: (3) Will the inequality of income across counties

[4] Beta convergence is distinguished from sigma convergence in, for example, Xavier Sala-i-Martin, "Regional cohesion: Evidence and theories of regional growth and convergence," *European Economic Review*, 1996, pp. 1325-1352. Recent studies emphasize conditional rather than pure beta convergence, where the convergence is to steady-state trends that vary across regions. It turns out, we think, that the distinction is not important for understanding the recent history of Florida's counties.

become smaller? When this happens, it is known as sigma convergence. Beta convergence is a necessary but not a sufficient condition for sigma convergence.

The neoclassical growth model where the concepts of beta and sigma convergence were introduced assumes a certain homogeneity among regions, which only differ in their initial income levels. However, in terms of the Rosen-Roback model, differences in income would persist because of differences in amenities. In this case, convergence would imply achieving stable long term dispersion among regions that can be fully explained by their consumptive and productive amenities.

Turning first to the projected rate of growth of real income per resident, from 1969 to 2005 in both Florida and in the rest of the United States, growth averaged 2% per year; 1.4% if the period 1980 to 2005 is considered; and 0.9% if only 1990 to 2005 is used. The figure below shows income per resident in constant 2000 dollars for Florida and for the United States.

Although Florida fell behind the nation after 1991, it has grown slightly more rapidly in very recent years. Over the full period, 1969 through 2005, the two growth rates are statistically indistinguishable from each other and from two percent. The estimated rate for both is 2.02% and within an estimated standard deviation of exactly two percent.

Turning to the pattern of growth across counties, we first note that neither Florida nor U.S. counties have experienced beta convergence over the full period. Figure II-9 below shows year-by-year population-weighted beta convergence and divergence for Florida and for the U.S, estimated by population-weighted cross-county regressions of the log of income per resident in 1970 on the log of income per resident in 1969, and so on, through 2005. Values below one indicate convergence and values greater than one indicate divergence.

From 1970 through 1976 all the estimated betas were below one, indicating convergence. Since then, however, the values have been equally above and below, with average values of almost exactly one for both Florida and the nation.

With few exceptions the relative income across counties was relatively stable in the past 25 years. Figure II-10 plots log real income per capita in 1980 and 2005 for the 67 counties in Florida. The solid line shows the least squares relationship generated by this graph. Counties above the line had high growth rates relative to the average, while those below had lower rates. Figure 1-11 plots the log income per capita in 1980 and the average annual growth rate for the period 1980-2005. The figure shows weak evidence of beta convergence: in general those counties with the highest income per capita in 1980 had the lowest growth rates. However, there are some outliers that make this relationship statistically non-significant. For instance, Indian River, Monroe, Palm Beach and Saint Johns counties have unusually high growth rates given their initial (i.e. 1980) income levels.

Figure II-8:

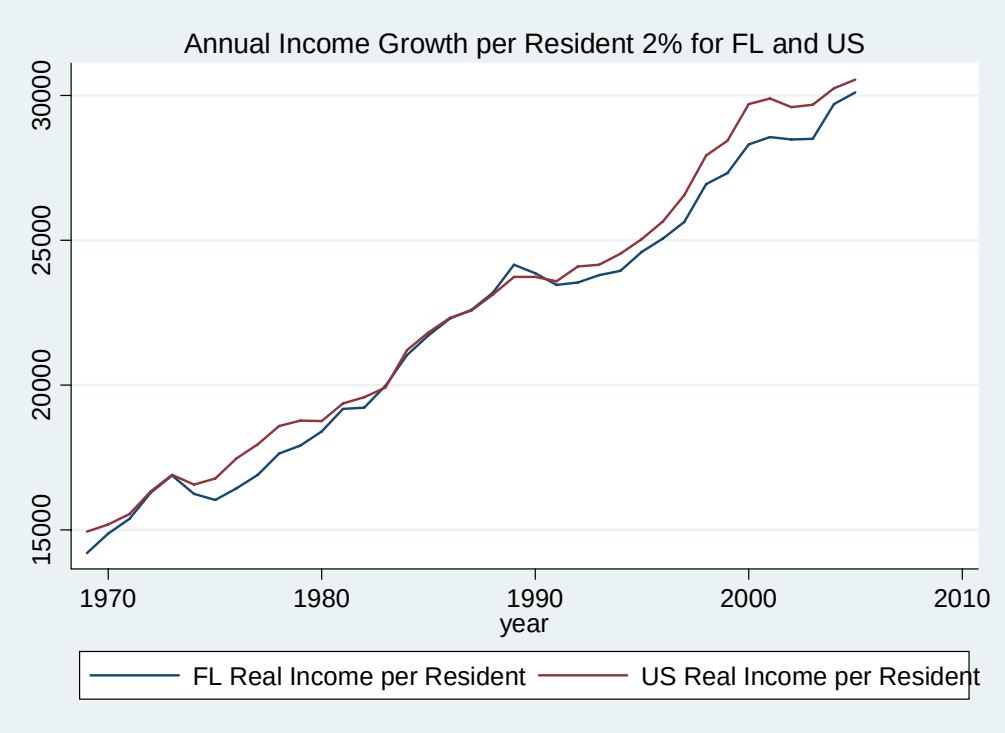


Figure II-9:

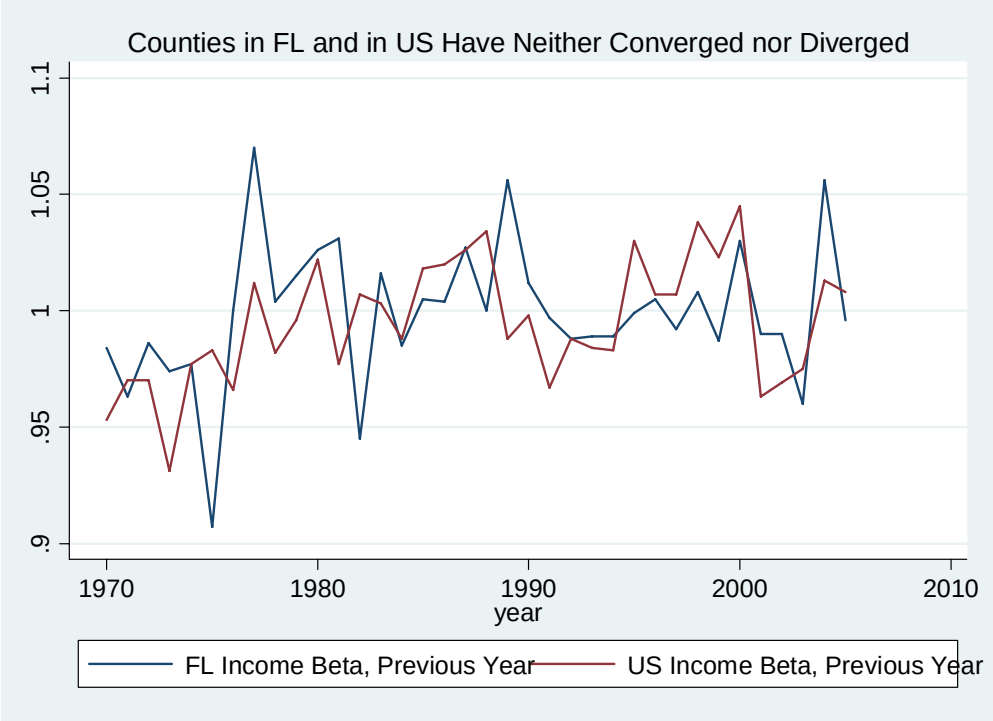


Figure II-10: Florida Shows No Strong Evidence of Beta Convergence (A)

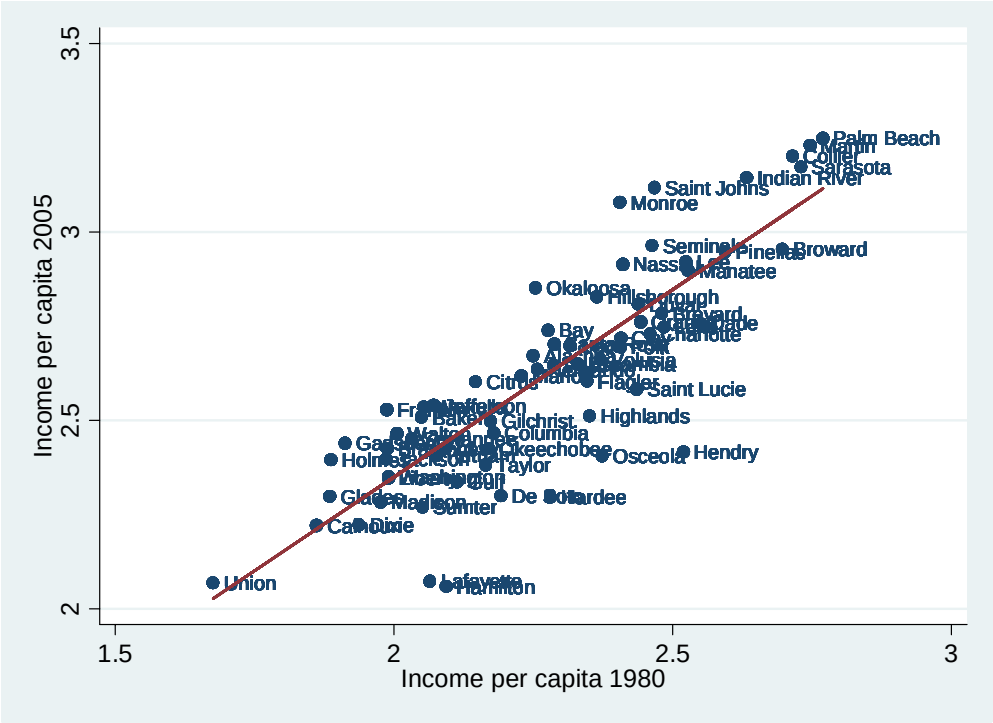


Figure II-11: Florida Shows No Strong Evidence of Beta Convergence (B)

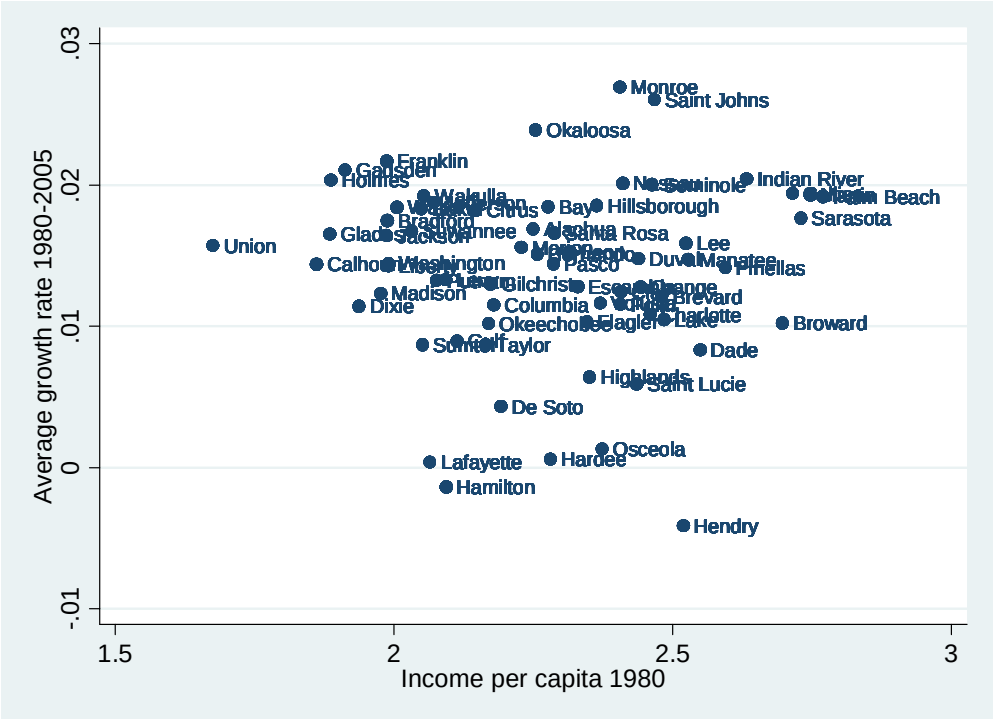
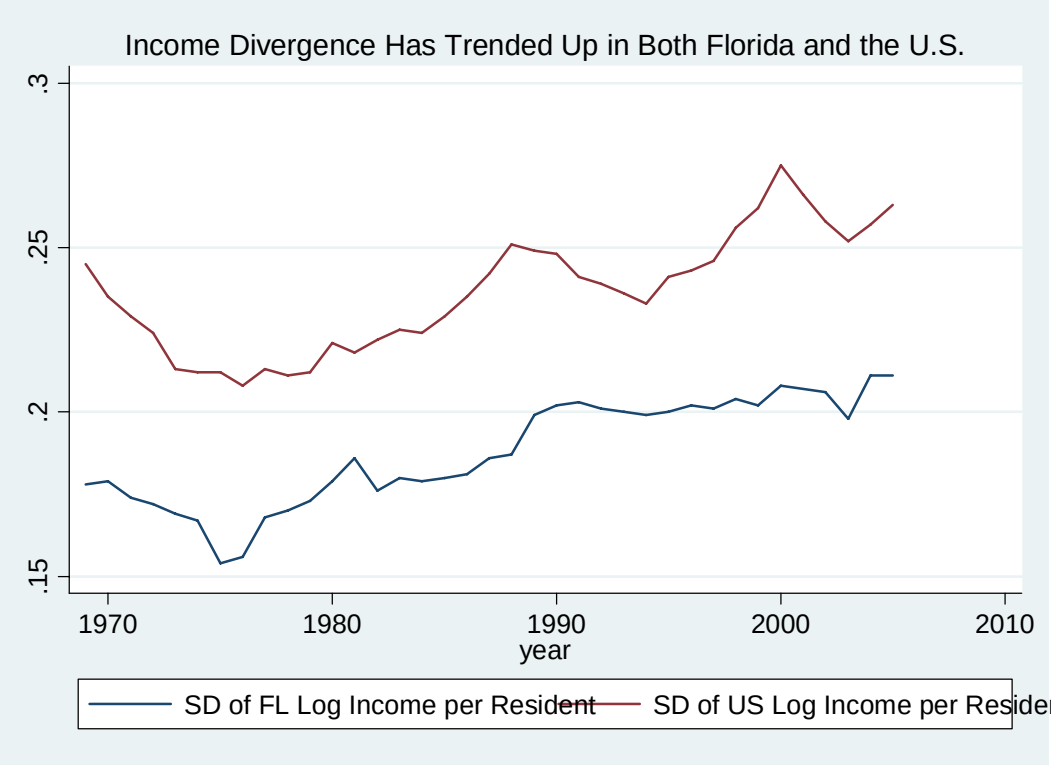


Figure II-12:



If there has not been beta convergence, then there cannot have been sigma convergence. That is, the variation across counties cannot have fallen. In fact, as measured by the population-weighted standard deviation across counties of the logarithm of income per resident it has risen. Not surprisingly, the variation across Florida counties has been lower than the variation across U.S. counties, but the trends have been similar, as shown below. One difference is that the standard deviation has shown little trend in Florida since 1989.

The sigma divergence has been associated with increasing right skew of the cross-county distribution of income. That is, there is a long right tail of very rich counties, both in Florida and in the United States though, as shown below, in very recent years that phenomenon has been somewhat attenuated in Florida. The attenuation in Florida may be because Florida may have relatively few highly paid executives of major corporations, venture capitalists, hedge fund managers, and others who have come to have remarkably high incomes.

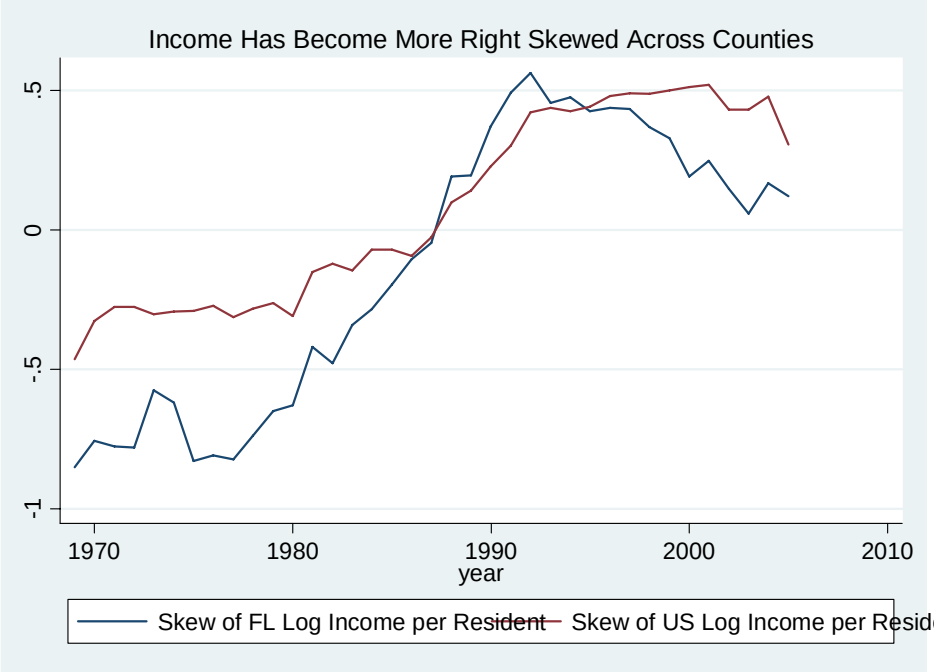
The Florida counties that have experienced the most rapid percentage growth in income per resident since 1989 are five Gulf coast counties—Walton, Okaloosa, Bay, Franklin, and Monroe—all of which saw increases greater than forty percent. At the other extreme, income fell in Hardee, De Soto, Hamilton, Hendry, and Lafayette. There are no immediately obvious patterns that appear to be likely to persist over coming decades. It seems most likely that the changes in particular Florida counties have been events—such as the development of luxury enclaves in the Panhandle—that may or may not continue.

More generally, Florida's counties have simply joined the nation's in reflecting the jump in individual inequality nationally that started in the 1980s.

As a result, the income per capita rate of growth was not evenly distributed among counties across the state. Some show convergence while others continue to diverge. In particular those in the northern part of the state showed the highest growth over the past 25 years. However, rural counties in the interior show no general convergence patterns.

We cannot know whether that trend will continue. For that reason, and because the most recent years show for Florida (1) no beta convergence or divergence, (2) stable sigma divergence, and (3) a return from positive skew toward symmetry, the best approach for us is to project that Florida's income per resident will trend upward at the same rate in every county. Of course the outcome will be different. Just as in the past, some counties will do better than others. But, having no way to predict the winners, we will assume the same growth. That matches recent data in implying (a) neither convergence nor divergence in the beta sense, (b) a continuation of the current level of sigma divergence, and (c) a continuation of the current roughly symmetric distribution across counties.

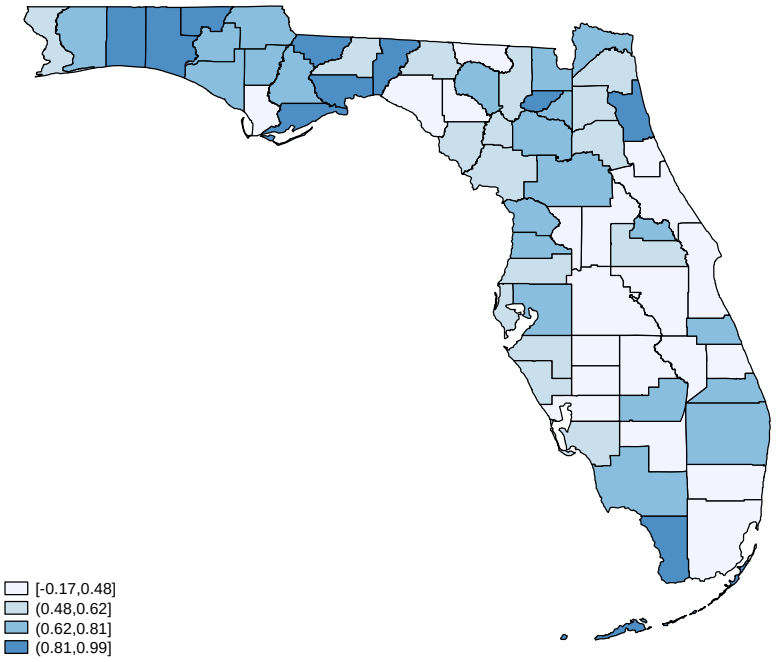
Figure II-13:



From the discussion above, two conclusions can be drawn. First, the same income per capita growth rate should used for all counties; and second, it should be close to the overall United States growth rate. However, it remains to choose an appropriate rate of growth. In the long run, real income growth is driven by improvements in productivity.[5] The intermediate projection of the long run growth rate of labor productivity in the 2007,

[5] In the neoclassical growth model, the equilibrium long term rate of growth of income per capita equals that of labor productivity.

Figure II-14: Average Percentage Growth of Real Income Per Capita, 1980-2005

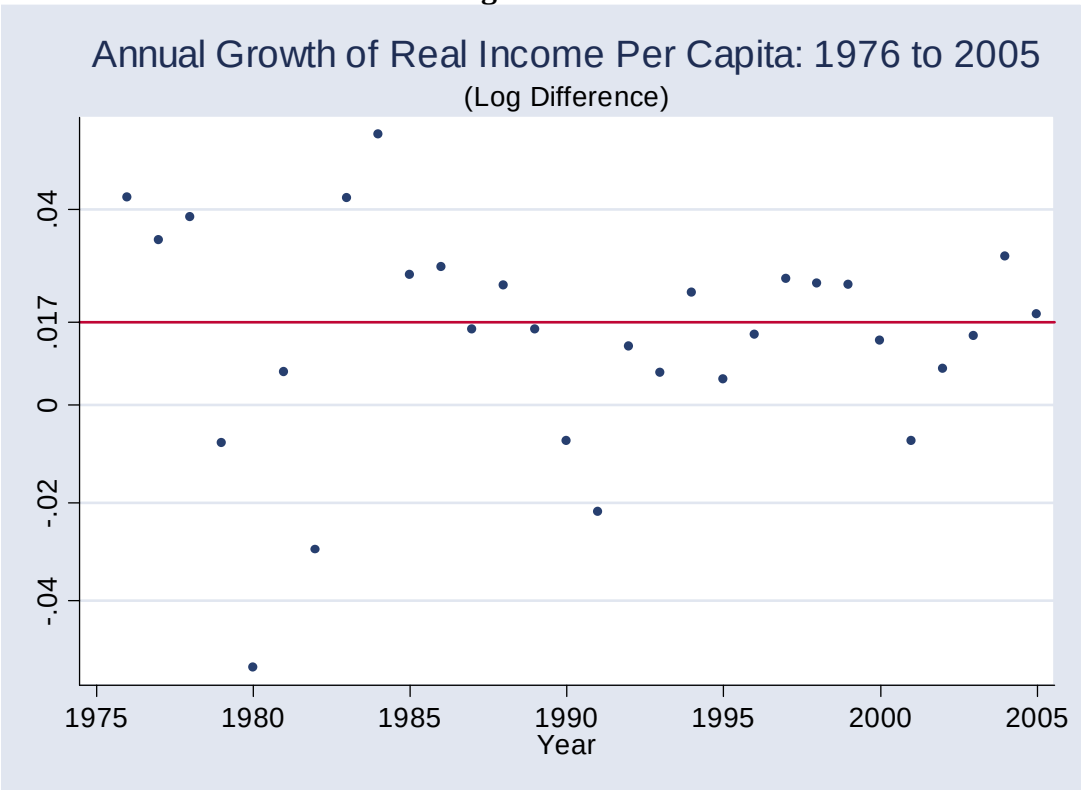


as determined by the Social Security Trustees is 1.7%, which we adopt as our projected rate of real per capita income growth.[6] It is possible to argue both for slightly higher or slightly lower rates, but lacking our own crystal ball, we prefer to go with the Trustees' projection. We do note, however, that since we will project both expenditures and just value using the same rate of income growth, the differences between 1.7% and either 1.4% or 2%, which are the Trustees' high and low projections, are relatively small. Note also that the Trustees' high and low projections correspond to the rapid 1969-2005 growth at 2% and that of the last 25 years at 1.4%.

As one check, we examine national changes in real per capita GDP, rather than changes in state level personal income (though, of course, the two are highly correlated). Figure II-15 plots annual estimates of the rate of growth of U.S. real per capita GDP from 1976 to 2005. However, since the GDP deflator produces lower measures of inflation than the CPI, using the estimates of real GDP growth produced by the U.S. Bureau of Economic Analysis (BEA) is not compatible with using inflation estimates based on the CPI. Therefore, the data plotted in the figure deflates nominal GDP per capita by the CPI. The average annual continuous growth rate from 1995 to 2005 is .0165.

[6] *Annual Report of the Board of Trustees of the Federal Old-Age and Survivors Insurance and Disability Insurance Trust Funds.* Available online at http://www.ssa.gov/OACT/TR/TR07

Figure II-15:

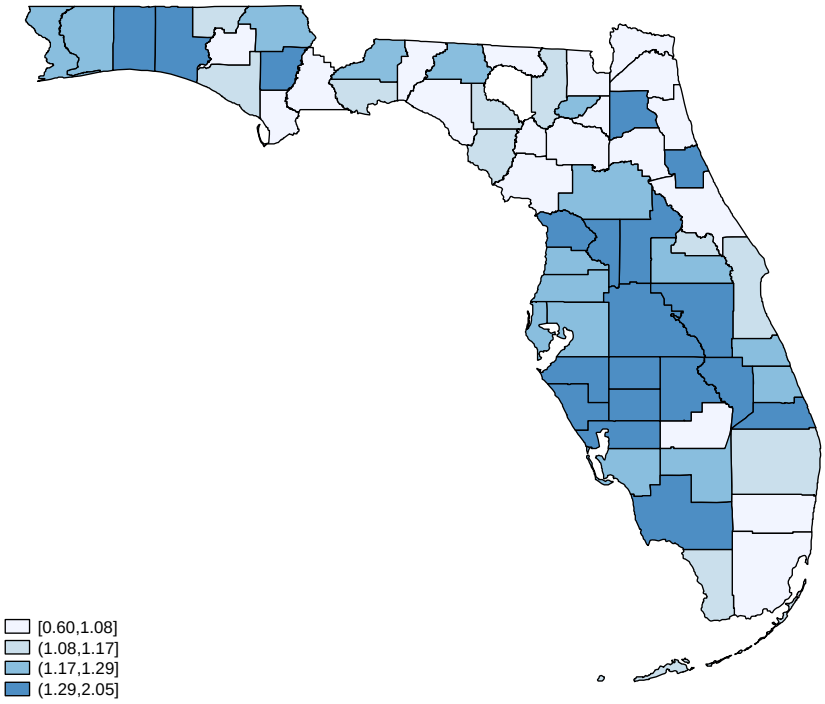


In order to compare our projections with other forecasts, we used the data we purchased from Woods & Poole, who build their income per capita projections using a different methodology and project growth rates across counties. They predict that Florida's real income per capita will grow at an average yearly rate of 1.26% (as opposed to our 1.7% projection) over the next 25 years, which is close to Florida's average for the period 1980-2005. Moreover, in contrast to us, they specify exactly how the growth rate will vary across counties, with a minimum rate in Nassau County (0.6%) and a maximum in Manatee County (2.05%). The next figure shows a map with the Woods & Poole predictions for income per capita growth.

There are some differences among counties' growth rates that are worth mentioning:

1. Woods & Poole's rates of growth for Miami-Dade and Palm Beach counties will be 1.08% and 1.17%, which are below average. For Palm Beach this would be beta-convergence, where counties that start with high income levels have lower growth rates.
2. Woods & Poole projects some counties on the gulf coast will have above average rates. Among these are Manatee (2.05%), De Soto (1.71%) and Sarasota (1.67%).
3. Woods & Poole projects that four counties near Orlando—Lake, Sumter, Osceola, and Polk—will have per capita income growth rates above average: between 1.32% and 1.56%.

Figure II-16: Woods & Poole's Real Income per Capita Growth Projections (%)

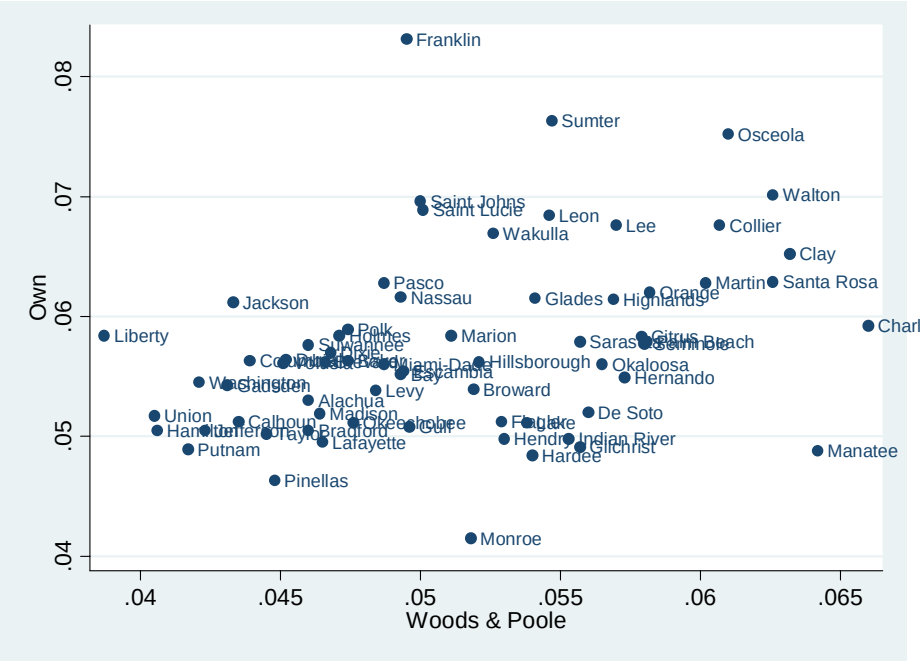


We also compare our overall projected growth rate with that of UCF (2007) that predicts that Florida's real income per capita will grow at 2.3% annually in the next 30 years.[7] Our assumed growth rate of 1.7% is a mid-range projection between Woods & Poole, UCF and the Social Security Trustees.

We perform one more check on our projections of population (BEBR medium projections), inflation (2.5%), and real per capita income growth (1.7%) by combining them into a projection of nominal total personal income (what we really want to model anyway) for each county and comparing the results to Woods & Poole. A simple comparison of our predicted growth rates and those of Woods & Poole shows a strong correlation between the two, where the discussion above explains the differences between the two projection methods.

[7] Florida & Metro Forecast 2007-2036, Institute for Economic Competitiveness, College of Business Administration, University of Central Florida.
http://www.bus.ucf.edu/hitec/Pages/Forecasts/Florida%20&%20Metro%20Forecasts/UCF_FLMetro_Forecast-Web-Final.pdf

Figure II-17: Total Income Projections, BEBR vs. Woods & Poole



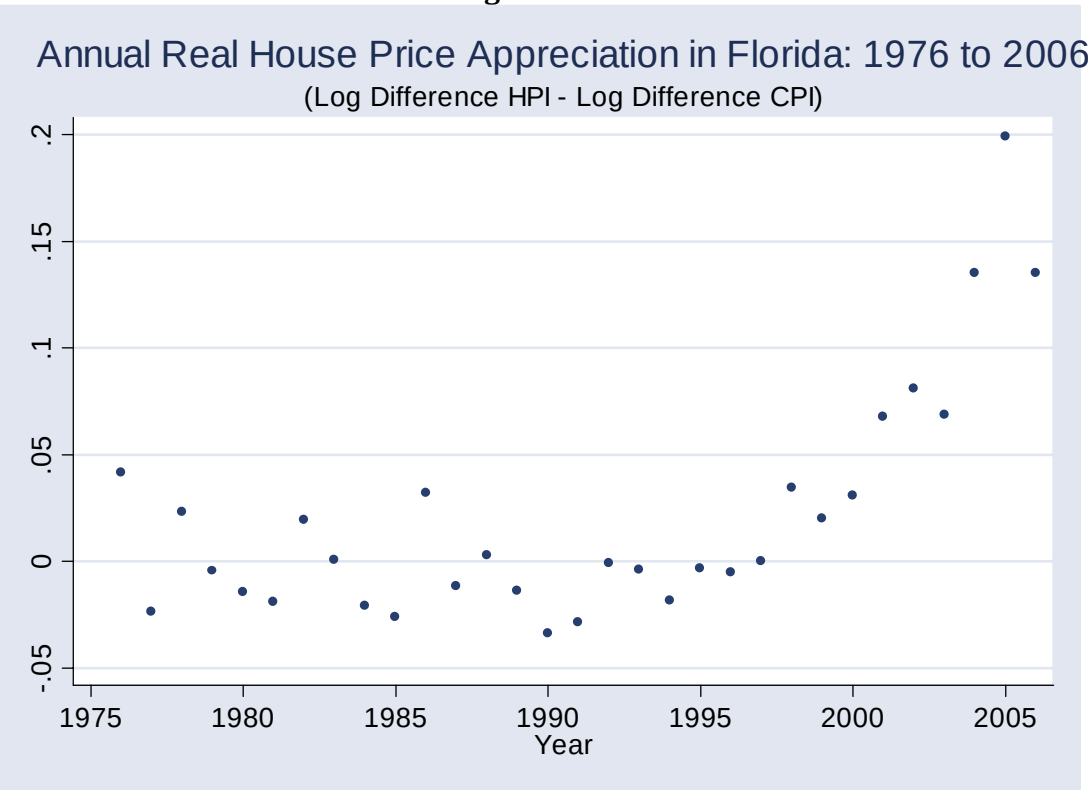
Real House Price Appreciation

Projecting real house price appreciation (RHPA) is much harder. Figure II-18 below plots the difference between the annual log change in the Office of Federal Housing Enterprise Oversight's House Price Index (HPI) for Florida, and the CPI, from 1976 to 2006. As is apparent from the picture, prior to 1998 the average difference between the rate of nominal house price appreciation and the rate of inflation as measured by the CPI was near 0 (-0.5%). Since then, real house price appreciation has averaged 9.2%.

Neither of these seems like a reasonable long run rate of real house price appreciation. On one hand, the increase in liquidity, falling interest rates, rising construction prices, and other factors contributing to the rapid house price appreciation from 2000 to 2006 will certainly not all continue indefinitely. Indeed, since 2006, housing prices have been flat in some areas, and, have fallen in others, and that stagnation in the housing market may continue, especially in some parts of the state.

However, given that Florida has so far seen only the leading edge of the wave of baby boom retirements, and the continued desirability of Florida's weather and coast, we do expect some upward pressure on housing prices to persist in the intermediate and long term. From 1995 to 2000, just before housing prices began to soar, real house price appreciation averaged 1.6%. The average rate of real house price appreciation assumed by the team of researchers working on this project at FSU for their "medium" projections is 1.4%. Our baseline projection is based on 1.5% real house price appreciation. Since there is a real chance of a few years of flat or declining house prices, we also produce a projection assuming no real house price appreciation.

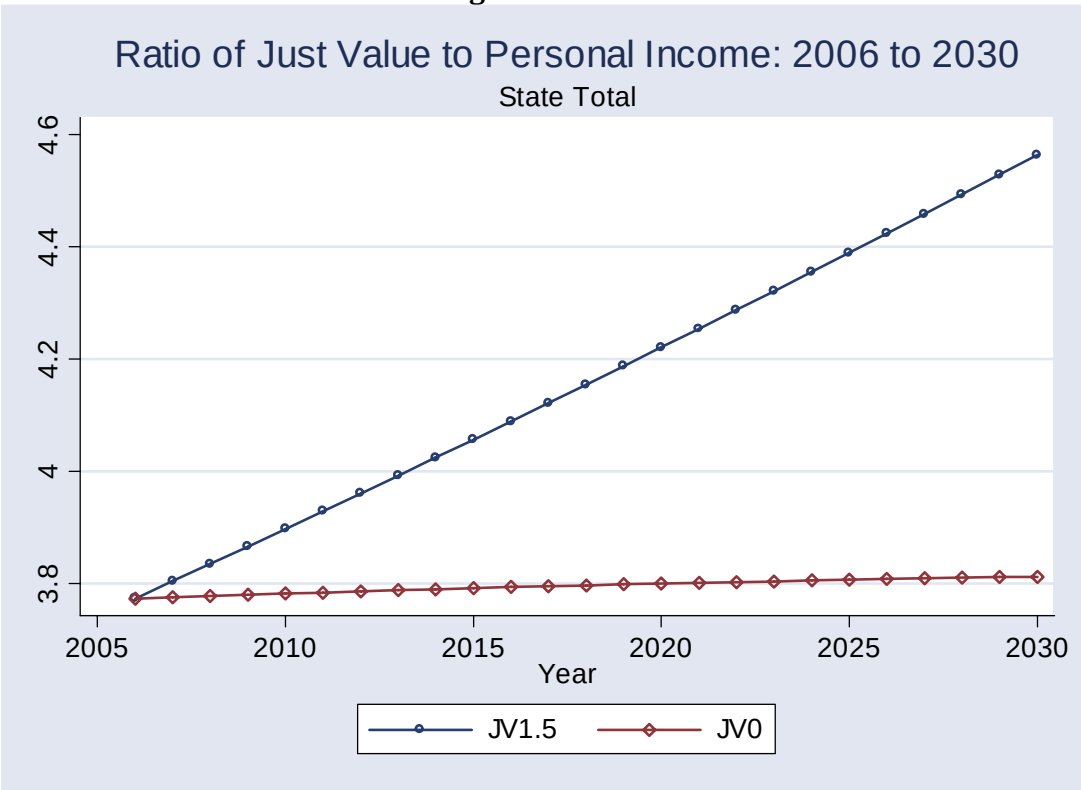
Figure II-18:



Just Value Projections

Since our projections of expenditures will be driven by income growth, the most useful normalization the property tax base is income. In Figure II-19, JV1.5 and JV0 depict the ratio of state total just value to income at 1.5% and 0% real house price appreciation, respectively. Since we have assumed in the model that property value grows at the rate of nominal income growth (real income growth plus inflation), increases in the ratio of just value to income are driven by real house price appreciation. Thus, within counties, the ratio is flat if real house price appreciation is 0. In aggregate, the ratio increases very slightly due to projected increases in population shares in counties with higher ratios of taxable value to income. This, effect, however, is small, and could be overturned with moderately different population projections or with house price appreciation that differs slightly across counties. Table II-7 at the end of this section reports projections of just value for real house price appreciation (RHPA) rates of both 1.5% and 0% for every county. It also presents projections of taxable value, and, the ratio of taxable value to income, for every county and both appreciation rates for the current system (SOH), under within county portability, the tiered system proposed by the legislature under which homeowners may keep their current SOH protection (Tiered). Finally, to give some insight into the impact of allowing homeowners to remain under SOH or elect to change to the tiered system, it presents projections for the tiered system without the option to retain SOH for 1.5% real house price appreciation. We defer any discussion of county by county results until after we have explained the approach underlying the various taxable value projections and discussed the broad impact of each alternative on the tax base more generally.

Figure II-19:



II.6 Projecting Taxable Value: Current System

Projecting taxable value is considerably more difficult than projecting just value, due to the relative complexity of exemptions. Under the current property tax regime, homestead properties are eligible for a base $25,000 exemption. Some homes are eligible for a variety of other, smaller, exemptions as well. Since these are constant per household, they are easy to project. The protection offered by the SOH limits on assessed values, however, complicates maters considerably. The assessed value of individual homestead properties can rise no faster than the minimum of 3% or the percentage increase in the CPI, until they are sold, at which time assessed value reverts to just value. New construction, whether in the form of a new home or improvements to an old one, is assessed at its just value as well. We model this by making two additional assumptions that greatly simplify the modeling: 1) the probability that a home turns over, p, is constant across homes and years within a county, and, 2) the share of homestead properties in just value, h, is constant within a county across years. We discuss the likely impact of these assumptions, and the assumptions that all homes appreciate at a constant rate and that the inflation rate is constant after presenting the mechanics of our approach and describing the broad patterns of the results.

Taking N to be the number of homestead properties, letting $\hat{E}$ represent the average total homestead exemption within a county, AV^H represent the assessed value of homestead property, and TV^H represent the taxable value of homestead property, these assumptions give the following expression for taxable value:

(9) $$TV_t^H = (1-p)AV_{t-1}^H e^{\pi} + phV_{t-1}e^{\pi+a} + h(V_t - V_{t-1}e^{\pi+a}) - N\hat{E}\,.$$

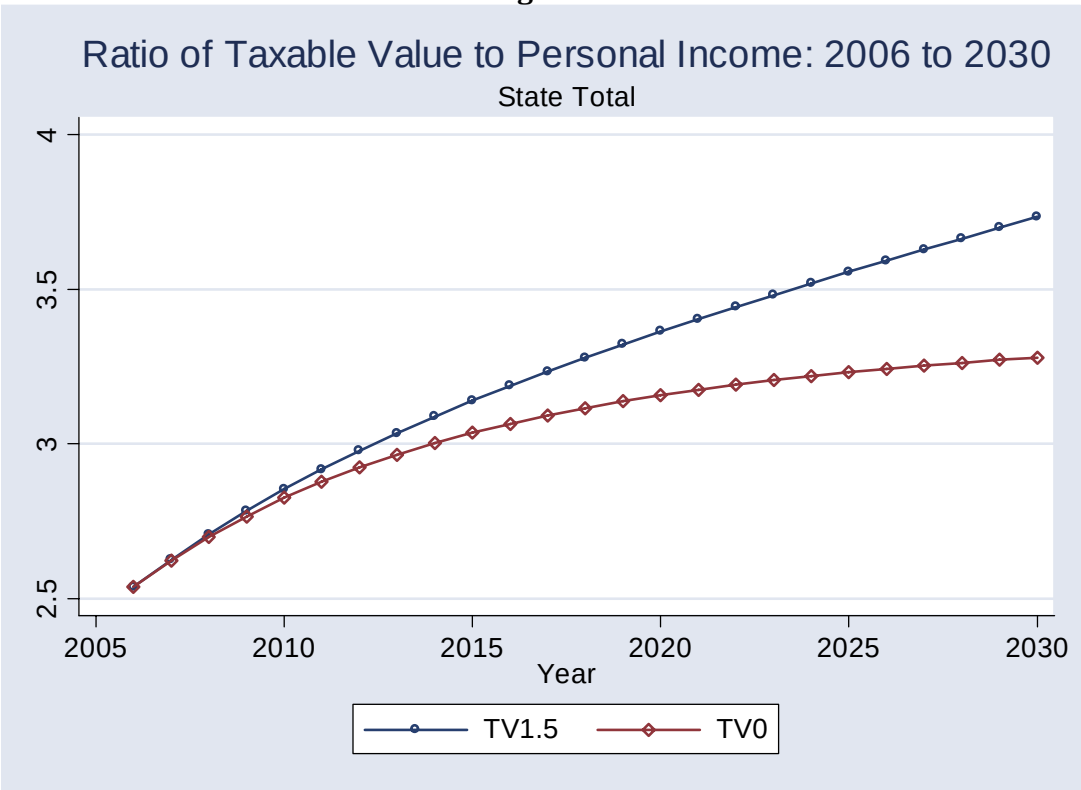
The first term represents the assessed value of homes that did not turn over between time $t-1$ any time *t*, which can appreciate only at the rate of inflation. The second term represents the assessed value of homes that changed hands between time $t-1$ any time *t*. The third term is the value of new homestead construction, including additions to old homes. The final term gives the total value of homestead exemptions. Total taxable value, *TV*, is then projected by assuming that the ratio of non-homestead taxable value to non-homestead just value, *z*, is constant within counties across years:

(10) $$TV_t = TV_t^H + z(1-h)V_t\,.$$

In Figure II-20, TV1.5 and TV0 depict the ratio of state total taxable value to income at 1.5% and 0% real house price appreciation, respectively. The important thing to take away from Figure II-19 is that even with zero real house price appreciation, the ratio of taxable value to income will rise. This holds for every county individually, as well as the state aggregate. This is because old property grows in taxable value at least at the rate of inflation, as long as that is less than 3%, and enough new property joins the tax base to keep up with income growth even if there is no real house price appreciation. If there is any real house price appreciation at all, these additions will more than match income growth. At the same time, some of the current large SOH exemptions created by the recent surge in property values will be reset to 0, further increasing taxable value.

If real house price appreciation were zero, over time taxable value would converge to the just value of homestead properties, less the fixed homestead exemption that becomes smaller relative to value over time, plus the taxable value of non homestead properties. If house price appreciation becomes larger, the reduction in the size of current SOH exemptions due to turnover would be smaller, and, new and growing SOH exemptions would be added. But, this would only serve to increase the tax base, relative to income. The only thing that could cause the tax base to grow more slowly than income, within the current system, would be sustained inflation above 3%, in which case the SOH limits would prevent capped homes from rising fast enough to keep up with inflation. If inflation were high enough, this could swamp the increase due to new property and turnover of existing property. However, that would only occur with inflation rates in excess of 20%. Given nearly 30 years of successful monetary policy whose hallmark has been keeping inflation in check, this is unlikely to occur.

Figure II-20:



Certainly there are drawbacks to the current version of SOH. It creates inefficiency in the housing market due to lock in. It results in inequities between individuals who are identical aside from the amount of time they have occupied their dwellings. By taking a fairly large portion of just value off of the tax roll, it increases the tax burden on businesses, while a basic tenet of public finance is that taxing intermediate goods, such as the structures used by businesses, harms the economy. These issues are discussed elsewhere as the more detailed simulations conducted by the FSU team are better suited to address distributional questions, and other portions of our report discuss the property tax in view of standard principles of taxation. The focus of this portion of our report is simply to generate tax base projections that will allow us to study the impacts of reform on local government budgets. It seems certain to allow the tax base to grow fast enough to meet growing demand for government services at a constant millage rate. While this point is fairly obvious, it will serve as a benchmark against which alternatives to the status quo may be compared.

Before moving on to projections of taxable value under alternatives to SOH, we consider the impact of four major simplifying assumptions we have made to this point. First, we assume that inflation is constant at a continuous rate of 2.5%, rather than assuming it is higher in some years and lower in others. Since increases in assessments are capped at the minimum of 3% and the rate of inflation under SOH, with 0% real house price appreciation (RHPA), we may overestimate taxable value by ignoring the asymmetric effect of possible deviations to inflation to above 3%. But, we do not think inflation will exceed 3% very often, or that it will exceed it by much when it does. So, this should not

have a large impact. With RHPA of at least 1% and inflation rates of 2% or above, capped value will accumulate every year a property does not sell. Since we do not imagine inflation will be below 2% very often as measured by the CPI, a home that does not turn over would experience a few years of more accumulation with inflation above 2.5%, and a few years with less accumulation. But, they will offset, and, when the home is sold, its value will be as if inflation had been constant at 2.5% anyway. So, we do not think this assumption has much impact on aggregate taxable values.

Second, we assume that RHPA is constant across years and across homes within. On its own, this assumption also has little impact. If we assume mean real house price appreciation is very low to simulate a stagnant housing market, capped value will not accumulate anyway. If it higher, as long as only a relatively few low value properties that are a small part of the tax base appreciate at less than 1%, and inflation is at least 2%, capped value accumulates on all unsold houses anyway. High years cancel low years, and, when a sale resets assessed value to just value, the total gain in capped value will depend on the average rate of appreciation over the period.

The assumption that the turnover rate is exogenous, however, does have implications. First, since it will be the properties with the largest capped value that are less likely to turn over at the margin, we overestimate taxable value under SOH. Second, this assumption interacts with our assumption that RHPA is equal to the mean rate for all houses. In fact, some houses will get draws of RHPA that are above average for many years. These will have the largest capped value, and, will be the least likely to turn over. So, by treating turnover as exogenous, we overestimate taxable value under SOH. However, this overestimate is far smaller than the underestimate that would occur ignoring the role of increasing real income per capita. Further, we reiterate that, as long as nominal values can increase at the rate of inflation and new construction mirrors the rate of income growth, taxable value will keep up with the demand for public services, regardless of the accumulation of capped value.

II.7 Projecting Taxable Value: Within-County Portability

The basic idea behind portability proposals is to allow individual homeowners to carry their current SOH exemption with them when they change homes. The efficiency gain from portability lies in reducing the lock in effect. However, such proposals would exacerbate the other problems with the SOH exemption. Inequities in the distribution of taxes would become larger and more of the tax burden would shift onto business, since many fewer moves would result in resetting assessed value to just value. Additionally, portability would reduce the tax base more in some counties than in others.

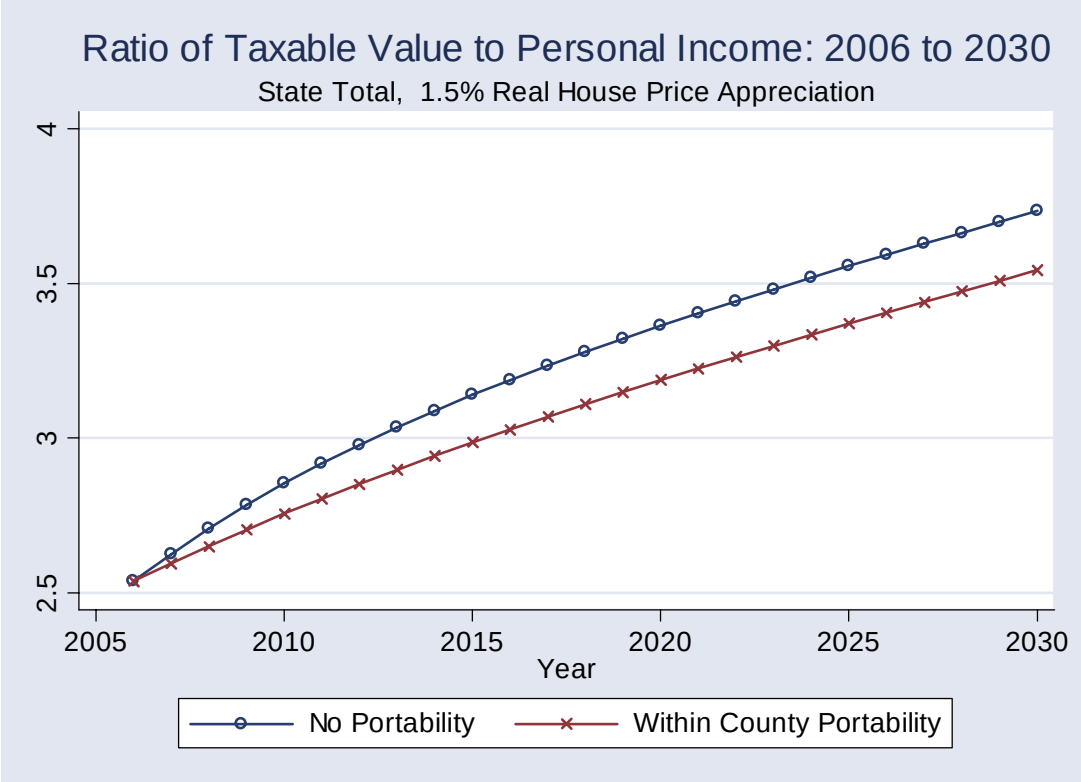
However, within county portability will not reduce the rate of growth of the tax base in any county below the rate of growth in the demand for government services, for exactly the reasons discussed above. As long as new construction matches real income growth, and as long as the entire tax base can increase in value at the rate of inflation, property values will keep up with income growth. However, since considerably less of the capped portion of the assessed value would reset to just value every year, it would take a slightly

lower, but still unrealistically high, level of sustained inflation to overturn this. We estimate annual inflation rates above 12% would have this effect.

To model within county portability, we need to know which homestead property owners move out of county and which move within county. While county to county migration data for the entire population is readily available, reliable data for all moves by homestead property owners is not. To get a rough idea, we simply multiply the average within county turnover rate by the state average fraction of moves that cross a county border and use the resulting estimated turnover rate with the methodology described in the previous section.[8]

This ignores the fact that under portability, the amount of the exemption that would be portable might be limited when moving to lower valued homes. This factor, however, we expect to be relatively minor. Figure II-21 shows our projection of taxable value with within county portability. While the ratio of taxable value to income is lower with portability, it still rises strongly over time. We also note that the assumption that turnover is exogenous is somewhat less important here, since much of capped value is no longer reset with a move.

Figure II-21:



[8] Our thanks to David Macpherson of the FSU team for providing us with the state average proportion of moves that are out of county, which he estimated from the U.S. Current Population Survey.

II.8 Projecting Taxable Value: Tiered Exemption

The system actually proposed by the legislature would create a tiered exemption system in which 75% of the first $200,000 of a home's value is exempt from taxation (with a minimum exemption of $50,000). For more valuable homes, 15% of additional value between $200,000 and an upper limit that starts at $500,000 and increases with per capita income is also exempt. Homeowners must elect to switch to the new system, otherwise they remain under SOH. Once they switch, they may not switch back. The new proposal also will exempt up to $25,000 of personal property subject to property taxation.

An immediate problem is that we must now model the whole distribution of homes, since we need to know how much taxable value is in each bracket. Another is that we must project who will switch and who will stay with SOH. These problems are related, because we need to know the tax bracket to know whether or not a home is likely to elect the new system. We address these in turn. Projecting the distribution is complicated by the fact that we have not specified the way in which increased incomes translate to increased just values. In practice, much of the effect will come in the form of new construction being larger, more modern, and more luxurious, on average, than older construction. Some, however, will also be realized in the form of improvements to and renovations of older structures. For projecting aggregate just values, this breakdown does not matter; we simply increase the aggregate value at the appropriate growth rate. However, it does have some implications for the distribution of just values, and, therefore, for the portion of the tax base in each bracket. But, directly modeling the breakdown of new investment between new construction and improvements to existing structures is difficult for several reasons.

Consider data from the 2003 and 2006 tax rolls on the number of improved detached single family residences by effective year of the primary structure shown in Table II-1.[9] First, note that the 2006 roll shows 2,938 parcels for 2006, but 165,089 for 2005. Of course, more than 2,938 single family residences were built in 2006, but few of them show up until the next year's tax roll, given the timing of data submission. Therefore, it makes sense to focus on effective years prior to 2006 for the 2006 tax roll, and prior to 2003 for the 2003 tax roll. Second, and more importantly, note that the number of single family residences with effective years between 1990 and 2002 are all higher in the 2006 tax roll than the 2003 tax roll. The numbers with effective years of 1980 and 1985 also increase substantially, as do numbers with effective years of 1970 and 1975, although they are not shown in the table.

Presumably contractors do not travel back in time to build additional units. Rather, homes that are mostly completed in, say, 2002, may not be fully completed and enter the tax roll until, say, 2003. Further, homes that are remodeled or renovated over time are hard to assign to any particular effective year. For example, consider a home built in 1978, with a major addition built in 1984, remodeled in 1987, and then extensively remodeled in 1991. It is obvious that the effective year of the structure is not really 1978, but, what is it? At any rate, all that can be recovered from the 2006 tax roll is the local property assessor's

[9] Calculated from DR-590 (12D.8) N.A.L. files from the Florida Department of Revenue.

Table II-1: Number of Improved Single Family Residences by Effective Year for the 2003 and 2006 Roll Years

	Roll Year		
Effective Year	2003	2006	Change
1980	102,392	105,836	3,444
1981	77,583	76,982	-601
1982	56,559	56,488	-71
1983	77,970	77,670	-300
1984	93,925	93,448	-477
1985	97,953	101,381	3,428
1986	93,970	93,838	-132
1987	98,203	97,782	-421
1988	99,668	99,793	125
1989	101,663	101,549	-114
1990	93,697	96,431	2,734
1991	72,272	72,375	103
1992	73,274	73,613	339
1993	85,337	85,338	1
1994	86,743	87,047	304
1995	83,515	85,530	2,015
1996	83,784	84,042	258
1997	87,942	88,151	209
1998	88,250	88,707	457
1999	94,583	95,228	645
2000	90,695	99,812	9,117
2001	93,172	101,742	8,570
2002	102,440	111,478	9,038
2003	658	127,131	
2004		141,152	
2005		165,089	
2006		2,938	

classification of the "effective year" of the structure. Presumably, that would be something between 1978 and 1991.

As one additional bit of evidence of the difficulty of modeling this directly, consider that the state's estimate of the just value of new construction was $62.4 billion, and the just value of all other property was $2,381 billion.[10] Thus, the state estimated new construction was 2.62% of the current just value of existing construction. Performing the same calculation for 2005 gives a ratio of 2.47%. Yet, examining the detailed property by property data, property with an effective date of 2005 was 2.93% of all property with earlier (or missing) effective dates in the 2006 tax roll. Further, examining the detailed

[10] *2006 Florida Property Valuations & Tax Data*, Florida Department of Revenue, FDOR, June 2007.

data for the 2005 tax roll, property with an effective date of 2004 was 2.91% of all property with earlier (or missing) effective dates.

So, recent tax roll data do not readily allow a precise identification of new construction by year, broken down by how much was improvements to existing structures and how much went into new structures. Lacking such data, we have not been able to come up with and fit a convincing model of the evolution of the property stock over time incorporating new structures, improvements to existing structures, and elimination of older structures.

Instead, we assume that the distribution of just values simply increases proportionally to the increase in mean just value assumed in our earlier projections. (That is, the log value of each value in the distribution shifts right by the sum of the rate of nominal income growth and the rate of real house price appreciation). We implement this by taking all homestead properties in the 2006 tax roll and multiplying their just values by $e^{(\pi+y+a)*(t-2006)}$. This gives us the proportion of homestead properties and the proportion of just value of homestead properties in each bracket. From this, and our previous projections of the number of homestead properties and total just value, it is possible to calculate what the taxable value of real property would be if there were no option to stay with SOH. To get actual taxable value, we must subtract the value in each bracket still under SOH, and then add the taxable value of those properties under SOH.

In a standard fully rational model, homeowners would switch to the new system when the expected utility of the stream of income less taxes from the tiered system is higher than the expected utility of the stream of income less taxes under SOH. If initially taxable value is lower with SOH and home prices are sure to rise over a known tenure, the homeowner would clearly stay with SOH. If initially taxable value is lower with the tiered system and home prices are expected to remain flat or decline over a known tenure, the homeowner would clearly switch. In the other two cases though, the answer depends on the discount rate, the degree of risk aversion, and the subjective probability distribution over house appreciation. The thought process becomes even more convoluted once we recognize that expectations must also be taken over tenure.

One way to find out who will switch to the tiered exemptions is to ask them, as BEBR did in a July 2007 survey of 500 Floridians. The survey asked homesteaders how long they had been in their current homes, how long they expected to remain in that house, what they thought it would sell for today, and what they thought it would sell for in five years. Based on the reported current value of the house, surveyors told the respondents what the value of their tiered exemption would be and asked whether, if the amendment passed, they would stay with the save our homes exemption or switch to the tiered exemption. Respondents were advised that switching was irrevocable. They could not regret switching and return to the SOH.

II.9 Who Switches to the Tiered Exemption?

Whether a homeowner should switch is, as noted earlier, a complicated question, depending on the homestead's current SOH, its just value, how the owners expects that value to change, how long the owner expects to stay put, and even on how the owner expects property tax rates to change during that time. Despite this complexity, on average owners are more likely to gain from switching if they have been in the current residence only briefly, if the just value is relatively low, if the just value is not expected to rise strongly, and if the owner does not expect to stay put for long.

The survey results accord with these expectations. Using these values as rough indicators of whether respondents would gain by switching, those who would gain were more likely to respond they either definitely or probably would switch to the tiered exemptions. The average tenure or time in the current house for those who said they definitely would switch, for example, was only three years, compared to 13 years for those who said they definitely would not switch. The tables below show other results.

The first table classifies homesteaders into rows according to whether they have been in their current house for less than five years, five to nine years, or at least ten years. The cells show the numbers and average estimated house values for those who, asked whether they would switch to the tiered exemptions, said yes, probably, probably not, and no. We expect those with less than five years tenure to be more likely to switch, and that turns out to be true. The first cell row, for example, shows that of the 90 respondents with less than five years of tenure, 27 said they would switch and 29 said they would probably switch, placing 62% in those two categories. Of the 196 with five or more years of tenure, only three said they would switch and only 42 that they would probably switch, placing 23% in the two categories.

We also expected that house values would be higher for those not planning to switch, and that is also true, though less strikingly. For those with less than five years of tenure, the average value is $436,000 for those say they would not or probably would not switch, versus 343,000 for the likely switchers. For those with at least five years of tenure, the corresponding averages are $489,000 and $291,000.

Table II-2: Tenure and Intention to Switch to Tiered Exemptions, Average House Values and Numbers of Respondents

Years in Present Home	Switch to Tiered Exemptions			
	Yes	Probably	Probably Not	No
<5	354,630 27	332,034 29	481,875 24	327,500 10
5 to 10	300,000 2	269,529 17	689,834 38	430,524 21
10 or More	650,000 1	290,320 25	236,294 51	646,585 41

On the face of it, one respondent would appear to be irrational. Having lived 15 years in a house that is now worth $650,000, this 42-year-old woman with a college degree must enjoy a SOH tax-savings substantially larger than the $195,000 tiered exemption she would receive after switching. Moreover, she expects the value of her house to rise to $800,000 in 2012. But it turns out she is not irrational after all, as the table below shows.[11]

The cells in Table II-3 below, instead of average house values, show average "discounted expected future tenure," a somewhat complicated variable that shows how long the resident expects to stay put except that future years are (a) discounted at 4% and (b) truncated at forty. The implications are that the 20th year of future tenure matters about half as much as the fifth and that respondents who indicate they plan to stay put for a hundred years are unduly optimistic about future medical technology.

Returning to the woman with the $650,000 house, the 0.0 in the lower-left cell of Table II-3 shows that she is planning to move within a year, making it quite reasonable for her to switch to the tiered exemptions. Overall, however, average expected future tenure (normal, not discounted, but capped at 40 years) does not vary strongly between switchers (12.5 years) and non-switchers (15.2 years). At least the difference is in the right direction and statistically significant.

Table II-4 table is very similar to II-2, with the cells showing expected house values in five years, instead of current house values. It is essentially a confirmation of the first table. Finally, in Table II-5 the cells indicate how much the respondents expect their house values to rise over the coming five years. The strongest expected appreciation is by those with ten or more years of tenure who say they probably will not switch. The 1.39 for the 32 respondents in that cell indicates that on average they expect their houses to go up in value by 39% over the coming five years, compared to 25% for the full sample.

Table II-3. Tenure and Intention to Switch to Tiered Exemptions, Discounted Future Tenure and Numbers of Respondents

Years in Present Home	Switch to Tiered Exemptions			
	Yes	Probably	Probably Not	No
<5	5.2 24	4.8 27	6.5 24	6.4 9
5 to 10	4.1 2	6.0 17	5.8 34	6.3 18
10 or More	0.0 1	6.3 20	7.0 41	6.3 30

A logit regression (not reported) in which the dependent variable is the intention to switch (both yes and probably take the value one) shows that planning to switch varies

[11] The number of respondents in the cells of Tables II-2 through II-5 varies considerably due to variation in which questions to which individuals did and did not provide a valid response.)

negatively with how long the homesteader has been in the current house, how long the homesteader plans to remain in the current house, and the value of the house. The first two variables are significant at the 2% level and the third at the 6% level. Thus, it does seem that, at least at the margin, individuals tend toward reasonably rational thinking about whether or not to switch.

Table II-4. Tenure and Intention to Switch to Tiered Exemptions, Average Expected House Values and Respondents

Years in Present Home	Switch to Tiered Exemptions			
	Yes	Probably	Probably Not	No
<5	315,205 29	331,332 30	565,961 26	354,999 11
5 to 10	233,331 3	218,247 20	821,054 38	482,427 21
10 or More	800,000 1	250,923 27	172,139 56	588,614 47

Table II-5. Tenure and Intention to Switch to Tiered Exemptions, Average Expected Appreciation and Respondents

Years in Present Home	Switch to Tiered Exemptions			
	Yes	Probably	Probably Not	No
<5	1.22 21	1.24 26	1.26 23	1.26 10
5 to 10	1.00 1	1.20 12	1.22 33	1.29 17
10 or More	1.23 1	1.25 18	1.39 32	1.17 27

However, far fewer respondents indicated a likely switch than a rational model would predict. For the clearest evidence of this, we focus on those who own houses with a value of $200,000 or below. Since taxable value for these homeowners under the new system is only $50,000, they almost certainly should switch. Yet, 53 of the 75 respondents in this category, 71%, say they probably will not switch. Generally, there appear to be far fewer reports of probable switching than a rational model would suggest. Thus, while homeowners appear to react in the predicted manner to the things that would make a rational homeowner more likely to switch, far fewer of them report likely switching at this point that is consistent with a standard "rational" model. The reasons for this are unclear. Did the respondents mistrust the new plan? Were they afraid of the irrevocable nature of the switch? Do they just need more time to think about it? Is this just an example of the tendency to stick with the default when in doubt? At this point, there is little way to tell.

Of course, the survey was far ahead of when people would actually decide, the questions were posed by phone, and some of our indicators are rough. The fact that the relevant factors seem to have the predicted effect suggests that eventually, "rational" decisions will be made. But, there may be considerable extra caution at the beginning. Whether this will be expressed only in skepticism about the benefits of the new plan, or will lower initial switching rates remains to be seen. Thus, the "right" model may well be one of gradual rationality.

Rather than trying to implement such a model, or even a standard "rational man" model, both of which are very complicated to implement in this environment, we assume anyone who is better off in any given year with the new system switches in that year. This will not match the standard expected utility model in some cases where the current period difference is not very large. But, there are two important things to note about these cases. First of all, they are exactly the ones where the costs of making a fully informed decision are least justified, so, we might expect rational utility maximizers who face information gathering costs to guess rather than bear the cost of making a fully informed decision. Second, and for the same reasons, they are the cases where the impact on aggregate revenue is smallest. So, we do not expect to lose too much accuracy in the aggregate projection of taxable value from this simplification.

Under this rule, every new home will elect the tiered exemption. To implement this rule for existing homes, we assume that they appreciate at the rate of inflation plus the rate of real house price appreciation (RHPA). That is, we assume that no property still under SOH is improved significantly. (It is worth noting that, since improvements would be assessed at just value, improving an existing home would make its owner more likely to switch to the tiered system anyway.) Under these assumptions, we calculate taxable value under the proposed tiered system assuming both 1.5% and 0% RHPA. For comparison purposes, we also calculate taxable value for a hypothetical tiered system in which it would not be possible to retain SOH, that is, in which the tiered system is simply forced. In each case, to project the effect of the additional exemption of personal property, we borrow the FSU team's estimate of what the initial exemption would be, let it increase yearly at the rate of population growth, and subtract the result from our earlier estimates of the taxable value of non-homestead property.

Effects of the Tiered System

Figures II-22 and II-23 show the effect of the tiered system, with and without the ability to elect to stay with SOH, on the statewide ratio of taxable value to income with RHPA of 1.5%. If first implemented for the 2007 tax roll (for taxes due 2008), the tiered system would cause a decline in the ratio of taxable value to income that would not be overcome by growth until 2012. Thus, if the tiered system is implemented, property tax revenues on average will not be high enough to allow government services to keep up with demand until 2012 unless millage rates are increased.

This is not being caused by the new exemptions alone. Without the option to retain SOH, there is only a small decline in the ratio of taxable value to income in 2007, which is overcome in 2009 by growth. It is the combination of granting the new exemptions while

retaining the most extreme (and skewed) SOH exemptions that causes the decline in the tax base relative to income.

As illustrated in Figure II-23, the tax base would take a much larger hit relative to demand for public services if RHPA is 0%. Not only is the initial drop larger, but, it will not be overcome by growth until 2015. If the housing market remains stagnant for a few years, the potential for the tiered system to force sizeable cuts in services, increased millage rates, or increases in other tax rates, seems substantial.

Figure II-24 shows the same thing, but, in a different way. It shows the percentage change in the tax base relative to what it would have to be in order to keep the ratio of taxable value to income constant for all three projections. That is, it plots $\frac{TV_t / Y_t}{TV_{2006} / Y_{2006}} - 1$ for the tiered system with 1.5% RHPA, 0% RHPA, and, 1.5% RHPA but no SOH option. With 1.5% RHPA, the initial statewide average shortfall is 8%. With 0% RHPA, it is 8.6%. Without the option to retain SOH, the initial shortfall is only 2.8%.
Of course, the impact of the tiered system is not uniform across counties. As shown in Table II-6 below, the initial shortfall, relative to the level that would keep pace with income growth, and, the number of years it will take to close the gap (starting from 2007) for all three projected scenarios. Numbers in parentheses are ranks. The hardest hit county, Union, would take an initial hit of 25.7% with RHPA equal to 1.5%, and, 26.3% with RHPA equal to 0%, relative to the level needed to keep up with income growth, and, would take 13 and 25 years to catch up, respectively. By contrast, with 1.5% RHPA, Franklin and Monroe take hits of less than 1% and catch up in one year.

It is not at all surprising that the tax bases of many small counties are among the hardest hit. Even more interesting is the number of medium to large counties that are hit hard. Focusing on RHPA=1.5%, here are some examples: Alachua County will take an initial hit of 18.6% and then take 10 years to catch up, Duval 15.2% and 10 years, Hillsborough 11.7% and 7 years, Lake 20.2% and 13 years, Pasco 17.8% and 10 years. Any county with a large share of current taxable value in the form of homestead properties worth not much more than $200,000 is quite vulnerable.

Figure II-25 plots the initial loss from the tiered exemption with 1.5% RHPA against population (log scale). Twenty two counties with populations over 80,000 take an initial hit of 10% or more. Of course, the larger the initial hit, the longer it takes to make it up. If he housing market remains relatively soft for a few years, the tax base in counties like Hillsborough, Duval, Alachua and Leon, to say nothing of Sumter or Union, could take a decade to recover. That is not to say the revenue can not be made up by increasing millage rates. But, there is a definite efficiency cost to doing so, as discussed elsewhere in our report, since more taxes are shifted onto businesses, and, Florida already has a relatively high effective rate of taxation on business.

Figure II-22:

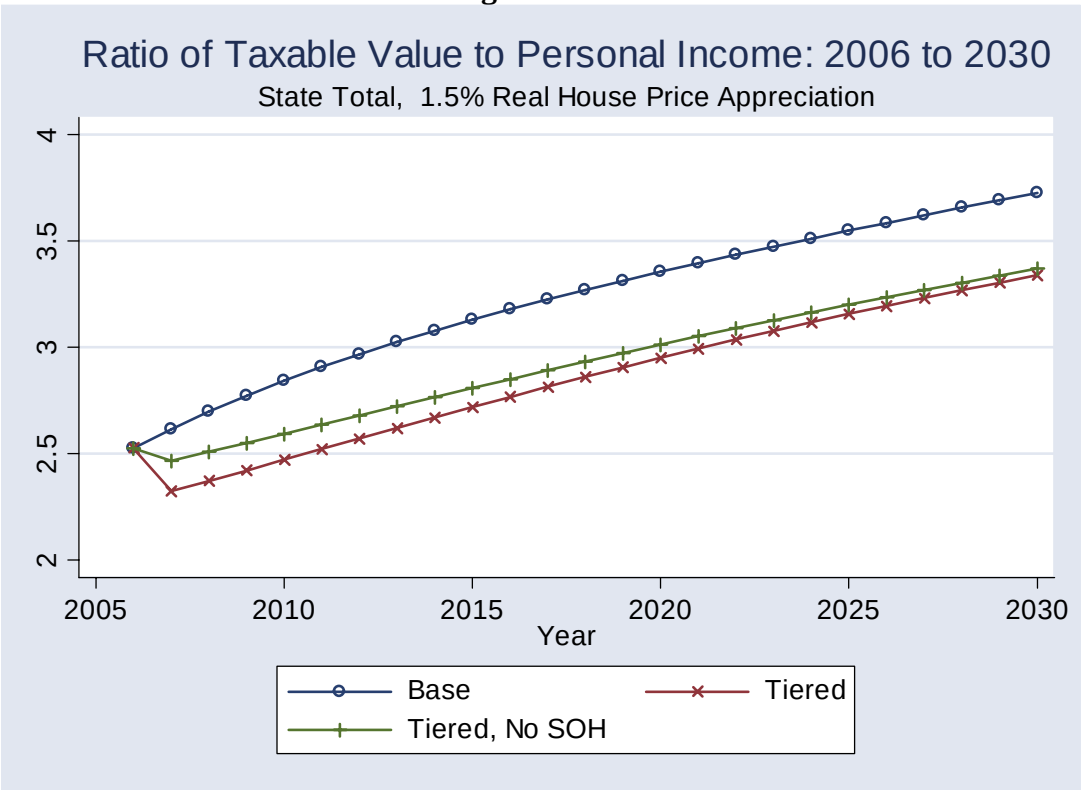


Figure II-23:

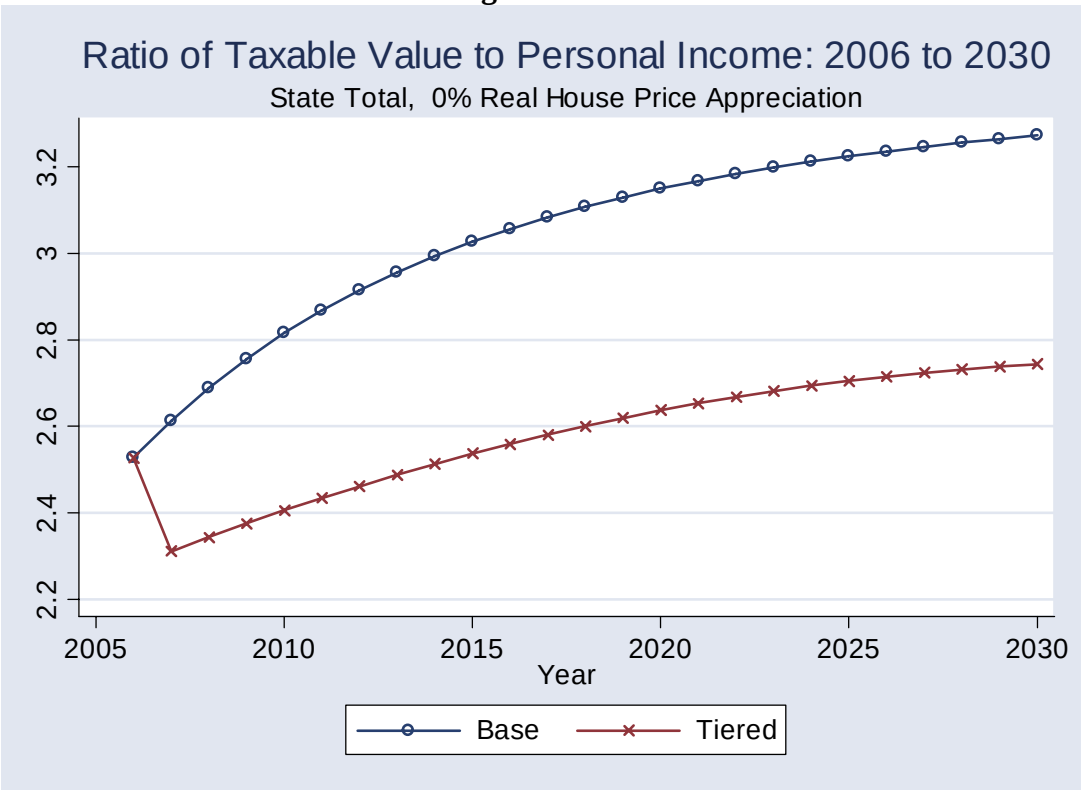


Figure II-24:

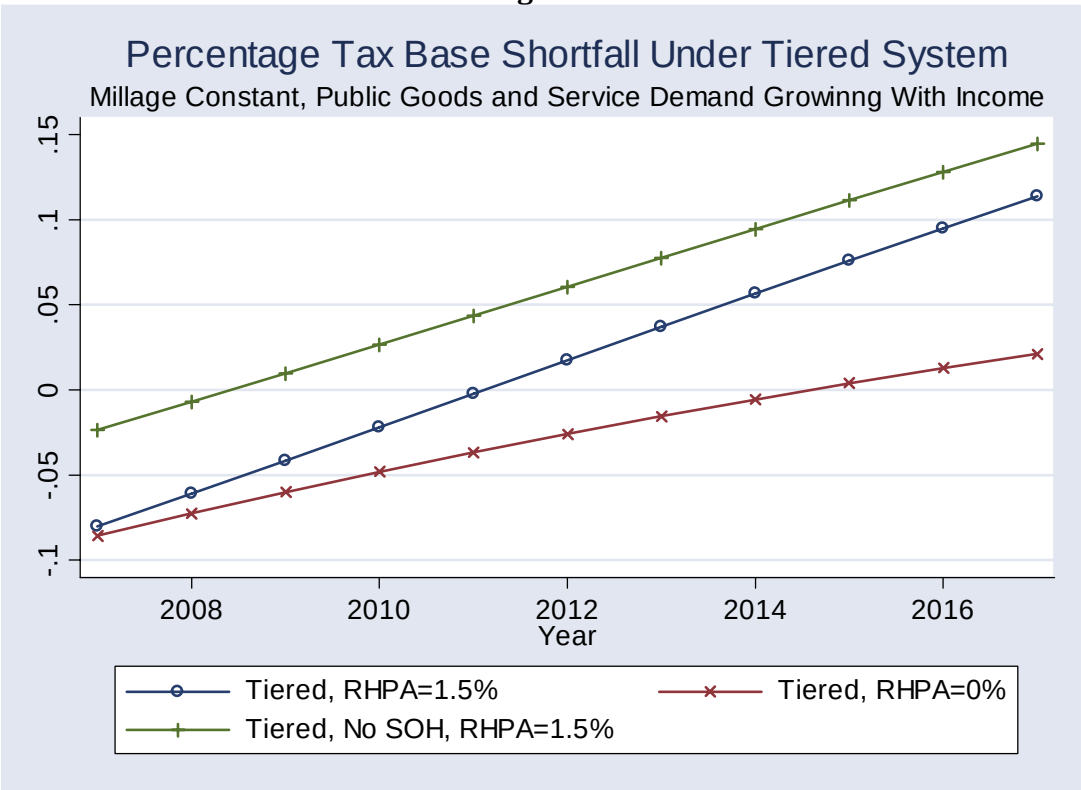


Figure II-25:

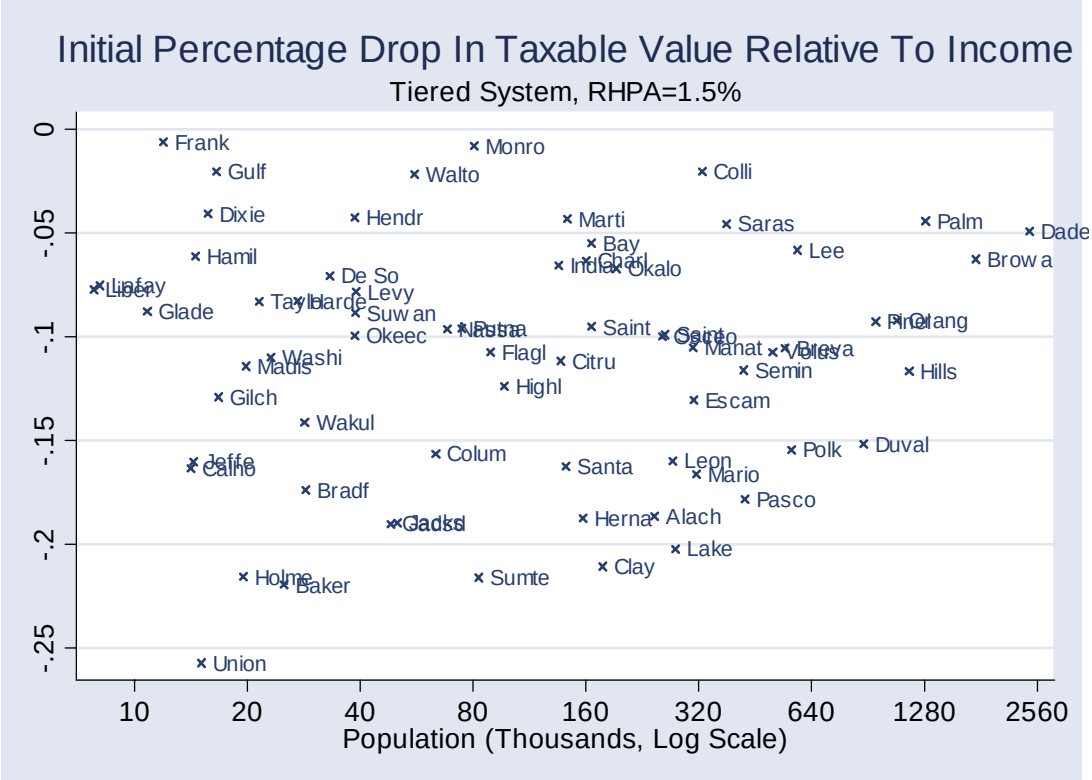


Table II-6: Effects of Tiered System and Years to Recover, by County

	RHPA=1.5%		RHPA=0%		No SOH, RHPA=1.5%	
County	Initial Drop	Rank	Initial Drop	Rank	Initial Drop	Rank
Alachua	18.6%	(10)	19.3%	(10)	19.3%	(10)
Baker	22.0%	(2)	22.6%	(2)	22.6%	(2)
Bay	5.5%	(56)	6.1%	(56)	6.1%	(56)
Bradford	17.4%	(12)	18.0%	(12)	18.0%	(12)
Brevard	10.6%	(32)	11.1%	(33)	11.1%	(33)
Broward	6.3%	(53)	6.7%	(54)	6.7%	(54)
Calhoun	16.3%	(14)	17.0%	(14)	17.0%	(14)
Charlotte	6.3%	(52)	6.9%	(52)	6.9%	(52)
Citrus	11.2%	(28)	11.8%	(28)	11.8%	(28)
Clay	21.1%	(5)	21.7%	(5)	21.7%	(5)
Collier	2.0%	(65)	2.5%	(65)	2.5%	(65)
Columbia	15.6%	(18)	16.3%	(18)	16.3%	(18)
De Soto	7.1%	(49)	7.7%	(49)	7.7%	(49)
Dixie	4.1%	(62)	4.7%	(61)	4.7%	(61)
Duval	15.2%	(20)	15.8%	(20)	15.8%	(20)
Escambia	13.1%	(22)	13.7%	(22)	13.7%	(22)
Flagler	10.8%	(30)	11.4%	(30)	11.4%	(30)
Franklin	0.6%	(67)	1.3%	(66)	1.3%	(66)
Gadsden	19.0%	(7)	19.7%	(7)	19.7%	(7)
Gilchrist	12.9%	(23)	13.5%	(23)	13.5%	(23)
Glades	8.8%	(43)	9.4%	(43)	9.4%	(43)
Gulf	2.0%	(64)	2.7%	(64)	2.7%	(64)
Hamilton	6.1%	(54)	6.8%	(53)	6.8%	(53)
Hardee	8.3%	(45)	9.0%	(45)	9.0%	(45)
Hendry	4.2%	(61)	4.9%	(59)	4.9%	(59)
Hernando	18.8%	(9)	19.4%	(9)	19.4%	(9)
Highlands	12.4%	(24)	13.0%	(24)	13.0%	(24)
Hillsborough	11.7%	(25)	12.3%	(25)	12.3%	(25)
Holmes	21.6%	(4)	22.1%	(4)	22.1%	(4)
Indian River	6.6%	(51)	7.1%	(51)	7.1%	(51)
Jackson	19.0%	(8)	19.6%	(8)	19.6%	(8)
Jefferson	16.0%	(16)	16.6%	(17)	16.6%	(17)
Lafayette	7.5%	(48)	8.0%	(48)	8.0%	(48)
Lake	20.2%	(6)	20.9%	(6)	20.9%	(6)
Lee	5.8%	(55)	6.4%	(55)	6.4%	(55)
Leon	16.0%	(17)	16.7%	(16)	16.7%	(16)
Levy	7.8%	(46)	8.4%	(46)	8.4%	(46)
Liberty	7.7%	(47)	8.4%	(47)	8.4%	(47)
Madison	11.4%	(27)	12.1%	(27)	12.1%	(27)
Manatee	10.5%	(33)	11.1%	(32)	11.1%	(32)
Marion	16.6%	(13)	17.2%	(13)	17.2%	(13)
Martin	4.3%	(60)	4.7%	(62)	4.7%	(62)
Miami-Dade	4.9%	(57)	5.4%	(57)	5.4%	(57)
Monroe	0.8%	(66)	1.2%	(67)	1.2%	(67)
Nassau	9.6%	(37)	10.2%	(38)	10.2%	(38)
Okaloosa	6.7%	(50)	7.3%	(50)	7.3%	(50)
Okeechobee	9.9%	(35)	10.6%	(35)	10.6%	(35)
Orange	9.2%	(41)	9.9%	(40)	9.9%	(40)
Osceola	10.0%	(34)	10.7%	(34)	10.7%	(34)
Palm Beach	4.4%	(59)	4.8%	(60)	4.8%	(60)
Pasco	17.8%	(11)	18.5%	(11)	18.5%	(11)
Pinellas	9.3%	(40)	9.8%	(41)	9.8%	(41)
Polk	15.5%	(19)	16.1%	(19)	16.1%	(19)
Putnam	9.6%	(38)	10.3%	(37)	10.3%	(37)
Saint Johns	9.5%	(39)	10.1%	(39)	10.1%	(39)
Saint Lucie	9.9%	(36)	10.6%	(36)	10.6%	(36)
Santa Rosa	16.2%	(15)	16.8%	(15)	16.8%	(15)
Sarasota	4.6%	(58)	5.0%	(58)	5.0%	(58)
Seminole	11.6%	(26)	12.2%	(26)	12.2%	(26)
Sumter	21.6%	(3)	22.3%	(3)	22.3%	(3)
Suwannee	8.8%	(42)	9.4%	(42)	9.4%	(42)
Taylor	8.3%	(44)	9.0%	(44)	9.0%	(44)
Union	25.7%	(1)	26.3%	(1)	26.3%	(1)
Volusia	10.7%	(31)	11.3%	(31)	11.3%	(31)
Wakulla	14.1%	(21)	14.7%	(21)	14.7%	(21)
Walton	2.2%	(63)	2.8%	(63)	2.8%	(63)
Washington	11.0%	(29)	11.7%	(29)	11.7%	(29)

Notes: Ranks in parentheses.

II.10 Conclusion

We have derived projections of taxable value under SOH, SOH with portability, and, the tiered exemption system proposed by the legislature. One purpose of doing so is to allow an analysis of the impacts of potential property tax reforms on school and local government budgets. This analysis is undertaken in more detail in other portions of the report. The analysis in this section of the report does, however, offer some general conclusions.

Just value adjusts proportionally to income and less than proportionally to house prices. Assuming the demand for public services grows with income, property tax reform will only constrain local government budgets in an ongoing way if it causes tax base to grow more slowly than nominal income. No version of SOH can do that, from a theoretical point of view. So, of the three systems, only the tiered exemption system can cause the ratio of taxable value to income to decline. So only the tiered system then might necessitate an increase in millage rates or other tax rates to restore the balance between supply and demand for government services. Moreover, the tiered exemption system will cause revenue shortfalls or millage increases in a number of medium and large counties, not just small counties. In many cases, it will take a number of years for growth to overcome this, particularly if the housing market remains soft for several years.

Finally, BEBR's survey of homeowners' opinions on whether not they will switch provided mixed results on the rationality of homeowners. On one hand, they appear to respond rationally at the margin, in that increases in tenure lead to a lower chance of switching. On the other hand, too few report that they will switch. It remains to be seen, however, if this is due to a delay in the spread of accurate information, a mistrust of the new plan, or, a sort of conservative, gradual rationality given the irrevocable nature of the switch.

Table II-7: County Tax Base Projections

Alachua County			Year						
Variable	Tax System	RHPA	2006	2010	2015	2020	2025	2030	2035
Just Value (Billions)	All	1.50%	20.57	26.72	36.53	49.23	65.85	87.69	116.77
		0%	20.57	25.93	34.14	44.33	57.10	73.24	93.95
Taxable Value (Billions)	SOH	1.50%	11.21	15.45	22.07	30.53	41.53	55.93	75.07
		0%	11.21	15.34	21.44	28.83	37.98	49.43	64.05
	Within County Portability	1.50%	11.21	15.04	21.15	29.04	39.36	52.92	71.00
		0%	11.21	14.99	20.78	27.96	36.97	48.35	62.93
	Tiered	1.50%	11.21	12.14	17.55	24.85	34.42	46.66	62.57
		0%	11.21	11.73	16.19	21.93	29.17	38.07	48.87
	Forced Tiered	1.50%	11.21	12.24	17.65	24.95	34.51	46.74	62.64
Taxable Value To Income Ratio	SOH	1.50%	1.45	1.58	1.72	1.83	1.93	2.03	2.12
		0%	1.45	1.57	1.67	1.73	1.77	1.79	1.81
	Within County Portability	1.50%	1.45	1.54	1.65	1.74	1.83	1.92	2.01
		0%	1.45	1.54	1.62	1.68	1.72	1.75	1.78
	Tiered	1.50%	1.45	1.24	1.37	1.49	1.60	1.69	1.77
		0%	1.45	1.20	1.26	1.32	1.36	1.38	1.38
	Forced Tiered	1.50%	1.45	1.25	1.37	1.50	1.61	1.70	1.77

Table II-7: County Tax Base Projections, Continued

Baker County			Year						
Variable	Tax System	RHPA	2006	2010	2015	2020	2025	2030	2035
Just Value (Billions)	All	1.50%	1.50	1.96	2.71	3.70	5.00	6.70	8.98
		0%	1.50	1.91	2.54	3.33	4.34	5.60	7.22
Taxable Value (Billions)	SOH	1.50%	0.71	1.04	1.54	2.20	3.05	4.16	5.64
		0%	0.71	1.03	1.50	2.08	2.79	3.67	4.81
	Within County Portability	1.50%	0.71	0.99	1.45	2.06	2.85	3.89	5.29
		0%	0.71	0.99	1.43	1.99	2.69	3.57	4.70
	Tiered	1.50%	0.71	0.75	1.11	1.62	2.30	3.19	4.36
		0%	0.71	0.73	1.03	1.42	1.94	2.58	3.38
	Forced Tiered	1.50%	0.71	0.77	1.13	1.63	2.31	3.20	4.37
Taxable Value To Income Ratio	SOH	1.50%	1.16	1.33	1.49	1.62	1.73	1.82	1.92
		0%	1.16	1.33	1.45	1.53	1.58	1.61	1.63
	Within County Portability	1.50%	1.16	1.28	1.41	1.52	1.62	1.71	1.80
		0%	1.16	1.28	1.39	1.47	1.52	1.57	1.60
	Tiered	1.50%	1.16	0.97	1.08	1.19	1.30	1.40	1.48
		0%	1.16	0.93	0.99	1.05	1.10	1.13	1.15
	Forced Tiered	1.50%	1.16	0.99	1.09	1.20	1.31	1.40	1.49

Table II-7: County Tax Base Projections, Continued

Bay County			Year						
Variable	Tax System	RHPA	2006	2010	2015	2020	2025	2030	2035
Just Value (Billions)	All	1.50%	25.45	33.25	45.75	62.38	84.27	113.08	151.73
		0%	25.45	32.26	42.76	56.16	73.08	94.45	122.07
Taxable Value (Billions)	SOH	1.50%	17.57	24.51	35.24	49.18	67.31	91.03	122.78
		0%	17.57	24.09	33.65	45.46	60.12	78.47	102.06
	Within County Portability	1.50%	17.57	23.85	33.88	47.17	64.62	87.53	118.27
		0%	17.57	23.49	32.56	44.09	58.60	76.90	100.50
	Tiered	1.50%	17.57	22.13	31.63	44.43	61.25	83.29	112.73
		0%	17.57	21.50	29.50	39.75	52.61	68.63	89.13
	Forced Tiered	1.50%	17.57	22.91	32.32	44.99	61.68	83.63	113.02
Taxable Value To Income Ratio	SOH	1.50%	3.36	3.70	4.01	4.26	4.48	4.69	4.89
		0%	3.36	3.63	3.83	3.94	4.00	4.04	4.07
	Within County Portability	1.50%	3.36	3.60	3.85	4.09	4.30	4.51	4.71
		0%	3.36	3.54	3.71	3.82	3.90	3.96	4.01
	Tiered	1.50%	3.36	3.34	3.60	3.85	4.08	4.29	4.49
		0%	3.36	3.24	3.36	3.44	3.50	3.54	3.55
	Forced Tiered	1.50%	3.36	3.46	3.68	3.90	4.11	4.31	4.50

Table II-7: County Tax Base Projections, Continued

Bradford County			Year						
Variable	Tax System	RHPA	2006	2010	2015	2020	2025	2030	2035
Just Value (Billions)	All	1.50%	2.02	2.57	3.44	4.59	6.10	8.04	10.60
		0%	2.02	2.49	3.22	4.13	5.29	6.72	8.53
Taxable Value (Billions)	SOH	1.50%	0.81	1.13	1.63	2.27	3.11	4.18	5.58
		0%	0.81	1.12	1.59	2.15	2.85	3.71	4.79
	Within County Portability	1.50%	0.81	1.09	1.54	2.13	2.90	3.90	5.21
		0%	0.81	1.09	1.52	2.06	2.74	3.59	4.66
	Tiered	1.50%	0.81	0.88	1.25	1.77	2.47	3.38	4.55
		0%	0.81	0.85	1.17	1.57	2.10	2.75	3.56
	Forced Tiered	1.50%	0.81	0.93	1.30	1.82	2.51	3.41	4.58
Taxable Value To Income Ratio	SOH	1.50%	1.23	1.39	1.55	1.68	1.80	1.90	2.00
		0%	1.23	1.38	1.51	1.59	1.65	1.69	1.72
	Within County Portability	1.50%	1.23	1.34	1.46	1.58	1.68	1.78	1.87
		0%	1.23	1.34	1.44	1.52	1.59	1.63	1.67
	Tiered	1.50%	1.23	1.08	1.19	1.31	1.43	1.54	1.63
		0%	1.23	1.05	1.11	1.17	1.22	1.25	1.28
	Forced Tiered	1.50%	1.23	1.14	1.24	1.34	1.45	1.55	1.64

Table II-7: County Tax Base Projections, Continued

Brevard County			Year						
Variable	Tax System	RHPA	2006	2010	2015	2020	2025	2030	2035
Just Value (Billions)	All	1.50%	72.58	95.48	132.54	181.65	246.46	332.11	447.52
		0%	72.58	92.66	123.89	163.54	213.72	277.40	360.04
Taxable Value (Billions)	SOH	1.50%	39.14	58.66	88.35	126.18	175.09	239.03	324.80
		0%	39.14	58.35	85.99	119.33	160.33	211.54	277.40
	Within County Portability	1.50%	39.14	55.61	82.04	116.82	162.45	222.53	303.41
		0%	39.14	55.57	80.93	112.90	153.17	204.06	269.89
	Tiered	1.50%	39.14	47.96	71.87	104.49	147.12	202.33	276.00
		0%	39.14	46.66	66.78	92.75	125.14	164.95	214.61
	Forced Tiered	1.50%	39.14	50.62	74.38	106.68	148.98	203.86	277.25
Taxable Value To Income Ratio	SOH	1.50%	2.17	2.55	2.87	3.11	3.30	3.47	3.64
		0%	2.17	2.54	2.80	2.94	3.02	3.07	3.10
	Within County Portability	1.50%	2.17	2.42	2.67	2.88	3.06	3.23	3.40
		0%	2.17	2.42	2.63	2.78	2.89	2.96	3.02
	Tiered	1.50%	2.17	2.09	2.34	2.57	2.77	2.94	3.09
		0%	2.17	2.03	2.17	2.29	2.36	2.40	2.40
	Forced Tiered	1.50%	2.17	2.20	2.42	2.63	2.81	2.96	3.10

Table II-7: County Tax Base Projections, Continued

Broward County			Year						
Variable	Tax System	RHPA	2006	2010	2015	2020	2025	2030	2035
Just Value (Billions)	All	1.50%	237.34	308.57	423.92	576.94	776.62	1038.76	1389.39
		0%	237.34	299.45	396.25	519.44	673.47	867.65	1117.81
Taxable Value (Billions)	SOH	1.50%	158.37	230.32	340.08	480.32	659.64	892.55	1202.52
		0%	158.37	228.75	330.41	453.37	602.91	788.44	1025.22
	Within County Portability	1.50%	158.37	219.37	317.39	446.55	614.08	833.16	1125.86
		0%	158.37	218.80	312.14	430.05	576.77	760.99	997.49
	Tiered	1.50%	158.37	200.32	293.59	419.17	582.30	795.37	1084.07
		0%	158.37	195.61	274.82	374.88	498.41	650.04	844.27
	Forced Tiered	1.50%	158.37	214.42	307.26	431.19	592.49	803.80	1090.92
Taxable Value To Income Ratio	SOH	1.50%	2.37	2.73	3.04	3.28	3.47	3.65	3.82
		0%	2.37	2.71	2.96	3.10	3.18	3.22	3.25
	Within County Portability	1.50%	2.37	2.60	2.84	3.05	3.23	3.41	3.57
		0%	2.37	2.59	2.79	2.94	3.04	3.11	3.17
	Tiered	1.50%	2.37	2.37	2.63	2.86	3.07	3.25	3.44
		0%	2.37	2.32	2.46	2.56	2.63	2.66	2.68
	Forced Tiered	1.50%	2.37	2.54	2.75	2.94	3.12	3.29	3.46

Table II-7: County Tax Base Projections, Continued

Calhoun County			Year						
Variable	Tax System	RHPA	2006	2010	2015	2020	2025	2030	2035
Just Value (Billions)	All	1.50%	0.87	1.11	1.49	2.00	2.66	3.52	4.67
		0%	0.87	1.07	1.40	1.80	2.30	2.94	3.76
Taxable Value (Billions)	SOH	1.50%	0.32	0.44	0.63	0.88	1.21	1.63	2.20
		0%	0.32	0.44	0.61	0.83	1.10	1.45	1.88
	Within County Portability	1.50%	0.32	0.43	0.61	0.84	1.14	1.55	2.08
		0%	0.32	0.43	0.60	0.81	1.07	1.41	1.84
	Tiered	1.50%	0.32	0.35	0.50	0.70	0.96	1.32	1.79
		0%	0.32	0.34	0.46	0.62	0.82	1.08	1.41
	Forced Tiered	1.50%	0.32	0.36	0.51	0.71	0.98	1.33	1.80
Taxable Value To Income Ratio	SOH	1.50%	1.15	1.28	1.41	1.53	1.63	1.73	1.83
		0%	1.15	1.27	1.37	1.44	1.50	1.53	1.56
	Within County Portability	1.50%	1.15	1.25	1.36	1.46	1.55	1.64	1.73
		0%	1.15	1.24	1.33	1.40	1.45	1.50	1.53
	Tiered	1.50%	1.15	1.01	1.11	1.21	1.31	1.40	1.48
		0%	1.15	0.98	1.03	1.07	1.11	1.14	1.17
	Forced Tiered	1.50%	1.15	1.05	1.14	1.23	1.32	1.41	1.49

Table II-7: County Tax Base Projections, Continued

Charlotte County			Year						
Variable	Tax System	RHPA	2006	2010	2015	2020	2025	2030	2035
Just Value (Billions)	All	1.50%	33.64	44.86	63.16	87.52	119.68	162.37	220.29
		0%	33.64	43.53	59.03	78.80	103.78	135.62	177.23
Taxable Value (Billions)	SOH	1.50%	24.28	35.33	52.34	74.27	102.79	140.41	191.32
		0%	24.28	34.81	50.13	68.85	92.03	121.28	159.31
	Within County Portability	1.50%	24.28	34.07	49.87	70.77	98.20	134.50	183.69
		0%	24.28	33.66	48.19	66.56	89.64	118.95	157.11
	Tiered	1.50%	24.28	31.14	45.97	65.97	92.22	126.67	173.55
		0%	24.28	30.25	42.78	58.83	78.95	104.12	136.44
	Forced Tiered	1.50%	24.28	32.23	46.87	66.64	92.72	127.05	173.82
Taxable Value To Income Ratio	SOH	1.50%	4.86	5.46	5.97	6.34	6.67	6.97	7.27
		0%	4.86	5.38	5.72	5.88	5.97	6.02	6.05
	Within County Portability	1.50%	4.86	5.27	5.69	6.04	6.37	6.67	6.98
		0%	4.86	5.20	5.49	5.69	5.81	5.90	5.97
	Tiered	1.50%	4.86	4.81	5.24	5.63	5.98	6.29	6.59
		0%	4.86	4.68	4.88	5.02	5.12	5.17	5.18
	Forced Tiered	1.50%	4.86	4.98	5.34	5.69	6.01	6.31	6.60

Table II-7: County Tax Base Projections, Continued

Citrus County			Year						
Variable	Tax System	RHPA	2006	2010	2015	2020	2025	2030	2035
Just Value (Billions)	All	1.50%	17.26	22.97	32.21	44.56	60.80	82.34	111.52
		0%	17.26	22.29	30.11	40.12	52.72	68.78	89.72
Taxable Value (Billions)	SOH	1.50%	11.59	16.93	25.16	35.86	49.75	68.08	92.86
		0%	11.59	16.71	24.17	33.37	44.73	59.07	77.68
	Within County Portability	1.50%	11.59	16.31	23.93	34.06	47.33	64.90	88.70
		0%	11.59	16.16	23.23	32.22	43.51	57.85	76.51
	Tiered	1.50%	11.59	14.02	20.63	29.74	41.80	57.70	78.88
		0%	11.59	13.57	19.12	26.38	35.57	47.14	61.89
	Forced Tiered	1.50%	11.59	14.27	20.85	29.90	41.93	57.80	78.97
Taxable Value To Income Ratio	SOH	1.50%	3.12	3.52	3.88	4.15	4.38	4.59	4.80
		0%	3.12	3.48	3.73	3.86	3.94	3.99	4.02
	Within County Portability	1.50%	3.12	3.40	3.69	3.94	4.17	4.38	4.59
		0%	3.12	3.37	3.58	3.73	3.83	3.90	3.96
	Tiered	1.50%	3.12	2.92	3.18	3.44	3.68	3.89	4.08
		0%	3.12	2.83	2.95	3.05	3.13	3.18	3.20
	Forced Tiered	1.50%	3.12	2.97	3.21	3.46	3.69	3.90	4.09

Table II-7: County Tax Base Projections, Continued

Clay County			Year						
Variable	Tax System	RHPA	2006	2010	2015	2020	2025	2030	2035
Just Value (Billions)	All	1.50%	13.98	19.38	28.31	40.40	56.50	78.02	107.74
		0%	13.98	18.80	26.46	36.37	49.00	65.17	86.68
Taxable Value (Billions)	SOH	1.50%	9.19	13.88	21.48	31.65	45.11	63.05	87.81
		0%	9.19	13.84	21.01	30.13	41.64	56.30	75.74
	Within County Portability	1.50%	9.19	13.45	20.49	30.02	42.67	59.55	82.89
		0%	9.19	13.46	20.29	29.16	40.50	55.06	74.43
	Tiered	1.50%	9.19	10.43	16.42	24.99	36.44	51.14	70.87
		0%	9.19	10.08	15.13	21.98	30.83	41.72	55.20
	Forced Tiered	1.50%	9.19	10.71	16.70	25.25	36.67	51.35	71.04
Taxable Value To Income Ratio	SOH	1.50%	1.69	1.90	2.09	2.24	2.37	2.49	2.61
		0%	1.69	1.90	2.05	2.13	2.19	2.23	2.25
	Within County Portability	1.50%	1.69	1.84	2.00	2.13	2.24	2.35	2.46
		0%	1.69	1.85	1.98	2.07	2.13	2.18	2.21
	Tiered	1.50%	1.69	1.43	1.60	1.77	1.92	2.02	2.11
		0%	1.69	1.38	1.47	1.56	1.62	1.65	1.64
	Forced Tiered	1.50%	1.69	1.47	1.63	1.79	1.93	2.03	2.11

Table II-7: County Tax Base Projections, Continued

Collier County			Year						
Variable	Tax System	RHPA	2006	2010	2015	2020	2025	2030	2035
Just Value (Billions)	All	1.50%	102.36	144.84	215.31	311.74	440.77	615.22	858.73
		0%	102.36	140.56	201.25	280.66	382.23	513.88	690.87
Taxable Value (Billions)	SOH	1.50%	77.04	117.74	182.80	269.91	385.15	540.11	756.02
		0%	77.04	116.12	175.55	251.19	346.59	469.31	633.59
	Within County Portability	1.50%	77.04	114.33	175.66	259.03	369.94	519.38	727.90
		0%	77.04	113.05	169.99	244.18	338.84	461.26	625.56
	Tiered	1.50%	77.04	110.14	171.41	255.64	368.08	520.74	734.61
		0%	77.04	107.50	160.69	229.72	317.32	430.34	582.16
	Forced Tiered	1.50%	77.04	117.34	177.66	260.85	372.49	524.16	737.36
Taxable Value To Income Ratio	SOH	1.50%	4.57	5.09	5.51	5.84	6.12	6.38	6.64
		0%	4.57	5.02	5.30	5.43	5.50	5.54	5.57
	Within County Portability	1.50%	4.57	4.94	5.30	5.60	5.88	6.14	6.40
		0%	4.57	4.88	5.13	5.28	5.38	5.45	5.50
	Tiered	1.50%	4.57	4.76	5.17	5.53	5.85	6.15	6.46
		0%	4.57	4.64	4.85	4.97	5.04	5.08	5.12
	Forced Tiered	1.50%	4.57	5.07	5.36	5.64	5.92	6.19	6.48

Table II-7: County Tax Base Projections, Continued

Columbia County			Year						
Variable	Tax System	RHPA	2006	2010	2015	2020	2025	2030	2035
Just Value (Billions)	All	1.50%	4.43	5.85	8.08	11.05	14.92	20.04	26.93
		0%	4.43	5.68	7.55	9.95	12.94	16.74	21.67
Taxable Value (Billions)	SOH	1.50%	2.32	3.27	4.76	6.73	9.30	12.70	17.26
		0%	2.32	3.25	4.64	6.40	8.59	11.38	14.97
	Within County Portability	1.50%	2.32	3.20	4.59	6.45	8.86	12.06	16.37
		0%	2.32	3.19	4.51	6.21	8.35	11.09	14.64
	Tiered	1.50%	2.32	2.64	3.83	5.49	7.72	10.69	14.64
		0%	2.32	2.56	3.56	4.88	6.57	8.72	11.47
	Forced Tiered	1.50%	2.32	2.74	3.93	5.60	7.82	10.79	14.73
Taxable Value To Income Ratio	SOH	1.50%	1.59	1.75	1.91	2.05	2.18	2.30	2.41
		0%	1.59	1.73	1.86	1.95	2.01	2.06	2.09
	Within County Portability	1.50%	1.59	1.71	1.84	1.96	2.08	2.18	2.29
		0%	1.59	1.70	1.81	1.89	1.96	2.01	2.05
	Tiered	1.50%	1.59	1.41	1.54	1.67	1.81	1.93	2.05
		0%	1.59	1.37	1.43	1.49	1.54	1.58	1.60
	Forced Tiered	1.50%	1.59	1.46	1.58	1.70	1.83	1.95	2.06

Table II-7: County Tax Base Projections, Continued

Miami-Dade County			Year						
Variable	Tax System	RHPA	2006	2010	2015	2020	2025	2030	2035
Just Value (Billions)	All	1.50%	313.33	402.59	546.03	735.54	983.46	1308.77	1741.69
		0%	313.33	390.69	510.39	662.23	852.84	1093.18	1401.24
Taxable Value (Billions)	SOH	1.50%	212.98	288.84	409.57	567.86	773.70	1042.75	1400.15
		0%	212.98	286.51	398.82	539.75	715.37	935.57	1216.59
	Within County Portability	1.50%	212.98	282.49	394.24	541.86	734.69	987.47	1324.21
		0%	212.98	280.70	386.15	520.62	690.13	904.53	1180.02
	Tiered	1.50%	212.98	265.39	376.53	525.97	722.88	981.12	1327.16
		0%	212.98	259.57	355.17	476.84	627.75	816.52	1055.33
	Forced Tiered	1.50%	212.98	286.85	402.34	554.97	753.85	1014.01	1361.59
Taxable Value To Income Ratio	SOH	1.50%	2.67	2.91	3.16	3.37	3.57	3.75	3.93
		0%	2.67	2.88	3.07	3.21	3.30	3.37	3.41
	Within County Portability	1.50%	2.67	2.84	3.04	3.22	3.39	3.55	3.72
		0%	2.67	2.83	2.98	3.09	3.18	3.25	3.31
	Tiered	1.50%	2.67	2.67	2.90	3.12	3.33	3.53	3.72
		0%	2.67	2.61	2.74	2.83	2.89	2.94	2.96
	Forced Tiered	1.50%	2.67	2.89	3.10	3.30	3.48	3.65	3.82

Table II-7: County Tax Base Projections, Continued

De Soto County			Year						
Variable	Tax System	RHPA	2006	2010	2015	2020	2025	2030	2035
Just Value (Billions)	All	1.50%	3.98	5.22	7.47	10.21	13.85	18.60	24.99
		0%	3.98	5.06	6.98	9.20	12.01	15.54	20.11
Taxable Value (Billions)	SOH	1.50%	1.75	2.54	3.89	5.50	7.59	10.31	13.95
		0%	1.75	2.50	3.73	5.11	6.82	8.94	11.67
	Within County Portability	1.50%	1.75	2.44	3.69	5.20	7.20	9.81	13.30
		0%	1.75	2.41	3.57	4.90	6.59	8.70	11.43
	Tiered	1.50%	1.75	2.19	3.31	4.72	6.61	9.06	12.33
		0%	1.75	2.13	3.08	4.21	5.65	7.44	9.71
	Forced Tiered	1.50%	1.75	2.30	3.41	4.80	6.68	9.12	12.37
Taxable Value To Income Ratio	SOH	1.50%	2.79	3.18	3.54	3.79	4.01	4.21	4.40
		0%	2.79	3.14	3.39	3.53	3.60	3.65	3.69
	Within County Portability	1.50%	2.79	3.06	3.36	3.59	3.81	4.01	4.20
		0%	2.79	3.02	3.24	3.38	3.48	3.55	3.61
	Tiered	1.50%	2.79	2.75	3.01	3.26	3.50	3.70	3.89
		0%	2.79	2.67	2.80	2.91	2.98	3.04	3.07
	Forced Tiered	1.50%	2.79	2.89	3.10	3.31	3.53	3.72	3.91

Table II-7: County Tax Base Projections, Continued

Dixie County			Year						
Variable	Tax System	RHPA	2006	2010	2015	2020	2025	2030	2035
Just Value (Billions)	All	1.50%	1.91	2.51	3.50	4.80	6.52	8.80	11.86
		0%	1.91	2.44	3.27	4.32	5.66	7.35	9.54
Taxable Value (Billions)	SOH	1.50%	0.61	0.90	1.36	1.95	2.71	3.72	5.07
		0%	0.61	0.89	1.30	1.81	2.43	3.22	4.23
	Within County Portability	1.50%	0.61	0.86	1.28	1.84	2.57	3.53	4.83
		0%	0.61	0.85	1.24	1.73	2.35	3.13	4.14
	Tiered	1.50%	0.61	0.79	1.16	1.65	2.30	3.17	4.35
		0%	0.61	0.76	1.08	1.47	1.97	2.60	3.43
	Forced Tiered	1.50%	0.61	0.83	1.19	1.67	2.32	3.19	4.37
Taxable Value To Income Ratio	SOH	1.50%	1.96	2.28	2.56	2.78	2.96	3.12	3.28
		0%	1.96	2.24	2.45	2.58	2.65	2.70	2.74
	Within County Portability	1.50%	1.96	2.18	2.42	2.62	2.80	2.96	3.12
		0%	1.96	2.16	2.34	2.46	2.56	2.63	2.68
	Tiered	1.50%	1.96	1.99	2.18	2.35	2.51	2.66	2.81
		0%	1.96	1.93	2.03	2.10	2.15	2.19	2.22
	Forced Tiered	1.50%	1.96	2.10	2.24	2.39	2.53	2.68	2.82

Table II-7: County Tax Base Projections, Continued

Duval County			Year						
Variable	Tax System	RHPA	2006	2010	2015	2020	2025	2030	2035
Just Value (Billions)	All	1.50%	78.32	102.55	141.53	193.16	260.97	350.62	471.07
		0%	78.32	99.52	132.29	173.90	226.31	292.86	378.99
Taxable Value (Billions)	SOH	1.50%	52.46	72.92	105.09	147.09	201.84	273.93	370.65
		0%	52.46	72.33	101.96	138.67	184.28	241.72	315.69
	Within County Portability	1.50%	52.46	70.98	100.73	140.08	191.69	259.86	351.51
		0%	52.46	70.65	98.76	134.46	179.41	236.46	310.23
	Tiered	1.50%	52.46	59.62	86.61	123.69	172.68	235.89	319.17
		0%	52.46	57.78	80.31	109.76	147.08	193.40	250.67
	Forced Tiered	1.50%	52.46	61.15	88.10	125.06	173.88	236.95	320.06
Taxable Value To Income Ratio	SOH	1.50%	1.70	1.86	2.01	2.14	2.26	2.37	2.48
		0%	1.70	1.84	1.95	2.02	2.06	2.09	2.11
	Within County Portability	1.50%	1.70	1.81	1.93	2.04	2.15	2.25	2.35
		0%	1.70	1.80	1.89	1.96	2.01	2.04	2.07
	Tiered	1.50%	1.70	1.52	1.66	1.80	1.93	2.04	2.13
		0%	1.70	1.47	1.54	1.60	1.65	1.67	1.68
	Forced Tiered	1.50%	1.70	1.56	1.69	1.82	1.95	2.05	2.14

Table II-7: County Tax Base Projections, Continued

Escambia County			Year						
Variable	Tax System	RHPA	2006	2010	2015	2020	2025	2030	2035
Just Value (Billions)	All	1.50%	26.85	34.23	46.09	61.68	82.02	108.67	143.97
		0%	26.85	33.22	43.08	55.53	71.13	90.77	115.83
Taxable Value (Billions)	SOH	1.50%	14.67	20.08	28.55	39.49	53.63	72.04	96.37
		0%	14.67	19.89	27.63	37.12	48.82	63.39	81.87
	Within County Portability	1.50%	14.67	19.49	27.24	37.43	50.70	68.08	91.12
		0%	14.67	19.36	26.62	35.77	47.24	61.66	80.05
	Tiered	1.50%	14.67	16.56	23.36	32.73	45.22	61.36	81.75
		0%	14.67	16.07	21.69	29.05	38.47	50.31	64.70
	Forced Tiered	1.50%	14.67	17.04	23.82	33.16	45.63	61.71	82.04
Taxable Value To Income Ratio	SOH	1.50%	1.60	1.77	1.94	2.08	2.21	2.33	2.44
		0%	1.60	1.75	1.88	1.96	2.01	2.05	2.07
	Within County Portability	1.50%	1.60	1.72	1.85	1.98	2.09	2.20	2.31
		0%	1.60	1.71	1.81	1.89	1.95	1.99	2.03
	Tiered	1.50%	1.60	1.46	1.59	1.73	1.86	1.98	2.07
		0%	1.60	1.42	1.48	1.53	1.58	1.62	1.64
	Forced Tiered	1.50%	1.60	1.50	1.62	1.75	1.88	1.99	2.08

Table II-7: County Tax Base Projections, Continued

Flagler County			Year						
Variable	Tax System	RHPA	2006	2010	2015	2020	2025	2030	2035
Just Value (Billions)	All	1.50%	14.82	22.94	36.71	55.90	81.91	117.41	168.30
		0%	14.82	22.26	34.31	50.33	71.03	98.07	135.40
Taxable Value (Billions)	SOH	1.50%	10.90	18.03	29.95	46.44	68.71	99.04	142.56
		0%	10.90	17.77	28.75	43.22	61.87	86.18	119.70
	Within County Portability	1.50%	10.90	17.69	29.17	45.14	66.70	96.07	138.21
		0%	10.90	17.48	28.18	42.47	60.99	85.22	118.69
	Tiered	1.50%	10.90	15.37	25.72	40.75	61.22	88.30	126.62
		0%	10.90	14.90	23.86	36.20	52.35	72.99	100.07
	Forced Tiered	1.50%	10.90	15.69	26.06	41.06	61.50	88.56	126.85
Taxable Value To Income Ratio	SOH	1.50%	4.30	4.73	5.10	5.39	5.65	5.90	6.15
		0%	4.30	4.67	4.90	5.02	5.09	5.14	5.17
	Within County Portability	1.50%	4.30	4.64	4.97	5.24	5.49	5.73	5.97
		0%	4.30	4.59	4.80	4.93	5.02	5.08	5.12
	Tiered	1.50%	4.30	4.03	4.38	4.73	5.04	5.26	5.47
		0%	4.30	3.91	4.06	4.20	4.31	4.35	4.32
	Forced Tiered	1.50%	4.30	4.12	4.44	4.77	5.06	5.28	5.48

Table II-7: County Tax Base Projections, Continued

Franklin County			Year						
Variable	Tax System	RHPA	2006	2010	2015	2020	2025	2030	2035
Just Value (Billions)	All	1.50%	5.67	7.19	9.73	13.04	17.31	22.95	30.43
		0%	5.67	6.98	9.10	11.74	15.01	19.17	24.48
Taxable Value (Billions)	SOH	1.50%	4.03	5.30	7.38	10.04	13.46	17.95	23.88
		0%	4.03	5.19	7.01	9.23	11.95	15.39	19.75
	Within County Portability	1.50%	4.03	5.22	7.19	9.75	13.06	17.42	23.20
		0%	4.03	5.11	6.85	9.01	11.70	15.10	19.45
	Tiered	1.50%	4.03	5.14	7.15	9.74	13.12	17.57	23.48
		0%	4.03	5.01	6.70	8.77	11.36	14.62	18.77
	Forced Tiered	1.50%	4.03	5.39	7.37	9.95	13.30	17.73	23.59
Taxable Value To Income Ratio	SOH	1.50%	12.42	13.27	14.16	14.94	15.65	16.35	17.03
		0%	12.42	12.99	13.45	13.73	13.90	14.02	14.09
	Within County Portability	1.50%	12.42	13.05	13.80	14.51	15.19	15.87	16.55
		0%	12.42	12.79	13.15	13.41	13.61	13.75	13.87
	Tiered	1.50%	12.42	12.87	13.72	14.49	15.26	16.01	16.74
		0%	12.42	12.52	12.85	13.05	13.21	13.32	13.39
	Forced Tiered	1.50%	12.42	13.49	14.14	14.80	15.47	16.15	16.83

Table II-7: County Tax Base Projections, Continued

Gadsden County			Year						
Variable	Tax System	RHPA	2006	2010	2015	2020	2025	2030	2035
Just Value (Billions)	All	1.50%	2.63	3.34	4.44	5.87	7.74	10.17	13.35
		0%	2.63	3.24	4.15	5.29	6.71	8.49	10.74
Taxable Value (Billions)	SOH	1.50%	1.23	1.66	2.33	3.20	4.33	5.79	7.71
		0%	1.23	1.66	2.29	3.07	4.04	5.25	6.77
	Within County Portability	1.50%	1.23	1.63	2.24	3.04	4.09	5.45	7.23
		0%	1.23	1.63	2.22	2.97	3.91	5.09	6.59
	Tiered	1.50%	1.23	1.30	1.83	2.54	3.49	4.72	6.36
		0%	1.23	1.26	1.70	2.26	2.98	3.85	4.95
	Forced Tiered	1.50%	1.23	1.34	1.88	2.60	3.55	4.79	6.43
Taxable Value To Income Ratio	SOH	1.50%	1.06	1.16	1.27	1.37	1.46	1.54	1.62
		0%	1.06	1.15	1.24	1.31	1.36	1.40	1.42
	Within County Portability	1.50%	1.06	1.13	1.22	1.30	1.38	1.45	1.52
		0%	1.06	1.13	1.21	1.27	1.32	1.35	1.38
	Tiered	1.50%	1.06	0.91	1.00	1.09	1.17	1.26	1.34
		0%	1.06	0.88	0.92	0.97	1.00	1.02	1.04
	Forced Tiered	1.50%	1.06	0.94	1.02	1.11	1.19	1.27	1.35

Table II-7: County Tax Base Projections, Continued

Gilchrist County			Year						
Variable	Tax System	RHPA	2006	2010	2015	2020	2025	2030	2035
Just Value (Billions)	All	1.50%	1.51	2.04	2.91	4.09	5.68	7.78	10.65
		0%	1.51	1.98	2.72	3.68	4.92	6.49	8.57
Taxable Value (Billions)	SOH	1.50%	0.59	0.91	1.40	2.07	2.95	4.12	5.71
		0%	0.59	0.90	1.36	1.95	2.71	3.66	4.90
	Within County Portability	1.50%	0.59	0.87	1.33	1.95	2.78	3.88	5.39
		0%	0.59	0.87	1.30	1.87	2.61	3.54	4.78
	Tiered	1.50%	0.59	0.72	1.10	1.63	2.37	3.35	4.69
		0%	0.59	0.70	1.02	1.45	2.02	2.74	3.66
	Forced Tiered	1.50%	0.59	0.77	1.14	1.67	2.41	3.39	4.72
Taxable Value To Income Ratio	SOH	1.50%	1.46	1.69	1.91	2.07	2.22	2.35	2.47
		0%	1.46	1.68	1.85	1.96	2.03	2.08	2.12
	Within County Portability	1.50%	1.46	1.63	1.80	1.95	2.09	2.21	2.33
		0%	1.46	1.62	1.77	1.88	1.96	2.02	2.06
	Tiered	1.50%	1.46	1.35	1.49	1.64	1.78	1.91	2.02
		0%	1.46	1.31	1.39	1.46	1.52	1.56	1.58
	Forced Tiered	1.50%	1.46	1.43	1.55	1.68	1.81	1.93	2.04

Table II-7: County Tax Base Projections, Continued

Glades County			Year						
Variable	Tax System	RHPA	2006	2010	2015	2020	2025	2030	2035
Just Value (Billions)	All	1.50%	4.31	5.64	7.54	10.05	13.28	17.54	23.15
		0%	4.31	5.47	7.04	9.05	11.52	14.65	18.63
Taxable Value (Billions)	SOH	1.50%	0.67	0.97	1.37	1.89	2.54	3.39	4.52
		0%	0.67	0.95	1.31	1.75	2.28	2.94	3.77
	Within County Portability	1.50%	0.67	0.93	1.30	1.79	2.41	3.23	4.30
		0%	0.67	0.92	1.26	1.68	2.20	2.86	3.69
	Tiered	1.50%	0.67	0.83	1.18	1.63	2.24	3.03	4.05
		0%	0.67	0.81	1.10	1.46	1.92	2.49	3.20
	Forced Tiered	1.50%	0.67	0.89	1.22	1.67	2.27	3.04	4.06
Taxable Value To Income Ratio	SOH	1.50%	3.24	3.65	4.02	4.31	4.56	4.79	5.01
		0%	3.24	3.59	3.85	4.00	4.09	4.15	4.18
	Within County Portability	1.50%	3.24	3.53	3.82	4.08	4.32	4.55	4.77
		0%	3.24	3.48	3.68	3.83	3.95	4.03	4.09
	Tiered	1.50%	3.24	3.14	3.45	3.73	4.02	4.27	4.49
		0%	3.24	3.05	3.22	3.33	3.44	3.51	3.55
	Forced Tiered	1.50%	3.24	3.35	3.58	3.82	4.06	4.29	4.51

Table II-7: County Tax Base Projections, Continued

Gulf County			Year						
Variable	Tax System	RHPA	2006	2010	2015	2020	2025	2030	2035
Just Value (Billions)	All	1.50%	4.51	5.76	7.77	10.38	13.79	18.29	24.26
		0%	4.51	5.59	7.26	9.35	11.96	15.28	19.52
Taxable Value (Billions)	SOH	1.50%	2.88	3.80	5.25	7.12	9.55	12.74	16.96
		0%	2.88	3.72	4.98	6.53	8.45	10.88	13.97
	Within County Portability	1.50%	2.88	3.74	5.13	6.94	9.30	12.41	16.53
		0%	2.88	3.67	4.88	6.40	8.30	10.71	13.79
	Tiered	1.50%	2.88	3.62	4.98	6.77	9.11	12.18	16.25
		0%	2.88	3.52	4.66	6.09	7.87	10.12	12.99
	Forced Tiered	1.50%	2.88	3.73	5.08	6.87	9.20	12.27	16.32
Taxable Value To Income Ratio	SOH	1.50%	7.01	7.47	7.95	8.38	8.78	9.17	9.55
		0%	7.01	7.30	7.54	7.68	7.77	7.83	7.87
	Within County Portability	1.50%	7.01	7.36	7.77	8.17	8.55	8.93	9.31
		0%	7.01	7.21	7.39	7.53	7.63	7.71	7.77
	Tiered	1.50%	7.01	7.12	7.55	7.96	8.37	8.76	9.16
		0%	7.01	6.92	7.06	7.16	7.23	7.28	7.31
	Forced Tiered	1.50%	7.01	7.33	7.70	8.08	8.46	8.83	9.20

Table II-7: County Tax Base Projections, Continued

Hamilton County			Year						
Variable	Tax System	RHPA	2006	2010	2015	2020	2025	2030	2035
Just Value (Billions)	All	1.50%	1.56	1.96	2.60	3.44	4.51	5.92	7.77
		0%	1.56	1.91	2.43	3.10	3.91	4.95	6.25
Taxable Value (Billions)	SOH	1.50%	0.68	0.89	1.22	1.65	2.19	2.91	3.85
		0%	0.68	0.87	1.16	1.52	1.96	2.52	3.21
	Within County Portability	1.50%	0.68	0.88	1.19	1.60	2.13	2.82	3.73
		0%	0.68	0.86	1.14	1.49	1.92	2.47	3.16
	Tiered	1.50%	0.68	0.81	1.10	1.49	2.00	2.66	3.53
		0%	0.68	0.79	1.03	1.33	1.72	2.20	2.81
	Forced Tiered	1.50%	0.68	0.83	1.12	1.51	2.02	2.68	3.55
Taxable Value To Income Ratio	SOH	1.50%	2.87	3.07	3.28	3.49	3.67	3.86	4.04
		0%	2.87	3.01	3.13	3.22	3.29	3.33	3.37
	Within County Portability	1.50%	2.87	3.03	3.21	3.39	3.57	3.74	3.91
		0%	2.87	2.97	3.07	3.16	3.22	3.27	3.32
	Tiered	1.50%	2.87	2.79	2.97	3.15	3.34	3.53	3.70
		0%	2.87	2.71	2.77	2.83	2.88	2.92	2.95
	Forced Tiered	1.50%	2.87	2.86	3.03	3.20	3.38	3.56	3.73

Table II-7: County Tax Base Projections, Continued

Hardee County			Year						
Variable	Tax System	RHPA	2006	2010	2015	2020	2025	2030	2035
Just Value (Billions)	All	1.50%	3.51	4.47	5.99	7.98	10.62	14.06	18.63
		0%	3.51	4.34	5.60	7.18	9.21	11.75	14.99
Taxable Value (Billions)	SOH	1.50%	1.46	1.94	2.69	3.66	4.95	6.62	8.83
		0%	1.46	1.90	2.56	3.38	4.41	5.70	7.34
	Within County Portability	1.50%	1.46	1.91	2.62	3.55	4.79	6.40	8.54
		0%	1.46	1.87	2.50	3.30	4.32	5.59	7.22
	Tiered	1.50%	1.46	1.73	2.39	3.28	4.46	6.00	8.03
		0%	1.46	1.68	2.23	2.93	3.83	4.96	6.38
	Forced Tiered	1.50%	1.46	1.78	2.44	3.32	4.49	6.04	8.07
Taxable Value To Income Ratio	SOH	1.50%	2.74	2.95	3.17	3.37	3.55	3.72	3.89
		0%	2.74	2.89	3.02	3.11	3.17	3.21	3.23
	Within County Portability	1.50%	2.74	2.90	3.09	3.26	3.43	3.60	3.76
		0%	2.74	2.85	2.95	3.03	3.10	3.14	3.18
	Tiered	1.50%	2.74	2.63	2.82	3.01	3.20	3.37	3.54
		0%	2.74	2.55	2.63	2.70	2.75	2.79	2.81
	Forced Tiered	1.50%	2.74	2.70	2.88	3.05	3.22	3.39	3.55

Table II-7: County Tax Base Projections, Continued

Hendry County			Year						
Variable	Tax System	RHPA	2006	2010	2015	2020	2025	2030	2035
Just Value (Billions)	All	1.50%	7.11	9.28	12.80	17.50	23.73	31.90	42.89
		0%	7.11	9.00	11.96	15.75	20.58	26.65	34.50
Taxable Value (Billions)	SOH	1.50%	2.78	3.82	5.47	7.65	10.51	14.25	19.26
		0%	2.78	3.74	5.21	7.05	9.36	12.25	15.98
	Within County Portability	1.50%	2.78	3.74	5.31	7.39	10.16	13.78	18.65
		0%	2.78	3.67	5.07	6.87	9.15	12.02	15.73
	Tiered	1.50%	2.78	3.51	4.99	7.00	9.68	13.22	17.92
		0%	2.78	3.41	4.66	6.27	8.34	10.95	14.28
	Forced Tiered	1.50%	2.78	3.64	5.11	7.11	9.79	13.31	17.99
Taxable Value To Income Ratio	SOH	1.50%	3.25	3.52	3.80	4.03	4.25	4.44	4.64
		0%	3.25	3.45	3.62	3.72	3.78	3.82	3.85
	Within County Portability	1.50%	3.25	3.45	3.69	3.90	4.10	4.30	4.49
		0%	3.25	3.39	3.53	3.62	3.70	3.75	3.79
	Tiered	1.50%	3.25	3.24	3.46	3.69	3.91	4.12	4.32
		0%	3.25	3.15	3.24	3.31	3.37	3.42	3.44
	Forced Tiered	1.50%	3.25	3.36	3.55	3.75	3.96	4.15	4.33

Table II-7: County Tax Base Projections, Continued

Hernando County			Year						
Variable	Tax System	RHPA	2006	2010	2015	2020	2025	2030	2035
Just Value (Billions)	All	1.50%	15.71	21.22	30.27	42.47	58.54	79.97	109.24
		0%	15.71	20.59	28.29	38.23	50.77	66.80	87.89
Taxable Value (Billions)	SOH	1.50%	9.92	14.81	22.49	32.59	45.77	63.26	87.12
		0%	9.92	14.69	21.78	30.61	41.56	55.46	73.67
	Within County Portability	1.50%	9.92	14.24	21.30	30.80	43.27	59.88	82.57
		0%	9.92	14.19	20.90	29.54	40.41	54.30	72.54
	Tiered	1.50%	9.92	11.21	17.06	25.43	36.54	50.81	69.41
		0%	9.92	10.83	15.71	22.35	30.92	41.50	54.44
	Forced Tiered	1.50%	9.92	11.37	17.19	25.54	36.62	50.86	69.46
Taxable Value To Income Ratio	SOH	1.50%	2.33	2.66	2.93	3.15	3.33	3.50	3.66
		0%	2.33	2.63	2.84	2.96	3.02	3.07	3.10
	Within County Portability	1.50%	2.33	2.55	2.78	2.97	3.15	3.31	3.47
		0%	2.33	2.55	2.73	2.85	2.94	3.00	3.05
	Tiered	1.50%	2.33	2.01	2.23	2.46	2.66	2.81	2.92
		0%	2.33	1.94	2.05	2.16	2.25	2.29	2.29
	Forced Tiered	1.50%	2.33	2.04	2.24	2.47	2.66	2.81	2.92

Table II-7: County Tax Base Projections, Continued

Highlands County			Year						
Variable	Tax System	RHPA	2006	2010	2015	2020	2025	2030	2035
Just Value (Billions)	All	1.50%	8.85	11.57	16.00	21.91	29.65	39.87	53.61
		0%	8.85	11.23	14.96	19.72	25.71	33.30	43.13
Taxable Value (Billions)	SOH	1.50%	5.89	8.49	12.46	17.56	24.16	32.82	44.43
		0%	5.89	8.36	11.93	16.26	21.59	28.29	36.92
	Within County Portability	1.50%	5.89	8.16	11.83	16.68	23.02	31.36	42.57
		0%	5.89	8.07	11.44	15.70	21.03	27.75	36.42
	Tiered	1.50%	5.89	6.90	10.01	14.33	20.08	27.62	37.41
		0%	5.89	6.68	9.27	12.69	17.06	22.57	29.52
	Forced Tiered	1.50%	5.89	7.00	10.10	14.39	20.13	27.66	37.43
Taxable Value To Income Ratio	SOH	1.50%	2.48	2.82	3.11	3.32	3.51	3.68	3.84
		0%	2.48	2.78	2.98	3.08	3.13	3.17	3.19
	Within County Portability	1.50%	2.48	2.71	2.95	3.16	3.34	3.52	3.68
		0%	2.48	2.68	2.85	2.97	3.05	3.11	3.15
	Tiered	1.50%	2.48	2.29	2.50	2.71	2.92	3.10	3.24
		0%	2.48	2.22	2.31	2.40	2.48	2.53	2.55
	Forced Tiered	1.50%	2.48	2.33	2.52	2.72	2.92	3.10	3.24

Table II-7: County Tax Base Projections, Continued

Hillsborough County			Year						
Variable	Tax System	RHPA	2006	2010	2015	2020	2025	2030	2035
Just Value (Billions)	All	1.50%	119.64	159.35	223.72	309.76	422.91	572.55	775.13
		0%	119.64	154.64	209.12	278.89	366.74	478.23	623.61
Taxable Value (Billions)	SOH	1.50%	78.23	113.84	169.47	242.10	336.42	460.31	627.61
		0%	78.23	113.00	164.54	228.40	307.38	406.56	535.06
	Within County Portability	1.50%	78.23	109.75	160.61	228.36	317.09	434.13	592.61
		0%	78.23	109.34	157.67	219.44	297.13	395.59	523.78
	Tiered	1.50%	78.23	94.79	141.27	205.40	289.61	398.13	543.02
		0%	78.23	91.96	131.05	182.36	246.68	326.15	425.05
	Forced Tiered	1.50%	78.23	98.05	144.46	208.33	292.20	400.35	544.93
Taxable Value To Income Ratio	SOH	1.50%	1.95	2.20	2.42	2.59	2.74	2.87	3.00
		0%	1.95	2.18	2.35	2.44	2.50	2.54	2.56
	Within County Portability	1.50%	1.95	2.12	2.29	2.44	2.58	2.71	2.83
		0%	1.95	2.11	2.25	2.35	2.42	2.47	2.51
	Tiered	1.50%	1.95	1.83	2.01	2.20	2.36	2.48	2.60
		0%	1.95	1.77	1.87	1.95	2.01	2.03	2.03
	Forced Tiered	1.50%	1.95	1.89	2.06	2.23	2.38	2.50	2.61

Table II-7: County Tax Base Projections, Continued

Holmes County			Year						
Variable	Tax System	RHPA	2006	2010	2015	2020	2025	2030	2035
Just Value (Billions)	All	1.50%	1.17	1.48	1.98	2.64	3.49	4.60	6.08
		0%	1.17	1.44	1.85	2.37	3.02	3.85	4.89
Taxable Value (Billions)	SOH	1.50%	0.41	0.59	0.87	1.23	1.70	2.30	3.10
		0%	0.41	0.59	0.85	1.18	1.57	2.07	2.69
	Within County Portability	1.50%	0.41	0.56	0.81	1.14	1.56	2.12	2.86
		0%	0.41	0.56	0.81	1.11	1.49	1.98	2.59
	Tiered	1.50%	0.41	0.43	0.63	0.91	1.28	1.77	2.42
		0%	0.41	0.42	0.59	0.81	1.08	1.44	1.88
	Forced Tiered	1.50%	0.41	0.47	0.67	0.95	1.32	1.80	2.45
Taxable Value To Income Ratio	SOH	1.50%	0.93	1.10	1.26	1.39	1.51	1.61	1.70
		0%	0.93	1.09	1.24	1.33	1.40	1.45	1.48
	Within County Portability	1.50%	0.93	1.05	1.17	1.29	1.39	1.48	1.57
		0%	0.93	1.05	1.17	1.26	1.33	1.38	1.42
	Tiered	1.50%	0.93	0.80	0.92	1.03	1.14	1.24	1.33
		0%	0.93	0.78	0.85	0.91	0.96	1.00	1.03
	Forced Tiered	1.50%	0.93	0.88	0.97	1.07	1.17	1.26	1.34

Table II-7: County Tax Base Projections, Continued

Indian River County			Year						
Variable	Tax System	RHPA	2006	2010	2015	2020	2025	2030	2035
Just Value (Billions)	All	1.50%	26.21	35.44	50.47	70.69	97.39	132.88	181.29
		0%	26.21	34.39	47.18	63.64	84.46	110.99	145.86
Taxable Value (Billions)	SOH	1.50%	17.85	26.14	39.10	56.09	78.24	107.51	147.35
		0%	17.85	25.86	37.72	52.46	70.77	93.90	124.13
	Within County Portability	1.50%	17.85	25.27	37.28	53.34	74.45	102.41	140.56
		0%	17.85	25.08	36.33	50.74	68.89	91.98	122.24
	Tiered	1.50%	17.85	23.22	34.77	50.51	71.33	98.70	135.68
		0%	17.85	22.60	32.43	45.13	61.16	81.24	107.15
	Forced Tiered	1.50%	17.85	24.32	35.70	51.32	71.96	99.22	136.09
Taxable Value To Income Ratio	SOH	1.50%	2.74	3.06	3.33	3.54	3.72	3.89	4.06
		0%	2.74	3.02	3.21	3.31	3.37	3.40	3.42
	Within County Portability	1.50%	2.74	2.95	3.18	3.37	3.54	3.71	3.87
		0%	2.74	2.93	3.10	3.21	3.28	3.33	3.37
	Tiered	1.50%	2.74	2.72	2.96	3.19	3.40	3.58	3.74
		0%	2.74	2.64	2.76	2.85	2.91	2.94	2.95
	Forced Tiered	1.50%	2.74	2.84	3.04	3.24	3.43	3.59	3.75

Table II-7: County Tax Base Projections, Continued

Jackson County			Year						
Variable	Tax System	RHPA	2006	2010	2015	2020	2025	2030	2035
Just Value (Billions)	All	1.50%	2.69	3.53	4.70	6.22	8.20	10.78	14.18
		0%	2.69	3.43	4.39	5.60	7.11	9.01	11.41
Taxable Value (Billions)	SOH	1.50%	1.28	1.77	2.45	3.33	4.49	5.99	7.97
		0%	1.28	1.75	2.37	3.14	4.10	5.30	6.81
	Within County Portability	1.50%	1.28	1.74	2.38	3.21	4.30	5.72	7.59
		0%	1.28	1.73	2.32	3.08	4.02	5.21	6.71
	Tiered	1.50%	1.28	1.39	1.92	2.65	3.61	4.89	6.54
		0%	1.28	1.34	1.78	2.35	3.08	3.99	5.14
	Forced Tiered	1.50%	1.28	1.40	1.93	2.66	3.63	4.90	6.55
Taxable Value To Income Ratio	SOH	1.50%	1.12	1.21	1.31	1.40	1.48	1.56	1.64
		0%	1.12	1.20	1.27	1.32	1.36	1.38	1.40
	Within County Portability	1.50%	1.12	1.19	1.27	1.35	1.42	1.49	1.56
		0%	1.12	1.18	1.24	1.29	1.33	1.36	1.38
	Tiered	1.50%	1.12	0.95	1.03	1.11	1.20	1.28	1.35
		0%	1.12	0.92	0.95	0.99	1.02	1.04	1.06
	Forced Tiered	1.50%	1.12	0.96	1.04	1.12	1.20	1.28	1.35

Table II-7: County Tax Base Projections, Continued

Jefferson County			Year						
Variable	Tax System	RHPA	2006	2010	2015	2020	2025	2030	2035
Just Value (Billions)	All	1.50%	1.31	1.65	2.22	2.93	3.89	5.13	6.77
		0%	1.31	1.60	2.07	2.64	3.37	4.29	5.45
Taxable Value (Billions)	SOH	1.50%	0.51	0.69	0.98	1.35	1.85	2.48	3.32
		0%	0.51	0.68	0.96	1.29	1.71	2.22	2.87
	Within County Portability	1.50%	0.51	0.67	0.94	1.28	1.73	2.33	3.11
		0%	0.51	0.67	0.92	1.23	1.64	2.15	2.79
	Tiered	1.50%	0.51	0.55	0.79	1.10	1.53	2.07	2.79
		0%	0.51	0.54	0.74	0.98	1.30	1.70	2.19
	Forced Tiered	1.50%	0.51	0.59	0.83	1.14	1.57	2.11	2.83
Taxable Value To Income Ratio	SOH	1.50%	1.39	1.54	1.70	1.83	1.96	2.07	2.18
		0%	1.39	1.53	1.66	1.75	1.81	1.86	1.89
	Within County Portability	1.50%	1.39	1.49	1.62	1.73	1.84	1.94	2.04
		0%	1.39	1.49	1.60	1.68	1.74	1.79	1.83
	Tiered	1.50%	1.39	1.24	1.37	1.49	1.62	1.73	1.84
		0%	1.39	1.20	1.27	1.33	1.38	1.42	1.44
	Forced Tiered	1.50%	1.39	1.31	1.43	1.55	1.66	1.77	1.86

Table II-7: County Tax Base Projections, Continued

Lafayette County			Year						
Variable	Tax System	RHPA	2006	2010	2015	2020	2025	2030	2035
Just Value (Billions)	All	1.50%	0.88	1.12	1.52	2.04	2.69	3.59	4.79
		0%	0.88	1.09	1.42	1.83	2.33	3.00	3.85
Taxable Value (Billions)	SOH	1.50%	0.21	0.32	0.49	0.70	0.96	1.31	1.78
		0%	0.21	0.32	0.48	0.66	0.88	1.17	1.53
	Within County Portability	1.50%	0.21	0.30	0.45	0.64	0.87	1.20	1.64
		0%	0.21	0.30	0.44	0.62	0.83	1.10	1.46
	Tiered	1.50%	0.21	0.27	0.39	0.57	0.79	1.10	1.50
		0%	0.21	0.26	0.37	0.51	0.68	0.90	1.18
	Forced Tiered	1.50%	0.21	0.30	0.43	0.60	0.82	1.12	1.52
Taxable Value To Income Ratio	SOH	1.50%	1.63	1.98	2.32	2.57	2.76	2.94	3.10
		0%	1.63	1.97	2.26	2.43	2.54	2.61	2.66
	Within County Portability	1.50%	1.63	1.86	2.12	2.33	2.51	2.69	2.85
		0%	1.63	1.86	2.09	2.25	2.38	2.47	2.55
	Tiered	1.50%	1.63	1.64	1.86	2.07	2.28	2.46	2.61
		0%	1.63	1.60	1.74	1.85	1.94	2.01	2.05
	Forced Tiered	1.50%	1.63	1.86	2.02	2.19	2.36	2.51	2.64

Table II-7: County Tax Base Projections, Continued

Lake County			Year						
Variable	Tax System	RHPA	2006	2010	2015	2020	2025	2030	2035
Just Value (Billions)	All	1.50%	25.75	36.21	53.52	77.14	108.69	151.05	209.93
		0%	25.75	35.14	50.02	69.45	94.25	126.17	168.89
Taxable Value (Billions)	SOH	1.50%	18.93	28.20	43.35	63.88	91.20	127.84	178.80
		0%	18.93	27.94	41.96	60.03	82.97	112.41	151.74
	Within County Portability	1.50%	18.93	27.60	41.95	61.52	87.61	122.60	171.31
		0%	18.93	27.43	40.98	58.74	81.48	110.80	150.06
	Tiered	1.50%	18.93	21.84	34.28	51.85	75.33	106.04	149.16
		0%	18.93	21.07	31.58	45.79	63.97	86.70	115.66
	Forced Tiered	1.50%	18.93	21.96	34.41	51.98	75.45	106.16	149.27
Taxable Value To Income Ratio	SOH	1.50%	2.27	2.47	2.67	2.83	2.98	3.12	3.26
		0%	2.27	2.45	2.59	2.66	2.71	2.75	2.77
	Within County Portability	1.50%	2.27	2.42	2.58	2.73	2.86	2.99	3.13
		0%	2.27	2.41	2.52	2.61	2.66	2.71	2.74
	Tiered	1.50%	2.27	1.92	2.11	2.30	2.46	2.59	2.72
		0%	2.27	1.85	1.95	2.03	2.09	2.12	2.11
	Forced Tiered	1.50%	2.27	1.93	2.12	2.31	2.47	2.59	2.72

Table II-7: County Tax Base Projections, Continued

Lee County			Year						
Variable	Tax System	RHPA	2006	2010	2015	2020	2025	2030	2035
Just Value (Billions)	All	1.50%	118.25	166.51	246.72	356.02	502.03	698.12	970.80
		0%	118.25	161.59	230.62	320.53	435.35	583.12	781.04
Taxable Value (Billions)	SOH	1.50%	89.51	136.66	211.54	311.16	442.82	618.85	863.36
		0%	89.51	134.49	202.25	287.82	395.58	533.37	717.31
	Within County Portability	1.50%	89.51	132.50	203.33	299.22	426.67	597.31	834.52
		0%	89.51	130.76	195.95	280.39	387.86	525.83	710.20
	Tiered	1.50%	89.51	121.92	188.82	280.71	402.39	565.94	796.26
		0%	89.51	118.39	175.77	250.63	345.29	464.72	625.12
	Forced Tiered	1.50%	89.51	125.72	191.97	283.11	404.17	567.22	797.14
Taxable Value To Income Ratio	SOH	1.50%	4.01	4.48	4.86	5.14	5.38	5.62	5.85
		0%	4.01	4.41	4.64	4.75	4.81	4.84	4.86
	Within County Portability	1.50%	4.01	4.34	4.67	4.94	5.19	5.42	5.66
		0%	4.01	4.28	4.50	4.63	4.72	4.77	4.81
	Tiered	1.50%	4.01	3.99	4.33	4.64	4.89	5.14	5.40
		0%	4.01	3.88	4.03	4.14	4.20	4.22	4.24
	Forced Tiered	1.50%	4.01	4.12	4.41	4.68	4.91	5.15	5.40

Table II-7: County Tax Base Projections, Continued

Leon County			Year						
Variable	Tax System	RHPA	2006	2010	2015	2020	2025	2030	2035
Just Value (Billions)	All	1.50%	25.28	32.99	45.35	61.52	82.76	110.68	148.04
		0%	25.28	32.01	42.39	55.38	71.77	92.45	119.10
Taxable Value (Billions)	SOH	1.50%	14.73	20.28	29.04	40.36	55.15	74.52	100.39
		0%	14.73	20.14	28.26	38.22	50.63	66.19	86.13
	Within County Portability	1.50%	14.73	19.79	27.90	38.48	52.37	70.61	95.02
		0%	14.73	19.71	27.41	37.08	49.26	64.66	84.49
	Tiered	1.50%	14.73	16.54	23.98	33.99	47.07	63.89	86.20
		0%	14.73	15.98	22.16	30.08	40.01	52.20	67.21
	Forced Tiered	1.50%	14.73	16.69	24.15	34.16	47.23	64.04	86.35
Taxable Value To Income Ratio	SOH	1.50%	1.61	1.75	1.89	2.01	2.12	2.23	2.33
		0%	1.61	1.74	1.84	1.91	1.95	1.98	2.00
	Within County Portability	1.50%	1.61	1.71	1.82	1.92	2.02	2.11	2.20
		0%	1.61	1.70	1.79	1.85	1.90	1.93	1.96
	Tiered	1.50%	1.61	1.43	1.56	1.70	1.81	1.91	2.00
		0%	1.61	1.38	1.44	1.50	1.54	1.56	1.56
	Forced Tiered	1.50%	1.61	1.44	1.57	1.70	1.82	1.91	2.00

Table II-7: County Tax Base Projections, Continued

Levy County			Year						
Variable	Tax System	RHPA	2006	2010	2015	2020	2025	2030	2035
Just Value (Billions)	All	1.50%	4.87	6.47	9.08	12.58	17.20	23.34	31.68
		0%	4.87	6.28	8.49	11.33	14.92	19.50	25.48
Taxable Value (Billions)	SOH	1.50%	2.30	3.40	5.14	7.41	10.38	14.30	19.61
		0%	2.30	3.36	4.96	6.95	9.43	12.56	16.63
	Within County Portability	1.50%	2.30	3.28	4.87	6.99	9.80	13.52	18.57
		0%	2.30	3.25	4.74	6.65	9.07	12.17	16.21
	Tiered	1.50%	2.30	2.91	4.33	6.29	8.90	12.38	17.07
		0%	2.30	2.83	4.04	5.61	7.61	10.15	13.42
	Forced Tiered	1.50%	2.30	3.10	4.51	6.44	9.04	12.50	17.18
Taxable Value To Income Ratio	SOH	1.50%	2.57	2.94	3.29	3.55	3.78	3.98	4.18
		0%	2.57	2.91	3.17	3.33	3.43	3.50	3.54
	Within County Portability	1.50%	2.57	2.83	3.11	3.35	3.57	3.77	3.96
		0%	2.57	2.81	3.03	3.19	3.30	3.39	3.46
	Tiered	1.50%	2.57	2.52	2.77	3.02	3.24	3.45	3.64
		0%	2.57	2.45	2.58	2.69	2.77	2.83	2.86
	Forced Tiered	1.50%	2.57	2.68	2.88	3.09	3.29	3.48	3.66

Table II-7: County Tax Base Projections, Continued

Liberty County			Year						
Variable	Tax System	RHPA	2006	2010	2015	2020	2025	2030	2035
Just Value (Billions)	All	1.50%	0.85	1.09	1.46	1.96	2.63	3.47	4.59
		0%	0.85	1.06	1.37	1.77	2.28	2.90	3.69
Taxable Value (Billions)	SOH	1.50%	0.20	0.28	0.40	0.56	0.77	1.03	1.39
		0%	0.20	0.28	0.39	0.53	0.70	0.91	1.18
	Within County Portability	1.50%	0.20	0.28	0.39	0.54	0.73	0.98	1.32
		0%	0.20	0.27	0.38	0.51	0.68	0.89	1.15
	Tiered	1.50%	0.20	0.25	0.34	0.48	0.66	0.89	1.20
		0%	0.20	0.24	0.32	0.43	0.57	0.74	0.95
	Forced Tiered	1.50%	0.20	0.26	0.35	0.49	0.67	0.91	1.21
Taxable Value To Income Ratio	SOH	1.50%	1.26	1.39	1.53	1.65	1.76	1.86	1.96
		0%	1.26	1.38	1.48	1.55	1.60	1.64	1.67
	Within County Portability	1.50%	1.26	1.36	1.48	1.58	1.68	1.77	1.86
		0%	1.26	1.35	1.43	1.50	1.55	1.59	1.63
	Tiered	1.50%	1.26	1.21	1.31	1.41	1.52	1.61	1.69
		0%	1.26	1.18	1.22	1.26	1.30	1.33	1.34
	Forced Tiered	1.50%	1.26	1.26	1.35	1.44	1.54	1.63	1.71

Table II-7: County Tax Base Projections, Continued

Madison County			Year						
Variable	Tax System	RHPA	2006	2010	2015	2020	2025	2030	2035
Just Value (Billions)	All	1.50%	1.16	1.47	1.95	2.58	3.41	4.49	5.90
		0%	1.16	1.42	1.82	2.32	2.96	3.75	4.74
Taxable Value (Billions)	SOH	1.50%	0.64	0.84	1.17	1.59	2.15	2.87	3.82
		0%	0.64	0.83	1.13	1.50	1.96	2.54	3.27
	Within County Portability	1.50%	0.64	0.83	1.14	1.54	2.07	2.75	3.66
		0%	0.64	0.82	1.11	1.46	1.92	2.48	3.20
	Tiered	1.50%	0.64	0.72	0.99	1.36	1.85	2.49	3.31
		0%	0.64	0.70	0.92	1.21	1.59	2.05	2.62
	Forced Tiered	1.50%	0.64	0.73	1.01	1.37	1.87	2.50	3.33
Taxable Value To Income Ratio	SOH	1.50%	1.55	1.67	1.81	1.94	2.06	2.17	2.28
		0%	1.55	1.65	1.75	1.82	1.88	1.92	1.95
	Within County Portability	1.50%	1.55	1.65	1.76	1.87	1.98	2.08	2.18
		0%	1.55	1.63	1.71	1.78	1.83	1.88	1.91
	Tiered	1.50%	1.55	1.43	1.54	1.66	1.77	1.88	1.98
		0%	1.55	1.39	1.43	1.48	1.52	1.55	1.56
	Forced Tiered	1.50%	1.55	1.45	1.56	1.67	1.79	1.89	1.99

Table II-7: County Tax Base Projections, Continued

Manatee County			Year						
Variable	Tax System	RHPA	2006	2010	2015	2020	2025	2030	2035
Just Value (Billions)	All	1.50%	42.44	56.76	80.01	111.12	152.08	206.35	279.98
		0%	42.44	55.08	74.78	100.04	131.89	172.36	225.26
Taxable Value (Billions)	SOH	1.50%	30.59	45.27	67.33	95.71	132.50	180.95	246.57
		0%	30.59	44.76	64.75	89.05	119.02	156.76	205.88
	Within County Portability	1.50%	30.59	43.30	63.66	90.63	125.91	172.45	235.51
		0%	30.59	43.01	62.03	86.07	116.14	154.12	203.54
	Tiered	1.50%	30.59	37.96	56.63	81.77	114.57	158.28	217.76
		0%	30.59	36.79	52.51	72.60	97.53	128.80	169.55
	Forced Tiered	1.50%	30.59	39.08	57.47	82.33	114.95	158.52	217.91
Taxable Value To Income Ratio	SOH	1.50%	2.71	3.09	3.38	3.59	3.77	3.94	4.11
		0%	2.71	3.05	3.25	3.34	3.39	3.41	3.43
	Within County Portability	1.50%	2.71	2.95	3.20	3.40	3.58	3.76	3.93
		0%	2.71	2.93	3.11	3.23	3.31	3.36	3.39
	Tiered	1.50%	2.71	2.59	2.84	3.07	3.26	3.45	3.63
		0%	2.71	2.51	2.64	2.72	2.78	2.81	2.83
	Forced Tiered	1.50%	2.71	2.66	2.89	3.09	3.27	3.45	3.63

Table II-7: County Tax Base Projections, Continued

Marion County			Year						
Variable	Tax System	RHPA	2006	2010	2015	2020	2025	2030	2035
Just Value (Billions)	All	1.50%	29.63	40.54	58.43	82.58	114.64	157.38	216.05
		0%	29.63	39.34	54.61	74.35	99.41	131.45	173.82
Taxable Value (Billions)	SOH	1.50%	17.54	26.73	41.02	59.79	84.44	117.18	162.11
		0%	17.54	26.44	39.49	55.72	76.00	101.76	135.72
	Within County Portability	1.50%	17.54	25.66	38.90	56.71	80.26	111.61	154.68
		0%	17.54	25.50	37.93	53.91	74.16	99.99	134.08
	Tiered	1.50%	17.54	20.64	31.58	47.16	68.13	95.55	131.80
		0%	17.54	19.98	29.20	41.64	57.74	78.02	103.62
	Forced Tiered	1.50%	17.54	21.22	32.04	47.45	68.30	95.68	131.88
Taxable Value To Income Ratio	SOH	1.50%	1.99	2.28	2.52	2.70	2.85	2.99	3.13
		0%	1.99	2.25	2.42	2.51	2.56	2.60	2.62
	Within County Portability	1.50%	1.99	2.19	2.39	2.56	2.71	2.85	2.98
		0%	1.99	2.17	2.33	2.43	2.50	2.55	2.59
	Tiered	1.50%	1.99	1.76	1.94	2.13	2.30	2.44	2.54
		0%	1.99	1.70	1.79	1.88	1.95	1.99	2.00
	Forced Tiered	1.50%	1.99	1.81	1.97	2.14	2.30	2.44	2.54

Table II-7: County Tax Base Projections, Continued

Martin County			Year						
Variable	Tax System	RHPA	2006	2010	2015	2020	2025	2030	2035
Just Value (Billions)	All	1.50%	34.13	44.94	62.38	85.64	116.25	156.75	211.35
		0%	34.13	43.62	58.31	77.11	100.81	130.93	170.03
Taxable Value (Billions)	SOH	1.50%	21.37	30.59	45.07	64.03	88.66	121.01	164.47
		0%	21.37	30.45	44.08	61.07	82.16	108.67	142.84
	Within County Portability	1.50%	21.37	29.55	42.69	60.16	83.05	113.26	154.01
		0%	21.37	29.51	42.14	58.31	78.74	104.70	138.43
	Tiered	1.50%	21.37	27.82	40.95	58.77	82.49	113.95	156.84
		0%	21.37	27.28	38.67	53.17	71.38	94.28	123.80
	Forced Tiered	1.50%	21.37	30.74	44.07	61.98	85.60	116.94	159.65
Taxable Value To Income Ratio	SOH	1.50%	2.87	3.22	3.55	3.81	4.04	4.24	4.44
		0%	2.87	3.20	3.47	3.63	3.74	3.81	3.86
	Within County Portability	1.50%	2.87	3.11	3.36	3.58	3.78	3.97	4.16
		0%	2.87	3.10	3.32	3.47	3.58	3.67	3.74
	Tiered	1.50%	2.87	2.93	3.22	3.50	3.75	3.99	4.23
		0%	2.87	2.87	3.04	3.16	3.25	3.30	3.34
	Forced Tiered	1.50%	2.87	3.23	3.47	3.69	3.90	4.10	4.31

Table II-7: County Tax Base Projections, Continued

Monroe County			Year						
Variable	Tax System	RHPA	2006	2010	2015	2020	2025	2030	2035
Just Value (Billions)	All	1.50%	39.41	48.15	61.75	79.28	101.80	130.54	167.41
		0%	39.41	46.73	57.72	71.38	88.28	109.04	134.69
Taxable Value (Billions)	SOH	1.50%	26.40	34.02	45.50	59.95	78.22	101.32	130.77
		0%	26.40	33.56	43.81	56.11	70.95	88.90	110.84
	Within County Portability	1.50%	26.40	33.03	43.32	56.59	73.60	95.29	123.09
		0%	26.40	32.64	41.98	53.56	67.85	85.38	107.01
	Tiered	1.50%	26.40	32.76	43.95	58.40	77.02	100.68	130.97
		0%	26.40	32.09	41.55	53.02	67.07	84.08	104.97
	Forced Tiered	1.50%	26.40	36.51	47.51	61.72	79.99	103.36	133.40
Taxable Value To Income Ratio	SOH	1.50%	6.84	7.44	8.05	8.58	9.05	9.49	9.92
		0%	6.84	7.34	7.75	8.03	8.21	8.33	8.41
	Within County Portability	1.50%	6.84	7.22	7.67	8.10	8.52	8.93	9.34
		0%	6.84	7.14	7.43	7.66	7.85	8.00	8.12
	Tiered	1.50%	6.84	7.16	7.78	8.36	8.91	9.43	9.93
		0%	6.84	7.01	7.35	7.59	7.76	7.88	7.96
	Forced Tiered	1.50%	6.84	7.98	8.41	8.83	9.26	9.68	10.12

Table II-7: County Tax Base Projections, Continued

Nassau County			Year						
Variable	Tax System	RHPA	2006	2010	2015	2020	2025	2030	2035
Just Value (Billions)	All	1.50%	9.84	13.33	19.03	26.74	36.95	50.59	69.27
		0%	9.84	12.94	17.79	24.08	32.04	42.26	55.73
Taxable Value (Billions)	SOH	1.50%	7.26	10.43	15.49	22.22	31.06	42.85	58.96
		0%	7.26	10.30	14.91	20.74	28.04	37.35	49.58
	Within County Portability	1.50%	7.26	10.18	14.93	21.35	29.81	41.11	56.59
		0%	7.26	10.08	14.50	20.22	27.45	36.73	48.95
	Tiered	1.50%	7.26	9.08	13.51	19.63	27.83	38.64	53.38
		0%	7.26	8.82	12.59	17.52	23.83	31.82	42.08
	Forced Tiered	1.50%	7.26	9.37	13.78	19.87	28.01	38.78	53.50
Taxable Value To Income Ratio	SOH	1.50%	2.79	3.05	3.29	3.49	3.67	3.83	4.00
		0%	2.79	3.01	3.17	3.26	3.31	3.34	3.36
	Within County Portability	1.50%	2.79	2.98	3.17	3.35	3.52	3.68	3.84
		0%	2.79	2.95	3.08	3.17	3.24	3.29	3.32
	Tiered	1.50%	2.79	2.65	2.87	3.08	3.28	3.46	3.62
		0%	2.79	2.58	2.68	2.75	2.81	2.85	2.86
	Forced Tiered	1.50%	2.79	2.74	2.93	3.12	3.31	3.47	3.63

Table II-7: County Tax Base Projections, Continued

Okaloosa County			Year						
Variable	Tax System	RHPA	2006	2010	2015	2020	2025	2030	2035
Just Value (Billions)	All	1.50%	25.75	33.87	46.95	64.33	87.16	117.38	158.08
		0%	25.75	32.87	43.89	57.92	75.58	98.04	127.18
Taxable Value (Billions)	SOH	1.50%	17.90	25.45	37.10	52.18	71.71	97.40	131.90
		0%	17.90	25.11	35.66	48.60	64.57	84.67	110.58
	Within County Portability	1.50%	17.90	24.62	35.39	49.63	68.26	92.88	126.00
		0%	17.90	24.36	34.31	46.91	62.71	82.75	108.68
	Tiered	1.50%	17.90	22.43	32.50	46.22	64.20	87.57	118.60
		0%	17.90	21.79	30.26	41.21	54.96	72.15	93.62
	Forced Tiered	1.50%	17.90	23.13	33.15	46.77	64.66	87.94	118.91
Taxable Value To Income Ratio	SOH	1.50%	2.53	2.81	3.07	3.27	3.45	3.61	3.77
		0%	2.53	2.78	2.95	3.05	3.10	3.14	3.16
	Within County Portability	1.50%	2.53	2.72	2.93	3.11	3.28	3.44	3.60
		0%	2.53	2.69	2.84	2.94	3.01	3.07	3.10
	Tiered	1.50%	2.53	2.48	2.69	2.90	3.09	3.24	3.39
		0%	2.53	2.41	2.51	2.58	2.64	2.67	2.67
	Forced Tiered	1.50%	2.53	2.56	2.74	2.93	3.11	3.26	3.40

Table II-7: County Tax Base Projections, Continued

Okeechobee County			Year						
Variable	Tax System	RHPA	2006	2010	2015	2020	2025	2030	2035
Just Value (Billions)	All	1.50%	4.11	5.22	7.02	9.38	12.50	16.53	21.86
		0%	4.11	5.07	6.56	8.44	10.84	13.81	17.59
Taxable Value (Billions)	SOH	1.50%	2.26	3.01	4.19	5.74	7.78	10.41	13.89
		0%	2.26	2.96	4.04	5.37	7.06	9.14	11.78
	Within County Portability	1.50%	2.26	2.95	4.07	5.54	7.48	9.99	13.31
		0%	2.26	2.92	3.94	5.23	6.88	8.92	11.53
	Tiered	1.50%	2.26	2.63	3.66	5.05	6.91	9.32	12.47
		0%	2.26	2.55	3.41	4.51	5.91	7.67	9.85
	Forced Tiered	1.50%	2.26	2.68	3.72	5.11	6.97	9.38	12.54
Taxable Value To Income Ratio	SOH	1.50%	2.68	2.88	3.10	3.30	3.49	3.66	3.84
		0%	2.68	2.84	2.99	3.09	3.16	3.21	3.25
	Within County Portability	1.50%	2.68	2.83	3.01	3.19	3.35	3.51	3.68
		0%	2.68	2.80	2.92	3.01	3.08	3.14	3.19
	Tiered	1.50%	2.68	2.52	2.71	2.90	3.10	3.28	3.44
		0%	2.68	2.44	2.52	2.59	2.65	2.70	2.72
	Forced Tiered	1.50%	2.68	2.57	2.75	2.94	3.13	3.30	3.46

Table II-7: County Tax Base Projections, Continued

Orange County			Year						
Variable	Tax System	RHPA	2006	2010	2015	2020	2025	2030	2035
Just Value (Billions)	All	1.50%	127.41	173.29	248.36	349.63	483.82	662.50	907.18
		0%	127.41	168.17	232.14	314.78	419.56	553.37	729.85
Taxable Value (Billions)	SOH	1.50%	91.81	132.19	196.79	282.75	395.80	545.78	750.92
		0%	91.81	130.47	189.32	263.81	357.26	475.88	631.74
	Within County Portability	1.50%	91.81	129.14	190.06	272.04	380.35	524.31	721.53
		0%	91.81	127.78	184.26	257.17	349.64	467.69	623.27
	Tiered	1.50%	91.81	115.43	172.35	250.53	353.23	489.25	675.69
		0%	91.81	111.84	160.02	223.14	302.49	401.39	530.14
	Forced Tiered	1.50%	91.81	117.03	174.06	252.16	354.74	490.61	676.86
Taxable Value To Income Ratio	SOH	1.50%	2.58	2.82	3.04	3.22	3.38	3.54	3.69
		0%	2.58	2.78	2.92	3.00	3.05	3.08	3.10
	Within County Portability	1.50%	2.58	2.75	2.93	3.10	3.25	3.40	3.54
		0%	2.58	2.72	2.85	2.93	2.99	3.03	3.06
	Tiered	1.50%	2.58	2.46	2.66	2.85	3.02	3.17	3.32
		0%	2.58	2.38	2.47	2.54	2.58	2.60	2.60
	Forced Tiered	1.50%	2.58	2.49	2.69	2.87	3.03	3.18	3.32

Table II-7: County Tax Base Projections, Continued

Osceola County			Year						
Variable	Tax System	RHPA	2006	2010	2015	2020	2025	2030	2035
Just Value (Billions)	All	1.50%	28.86	42.51	65.36	96.93	139.46	197.05	278.41
		0%	28.86	41.25	61.09	87.27	120.94	164.59	223.99
Taxable Value (Billions)	SOH	1.50%	21.80	33.90	53.82	81.09	117.70	167.21	237.17
		0%	21.80	33.28	51.29	74.76	104.82	143.69	196.52
	Within County Portability	1.50%	21.80	33.30	52.52	79.03	114.68	162.90	231.10
		0%	21.80	32.76	50.34	73.57	103.50	142.33	195.16
	Tiered	1.50%	21.80	29.30	46.80	71.81	105.18	149.06	211.11
		0%	21.80	28.35	43.36	63.85	90.25	123.40	166.54
	Forced Tiered	1.50%	21.80	29.53	47.04	71.95	105.30	149.16	211.20
Taxable Value To Income Ratio	SOH	1.50%	3.71	4.04	4.33	4.57	4.78	4.99	5.20
		0%	3.71	3.96	4.13	4.21	4.26	4.29	4.31
	Within County Portability	1.50%	3.71	3.97	4.22	4.45	4.66	4.86	5.07
		0%	3.71	3.90	4.05	4.14	4.21	4.25	4.28
	Tiered	1.50%	3.71	3.49	3.76	4.04	4.27	4.45	4.63
		0%	3.71	3.38	3.49	3.60	3.67	3.68	3.65
	Forced Tiered	1.50%	3.71	3.52	3.78	4.05	4.28	4.45	4.63

Table II-7: County Tax Base Projections, Continued

Palm Beach County			Year						
Variable	Tax System	RHPA	2006	2010	2015	2020	2025	2030	2035
Just Value (Billions)	All	1.50%	232.87	309.63	434.38	601.52	822.21	1114.73	1511.31
		0%	232.87	300.48	406.02	541.56	713.01	931.10	1215.89
Taxable Value (Billions)	SOH	1.50%	160.98	237.41	354.94	507.13	704.51	963.76	1313.90
		0%	160.98	235.62	344.33	477.73	642.41	849.10	1116.96
	Within County Portability	1.50%	160.98	227.10	333.59	475.24	661.11	906.48	1238.85
		0%	160.98	226.30	327.44	456.39	618.74	824.50	1092.35
	Tiered	1.50%	160.98	211.77	314.64	453.56	637.47	881.56	1214.21
		0%	160.98	206.88	294.78	406.27	545.96	722.27	950.47
	Forced Tiered	1.50%	160.98	225.89	327.69	464.75	646.80	889.06	1220.27
Taxable Value To Income Ratio	SOH	1.50%	2.38	2.72	3.01	3.22	3.40	3.56	3.72
		0%	2.38	2.70	2.92	3.04	3.10	3.14	3.16
	Within County Portability	1.50%	2.38	2.60	2.83	3.02	3.19	3.35	3.51
		0%	2.38	2.59	2.78	2.90	2.99	3.05	3.09
	Tiered	1.50%	2.38	2.43	2.67	2.88	3.08	3.26	3.44
		0%	2.38	2.37	2.50	2.58	2.64	2.67	2.69
	Forced Tiered	1.50%	2.38	2.59	2.78	2.95	3.12	3.29	3.45

Table II-7: County Tax Base Projections, Continued

Pasco County			Year						
Variable	Tax System	RHPA	2006	2010	2015	2020	2025	2030	2035
Just Value (Billions)	All	1.50%	40.87	55.72	80.24	113.23	156.94	215.20	295.09
		0%	40.87	54.07	75.00	101.94	136.10	179.75	237.41
Taxable Value (Billions)	SOH	1.50%	25.89	39.45	60.75	88.65	125.16	173.57	239.85
		0%	25.89	39.15	58.86	83.29	113.72	152.28	202.97
	Within County Portability	1.50%	25.89	37.79	57.34	83.53	118.10	164.06	227.10
		0%	25.89	37.69	56.29	80.16	110.37	148.90	199.69
	Tiered	1.50%	25.89	30.11	46.51	69.43	99.83	140.16	195.00
		0%	25.89	29.08	42.88	61.19	84.56	113.38	150.93
	Forced Tiered	1.50%	25.89	30.70	47.03	69.88	100.20	140.45	195.22
Taxable Value To Income Ratio	SOH	1.50%	2.24	2.58	2.87	3.08	3.26	3.42	3.58
		0%	2.24	2.56	2.78	2.89	2.96	3.00	3.03
	Within County Portability	1.50%	2.24	2.48	2.71	2.90	3.07	3.23	3.39
		0%	2.24	2.47	2.66	2.78	2.87	2.93	2.98
	Tiered	1.50%	2.24	1.97	2.20	2.41	2.60	2.76	2.91
		0%	2.24	1.90	2.02	2.13	2.20	2.23	2.25
	Forced Tiered	1.50%	2.24	2.01	2.22	2.43	2.61	2.77	2.91

Table II-7: County Tax Base Projections, Continued

Pinellas County			Year						
Variable	Tax System	RHPA	2006	2010	2015	2020	2025	2030	2035
Just Value (Billions)	All	1.50%	115.70	144.08	189.13	247.81	323.93	422.82	551.90
		0%	115.70	139.82	176.79	223.11	280.91	353.17	444.02
Taxable Value (Billions)	SOH	1.50%	75.51	103.55	145.62	198.38	265.35	351.29	462.72
		0%	75.51	102.97	141.89	188.04	243.74	312.00	396.80
	Within County Portability	1.50%	75.51	98.77	135.52	183.17	244.78	324.63	428.71
		0%	75.51	98.63	133.73	177.37	231.50	298.86	383.24
	Tiered	1.50%	75.51	88.14	123.49	170.84	231.53	308.01	406.21
		0%	75.51	85.84	115.16	152.37	198.05	253.04	318.88
	Forced Tiered	1.50%	75.51	93.42	128.61	175.45	235.56	311.52	409.18
Taxable Value To Income Ratio	SOH	1.50%	2.01	2.28	2.53	2.73	2.90	3.06	3.20
		0%	2.01	2.26	2.47	2.59	2.67	2.71	2.75
	Within County Portability	1.50%	2.01	2.17	2.36	2.52	2.68	2.82	2.97
		0%	2.01	2.17	2.32	2.44	2.53	2.60	2.65
	Tiered	1.50%	2.01	1.94	2.15	2.35	2.53	2.68	2.81
		0%	2.01	1.89	2.00	2.10	2.17	2.20	2.21
	Forced Tiered	1.50%	2.01	2.05	2.24	2.42	2.58	2.71	2.83

Table II-7: County Tax Base Projections, Continued

Polk County			Year						
Variable	Tax System	RHPA	2006	2010	2015	2020	2025	2030	2035
Just Value (Billions)	All	1.50%	44.20	58.88	82.68	114.48	156.30	211.59	286.43
		0%	44.20	57.14	77.29	103.07	135.54	176.73	230.44
Taxable Value (Billions)	SOH	1.50%	30.24	42.96	63.21	89.94	124.87	170.90	233.13
		0%	30.24	42.47	60.98	84.23	113.22	149.76	197.20
	Within County Portability	1.50%	30.24	41.91	60.85	86.14	119.37	163.25	222.71
		0%	30.24	41.54	59.19	81.82	110.39	146.65	193.92
	Tiered	1.50%	30.24	34.77	51.32	74.40	105.12	144.85	197.35
		0%	30.24	33.62	47.44	65.84	89.37	118.73	155.29
	Forced Tiered	1.50%	30.24	35.09	51.66	74.73	105.43	145.15	197.64
Taxable Value To Income Ratio	SOH	1.50%	1.78	1.95	2.12	2.27	2.39	2.51	2.63
		0%	1.78	1.93	2.05	2.12	2.17	2.20	2.22
	Within County Portability	1.50%	1.78	1.90	2.04	2.17	2.29	2.40	2.51
		0%	1.78	1.89	1.99	2.06	2.11	2.15	2.18
	Tiered	1.50%	1.78	1.58	1.72	1.87	2.01	2.13	2.22
		0%	1.78	1.53	1.59	1.66	1.71	1.74	1.75
	Forced Tiered	1.50%	1.78	1.59	1.74	1.88	2.02	2.13	2.23

Table II-7: County Tax Base Projections, Continued

Putnam County			Year						
Variable	Tax System	RHPA	2006	2010	2015	2020	2025	2030	2035
Just Value (Billions)	All	1.50%	6.82	8.61	11.44	15.17	20.01	26.32	34.63
		0%	6.82	8.35	10.69	13.65	17.35	21.99	27.86
Taxable Value (Billions)	SOH	1.50%	3.91	5.23	7.28	9.95	13.40	17.87	23.73
		0%	3.91	5.16	7.00	9.29	12.10	15.60	20.00
	Within County Portability	1.50%	3.91	5.11	7.01	9.52	12.79	17.04	22.63
		0%	3.91	5.05	6.80	9.00	11.76	15.22	19.60
	Tiered	1.50%	3.91	4.53	6.24	8.54	11.58	15.55	20.78
		0%	3.91	4.40	5.81	7.63	9.92	12.79	16.39
	Forced Tiered	1.50%	3.91	4.65	6.36	8.65	11.68	15.64	20.86
Taxable Value To Income Ratio	SOH	1.50%	2.31	2.52	2.75	2.94	3.11	3.28	3.43
		0%	2.31	2.49	2.64	2.74	2.81	2.86	2.89
	Within County Portability	1.50%	2.31	2.47	2.64	2.81	2.97	3.12	3.27
		0%	2.31	2.44	2.56	2.66	2.73	2.79	2.84
	Tiered	1.50%	2.31	2.19	2.35	2.52	2.69	2.85	3.01
		0%	2.31	2.12	2.19	2.25	2.30	2.35	2.37
	Forced Tiered	1.50%	2.31	2.24	2.40	2.55	2.71	2.87	3.02

Table II-7: County Tax Base Projections, Continued

Saint Johns County			Year						
Variable	Tax System	RHPA	2006	2010	2015	2020	2025	2030	2035
Just Value (Billions)	All	1.50%	31.89	45.48	68.10	99.07	140.58	196.51	274.69
		0%	31.89	44.14	63.66	89.19	121.91	164.14	221.00
Taxable Value (Billions)	SOH	1.50%	22.09	34.14	53.59	79.75	114.48	161.07	226.14
		0%	22.09	33.84	51.90	74.99	104.23	141.73	192.02
	Within County Portability	1.50%	22.09	33.12	51.36	76.20	109.31	153.76	215.95
		0%	22.09	32.95	50.24	72.85	101.79	139.15	189.39
	Tiered	1.50%	22.09	29.58	46.88	70.85	102.95	146.38	207.86
		0%	22.09	28.75	43.68	63.25	87.98	119.71	162.27
	Forced Tiered	1.50%	22.09	31.08	48.28	72.02	103.93	147.19	208.51
Taxable Value To Income Ratio	SOH	1.50%	2.97	3.32	3.61	3.84	4.03	4.21	4.39
		0%	2.97	3.29	3.50	3.61	3.67	3.71	3.73
	Within County Portability	1.50%	2.97	3.22	3.46	3.67	3.85	4.02	4.20
		0%	2.97	3.21	3.39	3.51	3.59	3.64	3.68
	Tiered	1.50%	2.97	2.88	3.16	3.41	3.63	3.83	4.04
		0%	2.97	2.80	2.95	3.04	3.10	3.13	3.15
	Forced Tiered	1.50%	2.97	3.02	3.26	3.47	3.66	3.85	4.05

Table II-7: County Tax Base Projections, Continued

Saint Lucie County			Year						
Variable	Tax System	RHPA	2006	2010	2015	2020	2025	2030	2035
Just Value (Billions)	All	1.50%	38.34	53.85	79.91	115.41	162.71	226.20	314.46
		0%	38.34	52.26	74.69	103.91	141.10	188.94	252.99
Taxable Value (Billions)	SOH	1.50%	24.41	37.31	58.24	86.20	123.12	172.48	241.05
		0%	24.41	36.80	55.90	80.15	110.65	149.65	201.70
	Within County Portability	1.50%	24.41	36.19	55.90	82.65	118.15	165.70	231.83
		0%	24.41	35.80	54.11	77.92	108.22	147.16	199.24
	Tiered	1.50%	24.41	31.67	49.54	74.43	107.34	150.11	210.28
		0%	24.41	30.68	45.92	66.20	91.80	123.67	164.50
	Forced Tiered	1.50%	24.41	32.40	50.21	75.02	107.85	150.53	210.63
Taxable Value To Income Ratio	SOH	1.50%	3.49	3.91	4.27	4.55	4.78	5.00	5.22
		0%	3.49	3.86	4.10	4.23	4.30	4.34	4.37
	Within County Portability	1.50%	3.49	3.80	4.10	4.36	4.59	4.81	5.02
		0%	3.49	3.76	3.97	4.11	4.20	4.27	4.32
	Tiered	1.50%	3.49	3.32	3.64	3.93	4.17	4.36	4.56
		0%	3.49	3.22	3.37	3.49	3.57	3.59	3.56
	Forced Tiered	1.50%	3.49	3.40	3.68	3.96	4.19	4.37	4.56

Table II-7: County Tax Base Projections, Continued

Santa Rosa County			Year						
Variable	Tax System	RHPA	2006	2010	2015	2020	2025	2030	2035
Just Value (Billions)	All	1.50%	14.41	19.82	28.45	40.13	55.73	76.57	105.19
		0%	14.41	19.23	26.59	36.13	48.33	63.95	84.63
Taxable Value (Billions)	SOH	1.50%	8.86	13.20	20.01	29.09	41.15	57.19	79.21
		0%	8.86	13.12	19.47	27.52	37.73	50.71	67.82
	Within County Portability	1.50%	8.86	12.82	19.13	27.67	39.05	54.22	75.09
		0%	8.86	12.78	18.82	26.65	36.70	49.58	66.63
	Tiered	1.50%	8.86	10.52	16.09	23.96	34.37	47.96	66.58
		0%	8.86	10.19	14.89	21.21	29.27	39.25	51.84
	Forced Tiered	1.50%	8.86	10.80	16.38	24.22	34.62	48.19	66.76
Taxable Value To Income Ratio	SOH	1.50%	2.15	2.41	2.64	2.82	2.98	3.13	3.28
		0%	2.15	2.39	2.56	2.67	2.73	2.78	2.81
	Within County Portability	1.50%	2.15	2.34	2.52	2.68	2.83	2.97	3.11
		0%	2.15	2.33	2.48	2.58	2.66	2.72	2.76
	Tiered	1.50%	2.15	1.92	2.12	2.32	2.49	2.63	2.76
		0%	2.15	1.86	1.96	2.06	2.12	2.15	2.15
	Forced Tiered	1.50%	2.15	1.97	2.16	2.35	2.51	2.64	2.76

Table II-7: County Tax Base Projections, Continued

Sarasota County			Year						
Variable	Tax System	RHPA	2006	2010	2015	2020	2025	2030	2035
Just Value (Billions)	All	1.50%	84.02	111.49	156.08	215.46	293.49	396.47	535.58
		0%	84.02	108.20	145.89	193.98	254.51	331.16	430.89
Taxable Value (Billions)	SOH	1.50%	58.92	87.76	130.78	185.51	255.96	348.09	472.14
		0%	58.92	86.79	125.98	173.06	230.69	302.71	395.82
	Within County Portability	1.50%	58.92	83.47	122.69	174.30	241.56	329.83	448.83
		0%	58.92	82.91	119.63	165.78	223.33	295.70	389.37
	Tiered	1.50%	58.92	77.79	115.91	166.39	231.98	317.86	434.49
		0%	58.92	75.80	108.15	148.64	198.69	260.79	340.79
	Forced Tiered	1.50%	58.92	82.64	119.53	169.05	233.81	319.15	435.39
Taxable Value To Income Ratio	SOH	1.50%	3.17	3.67	4.05	4.32	4.55	4.75	4.95
		0%	3.17	3.63	3.90	4.03	4.10	4.13	4.15
	Within County Portability	1.50%	3.17	3.49	3.80	4.06	4.29	4.50	4.71
		0%	3.17	3.46	3.71	3.86	3.97	4.04	4.09
	Tiered	1.50%	3.17	3.25	3.59	3.88	4.12	4.34	4.56
		0%	3.17	3.17	3.35	3.46	3.53	3.56	3.58
	Forced Tiered	1.50%	3.17	3.45	3.70	3.94	4.15	4.36	4.57

Table II-7: County Tax Base Projections, Continued

Seminole County			Year						
Variable	Tax System	RHPA	2006	2010	2015	2020	2025	2030	2035
Just Value (Billions)	All	1.50%	43.32	57.50	80.44	111.13	151.67	205.34	278.01
		0%	43.32	55.80	75.19	100.05	131.53	171.52	223.67
Taxable Value (Billions)	SOH	1.50%	29.71	43.18	64.18	91.59	127.33	174.31	237.73
		0%	29.71	42.98	62.61	86.92	117.12	155.05	204.18
	Within County Portability	1.50%	29.71	41.54	60.59	85.97	119.38	163.47	223.19
		0%	29.71	41.52	59.84	83.28	112.91	150.52	199.47
	Tiered	1.50%	29.71	35.98	53.58	77.56	108.60	149.45	205.74
		0%	29.71	34.86	49.64	68.80	92.55	121.39	158.76
	Forced Tiered	1.50%	29.71	36.77	54.47	78.44	109.39	150.18	206.38
Taxable Value To Income Ratio	SOH	1.50%	1.74	1.97	2.17	2.33	2.46	2.58	2.70
		0%	1.74	1.96	2.12	2.21	2.26	2.30	2.32
	Within County Portability	1.50%	1.74	1.89	2.05	2.18	2.31	2.42	2.54
		0%	1.74	1.89	2.02	2.12	2.18	2.23	2.27
	Tiered	1.50%	1.74	1.64	1.81	1.97	2.10	2.22	2.34
		0%	1.74	1.59	1.68	1.75	1.79	1.80	1.80
	Forced Tiered	1.50%	1.74	1.68	1.84	1.99	2.11	2.23	2.35

Table II-7: County Tax Base Projections, Continued

Sumter County			Year						
Variable	Tax System	RHPA	2006	2010	2015	2020	2025	2030	2035
Just Value (Billions)	All	1.50%	7.20	10.59	16.27	24.14	34.76	49.15	69.50
		0%	7.20	10.28	15.21	21.73	30.14	41.05	55.91
Taxable Value (Billions)	SOH	1.50%	4.63	7.35	11.86	18.07	26.43	37.75	53.80
		0%	4.63	7.30	11.50	17.01	24.10	33.29	45.79
	Within County Portability	1.50%	4.63	7.18	11.45	17.38	25.36	36.17	51.50
		0%	4.63	7.15	11.22	16.64	23.67	32.82	45.31
	Tiered	1.50%	4.63	5.51	9.06	14.27	21.28	30.38	43.11
		0%	4.63	5.32	8.34	12.56	18.08	24.91	33.52
	Forced Tiered	1.50%	4.63	5.58	9.13	14.33	21.33	30.43	43.15
Taxable Value To Income Ratio	SOH	1.50%	2.46	2.73	2.98	3.18	3.35	3.51	3.68
		0%	2.46	2.71	2.89	2.99	3.05	3.10	3.13
	Within County Portability	1.50%	2.46	2.67	2.88	3.05	3.21	3.37	3.52
		0%	2.46	2.66	2.82	2.92	3.00	3.05	3.10
	Tiered	1.50%	2.46	2.05	2.28	2.51	2.70	2.83	2.95
		0%	2.46	1.98	2.09	2.21	2.29	2.32	2.29
	Forced Tiered	1.50%	2.46	2.07	2.29	2.52	2.70	2.83	2.95

Table II-7: County Tax Base Projections, Continued

Suwannee County			Year						
Variable	Tax System	RHPA	2006	2010	2015	2020	2025	2030	2035
Just Value (Billions)	All	1.50%	3.17	4.34	6.05	8.28	11.21	15.08	20.30
		0%	3.17	4.21	5.66	7.45	9.72	12.60	16.33
Taxable Value (Billions)	SOH	1.50%	1.53	2.37	3.59	5.13	7.14	9.78	13.32
		0%	1.53	2.35	3.47	4.83	6.52	8.65	11.38
	Within County Portability	1.50%	1.53	2.28	3.39	4.82	6.70	9.19	12.54
		0%	1.53	2.27	3.31	4.61	6.26	8.35	11.05
	Tiered	1.50%	1.53	1.98	2.92	4.20	5.92	8.19	11.21
		0%	1.53	1.92	2.72	3.74	5.05	6.71	8.81
	Forced Tiered	1.50%	1.53	2.09	3.03	4.31	6.03	8.29	11.29
Taxable Value To Income Ratio	SOH	1.50%	1.69	1.97	2.22	2.41	2.57	2.72	2.86
		0%	1.69	1.95	2.15	2.27	2.35	2.40	2.44
	Within County Portability	1.50%	1.69	1.90	2.10	2.26	2.41	2.55	2.69
		0%	1.69	1.89	2.05	2.17	2.25	2.32	2.37
	Tiered	1.50%	1.69	1.64	1.81	1.97	2.13	2.28	2.40
		0%	1.69	1.60	1.68	1.76	1.82	1.86	1.89
	Forced Tiered	1.50%	1.69	1.74	1.88	2.02	2.17	2.30	2.42

Table II-7: County Tax Base Projections, Continued

Taylor County			Year						
Variable	Tax System	RHPA	2006	2010	2015	2020	2025	2030	2035
Just Value (Billions)	All	1.50%	2.01	2.56	3.42	4.57	6.07	8.01	10.59
		0%	2.01	2.48	3.20	4.11	5.26	6.69	8.52
Taxable Value (Billions)	SOH	1.50%	1.28	1.66	2.27	3.07	4.13	5.49	7.30
		0%	1.28	1.63	2.17	2.85	3.72	4.79	6.16
	Within County Portability	1.50%	1.28	1.65	2.24	3.03	4.05	5.38	7.14
		0%	1.28	1.62	2.15	2.82	3.67	4.74	6.09
	Tiered	1.50%	1.28	1.50	2.05	2.80	3.78	5.07	6.77
		0%	1.28	1.46	1.91	2.51	3.26	4.20	5.40
	Forced Tiered	1.50%	1.28	1.53	2.08	2.83	3.82	5.12	6.82
Taxable Value To Income Ratio	SOH	1.50%	2.49	2.62	2.77	2.92	3.06	3.21	3.35
		0%	2.49	2.57	2.65	2.71	2.76	2.80	2.82
	Within County Portability	1.50%	2.49	2.60	2.74	2.87	3.01	3.14	3.27
		0%	2.49	2.56	2.63	2.68	2.73	2.77	2.80
	Tiered	1.50%	2.49	2.37	2.51	2.66	2.81	2.96	3.10
		0%	2.49	2.30	2.34	2.38	2.42	2.45	2.48
	Forced Tiered	1.50%	2.49	2.40	2.54	2.69	2.84	2.99	3.13

Table II-7: County Tax Base Projections, Continued

Union County			Year						
Variable	Tax System	RHPA	2006	2010	2015	2020	2025	2030	2035
Just Value (Billions)	All	1.50%	0.63	0.83	1.12	1.50	1.99	2.63	3.48
		0%	0.63	0.81	1.04	1.35	1.73	2.20	2.80
Taxable Value (Billions)	SOH	1.50%	0.20	0.29	0.42	0.60	0.82	1.11	1.49
		0%	0.20	0.29	0.42	0.58	0.77	1.01	1.32
	Within County Portability	1.50%	0.20	0.28	0.40	0.56	0.77	1.03	1.39
		0%	0.20	0.29	0.40	0.55	0.74	0.98	1.28
	Tiered	1.50%	0.20	0.21	0.30	0.44	0.62	0.86	1.17
		0%	0.20	0.20	0.28	0.39	0.53	0.70	0.91
	Forced Tiered	1.50%	0.20	0.22	0.32	0.46	0.64	0.88	1.19
Taxable Value To Income Ratio	SOH	1.50%	0.83	0.94	1.05	1.14	1.22	1.30	1.37
		0%	0.83	0.94	1.03	1.10	1.15	1.19	1.22
	Within County Portability	1.50%	0.83	0.91	1.00	1.07	1.14	1.21	1.28
		0%	0.83	0.91	0.99	1.06	1.11	1.15	1.18
	Tiered	1.50%	0.83	0.66	0.75	0.84	0.93	1.01	1.08
		0%	0.83	0.64	0.70	0.74	0.79	0.82	0.84
	Forced Tiered	1.50%	0.83	0.71	0.79	0.87	0.95	1.03	1.10

Table II-7: County Tax Base Projections, Continued

Volusia County			Year						
Variable	Tax System	RHPA	2006	2010	2015	2020	2025	2030	2035
Just Value (Billions)	All	1.50%	58.74	77.31	107.23	146.97	199.20	268.37	361.56
		0%	58.74	75.02	100.23	132.32	172.74	224.16	290.89
Taxable Value (Billions)	SOH	1.50%	38.07	56.42	83.89	118.88	163.96	223.14	302.57
		0%	38.07	55.84	80.94	111.15	148.16	194.60	254.45
	Within County Portability	1.50%	38.07	53.68	78.56	111.33	154.11	210.54	286.45
		0%	38.07	53.37	76.74	106.16	142.95	189.48	249.60
	Tiered	1.50%	38.07	46.31	68.61	99.05	138.73	189.43	256.42
		0%	38.07	44.91	63.54	87.74	118.05	155.27	200.79
	Forced Tiered	1.50%	38.07	47.97	69.99	100.14	139.54	190.03	256.82
Taxable Value To Income Ratio	SOH	1.50%	2.56	2.97	3.30	3.54	3.74	3.93	4.10
		0%	2.56	2.94	3.18	3.31	3.38	3.42	3.45
	Within County Portability	1.50%	2.56	2.82	3.09	3.32	3.52	3.70	3.88
		0%	2.56	2.81	3.02	3.16	3.26	3.33	3.38
	Tiered	1.50%	2.56	2.43	2.70	2.95	3.17	3.33	3.48
		0%	2.56	2.36	2.50	2.61	2.69	2.73	2.72
	Forced Tiered	1.50%	2.56	2.52	2.75	2.98	3.19	3.34	3.48

Table II-7: County Tax Base Projections, Continued

Wakulla County			Year						
Variable	Tax System	RHPA	2006	2010	2015	2020	2025	2030	2035
Just Value (Billions)	All	1.50%	2.36	3.45	4.98	7.04	9.80	13.50	18.61
		0%	2.36	3.35	4.65	6.34	8.50	11.28	14.97
Taxable Value (Billions)	SOH	1.50%	1.42	2.29	3.49	5.08	7.20	10.04	13.95
		0%	1.42	2.26	3.36	4.76	6.53	8.79	11.79
	Within County Portability	1.50%	1.42	2.23	3.34	4.85	6.88	9.59	13.33
		0%	1.42	2.21	3.26	4.62	6.37	8.62	11.61
	Tiered	1.50%	1.42	1.84	2.81	4.15	5.99	8.42	11.76
		0%	1.42	1.79	2.60	3.68	5.10	6.89	9.22
	Forced Tiered	1.50%	1.42	1.91	2.86	4.20	6.02	8.46	11.78
Taxable Value To Income Ratio	SOH	1.50%	2.05	2.32	2.54	2.72	2.88	3.02	3.16
		0%	2.05	2.30	2.45	2.55	2.61	2.64	2.67
	Within County Portability	1.50%	2.05	2.26	2.44	2.60	2.75	2.88	3.02
		0%	2.05	2.24	2.38	2.47	2.54	2.59	2.63
	Tiered	1.50%	2.05	1.87	2.05	2.22	2.39	2.53	2.66
		0%	2.05	1.81	1.90	1.97	2.03	2.07	2.09
	Forced Tiered	1.50%	2.05	1.93	2.09	2.25	2.41	2.54	2.67

Table II-7: County Tax Base Projections, Continued

Walton County			Year						
Variable	Tax System	RHPA	2006	2010	2015	2020	2025	2030	2035
Just Value (Billions)	All	1.50%	19.17	27.52	41.42	60.47	86.08	120.51	168.72
		0%	19.17	26.71	38.72	54.45	74.65	100.66	135.74
Taxable Value (Billions)	SOH	1.50%	16.24	24.04	36.82	54.19	77.45	108.68	152.39
		0%	16.24	23.47	34.75	49.37	68.06	92.07	124.41
	Within County Portability	1.50%	16.24	23.77	36.26	53.36	76.30	107.11	150.24
		0%	16.24	23.23	34.34	48.87	67.53	91.54	123.90
	Tiered	1.50%	16.24	22.97	35.21	52.06	74.78	105.40	148.29
		0%	16.24	22.32	32.89	46.74	64.54	87.51	118.44
	Forced Tiered	1.50%	16.24	23.39	35.56	52.32	74.99	105.56	148.41
Taxable Value To Income Ratio	SOH	1.50%	11.43	12.15	12.84	13.43	14.00	14.57	15.15
		0%	11.43	11.86	12.12	12.24	12.31	12.35	12.37
	Within County Portability	1.50%	11.43	12.01	12.64	13.23	13.80	14.36	14.94
		0%	11.43	11.74	11.97	12.12	12.21	12.28	12.32
	Tiered	1.50%	11.43	11.61	12.28	12.91	13.52	14.13	14.75
		0%	11.43	11.28	11.47	11.59	11.67	11.73	11.78
	Forced Tiered	1.50%	11.43	11.82	12.40	12.97	13.56	14.15	14.76

Table II-7: County Tax Base Projections, Continued

Washington County			Year						
Variable	Tax System	RHPA	2006	2010	2015	2020	2025	2030	2035
Just Value (Billions)	All	1.50%	1.62	2.23	3.02	4.08	5.44	7.24	9.65
		0%	1.62	2.16	2.82	3.67	4.72	6.05	7.76
Taxable Value (Billions)	SOH	1.50%	1.00	1.45	2.03	2.81	3.81	5.14	6.91
		0%	1.00	1.42	1.95	2.61	3.43	4.46	5.79
	Within County Portability	1.50%	1.00	1.43	1.99	2.73	3.69	4.97	6.67
		0%	1.00	1.41	1.91	2.57	3.37	4.40	5.72
	Tiered	1.50%	1.00	1.24	1.72	2.39	3.26	4.43	5.99
		0%	1.00	1.20	1.60	2.13	2.79	3.64	4.74
	Forced Tiered	1.50%	1.00	1.25	1.73	2.39	3.27	4.44	6.00
Taxable Value To Income Ratio	SOH	1.50%	1.95	2.11	2.27	2.42	2.55	2.68	2.81
		0%	1.95	2.08	2.17	2.24	2.29	2.33	2.35
	Within County Portability	1.50%	1.95	2.09	2.22	2.35	2.47	2.59	2.71
		0%	1.95	2.05	2.14	2.20	2.26	2.30	2.33
	Tiered	1.50%	1.95	1.81	1.93	2.05	2.18	2.31	2.44
		0%	1.95	1.75	1.79	1.83	1.87	1.90	1.93
	Forced Tiered	1.50%	1.95	1.82	1.94	2.06	2.19	2.32	2.44

III. PROJECTING THE IMPACT OF CHANGES IN FLORIDA'S PROPERTY TAX SYSTEM ON PUBLIC K-12 EDUCATION FUNDING

III.1 Introduction

In this portion of our report we address the impact on funding for Florida's public K-12 schools of making SOH limits portable or moving to the tiered exemption system proposed by the Florida legislature in June 2007. The primary source of funding for Florida's public K-12 schools is the Florida Education Finance Program, and additional major funding sources include lottery funds, categorical programs, and 0.76 mills of local discretionary funding. Revenue for each of these, in turn, derives primarily from the local property tax base or the state general revenue base. Further, all of these sources are interrelated to one degree or another in the legislation governing the overall state finance program. Therefore, we build a projection of funding over the next decade that allows both for explicate and implicit linkages between these systems. One other major revenue source, the local 2-mill Capital Improvement Tax (CIT), also deserves attention. It can be readily separated from other revenue sources, and we consider it last.

Before we can jump into the simulation of the system, however, we first need projections of the school tax base, full time equivalent students, and funding requirements. We obtain projections of school taxable value by simply multiplying the projections from Part II by the ratio of school taxable value to county taxable value. The next two sections of this volume of our report deal with expenditure targets and FTE projections. After that, we move on to discretionary local millage, which can be calculated formulaically based on the legislation governing it, then to the rest of the state finance program.

Not surprisingly given the results of Part II of our report, portability does not induce much pressure on K-12 funding. The tiered exemption, however, will strain the state budget. Initially, around a billion dollars of additional funding will have to be put toward schools (slightly more or less depending on the amount of house price appreciation) if required local effort millage rates are not to be raised. A one mill increase (20%) in required local effort would also close the gap. Interestingly, a more aggressive funding target does not increase the additional strain on the state budget by much, since it will relax the impact of the 90% cap and allow more efficient use of the property tax base in the most property rich districts.

III.2 Expenditure Targets

Table III-1 below shows FEFP funding for the last 10 academic years. Funding per student has grown at an average annual (continuous) rate of 4.5% over that time. This has been accomplished primarily through increases in local funding – the local share grew from 38.5% to 46.6%. This was driven in large part by rapidly rising property values. With current stagnation in the housing market, this will not continue. Will it be reasonable to allow funding to stagnate with property values?

Ultimately, that is the decision of the legislature. However, it is perhaps instructive to consider how Florida compares to other states. After all, Florida's graduates will be competing in the same labor market as the graduates of other states, and, it is reasonable to expect our schools to provide at least comparable educational opportunities.

Table III-1: FEFP Spending 1997-1998 to 2006-2007

Year	State (Billions)	Local (Billions)	Total (Billions)	Local Share	FTE (Millions)	FEFP $/FTE
1997-1998	6.46	4.04	10.50	38.50%	2.29	4,576
1998-1999	6.78	4.28	11.06	38.74%	2.34	4,728
1999-2000	6.92	4.27	11.19	38.16%	2.33	4,804
2000-2001	7.40	4.54	11.95	38.04%	2.39	5,001
2001-2002	7.33	4.88	12.21	39.99%	2.45	4,976
2002-2003	7.64	5.34	12.98	41.14%	2.50	5,195
2003-2004	8.26	5.78	14.04	41.15%	2.56	5,489
2004-2005	8.77	6.26	15.03	41.66%	2.61	5,759
2005-2006	9.13	7.16	16.29	43.94%	2.64	6,163
2006-2007	9.65	8.42	18.07	46.60%	2.64	6,850

In the 2005-2006 academic year, spending per student enrolled in Florida was 83% of the national average.[12] Salaries in Florida are generally somewhat lower than the national average for any given job, most likely reflecting the compensating differential for pleasant living conditions. So, it may be more instructive to compare educational spending in Florida to other southeastern states. Table III-2 shows total operating expenditures from all sources for the Southeastern states for the 2005-2006 academic year. Florida spent only 94% as much per student as the rest of the Southeast, on average, and only 84% of what was spent by Georgia.

Table III-2: Spending Per Student Southeast US: 2005-2006

State	$/Student
Florida	7,650
Alabama	7,303
Arkansas	6,309
Georgia	9,147
Kentucky	8,195
Louisiana	8,812
Mississippi	6,763
North Carolina	7,465
South Carolina	8,531
Tennessee	7,079
Virginia	9,275
West Virginia	9,790
Average (Excluding Florida)	8,157

[12] Data for the nation and other states from the National Education Association's 2006 publication, *Rankings Of The States 2005 And Estimates Of School Statistics 2006*.

Of course, spending alone does not lead to strong school performance, and it may be possible to run schools more efficiently than in other states, achieving equal or better results with less funding. But it is not possible to reduce funding indefinitely, since adequate funding is a necessary component of an adequate education.[13] Our view is that Florida can not provide an adequate education without spending at least roughly on par with the southeastern states, and certainly can not afford to fall further behind. Therefore, we consider two expenditure targets, maintaining our current spending level relative to the nation, and, catching the average of Southeastern states over the next decade.

From 1995-1996 to 2005-2006, spending per student increased at an average annual continuous rate of 4.6%. This is slightly faster than the rate of growth of nominal per capita income over the time period in question. Given the increasing importance of education in future earnings, this does not seem unreasonable. Therefore, we assume both national and southeastern average spending per student will grow at a continuous annual rate of 4.6% over the next decade. Adjusting for federal and non FEFP funding, we estimate nominal FEFP funding per FTE must reach $10,854 in the 2016-2017 school year to avoid falling further behind other states, and, $11,528 to catch the Southeastern US average (an average annual continuous rate of increase of 5.2%). Table III-3 shows annual expenditures for each target, assuming that expenditure increases at a constant rate.

Table III-3: Target FEFP Expenditure per FTE, 2006-2007 to 2016-2017

Year	Maintain	Catch SE
2006-2007	6,852	6,852
2007-2008	7,174	7,218
2008-2009	7,512	7,603
2009-2010	7,866	8,009
2010-2011	8,236	8,437
2011-2012	8,624	8,887
2012-2013	9,030	9,362
2013-2014	9,455	9,862
2014-2015	9,900	10,388
2015-2016	10,366	10,943
2016-2017	10,854	11,528

III.3 FTE Projections

School enrollment depends mostly on school age population. We estimate the school age population as the sum of those ages 5-9, 10-15, 15-17, and 18-19. We regress the natural log of county level FTE counts from the 2000-2001 through 2006-2007 academic years on the natural log of school age population and a set of county dummy variables. Since some 18-19 year olds still attend K-12 schools, but most do not, we also include the log

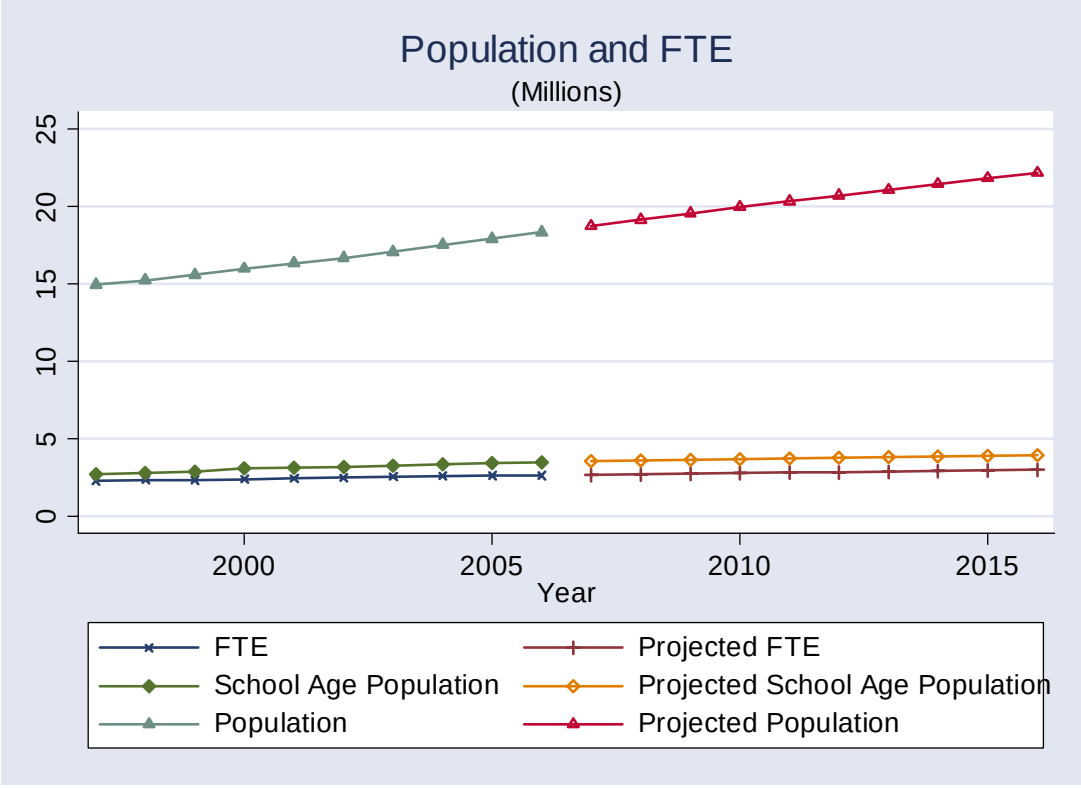
[13] For a more detailed discussion, see James Dewey, "Funding Florida's Educational Standards," in David Denslow and Carol Weissert (eds.), *Tough Choices: Shaping Florida's Future*, University of Florida and Florida State University, October 2005, pp. 137-173.

of the share of 18-19 year olds in the school age population. The regression is weighted by school age population.

The results indicate a 1% increase in school age population is associated with a .847% increase in FTE count, with a standard error of only .049. (Standard errors are robust.) Also, a 1% increase in the share of 18 and 19 year olds in the school age population is estimated to lower the FTE count by .491%, with a standard error of .152. This is too large to represent the direct effect of 18 and 19 year olds that have graduated or left school. For example, increasing the share of 18 and 19 year olds from 12.6% (the average) to 13.86 is predicted to decrease enrollment to 95.4% of its prior level. Our guess is that this simply proxies a larger shift in the age distribution as well as measuring the direct effect.

We use the results of this regression to project FTE counts by county. The average absolute percentage error is only 1.44%. Of the 11 counties with average absolute percentage errors over 3%, only Hernando had an FTE over 10,000 in 2006-2007. Figure III-1 shows actual state population, school age population, and FTE counts through 2006-2007, and, projected values through 2016-2017. Total target funding is then the target per FTE weighted by the number of FTEs.

Figure III-1:



III.4 Local Discretionary FEFP Funding

Two sources of local discretionary funding are available to school boards without voter approval. They can levy .510 mills of compressed discretionary millage, and, if their tax base per FTE is below the state average, the state contributes funds to bring the amount raised to the state average. School boards can also levy up to .25 mills of fully equalized funding. They may raise $100 extra per FTE, through this source. In counties where the full .25 mill does not raise $100 per FTE, the state contributes enough to bring the total to $100. The per FTE equalized amount is revised upward from time to time. We simply assume that it increases yearly with inflation and real per capita income, though in reality the increases will be less frequent, but, each actual jump will be correspondingly larger.

Using the projections of the tax base from part 1 of our report, Table III-4 below presents our estimates of what total compressed and equalized local discretionary funding would be in 2007-2008 under the current system, within county portability, and, under the new tiered system. As can be seen, both alternatives result in slightly less funding from these sources, with the biggest drop under the tiered system. This is a direct result of the reductions in the tax base from the alternative systems.

In terms of absolute funding, overall declines in discretionary funding do not matter if they are compensated for by increases in state funding or required local effort. However, local discretionary funding is often contentious because its distribution is related to the tax base per student. This has been greatly reduced by compression of the .510 mills local discretion. However, these changes to the property tax system potentially impact the distribution of funding across districts through the impact on discretionary funds. The bottom of Table III-4 presents summary statistics (FTE weighted) that shed some light on this issue. Whether measured by the spread between minimum and maximum, standard deviation, or mean absolute deviation, both alternatives result in slightly less variation across counties in discretionary funding.

III.5 Modeling Non-Discretionary State Finance Program Funding

With the above estimates of discretionary funding and expenditure targets, total target nondiscretionary FEFP funding is just the difference between the two. However, how this burden is split between state sources and required local effort has important implications for assessing the impact of property tax reforms. The fact that required local effort may not exceed 90% of a district's FEFP funding means that the distribution of funding across districts affects the distribution of revenue between state and local sources. FEFP funding is largely determined by the product of FTE, program cost factors, the district cost differential, and, base funding per student. However, other details of FEFP funding change from year to year, as do details regarding other state funding sources (categorical programs and discretionary lottery funds). Rather than building the details of any particular year's allocation into our projection, we regress district level non-discretionary funding per FTE for the 1997-1998 through 2005-2006 academic years on a number of variables intended to capture the stable distributional aspects of funding and use this to project the allocation of total non-discretionary state finance program funding

Table III-4: 2007-2008 Total Discretionary Funding per FTE, Tax Alternatives

	No Change		Portability		Tiered	
County	1.5% RHPA	0% RHPA	1.5% RHPA	0% RHPA	1.5% RHPA	0% RHPA
Alachua	448.75	448.32	444.63	444.36	410.33	408.54
Baker	448.75	448.32	444.63	444.36	410.33	408.54
Bay	473.43	472.07	470.00	468.77	443.63	441.38
Bradford	448.75	448.32	444.63	444.36	410.33	408.54
Brevard	448.75	448.32	444.63	444.36	410.33	408.54
Broward	448.75	448.32	444.63	444.36	410.33	408.54
Calhoun	448.75	448.32	444.63	444.36	410.33	408.54
Charlotte	863.38	861.31	853.36	851.64	790.50	786.18
Citrus	517.57	516.73	512.16	511.53	458.17	455.52
Clay	448.75	448.32	444.63	444.36	410.33	408.54
Collier	1087.76	1085.41	1077.35	1075.39	1037.3	1032.86
Columbia	448.75	448.32	444.63	444.36	410.33	408.54
De Soto	448.75	448.32	444.63	444.36	410.33	408.54
Dixie	448.75	448.32	444.63	444.36	410.33	408.54
Duval	448.75	448.32	444.63	444.36	410.33	408.54
Escambia	448.75	448.32	444.63	444.36	410.33	408.54
Flagler	626.37	625.09	622.78	621.66	557.23	554.09
Franklin	1708.16	1700.15	1699.93	1692.17	1669.78	1659.84
Gadsden	448.75	448.32	444.63	444.36	410.33	408.54
Gilchrist	448.75	448.32	444.63	444.36	410.33	408.54
Glades	448.75	448.32	444.63	444.36	410.33	408.54
Gulf	850.57	846.66	847.17	843.37	822.75	817.87
Hamilton	448.75	448.32	444.63	444.36	410.33	408.54
Hardee	448.75	448.32	444.63	444.36	410.33	408.54
Hendry	448.75	448.32	444.63	444.36	410.33	408.54
Hernando	448.75	448.32	444.63	444.36	410.33	408.54
Highlands	448.75	448.32	444.63	444.36	410.33	408.54
Hillsborough	448.75	448.32	444.63	444.36	410.33	408.54
Holmes	448.75	448.32	444.63	444.36	410.33	408.54
Indian River	678.46	677.64	671.61	671.07	623.44	620.51
Jackson	448.75	448.32	444.63	444.36	410.33	408.54
Jefferson	448.75	448.32	444.63	444.36	410.33	408.54
Lafayette	448.75	448.32	444.63	444.36	410.33	408.54
Lake	448.75	448.32	444.63	444.36	410.33	408.54
Lee	747.62	745.71	740.18	738.56	690.03	686.27
Leon	448.75	448.32	444.63	444.36	410.33	408.54
Levy	448.75	448.32	444.63	444.36	410.33	408.54
Liberty	448.75	448.32	444.63	444.36	410.33	408.54
Madison	448.75	448.32	444.63	444.36	410.33	408.54
Manatee	511.14	510.61	504.31	504.08	453.66	451.25
Marion	448.75	448.32	444.63	444.36	410.33	408.54
Martin	778.18	778.28	770.73	771.08	728.58	726.40
Miami-Dade	448.75	448.32	444.63	444.36	410.33	408.54
Monroe	1812.83	1807.94	1797.46	1793.03	1760.45	1753.38
Nassau	483.11	482.34	480.00	479.38	438.05	435.90
Okaloosa	448.75	448.32	444.63	444.36	410.33	408.54
Okeechobee	448.75	448.32	444.63	444.36	410.33	408.54
Orange	448.75	448.32	444.63	444.36	410.33	408.54
Osceola	448.75	448.32	444.63	444.36	410.33	408.54
Palm Beach	622.76	622.56	614.75	614.83	580.34	578.30
Pasco	448.75	448.32	444.63	444.36	410.33	408.54
Pinellas	483.29	483.27	477.50	477.68	435.79	433.96
Polk	448.75	448.32	444.63	444.36	410.33	408.54
Putnam	448.75	448.32	444.63	444.36	410.33	408.54
Saint Johns	583.89	583.57	578.79	578.69	524.31	521.77
Saint Lucie	465.11	464.28	461.13	460.46	418.43	416.16
Santa Rosa	448.75	448.32	444.63	444.36	410.33	408.54
Sarasota	885.94	884.93	871.39	870.89	817.11	813.59
Seminole	448.75	448.32	444.63	444.36	410.33	408.54
Sumter	448.75	448.32	444.63	444.36	410.33	408.54
Suwannee	448.75	448.32	444.63	444.36	410.33	408.54
Taylor	448.75	448.32	444.63	444.36	410.33	408.54
Union	448.75	448.32	444.63	444.36	410.33	408.54
Volusia	448.75	448.32	444.63	444.36	410.33	408.54
Wakulla	448.75	448.32	444.63	444.36	410.33	408.54
Walton	1415.40	1408.01	1410.01	1402.84	1365.15	1356.52
Washington	448.75	448.32	444.63	444.36	410.33	408.54
Mean	506.00	506.00	501.00	501.00	465.00	463.00
Minimum	449.00	448.00	445.00	444.00	410.00	409.00
Maximum	1813.00	1808.00	1797.00	1793.00	1760.00	1753.00
Standard Deviation	152.00	151.00	150.00	150.00	147.00	147.00
Mean Absolute Deviation	89.00	89.00	88.00	88.00	85.00	85.00

across districts. Yearly dummy variables are included to absorb year to year variation in total funding. The first variable to discuss is the District Cost Differential (DCD), which reflects variation in the cost of providing equal operating resources across districts. Eighty percent of the DCD is intended to reflect variation in labor costs, and, the other 20% reflects costs that are assumed to remain constant across districts, such as the cost of paper. We find that the allocation is proportional to the DCD for the 2004-2005, 2005-2006, and, 2006-2007 academic years (for the final analysis, we had to drop the 2006-2007 academic year due to lack of county level per capita income data for that year). However, before that time, the response was significantly less than one for one. That is, other aspects of the state finance program counter or mitigate the DCD, so that overall adjustment is about .79 to 1 to variation in the DCD before the 2004-2005 academic year (the standard error of this is estimate is .058).

What might explain this? The basis of the portion of the DCD intended to reflect labor costs, the Florida Price Level Index (FPLI), was changed in with the 2003 FPLI, to rely on relative wage data rather than retail price level data, to improve its accuracy as a measure of labor costs. Since there has been less cross district variation in the FPLI since that time, and, since what variation remains has been more accurately related to true cost, it appears the legislature no longer compresses variability introduced by the DCD in other components of state funding. To build this into our projections, we use the natural log of total funding per student deflated by the DCD as our independent variable. We then include a variable that is equal to the log of the DCD prior to 2004-2005 and 0 otherwise. The regression is weighted by FTE's and reported standard errors are based on robust estimates clustered at the county level.

We include the log of the ratio of weighted to unweighted FTEs, reflecting program cost factors. The elasticity of non-discretionary funding with respect to program cost factors is 0.722, with a standard error of 0.073. Thus, overall funding also does not adjust fully to differences in program cost factors, as measured. We include the log of FTEs to control for adjustments in funding to compensate for economies of scale (including the sparsity adjustment). We find a scale funding elasticity of -.008, with a standard error of .002. Other testing revealed that this effect does not vanish at the upper threshold of the sparsity adjustment.

The other variables included are population per FTE, total personal income per FTE, and, school taxable value per FTE (all in logarithms). Higher population per FTE reflects more bargaining power in the sense of having more state legislators per student. The funding elasticity of population per student is 0.09 with a standard error of .024. Thus, the effect is very significant statistically. Even though there is no formulaic element in base FEFP funding to directly compensate for educational burdens potentially imposed in poor areas, the funding elasticity of income per student is -0.04, and with a standard error of .015, is significant statistically. Higher tax bases per student result in more discretionary funding and more funding though the Capital Improvement tax and through other local levies approved by voters. The legislature may compensate for this by structuring funding details to favor districts with a lower tax base per FTE. The estimated funding elasticity with respect to the tax base per student is -.008, and the standard error

is .005. Statistically, this finding is not quite significant at standard levels for a two-tailed test, but, it is of the expected sign.

Overall these relatively few variables fit the allocation of all non-discretionary state programs funding extremely well. The average absolute percentage error is only 1.1%. Thus, we feel reasonably comfortable using them to project the distribution of total non-discretionary funding across districts. However, since the 90% cap pertains only to FEFP funding, we need to differentiate between FEFP funding and other state program funding. To do so, we simply use the average ratio of FEFP funding to total state program funding from 1997-1998 through 2006-2007.

III.6 Projecting Required Local Effort Millage and Counties at the 90% Cap

With this model of allocation, the total expenditure targets established by the FTE projections and our estimates of spending per FTE needed to maintain the current level of service relative to the rest of the country (Maintain) or to catch the other southeastern states (Catch SE), and the estimates of total discretionary funding and the compensating and equalizing funding contributed by the state, we can project the impact of alternative property tax systems for different levels of state average required local effort millage (RLEM).

RLEM was 5.01 for the 2006-2007 academic year. Exactly how RLEM will be set is a political decision made year by year. But, it is doubtful that any reasonable funding goal can be met at less than RLEM of 5. Further, since school millage is capped at 10 mills, since RLEM is higher in some districts than the state average owing to differing assessment levels (relative to "true" just value as determined by the Florida Department of Revenue), since the local board controlled Capital Improvement Tax CIT) is 2 mills, and, since local discretionary millage totals up to 0.76 mills, 7 mills is the effective limit for RLEM. Therefore, we make an initial projection of required funding from state sources required to meet each spending target for RLEM of 5, 6, and 7, for the current system (No Change), under portability, and under the tiered system, all for both 1.5% and 0% real house price appreciation (RHPA).

Table III-5 shows the number of districts out of 67 subject to the 90% cap on RLEM for the 2007-2008 and 2016-2017 academic years for all scenarios. Ten counties were subject to the cap in 2006. However, if funding grows only at the rate needed to maintain our current position, that number grows considerably over the next decade or with increases in RLEM. If funding grow as at the more rapid rate needed to catch the southeast, the number of counties does not become as large, particularly at RLEM of 5 or 6, and, particularly under the tiered system.

At 7 mills, however, the number of counties at the 90% cap becomes very large at the lower spending trajectory both in the short run and in the long run. At the higher spending trajectory, the constraint is relaxed in the short run, but the number at the cap still grows strongly over the next decade. Having a large percentage of the tax base at the

Table III-5: Impact of Alternatives on 90% FEFP Cap

			Number Capped			
Average			Maintain		Catch SE	
RLE Mills	System	RHPA	2007-2008	2016-2017	2007-2008	2016-2017
5	No Change	1.5%	11	14	9	12
5	No Change	0.0%	11	13	9	11
5	Portability	1.5%	11	13	9	11
5	Portability	0.0%	11	13	9	11
5	Tiered	1.5%	9	13	7	11
5	Tiered	0.0%	9	12	7	8
6	No Change	1.5%	13	20	11	14
6	No Change	0.0%	13	19	11	13
6	Portability	1.5%	13	19	11	13
6	Portability	0.0%	13	17	11	13
6	Tiered	1.5%	13	15	10	13
6	Tiered	0.0%	13	13	10	11
7	No Change	1.5%	17	26	13	19
7	No Change	0.0%	17	25	13	16
7	Portability	1.5%	17	25	13	17
7	Portability	0.0%	17	25	13	16
7	Tiered	1.5%	13	20	13	13
7	Tiered	0.0%	13	17	13	13

cap is inefficient because it causes strong variation in marginal tax rates across counties. It is also likely inequitable and politically unfeasible for the same reason. Therefore, we assume the state will not choose to raise needed revenue by boosting RLEM to 7 and focus on our projections assuming RLEM of 5 and 6.

III.7 Projecting Impacts on State K-12 Funds

Table III-6 shows state funds needed to maintain current levels of public K-12 expenditure relative to the rest of the US, assuming RHPA=1.5%, in billions of dollars. With no change, and at 5 mills, $10.6 million is the projected need for state funds in 2007-2008. The July 18th Second Calculation of the FEFP has state funding at 10.3 billion, but has higher total required local effort at a state average RLEM of 4.84. This is possible because we projected 2007 school taxable value at $1,816.6 billion while the preliminary 2007 tax roll came out at $1,824.9 billion, with a slightly different distribution. Also, the Second Calculation has 11 counties at the 90% cap, just like our projection. We take this as a relatively encouraging confirmation of our projection methodology.

The important part for our story, though, is the relative increases needed under portability and the tiered system. Under portability, only an additional $0.1 billion would be needed, while, under the tiered system, an additional $0.9 billion is needed. Over time, the difference grows with portability, but, declines, but stays positive, with the tiered system. Under the tiered system, after an additional need for approximately 8% more state funding, further increases at roughly the same rate at which state funding has increased over the past decade will suffice to maintain our current relative funding level. Alternatively, there is room to make up the difference with a moderate increase in RLEM (to something less than 6 mills).

Table III-6: State Funds Required to Maintain Current Relative Level (RHPA=1.5%, Billions of Dollars)

System		No Change		Portability		Tiered	
Average RLEM		5	6	5	6	5	6
Year	2007	10.6	9.3	10.7	9.4	11.5	10.2
	2008	11.0	9.6	11.1	9.7	12.0	10.7
	2009	11.4	9.9	11.6	10.1	12.5	11.1
	2010	11.8	10.2	12.1	10.5	13.1	11.6
	2011	12.3	10.6	12.7	11.0	13.7	12.1
	2012	12.9	11.0	13.3	11.5	14.3	12.7
	2013	13.5	11.5	13.9	12.0	15.0	13.2
	2014	14.1	12.0	14.6	12.6	15.8	13.8
	2015	14.8	12.5	15.4	13.2	16.5	14.5
	2016	15.5	13.1	16.1	13.7	17.3	15.1

Table III-7 deals with the case in which RHPA is 0% and the goal is still to maintain current levels of public K-12 expenditure relative to the rest of the US. This may be the best illustration of the near term impact of the tiered system. More additional state funding is needed with lower property values to make up for switching to the tiered system or to portability. At 5 mills, the difference of $1.1 billion in 2008 is a sizeable fraction of all state revenues. There is still room, however, to make up the difference by increasing RLEM to about 6 mills. This would have the added benefit of reducing the impact of the 90% cap on required local effort on the efficiency of the property tax system.

Table III-7: State Funds Required to Maintain Current Relative Level (RHPA=0%, Billions of Dollars)

System		No Change		Portability		Tiered	
Average RLEM		5	6	5	6	5	6
Year	2007	10.6	9.3	10.7	9.4	11.6	10.3
	2008	11.0	9.6	11.2	9.7	12.1	10.8
	2009	11.4	9.9	11.6	10.1	12.7	11.3
	2010	11.9	10.3	12.1	10.5	13.3	11.8
	2011	12.4	10.7	12.7	11.0	14.0	12.4
	2012	13.0	11.2	13.4	11.6	14.7	13.1
	2013	13.7	11.7	14.1	12.2	15.5	13.8
	2014	14.4	12.3	14.8	12.8	16.4	14.5
	2015	15.2	12.9	15.6	13.4	17.3	15.3
	2016	15.9	13.5	16.4	14.1	18.1	16.1

Table III-8 presents state funding needed to catch the rest of the southeast US over the next decade. The additional funding required to meet this target expenditure with portability or the tiered system is higher. However, initial increase is no larger, despite the increase in overall funding. This is because fewer districts reach the 90% cap with higher funding per FTE, so that the property tax base is more fully utilized, particularly in those districts with the most taxable value per FTE. Table III-9 shows the results for the higher expenditure target but no real house price appreciation. If property values indeed stagnate, it will be hard to muster the political support for a sizable increase in funding per student in the near term. So this may be the least relevant of our projections.

Table III-8: State Funds Required to Catch the Southeast US (RHPA=1.5%, Billions of Dollars)

System		No Change		Portability		Tiered	
Average RLEM		5	6	5	6	5	6
Year	2007	10.5	9.1	10.6	9.2	11.5	10.1
	2008	11.0	9.4	11.2	9.6	12.1	10.6
	2009	11.5	9.8	11.7	10.0	12.7	11.1
	2010	12.0	10.2	12.3	10.5	13.4	11.7
	2011	12.6	10.7	13.0	11.1	14.1	12.3
	2012	13.3	11.3	13.8	11.8	14.9	13.0
	2013	14.0	11.9	14.6	12.4	15.8	13.7
	2014	14.8	12.5	15.5	13.2	16.7	14.5
	2015	15.7	13.3	16.4	13.9	17.7	15.3
	2016	16.5	14.0	17.3	14.7	18.7	16.2

Table III-9: State Funds Required to Catch the Southeast US (RHPA=0%, Billions of Dollars)

System		No Change		Portability		Tiered	
Average RLEM		5	6	5	6	5	6
Year	2007	10.6	9.1	10.6	9.2	11.5	10.2
	2008	11.0	9.4	11.2	9.6	12.2	10.7
	2009	11.5	9.8	11.8	10.1	12.9	11.3
	2010	12.1	10.3	12.4	10.6	13.6	12.0
	2011	12.7	10.9	13.1	11.2	14.5	12.7
	2012	13.5	11.5	13.9	11.9	15.4	13.5
	2013	14.3	12.2	14.8	12.6	16.4	14.3
	2014	15.2	12.9	15.7	13.4	17.4	15.2
	2015	16.1	13.7	16.7	14.2	18.5	16.2
	2016	17.1	14.5	17.7	15.1	19.7	17.2

III.8 Capital Improvement Tax

While not part of the state finance program, the 2-mill Capital Improvement Tax (CIT) is the primary source of funding for school capital needs. Any reduction in taxable value therefore affects the ability of school districts to provide adequate facilities. Since this reduction is proportional to the reduction in taxable value, multiplying the changes in taxable value in Table II-7 at the end of Section II by 0.002 provides a good estimate of the CIT revenue lost to each district. Figure III-2 plots the state total (in millions) under portability. The initial drop is $43 million with 1.5% RHPA and $41 million with 0%RHPA. The loss is much greater with the tiered system, as shown in Figure III-3. The initial loss is $405 million with 1.5% RHPA and 420 million with 0% RHPA. The loss is larger with 0%RHPA because one year's appreciation has little impact on taxable value under the current system, since most of it is capped anyway, but, it does lower taxable value considerably under the tiered system, thus, increasing the difference between the two.

Figure III-2:

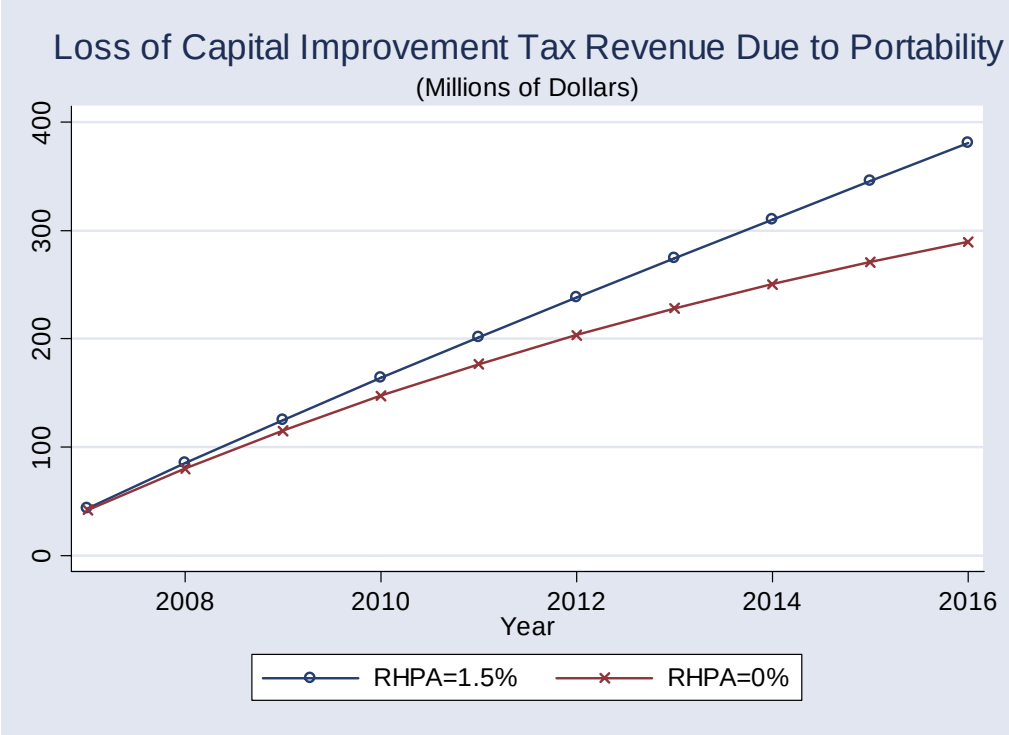
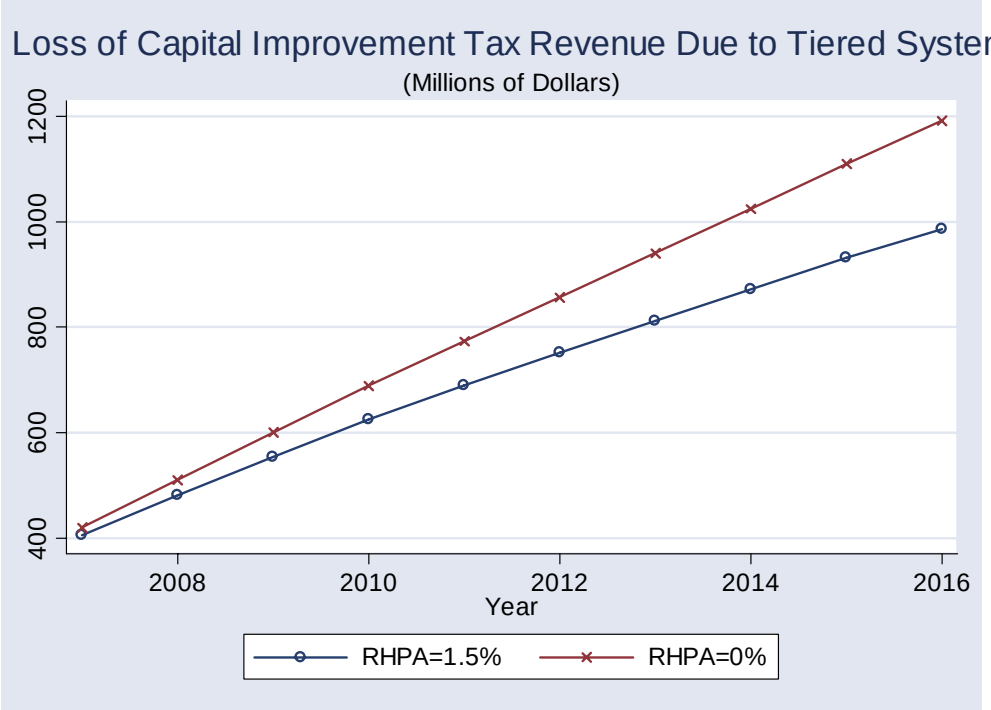


Figure III-3:



If the state is to hold schools harmless in the changeover to the tiered system, this loss of CIT revenue must also be funded from state funds. It would seem possible to argue that it does not make sense to fund the entire estimated "loss" because, as argued in Section II, if there is any real house price appreciation, the tax base will outstrip the level necessary to keep pup with income growth. This is at most partially correct, though, since real house price appreciation will also obviously be correlated with increases in the costs of school related structures, necessitating somewhat faster increases in the capital budget for schools.

III.9 Conclusion

In this section we have considered the impact of the adoption of portability or a tiered exemption system on public school K-12 funding in Florida. Given the results of Section II of our report, it is not surprising that portability does not induce much pressure on K-12 funding. The tiered exemption, however, will strain the state budget. Initially, around a billion dollars of additional funding will have to be put toward schools (slightly more or less depending on the amount of house price appreciation) if required local effort millage rates are not to be raised. A 1-mill increase (20%) in required local effort would also close the gap. Interestingly, a more aggressive funding target does not increase the additional strain on the state budget by much, since it will relax the impact of the 90% cap and allow more efficient use of the property tax base in the most property rich districts.

IV. LOCAL GOVERNMENT RESPONSES TO CHANGES IN THE PROPERTY TAX SYSTEM

In this section, we analyze the potential impact of different property tax reform proposals on local government budgets. We first provide a succinct description of the importance of the property tax to local governments and their behavior after the introduction of the SOH exemption in 1995. We then offer some theoretical discussion about local governments' expenditures and a historical account for the last 25 years. We proceed to discuss the budgetary effects of the current reform proposals in terms of both revenues and expenditures, concluding with a brief study of Florida's small counties.

IV.1 Introduction

The property tax is the leading single source of tax revenue for Florida's local governments. Property taxes in Florida are used to fund the activities of counties, school districts, cities and a variety of special districts such as water management districts, fire control districts, port authorities, and community redevelopment areas. This revenue source accounts for 31% and 74% of total revenues and tax revenues respectively for county governments, 18% and 56% for cities, 38% and 95% for school districts; and 20% and 99% for special districts.[14] This prominence of property taxes in local governments' finances is founded in the Florida Constitution, which reserves property taxes on real and tangible personal property exclusively for local governments.

Tax rates for county, city and school district are each capped at 10 mills. In fact, there is considerable variation across districts in terms of millage rates, with the average total millage rate at 17.4 mills, with a maximum of 24.04 mills in Alachua County and a minimum of 8.59 mills in Franklin. Thus, some counties are closer to the cap than others and face tighter constraints for future adjustments to changes in the property tax system. Figure IV-1 shows a clear geographical pattern in terms of millage rates: in general counties in the southeast and in the Tampa Bay area have the highest rates, while counties in the Panhandle have the lowest.

Examples of exemptions include the homestead exemption, which reduces the taxable value of a primary residence property by $25,000; the widow/widower exemption (which reduces the taxable value of a property by an additional $500 if the owner is a widow or widower), and the blind person exemption (which reduces the taxable value by an additional $500 if the owner is blind). In 1992, Florida voters expanded the homestead exemption by approving an amendment to the state constitution limiting the annual increases in the taxable value of a homestead property to 3% or the rate of inflation, whichever is less, as long as the owner remains in the same property. This limit applies to homestead parcels until ownership changes, at which point the assessed value is reset to the market value and the limit process begins again. This amendment is popularly known as the Save Our Homes Amendment (SOH), and was implemented in 1995. Since 1995 and because of the real property appreciation that occurred in the last decade, the SOH has become substantial.

[14] Fiscal year 2003-2004. Property Tax Reform Committee, State of Florida, December 2006.

Figure IV-1: Average Countywide Property Tax Millage Rates, 2005

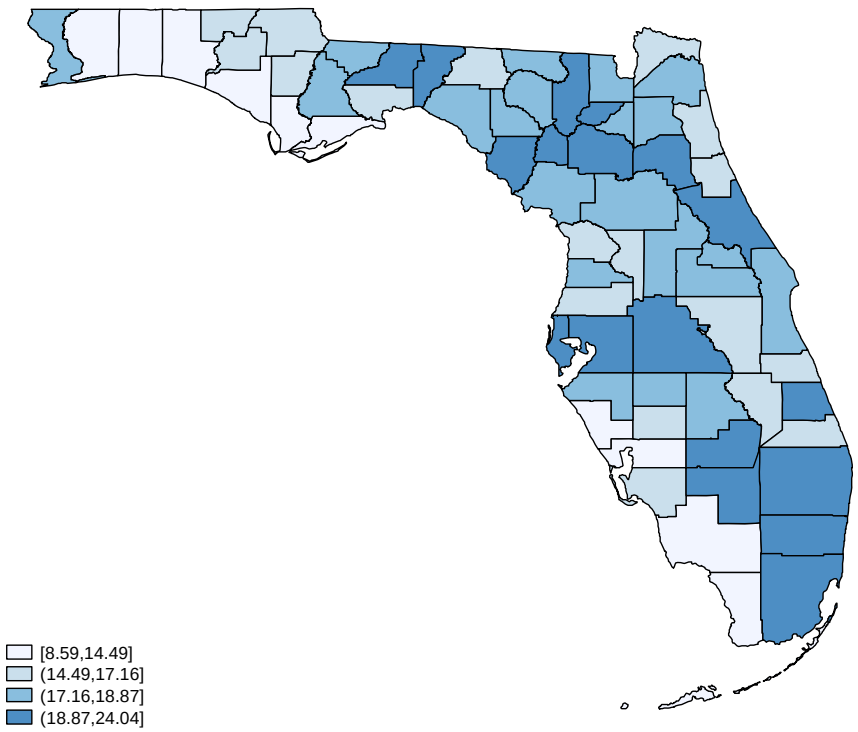


Figure IV-2 shows the evolution of aggregate taxable, assessed, and just values for the state. The total just value of real property has more than doubled since 1996, and order to provide a visual impact of SOH—that is, the difference between just and assessed values—the darkest area of Figure IV-2 corresponds to the SOH limitation. Starting with no difference in 1994, just value exceeded assessed value by 12.8% in 2004 and 16.1% in 2005. This path contrasts with the relative stability of other exemptions (which can be obtained as the difference between assessed and taxable values).

The impact of SOH varies by county and region depending on the real property value appreciation that occurred in the last decade. In fact, from 1995 to 2005 the series show a substantial increase in the variability of the SOH. Figure IV-3 shows the distribution of ratios SOH to just value by county, plotting the mean, median, the 90^{th} and 10^{th} percentiles for each year. The figure shows that the mean and median values of this ratio reached 9% and 8.5% respectively in 2005, while the 90^{th} and 10^{th} percentiles have a value of 15.7% and 2.5% in the same year. These figures reveal that analyzing the aggregate impact of SOH might be misleading and that a county and municipality level analysis is important to capture the effect of SOH on local governments' finances.

The SOH has a very diverse effect by geographical region. The dollar amount of values protected by SOH is certainly impressive in some coastal counties, especially Brevard, Broward, Miami-Dade, Martin, Pinellas and Palm Beach. At the other extreme, it has a

very small impact in the central and northern counties. This geographical dispersion can be observed in Figure IV-4, which plots the ratio of the SOH to just value for each county in 2005, clearly showing the existence of clusters of SOH impact. This geographical distribution is not observed in terms of other homestead exemptions. Figure IV-5 maps the ratio of the other exemptions to just values in 2005 by county. In this case, coastal counties have the lowest ratios, while central counties have the highest.

Despite the considerable increase in the property tax base rate, tax rates have seen only modest millage reductions, with counties and municipalities maintaining stable millage rates since 1995. Figure IV-6 plots the mean, median, the 90^{th} and 10^{th} percentile millage rates, by county, from 1985 to 2005. The figure shows that millage rates increase from the period 1985-1995, but remain stable during 1996-2005. The latter period is also associated with a decline in cross-county variability.

A simple regression analysis reveals that those counties that experienced the highest growth in property values are also the ones that reduced their millage rates the most. Figures IV-7 and IV-8, respectively, plot yearly changes in assessed values and millage rates for the periods 1985-1995 and 1996-2005. In both, we observe a negative and statistically significant relation between those variables. In fact the evidence reveals that following the housing boom, the state average ratio of property taxes to assessed values fell. As Figure IV-9 shows, the ratio of property taxes to assessed value declined after 2000, coinciding with the largest rise in house prices.

IV.2 Responses to 'Save Our Homes'

Theoretical Considerations

Local government expenditures differ in nature from expenditures in any economy, which makes future projections difficult. First, as a rule, the services provided by local governments are more labor intensive than the general mix of goods. Second, provided that to some extent the general public chooses the amount and specificity of the expenditure, some unpredictable discretionary factors are unavoidable. The issue is further complicated by the analysis of who really faces the burden of public spending: the marginal price of an additional increase in public spending voters face varies across local governments, and more importantly it differs across voters (homeowners vs. renters; homeowners vs. businesses).

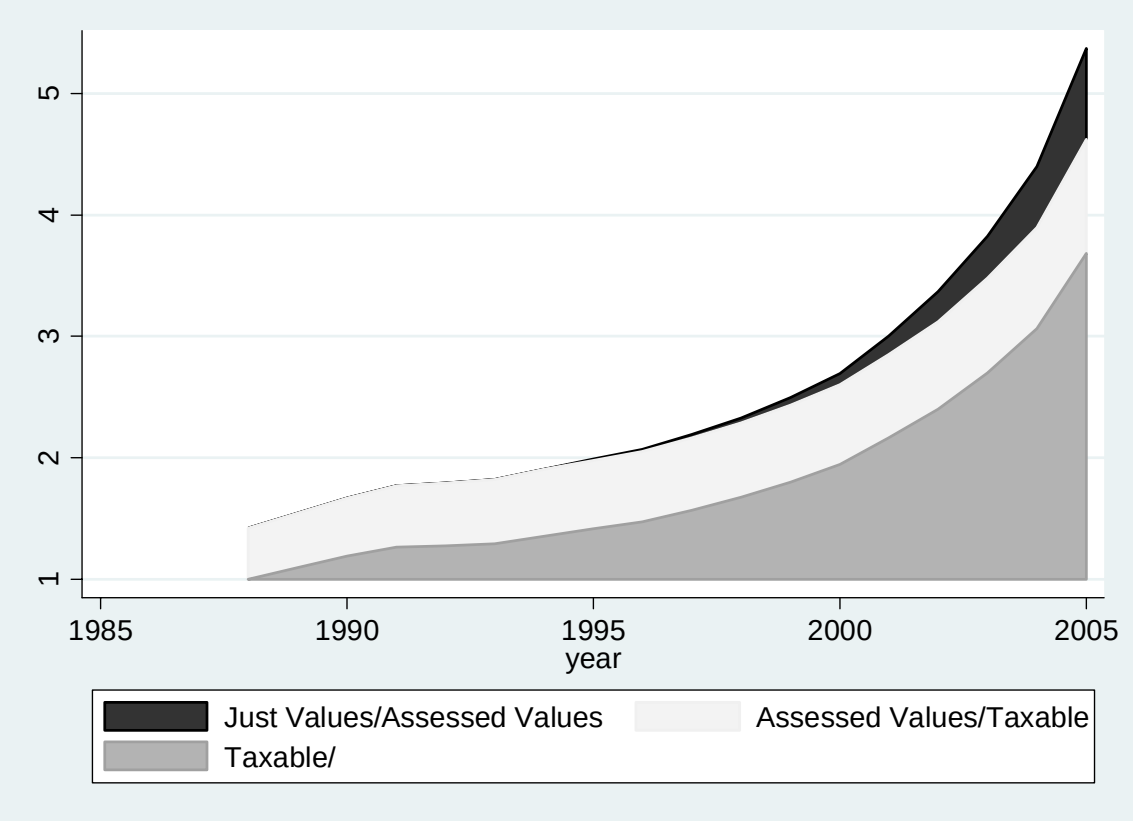
An important fact that has drawn economists' attention in the past 50 years is the so-called Baumol's disease (Baumol, 1967): despite continuous gains in economy-wide labor productivity, the real costs of providing government services such as health care and education have been steadily increasing. Baumol (1993) explains these phenomena in terms of the low productivity growth in the personal services sector. This sector may be resist standardization and because quality is believed to be "inescapably correlated with the amount of human labor devoted to their production" (p.20). In this case, for a government to maintain a constant real share of the overall expansion of economic activity, an ever larger share of the economy's monetary expenditure must go through the public sector. This model predicts that local government expenditures should increase at

a higher rate than total income. Baumol's study assumes stagnant productivity in the service sector in comparison to rising productivity in the manufacturing sector. However, as noted in Triplett and Bosworth (2003), labor productivity growth in the services industries after 1995 experienced a broad acceleration that equaled the economy-wide average. This fact leads them to suggest that Baumol's disease has been cured. Earlier, Ferris and West (1996) argued that the slower productivity growth encountered in government services is mostly due not to the inherent nature of the service but to government's structural organization. They said inefficient policies, such as the existence of public monopolies or bureaucracies, are the main reason for Baumol's disease. They also stress the importance of including in models the deadweight costs generated by raising tax revenues to fund ever more expensive services.

Arguments related to Baumol's disease may be used to justify increases in public spending. For instance, the Florida Association of Counties (2007) explains changes in government spending by cost increments in these types of services above the general rate of inflation. This report states that the costs for health insurance and pensions are largely beyond the control of any local government, and therefore increasing government expenditure on these items is unavoidable. However, as Ferris and West (1996) point out changes in the cost of government services may not be related may to stagnation in productivity, but to the existence of rents appropriated by government employees. Another issue to consider is that of the price elasticity of the demand for public goods. Increasing public expenditure requires increasing revenue for finance. If the prices of public goods rise relative to those of other goods, voters will prefer to reduce their public consumption relative to other consumption. This price elasticity, however, varies by the income level of the voter. For instance Noam (1981) found that upper-income groups are more sensitive to cost than the low-income groups with respect to most public goods, except for educational and cultural expenditure.

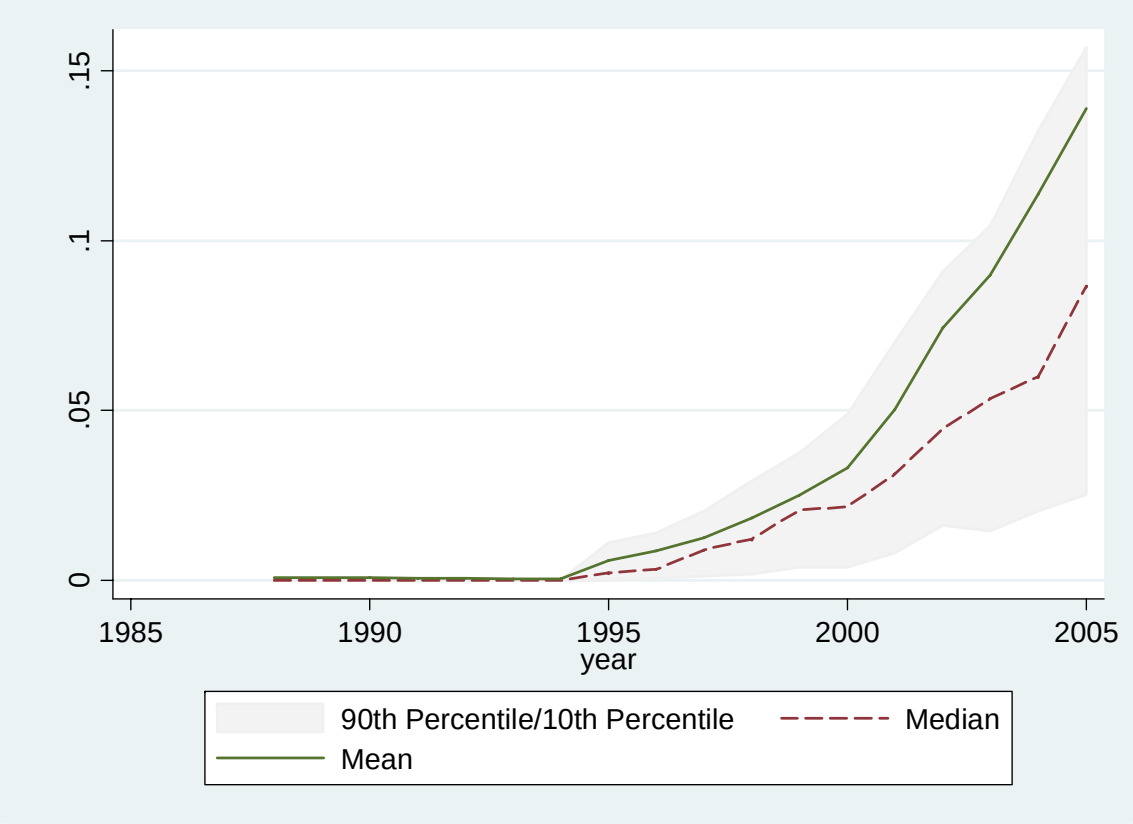
We will show that county spending has been relatively constant as a proportion of income for the past 20 years (see for instance Figure IV-14). Overall the total variation of this ratio did not exceed 10% of the mean value and no clear trend is observed in the long run. Aggregate expenditures have been on the rise in the last seven years, but there is no clear indication that this will continue. In part, this boom can be explained by the real property boom, but the ratio of aggregate county expenditures as a proportion of real property just values was also relatively constant over the past 20 years. Therefore, unless another such boom occurs, expenditure as a proportion of income should be relatively stable in coming years. The evidence presented in the following sections also shows small changes in the composition of government expenditure. For instance, public safety and culture and recreation show the greatest increases. This is in line with previous evidence (Bergstrom and Goodman, 1973) emphasizing that different categories of expenditure have different income elasticities. We are not persuaded that attempts to measure the income elasticities of demand for different categories of spending, as opposed to the total, have succeeded in disentangling demand shifts from supply shifts. Consequently, for parsimony, and to match Florida's trends since 1995 our projections will be based on a constant relation among type of expenditure.

Figure IV-2: Just Values and Assessed Values, Florida, 1988-2005



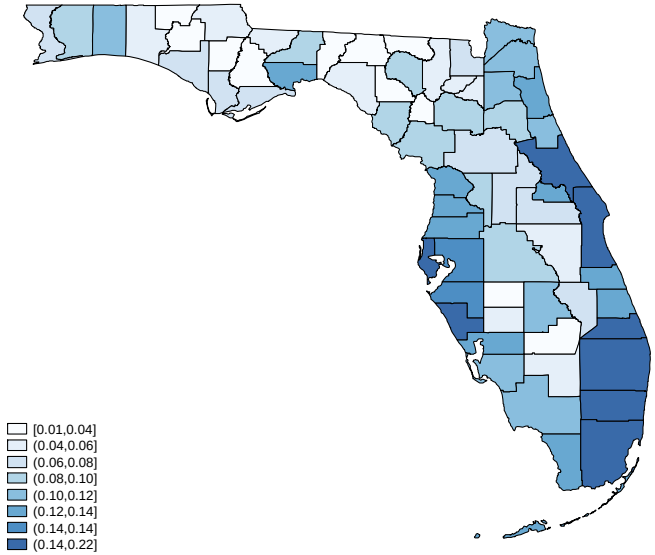
Source: Calculations using *Florida Statistical Abstract*, various years.

Figure IV-3: Ratio of SOH to Just Values, 1988-2005



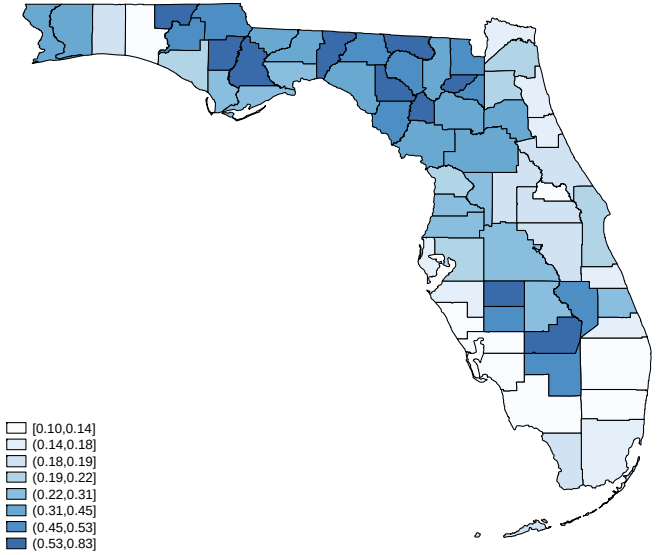
Source: Calculations using *Florida Statistical Abstract*, various years.

Figure IV-4: SOH as a Proportion of Just Value, by County, 2005



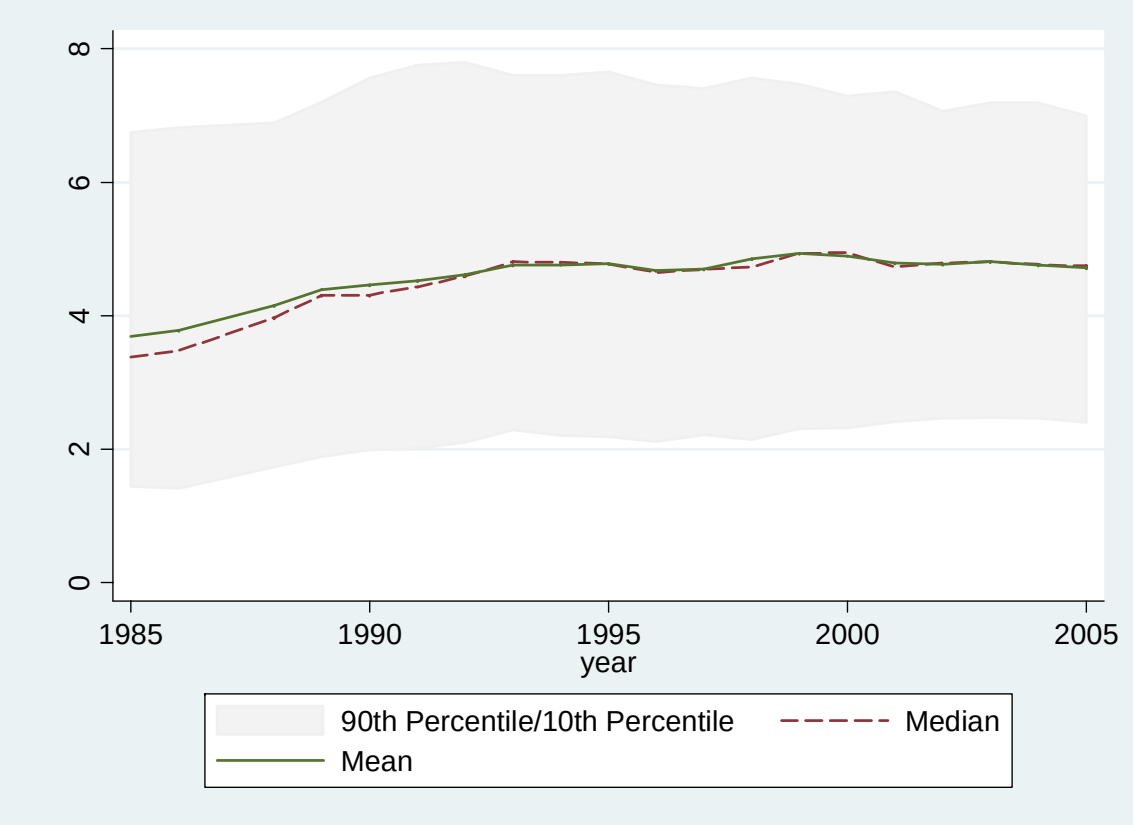
Source: Calculations using *Florida Statistical Abstract*, various years.

Figure IV-5: Other Exemptions as a Proportion of Just Value, by County, 2005



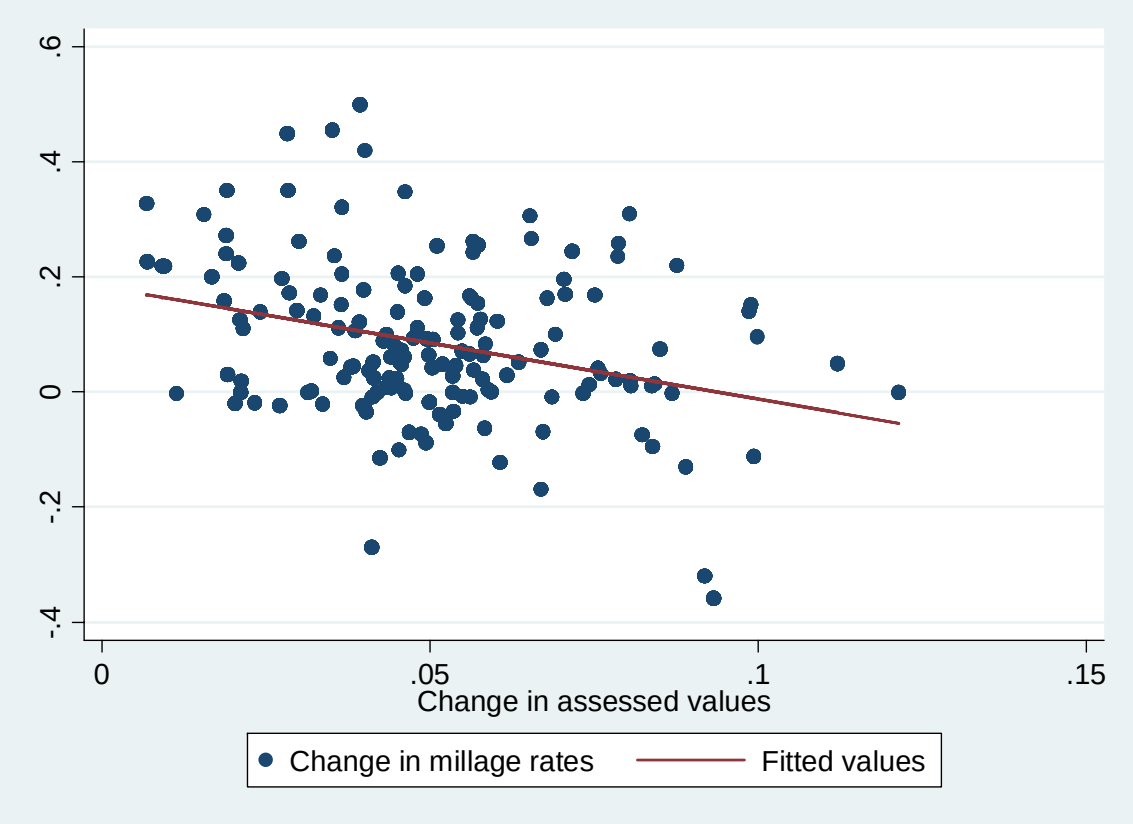
Source: Calculations using *Florida Statistical Abstract*, various years.

Figure IV-6: Operating Millage Rates, by County and Selected Municipalities, 1985-2005



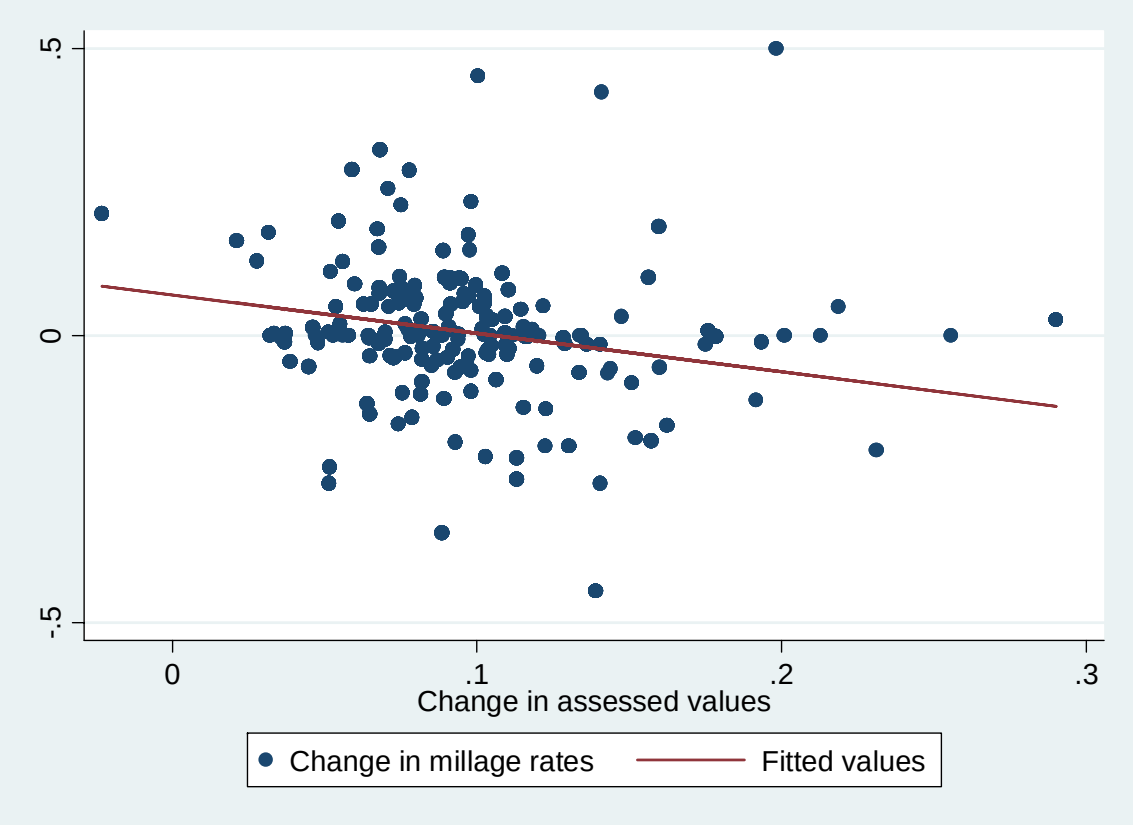
Source: Calculations using the *Florida Statistical Abstract*, various years, excluding municipalities with a population less than 15,000.

Figure IV-7: Average Change in Millage Rates and Assessed Values, 1985-1995



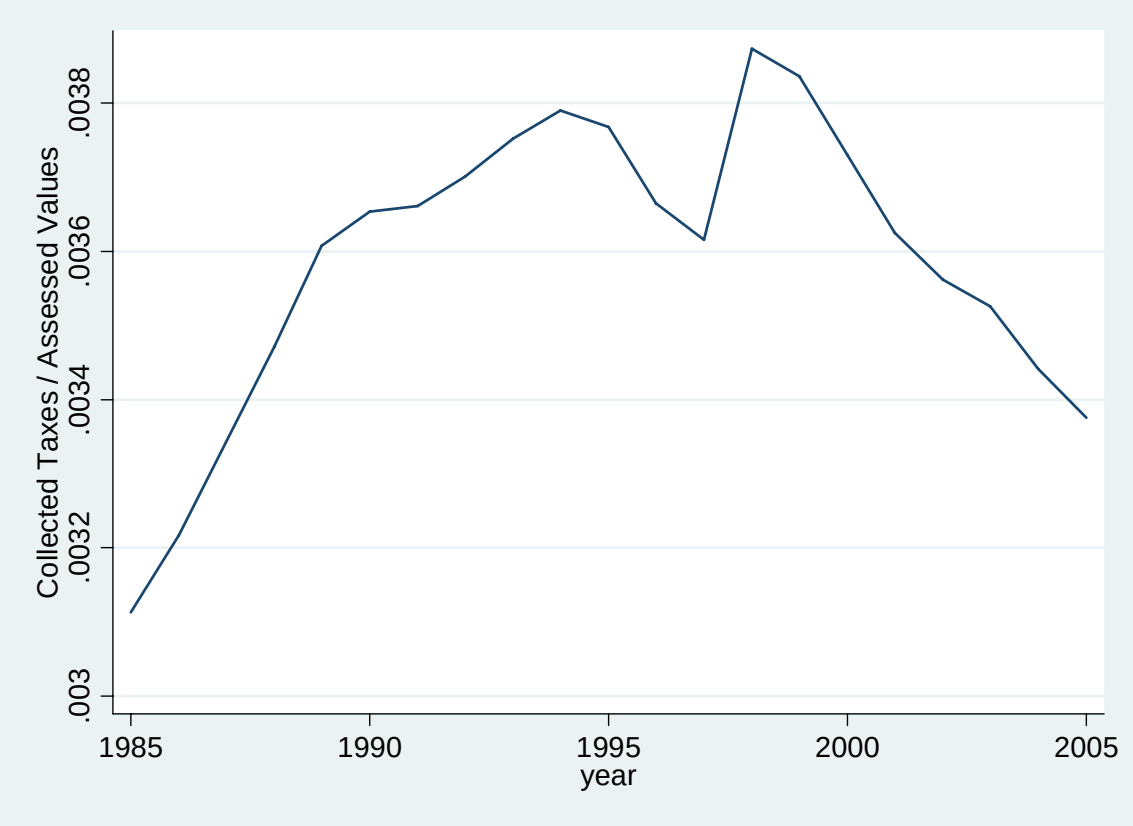
Source: Calculations using the *Florida Statistical Abstract*, various years, excluding municipalities with a population less than 15,000.

Figure IV-8: Average Change in Millage Rates and Assessed Values, 1996-2005



Source: Calculations using the *Florida Statistical Abstract*, various years, excluding municipalities with a population less than 15,000.

Figure IV-9: Property Taxes and Assessed Values, 1985-2005



Source: Calculations using the *Florida Statistical Abstract*, various years, excluding municipalities with a population less than 15,000.

Historical Analysis

Any economic projection is based on past experience. In this section we review the main trends followed by Florida's local governments. The unit of analysis is the county. Our first task is to construct meaningful aggregations of the different level of local government structures (county, city, special districts, excluding school districts) for these units. We compute the composition of spending for the aggregate local governments in 1995, 2000 and 2005 using different sources.

To do this we assembled expenditure data for Florida's counties, municipalities, and special districts (both dependent and independent) and aggregated the data to the county level. Only this way could we obtain meaningful comparisons across counties and over time within them. The shares of the different categories of spending vary widely across counties and to a lesser extent over time. These data and the taxable value scenarios in Section II constitute the basis of our projections here.

Figures IV-10 through IV-13 show the aggregate composition of spending and revenues sources for 2000 and 2005. Overall, general government and public safety expenditure increased a little more than 1%, with a consequent reduction in other categories (mainly transportation and human services). A similar stability is seen in terms of the sources of revenues, with *ad valorem* taxes (which include the property tax) showing the biggest relative growth in the period of analysis.

What was the general trend followed by local government expenditure? As a result of inflation, population growth, rising income per resident, and rising property values, total expenditures have had a positive annual growth rate. Naturally, spending has risen more in counties where growth has been rapid. To allow for more meaningful comparisons, we normalize expenditures in two ways. First, we present the ratio of total expenditure to total income by county to can determine the burden of local government on the resources of the county. Second, we present the ratio of total expenditure to total real property just value, which is used as a proxy for the county's total wealth.

As Figure IV-14 shows, both ratios follow a similar pattern until 2000, suggesting that the housing boom starting then had a strong impact on local government behavior. The ratio of expenditures to total income (shown as the solid line) shows three different sub-periods. From 1985 to 1992 we observe a marked increase, followed by a steady decline until 1999, and renewed growth thereafter, peaking in 2004 at 6% of the total income. As a share of just value (represented as the dashed line), government expenditures have been declining for the most of the past decade, hitting a new low in 2004. Interestingly, only after 2000 do the two the series diverge. This means that the real estate boom was not fully absorbed by local governments in the form of increased expenditure. However, as we show below, much of the inter-county variation is explained by the housing boom.

Figure IV-15 presents the evolution of the major expenditure categories as a proportion of total county expenditure, showing that the share of public safety in the total has risen

from a value of 15% in 1985 to almost 20% in 2004.[15] A similar increase is observed in the physical and economic environment expenditure, while the remaining categories show no significant change in that period (except for the 1993-1995 years). Figure IV-16 provides detailed information on this series for the years of 1985, 1995 and 2004. Again the figure shows that the biggest change occurred in the public safety category.

Figures IV-17 and IV-18 consider the same categories of expenditure but as proportions of total income and just values. For each category we observe the same patterns encountered in aggregate. In terms of county income, each category of spending starts to increase in 2000, while the opposite pattern is found in terms of just values. Note that in this case, the latest values are of similar magnitude to those in 1985.

This pattern has not been homogeneous across counties. We show that those counties that had the greatest increase in property just values are also the ones that increase local government administration expenditure as a proportion of total expenditure for the whole period of analysis. This suggests that the real estate boom was partly appropriated by the public sector in the form of larger administrative spending.

Figure IV-19 provides further evidence of this by plotting the change in just values and the ratio of administrative expenditure to total expenditure for 1987-2004 and 1995-2004. In both cases, we observe a positive relationship, which is stronger in the second period. Only since 1995 have we seen changes in the share of county expenditures spent on public safety (Figure IV-20). Even in this case, the relation is weak enough to be statistically insignificant, and mainly driven by the behavior of small counties. A similar pattern is found in terms of revenues. Over the period of analysis, the ratio of taxes to income and just values was increasing until 2000, where both series start to diverge. Figure IV-21 shows that, as a proportion of income, Floridians now face a higher government burden.

A preliminary analysis of the impact of SOH on local government expenditure

Evidence suggests that whenever median voters do not face the whole burden of the property tax, they prefer higher public spending. For instance Anderson (2006) argues that full-time residents in regions with a high proportion of vacation homes prefer increased public spending. This is because from the standpoint of residents "the presence of vacation home owners reduces the real costs of public spending, since vacation home owners contribute to local revenues but consume relatively few public services." (p.257) Therefore, local governments take advantage of the minimal political power of vacation home owners and a reduced tax price by substantially increasing public spending.

[15] We consider four different major categories: public safety, administration (government), physical and economic environment and transportation. The remaining category includes Human Services, Cultural and Recreation and Debt. In 1995, these categories were reclassified and for that reason, we are not able to construct a homogeneous series for the whole period. Since 1992 Duval County includes the consolidated Jacksonville MSA. For that reason, we exclude it in our calculations.

Figure IV-10: Aggregate County Public Spending, 2000

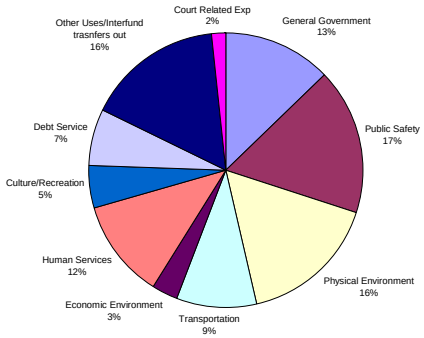


Figure IV-11: Aggregate County Public Spending, 2005

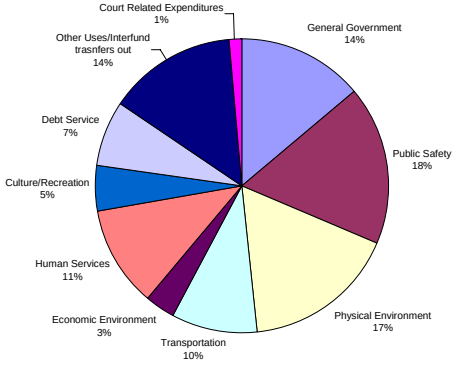


Figure IV-12: Aggregate County Revenue, 2000

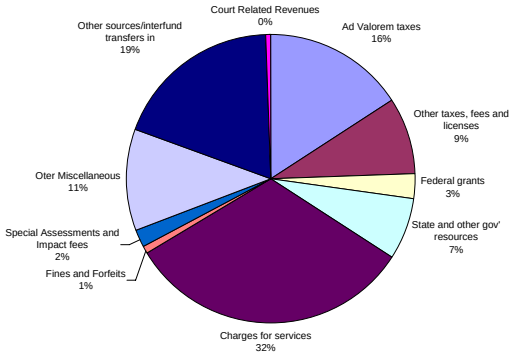


Figure IV-13: Aggregate County Revenue, 2005

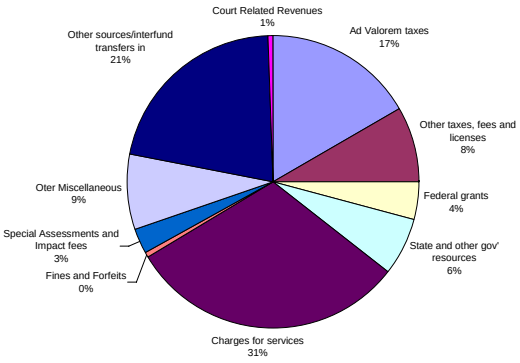


Table IV-1: Revenue Categories for Counties, Municipalities, and Special Districts, Aggregated to County Level, 2005

County	Ad Valorem taxes	Other taxes, licenses	Federal grants	State resources	Charges	Fines	Special Assessments	Other Misc.	Other transfers	Court Related	Total
Alachua	14.40%	5.90%	4.20%	5.30%	43.00%	1.00%	0.80%	10.90%	18.50%	0.80%	100.00%
Baker	14.90%	19.40%	11.00%	10.10%	30.40%	0.00%	0.00%	7.90%	6.30%	0.00%	100.00%
Bay	11.30%	8.10%	1.90%	6.40%	53.70%	0.40%	1.90%	8.40%	7.20%	0.80%	100.00%
Bradford	12.60%	9.40%	4.60%	11.60%	31.50%	1.20%	1.50%	4.40%	20.70%	2.50%	100.00%
Brevard	16.70%	8.40%	3.40%	7.00%	35.10%	0.40%	3.30%	6.30%	18.40%	1.10%	100.00%
Broward	17.60%	6.30%	2.10%	5.20%	36.90%	0.50%	1.40%	8.60%	21.10%	0.40%	100.00%
Calhoun	11.50%	7.80%	21.30%	20.40%	23.30%	0.90%	0.50%	2.50%	10.70%	1.20%	100.00%
Charlotte	11.80%	10.50%	7.90%	6.80%	18.80%	0.30%	4.10%	7.60%	31.80%	0.40%	100.00%
Citrus	32.50%	6.10%	5.70%	10.00%	19.30%	0.90%	6.10%	4.00%	14.60%	0.80%	100.00%
Clay	19.00%	13.10%	2.40%	9.20%	14.80%	0.40%	5.60%	5.00%	29.70%	0.80%	100.00%
Collier	21.60%	5.30%	0.70%	5.90%	19.60%	0.40%	4.00%	5.50%	36.20%	0.80%	100.00%
Columbia	16.20%	16.40%	4.30%	15.60%	16.90%	0.30%	4.50%	7.40%	16.50%	1.80%	100.00%
De Soto	11.40%	8.50%	23.80%	13.90%	15.80%	0.20%	3.00%	4.10%	18.40%	0.90%	100.00%
Dixie	19.70%	5.40%	7.40%	29.80%	6.00%	0.50%	3.70%	4.30%	23.00%	0.30%	100.00%
Duval	9.30%	9.60%	5.60%	4.90%	43.20%	0.20%	0.10%	13.70%	13.40%	0.00%	100.00%
Escambia	11.60%	10.40%	25.20%	8.80%	22.00%	0.40%	1.90%	8.90%	10.00%	0.90%	100.00%
Flagler	7.50%	3.60%	0.80%	3.50%	9.50%	0.30%	5.70%	2.40%	66.50%	0.20%	100.00%
Franklin	29.10%	5.80%	4.50%	12.60%	13.70%	0.20%	0.70%	2.90%	29.60%	1.10%	100.00%
Gadsden	16.00%	9.60%	4.40%	20.20%	20.50%	0.10%	0.00%	2.80%	25.80%	0.60%	100.00%
Gilchrist	17.70%	8.30%	5.60%	18.20%	10.30%	0.50%	4.80%	3.00%	26.00%	5.60%	100.00%
Glades	20.90%	11.90%	2.00%	18.80%	10.50%	5.20%	0.00%	4.10%	26.00%	0.50%	100.00%
Gulf	31.60%	5.30%	4.00%	11.50%	28.80%	0.50%	0.00%	4.30%	13.30%	0.80%	100.00%
Hamilton	18.90%	7.90%	6.00%	22.40%	15.10%	0.40%	0.00%	2.60%	25.40%	1.30%	100.00%
Hardee	13.30%	5.40%	15.30%	11.80%	15.70%	0.50%	2.10%	15.50%	19.60%	0.90%	100.00%
Hendry	19.50%	11.40%	0.90%	12.50%	34.50%	0.20%	0.50%	4.00%	16.40%	0.00%	100.00%
Hernando	23.30%	6.10%	3.00%	7.30%	26.00%	0.40%	8.00%	4.20%	20.30%	1.50%	100.00%
Highlands	21.20%	12.50%	5.00%	11.30%	20.90%	0.60%	6.80%	11.60%	8.80%	1.40%	100.00%
Hillsborough	16.00%	8.90%	2.80%	6.80%	21.50%	0.40%	1.80%	10.10%	31.10%	0.60%	100.00%
Holmes	12.00%	8.40%	10.90%	16.50%	41.20%	2.00%	0.00%	2.50%	5.50%	0.90%	100.00%
Indian River	17.20%	9.40%	7.30%	5.40%	32.50%	0.30%	8.10%	6.50%	12.90%	0.40%	100.00%
Jackson	7.10%	10.20%	4.30%	9.90%	51.80%	0.50%	0.00%	2.70%	12.70%	0.90%	100.00%
Jefferson	19.30%	12.30%	7.20%	23.10%	10.90%	1.10%	6.60%	1.80%	17.70%	0.00%	100.00%
Lafayette	15.20%	7.90%	3.90%	27.10%	13.30%	0.60%	5.20%	2.70%	24.10%	0.00%	100.00%
Lake	16.50%	9.80%	4.40%	7.20%	31.60%	0.80%	8.60%	7.10%	13.50%	0.50%	100.00%
Lee	15.10%	4.00%	1.90%	4.10%	34.50%	0.20%	4.60%	5.70%	29.20%	0.60%	100.00%
Leon	8.20%	4.50%	1.90%	3.10%	47.50%	0.30%	0.30%	12.70%	21.20%	0.40%	100.00%
Levy	19.50%	9.90%	5.80%	12.80%	19.60%	0.80%	4.10%	4.60%	21.70%	1.20%	100.00%
Liberty	8.40%	5.40%	21.80%	27.60%	8.30%	0.80%	0.00%	1.80%	24.90%	1.00%	100.00%
Madison	13.00%	10.80%	0.60%	20.60%	17.30%	0.70%	2.60%	4.10%	30.10%	0.10%	100.00%
Manatee	23.90%	6.10%	2.80%	8.70%	33.40%	0.50%	3.90%	7.40%	13.00%	0.20%	100.00%
Marion	14.70%	7.30%	5.60%	7.60%	34.20%	0.50%	7.10%	8.50%	13.70%	0.80%	100.00%
Martin	31.20%	6.30%	6.20%	9.60%	21.70%	0.70%	4.40%	7.20%	12.20%	0.50%	100.00%
Miami-Dade	16.10%	10.20%	6.50%	5.80%	31.30%	0.60%	0.50%	8.90%	19.80%	0.40%	100.00%
Monroe	20.00%	11.20%	8.80%	7.60%	29.00%	0.70%	0.20%	6.00%	16.30%	0.10%	100.00%
Nassau	26.30%	10.90%	2.70%	8.60%	17.70%	0.30%	4.50%	4.90%	23.20%	1.00%	100.00%
Okaloosa	17.30%	8.80%	7.50%	9.50%	29.00%	0.30%	0.90%	5.80%	19.50%	1.30%	100.00%
Okeechobee	14.90%	13.50%	2.10%	11.10%	14.10%	0.80%	9.50%	5.10%	27.60%	1.40%	100.00%
Orange	16.40%	9.40%	3.30%	7.70%	32.80%	0.40%	6.40%	8.00%	15.20%	0.60%	100.00%
Osceola	12.00%	13.40%	3.10%	7.90%	17.60%	0.40%	6.70%	11.60%	26.40%	0.90%	100.00%
Palm Beach	23.60%	7.70%	2.90%	6.20%	21.90%	0.50%	2.80%	7.30%	26.60%	0.60%	100.00%
Pasco	19.50%	6.60%	2.40%	7.70%	20.00%	0.40%	12.30%	7.20%	22.90%	1.10%	100.00%
Pinellas	20.00%	9.40%	2.10%	6.90%	28.90%	0.40%	0.40%	11.00%	20.20%	0.60%	100.00%
Polk	11.40%	7.10%	2.50%	9.20%	44.20%	0.40%	2.00%	8.70%	13.60%	0.80%	100.00%
Putnam	21.30%	8.70%	5.00%	9.20%	17.10%	0.80%	4.30%	14.40%	18.50%	0.70%	100.00%
Saint Johns	20.90%	5.20%	0.70%	7.10%	16.60%	0.70%	4.50%	11.60%	32.40%	0.30%	100.00%
Saint Lucie	17.60%	5.60%	8.50%	4.20%	22.90%	0.40%	5.50%	10.00%	24.90%	0.40%	100.00%
Santa Rosa	18.50%	5.90%	24.80%	9.90%	24.60%	0.20%	1.70%	5.80%	8.30%	0.20%	100.00%
Sarasota	13.90%	8.20%	2.10%	4.50%	42.70%	0.30%	5.40%	7.80%	14.50%	0.60%	100.00%
Seminole	17.50%	12.20%	6.40%	8.60%	15.90%	0.40%	2.40%	7.50%	28.20%	0.90%	100.00%
Sumter	10.60%	8.60%	2.10%	9.90%	12.80%	1.00%	28.60%	6.10%	19.70%	0.60%	100.00%
Suwannee	16.90%	14.20%	3.50%	23.20%	15.30%	1.00%	3.80%	2.70%	18.20%	1.20%	100.00%
Taylor	15.50%	8.80%	4.70%	9.70%	11.10%	0.50%	1.40%	3.60%	43.80%	0.90%	100.00%
Union	11.70%	9.30%	6.10%	21.80%	11.10%	1.60%	2.70%	6.10%	28.40%	1.10%	100.00%
Volusia	18.70%	7.20%	3.10%	6.80%	42.40%	0.30%	2.40%	5.10%	13.60%	0.50%	100.00%
Wakulla	17.50%	6.70%	8.60%	11.40%	24.00%	0.20%	2.50%	1.80%	27.00%	0.30%	100.00%
Walton	25.10%	14.30%	4.40%	11.70%	9.10%	0.10%	2.50%	3.80%	19.80%	9.20%	100.00%
Washington	17.00%	12.70%	5.60%	15.90%	17.00%	0.30%	0.00%	10.20%	19.40%	1.90%	100.00%
Florida	16.70%	8.20%	4.20%	6.40%	31.10%	0.40%	2.70%	8.60%	21.30%	0.60%	100.00%

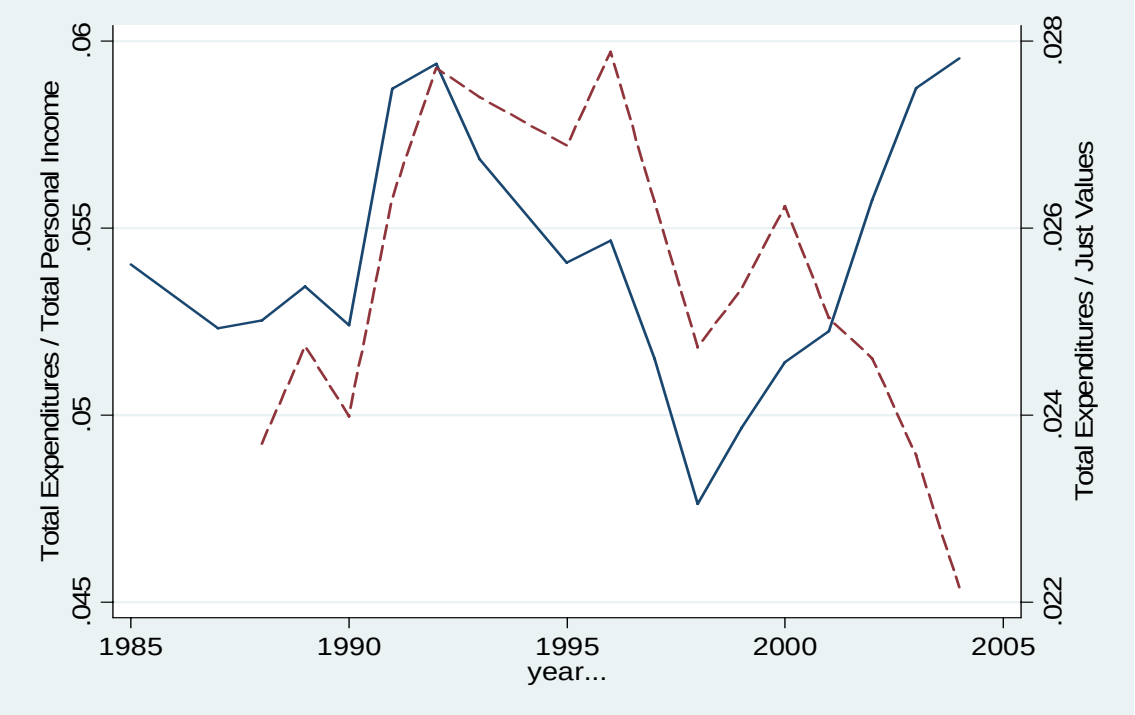
Table IV-2: Expenditure Categories for Counties, Municipalities, and Special Districts, Aggregated to County Level, 2005.

County	General Government	Public Safety	Physical Environ.	Transport	Economic Environ.	Human Services	Culture Recreation	Debt Service	Other Transfers	Court Related	Total
Alachua	15.80%	16.30%	30.20%	5.00%	2.90%	1.20%	2.50%	4.30%	20.10%	1.70%	100.00%
Baker	11.60%	14.60%	31.90%	5.60%	9.60%	9.70%	0.80%	15.10%	1.10%	0.00%	100.00%
Bay	8.10%	13.40%	14.70%	6.60%	4.40%	34.10%	3.30%	7.40%	6.90%	1.20%	100.00%
Bradford	12.00%	21.00%	26.80%	7.00%	1.50%	1.80%	2.40%	2.30%	22.30%	3.00%	100.00%
Brevard	19.40%	22.60%	20.00%	12.00%	2.50%	12.40%	9.20%	9.40%	8.00%	2.70%	100.00%
Broward	9.90%	17.60%	11.00%	5.70%	2.50%	26.10%	5.50%	7.00%	14.20%	0.60%	100.00%
Calhoun	12.70%	14.90%	35.50%	15.40%	2.80%	1.10%	3.20%	0.50%	10.70%	3.10%	100.00%
Charlotte	20.80%	14.70%	17.70%	15.20%	1.80%	2.40%	5.10%	2.00%	19.10%	1.10%	100.00%
Citrus	20.40%	23.40%	11.10%	15.50%	0.60%	9.30%	7.10%	2.60%	9.10%	0.90%	100.00%
Clay	13.50%	19.50%	20.00%	5.80%	1.30%	1.40%	4.30%	10.20%	21.60%	2.30%	100.00%
Collier	12.60%	21.00%	17.90%	15.50%	1.40%	1.40%	6.80%	10.50%	12.10%	0.80%	100.00%
Columbia	13.30%	22.80%	13.50%	14.10%	3.00%	4.10%	2.80%	8.20%	16.10%	2.20%	100.00%
De Soto	9.80%	16.10%	33.90%	6.10%	4.30%	1.20%	5.50%	4.80%	17.50%	0.80%	100.00%
Dixie	5.70%	13.20%	46.70%	4.80%	2.40%	1.60%	0.90%	2.70%	20.90%	0.90%	100.00%
Duval	14.70%	10.50%	32.00%	11.80%	4.00%	2.70%	3.80%	10.90%	8.80%	0.80%	100.00%
Escambia	12.70%	44.30%	14.30%	5.60%	4.00%	0.90%	2.40%	7.30%	7.60%	1.00%	100.00%
Flagler	17.70%	18.60%	18.00%	14.70%	1.80%	2.00%	4.10%	14.40%	7.90%	0.80%	100.00%
Franklin	13.10%	21.80%	19.70%	14.80%	2.20%	2.30%	2.00%	3.00%	19.20%	2.00%	100.00%
Gadsden	13.60%	27.90%	16.80%	19.30%	2.30%	3.10%	4.20%	-1.20%	11.00%	3.00%	100.00%
Gilchrist	17.90%	23.20%	7.60%	11.60%	1.50%	1.20%	1.30%	8.70%	24.40%	2.70%	100.00%
Glades	14.30%	34.10%	11.20%	6.60%	1.40%	1.80%	2.00%	0.80%	25.70%	2.30%	100.00%
Gulf	15.30%	18.90%	23.30%	8.70%	3.70%	2.30%	4.70%	6.50%	14.70%	1.90%	100.00%
Hamilton	11.90%	26.20%	16.30%	9.80%	3.20%	1.70%	1.80%	2.40%	24.70%	2.10%	100.00%
Hardee	11.50%	31.10%	16.10%	5.80%	11.20%	2.60%	2.10%	4.00%	14.00%	1.60%	100.00%
Hendry	14.50%	18.00%	23.50%	13.70%	0.80%	20.70%	4.10%	0.90%	2.70%	1.20%	100.00%
Hernando	17.50%	27.10%	21.40%	11.50%	1.80%	1.70%	3.60%	4.90%	8.50%	2.10%	100.00%
Highlands	19.40%	28.70%	17.40%	13.00%	2.60%	2.30%	6.60%	2.50%	4.70%	2.90%	100.00%
Hillsborough	12.50%	14.70%	14.20%	9.20%	2.10%	4.80%	5.30%	9.20%	26.30%	1.70%	100.00%
Holmes	12.00%	19.20%	7.90%	12.60%	5.70%	31.70%	1.10%	2.90%	4.70%	2.10%	100.00%
Indian River	15.00%	17.90%	36.20%	8.10%	0.40%	3.70%	8.00%	3.60%	5.90%	1.30%	100.00%
Jackson	8.50%	11.30%	7.20%	10.20%	1.10%	47.00%	1.90%	1.90%	9.70%	1.20%	100.00%
Jefferson	11.50%	24.80%	12.50%	14.90%	9.70%	1.90%	2.00%	3.40%	17.80%	1.40%	100.00%
Lafayette	14.70%	20.40%	10.50%	18.80%	4.00%	0.70%	3.30%	5.70%	21.30%	0.60%	100.00%
Lake	12.20%	22.10%	26.40%	7.40%	2.60%	3.40%	8.60%	5.70%	9.60%	2.00%	100.00%
Lee	9.70%	12.10%	13.20%	11.00%	1.40%	19.50%	5.10%	8.40%	18.80%	0.60%	100.00%
Leon	28.00%	10.30%	27.60%	7.20%	0.60%	1.60%	2.80%	9.70%	11.50%	0.80%	100.00%
Levy	13.80%	29.70%	15.30%	11.30%	1.60%	2.70%	2.50%	2.00%	19.30%	1.80%	100.00%
Liberty	12.80%	19.70%	10.10%	19.90%	3.30%	2.40%	3.40%	3.80%	22.10%	2.60%	100.00%
Madison	11.80%	21.70%	14.10%	13.40%	1.30%	1.50%	1.70%	0.30%	32.60%	1.60%	100.00%
Manatee	17.20%	21.80%	20.10%	7.60%	2.80%	4.00%	6.00%	8.20%	11.00%	1.30%	100.00%
Marion	14.80%	20.00%	31.30%	8.60%	1.40%	1.70%	2.70%	4.00%	14.00%	1.40%	100.00%
Martin	24.90%	26.60%	20.50%	5.00%	1.20%	2.70%	5.30%	7.00%	4.90%	2.00%	100.00%
Miami-Dade	14.80%	16.30%	10.80%	13.00%	5.20%	16.60%	4.80%	4.50%	13.00%	0.90%	100.00%
Monroe	17.80%	24.90%	17.90%	6.40%	5.70%	7.10%	4.50%	1.80%	12.50%	1.40%	100.00%
Nassau	40.50%	42.00%	47.90%	40.10%	32.90%	32.60%	37.80%	38.60%	39.40%	31.50%	100.00%
Okaloosa	19.90%	20.40%	15.50%	10.60%	4.80%	1.50%	5.90%	2.60%	16.90%	2.00%	100.00%
Okeechobee	13.60%	23.60%	10.80%	6.20%	4.20%	2.30%	2.70%	3.20%	30.90%	2.40%	100.00%
Orange	10.20%	18.50%	15.00%	13.70%	6.50%	7.10%	3.90%	9.40%	14.60%	1.10%	100.00%
Osceola	18.30%	13.20%	21.00%	8.30%	4.90%	1.60%	4.90%	12.10%	13.70%	2.20%	100.00%
Palm Beach	16.20%	20.10%	14.40%	6.70%	2.50%	6.60%	6.20%	8.00%	18.20%	1.10%	100.00%
Pasco	17.00%	19.80%	26.30%	10.20%	1.70%	2.20%	3.50%	10.20%	6.10%	2.90%	100.00%
Pinellas	16.90%	19.90%	18.30%	5.50%	5.00%	3.20%	6.30%	3.90%	18.90%	2.00%	100.00%
Polk	13.30%	17.70%	36.40%	8.90%	2.20%	2.30%	4.10%	4.40%	9.00%	1.80%	100.00%
Putnam	21.30%	22.60%	16.40%	14.00%	1.50%	2.00%	2.80%	2.00%	15.40%	1.90%	100.00%
Saint Johns	15.60%	19.80%	20.30%	10.70%	1.20%	4.50%	8.80%	11.40%	6.40%	1.30%	100.00%
Saint Lucie	16.60%	18.30%	16.60%	15.20%	1.50%	1.80%	5.30%	11.60%	11.70%	1.40%	100.00%
Santa Rosa	18.00%	50.40%	9.50%	5.70%	1.00%	1.50%	1.60%	2.90%	7.70%	1.80%	100.00%
Sarasota	10.50%	13.30%	14.90%	6.10%	1.80%	28.70%	3.60%	6.50%	13.10%	1.50%	100.00%
Seminole	12.10%	21.50%	14.40%	12.70%	1.80%	1.00%	3.20%	3.60%	28.20%	1.60%	100.00%
Sumter	22.90%	12.50%	7.50%	8.20%	0.80%	0.70%	3.60%	27.20%	15.60%	0.90%	100.00%
Suwannee	11.10%	18.10%	17.60%	21.40%	2.20%	2.00%	4.20%	2.10%	18.30%	3.00%	100.00%
Taylor	7.60%	17.30%	10.50%	7.30%	1.50%	3.30%	2.40%	33.00%	15.40%	1.60%	100.00%
Union	12.00%	18.50%	14.70%	11.00%	4.00%	1.60%	3.60%	9.10%	20.70%	4.80%	100.00%
Volusia	11.30%	16.70%	15.40%	7.00%	2.10%	28.50%	5.20%	5.20%	6.20%	2.50%	100.00%
Wakulla	9.50%	28.50%	8.30%	7.80%	3.00%	1.90%	3.50%	3.20%	31.70%	2.60%	100.00%
Walton	20.70%	22.90%	9.70%	19.40%	11.00%	1.60%	1.50%	2.80%	10.30%	0.20%	100.00%
Washington	16.70%	15.80%	15.10%	11.20%	5.20%	3.90%	4.90%	4.70%	19.20%	3.30%	100.00%
Florida	14.00%	17.60%	16.90%	9.60%	3.30%	11.30%	5.00%	7.10%	14.50%	1.30%	100.00%

SOH shifted the property tax burden from the homestead owners to users of non-homesteaded property (e.g. business, renters, and part-time residents) and recent homestead owners. From the stand point of a homestead resident in a region of real estate appreciation, the extraordinary strength in the real state markets in recent years reduced the cost of public spending. Provided that the median voter is a homestead owner, SOH may have raised local government expenditure levels. The panel data structure of our database allows us to conduct a statistical analysis to corroborate whether SOH affected local government finances.

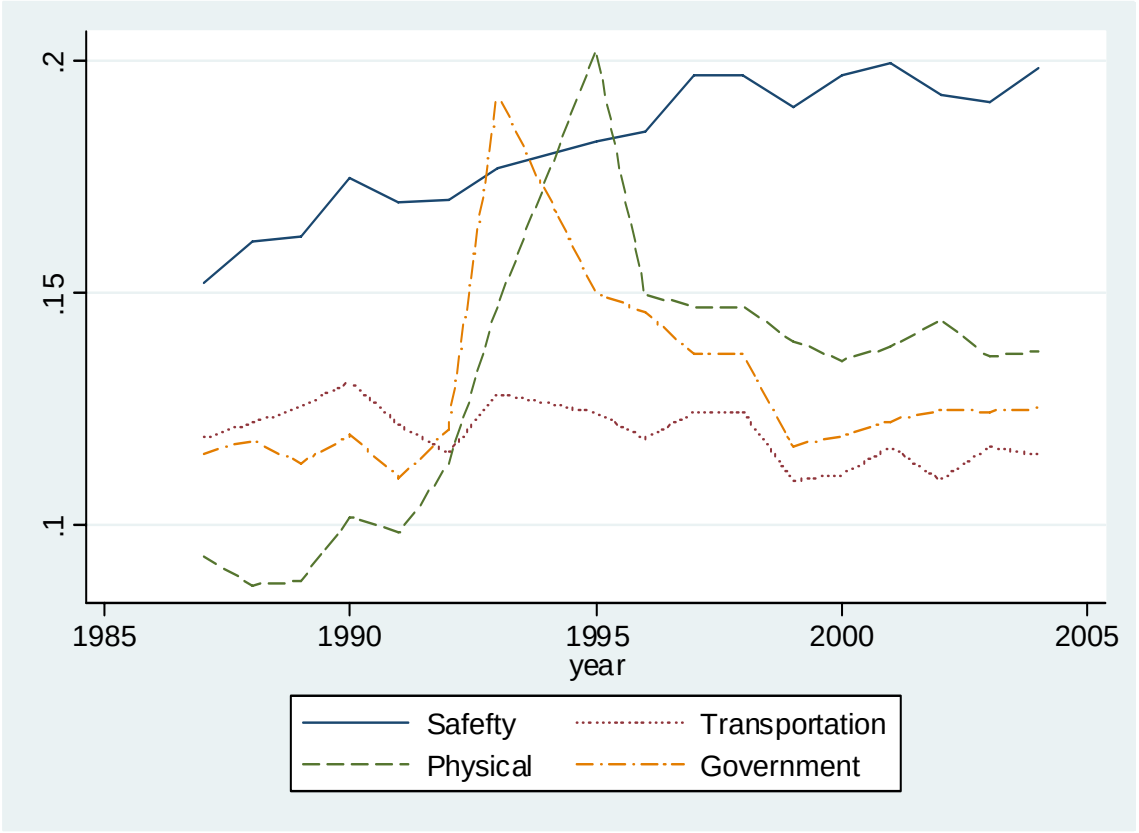
As a first approximation to this problem we estimate an autoregressive fixed effect model with total county government expenditure as the dependent variable and JV, AV (and their interaction) and Other Exemptions as independent variables. The average impact of SOH can be analyzed as the difference between changes in just value and assessed value. In particular we consider the example of a yearly 10% increase in just value and a restricted annual increase of 3% in assessed value (i.e. an increase in SOH equal to approximately 7% of taxable value). Our estimations (not reported) suggest that this change would produce a short run increase of 5% in the local government aggregate expenditures and a long run increase of 6.5%. In other words, those counties in which homesteaders gain the most from SOH through their commissioners exploit the decline the their share of the property tax burden by allowing public spending to rise.

Figure IV-14: Total Expenditure, Personal Income and Just Values



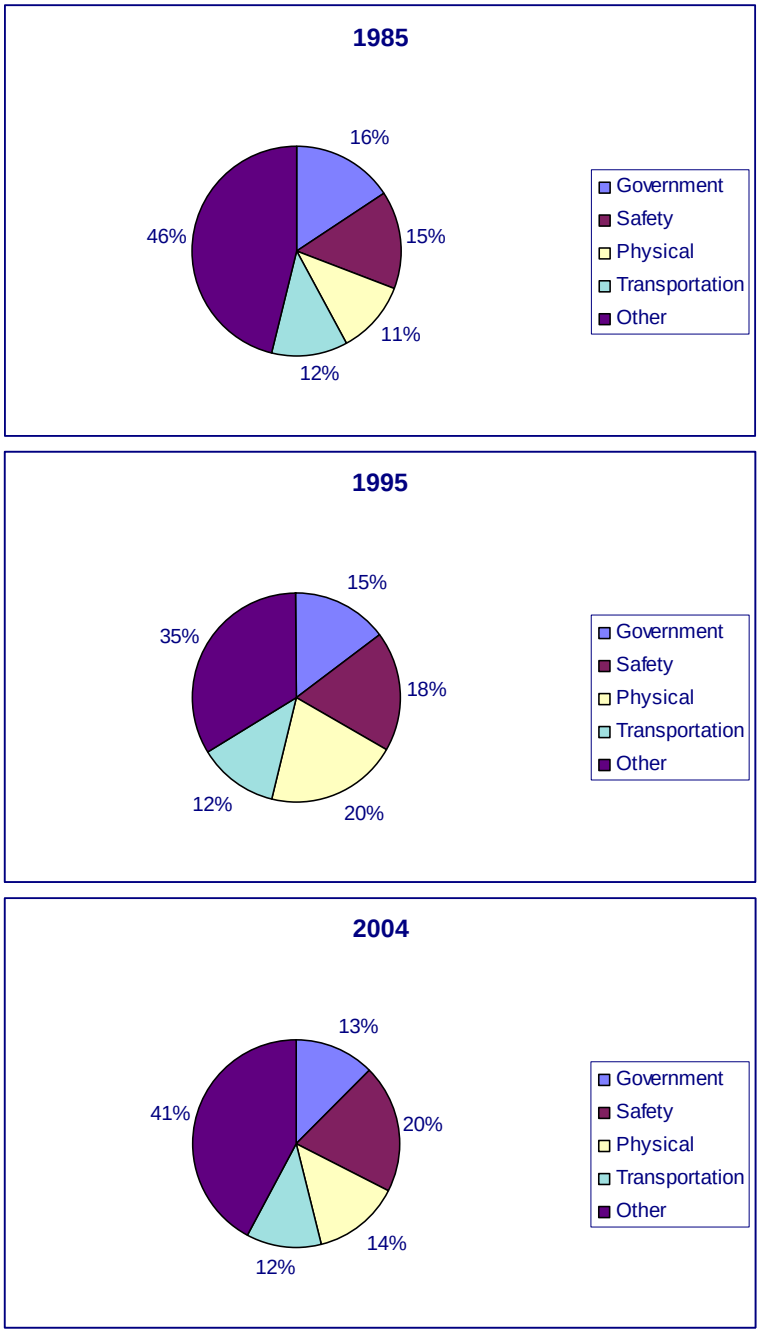
Source: BEBR. In order to make the historical series comparable we exclude Duval County in our calculations.

Figure IV-15: Expenditure Ctegories by Type (as a Proportion of Total Expenditure), 1986-2004



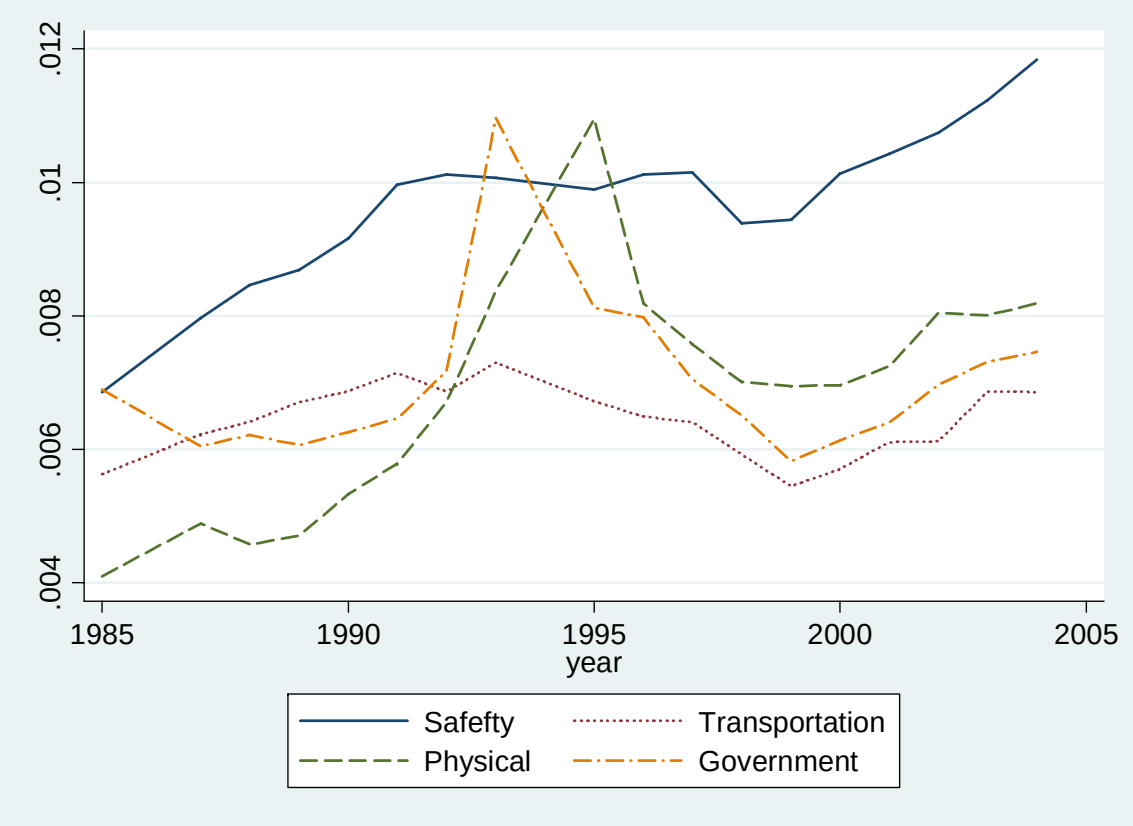
Source: BEBR. In order to make the historical series comparable we exclude Duval County in our calculations.

Figure IV-16: Expenditure Categories by Type (as a Proportion of Total Expenditure), 1985, 1995, 2004



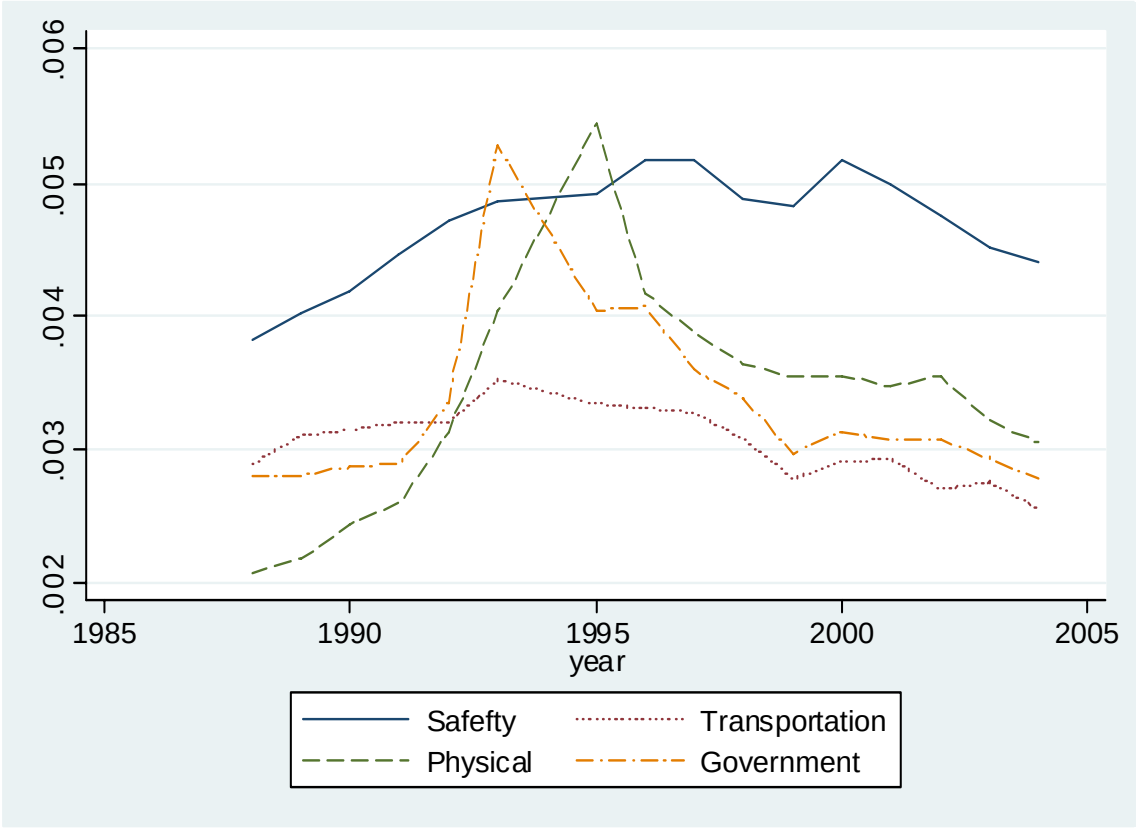
Source: BEBR. In order to make the historical series comparable we exclude Duval County in our calculations.

Figure IV-17: Local Expenditure as Ratios of Total Income, 1985-2004



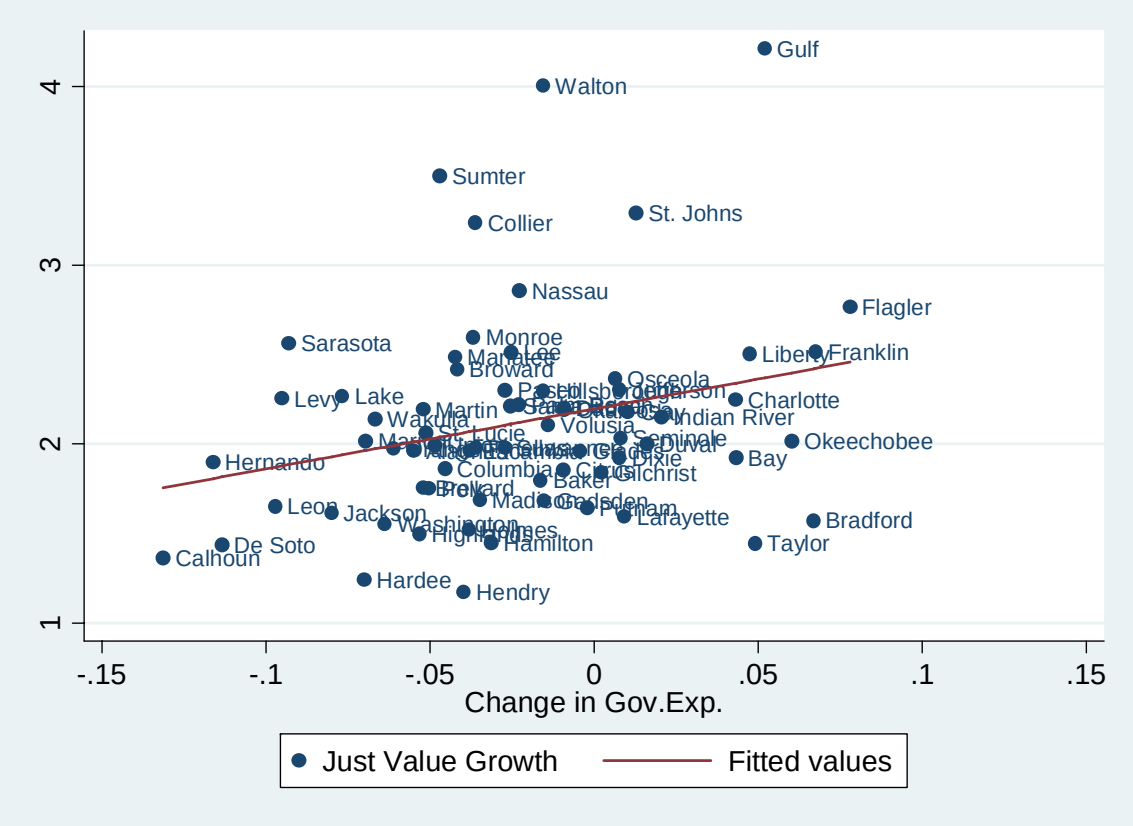
Source: BEBR. In order to make the historical series comparable we exclude Duval County in our calculations. The vertical axis shows the ratio of total local government spending, for each category, to total income. Local governments include counties, municipalities, and special districts, but exclude water and school districts.

Figure IV-18: Local Expenditure as Ratios of Just Value, 1988-2005



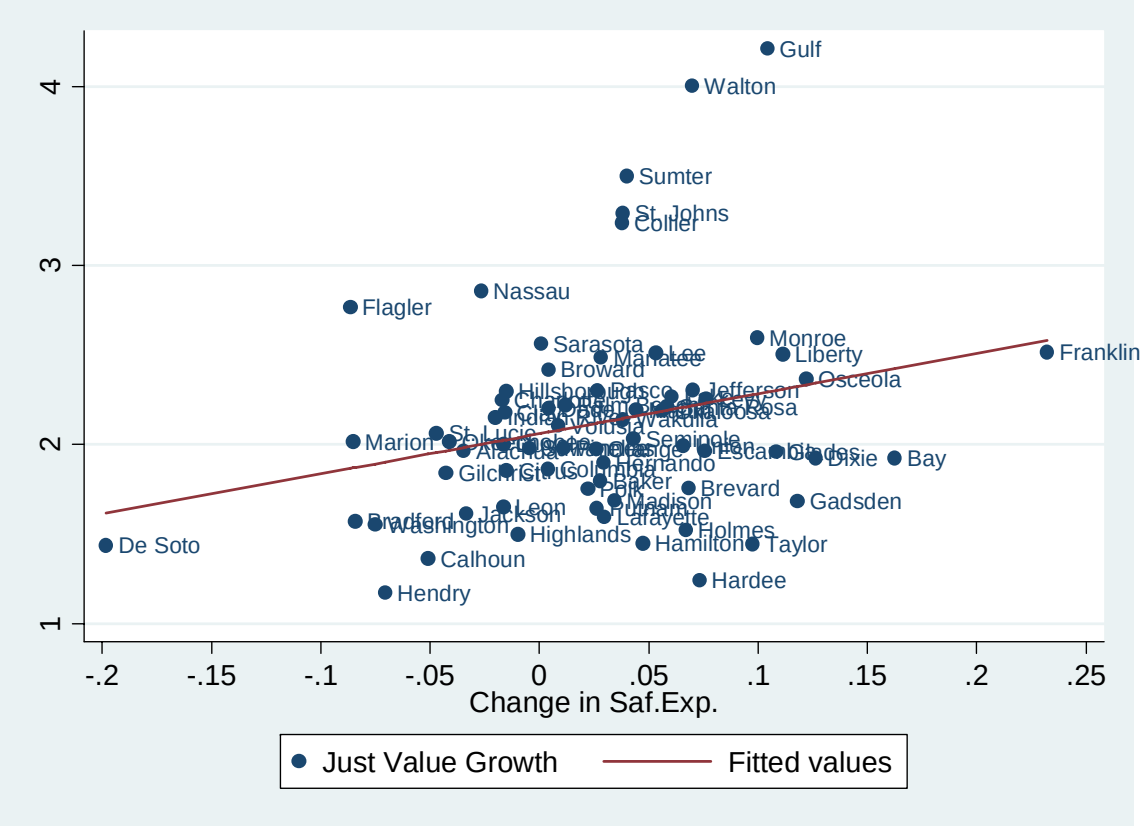
Source: BEBR. In order to make the historical series comparable we exclude Duval County in our calculations. The vertical axis shows the ratio of total local government spending, for each category, to total income. Local governments include counties, municipalities, and special districts, but exclude water and school districts.

Figure IV-19: Administration as a Share of Local Expenditure, 1995-2004



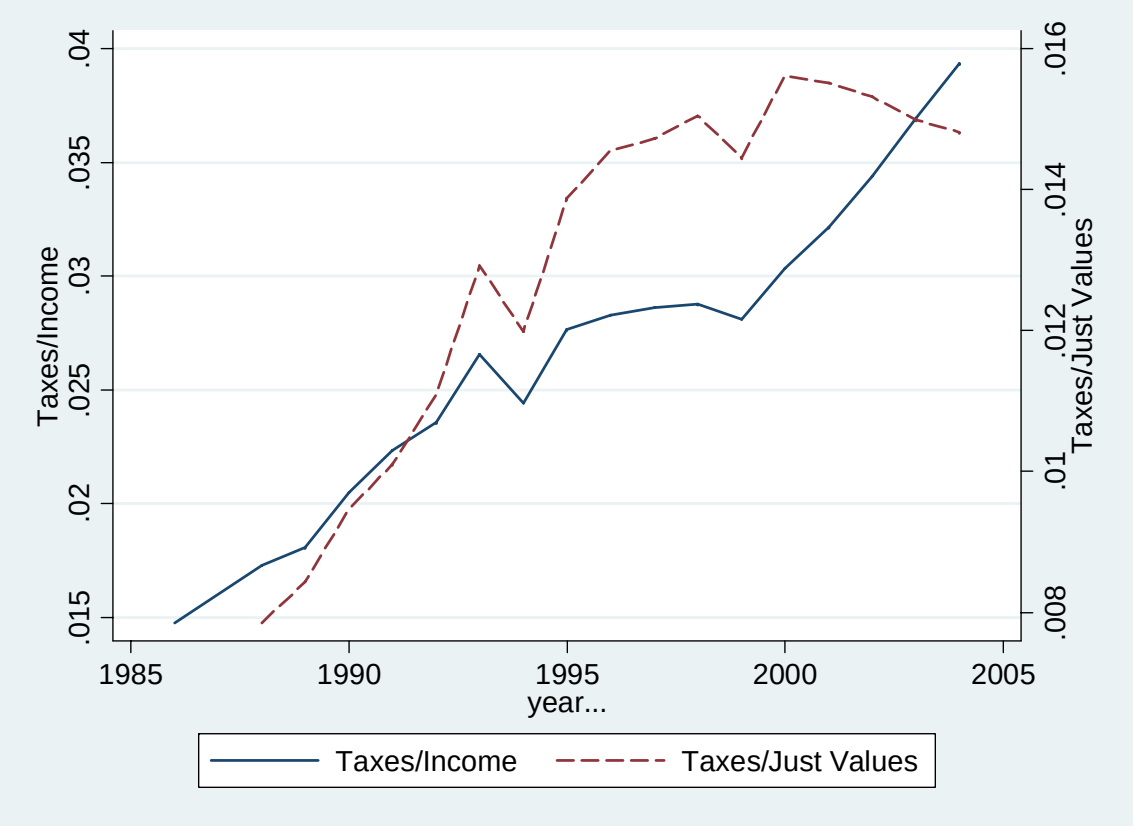
Source: BEBR. In order to make the historical series comparable we exclude Duval County in our calculations. The vertical axis shows the proportional change in just value. The horizontal shows proportional change in the ratio of administrative spending. Local governments include counties, municipalities, and special districts, but exclude water and school districts.

Figure IV-20: Safety Expenditures as a Share of Total Expenditure, 1995-2004



Source: BEBR. In order to make the historical series comparable we exclude Duval County in our calculations. The vertical axis shows the proportional change in just value. The horizontal shows proportional change in the ratio of administrative spending. Local governments include counties, municipalities, and special districts, but exclude water and school districts.

Figure IV-21: Taxes as a Proportion of Personal Income and of Just Value



IV.3 Potential Impact of Property Tax Reform on Local Government Revenue

In Section II we discuss the methodology used to project the effect of the different property tax proposals. Here we evaluate the impact that each of these proposals would have on local government budgets. We project property tax revenues under the current system (Base), under Portability, and under two variants of the current proposal of tiered exemptions (Tier and Tier, no SOH). Under Tier, homesteaders may remain under SOH or elect to switch irrevocably to the tiered exemption, but new and newly purchased homesteads would be eligible only for the tiered exemption. Under Tier, no SOH, all homesteads automatically fall under the tiered exemption, and no one would be eligible for SOH. The simulations used here correspond to those in Section II, and we assume a 1.5% annual real house price appreciation (RHPA).

Potential changes in revenues coming from the property tax will depend on both the portion of households in each exempted interval and the accumulated SOH exemptions. Counties with a large proportion of lower value houses will face the biggest initial revenue loss coming from the tiered exemption system while counties with houses in the upper end of the distribution of values will experience an initial rise in revenues because of the reduction in the SOH exemptions.

We compute the necessary millage rates needed to obtain the same property tax revenue as the one obtained under the current system. This provides a measure of the effort that local governments should make to compensate for lost taxable value. The current millage rate considered here is the sum of different millage rates (except school districts millage). An alternative way of analyzing the potential impact of the different proposals is to compute the future revenue loss as a percentage of the revenue under the current system. This provides a measure of the budgetary impact of each alternative since counties could adjust either other revenues or expenditure.

Figures IV-22 plots the projected aggregate county millage rates for the state for the period 2006-2030 under various scenarios. If first implemented for the 2007 tax roll (for taxes due 2008), the tiered system would cause a decline in the ratio of taxable value to income that would not be overcome by growth until 2012. Thus, if the tiered system is implemented, property tax revenues on average will not be high enough to allow government services to match current ratios to income until 2012 unless millage rates are increased. It can be observed that the tiered exemption system (solid blue line) would require an initial increment of about 1.5 mills. Without SOH as an option (dashed red line) the additional millage rate required to achieve the same revenue is 1 mill, provided it includes the immediate elimination of accumulated SOH caps. The simulations show that the tiered exemption system implies a long term revenue loss of about 1 mill. Portability (green dotted line) has a smaller effect, implying that only half a mill is required to compensate for the lost property tax revenue.

Figure IV-23 shows the ratio of taxable value to total personal income for each of the different alternatives. For each case, provided that we are assuming real house values appreciation above the income growth rate, this ratio constantly increases over the period

of analysis. Figure IV-23 reveals a similar pattern for the of ratio taxable to just values: The current system has a ratio of .65 in 2006 which would increase to .8 by 2030, but under the tiered exemption variants, this ratio would reach a value of only .7 by 2030. (See Section II for a detailed analysis.)

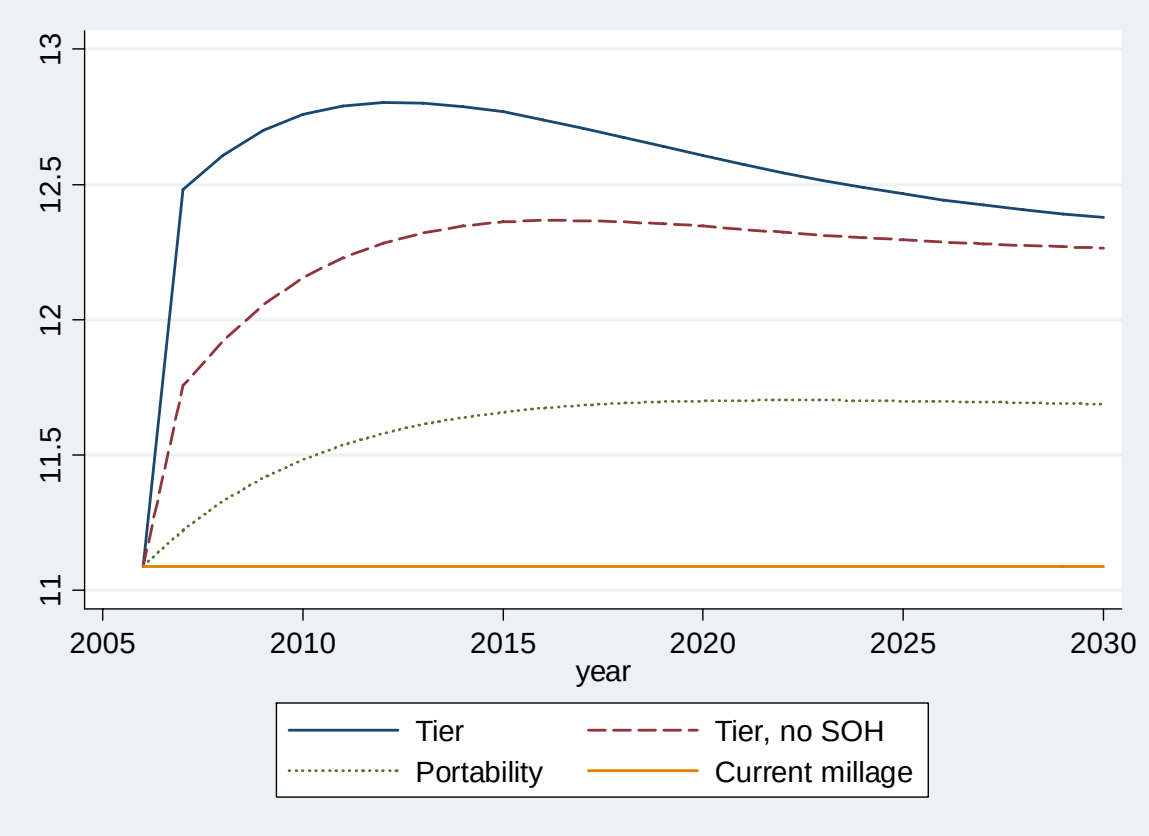
The following tables provide a summary of the potential effect of the tiered exemption proposal with optional switching. Table IV-3 shows the millage increments required to have the same property tax revenue as with the current system. Table IV-4 shows the revenue loss of the tiered exemption with respect to the current system, computed as a percentage of the latter. For the state in aggregate, the implied loss is about 11% (1.4 additional mills) of the current taxable value in 2007, 13% (1.7 additional mills) in 2012 and 10% (1.3 additional mills) by 2027. However, as stated above, there is considerable dispersion among counties. Those with a large share of household-property just value within the exemption limits would face significant revenue reductions due to the sudden contractions of their tax bases. However, counties with just values above the $200,000 limit would experience revenue growth, as long as homeowners switch to the new system. If the option to remain covered by SOH is eliminated and every homeowner has to switch to the new tiered exemption system, counties with the biggest accumulated SOH exemptions would be those with the biggest initial growth in revenue.

On average, counties will face a loss of 13% (requiring 1.7 additional mills) in 2007, 16% (2 additional mills) in 2012 and 13% (1.6 additional mills) in 2027. However, in many ways the mean is an unrepresentative statistic because of the inter-county dispersion. For some counties, the initial loss is exceptionally high: 13 out of 67 counties would face losses of more 20% in 2007. For instance, Union, Baker and Holmes counties would lose more than a quarter of their property tax revenue in 2007. Moreover, losses relative to the current system would still be above 20% by 2030. This is because, as we found in Section II, the fiscal health of any county with a large amount of its homestead a taxable value under $200,000 is quite vulnerable to the new system.

On the other hand, counties like Miami-Dade, Monroe, Franklin and Walton face relatively small revenue losses. For counties with right skewed distribution of homestead taxable values, such as Miami-Dade and Monroe, about 1 mill will be initially required. However, if switching from SOH is mandatory no change in the millage rate would be necessary and even a modest reduction in millage would be possible in the short term because the elimination of the accumulated SOH exemption provides a large infusion of taxable value. Therefore, it is the combination of granting the new exemptions while retaining the most extreme (and skewed) SOH exemptions that is expected to cause the decline in the tax base.

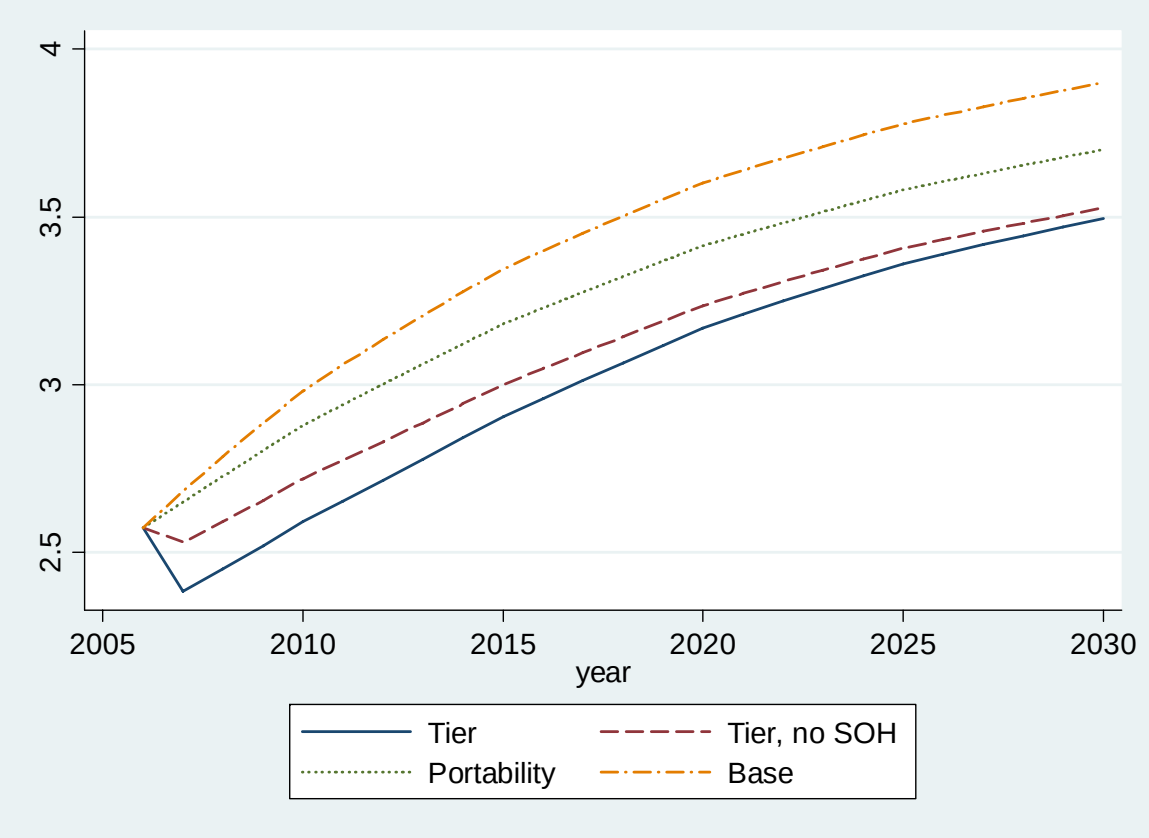
Figures IV-26 and IV-27 show the geographical dispersion of the effect of the tiered exemption proposal. In general, it can be observed that non-coastal, northern counties will experience the highest millage increases and revenue losses. This pattern corresponds to the differences in house prices among counties, which illustrates that those counties with low house prices would be the most affected by the tiered exemption system.

Figure IV-22: Millage Rate Required to Maintain Same Property Tax Revenue as under Current System, Florida, 2006-2030



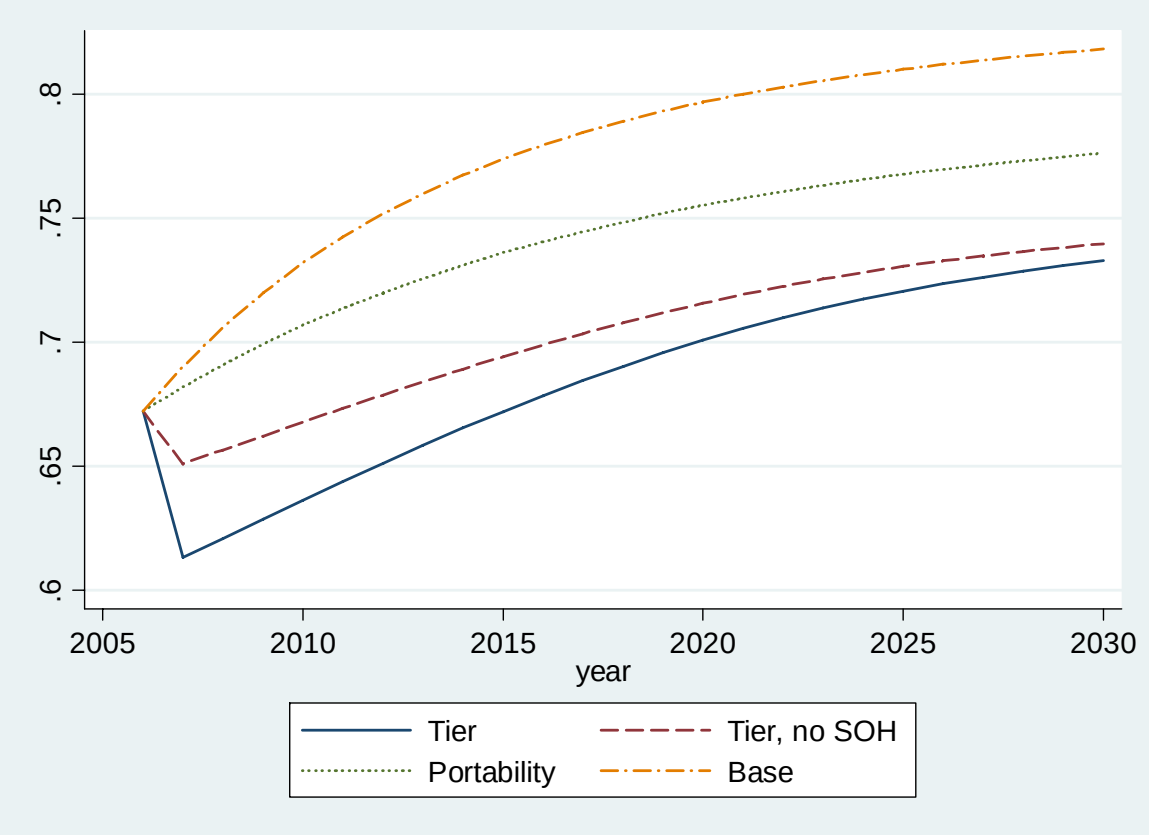
Calculations based on the taxable value projections from Section II. The millages are the sum of county, municipal, and special district rates. Water and school districts excluded.

Figure IV-23: Taxable Value as a Proportion of Personal Income, Florida, 2006-2030



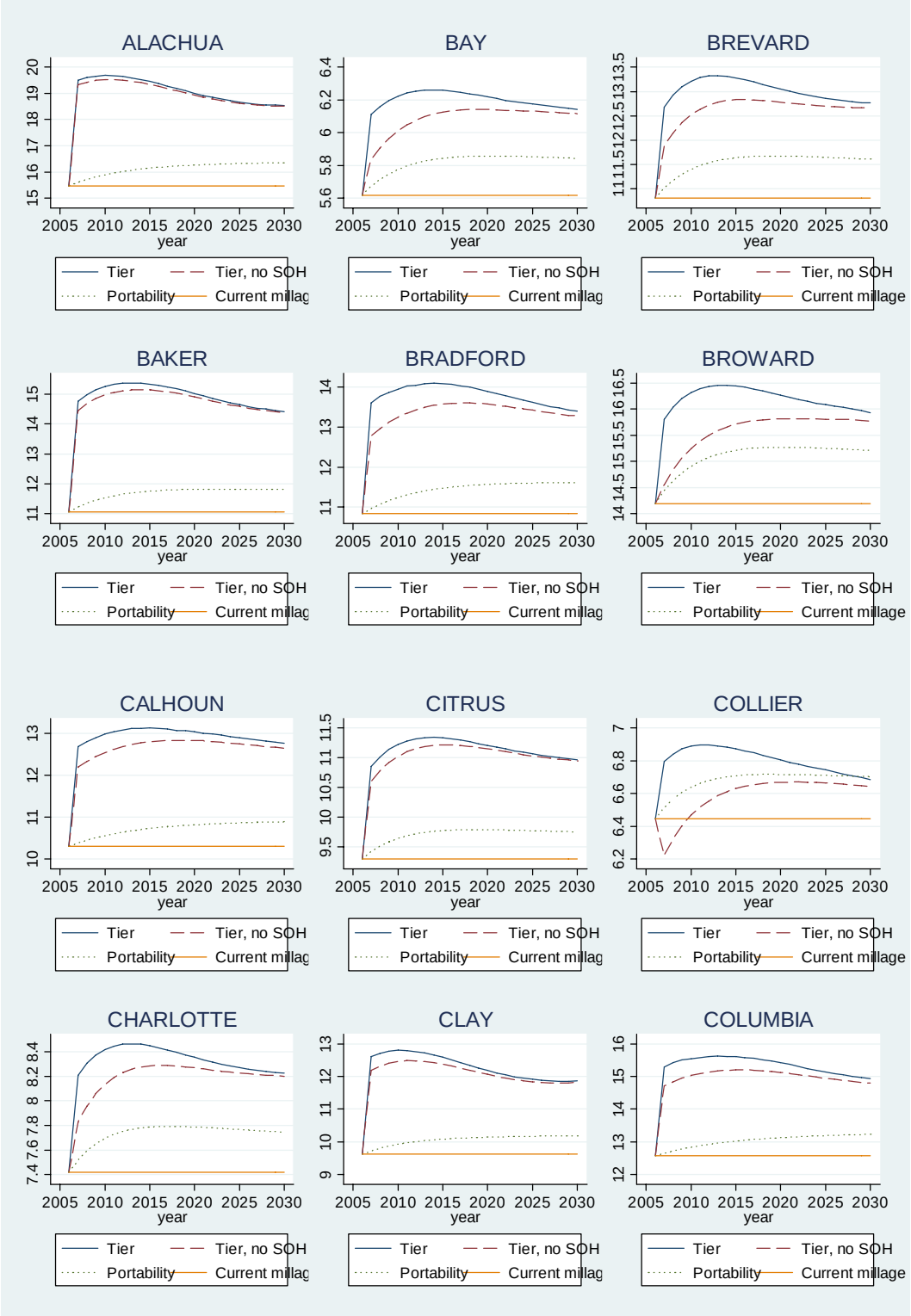
Calculations based on the taxable value projections from Section II. The millages are the sum of county, municipal, and special district rates. Water and school districts excluded.

Figure IV-24: Taxable Value as a Proportion of Personal Income, Florida, 2006-2030



Calculations based on the taxable value projections from Section II. The millages are the sum of county, municipal, and special district rates. Water and school districts excluded.

Figure IV-25: Millage Rate Required to Maintain Same Property Tax Revenue as under Current System, by County, 2006-2030



(Continued…)

Figure IV-25: Millage Rate Required to Maintain Same Property Tax Revenue as under Current System, by County, 2006-2030 (Continued)

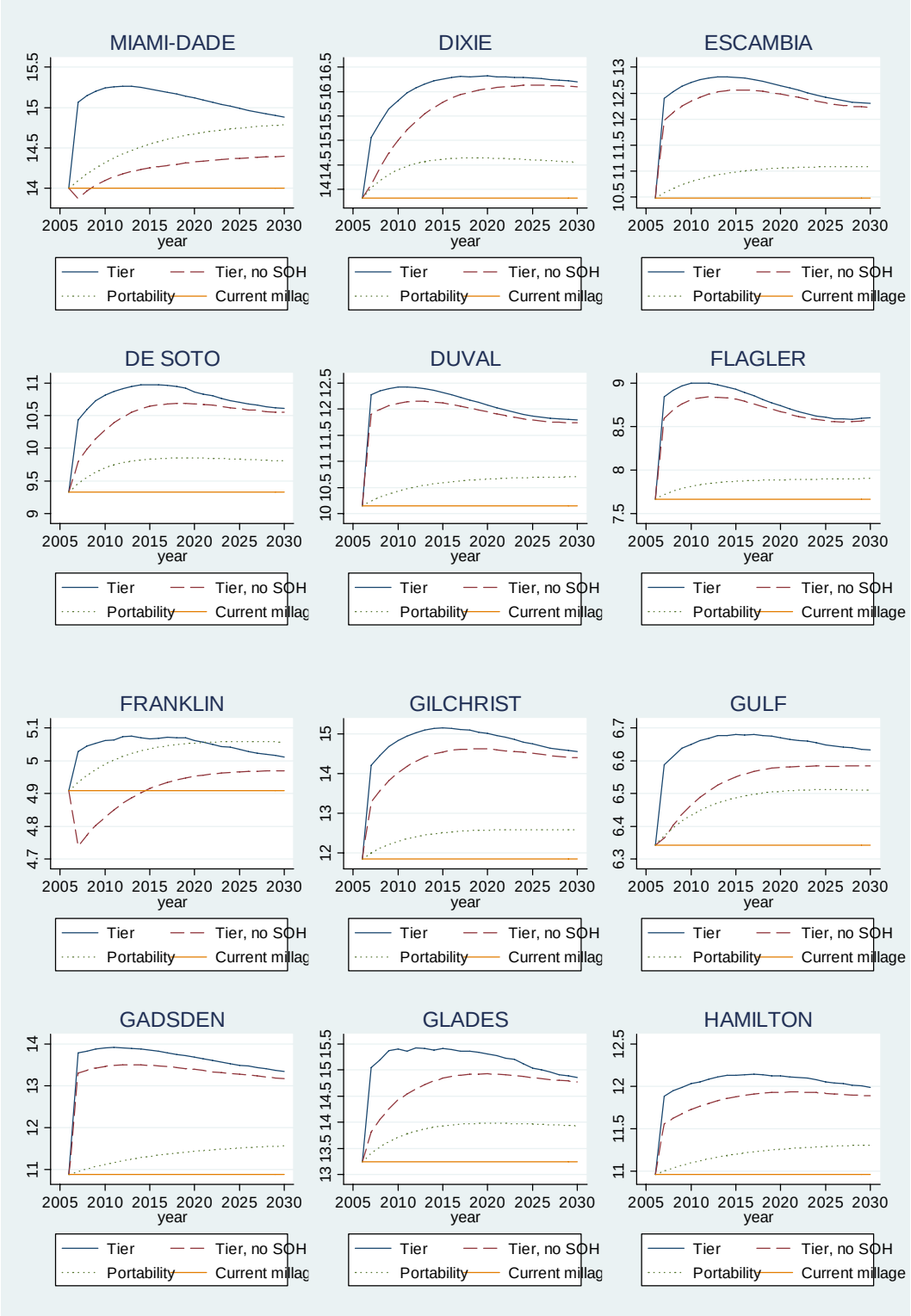


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Figure IV-25: Millage Rate Required to Maintain Same Property Tax Revenue as under Current System, by County, 2006-2030 (Continued)

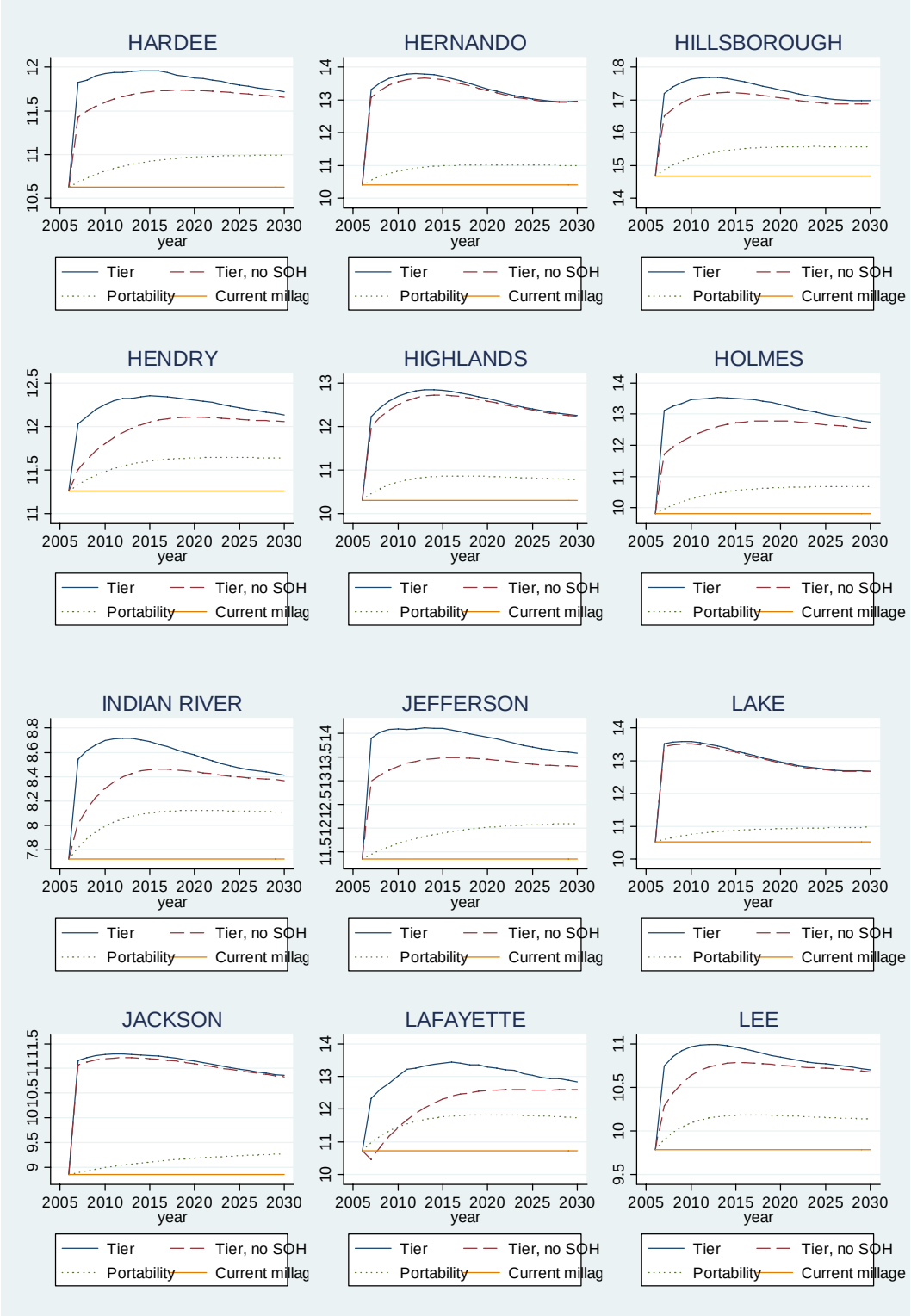

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Figure IV-25: Millage Rate Required to Maintain Same Property Tax Revenue as under Current System, by County, 2006-2030 (Continued)

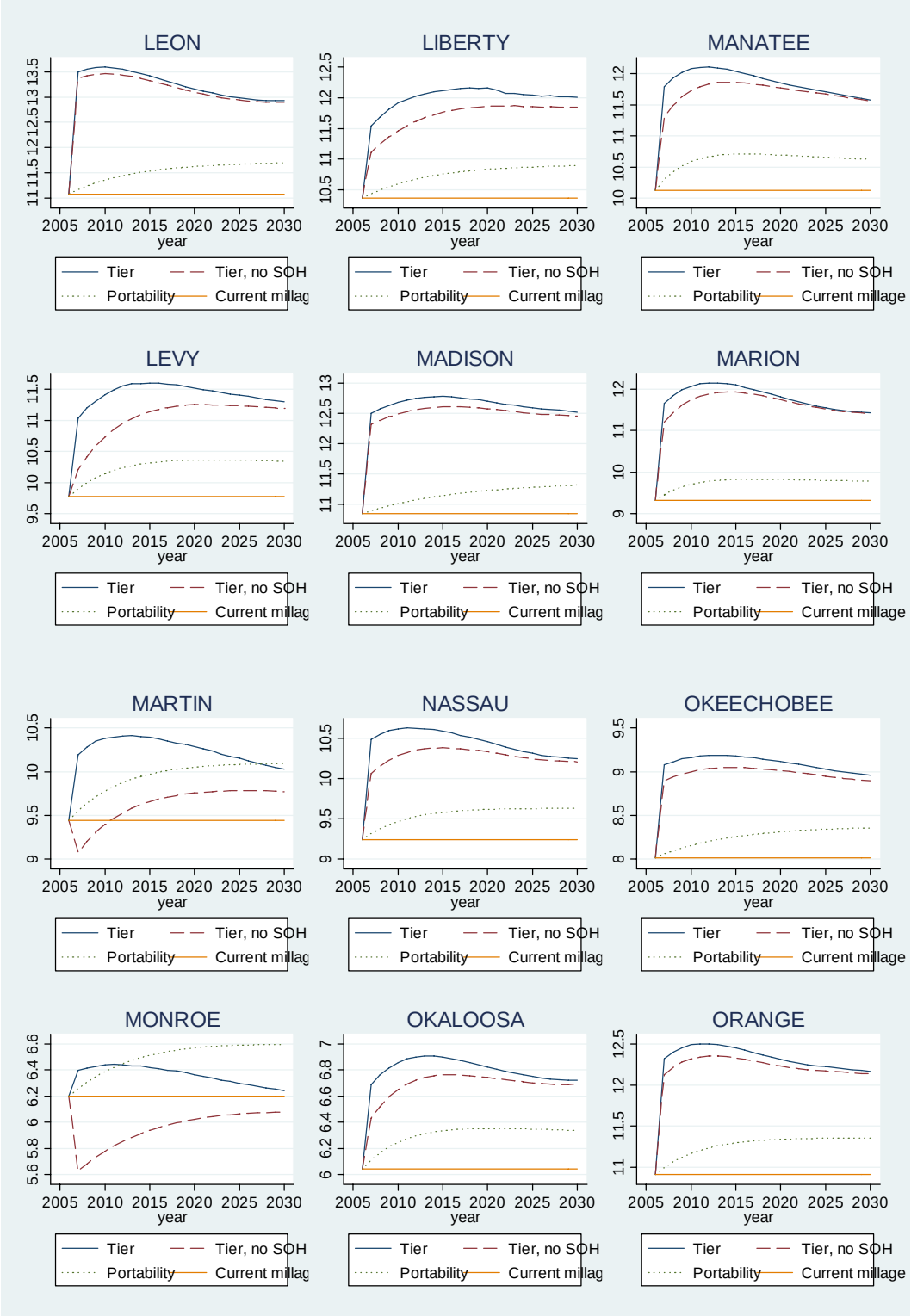

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Figure IV-25: Millage Rate Required to Maintain Same Property Tax Revenue as under Current System, by County, 2006-2030 (Continued)

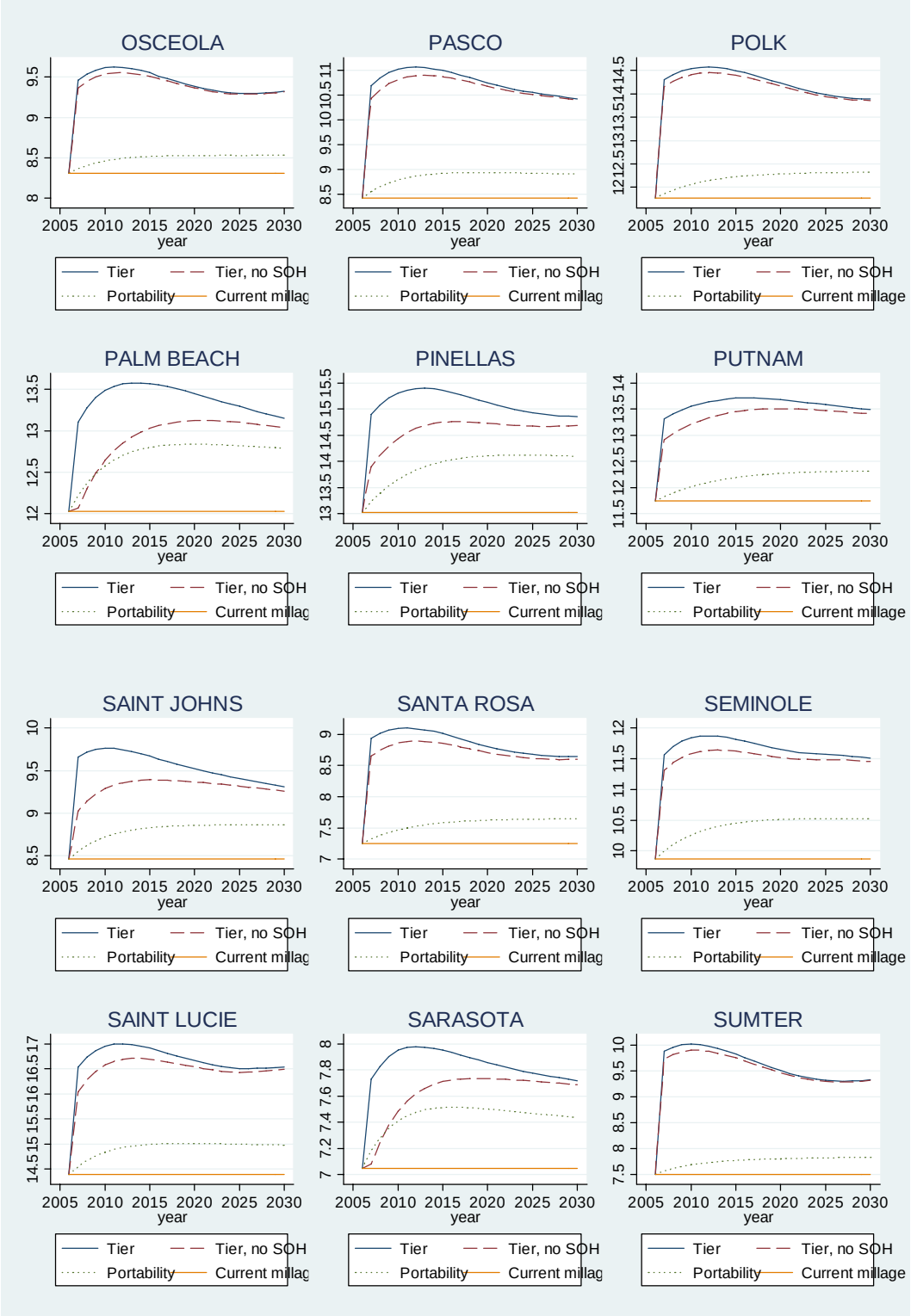

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Figure IV-25: Millage Rate Required to Maintain Same Property Tax Revenue as under Current System, by County, 2006-2030 (Continued)

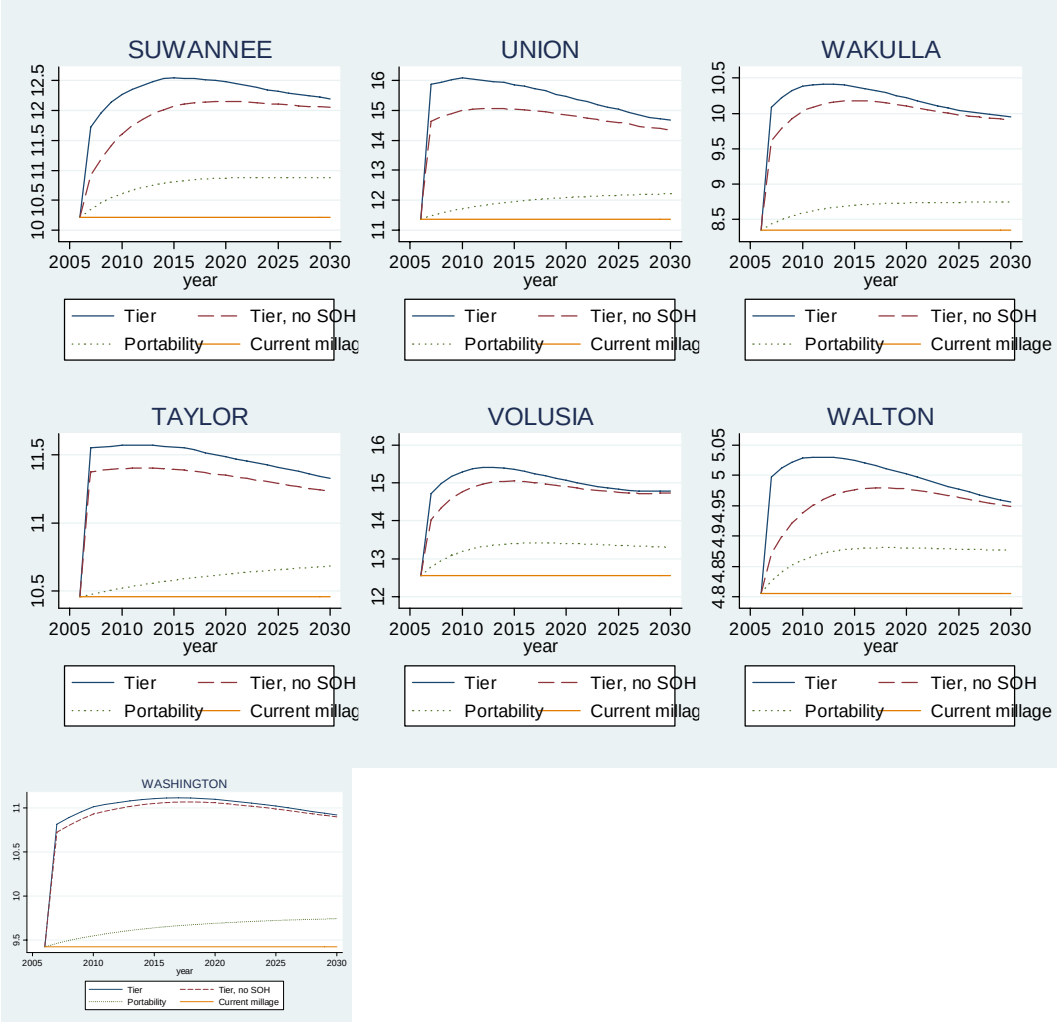


Table IV-3: Additional Mills Required to Maintain Revenue under Tiered, No SOH

County	2007	2012	2017	2022	2027
Alachua	4.0	4.2	3.8	3.4	3.1
Baker	3.7	4.3	4.2	3.8	3.5
Bay	0.5	0.6	0.6	0.6	0.5
Bradford	2.8	3.2	3.2	2.9	2.7
Brevard	1.9	2.5	2.4	2.2	2.0
Broward	1.6	2.2	2.2	2.0	1.8
Calhoun	2.4	2.8	2.8	2.7	2.5
Charlotte	0.8	1.0	1.0	0.9	0.8
Citrus	1.6	2.0	2.0	1.9	1.7
Clay	3.0	3.1	2.8	2.4	2.2
Collier	0.3	0.5	0.4	0.3	0.3
Columbia	2.7	3.0	3.0	2.7	2.5
De Soto	1.1	1.6	1.6	1.5	1.3
Dixie	1.2	2.3	2.5	2.5	2.4
Duval	2.1	2.3	2.1	1.8	1.7
Escambia	1.9	2.3	2.3	2.1	1.9
Flagler	1.2	1.3	1.2	1.0	0.9
Franklin	0.1	0.2	0.2	0.1	0.1
Gadsden	2.9	3.0	2.9	2.7	2.5
Gilchrist	2.4	3.2	3.3	3.1	2.8
Glades	1.8	2.2	2.1	2.0	1.7
Gulf	0.2	0.3	0.3	0.3	0.3
Hamilton	0.9	1.1	1.2	1.1	1.1
Hardee	1.2	1.3	1.3	1.2	1.1
Hendry	0.8	1.1	1.1	1.0	0.9
Hernando	2.9	3.4	3.2	2.8	2.6
Highlands	1.9	2.5	2.5	2.2	2.0
Hillsborough	2.5	3.0	2.8	2.5	2.3
Holmes	3.3	3.7	3.6	3.4	3.1
Indian River	0.8	1.0	0.9	0.8	0.7
Jackson	2.3	2.4	2.4	2.2	2.1
Jefferson	2.6	2.8	2.7	2.5	2.3
Lafayette	1.6	2.5	2.7	2.5	2.2
Lake	3.0	3.0	2.6	2.3	2.2
Lee	1.0	1.2	1.1	1.0	1.0
Leon	2.4	2.5	2.2	2.0	1.9
Levy	1.3	1.8	1.8	1.7	1.6
Liberty	1.2	1.7	1.8	1.7	1.7
Madison	1.7	1.9	1.9	1.8	1.7
Manatee	1.7	2.0	1.8	1.7	1.5
Marion	2.3	2.8	2.7	2.4	2.2
Martin	0.8	1.0	0.9	0.8	0.7
Miami-Dade	1.1	1.3	1.2	1.1	0.9
Monroe	0.2	0.2	0.2	0.1	0.1
Nassau	1.2	1.4	1.3	1.2	1.0
Okaloosa	0.6	0.9	0.8	0.7	0.7
Okeechobee	1.1	1.2	1.1	1.1	1.0
Orange	1.4	1.6	1.5	1.4	1.3
Osceola	1.2	1.3	1.2	1.0	1.0
Palm Beach	1.1	1.5	1.5	1.4	1.2
Pasco	2.3	2.6	2.5	2.2	2.1
Pinellas	1.9	2.4	2.3	2.0	1.9
Polk	2.5	2.8	2.6	2.3	2.2
Putnam	1.6	1.9	2.0	1.9	1.8
Saint Johns	1.2	1.3	1.1	1.0	0.9
Saint Lucie	2.1	2.6	2.4	2.2	2.1
Santa Rosa	1.7	1.8	1.7	1.5	1.4
Sarasota	0.7	0.9	0.9	0.8	0.7
Seminole	1.7	2.0	1.9	1.7	1.7
Sumter	2.4	2.5	2.2	1.9	1.8
Suwannee	1.5	2.2	2.3	2.2	2.1
Taylor	1.1	1.1	1.1	1.0	0.9
Union	4.5	4.6	4.3	3.9	3.5
Volusia	2.2	2.8	2.7	2.4	2.2
Wakulla	1.7	2.1	2.0	1.8	1.7
Walton	0.2	0.2	0.2	0.2	0.2
Washington	1.4	1.6	1.7	1.6	1.6
Florida	1.4	1.7	1.6	1.5	1.3

Based on the taxable value projections in Section II. Numbers shown are the increases in millage we estimate would be required to maintain the revenues that would be retained under the current system at the current millage rate.

Table IV-4: Losses under Tiered Exemption (as Proportion of Taxable Value under Current System)

Alachua	20.60%	21.20%	19.70%	17.90%	16.80%
Baker	25.10%	28.00%	27.40%	25.50%	23.80%
Bay	8.10%	10.10%	10.00%	9.30%	8.80%
Bradford	20.30%	22.80%	22.70%	21.30%	19.70%
Brevard	14.80%	18.90%	18.10%	16.60%	15.60%
Broward	10.20%	13.60%	13.40%	12.30%	11.40%
Calhoun	18.70%	21.20%	21.30%	20.60%	19.70%
Charlotte	9.60%	12.30%	11.80%	10.80%	10.00%
Citrus	14.40%	17.90%	17.70%	16.60%	15.60%
Clay	23.70%	24.60%	22.50%	20.10%	18.90%
Collier	5.10%	6.50%	5.90%	4.90%	4.10%
Columbia	17.80%	19.40%	19.10%	17.80%	16.50%
De Soto	10.60%	14.50%	14.90%	13.70%	12.50%
Dixie	8.20%	14.00%	15.30%	15.20%	14.90%
Duval	17.30%	18.20%	16.90%	15.20%	14.10%
Escambia	15.50%	18.10%	17.90%	16.50%	15.20%
Flagler	13.20%	14.80%	13.40%	11.60%	10.70%
Florida	11.20%	13.40%	12.70%	11.60%	10.70%
Franklin	2.40%	3.30%	3.20%	2.80%	2.30%
Gadsden	21.00%	21.70%	21.00%	20.00%	19.00%
Gilchrist	16.60%	21.20%	21.60%	20.60%	19.10%
Glades	12.00%	14.10%	13.80%	13.00%	11.50%
Gulf	3.70%	4.90%	5.10%	4.80%	4.50%
Hamilton	7.80%	9.30%	9.70%	9.50%	8.90%
Hardee	10.10%	11.00%	11.00%	10.30%	9.60%
Hendry	6.40%	8.60%	8.80%	8.30%	7.60%
Hernando	21.80%	24.60%	23.40%	21.10%	19.70%
Highlands	15.70%	19.50%	19.30%	17.80%	16.40%
Hillsborough	14.70%	17.00%	16.10%	14.60%	13.70%
Holmes	25.20%	27.40%	27.10%	25.50%	23.90%
Indian River	9.60%	11.40%	10.70%	9.50%	8.60%
Jackson	20.70%	21.60%	21.10%	20.10%	19.00%
Jefferson	18.40%	19.50%	19.20%	18.00%	16.90%
Lafayette	12.90%	19.00%	19.90%	18.70%	17.00%
Lake	22.20%	22.10%	20.00%	18.10%	17.10%
Lee	9.00%	11.00%	10.40%	9.50%	8.90%
Leon	17.90%	18.20%	16.80%	15.30%	14.40%
Levy	11.40%	15.40%	15.60%	14.80%	13.90%
Liberty	10.20%	13.90%	14.70%	14.20%	13.90%
Madison	13.20%	14.90%	14.90%	14.20%	13.70%
Manatee	14.10%	16.30%	15.40%	14.10%	13.10%
Marion	20.10%	23.30%	22.30%	20.30%	18.80%
Martin	7.40%	9.20%	8.80%	7.70%	6.50%
Miami-Dade	7.10%	8.30%	7.80%	7.00%	6.30%
Monroe	3.10%	3.70%	3.10%	2.20%	1.20%
Nassau	11.90%	13.00%	12.30%	11.10%	10.10%
Okaloosa	9.60%	12.40%	12.10%	11.00%	10.20%
Okeechobee	11.70%	12.80%	12.50%	11.80%	10.90%
Orange	11.40%	12.80%	12.00%	11.10%	10.60%
Osceola	12.20%	13.60%	12.30%	11.00%	10.60%
Palm Beach	8.20%	11.30%	11.10%	10.10%	9.10%
Pasco	21.30%	23.90%	22.80%	21.00%	19.80%
Pinellas	12.50%	15.40%	14.70%	13.30%	12.50%
Polk	17.70%	19.20%	18.20%	16.60%	15.50%
Putnam	11.80%	13.90%	14.40%	13.90%	13.30%
Saint Johns	12.40%	13.20%	11.90%	10.70%	9.70%
Saint Lucie	12.90%	15.40%	14.40%	13.20%	12.80%
Santa Rosa	18.90%	20.20%	18.80%	17.10%	16.20%
Sarasota	8.80%	11.70%	11.00%	9.90%	9.10%
Seminole	14.70%	16.90%	16.00%	15.00%	14.60%
Sumter	24.00%	24.80%	22.50%	20.10%	19.30%
Suwannee	12.90%	17.80%	18.50%	17.80%	16.70%
Taylor	9.50%	9.70%	9.40%	8.70%	8.10%
Union	28.30%	28.90%	27.60%	25.60%	23.40%
Volusia	14.70%	18.50%	17.60%	16.10%	15.10%
Wakulla	17.30%	19.80%	19.10%	17.70%	16.50%
Walton	3.80%	4.40%	4.20%	3.70%	3.30%
Washington	12.90%	14.80%	15.20%	14.90%	14.20%
Alachua	20.60%	21.20%	19.70%	17.90%	16.80%

Based on the taxable value projections in Section II. Numbers shown are the increases in millage we estimate would be required to maintain the revenues that would be retained under the current system at the current millage rate.

Figure IV-26: Additional Mills Required under Tiered Exemption to Maintain Current Revenue

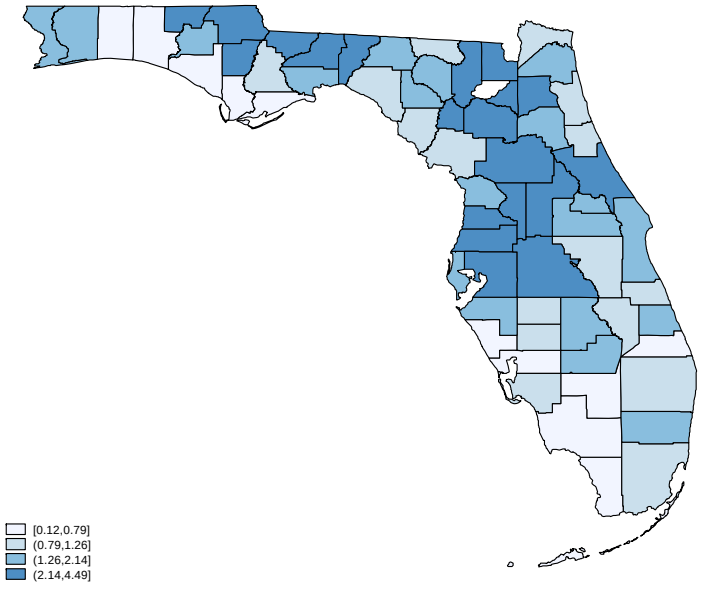
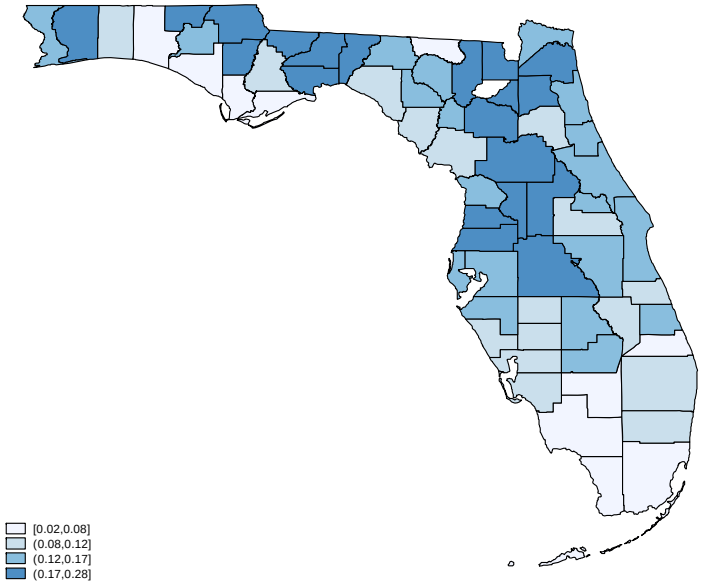


Figure IV-27: Losses under the Tiered Exemption (as a Proportion of Taxable Value under the Current System)



IV.4 Potential Impact of Property Tax Reform on Local Government Expenditure

As discussed earlier, our expenditure projections are based on personal income at the county level. In particular, it is assumed that total expenditures increase at the same rate that nominal income does, using a constant expenditure-to-income ratio in each county. We also assume that other revenue sources grow at the same rate as total expenditures. As a result, our projections of the effects of the different property tax reform proposals depend on the revenue losses of each proposal, which in turn depend on real property appreciation and the distribution of real property within counties.

As we mention in Section II, we project that just values will increase at a rate above that of income growth. Here we assume that expenditures will rise at the rate of income growth. The obvious implication is that over the long run, property taxes will be able to fund a steady share of expenditures, especially if exemptions are not fully indexed to inflation of income. A 75% exemption capped at $200,000, for example, will become less and less significant over the decades.

The following figure shows the millage rate that is required for financing the same proportion of total expenditure by the property tax as that observed in 2006. That is, for year t, it plots a hypothetical millage for, say, 2016, equal to the actual millage in 2006, multiplied by the ratio of taxable value to expenditures in 2006, which is divided by the hypothetical ratio of taxable value to expenditures in 2016. More formally, we define the following variables: $MILL_{2006}$: the millage rate in 2006; EXP_{2006}: expenditures in 2006; TV_{2006}: taxable value in 2006; EXP_t: the value of expenditures in year t, and TV_t: taxable value in year t using projections from Section II for the appropriate property tax regime. We can then determine our hypothetical millage in year t, where $MILL_t = MILL_{2006} \times \frac{TV_{2006}}{EXP_{2006}} \times \frac{EXP_t}{TV_t}$.

Figure IV-28 shows that for each alternative millage rates can eventually be reduced to about two-thirds of the current value. Moreover, the tiered exemption alternative and the current system have only a difference of about 1 mill to finance the same proportion of total expenditure. In other words, if millage rates under the tiered exemption system are to be adjusted to provide the same relative amount of funds as the current SOH system, in the long run only one additional mill is required to achieve it.

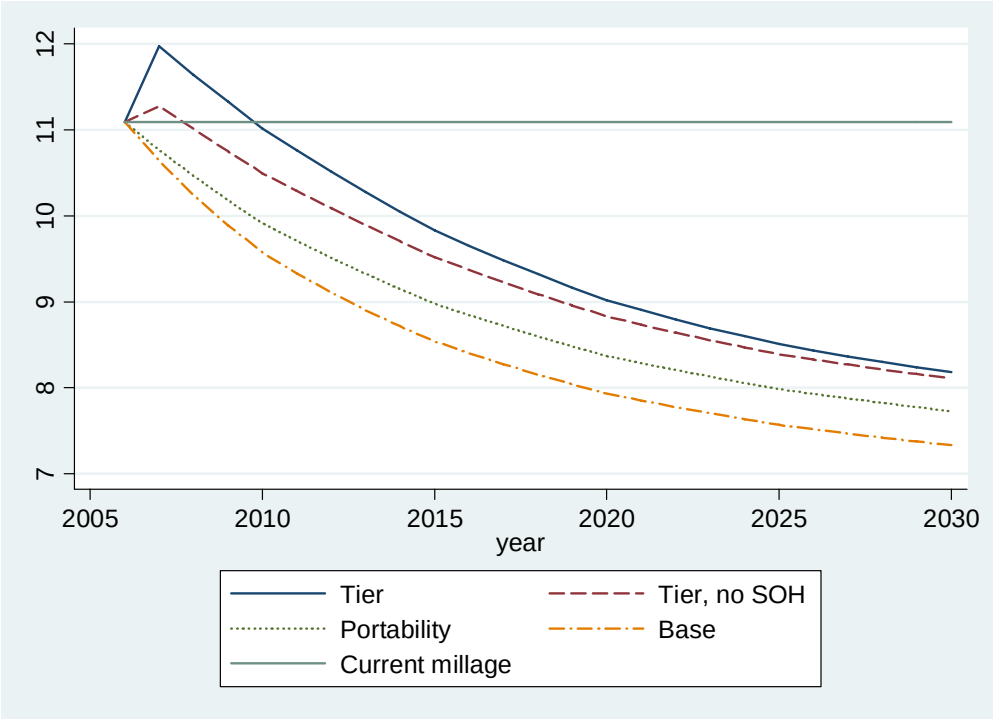
These alternatives differ considerably in the short run. The tiered exemption proposal would require an initial increase of 1 mill, which would be reduced starting in 2011. On the other hand, the current property tax system would allow millage rates to be reduced immediately. It should be noted that the short run difference among the alternatives is maintained over the long run.

Table IV-5 shows the revenue losses of the tiered exemption proposal with respect to the current system, divided by total expenditure. In this case, we consider the current millage rates as fixed. If the necessary millage rate decreases over time, this is not true for the ratio of revenue losses to total expenditure. This is because with just value growth greater

than income growth, the property tax is an increasingly important source of revenues for local governments. In consequence, this percentage loss will be greater for those counties that rely the most on the property tax as a revenue source.

For Florida's counties in the aggregate, the initial loss is about 3% of local government public spending, which increases to a 4% loss by 2030. However, for some counties we observe a much higher percentage loss. For instance, Nassau County has a 11% initial loss, which increases to 13% by 2030, while Citrus and Clay counties have a loss of 7% with the introduction of the tiered exemption, which rises to 11% and 8%, respectively. These counties will face tough choices to maintain a balanced budget. Figure IV-29 plots the geographical dispersion of these losses.

Figure IV-28: Millage Rate Required to Maintain Constant Ratio of Property Tax Revenue to Total Expenditure, Florida, 2006-2030



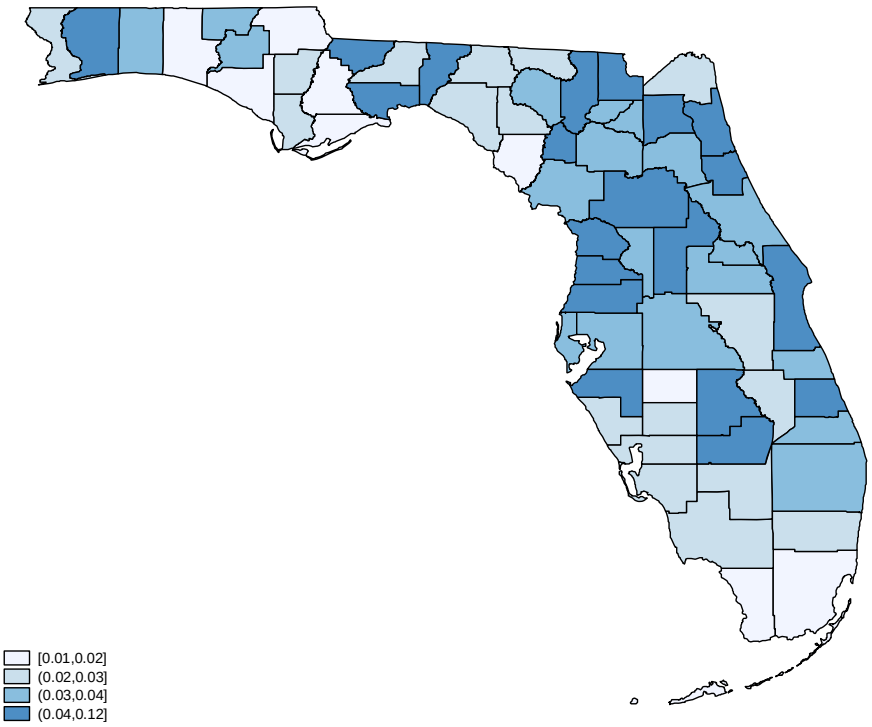
The lines represent the millage rate required, under the various property tax regimes, to maintain a constant ratio of property tax revenue to local government expenditures. School districts are excluded. The projections are based on taxable value results from Section II and the assumption of an unchanging ratio of local government spending to personal income.

Table IV-5: Revenue loss of the tiered system as a percentage of total expenditure

County	2007	2012	2017	2022	2027
Alachua	4.00%	4.60%	4.70%	4.50%	4.40%
Baker	6.30%	8.40%	9.10%	9.10%	8.90%
Bay	1.40%	2.00%	2.10%	2.10%	2.10%
Bradford	3.90%	5.10%	5.70%	5.70%	5.60%
Brevard	5.60%	8.60%	9.20%	9.10%	9.00%
Broward	2.70%	4.40%	4.80%	4.70%	4.60%
Calhoun	2.90%	3.80%	4.20%	4.40%	4.40%
Charlotte	2.90%	4.30%	4.50%	4.30%	4.20%
Citrus	7.20%	10.50%	11.50%	11.40%	11.10%
Clay	7.10%	8.70%	8.80%	8.30%	8.10%
Collier	2.10%	3.20%	3.20%	2.80%	2.30%
Columbia	4.50%	5.60%	6.00%	6.00%	5.80%
De Soto	2.00%	3.30%	3.90%	3.90%	3.80%
Dixie	1.40%	2.80%	3.40%	3.60%	3.70%
Duval	2.10%	2.50%	2.60%	2.40%	2.30%
Escambia	2.60%	3.30%	3.50%	3.40%	3.20%
Flagler	5.90%	9.10%	10.40%	10.60%	11.20%
Franklin	1.20%	1.50%	1.40%	1.10%	0.80%
Gadsden	4.50%	5.10%	5.30%	5.30%	5.20%
Gilchrist	5.40%	8.90%	10.90%	11.80%	12.20%
Glades	5.40%	7.10%	7.20%	6.80%	6.00%
Gulf	2.00%	2.90%	3.20%	3.20%	3.20%
Hamilton	2.10%	2.80%	3.10%	3.10%	3.10%
Hardee	2.00%	2.40%	2.60%	2.60%	2.60%
Hendry	2.30%	3.60%	4.00%	4.10%	4.10%
Hernando	8.60%	11.80%	12.70%	12.60%	12.60%
Highlands	6.60%	9.40%	9.90%	9.40%	8.80%
Hillsborough	3.80%	5.20%	5.50%	5.30%	5.20%
Holmes	4.30%	5.40%	5.80%	5.80%	5.60%
Indian River	3.00%	4.40%	4.80%	4.70%	4.60%
Jackson	1.90%	2.10%	2.10%	2.00%	1.90%
Jefferson	4.90%	5.90%	6.40%	6.40%	6.40%
Lafayette	2.80%	5.20%	6.30%	6.50%	6.40%
Lake	7.40%	9.20%	9.90%	10.10%	10.60%
Lee	2.50%	3.60%	3.70%	3.50%	3.40%
Leon	2.00%	2.20%	2.00%	1.80%	1.70%
Levy	3.90%	6.40%	7.40%	7.70%	7.70%
Liberty	1.60%	2.40%	2.70%	2.70%	2.70%
Madison	2.60%	3.20%	3.40%	3.40%	3.40%
Manatee	5.10%	7.30%	7.90%	8.00%	8.10%
Marion	4.80%	6.80%	7.30%	7.20%	7.10%
Martin	3.80%	5.40%	5.40%	5.00%	4.20%
Miami-Dade	1.90%	2.40%	2.50%	2.30%	2.10%
Monroe	1.10%	1.40%	1.30%	1.00%	0.60%
Nassau	11.70%	14.60%	14.90%	14.10%	13.30%
Okaloosa	3.00%	4.50%	4.80%	4.60%	4.50%
Okeechobee	2.40%	2.90%	3.10%	3.10%	3.00%
Orange	3.00%	3.80%	3.90%	3.80%	3.70%
Osceola	2.90%	3.70%	3.60%	3.40%	3.20%
Palm Beach	3.20%	5.20%	5.60%	5.50%	5.10%
Pasco	6.70%	9.10%	9.60%	9.30%	9.10%
Pinellas	3.80%	5.40%	5.70%	5.60%	5.50%
Polk	4.00%	5.00%	5.20%	5.00%	4.80%
Putnam	3.90%	5.20%	5.80%	6.00%	6.10%
Saint Johns	6.00%	7.50%	7.40%	7.00%	6.40%
Saint Lucie	4.60%	6.40%	6.50%	6.30%	6.20%
Santa Rosa	4.50%	5.70%	5.80%	5.60%	5.50%
Sarasota	2.30%	3.70%	3.80%	3.60%	3.50%
Seminole	4.40%	6.00%	6.30%	6.20%	6.30%
Sumter	4.00%	4.90%	4.80%	4.50%	4.30%
Suwannee	3.30%	5.50%	6.40%	6.60%	6.50%
Taylor	2.20%	2.40%	2.50%	2.50%	2.40%
Union	4.30%	5.20%	5.50%	5.50%	5.40%
Volusia	4.30%	6.40%	6.80%	6.60%	6.50%
Wakulla	5.10%	7.10%	7.40%	7.20%	6.80%
Walton	1.80%	2.40%	2.40%	2.30%	2.00%
Washington	3.40%	4.60%	5.00%	5.20%	5.10%
Florida	3.10%	4.30%	4.50%	4.40%	4.20%

This table refers to the percentage loss of revenue under the tiered exemption with homesteaders allowed to retain SOH. School districts are excluded. The projections are based on the taxable value projections from Section II and the assumption that millage rates are unchanged from 2006.

Figure IV-29: Revenue Loss under Tiered Exemption as a Proportion of Total Expenditure (Assuming Constant Millage Rates)



IV.5 Small Counties' Fiscal Situation

Background

In this report, we explored the effects of the proposed changes to the property tax system on Florida's local governments. At this point, we wish to focus our attention still further on a set of twenty-four small counties we selected based on their income and population.[16] Even though their combined population is only 573,000 people, or only 3% of the state's total (about the same as Lee County), we feel they warrant dedicated investigation because of their special circumstances. First, their income per capita is low, averaging only $21,000 in 2005, compared to $34,000 for the state as a whole. Low-income residents of Palm Beach County gain from public services largely funded by the affluent residents of the same county. Low-income residents of Gadsden, in contrast, have fewer affluent neighbors than they might if they lived in Palm Beach. With mostly low-income residents, most of the small counties have low taxable value per resident, their average being only $42,600 versus $73,400 for the state. The second is that, as a result of the first, the revenue available to many small county governments from the property tax is already constrained by the constitutional millage caps, depriving them of a stable source of revenue.

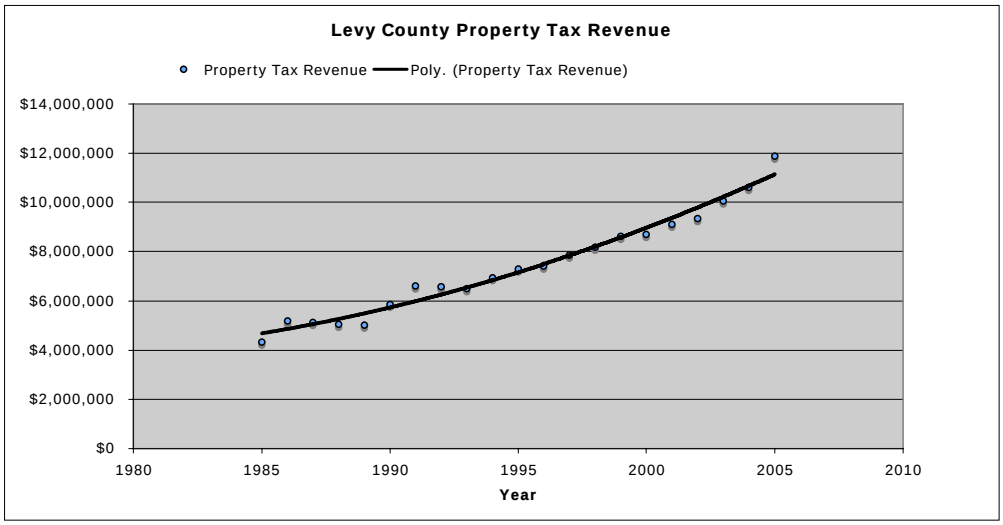
[16] We designate the following as small counties: Baker, Bradford, Calhoun, De Soto, Dixie, Franklin, Gadsden, Gilchrist, Glades, Gulf, Hamilton, Hardee, Hendry, Holmes, Jackson, Jefferson, Lafayette, Levy, Liberty, Madison, Okeechobee, Suwannee, Taylor, and Washington.

We look at trends in their revenues and expenditure from 1985 to 2005, paying particular attention to the stability of different types of revenue and the reaction of different expenditure categories to abrupt changes in their revenue. We do this because of the effect that reducing their reliance on the property tax may reduce the dependability of their revenues.

Property Tax Revenue

In most of the small counties, the property tax is the second largest revenue source after intergovernmental revenue from federal and state transfers, typically in the range of 20-40% of a county's total revenue. Importantly, as Figure IV-30 shows, property tax revenue has been very stable over the years because it is generated from a fixed amount of land, the value of which has not changed abruptly in most small counties.[17] Figure IV-31 shows that counties with low taxable value per resident partially compensate by imposing higher millage rates—roughly speaking, a 20% lower taxable value is offset by a 10% higher millage rate. But of the 24 counties we examine, fourteen already levy the constitutional maximum of 10 mills for county operating funds, and we estimate that many of the counties that are currently at that limit would impose higher rates if permitted.

Figure IV-30: Property Tax Revenue (2006$), Levy County, 1985-2005



Intergovernmental Revenue

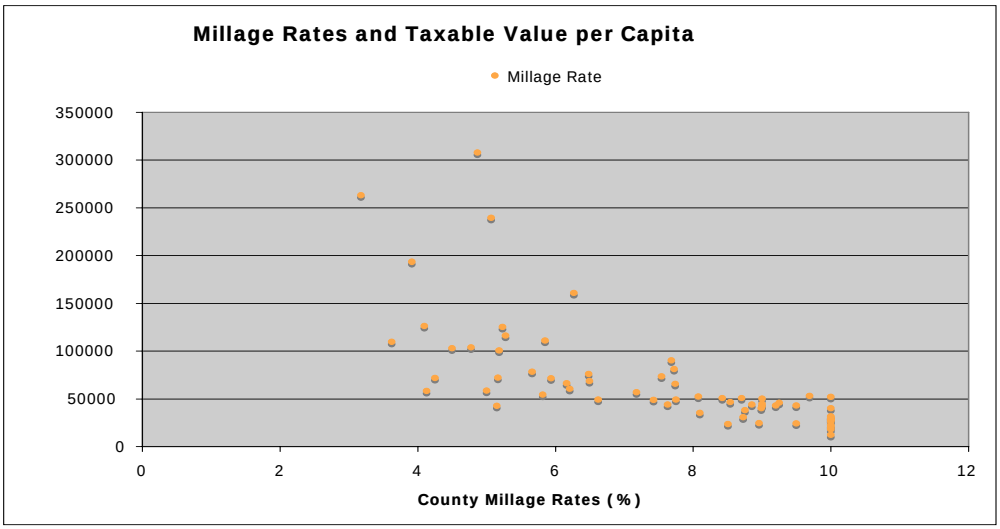
Because of their low income per resident, these counties typically receive more in state spending per resident than others, with intergovernmental revenue accounting for between 25% and 55% of their total revenue.[18] Yet intergovernmental revenue is an unstable source: Appropriations, earmarks, and allocating formulae are subject to

[17] After adjusting for inflation, some small counties, over the five-year period 2000-2005, saw small increases in property tax rates per capita and others a slight decrease. However, with the housing boom, even the lower rates have been associated with large increases in revenue.

[18] Intergovernmental revenue comes from the federal and state governments in the form of grants-in-aid, revenue-sharing programs and payment in lieu of taxes.

frequent change. Figure IV-32 provides a small picture of the variability of intergovernmental revenues from 1985-2005.

Figure IV-31: Inverse Relationship between Millage Rates and Taxable Value per Capita (2005$)

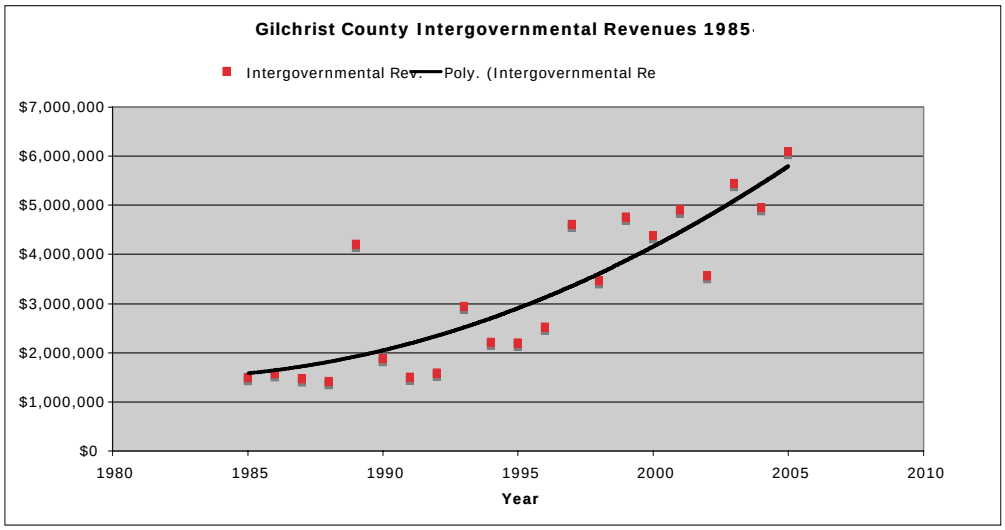


This instability in intergovernmental revenue illustrates why increased state subsidies, proposed as a way to compensate small counties for funds lost by the reduction of property tax revenues, may not be desirable from local perspectives. The stability of the property tax helps in the long-term budgeting of fundamental services provided by the counties, and an increasing proportion of unstable state transfers could harm a county's ability to manage cash flows and long-run budgets. Depending on the total value of exemptions and subsidies, state revenue could come to account for a majority of the county's operational budget, possibly reducing the autonomy of local county governments. Should any compensation occur, there must be provision to ensure the stability of transfers from the state to the county level and resolve potential disputes over accountability.

Local Spending Responses

Proposed changes to the property tax system would sharply reduce the property tax revenue of most small counties, which, as a rule have low per resident taxable values. The question is what will be the fiscal response of counties as a reaction to these new constraints, and because local governments are generally limited in how they themselves may raise funds, we suspect most substantial responses will be cuts in spending. It may be that due to local political economy, the top officials in small county governments have high discount rates and value short-run over long-run requirements. The proposed changes to the property tax system could increase the likelihood of local leaders' discount rates being higher than otherwise expected.

Figure IV-32: Instability of Intergovernmental Revenues (2006$), Gilchrist County, 1985-2005



One way to look for this is to examine the histories of major spending categories, and we note that those categories with erratic spending are categories that focus on long run issues. Physical environment, transportation and economic environment are categories that are most susceptible to budget cuts. These categories are the most able to sustain short-run cuts with no outcry from voters. We note that public safety spending in most small counties is moderately stable. When instability in public safety expenditure does arise, usually it is due to a large increase in spending for a single year before returning to normal the next year. This increase in spending is most likely due to grants that allow for the counties to purchase capital items such as updated equipment. The result is that these outlying points are beneficial to residents because of the increase in services. It is only in rare instances that the instability is a result of a large decrease from trend in spending. This supports our notion that these county governments seldom cut public safety expenditure below trend by any considerable margin.

Figure IV-33: Erratic Spending on Long Run Categories (2006$), Bradford County

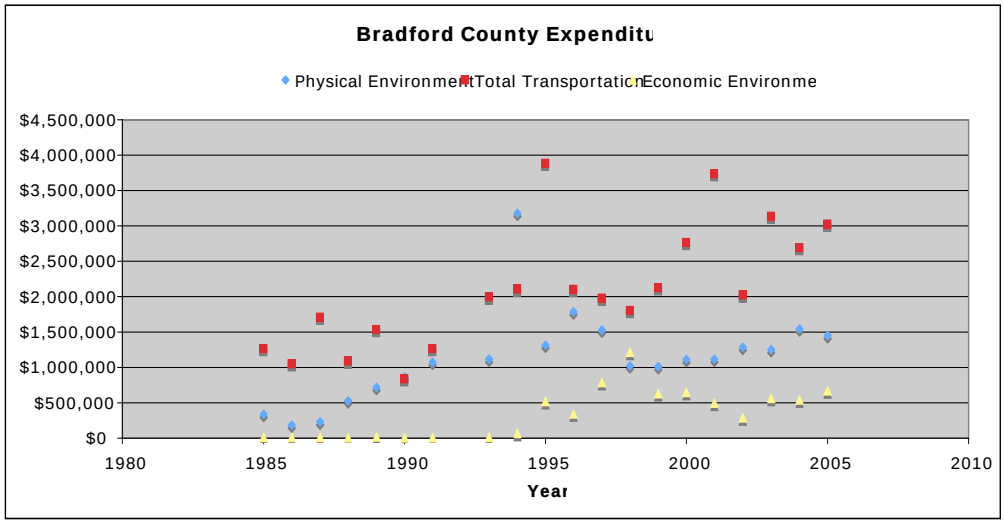
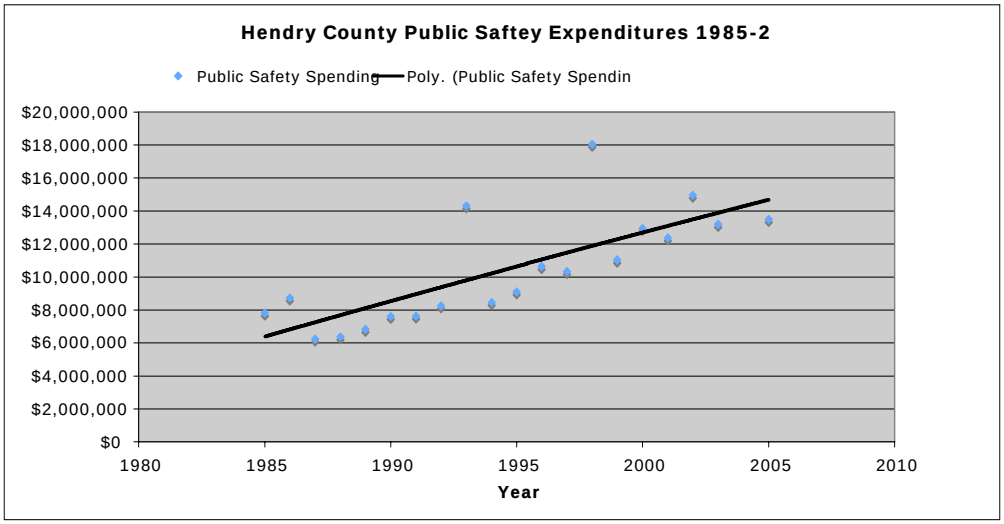


Figure IV-34: Stability of Public Safety Expenditure (2006$), Hendry County 1985-2005



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V. THE ADEQUACY OF THE PROPERTY TAX AS A REVENUE SOURCE

V.1 Introduction

We think it useful to divide the implications of our results for local government finance into three horizons: the short run, the transition to the long run, and the long run. We begin with the long run, because it is the period for which our particular assumptions are most critical. For the short run, to which we turn next, our assumptions about housing demand parameters and about growth rates matter much less. Then we turn to the transition period and examine the question of how rapidly the long run will arrive.

In the long run, under the various scenarios we consider, will the property tax be able to contribute the same share to total local government revenue that is does today? Our strikingly optimistic conclusion, from the perspective of local government budgets, is that it will, and easily. Two basic assumptions underlie this optimistic result. The first is that the ratio of local government spending to personal income will remain about the same over the next thirty years as it is today, an assumption we discuss in Section IV. The second is that the ratio of just values to personal income will rise by 20% from 2006 to 2030 and the ratio of taxable value to income by even more, under any of the property tax regimes we simulate. This may be the more debatable of the two assumptions. Indeed it conflicts with another part of this report, prepared by our colleagues at FSU, that implies that the property tax base will rise only slowly relatively to income: by 15% or more less than our projections in ten years and by 30% or more under our projections in twenty years. Even in our most pessimistic scenario, tiered exemptions and no increase in real house prices, in which the ratio of taxable value to personal income is about eight percent higher in 2030 than in 2006. In our most optimistic projection, annual real house price appreciation of 1.5% and no change in the tax regime, the ratio rises from 2.5 today to 3.7 in 2030, nearly a 50% increase.

As noted in Section II, we originally planned to use projections by the group at FSU as the starting point for our own analyses of implications of proposed tax changes for the Florida Education Finance Program (FEFP) and local government budgets. That meant that the bulk of our work was scheduled to be undertaken after theirs was completed. The complexity of the projections, however, plus the fact that the ever-changing legislative scene gave the group at FSU a constantly moving target, delayed their results. It became less and less feasible for us to provide our own analyses in a timely manner if we continued to wait for theirs. Consequently, in an effort to reduce the delay in completing our analyses of the FEFP and local government budgets, we prepared our own projections of just values and taxable values. In doing so, we came to realize, as noted in Section II, that the projections by the group at FSU, while useful for their studies of the short-run distributional consequences of the proposed property tax changes, would be too pessimistic for our projections of the FEFP and local government budgets, especially in the long run and during the transition to the long run.

In Section II, we conclude that both theory and econometric studies make it likely that a good value to use for the most crucial parameter for assessing whether our projections are

reasonable, the income elasticity of demand for housing, is one. With a bit less assurance, but also less critically, we use minus one-half as the price elasticity of demand for housing. We confirmed that using those values we can simulate the actual path of the ratio of just values to personal income in Florida quite closely.

V.2 A Rough Test of Our Parameters

It would be prudent, however, to look at these parameters from another perspective, to see whether other approaches cast doubt on them. That is what we do here, somewhat informally. The test we used to confirm the parameters for Florida in Section II looked at changes over time. That is the correct way to confirm them, since we are projecting changes over time. But just as a check, we can see whether cross-sectional data for Florida's counties rejects them. For that purpose we would like to regress the just value of residential housing per resident on income per resident and the price of constant-quality houses, with all variables in logarithms, across counties. Finding a coefficient close to one on income per resident and close to one-half on the price of houses would confirm our use of the values we chose.

The equation reported below does that for the census year 2000, with important modifications, two related to the availability of data and the third to previous empirical studies of housing demand. First, instead of the just value of residential housing, we use the assessed value, with the major difference in 2000 being the $25,000 homestead exemption. Second, we do not have a good county-level measure of the price of constant-quality houses. Using the average value would not control for quality variations. Instead we use a dummy variable for whether the county is coastal, since the price of land is higher in coastal counties. Finally, studies have shown that the demand for housing value depends only on the number of adults, not on the number of children. Although families with children might desire larger houses because of the children, the children absorb a large share of their budgets making that difficult. The result is:

AVRES = - 17.10 + 1.28 INCOME + 0.41 COAST + 1.84 SENIOR
R^2 = 0.73 (1.80) (0.18) (0.11) (0.70)
N = 67 counties

where AVRES = Log of per capita assessed value of residential property in 2000
INCOME = Log of personal income per capita in 2000
COAST = 1 if coastal county, otherwise 0
SENIOR = Share of population 65 and older in 2000
Parentheses contain estimated standard errors.

This equation has limitations. First, as a reduced form, it does not separate supply and demand. Second, people can sort themselves across space according to housing preferences, something they cannot do across years, and the most important aspect of our projections is temporal. But it does provide a rough test of our assumed housing income and price elasticities.

V.3 Long Run Interpretations

The most important result is that the coefficient of the logarithm of income per resident does not differ significantly from one. Given reasonable assumptions about the elasticity of supply of housing across counties, that is consistent with the unitary income elasticity of demand that we use. The fact that the coefficient is slightly above one may arise from the $25,000 homestead exemption. Second, the coefficient on coastal counties is positive, a crude indicator that the price elasticity of demand for housing is less than one in absolute value.[19] That is compatible with our assumption that the price elasticity of demand for housing is minus one-half.

Third, there is a significantly positive coefficient on the share of the population 65 and up, which is consistent with the notion that the demand for housing value is determined by the number of adults, with the number of children being irrelevant.[20] This adds to our confidence that the real value of residential housing per resident in Florida is not going to fall in the long run. As the baby boomers age, BEBR projects the share of Florida's population age 65 and older will rise from 17% in 2007 to 26% in 2030, compared to an increase from 1970 to 2007 of just over two percentage points. If the coefficient in the regression above is taken literally, a nine-percentage-point increase in the share of the population 65 and older would increase housing value per resident by around 16%.

Why then do we not incorporate that effect of aging into our projections of just and taxable values? The main reason is that we think the added complexity would burden the analysis more than any extra insight would be worth. A second reason is that we also assume, based upon conversations with specialists in commercial property, that the ratio of non-residential to residential property will remain constant. There is a chance, however, that as the share of retirees in Florida rises, that ratio will fall. Retirees create business that supports stores, banks, dental offices, and restaurants. But they do not themselves create a direct demand for work space to use for themselves. With more retirees in Florida, the ratio of the state's output to its income will fall, leading to the possibility that the ratio of commercial space to income will fall. By ignoring the age effect we may underestimate residential value but, in compensation, we may overestimate the value of commercial property.

We admit that the commercial-residential just value split does matter to estimates of the difference between just value and taxable value under varying property regimes. In response to that, we return to our desire for simplicity. What we are doing is already complicated enough. We do not think including age effects would matter enough to be worth the added complexity. We merely point to population aging as a reason for thinking the ratio of housing value to personal income is unlikely to fall. That ratio is

[19] In this regression, the coefficient on coast is both positive and significant, at normal levels. When the regression is weighted by population, the coefficient on coast remains positive but becomes insignificant. The values of the other parameters stay much the same. In particular, the coefficient of the logarithm of income per resident remains greater than one, but insignificantly so.

[20] Moreover, retirees tend to have low current income relative to permanent income, and, as noted in Section II, it is permanent income that affects the demand for housing.

higher for retirees than for the rest of the population, and over time the composition of Florida's population will shift even more toward retirees than it has in the past. This does imply that any shift of the property tax from residences onto to business property will be larger.

Turning from just value to taxable value, we also project that in the long run, the tax base will be adequate to fund the same share of local government spending as today under any of the major property tax scenarios. If the current property tax regime is maintained, the ratio of taxable value to just value will rise steadily, under our assumptions. That is because we assume that the housing boom from 2000 to 2006 was a unique event, one that will not be repeated in the next three decades. As an aside, even if there is another housing boom, there will be serious property tax issues, but revenue adequacy will not be one of them. Any effect of a decrease in the ratio of taxable value to just value would be more than offset by the increase in just value. It was, of course, the housing boom that boosted the value of Save Our Homes limitations to over $400 billion.

As ordinary turnover proceeds, the share of homesteaders enjoying the enormous differences between just value and assessed value gained during those years will decline. Though under our assumptions, unless the law is changed. the significance of the exemption will not disappear, it will fade. It will not disappear because we assume that inflation-adjusted, or real, prices of existing houses in any year will rise, and that such an increase will be shielded from increases in assessed value. Another reason we project its importance will fall is that we assume inflation will be a steady 2.5% annually. Suppose instead inflation is 5% a year and that real house prices rise 1.5% a year. Then nominal just values of existing houses will rise 6.5% a year, but nominal assessed values only 3%, sheltering 3.5 percentage points of the increase. After ten years of homesteader tenure, about 30% of the just value would be sheltered, in contrast to only 14% with 2.5% inflation.

A crucial assumption, then, is that inflation will remain low. That reflects the view that the inflation of the 1970s was a one-time event, as the Federal Reserve learned that there is no long-run trade-off between inflation and unemployment and adapted to the demise of the gold standard. With respect to the regime with tiered exemptions, we project that its largest proportional reduction in taxable value will be immediate, fading in relative significance over time. In contrast to the effect of inflation on Save Our Homes, the fading of the tiered-exemption effect depends crucially on inflation's not being too *low*. That is because the first or 75% tier ends at $200,000, a value that without changes in the law will be constant, and we have projected it accordingly. A lesser consideration is that the fully exempt initial $50,000 is also fixed. After twenty years of 2.5% inflation, the real value of $200,000 will be only $122,000 and the real value of $50,000 will be less than $31,000. If inflation averages only one percent, however, the corresponding figures will be $164,000 and $41,000.

The more rapid the inflation, the more rapidly the significance of the tiered exemptions fades. (It will not approach zero: the 15% tier initially capped at $500,000 would increase with nominal income per resident.) Are we justified, then, in assuming inflation

will average 2.5% instead of, say, one percent? While we do not have full confidence in that expectation, we think it reasonable. First, the Federal Reserve's target inflation appears to be two percent, though there is some discussion within the Fed about whether it should be set lower, perhaps at 1.5%. The Fed does not set a zero target inflation rate because it thinks the official CPI overstates the rate of inflation by about a percentage point and because it wants to leave operating room to avoid a Japanese-style deflation. The Fed's inflation target is likely to be in the range 1.5% to 2.0%.

Why then choose 2.5%? In the current policy regime, that prevailing since the summer of 1982, the Fed has missed its inflation target on the high side more often than on the low side. When it misses, it returns not to the original target price *level* but to the original target rate of inflation. Thus the misses result in a long-run rate of inflation above the short-run target. How often and how far the Fed misses its short-run target of 1.5% to 2.0% determines what the long-run rate of inflation will be. We think 2.5% is a reasonable guess, but that anywhere from 2% to 3% is quite plausible. Any long-run inflation rate within that range would affect our results only slightly.

Also important are our assumptions about population and real income per capita growth rates. In the Save Our Homes regime, more rapid growth results in a higher long-run ratio of taxable value to just value, because the just value of recently built houses, with little reduction in assessed values, would be a larger share of total just value. In the tiered exemption regime, income growth reduces the importance of the $200,000 tier. Given our other assumptions, however, large shortfalls from our projected income and population growth rates would be required for our projection that the ratio of taxable value to income will be substantially higher in 2030 than in 2007 to be wrong.

Finally, we assume that real house price appreciation will be 1.5%, or 16% per decade. At that pace, in 2030 adjusted for inflation a Florida house of constant quality would cost 41% more than today. The same quality of house worth $200,000 today would be worth $232,000 in 2017 and $282,000 in 2030 in inflation-adjusted dollars. According to our July 2007 survey of Florida homeowners, we are being a bit optimistic with respect to the next five years. The median respondent expected prices of existing houses to be 18 percent higher in 2012 than today. If the expected rate of inflation is 2.5% that corresponds to an expected real house price appreciation rate of just less than one percent a year. That expectation is doubtless heavily influenced by the current distress in the housing market. For the longer haul there is reason to believe that the retiring baby boomers coupled with restrictions on Florida development will boost house prices more rapidly. To be sure that we have results useful for the near term, however, we have also constructed projections based on the assumption that real house price appreciation will be zero.

Our methods for projecting long-run just values assume there will be no major and abrupt changes in the structure of Florida's economy. One might imagine other scenarios that create a bleak long-run future for the value of housing in Florida. These include global warming, more and stronger hurricanes, rising costs of property insurance, competition from other southeastern states for retirees and from other countries for tourists. It could

also be that the share of income spent on housing will decline as the share spent on medical care rises inexorably. Perhaps the federal government will remove the mortgage interest income tax exemption or, even more importantly, start taxing the implicit income from owner-occupied housing.

All we can say there is that no one knows the future. It is also possible that the demand for coastal Florida land will become even more of a luxury good than now, becoming increasingly scarce in an economic sense as incomes rise. Globalization, besides inducing more Americans to retire in other countries, may also induce more Europeans to retire in Florida, probably now cheaper than the Costa del Sol or the Riviera. Though removing the favorable income tax treatment of housing would be excellent policy for the national economy, it is hard to imagine it will happen. With respect to structural changes more generally, we hope that if there are major unforeseen challenges, Florida's policy makers will respond appropriately at the time.

V.4 The Short Run and Transition

Turning to the short run, the most critical budget question is what will happen to Florida's housing market and overall economic activity. If the state suffers a recession either because of a housing market collapse or because of a national downturn, in the near term changes in the property tax policy regime that force larger reductions in local government spending will make the downturn more severe. In the very near term, uncertainty about whether the proposed constitutional amendment will pass will create additional uncertainty in the housing market about what to build and about what prices to charge. If the tiered exemption passes, it would be at least partially capitalized into the prices of existing $200,000 houses.

Currently, at an average property tax rate of 20 mills, the annual tax on a $200,000 house would start at $3,500, given the $25,000 homestead exemption. With the tiered exemptions it would start at $1,000. The capitalized difference could be about $25,000, depending on expectations about future house price appreciation. Buyers and sellers may disagree about the likelihood of passage, with the result that transactions are delayed until the uncertainty is resolved in January. Similarly, businesses considering expansion or location in Florida may wait until uncertainty about their share of the tax burden is reduced, though this effect is unlikely to be large. For most businesses the difference in their tax share and in the level of service provided would be small.

That leaves the transition from the short run to the long run. How rapidly it occurs will vary directly with the rates of population growth, income growth, and house price appreciation. Across counties, the transition will be more rapid in counties with rapid population growth, per capita income growth, and house price appreciation. In our projections we have assumed the same per capita income growth and house price appreciation in all counties. We did that not because we think all counties will have identical experiences but because we have no good way to tell which counties will enjoy more rapid income growth. The experiences of individual counties will vary more widely than we project.

Users of these individual county projections should allow for substantial variation from our assumptions that real income per capita will grow 1.7% a year and that real house price appreciation will be 1.5% a year. Also, we have used only the Bureau's mid-range population projections. The uncertainty about projected population growth rates in the smaller counties is quite large, however. Planners in those counties should take account of that uncertainty as well. For almost any county, slower growth of population, income, or house values will slow the transitions to the long run depicted in county-specific graphs.

VI. LOCK-IN COSTS: SOH LIMITS VERSUS TIERED EXEMPTIONS

Both homeowners who are locked into their current houses by SOH and the real estate industry stressed that loss from the exemption's lack of portability makes the housing market less efficient. From the perspective of the homeowner, the efficiency loss comes from the "tax" imposed by losing the exemption when moving to a new, preferred house. Adding to the other costs of moving, losing the exemption makes it more costly to downsize, upsize, change jobs, or switch schools. Realtors note their loss of business. It is of course possible that there are social gains from the lock-in effect. Indeed, California's Proposition 13 was upheld by the Supreme Court partly because it was reasonable for the state to believe that it fostered neighborhood stability. But we know of no satisfactory effort to verify the existence of that benefit of the lock-in effect, let alone quantify it, and will ignore it in this section.

In that case, reducing the lock-in effect is an important potential gain from moving to tiered exemptions (TE). Except for some expensive houses, tiered exemptions would eliminate or reduce the lock-in effect. In this section we develop figures to illustrate the efficiency gain from reducing the lock-in effect and discuss the possible magnitude of the deadweight loss from the lock-in effect. Only if we have an idea of the size of the lock-in effect can we know how to weigh it among the pros and cons of switching to tiered exemptions. Unfortunately, research on the lock-in effect has not progressed to the point that we can present more than an informed guess about the plausible range of the size of the deadweight loss it causes.

One reason we can only speculate is that the magnitude of the deadweight loss (DWL) from the lock-in effect depends crucially on the magnitude of an unknown parameter: whether the real estate market is perfectly competitive or monopolistic, or better, where it falls between those extremes. If the real estate market is perfectly competitive, then the DWL is second order, or small. If the real estate market is imperfectly competitive, as seems intuitively likely, then the DWL from the lock-in effect is potentially much larger, becoming first order. Interestingly, turning the argument around, the larger the lock-in effect, the greater the DWL caused by either collusive power or excessive entry in the real estate industry. The intuitive basis for thinking that the real estate industry is imperfectly competitive is its ability to maintain a standard six percent fee on house sales. Six percent remains the standard whether houses are cheap or expensive, whether the real estate market is slow or booming, and despite efficiency gains created by computers and the Internet. Ironically, the more the real estate industry argues that the lock-in effect is costly, the stronger it makes the case for antitrust action or regulation to reduce its own monopoly power or excessive entry.[21]

[21] Network economies would give the real estate industry local monopoly power. Everyone wants to list with and buy from whatever firm has the most houses listed. Excessive entry would come from monopolistic competition: product differentiation with free entry. Probably many local markets are monopolistic or oligopolistic, with a monopolistically competitive fringe.

The figure below illustrates a framework useful for estimating the DWL caused by the lack of portability of SOH. The vertical axis shows a family's net benefit from moving to a new homestead. The benefits may come from being closer to a new job, going to a better school, or having more bedrooms or a better neighborhood for children. The costs include moving furniture, the chore of packing, and any fees paid realtors and banks. The net benefit is the difference between the two. For now we assume that the real estate and banking industries are perfectly competitive and generate no externalities, so that their fees equal the social marginal costs of the services they provide. We assume that net private benefit and net social benefit are the same. For now we exclude any effect from SOH. The net benefit is measured in present value, discounting future benefits and costs.

On the horizontal axis we rank families living in owner-occupied houses, ordered from left to right. Those with the highest net benefit from moving are at the left and those with the lowest are at the right. We mark the horizontal axis by percentiles. If the net benefit line crosses the horizontal axis at the fortieth percentile, then forty percent of households will move. For sixty percent of families in owner-occupied houses, the cost of moving exceeds the benefit. Those to the left of the intersection between the net benefit line and the horizontal axis move; those to the right stay put. Besides transactions costs, the large share with a negative net benefit from moving reflects the value of living in a familiar neighborhood. We note that the figure represents a stock concept.

The figure is potentially confusing in that it represents stocks, not flows. The 40% represents those who given the circumstances are in disequilibrium staying put. The adjustment may take years. In fact, if the turnover rate is 10%, that suggests that the half-life of the adjustment to equilibrium is four years. On average it is a long time between its being optimal to move and actually doing it. These ideas are not precise, since we are attempting to present dynamic ideas with a simple model. But we need to emphasize that the 40% is not an annual rate.

As shown, besides the ten percent who move, there may be another five percent who would move if there were no cost to selling one house and buying another and no cost for packing and moving furniture. The failure of the additional five percent to move is not, under our assumptions, socially inefficient. Their negative net benefit from moving arises from a genuine social cost of moving.

Next we add the SOH, Figure VI-1. The $10,000 SOH shown represents the present value of exemptions from staying in the current house minus the net present value of exemptions in the new house, ignoring complications from the fact that the potential new house would probably have a just value higher or lower than the current one. The present value of SOH is lower in the new house first because the homeowner has to start over again in gaining a divergence between just value and assessed value, and second because it is unlikely that a rapid house price appreciation like that in the first half of this decade will recur. In Figure VI-1, it is assumed that all the households shown are identical in that each one would lose $10,000 in net present value by giving up its current SOH. That being the case, those with a net benefit from moving of less than $10,000 will stay put. In the figure, the share of homestead households with a net present benefit from moving

falls from forty percent to thirty percent. If the horizontal axis represents a million households, then 100,000 of them, or ten percent, would be locked in.

Figure VI-1: Net Benefit of Moving for Residents of Owner-Occupied Houses

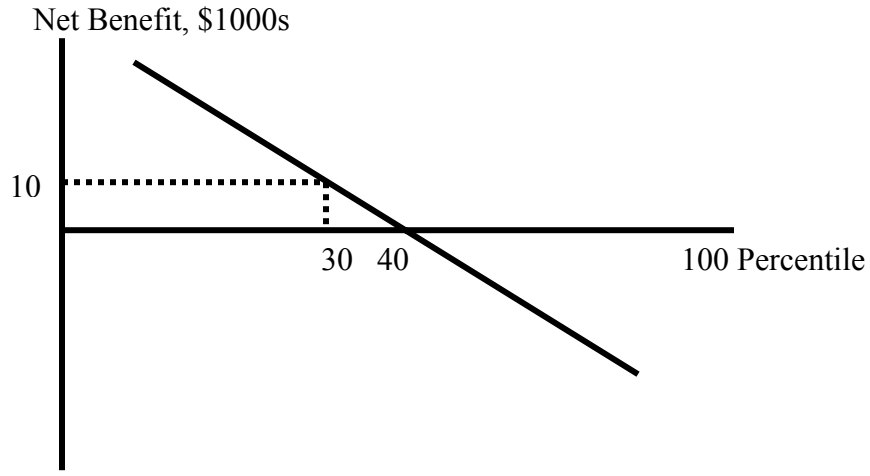
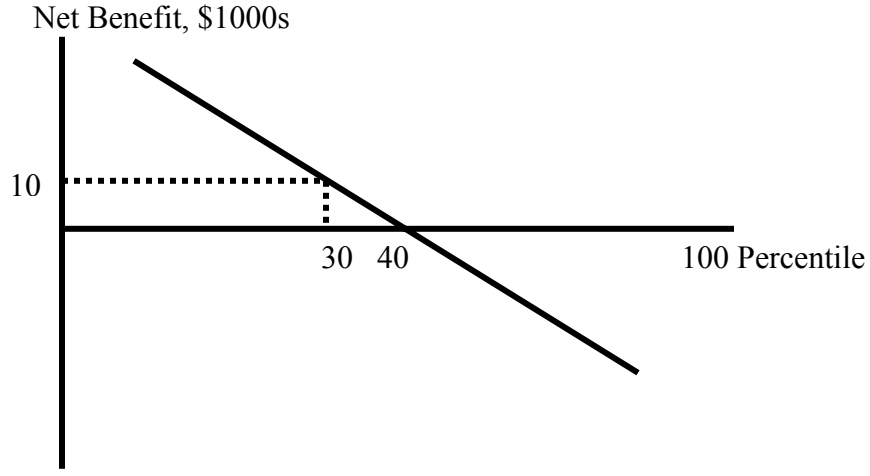


Figure VI-2: Net Benefit from Moving, Illustrating the Effect of SOH



The social cost of the lock-in effect varies by household among the 10,000. For those close to the 40th percentile, the social cost would be close to zero. For those close to the 30th percentile, the social cost would be nearly $10,000. If the net benefit curve is a

straight line, the average social cost would be $5,000 and the total for all 100,000 households would be $500 million, the area of the small triangle. This social cost, it should be emphasized, is a stock variable, not a flow variable. It is comparable to an asset price such as the price of a share of stock or the price of a house, not the flow of dividends from the share or the flow of services from the house. How it should be annualized depends on the interest rate, among other things—perhaps $50 million, or 10% of the asset value, would be a reasonable approximation.

For the 300,000 households who move in spite of losing SOH, the social cost of the exemption is zero. They move anyway, and their loss of the exemption costs them a total of $3 billion but that $3 billion goes to local governments to fund public services or transfers or to reduce other taxes. For the 600,000 households who do not move and would not have moved even without the lock-in effect, there is also no social cost from SOH. They get to keep the asset value of $6 billion from the exemption, which means that local governments cannot use that value to fund social services or transfers or to cut other taxes. The households' gain of the $6 billion in asset value offsets the governments' loss. The only social cost arises from the 100,000 households who would have moved had they not been locked in, though many of the other 900,000 are likely to complain.

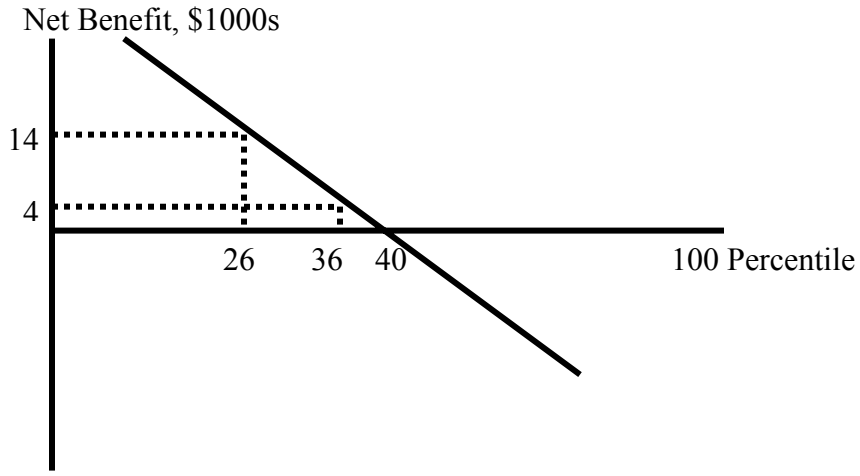
Now consider the case in which the real estate industry is not perfectly competitive. Suppose the average value of homesteads is $200,000. Suppose further that realtors charge six percent of the sales value, of which half represents either monopoly profit or the cost of excessive entry into the real estate sales industry. Further assume that one-third of homestead houses that are sold are sold by their owners. The "wasteful" commission per house sold would be 2/3 x 1/2 x 6% x $200,000, or $4,000 per house. Since all of the commission is paid at the time of sale, we can take the $4,000 to be the net present value of the commission.

In Figure VI-3 below, the smallest triangle, bounded below by the segment from the 36th percentile to the 40th percentile on the horizontal axis, represents the direct deadweight loss caused by the lack of perfect competition in the real estate industry. Its area is 0.5 x $4,000 per house x 40,000 houses = $80 million. Now the deadweight loss caused by SOH becomes larger. It still reduces the number moving from one house to another by 100,000, but the social loss from each of these locked-in non-movers is larger. The range is from close to $14,000 at the 26th percentile down to $4,000 at 36th percentile. The average is $9,000, making the total deadweight loss $9,000 times 100,000 houses or $900 million.

That loss represents the area of the rectangle bounded below by the segment from 26 to 36 plus the area of the triangle above it. If the deadweight loss from SOH lock-in were to be eliminated, $500 million of it would be a gain to the homeowners now free to move and $400 million of it would be the present value of added profit (or added inefficiency from excessive entry) for the real estate industry. The total deadweight loss from the combination of the imperfect competition in real estate sales and SOH can be thought of as follows:

Cause of DWL	Area	Amount
Imperfect Competition Alone	lower triangle	$80 million
SOH Alone	upper triangle	$500 million
Interaction of IC and SOH	small rectangle	$400 million

Figure VI-3: Net Benefit from Moving, Illustrating the Effect of SOH When the Real Estate Sales Industry Is Imperfectly Competitive



Conditional on the existence of imperfect competition, the welfare cost of SOH would be $900 million. Conditional on the existence of SOH lock-in effect, the welfare cost of the imperfect competition would be $480 million. The greater SOH lock-in effect, the larger the interaction effect and that greater the gain from increasing competition in the real estate sales industry. The greater the inefficiency in the real estate sales industry, the greater the gain from eliminating or reducing SOH lock-in effect.

To obtain numerical estimates from this method, a first task is to estimate how many households are locked in by SOH. Using the size of the lock-in effect caused by California's proposition 13 as evidence, we consider two papers that estimate that size. The first is a paper by Nada Wasi and Michelle White, both of the University of California at San Diego.[22] Wasi and White use a methodology known as difference-in-difference. A simpler difference approach would compare average duration of home ownership in California before and after Proposition 13, which was passed in 1978. The lock-in effect predicts that average duration would rise from 1970 to 2000, and in fact it did for homeowners in metropolitan areas in California, from 10.76 years to 13.43 years. But duration may have risen for reasons unrelated to Proposition 13, including increased longevity, rapidly rising house prices causing people to be unable to move and still

[22] Nada Wasi and Michelle J. White, "Property Tax Limitations and Mobility: The Lock-in Effect of California's Proposition 13," NBER Working Paper No. 11108, February 2005.

maintain the quality of their housing, changes in interest rates or inflation, among other possibilities.

To control for this possibility, Wasi and White compare the change in average duration of tenure in California from before and after Proposition 13, to that in Texas and Florida. Texas had no such proposition, and Florida's Save Our Homes amendment did not take effect until too late in the period to have a noticeable impact. The difference between Florida and Texas on the one hand and California on the other extends the difference method to difference-in-difference. The result for average duration in years of tenure for homeowners is:

State	1970	2000	Difference
CA	10.76	13.43	2.67
FL/TX	10.65	11.65	1.00
Difference in Difference			1.67

Even with this approach, there are problems with attributing the 1.67-year greater increase in average tenure in California to Proposition 13. For one thing, average tenure of apartment dwellers, who are not directly affected by Proposition 13, increased in California while falling very slightly in Florida and Texas. The change was from 4.30 to 5.25 years in California, versus 4.09 to 4.07 years in Florida and Texas. Indeed in percentage terms, the two California increases were about the same: 25% for homeowners and 22% for renters. One can construct stories, and Wasi and White do, about how the reduced availability of housing caused by homeowners who never sell forces renters to stay put for lack of houses to buy. But the story is not persuasive.

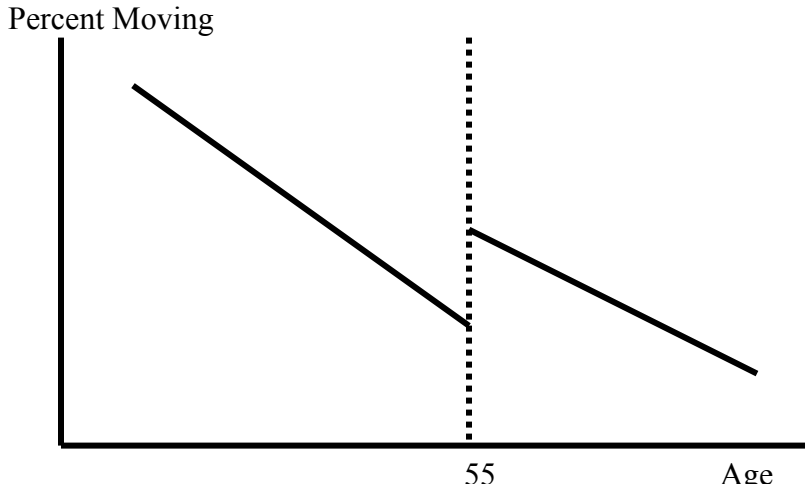
Just as plausible, however, is the possibility that California evolved differently from Florida and Texas in ways independent of Proposition 13 that caused Californians to remain in their houses longer. One good candidate is that house prices rose much more sharply in California than in Florida and Texas, causing Californians to be unable to afford houses of equal or better quality. Using the Office of Federal Housing Enterprise Oversight repeat-sales price index deflated using the implicit GDP deflator, between 1980Q1 and 2000Q1, house prices rose by 36% in California and by 7% in Florida, while falling by 16% in Texas. These price changes indicate strikingly different housing markets. It may be that we simply cannot tell how much of the average tenure increase in California was due to Proposition 13 and how much was due to rapidly rising prices.[23] It is true that in California average tenure increased more in cities where the Proposition 13 exemption grew most, but those are also the cities where house prices rose most. Moreover, the rising house price explanation works for renters as well as for homeowners. In sum, the Wasi-White paper presents evidence that is compatible with a significant lock-in effect from proposition but, in our view at least, does not succeed in ruling out a plausible alternative interpretation.

[23] It could also be that rapidly rising house prices induced people to move more, to take their capital gains and go elsewhere. Without additional study, we don't know.

The second paper strikes us as more successful in estimating the Proposition 13 lock-in effect. In it, Fernando Ferreira, on the faculty at Wharton, takes advantage of two later amendments to Proposition 13.[24] These amendments, Propositions 60 and 90, allowed households with a head 55 or older, to carry the Proposition 13 tax break with them. Proposition 60, passed in 1986, granted this allowance only for within-county moves. Proposition 90, passed in 1988, allowed for moves among counties that agreed to reciprocity with other counties. By gaining access to the confidential census files for a large urban area in California for 1990, Ferreira was able to use a regression discontinuity design to estimate the effect of this particular portability.

Though Ferreira's econometric techniques are complex, the essence is simple: draw a graph with age on the horizontal axis and the percentage of households moving on the horizontal. Draw a vertical line at age 55, and see whether the relation steps up at that point. It looks approximately like Figure VI-4, except that we have omitted the scatters of points around the two lines:

Figure VI-4: Removal of the Proposition 13 Lock-In Effect at Age 55



The upward step, by approximately 25%, in household mobility at age 55 confirms the hypothesis that Proposition 13 causes lock-in. To strengthen the confirmation, Ferreira checks for similar discontinuities in California in 1980, before Propositions 60 and 90, and in Texas, and fails to find them. He also found no age-55 moving discontinuity for renters in California. All his evidence indicates that the increased mobility at age 55 is in fact a result of escaping the Proposition 13 lock-in effect. Between ages 54 and 55, the step up, depending on econometric method, is estimated to be in the range of 1.2 to 1.5 percentage points, from a base rate of around four percentage points.

[24] Fernando Ferreira, "You Can Take It with You: Proposition 13 Tax Benefits, Residential Mobility, and Willingness to Pay for Housing Amenities," Wharton School Working Paper, University of Pennsylvania, July 2007.

To apply this to Florida we would need to adjust for several differences, some of which strengthen the lock-in effect and others of which weaken it. All things considered, we think a SOH lock-in effect of 1.2 percentage points is a reasonable conservative estimate for Florida. Making the effect stronger is that Florida's average millage is twice the maximum ten allowed in California. Relative to house values, movers in Florida have more to lose. Offsetting that, house values in the California city studied (which is anonymous but probably San Francisco) are twice as high as the average for Florida. On the upward side, we want to apply the effect in Florida to all age groups, including mobile younger families. If the effect is proportional, then it would be larger in percentage points for younger households. But offsetting that, younger families typically have shorter tenure, reducing the size of SOH.

To be conservative, we use the lower end of the range, 1.2 percentage points. This is a flow variable. The sales rate is 1.2 percentage points higher per year. The next step is to translate the flow rate into a stock, the percentage of all homesteaders who at any moment are locked in by SOH. Though this should be modeled rigorously, for our purpose of obtaining a rough-and-ready approximation we translate the flow into a stock intuitively. Suppose that every year, 1.2% of all homesteaders become locked-in, and that each one of them remains locked in for ten years. Then in a steady state, 12% of all homesteaders will be locked in: 1.2% from last year, 1.2% from the year before last, 1.2% from the year before that, and so on. Also in the steady state, the percentage of all homeowners leaving the condition of being locked in will equal the percentage entering that condition. In a steady state with a constant percentage abstracting from population growth and other complications, the flow in and the flow out of the locked-in condition will be the same.

Notice that the duration for everyone, which we will designate D, was 10 years. In a steady state, that implies that the turnover rate, T, is 1/D or 10%. Conversely, if we know the T, then D is 1/T. Now suppose the duration is not the same for everyone, and we let D represent not *the* duration of being locked in, but the *average* duration of being locked in. Let *i* be the annual *incidence* of becoming locked in, defined as being the number of homestead that become locked-in each year divided by the total number of homesteaders. Then L, the percentage of homesteaders who at any one time are locked-in is approximately $L = iD$.

Since in equilibrium for a constant population the incidence of entry into being locked-in and the incidence of exit from being locked-in are equal, our assumption that Florida's exit matches the lower end of Ferreira's range for California implies an annual incidence of 1.2%. With an average duration of tenure of ten weeks, based on a turnover rate of 10%, the steady-state share of homesteaders who are locked-in, ignoring small interaction effects, would be 12%. Unfortunately the appropriate turnover rate to use empirically is difficult to measure. It is not the same as the observed homestead turnover rate, because the appropriate duration measure is how long the average homestead is retained by the same owner *after* that owner has become locked in by SOH. That is unlikely to happen until the owner has been in the homestead for several years, which leaves fewer remaining. Counteracting that, housing tenure is duration-dependent. Over part of the

tenure range, the longer a family has been in a house, the longer you expect them to remain. We use 10% as a reasonable approximation, pending a better estimate.

With the 12% based on the Ferreira study and compatible with the Wasi-White paper serving as the base of the area measuring the deadweight loss from lock-in, assuming ten years after duration of lock-in, we turn next to the height. In 2006 the total SOH for Florida was $404 billion.[25] Since we are dealing in very rough estimates anyway, we will use approximate numbers. There are around five million homestead properties in Florida, with a just value of a trillion dollars, or $200,000 per house. The average SOH is now about $80,000. At twenty mills, that represents an annual property tax saving of $1,600. If SOH capitalization ratio—which depends on expected tenure, interest rates, expected real house price appreciation, expected inflation, and expected millages—is ten, then the present value of SOH is $16,000 The average SOH is likely to be larger for locked-in houses than for others, so we increase that by 50% to $24,000. Of the five million houses, we estimate that 12%, or 600,000 are locked in by SOH. Thus the estimated present value of the deadweight loss is roughly half of $14.4 billion, or $7.2 billion. Assuming the appropriate rate for annualization is ten percent, which amounts to an annual deadweight loss of $720 million. Unfortunately we do not have a great deal of confidence in that number and are taking it as a very crude approximation, better than having no idea at all of the magnitude of the deadweight loss. A deadweight loss of $720 million a year is substantial. For perspective, to keep it from appearing unrealistically large, note that it is less than 0.2% of the total $400 billion SOH exemption, and approximately nine percent of the revenue reduction caused by SOH. On the other hand, it is large enough to show that Save Our Homes, besides resulting in inequity, causes a large loss of efficiency.

This estimate is based on the assumption that the real estate sales industry is perfectly competitive. Suppose instead, as before, that half of the typical six percent fee represents inefficiency in the real estate industry and that one-third of all sales of homestead properties are by owners. Then the inefficiency per house is two percent. Two percent of $200,000 is $4,000, and that times 60,000 houses is $240 million. (We do not multiply by half this time, since we are calculating the area of a rectangle.) With an inefficient real estate sales industry, the average deadweight loss from each house locked in by SOH becomes $4,000 higher than before, or $16,000 instead of $12,000. That increases the asset value of the deadweight loss from SOH to $16,000 times 600,000, or $9.6 billion. At a 10% capitalization rate, that represents $960 million a year, close to a billion dollars.

In sum, we think the order of magnitude of the annual deadweight loss from SOH is from half a billion to a billion dollars. If we are correct, the concern about the lock-in effect of SOH is not without cause, and the reduction in the deadweight loss from switching to the tiered exemptions has the potential to be large. Consider first a family currently renting an apartment and wanting to buy a $200,000 house. Under SOH, they would start with a taxable value of $175,000 (with the just value reduced $25,000 by the homestead exemption). If the property tax is 20 mills, their tax would begin at $3,500 a year. With the tiered exemptions, their taxable value would be $50,000 and their initial tax payments

[25] Florida Department of Revenue, *Florida's Property Tax Structure: An Analysis of Save Our Homes and Truth in Millage Pursuant to Chapter 2006-311, L.O.F.*, January 22, 2007, p. 22.

only $1,000 a year. The $2,500 difference would make owning the house significantly more affordable for them. Hypothetically, they might expect their new house to appreciate rapidly enough so that in present value terms their incentive to buy a house was higher under SOH. Also, hypothetically, the reduced property tax under the tiered exemption might be fully capitalized into the price of the house and thus into their mortgage payments, raising both enough to leave them equally likely to buy in either situation. Whether such capitalization would occur depends partly on what the change to tiered exemptions does to the willingness of the current residents of $200,000 houses to sell.

Probably the owners of $200,000 houses would become more willing to sell. Suppose the owners wanted to move up to $300,000 houses. Under SOH, they would give up their current exemptions to start over with nothing but the standard $25,000 homestead exemption. Under the tiered exemptions, they would begin with an exemption of $165,000 (= 75% of $200,000 + 15% of $100,000). Again, it is conceivable they would think the $300,000 houses would appreciate so rapidly that SOH would be worth more, but such situations are improbable. If the tiered exemptions are put in place, the lock-in effect would remain for the owner of a $2,000,000 house with a $1,000,000 SOH cap. That owner, moving to a different $2,000,000 house would enjoy an exemption of only $195,000 (= 75% of $200,000 + 15% of $300,000 + 0% of $1,500,000), and on top of that would lose the "protection" against future rapid appreciation of the value of the new house. Though such cases might not be negligible measured in dollars because of the house values involved, if one believes in sufficiently declining marginal utility of consumption, their effects on utility would be too small to worry about. As practical matter, we think that on the order of 80% of the annual dollar deadweight loss from SOH would be removed immediately, with the rest gradually disappearing over time.

VII. EFFECTS OF TAX CHANGES ON BUSINESSES AND ECONOMIC DEVELOPMENT

VII.1 Introduction

We estimate, as explained in Section II, that if Florida's voters in January approve tiered exemptions over the current system, the average loss of taxable value will be 13.4% in 2012, falling gradually to 10.7% in 2027. This could be offset by some combination of reduced government services or a 1.7 mill increase in property tax rates in 2012, falling to 1.3 mills in 2027. The effect of this on Florida's economic development is not likely to be overwhelming but it could be substantial, especially on businesses that compete with producers in other states and nations.

Property Taxes, Businesses, and the Counties
Suppose the offset is in higher millage rates. An extra 1.7 mill does not seem like much of a burden at first glance, only $1.70 per year per thousand dollars of real property. That comparison, $1.70 to a thousand dollars, is misleading, however, because it compares a flow to a stock: the flow of tax payments to the stock of capital. The better comparison would be the flow of taxes to the value of the flow of capital services. Suppose the flow of services is 10% of the value of the capital stock. The comparison is $1.70 to a hundred dollars, or 1.7%. Even 1.7% would not seriously damage firms that produce only for local consumption. Eventually local doctors, dentists, and plumbers would be able to pass on much of the tax increase onto their customers because their competitors have to pay the higher taxes as well. Firms that compete with producers in other states and nations would have a harder time of it. The higher tax would cause their costs to rise more than those of their competitors.

The tradable goods sector matters because the firms who compete with producers outside Florida tend to employ high-value-added workers—managers, scientists, engineers, and technicians. Florida's job structure falls short at the upper end, workers in the top ten percent of occupations measured by national wage rates.[26] Though higher business property taxes might also harm tourism, which employs a large share of the state's low-value-added workers, we think the larger effect, certainly in terms of total wages paid, would be at the high end of the labor market. Workers in the top ten percent pay by far more than the average share of taxes, contribute more than their share to the quality of public schools (or else send their children to private schools at little public expense), and boost the attractiveness of our cities.

An increase in property tax rates or reduction in services would not be evenly spread across counties. The average value of homesteads in Collier and Monroe, for example, is so high that there would be little effect from shifting to the tiered exemptions. The largest effects, aside from those in small counties, would be in counties where large shares of their total just value come from owner-occupied housing under $300,000. Examples of medium and large counties for which large millage increases would be required in 2012 to offset revenue loss from tiered exemptions include Alachua (4.2 mills), Broward (2.2),

[26] See "The Quality of Florida's Job Structure," Bureau of Economic and Business Research, University of Florida, April 2006.

Duval (2.3), Escambia (2.3), Hillsborough (3.0), Lake (3.0), Leon (2.5), Marion (2.8), Pinellas (2.4), Polk (2.8), and Saint Lucie (2.6).

The offsetting millage increase is merely a measuring rod, one way to express the size of the reduced homestead property taxes. The other possibilities are reducing government services and turning to other sources of revenue. It is highly likely, however, that businesses will bear a large share of any reduced services, and will pay a large share of any alternative sources of revenue. Both matter. When a business considers where to locate or whether to expand, it weighs taxes against services. Within a reasonable range, it is not so much the level of taxes that affects business but rather (1) How efficiently does the government provide services? and (2) How large is the business share of the tax burden relative to the government services it receives?

Where Florida Stands

Florida scores poorly on the second criterion, the business share of the tax burden, especially relative to the other South Atlantic states. Each year Ernst & Young joins the Council on State Taxation to prepare state-by-state estimates of business taxes.[27] There is so much uncertainty about the incidence of taxes on business—How much are they passed on to consumers? How much are property taxes capitalized?—that the estimates are necessarily imperfect. Moreover Ernst & Young estimates average tax rates, whereas the more relevant numbers would be marginal tax rates on business investment. Nonetheless, their figures are carefully constructed and useful for comparisons.

One measure of the tax burden on business is total state and local taxes on businesses as a share of gross state product (GSP). Ernst & Young estimates that the share in fiscal year 2006 was 5.4% for Florida, compared to 5.1% nationally and 4.3% (our calculation) for the other South Atlantic states. Another useful measure is the business share of total taxes collected. This measure is useful because businesses gain from the state and local services provided by the taxes they pay. It would be most helpful to know the ratio of the taxes they pay to the value of the services they receive. If they share in the services funded by all taxes, business and personal, then the business share of total taxes serves as an indicator of their tax burden relative to services received. Ernst & Young calculates that share to be 47.8% for Florida, versus 44.9% nationally and 38.9% (our calculation) for the other South Atlantic states. Compared to the other South Atlantic states, Florida's business tax burden as a share of GSP is 25% higher and its business share of total taxes is 23% higher.

With an already high business tax burden, Florida should be cautious about shifting even more of the burden onto productive activities, especially those that compete with firms beyond our borders. For that reason in this section we discuss studies of how property and sales taxes affect economic development. The studies we discuss come in two categories, at two extremes of complexity, computable general equilibrium (CGE) models and reduced-form single-equation analyses. The CGE studies we look at are two that analyze hypothetical tax changes in Florida and two that analyze a hypothetical tax

[27] Robert Cline, Tom Neubig, and Andrew Phillips, "Total State and Local Business Taxes: 50-State Estimates for Fiscal Year 2006," Ernst & Young and Council on State Taxation, February 2007.

change in Idaho. With respect to reduced-form methods, our discussion centers on a report by Arduin, Laffer, & Moore Econometrics (ALME).

Nota Bene
Though we hope this overview provides useful insights, we must note important omissions. First, all of the studies we look at ignore supply-side or productivity effects of government spending on infrastructure, education, public safety and other public services. That is an enormous omission. Second, politics is also omitted. For example, affordable housing matters to businesses who hope to attract workers at competitive wages. Exempting 75% of the just value of a $200,000 house from the property tax should make housing more affordable. But it also reduces other residents' incentive to vote for commissions that will encourage the construction of such houses, since they will add little to the tax rolls. Third, we ignore capitalization of taxes into property values.

VII.2 Computable General Equilibrium Models of Property Taxes

Here we look at the results from four computable general equilibrium (CGE) studies and assess the information they provide about possible effects of reducing property taxes in Florida. The first is a study using IMPLAN of potential tax cuts offset by higher sales taxes in Florida by Mike O'Connell, a UF doctoral candidate with extensive experience in the public sector in Florida, most recently with the Department of Community Affairs. The second is an FSU study using REMI of scenarios involving lower property taxes and higher sales taxes, or lower property taxes and lower government spending. The third and fourth are estimates using IMPLAN of what the effects might have been of a property tax cut that failed to be enacted in Oregon.

Study 1: UF IMPLAN Analysis
O'Connell uses a CGE model to compare the effects of property taxes and sales taxes on businesses and on households.[28] He employs an IMPLAN model to which CGE has been added with a social accounting matrix (SAM) developed particularly for Florida and what is called an "equal-yield differential tax policy analysis." A tax differential approach is revenue neutral. If one source of revenue is cut, another must be increased to match. In his simulations, he holds government spending constant while considering three types of property tax cuts. In each case he compensates for the loss of property tax revenue by assuming an increase in the sales and use tax rate large enough to offset it. The three scenarios he simulates are

Form of Property Tax Cut	Sales Tax Hike from 6.0% to
All owner-occupied housing fully exempt	7.4%
All residential housing fully exempt	8.1%
Property tax completely eliminated	8.8%

[28] Mike O'Connell, *A General Equilibrium Analysis of Property Tax in Florida*, University of Florida dissertation to be defended, version of July 2007. O'Connell's committee members—Robert Emerson (chair), Burl Long, David Mulkey, and David Denslow—judge this version ready to defend pending substantial addition of clarifying passages but without the need for further analysis.

The advantage of CGE models over partial equilibrium approaches is that they call attention to potential interactions that might otherwise be missed. In the best of circumstances, they even give some notion of the sizes of the effects of tax changes. A danger is that they give an unwarranted sense of precision and often even the directions of particular effects could well be wrong because of errors in the models' structure and parameters. The models' many equations require explicit functional forms and parameters most of which are unknown. They may have been estimated empirically but remain the subject of debate, even with respect to whether coefficients are positive, negative, or zero. Reasonable modifications of equations and parameters sometimes yield strikingly differing results.[29] Offsetting this flaw, as noted, is the virtue of calling attention to the fact that partial equilibrium analyses may omit secondary effects and interactions important enough that their conclusions are reversed.

The user of a CGE model to study property taxes must make assumptions, either explicit or implicit, about their incidence. O'Connell's study (p. 25) falls under the "new view" of the property tax, in which it is a tax on capital. As discussed elsewhere in our report, the traditional view is that the burden of the tax is shared between the owners of taxable property and those who supply the land, materials, and labor. The new view is that the property tax causes investment in land and structures to fall until the return on property investment rises enough (and the return on other investment falls enough) to restore after-tax equality with other uses for funds. That is, the competition for funds drives the after-tax returns on all investments to equality, after the usual adjustments for risk and liquidity. The net effect is a reduction in the overall return to capital, which causes consumption to rise and saving to fall. Conversely, cutting the property tax and replacing it with a sales tax that falls mainly on consumption would boost saving and thus investment.

Mieszkowski (later with Zodrow) has reconciled the traditional and new views of the property tax in a model in which the national (or indeed global) average property tax falls on capital while the burden of any local deviation from that average is borne by local property owners and by those who supply land to them and build structures for them.[30] The Mieszkowski reconciliation is the method of choice for analyzing a change in property taxes by a single state, such as Florida. If a property tax cut in Florida were to boost the after-tax return on capital, funds would flow into Florida until after-tax equality with the nation is restored. O'Connell, however, assumes that factors do not move across the state's borders. He assumes that the increase in the after-tax rate of return on property in Florida encourages more saving by Floridians and shifts investment within the state

[29] Another danger of commercially developed CGE models is that they may have evolved to overstate effects, since paying users often wish to argue that a sports stadium, university, road or other project has a large impact. The flavor of this can be seen by looking at REMI's web site. The danger in the case of tax changes is that there may be a bias toward overstating impacts. That is probably less true of IMPLAN, however, than of REMI.

[30] Peter Mieszkowsi and G. R. Zodrow, "The Incidence of the Property Tax: The Benefit View vs. the New View" in G.R. Zodrow (ed.) *Local Provision of Public Services: The Tiebout Model After Twenty-Five Years*, Academic Press, 1983. Reprinted in *Readings in State and Local Public Finance*, Matthew, P. Drennan and Dick Netzer ed., Blackwell, Cambridge Mass., 1997.

into sectors favored by the tax cut, but does not draw in funds from other states. Florida, in his simulation, is a capital market independent of that of the rest of the country.

Though this assumption is, of course, false, O'Connell's study provides useful insights nonetheless about the winners and losers from shifting taxes from property to sales. First, there will be capital gains to existing properties as their prices rise. Second, the adjustment will not be instantaneous, so that his results may depict reasonably well what would happen in the short run. For the long run, assuming his model is correctly specified, it is likely that the changes in industries that produce for sale outside Florida will be larger than his model suggests. His simulations give insight into which industries may be most affected by a property tax changes—by immediate capital gains or losses and by long-run changes in their presence in Florida. Because capital does in fact flow across borders, the magnitudes of the effect on export and import-competing industries are likely to be larger in the long run than O'Connell estimates. His results should be taken as suggestive and useful, but not definitive.

We will not go into the details of his specifications here, skipping instead to describing the results of his three scenarios. In the first, all owner-occupied housing is fully exempt for the property tax, and the state sales tax is raised from 6.0% to 7.4%. The chief results are an increase in owner-occupied housing by about 16% and a reduction in the real estate sector, which consists largely of rental housing, by about 8%. The IMPLAN model posits a two-step housing choice: first the household decides whether to rent or to own. Then it decides how much to spend on housing. It may be that within the model the sensitivity of the decision to own is greater than most studies find, since there is such a large drop in the value of apartments. Also the demand for owner-occupied housing with respect to user cost may be more elastic than most studies find.[31] Further, the model appears not to allow for capital gains to land-owners and developers offsetting the reduced property taxes. Nonetheless the insight that eliminating the property tax on owner-occupied houses would boost the value of owner-occupied housing in Florida and cause a switch away from apartment residence is surely correct, even if the magnitudes may be overstated.

The largest effects on sectors other than residential houses arise from the increase in the sales tax. Retail and wholesale trade fall by five percent, leisure and hospitality services by three percent, and transportation and utilities by three percent. These are all plausible directions of change from increasing the sales tax, though their magnitudes may be overstated. Part of the reduced output in these sectors arises from a shift of capital away from them toward owner-occupied housing, caused by the higher return to investment in housing. In a model allowing capital flows into Florida, the effect of that investment shift would be attenuated. More of the residential investment would be funded by inflows from out of state and less by shifts from other sectors. Offsetting that, the effect on export and import-competing industries would be likely to be larger than he finds.

[31] For example, Edward Glaeser and Jesse Shapiro, "The Benefits of the Home Mortgage Interest Deduction," Harvard Institute Working Paper No. 1979, October 2002. (Harvard Institute of Economic Research, or HIER.)

In O'Connell's second simulation, all residential housing is exempt, and the sales tax is raised from 6.0% to 8.1%. This results in a 10% increase in owner-occupied housing and a 23% increase in the real estate sector, which as noted is primarily rental housing. In this case there is no tax-induced shift from rental to owner-occupied housing. The percentage increase in rental housing is over twice that in owner-occupied housing chiefly because the rental sector is assumed to be able to substitute capital for labor when the property tax disappears, which is assumed not to occur with respect to owner-occupied housing. Normally about a third of the cost of rental property comes from management, grounds maintenance, and other labor services. With more expensive apartments, the capital cost is a larger share. With owner-occupied housing, the national income accounts do not allocate any portion of housing services to the labor services of the owner, though some share should be. Even with owner-occupied housing, a doubling of the value of the house likely would not entail a doubling of the time required for ownership. So more realistically, the capital-labor ratio can also rise for owner-occupied housing. The point is that the elimination of the property tax on all owner-occupied housing probably would engender roughly equal percentage increases in owner-occupied and rental housing services.

On the debit side, elimination of the residential property tax coupled with the higher sales tax leads to simulated reductions of nine percent in wholesale and retail trade, six percent in transportation and utilities, and five percent each in manufacturing and leisure and hospitality services. As before, part of the decline in each of these sectors arises from capital being drawn off into housing. Most of the decline comes directly from the higher sales tax.

In O'Connell's third simulation, the property tax is abolished altogether. There is no property tax on any property, commercial or residential. The revenue loss is offset by an increase in the sales tax to 8.8%. In this simulation, owner-occupied housing rises by 10% and rental housing (the real estate sector) by 16%. The increase in rental housing is smaller than in the second simulation because less capital is shunted to that sector from others. On the debit side, retail and wholesale trade fall by nine percent, financial activities by six percent, leisure, and hospitality services by four percent, and manufacturing by three percent. In most cases, the decreases are less than in the second simulation because the higher sales tax is partially offset by the lower property tax on capital used in these activities. Why the reduction in the output of financial services is so large is not clear. It appears to come chiefly from reduced demand for financial services by the trade, hospitality, and manufacturing sectors.

What are the lessons to be learned from O'Connell's CGE study about the results in the event that the tiered-exemption amendment passes? The amendment resembles O'Connell's first scenario in that it reduces property taxes on owner-occupied houses, but differs in that it does not raise the sales tax in compensation, though it is not impossible that at some point the sales tax would be raised or its base extended as the state makes good on its commitment to hold K-12 education harmless. More likely is that there would be some combination of higher millages, increases in other taxes and fees, or reduced government services. In any case we would see a shift from rental toward owner-

occupied housing, though a smaller shift than the simulations imply. More to the point of this section, the effect on business, there would probably be some combination of a shift toward higher business taxes and reduced local government services. For businesses the ratio of taxes paid to services received would rise. The largest effect would be reduced output by export-oriented and import-competing firms. If the primary result is a decline in the level of public services, then a likely result would be a loss of younger high-income workers who value good public schools, uncongested transportation, parks, and the arts. Offsetting that would be a likely increase in the number of retirees and older families who, aside from public safety, may care less about such services, valuing the lower property taxes more. What would happen to property values overall would depend on the relative strengths of these offsetting forces.

Study 2: FSU REMI Analysis

A second simulation of the effect of reducing property taxes was undertaken by Julie Harrington and Bassam Awad of the FSU Center for Economic Forecasting and Analysis (CEFA) using a REMI model and was summarized by Necati Aydin.[32] Aydin reports ten scenarios, five involving homestead property tax reductions of varying amounts offset by reduced government spending, and five involving property tax reductions of varying amount offset by offsetting increases in sales tax rates. Results for each simulation are reported for one-year and for five-year horizons.

The Harrington-Awad simulation that comes closest to one of O'Connell's is the five-year scenario in which the homestead property tax is completely eliminated and offset by an increase in the sales tax from 6.0% to 8.5%. The estimates in the fifth year out for Florida are $17 billion lower gross regional product, $3 billion lower disposable personal income, and 147,000 fewer jobs. The implied loss in output per job lost of $115,000 substantially exceeds the $20,000 implied loss of disposable income per job lost. Perhaps the large difference arises from differential attraction to Florida of retirees, who receive income but do not produce, who gain from not paying property taxes. Business output is lower because firms both hire fewer workers and, reacting to property taxes, use less capital per worker. As a result, productivity or output per worker falls. From a broad perspective, in spite of their differing assumptions the REMI and IMPLAN simulations tell the same story: aside from owner-occupied housing, output will be lower.

A natural question is how much confidence we should have in the REMI simulations. The normal procedure in seeking answers to policy issues is to propose a model and develop that model's implications. Then any of the model's implications that are testable are confronted with the data, which either reject it or confirm it. Confirmation is taken not as proof that the model is correct but does boost confidence in the model since there was a test it could have failed but it did not. REMI models work the other direction. They take received theory and previously estimated parameters, and build up an elaborate model from those components. Of necessity, since the intent is to take account of as many possible interactions as possible, many of the parameters remain controversial.

[32] Necati Aydin, "Model Predicts Florida Economy Will Gain By Property Tax Cut Without Changing Sales Tax," Research Report, Florida TaxWatch, May 2007.

Consequently, a REMI model should be taken as one possible model among many and indeed users are given the option of changing many of the parameters.

After applying a REMI model to a particular issue, such as property taxes, the next step should be to see whether the application has generated testable implications and confront them with the data. Instead, the temptation is to treat the model-specific implications as if they were facts. The conclusion to the summary of the report, for example, states "… a property tax/sales tax swap will result in a loss in GRP [Gross State Product] and disposable personal income," with no explicit qualification, though there are qualifications in the body of the text.

Here is an example of a testable implication of this REMI application: Of the various CEFA scenarios, one is that a combination of reducing the homestead property tax by $6.22 billion and raising the sales tax by two percentage points would, after five years, cause prices in Florida to rise by 5.3%. On the face of it, such a large increase seems unreasonable. Florida's real GDP in 2006 was a little over $600 billion. Just to give a rough order of magnitude, $6 billion is one percent of $600 billion. (Five years later both numbers will be larger, but the ratio still about one percent.) Barring unusual elasticities of demand and highly non-competitive market structures, the most a tax will be passed on to consumers is when supply is perfectly elastic and the pass-through is 100%. From that reasoning, the largest increase in prices from a two percentage point increase in the sales tax should be one percent. Looking at it another way, the sales tax applies to about half the purchases in Florida, and 2% x 0.5 = 1%. Looking at it yet a third way, the REMI model implies that a tax that raises sales tax revenue by $6 billion a year raises the cost of purchases to Florida's consumers by $32 billion a year by the fifth year. That's not impossible, but it's also not plausible.

REMI's equations are not based on rare elasticities of demand or highly non-competitive market structures. How, then, does a two percent sales tax boost prices by five percent? The answer is that with REMI, small changes in the cost of capital have large effects. Suppose you increase the sales tax. Part of the tax will apply to investment goods, reducing capital formation. With reduced investment, even though slight, REMI's powerful dynamic multipliers go to work in reverse, showing large reductions in productivity resulting in large price increases, lower real wages, and evaporating jobs. Whether this powerful effect corresponds to reality is testable. The test, using data from the American Chamber of Commerce Research Association, would be to compare cities in states that raised sales tax rates with cities in other states to see whether after five years prices in the tax-hike states rose by 2.5 times the tax hikes compared to prices in cities in other states.

In another Harrison-Awad scenario, a $4 billion reduction in all property taxes, commercial as well as homestead, is balanced by a $4 billion reduction in government spending. In this case, according to the simulation, prices five years out are 3.4% lower, population over 200,000 higher, Gross State Product $8 billion higher, employment almost 36,000 lower, and real disposable income up by about $18 billion, compared to a baseline of no change in taxes or spending. The gains in output and income arise from the

usual supply-side effects. Firms respond to the lower property tax on structures by substituting capital for labor. The decline in jobs comes partly from this greater capital intensity and partly from the reduction in demand caused by the lower government spending.

The source of these results is obvious. The REMI model includes almost no supply-side effects from government spending.[33] The level of public service is assumed to have no effect on either private sector output or on population growth. Education, roads, public safety, and parks simply do not matter. Alternatively, the only government spending eliminated is waste. Thus the model begs the question. If we assume that at the margin state and local government purchases are useless, then of course cutting both taxes and spending will boost output and improve welfare. According to the documentation for REMI version 9.0, output is determined by a Cobb-Douglas production function in which, implicitly, changes in state and local spending play no role, whether through transportation, labor force skills, or local amenities. It is true that *past* government spending on amenities could influence migration and hence the size of the work force, but current changes do not: "These amenities or compensating differentials are measured indirectly by looking at migration patterns over the last 20 years."[34] If we believe that changes in the pool of skilled workers in a region arise only in response to changes in after-tax wages and are not influenced by changes in the quality of public education for their children, public safety, roadway congestion, and parks and recreation, then cuts in property taxes coupled with equal cuts in government spending will draw in workers, increase investment, and boost productivity. The world's richest countries and the richest American states would be those with the very lowest public spending.

In short, the REMI tax differential approach when applied to Florida implies price changes that are intuitively implausible and the analysis of the effect of reducing both property taxes and government spending derives its result from the assumption that government spending has neither productivity nor amenity effects. It may be that the effects of reduced government demand on total spending are also not well specified. In a recent presentation by Frederick Treyz of REMI describing changes for Version 9.0, the last slide reads: "Removal of Fiscal Effects: Government Finance data out of date. Not representative of specific government revenues and expenditures."[35] Until the implications are tested, it would be unwise to use this application of REMI to Florida as a guide to policy. The study is a useful beginning, but we would have more confidence in the results if there were explicit empirical tests of its implications. It would also help if effects of public services on amenities and productivity were explicitly modeled based on empirical evidence. Alternatively, evidence could be provided that cuts in government spending eliminate only wasteful spending.

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[33] Version 9.0 includes a very second-order supply-side effect of government spending. By increasing demand, higher government spending raises employment. The larger job pool gives a slight boost to productivity through agglomeration economies.

[34] REMI Policy Insight User Guide, Version 9.0, Chapter 2, p. 17.

[35] A short version of the REMI equations is available at http://www.remi.com/downloads/documentation/PIuserV90.pdf. That general web site also includes PowerPoint presentations.

IMPLAN Studies in Oregon and Idaho

Perhaps useful insights into the effects of reducing property taxes can be gained from CGE studies of other states. Waters, Holland, and Weber use an IMPLAN model, augmented by their adding detail to the public sector, of Oregon's 1990 Measure 5, which had it passed would have placed new limits on property taxes and shifted more of the responsibility for funding K-12 schools on the state's general revenue.[36] They use three types of models: Keynesian, neoclassical, and fixed-price input-output. In the Keynesian version, wages and the amount of investment are fixed, while labor flows freely across state borders. In the neoclassical version, the amounts of capital and labor are fixed within the state, while wages and the return to capital are free to vary. Capital and labor shift freely among sectors within the state, however. In the input-output model included for comparison, prices and factor proportions are fixed.

With all three models, the property tax cut boosts after-tax income. The effect on state output varies by model, rising in the Keynesian version, nearly unchanged in the neoclassical version, and falling in the input-output version. In percentage terms, after-tax income rises most for the top third by income, but that may be because taxes on rental housing are assumed to be borne by the owners of rental property, not by the renters. The authors caution that the increase in after-tax income does not correspond to an increase in well-being. State and local expenditures are assumed to fall by nine percent. "Most of the reduction," they suggest, "would be expected to be taken from human services and higher education," and their study attaches no value to the services lost. "Moreover, in the long run, continuing neglect of public physical and social infrastructure and essential services could affect the ability of the private sector firms to remain profitable in Oregon." Of course if the reduced public spending were to come entirely out of waste, there would be a net gain in welfare. With all three models, a clear beneficiary of the tax cut is the federal government, with the amount varying from about 3% to 19% according to differing estimates of how much Oregonians property taxes reduce their federal income taxes.

In a follow-up to Waters, Holland, and Weber, another IMPLAN study of Idaho's Measure 5 is reported by Julia-Wise, Cooke, and Holland.[37] The chief methodological advances over the first study are a more careful division of output into traded versus non-traded goods and services and a more careful specification of the state and local public sector. Industries are in the nationally competing sector if either more than half of the value of their production was exported or if half of Idaho's purchases in that sector were imported. Otherwise they were placed in the local sector. For the composite of industries in the traded category, demand was assumed to be elastic, with an elasticity of 1.4. For the composite of industries in the non-traded category, demand was assumed to be inelastic, with an elasticity of 0.4. The Idaho non-traded sectors, which would be similar for Florida, include "real estate, wholesale and retail trade, health services, legal services,

[36] Edward C. Waters, David W. Holland, and Bruce A. Weber, "Economic Impacts of a Property Tax Limitation: A Computable General Equilibrium Analysis of Oregon's Measure 5." *Land Economics*, February 1997, pp. 72-89.

[37] Roxana Julia-Wise, Stephen C. Cooke, and David Holland, "A Computable General Equilibrium Analysis of Property Tax Limitation Initiative in Idaho," *Land Economics,* May 2002, pp. 207-227.

educational services, government enterprises, and goods such as cement production." Other sectors, accounting for 37% of output, are more vulnerable to out-of-state competition.

The Idaho State Tax Commission estimated that passage of Measure 5 would have reduced total state and local government revenues by 15%, or $300 million per year. Julia-Wise, Cooke, and Holland estimate that the loss would have been only 10%, or $200 million a year, approximately. Their CGE model and specification of the public sector allow them to account for increases in revenue from higher payroll, corporate, retail sales, and household income taxes that result from the higher taxable incomes and increased spending and profits following a property tax cut. That is, each $100 million of property tax cut is offset by about $33 million of other state and local revenue. If the model were applied to Florida, a rough guess is that each $100 million of property tax cut would be offset by only $15 million or so of other revenue, since Florida does not have an income tax or a payroll tax that goes into general revenue.

In Florida, the legislature has decided that public schools are to be held harmless from cuts in property taxes. The same was proposed for Idaho with Measure 5, with the result, according to the CGE model, that the 10% reduction in revenue would imply a 22% reduction in other state expenditures and a 13% reduction in local government spending. Presumably the "cuts in services … would have been in health and welfare, prisons, and higher education at the state level; and county roads, city streets, solid waste and waste water disposal, and drinking water services at the local level." Julia-Wise, Cooke, and Holland note that they included none of the effects of those cuts in their analysis. Their estimates that the property tax reductions would have raised Idaho's household income by 0.68% and raised disposable income by 1.64% does not imply that welfare would have increased, since they made no effort to measure the effect of reductions in those services on well-being. Moreover, they made no effort to measure whether any public services were inputs into private production, through public safety, education, transportation, or utilities. "Within this model, the reduction in state and local government services is assumed to affect neither economic productivity nor consumer utility." (p. 219)

In sum, a major limitation of using CGE models to analyze tax cuts balanced by reduced government spending appears is that they assume all government services are wasteful, or at least that that only wasteful spending would be cut, which is unrealistic. If interpreted properly, however, such studies can yield a very valuable result. They tell us what the gains would be from reducing government waste. Reducing government waste can be used either for increasing non-wasteful services or for cutting taxes. At the margin, it would likely be best to do some of both and the payoff from either would be roughly the same. Improved public services and the reduced taxes would both make Florida more competitive. Cutting government waste is hard work. It exists either because institutions create poor incentives or because interest groups gain from it. The work of journalists, legislators, think tanks, government employees, and other involved citizens in fighting it is a high-valued-added activity.

From O'Connell's differential tax study, the most secure conclusion is that reducing taxes on homestead property with offsetting increases in sales taxes would shift output and consumption toward housing and away from other sectors, especially those that must compete beyond Florida. In general, the CGE models remind us that partial equilibrium approaches miss important impacts of tax changes and that, ideally, we would have completely specified and accurate general equilibrium models that would allow us to catch all their effects. Unfortunately, our understanding of the economy is far from that level. We have to do the best we can with a mixture of imperfect analyses.

VII.3 Deciding against a Reduced-Form Approach

The reduced-form study we consider as an example is by the well-known consulting firm Arduin, Laffer & Moore Econometrics (ALME).[38] Using data for 48 states (Alaska and Wyoming are excluded because of their revenues from coal and oil), ALME regress the change in state personal income per resident on the change in total state and local tax revenue per thousand dollars of income and on national GDP. In their report the functional form of the regression equation is not specified mathematically. The period covered may be 1996 through 2006, in which case the tax and income numbers for the final year are rough approximations. The question they seek to answer is: Would Florida boost its income growth per resident by cutting taxes? They find the answer to be yes and even say how much. "The results of our analysis," they report, "showed that for every one-dollar increase in a state's total tax burden, growth in real personal income per capita can be expected to decline by 0.20 percent." Using this number, ALME calculate that cutting property taxes by $6 billion in 2007 would raise the state's income in that year by 1.64%, or approximately $11 billion. By 2014 the gains would rise to 1.78% of what Florida's income would have been without the tax cuts.

A month after the ALME report appeared its methodology was criticized by two economists, Iris Lav with the Center on Budget and Policy Priorities and Kim Rueben with the Tax Policy Center. Lav and Rueben say the ALME specification biases the result, that when the specification is corrected the results are reversed, and that, aside from referring to their own studies, ALME ignore the extensive literature on state and local taxes and economic growth. While the organizations employing Lav and Rueben have their own policy preferences, we think, however, that most empirical economists would agree with this critique of the ALME methodology.[39]

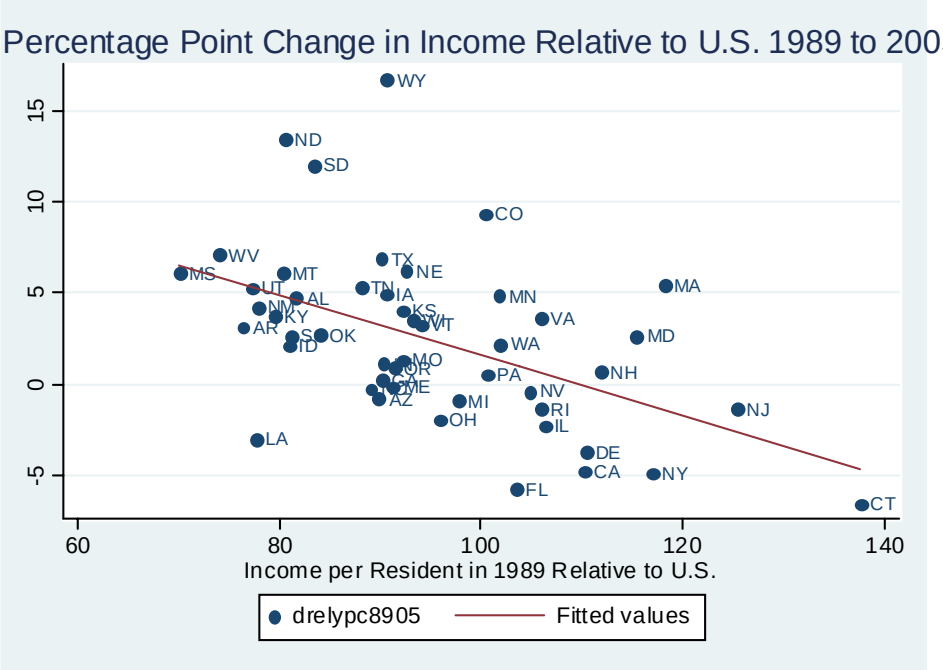
Florida's Performance Relative to the Nation and South Atlantic Region

There is a more basic problem, in our view, than the statistical methods used by ALME. It is unlikely that any simple statistical analysis, even one that is correctly specified, will enable us to tell whether Florida can boost its growth of income per resident by cutting taxes. To explain why we think this, we start by presenting a convergence diagram, which shows initial income per resident on the horizontal axis and the change in income per resident over some time interval on the vertical. Such figures, like Figure VII-1

[38] Arduin, Laffer, and Moore Econometrics, "An Analysis of the Proposed Property Tax Cut in Florida," February 20, 2007.

[39] It is strange but probably unimportant to calculate real GDP deflating by the CPI as Lav and Rueben do.

Figure VII-1:



below, are called convergence diagrams because for many sets of geographical units—European countries, Japanese prefectures—the areas that start off poorer tend to catch up to or converge with the ones that start off richer. The major reasons to expect this to happen are that the poorer areas catch up with the technological frontier and, because they start with less capital per worker, have a higher return to investment. A convergence diagram for the lower 48 states from 1989 to 2005 is below:

The horizontal axis shows 1989 income per resident relative to the U.S. average. The vertical axis shows the percentage point change in income per resident relative to the U.S. The negative slope of the regression fit shows that on average income per resident rose more rapidly in the states that started out poorer. The states farthest below the regression line are Louisiana, because of Katrina, and Florida. Florida fell from 3.5% above the national average in 1989 to 2.3% below in 2005.

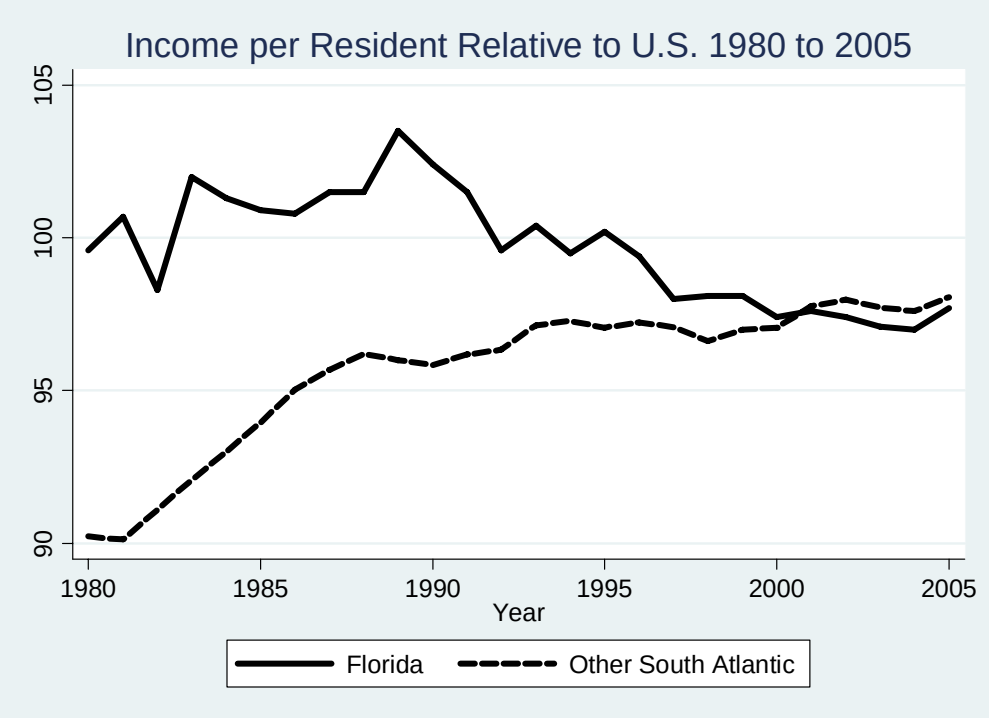
One reason Florida is farthest below the regression line is selection bias in the choice of time period for the regression. The ending year, 2005, is chosen simply because it is the latest for which good state income data are available. In the beginning year, however, Florida reached its highest relative income per resident in recent years. In spite of the potential bias introduced in selecting that date, we choose it because we think it represents a structural break in Florida's recent economic history. Much of the state's rapid growth from the 1960s through the 1980s was led by retirees. At the opening of the 1990s, however, that demographic driver of Florida's economy slowed. During the 1930s, the year decade of the Depression, there were 16% fewer births than in the 1920s. Consequently, in the 1990s, there were approximately 16% fewer Americans turning 60

and thus at risk of retiring to Florida. The rate of growth of the demand for Florida slowed fairly abruptly. Not only did the influx of retirees slow, so too did the arrival of working-age people coming to build their houses, care for their health, and ring up their purchases of food and clothing. At the same time, since Florida had become a large state, any given number of new people arriving had a smaller percentage impact on the nature of the state's population. With any other initial year than 1989, Florida would not be as far below the experience of other states. But it would still be below, and quite a bit below, for any recent period starting in 1990 or before and ending with 2005, and we do think 1990 initiates a structural change.

Figure VII-2 below shows Florida's income per resident as a percentage of the nation's income per resident from 1980 through 2005. For later reference it also displays the same percentage for the South Atlantic Census region (Delaware, the District of Columbia, Georgia, Maryland, North and South Carolina, Virginia, and West Virginia, each weighted by population). Florida fell from ten percent ahead of the other South Atlantic states in 1980 to parity in 2001, and has been very slightly behind since.

Besides having experienced slower-than-average growth of income per resident, Florida has had one of the lowest ratios of taxes to income of any state, 8 percent below the national average in 2004 for example. Using a simple regression across states to address the question of how much a state that in recent years has had lower growth in income per resident than most states and already has a low tax burden should cut taxes in order to boost its growth in income per resident would not be very informative. For the period since 1989, Florida has had the lowest rate of growth of income per resident of any of the

Figure VII-2:



contiguous states except Connecticut, and we would like to know why. A quick comparison with other states does not indicate that excessively high taxes are the most likely place to begin looking.

The puzzle is deepened by the strong overall growth of the Florida economy. The state lauds itself, and rightly so, for being one of the strongest job-creating machines in the nation. But our pride is tempered by downward trends in both job quality and income per resident, relative to the nation. Both declines are even stronger relative to the other South Atlantic states. Celebrating Florida's strong overall growth should not sidetrack us from trying to learn why the declines in relative job quality and income occurred and to figure out whether they have run their course or are likely to continue.

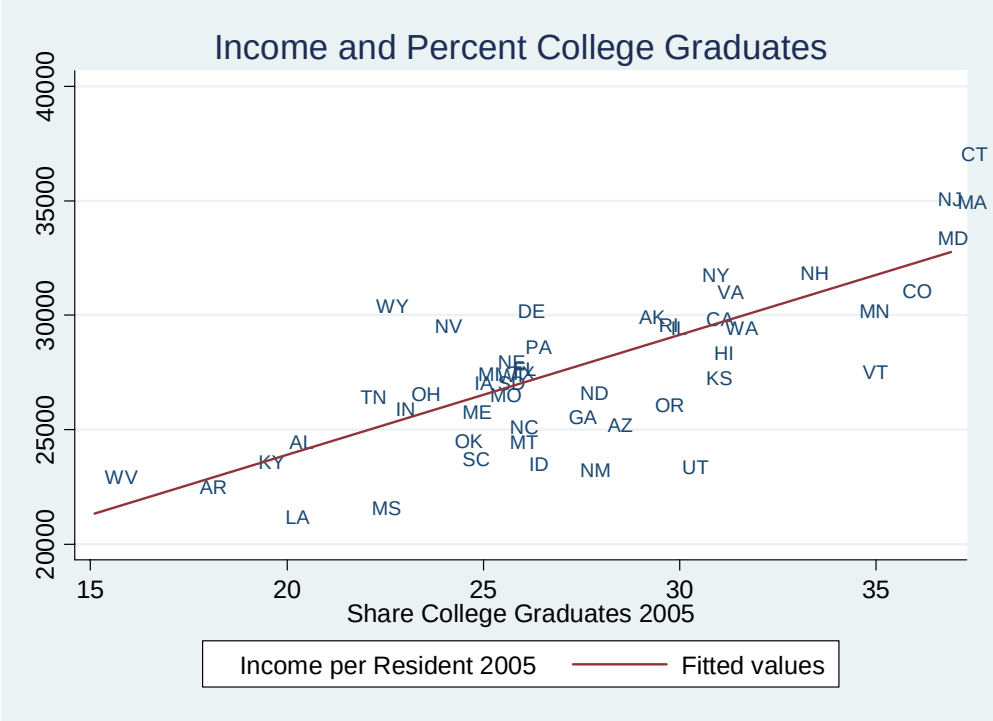
Changes in Education and Immigration

Our hypothesis, no more than an informed guess, is that Florida's declines in relative income and job quality arose from an interaction between education and migration. Individual income is strongly correlated with education, both years of schooling and quality of schooling. As a partial illustration, Figure VII-3 below shows the correlation in 2005 between income per resident and the percentage of the population 25 and older with a bachelor's degree or more. (Florida is just above the regression line at an income per resident of $27,650, in year 2000 dollars.) The graph itself does not demonstrate that having a larger share of college graduates raises income. Causation could run the other way: richer people are more likely to graduate from college. But there is now a large literature demonstrating that the causation does run from higher levels of education to greater productivity. That is, the graph illustrates causation established by others.

From the 1960s through the 1980s Florida income rose relative to the nation's largely because most of its massive flow of net migrants, whether of working age or retirees, came from the Midwest and the Northeast. The new Floridians had both more and better schooling than the state's natives. Their arrival raised the average level and quality of the education of the state's residents relative to the nation and with them raised per capita income relative to the nation. In the 1990s, as noted above, the state's rate of growth slowed. As a result migrants had less impact on average educational attainment. Moreover, the composition of immigration changed, with a larger share coming from Mexico and the Caribbean (other than Cuba, whose migrants to Florida were well educated). As a related phenomenon, Florida's low educational attainment and low spending on education kept the state from participating fully in the technology revolution of the late 1990s onward. Contributing to the effect of the migration flows was rising national wage inequality related to educational attainment. In 1979 the median high-school dropout earned 19% less than the median high school graduate with no college. By 2006 the gap had risen to 42%. In 1979, the median college graduate earned 38% more than the median high-school graduate with no college. By 2006 the college graduate's advantage has risen to 75%.[40]

[40] Ben Bernanke, "The Level and Distribution of Economic Well-Being," speech given February 6, 2007.

Figure VII-3



This interpretation is just an idea. Though it may be possible to test it, we have not done so, and it remains an unconfirmed hypothesis. A complication is that a crucial part of the hypothesis is that the *quality*, not just the amount, of education was higher in the Midwest and Northeast. Even unconfirmed, the idea illustrates a difficulty with simple regressions of growth on taxes. There are so many other influences on growth that simple regressions are poorly specified.

VII.4 Conclusion

To summarize the effect of taxes on economic activity, we quote Timothy Bartik, a leading regional development economist, says that "the majority view among economists is that the long-run effect of a 10 percent cut in state and local business taxes, holding other effects on business location constant, is to raise business activity in a state by about 2 percent."[41] If this consensus is correct, cutting Florida's business taxes to the average for the other South Atlantic states would raise activity in Florida by five percent or so. But, cautions Bartik, how the tax cuts are financed matters. Not only does reduced public spending reduce the demand for jobs directly, which could be offset by increased private spending, "reduced public spending, if it reduces the quality of public services, may reduce the attractiveness of a state to both businesses and households." If Floridians resolve to cut property taxes, they should accept at the same time a responsibility to find

[41] Timothy J. Bartik, George Erickcek, Wei-Jang Huang, and Brad Watts, "Michigan's Economic Competitiveness and Public Policy," Upjohn Institute for Employment Research, working paper, August 11, 2006, p. 8, referring to Michael Wasylenko,, "Taxation and Economic Development: The State of the Economic Literature," *New England Economic Review*, March/April 1997, pp. 37-52.

other, more efficient sources of revenue and to strengthen institutions that improve the efficiency of state and local governments. If we impose property tax revenue reductions, that must be only the beginning of the process, if our state's wealth and quality of life are to approach their potential.

VIII. SALES TAX REPLACEMENT FOR PROPERTY TAXES IN FLORIDA: WHO WINS? WHO LOSES?[42]

Proposals for replacing the homestead property tax with an increase in Florida's sales tax were the "talk of the town" during the 2007 legislative session. Proponents viewed such an increase as a way of reducing reliance on the property tax which has soared in the past few years despite assessment limits from the constitutionally-authorized Save Our Homes program and homestead exemptions. Proponents further contended that a greater percentage of the tax incidence could be shifted from Florida homeowners to nonresidents, particularly tourists. Opponents countered that the sales tax is more cyclical than other revenue sources and is particularly prone to economic downturns, especially in a state like Florida that has no income tax. They also argued that a sales tax increase would apply disproportionately to those commodities and select services that are taxed, only 39% of gross sales in the state in 2005, and would affect those residents who least can afford it.

My task in this report is to: (1) provide a brief overview of the sales tax in Florida and explain how it compares to that of other states and how it has evolved over time in this state, (2) analyze the sales tax in terms of properties often associated with sound tax policies: efficiency, equity, reliability, and transparency; and (3) provide a perspective of which counties and populations gain or lose if the property tax was replaced by an increased sales tax.

VIII.1 Overview of the Sales Tax in Florida and the Nation

Background

Florida depends extensively on its 6 percent sales and use tax which is levied on retail sales of most tangible personal property, admissions, transient lodging, commercial rentals, and motor vehicles. In FY 2004-2005, sales and use collections totaled almost $20 billion, accounting for 71% of General Revenue and over one third of all state revenue.[43] In FY 2005-2006, collections from sales and use taxes were almost $22 billion. As Table VIII-1 reflects, forty-five states and the District of Columbia impose sales and use taxes.

In states that levy sales tax, the sales tax is imposed, at the time of purchase, on goods and, to a far lesser extent if at all, on services. Use taxes are imposed on taxable goods and services purchased in a state other than the state of residence. The underlying concept for use taxes is that residents would pay the same tax on commodities or services purchased out of state as they would pay if purchased within their home states. As a practical matter, collection of use taxes is difficult to enforce.[44] Perhaps not surprisingly,

[42] Written by Dr. Lynne Holt, Bureau of Business and Economic Research, University of Florida.

[43] State revenue totaled over $58 billion in FY 2004-2005, including General Revenue, trust funds, federal assistance and transfers to local governments. Sales and use taxes totaled $19.8 billion in that year, of which $17.6 billion was credited to the General Revenue Fund and $2.2 billion to trust funds.

[44] In 2005, only 17% of out-of-state gross sales reported to the Florida Department of Revenue were taxable.

most states without state income tax (Florida, Nevada, South Dakota, Texas, and Washington) rely more heavily on the sales and use tax, including other excise fees on sales, than states with income tax; in non-income tax states, tax collections from sales transactions represent at least 75% of all their state tax collections. Table VIII-2 provides a snapshot of all state tax collection by major source categories in 2005.

Sales tax rates vary considerably from a low of 2.9% (Colorado) to a high of 7% (Mississippi and Tennessee) in 2006. The average rate among states with the sales tax is 5.3%, so Florida, at 6%, has a higher rate than the national average. (See Table IV-1.) In addition, 35 states authorize local sales taxes to be added to the state sales tax.[45] These ranges vary considerably. In Florida, all counties are authorized to levy local option taxes although maximum potential tax rates vary. Table IV-3 lists local option tax rates for 2007 by county. The current tax rates range in 2007 from 0.25% in Alachua County to 1.5% in Madison County. School districts are also authorized to levy up to 0.5% in school district levies, with 16 exercising that option.

VIII.2 Sales Tax Properties: Why Do They Matter?

In discussions of tax policy, it often helps to consider four properties that characterize sound tax systems: efficiency, equity, transparency, and reliability. Although I discuss these features separately, I cannot ignore the fact that they are interrelated. So let's step back and consider why these features matter in the context of the national trends discussed above and consider applications of these features to consumers and businesses in Florida and the nation.

Efficiency and Non-Distortion

The concept of efficiency refers to the capacity of the tax to raise revenues to cover costs associated with public expenditures. A related principle—*non-distortion*—is also desirable in sound tax systems. This means that the tax ideally should not affect consumption and pricing decisions. However, in reality, tax policies often affect consumption decisions, as in sales tax holidays and consumer shifts to e-commerce from bricks and mortar retail purchases, and they may also contribute to pricing manipulations on the part of businesses. Generally, administration of and compliance with the sales tax is pretty straightforward. However, some businesses operating in multiple states might find differences among states with respect to tax rates, exemptions permitted, reporting requirements, and legal requirements to be quite daunting. I consider below two developments that have implications for sales tax efficiency: sales tax holidays and Internet transactions:

[45] Alaska has no sales tax but authorizes a local option tax of up to 7%. Some jurisdictions do not levy them.

Table VIII-1: State General Sales Tax Rates and Exemption Categories, 2006

State	State General Sales Tax Rate (%)	Food	Prescription Drugs	Nonprescription Drugs
Alabama	4.0	Taxable	Exempt	Taxable
Alaska	--	--	--	--
Arizona	5.6	Exempt	Exempt	Taxable
Arkansas	6.0	Taxable	Exempt	Taxable
California1	6.25	Exempt	Exempt	Taxable
Colorado	2.9	Exempt	Exempt	Taxable
Connecticut	6.0	Exempt	Exempt	Exempt
Delaware	--	--	--	--
District of Columbia	5.75	Exempt	Exempt	Exempt
Florida	6.0	Exempt	Exempt	Exempt
Georgia 2	4.0	Exempt	Exempt	Taxable
Hawaii 3	4.0	Taxable	Exempt	Taxable
Idaho	5.0	Taxable	Exempt	Taxable
Illinois	6.25	1.0	1.0	1.0
Indiana	6.0	Exempt	Exempt	Taxable
Iowa	5.0	Exempt	Exempt	Taxable
Kansas	5.3	Taxable	Exempt	Taxable
Kentucky	6.0	Exempt	Exempt	Taxable
Louisiana 2	4.0	Exempt	Exempt	Taxable
Maine	5.0	Exempt	Exempt	Taxable
Maryland	5.0	Exempt	Exempt	Exempt
Massachusetts	5.0	Exempt	Exempt	Taxable
Michigan	6.0	Exempt	Exempt	Taxable
Minnesota	6.5	Exempt	Exempt	Exempt
Mississippi	7.0	Taxable	Exempt	Taxable
Missouri 4	4.225	1.225	Exempt	Taxable
Montana	--	--	--	--
Nebraska	5.5	Exempt	Exempt	Taxable
Nevada	6.5	Exempt	Exempt	Taxable
New Hampshire	--	--	--	--
New Jersey	6.0	Exempt	Exempt	Exempt
New Mexico	5.0	Exempt	Exempt	Taxable
New York	4.0	Exempt	Exempt	Exempt
North Carolina 2,5	4.5	Exempt	Exempt	Taxable
North Dakota	5.0	Exempt	Exempt	Taxable
Ohio	5.5	Exempt	Exempt	Taxable
Oklahoma	4.5	Taxable	Exempt	Taxable
Oregon	--	--	--	--
Pennsylvania	6.0	Exempt	Exempt	Exempt
Rhode Island	7.0	Exempt	Exempt	Exempt
South Carolina	5.0	Taxable	Exempt	Taxable
South Dakota	4.0	Taxable	Exempt	Taxable
Tennessee	7.0	6.0	Exempt	Taxable
Texas	6.25	Exempt	Exempt	Exempt
Utah	4.75	Taxable	Exempt	Taxable
Vermont	6.0	Exempt	Exempt	Exempt
Virginia	4.0	2.5	Exempt	Exempt
Washington	6.5	Exempt	Exempt	Taxable
West Virginia	6.0	5.0	Exempt	Taxable
Wisconsin	5.0	Exempt	Exempt	Taxable
Wyoming	4.0	Taxable	Exempt	Taxable

Notes: 1. (California) Sales tax may be adjusted annually according to a formula based on balances in the unappropriated general fund and the school foundation fund. 2. (Georgia, Louisiana, North Carolina) Food sales are subject to local sales tax. 3. (Hawaii) Sales tax for wholesalers/manufacturers is 0.5%. 4. (Missouri) Sales tax will be reduced to 4.125% effective November 8, 2008. 5. (North Carolina) Sales tax will be reduced to 4.0% effective July 1, 2007. 6. This refers to the general treatment of services. "Not taxable" means that the state taxes only a few specified services, or no services. "Many taxable" means that the law provides that only specified services are taxable , but the state has chosen to tax a number of them. "Generally taxable" means that the tax imposed is generally on the provision of services, although certain specific services may be exempt.

General Note:

Local general sales/use taxes are not authorized or imposed in Connecticut, Indiana, Maine, Maryland, Massachusetts, Michigan, Mississippi, New Jersey, Rhode Island, and West Virginia

Sources:

CCH Tax Research NetWork

Federation of Tax Administrators (http://www.taxadmin.org/fta/rate/sales.html)

Reproduced from Tax Policy Center website.

Table VIII-2: State Tax Collection as a Percentage by Source, 2005

	Property	Sales	Selective Sales*	Individual Income	Corporate Income	Other
Alabama	3.0	26.1	25.1	32.5	5.1	8.3
Alaska	2.3	--	10.3	--	31.8	55.6
Arizona	3.4	47.3	13.5	25.9	6.4	3.5
Arkansas	8.5	39.3	13.5	28.6	4.2	5.9
California	2.2	30.4	7.8	43.7	8.8	7.0
Colorado	--	26.2	13.8	49.3	4.1	6.6
Connecticut	--	28.2	16.1	43.4	5.0	7.3
Delaware	--	--	14.6	32.4	9.1	43.9
Florida	0.9	56.2	19.0	--	5.3	18.7
Georgia	0.4	33.9	10.6	46.7	4.5	3.8
Hawaii	--	48.2	13.8	31.2	2.8	4.1
Idaho	--	38.5	12.7	35.5	4.8	8.6
Illinois	0.2	27.2	23.3	30.1	8.3	10.9
Indiana	0.1	38.9	17.1	32.8	6.4	4.8
Iowa	--	29.9	15.7	39.2	3.2	11.9
Kansas	1.1	35.6	14.1	36.6	4.4	8.2
Kentucky	5.2	28.5	18.2	33.4	5.3	9.3
Louisiana	0.5	33.1	20.0	27.7	4.1	14.6
Maine	1.4	30.4	13.9	42.3	4.4	7.5
Maryland	3.9	21.4	17.7	41.9	6.0	9.0
Massachusetts	0.0	21.6	10.5	53.8	7.4	6.7
Michigan	8.8	33.2	14.2	28.4	7.8	7.5
Minnesota	3.9	26.5	15.3	39.9	5.9	8.5
Mississippi	0.8	47.6	17.2	21.6	5.2	7.5
Missouri	0.2	31.8	16.4	42.1	2.3	7.2
Montana	10.4	--	25.5	39.9	5.5	18.8
Nebraska	0.1	39.9	12.0	36.7	5.2	6.0
Nevada	3.0	45.0	33.6	--	--	18.4
New Hampshire	19.4	--	34.9	3.3	23.6	18.8
New Jersey	0.0	28.6	15.8	35.9	9.7	10.1
New Mexico	0.9	34.8	13.7	24.3	5.4	20.8
New York	--	21.9	10.3	56.0	5.5	6.3
North Carolina	--	24.7	16.2	45.2	6.8	7.1
North Dakota	0.1	29.2	21.3	17.2	5.4	26.7
Ohio	0.2	34.1	12.3	39.3	5.5	8.6
Oklahoma	--	24.2	12.2	36.0	2.5	25.1
Oregon	0.4	--	10.7	72.0	5.6	11.3
Pennsylvania	0.2	29.6	18.9	30.4	6.2	14.7
Rhode Island	0.1	32.1	20.3	38.0	4.3	5.2
South Carolina	0.1	39.7	13.4	36.8	3.4	6.7
South Dakota	--	56.0	25.4	--	4.4	14.1
Tennessee	--	61.1	15.3	1.6	8.1	14.0
Texas	--	49.9	29.0	--	--	21.2
Utah	--	36.5	13.2	41.1	4.0	5.1
Vermont	33.2	13.9	20.8	22.3	3.1	6.7
Virginia	0.1	19.4	15.0	52.5	3.8	9.2
Washington	10.7	61.6	16.8	--	--	10.8
West Virginia	0.1	25.5	24.6	27.2	10.8	11.8
Wisconsin	0.8	30.0	15.2	40.6	5.8	7.4
Wyoming	10.4	30.0	6.9	--	--	52.7
U.S. Total	1.7	32.7	15.2	34.1	6.0	10.2

Source: U.S. Bureau of the Census.--- tax not levied at state level.

* Selective sales taxes are state Excise taxes (i.e., motor fuel, alcoholic beverages, etc.). Reproduced from: Federation of Tax Administrators; available at: http://www.taxadmin.org/fta/rate/05taxdis.html.

Table VIII-3: Local Discretionary Sales Surtax Rates, by County, 2007

	County Government Levies		School District Levies	
County	Maximum Potential Tax Rate	Current Tax Rate	Maximum Potential Rate	Current Tax Rate
Alachua	1.50	0.25	0.50	0.00
Baker	1.50	1.00	0.50	0.00
Bay	1.00	0.00	0.50	0.50
Bradford	1.50	1.00	0.50	0.00
Brevard	1.00	0.00	0.50	0.00
Broward	2.00	0.00	0.50	0.00
Calhoun	1.50	1.00	0.50	0.00
Charlotte	1.00	1.00	0.50	0.00
Citrus	1.00	0.00	0.50	0.00
Clay	1.00	1.00	0.50	0.00
Collier	1.00	0.00	0.50	0.00
Columbia	1.00	1.00	0.50	0.00
De Soto	1.50	1.00	0.50	0.00
Dixie	1.50	1.00	0.50	0.00
Duval	2.00	1.00	0.50	0.00
Escambia	1.00	1.00	0.50	0.50
Flagler	1.00	0.50	0.50	0.50
Franklin	1.50	0.00	0.50	0.00
Gadsden	1.50	1.00	0.50	0.00
Gilchrist	1.50	1.00	0.50	0.00
Glades	1.50	1.00	0.50	0.00
Gulf	1.50	1.00	0.50	0.50
Hamilton	1.50	1.00	0.50	0.00
Hardee	1.50	1.00	0.50	0.00
Hendry	1.50	1.00	0.50	0.00
Hernando	1.00	0.00	0.50	0.50
Highlands	1.00	1.00	0.50	0.00
Hillsborough	2.00	1.00	0.50	0.00
Holmes	1.50	1.00	0.50	0.00
Indian River	1.00	1.00	0.50	0.00
Jackson	1.50	1.00	0.50	0.50
Jefferson	1.50	1.00	0.50	0.00
Lafayette	1.50	1.00	0.50	0.00
Lake	1.00	1.00	0.50	0.00
Lee	1.00	0.00	0.50	0.00
Leon	1.50	1.00	0.50	0.50
Levy	1.50	1.00	0.50	0.00
Liberty	1.50	1.00	0.50	0.00
Madison	1.50	1.00	0.50	0.00
Manatee	1.00	0.00	0.50	0.50
Marion	1.00	0.00	0.50	0.50
Martin	1.00	0.50	0.50	0.00
Miami-Dade	2.00	1.00	0.50	0.00
Monroe	1.00	1.00	0.50	0.50
Nassau	1.00	1.00	0.50	0.00
Okaloosa	1.00	0.00	0.50	0.00
Okeechobee	1.50	1.00	0.50	0.00
Orange	1.00	0.00	0.50	0.50
Osceola	1.00	1.00	0.50	0.00
Palm Beach	1.00	0.00	0.50	0.50
Pasco	1.00	1.00	0.50	0.00
Pinellas	2.00	1.00	0.50	0.00
Polk	1.00	0.50	0.50	0.50
Putnam	1.00	1.00	0.50	0.00
St. Johns	1.00	0.00	0.50	0.00
St. Lucie	1.00	0.00	0.50	0.50
Santa Rosa	1.00	0.00	0.50	0.50
Sarasota	2.00	1.00	0.50	0.00
Seminole	1.00	1.00	0.50	0.00
Sumter	1.00	1.00	0.50	0.00
Suwannee	1.50	1.00	0.50	0.00
Taylor	1.50	1.00	0.50	0.00
Union	1.50	1.00	0.50	0.00
Volusia	2.00	0.00	0.50	0.50
Wakulla	1.50	1.00	0.50	0.00
Walton	1.00	1.00	0.50	0.00
Washington	1.50	1.00	0.50	0.00

Source: Florida Department of Revenue via Florida Legislative Committee on Intergovernmental Relations http://www.floridalcir.gov/data/2007LDSSrates.pdf.

One politically popular form of tax relief is the sales tax holiday. New York was the first state to initiate a holiday in 1997, but a growing number of states have adopted it, mostly for clothing and school-related purchases in August. In 2006, 15 states and the District of Columbia were scheduled to offer them. Florida allocated a total of 28 days for that event: 9 days for the purchase of clothing and books (under $50), and school supplies (under $10); 7 days for the purchase of energy-efficient products (under $1,500); and 12 days for the purchase of hurricane supplies.

Although these holidays may be said to promote political good will, detractors object to them for the following reasons: (1) they distort market efficiency by inducing consumers to purchase items that are exempt from sales tax rather than items they might have purchased in the absence of the sales tax holiday; (2) they discriminate across time periods; (3) they introduce complexity to the sales tax system, particularly for retailers; (4) they tend to shift the timing of retail purchases rather than to increase total retail sales over the course of a year.[46] There is even the question of whether Floridians will save as much money as they might have expected. One study analyzed the after-effect from a Florida sales tax holiday in 2001, comparing 10 clothing items purchased in 10 stores in Pensacola. Findings suggested that customers received only 80% of the tax relief with the retailers benefiting from the other 20% because shoppers should have saved $125.58, but only saved $100.06. However, the study stopped short of concluding that this was due to retailer pricing manipulation because prices could have been higher in the larger region, thus driving up prices in Pensacola during the sales tax holiday.[47]

Online purchases also contribute to forgone revenues to state coffers. According to the U.S. Census, total U.S. e-commerce sales totaled $108.7 billion in 2006, an increase of 23.5% from 2005. E-commerce is still a relatively small share of U.S. retail sales, accounting for only 2.8% of total sales.[48] Accurate estimates for forgone revenues to state tax bases from retail e-commerce transactions are very difficult to come by. A widely cited study by Bruce and Fox (2004) projected Florida will lose from $1.5 billion to over $2.3 billion in 2008. Of total lost revenues, 3.4% would represent losses to local government. The Bruce and Fox study estimated that e-commerce-related revenue losses account for 5.4%-8.5% of the state's total tax collection in 2008.[49] Regardless of the difficulty in pinning down forgone revenues to states, there is no question that e-commerce retail transactions are going up, well over 20% from 2002 through 2006. Standard & Poors Analyst, David Hitchcock, observed, "The jury is still out as to

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[46] See Jonathan Williams, Curtis S. Dubay, and Johanna Mausolf, "Sales Tax Holidays: Politically Expedient but Poor Tax Policy," Fiscal Fact No. 63, Tax Foundation; available at: http://www.taxfoundation.org/files/ff63.pdf.

[47] Richard K. Harper, Richard R. Hawkins, Gregory S. Martin, and Richard Sjolander, "Price Effects Around a Sales Tax Holiday: An Exploratory Study," *Public Budgeting & Finance*, Winter 2003, 108-113.

[48] U.S. Census Bureau, "Quarterly Retail E-Commerce Sales," 4th Quarter 2006; available at: www.census.gov/mrts/www/data/html/06Q4.html. Forrester Research Inc. estimated U.S. online retail sales at higher amounts-- $141 billion in 2004 and $176 billion in 2005. See Standard & Poor's, "Industry Surveys: Computers: Consumer Services & the Internet," September 21, 2006, at 2.

[49] See Donald Bruce and William Fox, "State and Local Sales Tax Revenue Losses from E-Commerce: Estimates as of July 2004," Center for Business and Economic Research, the University of Tennessee; available at: http://cber.bus.utk.edu/ecomm/Ecom0704.pdf.

whether the rising amount of retail sales on the Internet will translate to significant lost sales tax revenues over the next few years, and whether bondholders should be worried. But if I was a state administrator, I'd look at the trends (in e-commerce sales increases) and I would be somewhat worried."[50]

Why have states been so unsuccessful in capturing the sales tax from e-commerce retail sales? It all goes back to a U.S. Supreme Court decision, *Quill Corp v. North Dakota* (1992). In this case, a dealer sold office supplies worth $1 million to 3,000 North Dakota residents using direct-mail advertising. The only presence the corporation had was software that it had licensed to customers. The Supreme Court found that this mail order dealer was not required to collect or remit sales tax under the Commerce Clause because the dealer had no "substantial nexus" or physical presence in the state. Even though the state may have authority to assess the tax under the Due Process Clause, it might not under the Commerce Clause. Finally, the Court in *Quill* acknowledged Congress' right under its authority to regulate commerce to "decide whether, when, and to what extent the states may burden interstate mail-order concerns with a duty to collect use taxes."[51]

To date, Congress has taken no action on regulating e-commerce sales transactions, and the nexus issue continues to thwart state efforts to exact use taxes. One effort to promote collection efforts and also to allay e-commerce retailer frustrations with multiple state sales tax rates is the Streamlined Sales Tax Project, a consortium of now 15 member states. Florida participates in an advisory capacity but is not a member.[52] The SSTP has several features, including a streamlined management system for all state and local taxes, but perhaps the most significant feature is the required assessment of the tax at the purchase destination. However, there may be downsides to membership. For example, one economist noted: "Because Florida's state government is so heavily dependent on sales tax revenues, we should be very reluctant to turn over the design of our sales tax to a multi-state committee. There is good reason to keep an eye on the impact of Internet sales on Florida's sales tax, but right now, there is little indication that Internet sales are having much of an adverse impact on Florida's sales tax collection."[53]

We might ask: do sales tax rates make a difference in whether people purchase their goods on line or in stores. Goolsbee (2000) surveyed 25,000 consumers in 1997 and determined from their responses that consumers living in states with higher sales tax rates were more likely to have purchased products online. A more recent study by Ellison and

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[50] Andrew Ackerman, "E-Commerce Takes Little Toll on Local Sales Tax Revenues, S&P Study Finds," *The Bond Buyer*, August 25, 2006, at 5.

[51] See *Quill Corp. v. North Dakota*, 504 U.S. 298 (1992). In *Quill*, the U.S. Supreme Court reaffirmed another case, *National Bellas Hess, Inc.* v. *Department of Revenue of Illinois*, 386 U.S. 753 (1967) and did not find it inconsistent with another case, *Complete Auto Transit Inc. v.* Brady, 430 U.S. 274 (1977) which set forth the four-part test that, according to the Court in *Quill* "continues to govern the validity of state taxes under the Commerce Clause."

[52] See http://www.ncsl.org/print/fiscal/MemberState.pdf.

[53] Randall G. Holcombe, "Is There a Problem with Florida's Tax Structure," *The Journal of the James Madison Institute*, Winter 2004, at 9; available at: http://www.jamesmadison.org/pdf/materials/137.pdf#page=6.

Ellison (2006) analyzed the behavior of consumers who shopped for computer memory modules using the search engine, Pricewatch.com.[54] The authors acknowledged strengths and weaknesses in their analysis: on the one hand, the observed purchases were restricted to two listed websites in one state (California); in the other hand, the authors had access to data at the individual order level and customer location data. Their regression analysis showed that tax savings are greater in states with high taxes than in states with low taxes, a finding that appears to support the estimates in the report by Bruce and Fox (2004).[55]

Equity

The overarching policy question here is to what extent similarly situated people are affected the same in terms of their tax treatment. This type of equity is also referred to as "horizontal equity." Horizontal equity is undermined to the extent that certain commodities and services are exempt from sales tax whereas others are not so consumers of non-exempt commodities and services are subsidizing those who are benefiting from exempted services. Another type of equity is "vertical equity" which refers to one's ability to pay. The sales tax is considered, all things equal, to be a regressive tax. As we noted, states typically introduce various broad-scale exemptions like groceries, medical supplies, and medical services to offset that regressivity to some extent and Florida is no exception. Yet, at least according to one study, even that well-intended objective might be detrimental to poorer people because the effect could be higher rates on other items to replace forgone revenues from the exemptions. This study showed that states with preferential tax treatment for food purchases typically had higher sales tax rates than those without tax exemptions for that purpose. However, the study was less conclusive in pinpointing causality as to whether exemptions on food resulted in higher sales tax rates or, alternatively, increases in the sales tax rate led to exemptions on food purchases.[56]

A few observations about regressivity may be in order at this juncture. The trend in states to exempt most services from taxation shifts more of the tax burden to consumption of commodities. Poorer people typically spend more of their disposable income than richer people on commodities subject to the sales tax, all things equal. More affluent people, by contrast, spend relatively more on services not subject to sales tax.

One of the questions with which economists continue to grapple is the time frame for determining tax incidence or burden. Should it be measured on an annual basis or over the course of an individual's lifetime? Milton Friedman proposed the permanent income hypothesis: in any given year measured income consists of both long-run return or income and temporary factors affecting individual prosperity like bonuses at work or

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[54] Glenn Ellison and Sara Fisher Ellison, "Internet Retail Demand: Taxes, Geography, and Online-Offline Competition," National Bureau of Economic Research, Working Paper 12242, May 2006; available at: http://www.nber.org/papers/w12242.

[55] See Bruce and Fox, *supra* note 7, at Table 6. The states with the highest percentage losses had among the highest sales tax rates in the country.

[56] Roy Bahl, "Does a Food Exemption Lead to a Higher State Sales Tax Rate?" Special Report/Viewpoint, *State Tax Notes*, January 5, 1998.

unemployment. If the effect of taxes on an individual is measured over a lifetime, regressivity will be lower than if it is measured over a year.

While most economists agree that annual measurements overstate regressivity, there is disagreement concerning the best approach to measure tax incidence. For example, most long-term longitudinal studies use families as the unit for measurement. However, family compositions change through divorces and widowhood. So focusing on family units has the effect of undercounting nontraditional families headed by women who are also likely to be poorer. A study that attempts to address these concerns uses an intermediate time horizon of 11 years and uses individuals as the unit of analysis and the Panel Study of Income Dynamics as its data source to analyze the impact of the excise tax on gasoline on consumption. Its findings show that regressivity still holds over that time frame. In response to the question: how relevant are those findings to taxes on other goods and services, the study also analyzed the sales tax on meals not consumed at home. The tax on meals was also regressive over time but not as much as the excise tax on gasoline.[57]

I now turn to Florida's experiences with exempting services and not collecting tax for out-of-state sales. These trends also have implications for efficiency although they are arguably at cross-purposes. On the one hand, a system that has a narrowing tax base is inefficient if it provides incentives to its residents for evading it in some way (e.g., a movement toward e-commerce sales transactions which would bring in less revenue to the state than would otherwise be the case through traditional sales transactions.) On the other hand, a tax system that provides incentives benefiting large segments of affluent people is more easily acceptable and garners more political support.

States vary in terms of the commodities and services that are taxable. The majority of states do not tax many or any services. Much has been written about the increasing proportion of sales coming from the service sector so it is not surprising that a declining portion of the state's tax base comes from taxable sales over time. The most recent survey of sales taxation of services compiled by the Federation of Tax Administrators (FTA) shows very little change in state activities in recent years to either add services to or remove services from the sales tax base. A total of 168 services were taxed according to the most recent FTA survey (2004). Of all states, Hawaii and New Mexico have the most broad-based sales tax base covering most services surveyed by the FTA. Although Delaware does not impose a sales tax, it does tax a large number of businesses through its business license tax. South Dakota and West Virginia are the only states to tax more than 100 services.[58]

According to the FTA survey, Florida reported 56 taxable services. However, the FTA interprets "taxable services" very liberally. According to a contact at the Florida Department of Revenue, the "pure" services that are taxable include: detective, burglar

[57] For a discussion of the literature on measurements of regressivity and the sales tax and the analysis of intermediate-run income, see Howard Chernick and Andrew Reschovsky, "Yes! Consumption Taxes are Regressive!" *Challenge*, September-October 2000.

[58] See Federation of Tax Administrators, "Are You Being Served?" *Tax Administrators News*, 69(5), May 2005, 34-36; available at: http://www.taxadmin.org/fta/pub/services/tan0505_services.pdf.

protection, and other protection services; nonresidential cleaning; and nonresidential pest control; and services covered by warranties.[59] That interpretation applies to those professional services expressly enumerated in statute.[60] Moreover, if a taxable sale is made in conjunction with an exempt service, that transaction is presumed to be taxable.

In addition to exempt services, Florida also exempts many types of commodities from sales taxation, as reflected in Table IV-4. These decisions are political and therefore not necessarily rigorous, as a humorous story about Texas donuts so aptly illustrates. In Texas the sales tax is imposed on food for immediate consumption. As the former Deputy Comptroller of the Office of Public Accounts recounted:

> So, the question arose in the early 1980s, what about doughnuts? The story is that the comptroller of public accounts took his general counsel at the time, the late Wade Anderson, to a local doughnut shop.
>
> The comptroller, the state's chief tax administrator, sat Wade down and started feeding him doughnuts. Wade, who had a formidable appetite, managed to eat five. Thus arose the "six doughnut rule" -- buy a half dozen donuts or more and it was deemed for home consumption. If you bought fewer than six, the purchase was considered to be for immediate consumption and was therefore taxable. It is fortunate for doughnut lovers in the Lone Star State that the comptroller didn't try the same trick with one of his other general counsels or the six-doughnut rule might today be the half-doughnut rule. Of course, at some other time it might as easily have been the 14-doughnut rule.[61]

However, the exemptions themselves tell only part of the story because the statutorily-prescribed conditions for many of them have also broadened over time. Because so many commodities and services are exempt from state sales tax and the economy has becoming increasingly service-based over time, Florida, like other states, has experienced a gradual decline in the percentage of taxable sales as a percentage of gross sales reported to the Florida Department of Revenue. For example, 47% of gross sales were taxable in 1968, compared to 39% in 2005.[62] Part of this declining trend is due to additional exemptions to the sales tax base, part to broadening of existing exemptions, and part to transactions that are out-of-state where collections are not as enforceable.

Out-of-state sales of goods and services are taxable if the items are purchased from a firm with a nexus in the state and would have been taxable in that state. Table IV-5 reflects the downward trajectory of out-of-state taxable sales reported to the Florida Department of Revenue compared to out-of-state gross sales. A note of caution is needed here: the gross sales included in this table have not been audited and therefore may contain

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[59] Conversation with Richard Parsons on March 2, 2007. See FS 212.05 1 (i) for taxable services in general and FS 212.0506 for service warranties.
[60] They are also excluded in FS 212.08 ((7) (v) (3-4).
[61] Billy Hamilton, "What a Tangled Web We Weave When We Practice to Tax…or Exempt," *State Tax Notes*, March 12, 2007, at 724.
[62] 2006 Florida Statistical Abstract, Table 24.30. Percentage computation is from BEBR.

significant inaccuracies. But the yearly trends appear to be unmistakable. As explained below, out-of-state sales are contributing to a progressively eroding sales tax base.

Reliability

The feature of reliability is important because governments rely on revenue projections to determine their budgets. If the projections fall short, moneys must be raised from other revenue sources or funding for public programs will be impacted. Reliability is also linked to both efficiency and equity. We observed that the nation's and the state's economy has shifted more to non-taxable services and that taxable commodities account for a proportionately larger share of spending for a poorer person than a richer person. However, from a reliability stance, it is unclear whether this shift represents an erosion of the tax base. At the national level, the evidence suggests that sales of taxed items, adjusted for inflation, grew more rapidly from 1993-2003 than both the gross domestic product and tax exempt items. Taxed consumption is more pro-cyclical than tax-exempt consumption; tax-exempt items are also less heavily affected by general economic conditions. Therefore, it comes perhaps as no surprise that the growth of taxed consumption outstripped tax-exempt consumption during times of economic expansion. Sales of generally taxed items like autos, refrigerators, stoves, and furniture tend to dampen during recessions in contrast to exempt transactions, like services.[63] Like the nation, Florida experienced a similar trend: from 1990-1991 to 2002-2003, Florida's sales tax revenue grew by 101.6%, compared to a population growth of 28.4% and inflation growth of 28.3%.[64] Of course, the downside for a state like Florida that has no income tax is the effects of economic contractions on a pro-cyclical tax like the sales tax can have a significant impact on the state's overall budget.

Transparency

Tax transparency is necessary for consumers to know whether they are receiving value for the goods, commodities, and services they purchase. The sales tax is in at least one way a transparent tax. It is typically added to bills at retail so that consumers know what they are obligated to pay. However, to the extent that the sales tax includes the operating costs of a business and that business' purchases are not excluded, the tax identified at the cash register for the transaction ends up masking the complete tax.[65] States try to exempt inputs to business operating costs so that goods and services are not taxed more than at retail but state practices vary in that respect. Ironically, value-added taxes, like those imposed on sales in Europe and Canada, more completely remove such business inputs although, in some cases, they may be less transparent in sales receipts to customers.

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[63] Robert Tannenwald, "Are State and Local Revenue Systems Becoming Obsolete?" National League of Cities, Metropolitan Policy Program: the Brookings Institute, 2004.

[64] Randall G. Holcombe, *supra* note 11, at 5.

[65] John Mikesell, "Changing the Federal Tax Philosophy: A National Value-Added Tax or Retail Sales Tax," *Public Budgeting & Finance*, Summer 1998, 53-68.

Table VIII-4: Commodities and Services Exempt from Florida Sales Tax, 2007

01	General groceries
02	Medical products and supplies
03	Certain farm equipment
04	Water delivered for consumption and irrigation
05	Bottled water
06	Fuel used by utilities
07	Electricity transmission
08	Items used for agricultural use and fisheries
09	Industrial machinery and equipment used for improving output
10	Machinery and equipment used to produce electrical or steam energy
11	Machinery and equipment used under federal procurement contract
12	Gas or electricity used for certain agricultural purposes
13	Motion picture or video equipment or sound recording equipment for production activities
14	Building materials to rehabilitate real property in enterprise zones
15	Business property used in enterprise zones
16	Aircraft modification services
17	Machinery and equipment used in semiconductor, defense, or space technology production
18	Paint color, floor, wall, fabric swatch, and window covering samples
19	Growth and performance enhancers for cattle
20	Educational materials purchased for certain child care facilities
21	Materials for construction of single-family homes in certain areas
22	Building materials in redevelopment projects
23	Artificial commemorative flowers by bona-fide veterans' organizations
24	Boiler fuels used in industrial processes
25	Crustacea bait under specified conditions
26	Feeds for poultry, ostriches, and livestock
27	Film rentals under specified conditions
28	Flags of the U.S. and Florida
29	Florida Retired Educators Association, chapters, and their purchases
30	Guide dogs for the Blind
31	Hospital meals and rooms
32	Household fuels
33	Meals provided by certain nonprofit organizations
34	Organizations providing special educational, cultural, recreational, and social benefits to minors
35	Sales and leases directly to religious organizations
36	Sales and leases to qualified veterans' organizations
37	Sales and leases to state-supported schools, colleges, and universities
38	Sales or leases to Section 501(c)(3) organizations
39	Resource recovery equipment owned/operated by cities and counties
40	School books and school lunches
41	Beverages for wine or beer tasting
42	Boats temporarily docked in state
43	Supplies and equipment purchased by volunteer fire departments
44	Professional services, excluding those that are statutorily specified
45	Certain newspapers, magazines, and newsletters
46	Sporting equipment brought into the state
47	Charter fishing vessels
48	Vending machines sponsored by nonprofits and charitable organizations
49	Certain commercial motor vehicles
50	Purchases of certain qualified organizations for community cemetery maintenance.
51	Works of art sold or used by an educational institution
52	Taxicab leases
53	Aircraft repair and certain maintenance charges
54	Certain electricity and steam uses to operate machinery and equipment
55	Certain transaction of fair associations
56	Solar energy systems and components
57	Nonprofit cooperative hospital laundries
58	Complimentary meals included in hotel/motel room rates
59	Products sold by nonprofits conducting correctional work programs
60	Sales or leases to parent-teacher organizations for fundraising for K-12
61	Items purchased by developers to improve mobile home lots
62	Certain sales of Veterans Administration to dealers
63	Complimentary food or drink items for samples from retail dealers
64	Donated foods or beverages to food banks or 501(c) (3) organizations from a dealer that sells these goods at retail
65	Sales of racing dogs by owner/breeder
66	Equipment used in aircraft repair and maintenance
67	Aircraft sales or leases
68	Nonprofit water systems
69	Advertising services by an ad agency
70	Gold, silver, or platinum bullion if price exceeds $500
71	Certain repair and labor charges
72	Film and other printing supplies purchased, produced, or created by specified industries
73	People-mover machines
74	Sales or leases to the Florida Fire and Emergency Services Foundation
75	Railway roadway materials
76	Equipment, machinery, and equipment for renewable energy technologies

Source: Compiled by BEBR.

Table VIII-5: Out-of-State Taxable Sales (in Millions of Dollars)

Year	Gross Sales	Taxable Sales	% of Gross Sales
1999	$77.3	$19.2	25%
2000	$88.1	$19.9	23%
2001	$90.2	$20.1	22%
2002	$86.0	$17.9	21%
2003	$94.3	$18.5	20%
2004	$104.6	$20.4	19%
2005	$129.0	$22.6	17%

Source: Compiled and computed by BEBR from *Florida Statistical Abstracts*, Table 16.82, assorted years.

V.3 Effects on Florida's Counties of Property and Sales Tax

Sales Tax and Property Tax –Effects on Florida's Population and Counties
It may come as no surprise that the impacts of the sales tax and property tax on individual Florida counties are different. Taxable sales per capita are also a much lower share (about a quarter) of taxable valuation per capita. Much of this, of course, is due to the portion of gross sales that is not taxable. But even if gross sales (and not taxable sales) were considered, the per capita incidence for those sales would be roughly 60% of the per capita incidence for property valuation. Of course, people who own property are paying through their property tax for many local services from which other non-property owners benefit but are not paying for.

Property tax is generally progressive: more affluent people own property than do lower-income people, all things equal. Like the sales tax in many states, Florida's sales tax has certain inherently progressive features. Namely, as we noted, groceries and medical services and prescription drugs are exempt from the tax. Table IV-6 compares the per capita taxable state sales and use and per capita property valuation for 2005. Note that taxable sales do not include local option sales tax. Also note that out-of-state taxable sales cannot be allocated to counties but this amount represents less than 1% of all taxable sales and very little of it is collected anyway. The "take-away" message from this table is that per capita valuations and per capita sales subject to tax vary widely in the state.

A comparison of per capita data of this sort, while perhaps interesting, does not tell us much about the actual tax trends because people do not pay the property valuation or the taxable sale but rather the taxes levied on the valuation or sale. Therefore, if we consider the property tax levied on a median house in Orange County, a homeowner in that county would have paid $1,516 in property taxes for her house in 2005. This assumes that the house was subject to the Save Our Homes cap limitation and homestead exemptions.[66] That same homeowner would need to purchase the equivalent of taxable goods and services totaling $23,323 to equal the amount paid in property tax. This sales

[66] Florida Department of Revenue, "Florida's Property Tax Structure: An Analysis of Save Our Homes and Truth in Millage Pursuant to Chapter 2006-311, L.O.F., Table 15, January 2, 2007, Revised January 18, 2007, at 27. Admittedly, property tax can be deducted from the federal income tax and sales tax is subject to annual authorization for states without income tax. However, this is only the case if the homeowner files itemized returns, which is typically the lot of more affluent households.

tax assumes a 6% state levy and 0.5 for the school district levy. Orange County did not have a local option tax that year. The median household income in Orange County was $40,604 in 2003.[67] Even if we assume that income increased by roughly 9% to almost $48,000 over the two- year period to reflect the estimated median household income increase in Florida, it is really unlikely that the household's taxable sales purchases would come close to almost half its income.[68] Almost half of the average Floridian homeowner's expenditures are for housing and medical services (the latter is sales tax exempt and the former is largely mortgage or rent not subject to sales tax). The purchase of groceries is another large segment of the expenditure mix and groceries are not subject to the sales tax. The remaining third of the average household's disposable income will also contain some goods and services not subject to the sales tax, such as non-medical professional services and clothes purchased during sales tax holidays.

Sales and Property Tax Trends over Time

Of course, state and local governments have different concerns than individuals in paying for the goods and services demanded by their residents. So the reliability of the revenue stream to fund parks, libraries, police, schools, and firefighters cannot be ignored. Even though the property tax has been constrained by caps and exemptions, property valuations have far outpaced taxable sales revenues in Florida. The growth since 1990 has been much less pronounced in taxable sales (137%) than in property valuation (267%). Property valuations have increased by roughly 126% since 2000, far more rapidly than in the preceding 10 years. This growth compares to a much more gradual 24% increase in taxable sales during the past 6 years. So, perhaps not surprisingly, year-to-year increases in taxes levied in Florida on taxable property and taxable sales and goods also relate to the magnitude of such changes.

In Table IV-7 we observe that the property tax in Florida from 1990 through 2006 has increased by 222%, compared to the state sales tax which has grown by 125%. In some intervals, like from 1995-2000, sales tax levies grew at a greater pace than did property tax levies. However, in recent years, property taxes have been on a steady upward trajectory while sales taxes paid have been more volatile. Sales tax revenues were even below 2001 levels until 2004, largely because tourism declined significantly during that time period. Building projects associated with the 2004 and 2005 hurricane seasons contributed to higher sales tax proceeds in the past three years.

In our discussion of reliability, we observed that the sales tax is a fairly reliable source of revenue during periods of economic expansion but this is not the case during economic downturns. Of course, property valuations can be adversely affected when housing downturns occur. But even when the housing market has been weak in the nation, Florida's historic valuations continued to grow even if not as robustly as in recent years. New construction lagged in 1992 and 1993 but has been on an upward trajectory ever since.

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[67] 2006 Florida Statistical Abstract, Table 5.48.

[68] See U.S. Census, Income 2005; available at: http://www.census.gov/hhes/www/income/income05/statemhi2.html for estimated median income increases by state (two-year average).

Table IV-6: Property Valuation and State Taxable Sales, by County, 2005

	POPULATION	TAXABLE PROPERTY VALUE	PER CAPITA TAXABLE PROPERTY VAL.	STATE TAXABLE SALES	PER CAPITA TAXABLE SALES
Alachua	240,764	$9,636,626,680	$40,025	$3,592,867,316	$14,923
Baker	23,953	582,716,533	24,327	142,231,880	5,938
Bay	161,721	12,338,404,401	76,294	3,123,965,099	19,317
Bradford	28,118	677,143,547	24,082	213,051,093	7,577
Brevard	531,970	30,858,069,780	58,007	7,978,328,159	14,998
Broward	1,740,987	132,920,425,605	76,348	31,941,903,073	18,347
Calhoun	13,945	274,080,633	19,654	63,516,259	4,555
Charlotte	154,030	16,124,095,741	104,682	2,621,670,835	17,021
Citrus	132,635	8,724,672,100	65,780	1,450,215,397	10,934
Clay	169,623	7,454,554,121	43,948	1,936,105,426	11,414
Collier	317,788	61,441,821,529	193,342	7,088,381,684	22,305
Columbia	61,466	1,869,266,473	30,411	877,687,652	14,279
De Soto	32,606	1,153,866,024	35,388	286,501,202	8,787
Dixie	15,377	487,228,032	31,686	80,478,263	5,234
Duval	861,150	45,623,990,950	52,980	16,192,959,779	18,804
Escambia	303,623	11,452,381,229	37,719	5,066,034,361	16,685
Flagler	78,617	7,882,141,066	100,260	798,942,481	10,162
Franklin	10,845	3,338,285,841	307,818	153,835,440	14,185
Gadsden	47,713	1,075,425,071	22,539	316,777,911	6,639
Gilchrist	16,221	460,190,914	28,370	62,738,696	3,868
Glades	10,729	559,118,296	52,113	34,896,582	3,253
Gulf	16,479	2,650,634,743	160,849	115,486,198	7,008
Hamilton	14,315	573,904,377	40,091	65,007,163	4,541
Hardee	27,333	1,294,818,148	47,372	186,774,854	6,833
Hendry	38,376	1,915,028,266	49,902	397,980,585	10,371
Hernando	150,784	7,668,136,229	50,855	1,531,794,644	10,159
Highlands	93,456	4,166,834,074	44,586	1,184,404,156	12,673
Hillsborough	1,131,546	64,385,849,349	56,901	23,645,067,391	20,896
Holmes	19,157	339,934,901	17,745	79,408,159	4,145
Indian River	130,043	14,242,739,175	109,523	2,331,948,201	17,932
Jackson	49,691	1,109,935,590	22,337	441,137,774	8,878
Jefferson	14,233	436,094,313	30,640	56,368,622	3,960
Lafayette	7,971	171,797,608	21,553	26,013,192	3,263
Lake	263,017	14,201,331,685	53,994	3,647,247,553	13,867
Lee	549,442	63,967,020,978	116,422	12,228,887,682	22,257
Leon	271,111	12,612,869,944	46,523	3,988,641,673	14,712
Levy	37,985	1,585,730,953	41,746	330,266,294	8,695
Liberty	7,581	179,536,761	23,682	30,112,598	3,972
Madison	19,696	512,301,315	26,010	89,402,436	4,539
Manatee	304,364	24,731,614,724	81,257	4,631,933,812	15,218
Marion	304,926	13,057,730,937	42,823	4,573,544,970	14,999
Martin	141,059	17,685,232,225	125,375	3,183,792,346	22,571
Miami-Dade	2,422,075	175,695,337,587	72,539	38,466,623,818	15,882
Monroe	82,413	21,681,414,632	263,082	2,551,840,640	30,964
Nassau	65,759	5,944,978,492	90,406	760,042,553	11,558
Okaloosa	188,939	13,576,903,661	71,859	3,735,904,769	19,773
Okeechobee	37,765	1,849,487,797	48,974	488,422,813	12,933
Orange	1,043,437	75,253,217,865	72,121	32,599,906,154	31,243
Osceola	235,156	16,141,696,392	68,643	3,946,738,160	16,783
Palm Beach	1,265,900	130,004,566,492	102,697	23,922,420,866	18,898
Pasco	406,898	19,949,523,770	49,028	4,564,849,747	11,219
Pinellas	947,744	62,885,450,032	66,353	14,863,500,233	15,683
Polk	541,840	23,751,980,320	43,836	8,022,203,991	14,805
Putnam	73,764	3,154,011,750	42,758	647,574,985	8,779
Saint Johns	157,278	17,429,224,015	110,818	2,453,169,853	15,598
Saint Lucie	240,039	17,531,857,063	73,038	3,116,571,977	12,984
Santa Rosa	136,443	6,575,750,940	48,194	1,192,816,801	8,742
Sarasota	367,867	46,452,669,918	126,276	7,351,060,149	19,983
Seminole	411,744	23,979,203,668	58,238	7,743,279,651	18,806
Sumter	74,052	3,386,212,067	45,727	627,456,326	8,473
Suwannee	38,174	1,139,998,279	29,863	326,110,771	8,543
Taylor	21,310	1,116,616,469	52,399	211,318,444	9,916
Union	15,046	187,254,135	12,445	56,530,987	3,757
Volusia	494,649	29,719,105,335	60,081	7,275,363,188	14,708
Wakulla	26,867	1,155,243,957	42,999	133,993,292	4,987
Walton	53,525	12,811,843,191	239,362	1,212,924,679	22,661
Washington	23,097	641,166,157	27,760	142,101,055	6,152

Sources: Data from Florida Legislative Committee on Intergovernmental Relations; available at: http://www.floridalcir.gov/data/advaltxco.xls and Florida Department of Revenue; available at: http://dor.myflorida.com/dor/tables/f9cy2005.xls.

Projections for at least the short-term in Florida show a slow down in new construction because of an increase in the inventory of existing homes and therefore reduced demand for new ones. However, lower demand for new housing also results in fewer construction-related jobs and fewer purchases generating sales tax revenue. In fact, the July 2007 Florida Economic Estimating Conference projects construction employment declining by almost 8% from the 2006-07 fiscal year to the next and then slowly rebounding thereafter.[69] As far as the sales tax, the August 2007 projections are for growth of less than 1% in that time period, less than the rate of inflation.[70]

Table IV-7: Comparison of State Sales Tax and Property Tax Trends in Florida

Year	Property Taxes Levied All Jurisdictions	Increase	Actual Millage	Net Sales Tax Paid	Percentage Change
1990	9,500	86%	21.15	8,243	
1995	11,691	23%	21.78	10,976	33%
2000	15,294	31%	20.96	15,210	39%
2001	16,682	9%	20.72	16,269	7%
2002	18,210	9%	20.57	15,156	-7%
2003	20,298	11%	20.6	14,508	-4%
2004	22,415	10%	20.18	15,136	4%
2005	25,700	15%	19.6	17,489	16%
2006	30,455	19%	18.47	18,553	6%

Sources: Florida Department of Revenue and Legislative Office of Economic and Demographic Research (historic property tax data) and BEBR, Florida Statistical Abstracts, Table 24.30, for historic data on sales and use tax collections.
Note: Dollar figures in millions.

Analysis by Florida County of Revenue Shifts with Sales Tax Replacement

During the 2007 legislative session, one proposal under consideration for providing property relief to Floridians was to eliminate the property tax on homestead property and apply revenue caps for future revenue growth using a baseline of 2000-2001. These measures would have required a constitutional amendment. To partially offset the elimination of the property tax, pending approval of the voters, the state would have increased the sales tax by 2.5 cents.[71] My purpose here is not to analyze any specific proposals but to examine what would happen to each of Florida's 67 counties if the revenues generated from the property tax in calendar year 2006 were replaced with an equivalent amount in sales tax. Property taxes from residential homesteaders (who receive the homestead exemption and Save Our Homes benefits) are of particular interest because this group accounted for roughly one-third of all property taxes levied in Florida in 2006 and these folks live and vote in the state. In Table IV-8, in addition to residential homesteaders, we consider simulations for other groups – all property owners, including commercial and all residential, including both homestead and nonhomestead residential, – since certain proposals under consideration would provide relief for them, too. We use CY 2006 data for the state sales tax, property tax, and local options taxes.

[69] See http://edr.state.fl.us/conferences/fleconomic/FEEC0702_SRTABLES.pdf.
[70] See http://edr.state.fl.us/conferences/generalrevenue/grchng.pdf.
[71] See Alberto Martinez, "Speaker Rubio, House Leaders Propose RESPONSIBLE, Immediate Property Tax Relief," Florida House of Representatives Press Release, February 21, 2007.

If the state sales tax had replaced local property taxes for residential homesteads to the tune of about $10 billion in that year, revenue neutrality would not have been achieved because the local option sales tax in counties that had it would have likewise increased. Local option sales taxes are controlled by the counties and would not be used to replace property taxes. In fact, because the shift from a property tax to a state sales tax would reduce autonomy of local units, there may be even more incentive for local units to increase other local revenue sources, like the local option tax, the tourism development tax, and the various local gas taxes. As with any tax collection and distribution mechanism, the devil is in the details. Much depends on the formula for distributing the additional sales taxes back to the counties to fund local goods and services.

As Table IV-8 shows, some counties are clearly better off with the existing tax collection scheme of local property taxes and sales taxes in terms of revenue generated within the county; this, of course, leaves aside another concern to localities-- the loss of local control over a large and reliable revenue stream under the replacement scheme. Under the existing tax collection system, the relative contribution of sales tax by county does not really matter. The 6% sales tax is remitted from businesses to the state, regardless of the county where the purchase takes place. The revenues are then credited to the General Revenues Fund and are ultimately expended for goods and services funded in accordance with state appropriations. But the counties may become more concerned about their proportional contributions if a loss of fiscal control and autonomy were to occur. And pinpointing the degree of Floridians' contributions to taxable sales within their counties of residence is an impossible undertaking. In regions of the state with a large amount of sales transactions across county lines, residents of one county may be subsidizing the tax collection by another. Of course, nonresidents are subsidizing residents in all counties but obviously more so in tourist destinations than in other regions of the state. It is always a political decision as to who should shoulder the burden of tax imposition and the extent of the burden to be borne.

What about Tourism?

The role of the tourist enters into all deliberations of sales tax substitution proposals. Tourism is a big industry in Florida. Visit Florida reports 83.6 million visitors in 2005 and an estimated 84.6 million in 2006, over half of whom traveled by airplane to the state.[72] According to one report, businesses directly related to tourism accounted for 12% of all nonagricultural jobs in Florida or almost 1 million jobs in 2005.[73] The "million dollar" question, of course, is to what extent tourism is sensitive to increases in sales tax. As Table IV-8 reflects, certain large counties, like Duval, Hillsborough, and Orange, will experience property tax relief and also have the ability to shift the sales tax burden on to tourists. In addition to the sales tax, these counties and several others also levy tourist development taxes. For example, 57 counties currently impose a tourist development tax. Three (Duval, Miami-Dade, and Volusia) also impose a convention development tax. Had the replacement of sales for property tax been in effect in 2006, Duval would have

[72] See http://media.visitflorida.org/about/research/.

[73] See Florida TaxWatch, "The Impact of Tourism on Florida's Economy: Telling a More Complete Story," March 2006, at 2; available at: http://www.floridataxwatch.org/resources/pdf/TourismReportMarch2006.pdf.

experienced a total amount in sales tax revenues collected exceeding the amounts replacing their aggregate property taxes under three scenarios (all property replaced by sales tax, total residential property replaced by sales tax, and residential homestead property replaced by sales tax). In Volusia, the opposite situation would have occurred under all three scenarios. In Miami-Dade, more money would have been generated in sales tax than from property tax if the replacement proposal was limited to residential homestead property. However, if the proposal were more expansive, Miami-Dade would be a net loser in terms of tax collection within the county. Counties like Broward, Palm Beach, and Sarasota with higher property valuations relative to capacity to collect sales tax would be net losers in replacement proposal schemes assuming state funding distributions to them do not completely replace forgone property tax proceeds. For the state as a whole, a proposal that contemplates replacing aggregate property tax proceeds would require increasing the sales tax by more than 200% the amount required to replace aggregate tax proceeds from residential homestead property. Sales taxes would have increased by almost $10.7 billion to replace residential homestead property tax, $22 billion to replace all residential (homestead and nonhomestead) property, and $32.8 billion to replace all property tax (residential and nonresidential) assuming local option tax rates would have remained the same as the actual rates in effect at the time.

Other Potential Winners and Losers

Tourists are the least likely population to be in the position of offsetting additional sales tax expenses with state or local tax benefits, such as avoided property tax or exempt services. They are also most likely to be affected by tourist development taxes and, if they rent cars, by both local and state sales taxes. Obviously, throughout the state other populations will be less likely to compensate for the added sales tax burden, including renters and businesses that are not exempt from the sales tax. Also, depending on the tax replacement scheme that is ultimately adopted, non-permanent residents may be adversely affected. People likely to gain the least from higher sales tax and no property tax are the poor who do not own homes or those on fixed incomes not protected by homestead exemptions or Save Our Homes caps, renters, and those who rely extensively on goods and services that are not exempt from the sales tax. Certain regions of the state where the tax shift would be most acute and costs for non-exempt services would be particularly high are counties like Miami-Dade and Hillsborough.[74] New homebuyers and homeowners who want to relocate in the state and either downsize or move up would benefit most from the absence of property tax, all things equal. In some cases this could make a difference in their purchasing decisions; in other cases, it might not.

[74] Miami-Dade is among the most expensive counties to live in according to the rankings of the Florida County Retail Price and Wage Indices. See BEBR, "2005 Florida County Retail Price and Wage Indices," November 22, 2006.

Table VIII-8: Gains and Losses in Tax Revenues Collected with Sales Tax Replacement of Property Tax by Florida County, CY 2006
Gains from Sales Tax Replacement Strategies in Parentheses

COUNTY	ALL PROPERTIES	ALL RESIDENTIAL	HOMESTEAD
Alachua	($96,418,304)	($69,782,318)	($16,951,830)
Baker	(2,853,278)	(4,908,241)	(758,174)
Bay	(94,685,920)	(74,697,336)	(68,138,778)
Bradford	(11,523,060)	(10,396,878)	(4,020,041)
Brevard	(16,349,163)	7,139,868	39,019,681
Broward	328,972,379	421,337,977	248,787,364
Calhoun	(2,210,317)	(3,138,685)	(1,249,693)
Charlotte	54,150,863	(4,166,604)	(6,879,304)
Citrus	53,632,409	(2,859,724)	7,301,940
Clay	(52,929,504)	(29,501,151)	9,488,548
Collier	241,037,373	273,685,238	43,307,848
Columbia	(48,356,470)	(41,692,187)	(16,651,682)
De Soto	(754,660)	(10,022,395)	(4,728,243)
Dixie	(9,030,893)	(8,330,323)	(5,565,392)
Duval	(804,991,310)	(598,732,925)	(206,913,618)
Escambia	(262,067,363)	(192,265,910)	(91,927,451)
Flagler	79,409,311	43,397,587	20,403,115
Franklin	20,572,043	10,101,946	(987,252)
Gadsden	(10,078,591)	(11,055,719)	(3,298,902)
Gilchrist	4,329,236	342,022	712,468
Glades	10,014,578	2,569,183	669,957
Gulf	19,352,895	5,203,013	(807,462)
Hamilton	4,541,269	(3,286,734)	(1,373,627)
Hardee	8,402,733	(8,690,078)	(3,980,295)
Hendry	7,469,048	(17,597,991)	(9,094,252)
Hernando	18,493,933	3,204,668	19,112,223
Highlands	(35,805,960)	(43,008,435)	(20,540,654)
Hillsborough	(726,814,908)	(586,928,497)	(144,955,279)
Holmes	(4,886,858)	(5,504,721)	(2,330,938)
Indian River	31,492,107	28,410,119	15,599,887
Jackson	(31,718,316)	(26,715,648)	(11,225,611)
Jefferson	(3,263,918)	(5,152,055)	(1,951,366)
Lafayette	(2,120,957)	(2,550,698)	(1,198,262)
Lake	(62,588,472)	(48,276,237)	57,847
Lee	286,160,701	121,422,235	(24,359,570)
Leon	(159,235,392)	(107,959,224)	(29,091,079)
Levy	3,835,166	(7,579,133)	(3,704,050)
Liberty	222,360	(1,860,978)	(895,377)
Madison	(3,219,941)	(6,562,003)	(2,993,621)
Manatee	68,679,695	67,378,052	45,146,035
Marion	(184,923,991)	(157,762,806)	(56,226,561)
Martin	13,269,944	16,966,470	23,391,590
Miami-Dade	487,166,341	315,990,815	(40,121,148)
Monroe	(43,824,057)	2,068,960	(42,499,674)
Nassau	36,208,471	25,145,937	10,155,808
Okaloosa	(105,977,713)	(58,603,186)	(50,560,242)
Okeechobee	(15,273,913)	(20,646,048)	(9,719,687)
Orange	(1,681,596,404)	(1,240,253,403)	(614,943,797)
Osceola	(72,275,005)	(81,939,500)	(62,844,690)
Palm Beach	719,501,161	795,220,925	416,545,603
Pasco	(72,704,668)	(43,275,502)	12,517,830
Pinellas	45,735,808	106,474,448	77,501,896
Polk	(257,951,017)	(232,795,823)	(104,039,517)
Putnam	9,676,705	(12,760,637)	(6,146,237)
Saint Johns	117,672,635	91,542,565	64,148,948
Saint Lucie	226,951,431	110,678,405	49,164,737
Santa Rosa	2,433,983	(756,386)	11,284,842
Sarasota	55,395,982	112,721,754	37,883,114
Seminole	(304,787,483)	(200,058,303)	(40,013,377)
Sumter	(8,948,156)	(4,726,110)	4,298,508
Suwannee	(8,287,859)	(14,212,604)	(5,587,022)
Taylor	(1,819,085)	(8,773,949)	(4,815,319)
Union	(2,588,568)	(2,691,105)	(931,078)
Volusia	39,459,155	41,679,695	8,419,482
Wakulla	5,889,182	2,392,306	1,852,769
Walton	9,565,851	2,257,563	(29,649,899)
Washington	222,468	(6,470,570)	(2,773,797)
STATE TOTAL (Differential: Local option added)	($2,192,944,258)	($1,411,617,007)	($590,671,808)

Source: Author's computations.

Businesses can always pass the sales tax along to their customers but they might suffer the consequences of higher prices relative to e-commerce retailers in forgone sales. (With the sales tax they have no choice in the matter of passing the tax along but with excise taxes they theoretically do.) We know that there will be some reduction in sales tax collection with a higher sales tax rate, with people shifting more to e-commerce for their purchases. For their high-growth scenario, Bruce and Fox (2004) estimated 8.5% in sales tax revenue losses from e-commerce for their Florida projections in 2008. Those losses might have been even higher than they had anticipated if we are to believe Forrester Research's more recent estimates.[75] Moreover, many more people use the Internet today than they did in 2004 when Bruce and Fox made their estimates. Whereas 60% of adult Americans were Internet users in November 2004, 73% said they used it as of March 2006.[76]

To conclude, the sales tax has been historically a fairly reliable and transparent revenue source despite pressures toward greater inefficiency and inequity. The challenge for policymakers is to contain those pressures and not to exacerbate them.

[75] As noted in Standard & Poor's, *supra* note 9, Forrester Research Inc. estimated U.S. online retail sales at a higher amount-- $141 billion in 2004 and $176 billion in 2005, compared to Bruce and Fox's 2004 projections of $117 billion in 2004 and $142 billion in 2005.

[76] John B. Horrigan, "Home Broadband Adoption 2006," Pew Internet & American Life Project, May 28, 2006.

IX. ECONOMIC ASPECTS OF POTENTIAL LEGAL CHALLENGES TO SAVE OUR HOMES PORTABILITY PROPOSALS[77]

IX.1 Introduction

Several proposals for major changes in Florida's state and local tax systems were discussed during the 2007 legislative session. The intense interest in taxes, and especially property taxes, arises from the interaction of Save Our Homes (SOH) and the recent housing boom. Authorized by Florida's voters as a 1992 constitutional amendment (Article VII, §4 (c) (1)), SOH took effect in 1995, limiting increases in assessed values of individual homestead properties to the lesser of 3% or the rate of inflation. Non-residential and rental properties, however, were not protected. After SOH took effect, average inflation-adjusted house prices in Florida doubled, with most of the increase coming after the year 2000. Some local governments, almost a third, responded by cutting millage rates, though by too little to offset the revenue gain from rising taxable values. Roughly another third left millage rates unchanged, and more than a third raised them.

Arguably the large revenue increases caused by the failure to cut millage rates were politically feasible because homestead residents, protected by SOH, could enjoy the benefits of higher public spending without themselves incurring the cost. Businesses, owners of rental properties, and recent purchasers of houses, however, saw the result as a large tax hike made even worse by the inequity of its not being applied evenly to all residents. This perception led to a flood of proposals for reforming property taxes. The recommendations under discussion included: doubling the homestead exemption from $25,000 to $50,000; allowing homeowners to retain their SOH benefits in a new home in the state (portability); authorizing caps on assessment increases of 10% for non-homestead property owners; and extending SOH caps to all real property.[78] A special legislative session ultimately led to proposed legislation to roll back property tax rates and limit future property tax growth to the change in personal income. In addition, a measure was proposed to be placed on the ballot in 2008 that would give homeowners the option of an expanded homestead exemption or retention of the SOH cap established in 1992.

SOH currently operates as follows: Florida's constitution requires that after ownership of any property changes hands, that property must be assessed at just value as of January 1

[77] Written by Dr. Lynne Holt, Bureau of Economic and Business Research, University of Florida. This section is an update of the February 2007 Florida Focus, Vol. 3, No. 1, published by the Bureau of Economic and Business Research. The original may be accessed at http://www.bebr.ufl.edu/floridafocus. This has been edited for layout.

[78] Other recommendations, unrelated to homestead exemptions and SOH, include limiting the growth of local property taxes through revenue caps, replacing the property tax with an increase in the sales tax, and creating a "Truth in Government Spending" document to be disseminated annually that would include local government tax and budget decisions. See Florida Senate, "Property Tax Facts;" available at: http://www.flsenate.gov/data/committees/senate/ft/statistics.pdf.

of the following year (Article VII, § 4 (c)).[79] No cumulative SOH assessment differential can be transferred from the old home to the newly purchased home. Moreover, only owners of permanent residences are entitled to this exemption. Businesses, renters, second-property owners, and anyone else who owns non-homesteaded property receive no SOH benefits and new homesteaders must wait for prices to rise before they gain substantial benefits.

One of the questions is whether a portable SOH cap and a cap that applies to all real property can successfully overcome legal challenges. Obviously, nobody can respond to that question, but a review of past legal challenges and the implications of such changes might be useful at this juncture. I am not an attorney, and I would emphasize that I have no legal expertise on these issues. My purpose instead is to explore economic considerations related to three groups of legal topics that may arise if any portability proposals under consideration are enacted: (1) past legal challenges to property tax caps, including challenges to California's Proposition 13, the most renowned example, and implications for future challenges; legal challenges under the Equal Protection Clause and the Commerce Clause; and legal challenges to various property tax cap regimes related to the adequacy and the equity of school funding; (2) possible legal challenges from the increased use of alternative local revenues to pay for Florida's public schools; and (3) a few possible economic implications raised by the more likely challenges to SOH portability raised in this discussion.

IX.2 Legal Challenges to Property Tax Caps[80]

Early Litigation—Florida's Homestead Exemption
Florida's constitution authorizes counties, school districts, municipalities, and special districts, as authorized by statute, to levy property taxes (Article VII, § 9 (a)). The 1968 constitution established exemptions from property taxation, including a homestead exemption which was initially $5,000 for permanent residences. The exemption was increased to $25,000 for all property tax levies in 1982 and has remained the same ever since (Article VII, § 6). The homestead exemption triggers the SOH cap on a property and it is not a self-executing right. Such was the Florida Supreme Court's decision in *Zingale v. Powell*.[81] The owner must follow procedures specified in statute to initiate it and is therefore not entitled to receive the exemption automatically. Florida homeowners must apply to their county property appraisers, as required by FS 196.011. This prescribed action thus requires them to meet a minimum burden in proving both their

[79] The Florida courts have interpreted "just" value to mean fair market value. See *Walter v. Schuler*, 176 So. 2d 81 (Fla. 1965).
[80] A more extensive review of these legal issues is in Walter Hellerstein, W. Scott Wright, and Charles C. Kearns, "Legal Analysis of Proposed Alternatives to Florida's Homestead Property Tax Limitations: Federal Constitutional Legal Issues," in Legislative Office of Economic & Demographic Research *Florida's Property Tax Study Interim Report* , February 15, 2007; available at: http://edr.state.fl.us/property%20tax%20study/Ad%20Valorem%20iterim%20report.pdf. Note that the authors do not consider potential legal challenges from SOH portability to the state's funding scheme for public education.
[81] *Zingale v. Powell*, 885 So. 2d 277 (Fla. 2004).

residency and qualifications for the homestead exemption.[82] In practice, the burden of proof is usually not onerous, with many counties being willing to accept a simple signed affirmation that the owner of the property uses it as a permanent residence.

The homestead exemption is not indexed for inflation. Since it was passed its real value has fallen by slightly more than 50%. To maintain its real value, the $25,000 exemption in 1982 would have to be $52,000 today. House prices have risen far more than inflation. According to the repeat sales house price index constructed by the Office of Federal Housing Enterprise Oversight (OFHEO), on average a Florida house valued at $50,000 in the first quarter of 1982 if well maintained would have been worth $188,000 in the third quarter of 2006. The share of its just value shielded by the homestead exemption would have fallen from 50% to less than 14%. At the same time, houses are being built larger and better, further diminishing the relevance of the homestead exemption, except for rural counties that lose large shares of what otherwise would have been their taxable value.

California's Proposition 13

Californians voted for property tax relief (Proposition 13) on the primary election ballot of June 1978. Legal challenges to Proposition 13 might provide some insight for possible challenges to SOH caps. A comparison of the tax cap regimes under both programs underscores several similarities and differences. The differences suggest that any insights gained from one state's experiences might not transfer completely to another state's.

- Proposition 13 created an acquisition-value tax system that imposes limits on both the tax rate and tax valuations. As noted, the SOH cap is applied to the assessed value of property.[83]
- The tax rate under Proposition 13 has a ceiling of 1% and annual increases in assessed values of individual homestead properties are limited to 2%. SOH limits annual homestead property valuation increases to the rate of inflation or 3%, whichever is less. SOH does not limit tax rates. However, millage caps for counties, cities, school districts, and water management districts are specified in ArticleVII, § 9(b) of Florida's constitution. The caps for counties, cities, and school districts are ten mills each. Water management district caps are far lower.
- Under both Proposition 13 and SOH, substantial new construction or a change in home ownership triggers removal of the cap.
- In contrast to SOH, Proposition 13 provides portability, though limited portability. It permits taxpayers over 55 who sell their principal residences to transfer assessments from the previous base year to replacement homes that are of

[82] For a discussion of *Zingale v. Powell*, see Pamela M. Dubov, "Advisory Opinion to the Attorney General re Additional Homestead Exemption," 34 *Stetson Law Review* 863, Spring 2005.

[83] In determining just value, which forms the basis for all valuation of property prior to the application of SOH caps, appraisers must consider the following factors prescribed by FS 193.011. The acquisition value is one such factor but others include "highest and best use," location, quantity or size, cost and present replacement value of improvements, income from property, and net proceeds from the sale of the property. However, the weight to be given those factors is left to the appraisers' discretion. See *Valencia Ctr., Inc. v. Bystrom*, 543 So. 2d, 216-217 (Fla. 1989).

equal or lower value. Proposition 13 also allows for transfers from parents to children.

- Proposition 13 applies to both residential and nonresidential property. As noted, SOH applies only to residential property.

Equal Protection Clause Challenges

The most significant challenge to Proposition 13 to date came under the Equal Protection Clause—Amendment 14 of the U.S. Constitution. The most cited case, *Nordlinger v. Hahn,*[84] was brought by Stephanie Nordlinger, who purchased a home in 1988 for $170,000. She subsequently learned that she was paying about five times more in taxes than her neighbors who had owned similarly situated homes since 1975. This case wound its way to the U.S. Supreme Court which ultimately acknowledged the tax disparity but rejected the challenge to the Equal Protection Clause.

The Court reasoned that legislative classifications may result in inequities. However, as long as the selected classification rationally furthers a legitimate state interest, it does not warrant a higher level of scrutiny. The Court identified two rational reasons that could be said to promote state interest: (1) local neighborhood preservation, continuity, and stability. For example, the tax system created by Proposition 13 might discourage newer chain operations from displacing locally-owned businesses and more affluent new-comers from displacing lower income families; and (2) "locked-in" owners may have fewer options to meet their tax obligations, whereas new owners have full information about the scope of their tax liability before purchasing the home. Based on that information, they can decide not to purchase. Finally, the Court in *Nordlinger* made it clear that it was deferential to the states' selection of tax classification systems:

> The rational-basis standard of review under the equal protection clause of the Federal Constitution's Fourteenth Amendment is especially deferential in the context of classifications made by complex tax laws; the states, in structuring internal taxation schemes, have large leeway in making classifications and in drawing lines which in the states' judgment produce reasonable systems of taxation.

Of course, state interests might promote certain desirable objectives but at the same time have arguably adverse and perhaps unintended consequences. There appears to be no disagreement that SOH caps, for example, have contributed to a shift in tax burden from existing homestead owners to newcomers, renters, businesses, and first-time home-buyers. According to the Florida Department of Revenue, without SOH, the shares in the state's total taxable value of non-residential and non-homestead residential property would be 26.1% and 28.4%, summing to 54.5%. With SOH, the shares are 32.5% and 35.4%, summing to 67.9%.[85] The advocacy group Florida TaxWatch, notes in a recent

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[84] *Nordlinger v. Hahn*, 505 U.S. 1 (1992). For a more extensive discussion, see Hellerstein et al., *supra* note 3, at 44-45.

[85] Florida Department of Revenue, "Florida's Property Tax Structure: An Analysis of Save Our Homes and Truth in Millage Pursuant to Chapter 2006-311, L.O.F." January 2, 2007, Revised January 18, 2007, in *Florida's Property Tax Study Interim Report*, Legislative Office of Economic & Demographic Research, February 15, 2007, at 15.

report that local governments have compensated for SOH by keeping millage rates higher and school districts, meeting the required local effort set by the state under the Florida Education Finance Program (FEFP), have levied much higher millage rates than would otherwise be the case without SOH.[86] State interests are arguably not furthered if first-time homebuyers find housing to be unaffordable and new businesses find property taxes too high and therefore decide not to locate in Florida. The tax burden shifts to both these groups could even become more pronounced if the SOH cap were extended to all real property (residential and business).

Interestingly, *Nordlinger* did not involve a situation in which an out-of-state prospective home-buyer seeking residence in California considered herself at a disadvantage relative to existing residents. Ms. Nordlinger was renting in Los Angeles before she purchased her house. The Equal Protection Clause protects the right of all citizens to travel; this gets to the heart of the residency vs. newcomer treatment under state property cap regimes. However, neither *Nordlinger* nor any subsequent U.S. Supreme Court case has opined on a right-to-travel challenge to the Equal Protection Clause in conjunction with property tax regimes. As noted, Sephanie Nordlinger was a renter in California prior to purchasing a house there and therefore had no standing on that issue. However, the disparate property tax treatment of residents and non-residents is an issue. And it is bound to become increasingly important if SOH portability is authorized. A case that was ultimately decided by the U.S. Supreme Court on welfare benefits (summarized below) might have implications for portability.

So what are the challenges with respect to newcomers versus residents and homestead exemptions? Two court cases might give us some insight: *Osterndorf v. Turner* [87] and, more recently, *Columbus-Muscogee County Consolidated Government v. CM Tax Equalization, Inc.* [88] *Osterndorf* reached the Florida Supreme Court on the issue of residency requirements for the state's homestead exemption. Initially, the exemption was $5,000 but was increased in 1982 to $25,000, first to school district property taxes and then to non-school property taxes, to be phased in over three years. A statute enacted to implement this constitutional amendment provided for the $25,000 exemption to be granted to homeowners who had lived in Florida for five consecutive years immediately prior to claiming the exemption and $5,000 to homeowners with less than five years residency. The Florida Supreme Court found the statute to be unconstitutional because it failed to meet even a minimum rational basis test. The statute established two classes of permanent residents for homestead exemptions which the Court found to violate Florida's Equal Protection Clause.

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[86] Florida TaxWatch, "Controlling Escalating Property Taxation and Local Government Spending and Revenue," *Research Report*, December 2006, at 9

[87] *Osterndorf v. Turner*, 426 So. 2d 539 (Fla. 1982), on rehearing, 426 So. 2d 547 (Fla. 1983). This case is also discussed in Josephine W. Thomas, "Comment: Increasing the Homestead Tax Exemption: 'Tax Relief' or Burden on Florida Homeowners and Local Governments?" 35 *Stetson Law Review* 509, Winter 2006. Also, Hellerstein et al, *supra* note 3, at 21-22.

[88] *Columbus-Muscogee County Consolidated Government v. CM Tax Equalization Inc*., 579 S.E. 2d 200 (Ga. 2003). This case is discussed in Melissa J. Morrow, "Comment: Twenty-Five Years of Debate: Is Acquisition-Value Property Taxation Constitutional? Is it Fair? Is it Good Policy?" 53 *Emory Law Journal* 587, Spring 2004.

Portability of the SOH cap could conceivably create two classes of residents once again: those who are automatically eligible and those who are not (new residents to the state who cannot be granted the exemption immediately and must, by virtue of their relocation, wait until the exemption applies, and first-time home-buyers who are currently Florida residents.) The Court in *Osterndorf* acknowledged that there is no total prohibition against tax exemptions and tax disparities. However, among the four reasons cited for justifying its decision, the Court noted: "It is not a legitimate state purpose to reward certain citizens for contributions to the detriment of other citizens." The extent that the tax burden is shifted from one class of residents to the detriment of other residents may be an issue, particularly if the rational basis test is not satisfied and state interest is not promoted. As noted, the U.S. Supreme Court in the *Nordlinger* decision cited local neighborhood preservation, continuity, and stability as one of two rational reasons that could be said to promote state interest. But what if portability actually turns out to have the opposite effect and undermines neighborhood stability?[89] Where is the state interest if this were to occur?

Columbus-Muscogee wound its way up to Georgia's Supreme Court. It was further appealed to the U.S. Supreme Court which refused to review the case. In this case, the CM Tax Equalization Foundation, a private non-profit citizens group from Muscogee, Georgia, contested the constitutionality of a local government amendment that froze the valuation of homestead property at fair market value. The Superior Court of Muscogee Court found the tax freeze violated the Equal Protection Clause, including the right to travel. However, the Georgia Supreme Court reversed the lower court decision, arguing, among other points, that nothing in the tax freeze scheme treated new arrivals to the county any differently from long-term county residents who sought to purchase a home there. Moreover, this tax freeze scheme included no cut-off date or durational residence requirement. Because the U.S. Supreme Court refused to review the case, we do not know how the same set of arguments addressed by Georgia's courts might have been addressed by Florida's courts. What is clear, however, is that questions persist concerning the application of the Equal Protection Clause to tax limit schemes both on the grounds of who is affected (long-term residents versus new-comers) and the state interests furthered under the rational basis rule. And we might expect challenges of that sort to continue.

Finally, *Saenz v. Roe* involved a challenge to the right-to-travel protection that was ultimately decided by the U.S. Supreme Court.[90] Although this case did not address tax benefits, it did address the principle of equal protection accorded residents. The Supreme Court overturned a California statute that limited the amount of welfare benefits for welfare recipients with less than 12 months of residency in California to lesser amounts received in their former home states. The majority opinion concluded that:

[89] Recall that there is limited portability under California's Proposition 13—taxpayers over 55 who sell their principal residences to transfer assessments from the previous base year to replacement homes that are of equal or lower value. However, proposals authorizing SOH cap portability are much more broad-based.
[90] *Saenz v. Roe*, 526 U.S. 489 (1999).

> The federal constitutional right to interstate travel discussed in the United States Supreme Court cases embraces at least three different components, as it protects (1) the right of a citizen of one state to enter and to leave another state, (2) the right to be treated as a welcome visitor rather than an unfriendly alien when temporarily present in the second state, and (3) for those travelers who elect to become permanent residents, the right to be treated like other citizens of that state.

It is true that this case does not address directly any challenges to tax schemes in conjunction with interstate right to travel but at least there is a precedent for applying the same logic in any future challenges to SOH portability.[91]

Challenges to the Commerce Clause

The Nordlinger case did not raise challenges to the Commerce Clause; yet, state taxes are not immune from such challenges.[92] In recent years, the U.S. Supreme Court has applied a test of four principles in cases where the validity of a state tax is challenged on commerce clause grounds. Perhaps the most important test for purposes of our discussion here is the principle that the tax must not discriminate against interstate commerce. However, according to the analysis conducted by Hellerstein et al., Proposition 13 would indeed have been subject to commerce clause scrutiny and the same scrutiny would likely be applied to SOH portability provisions. Case law clearly does not exempt real estate taxes from that scrutiny.[93] As Hellerstein et al. note:

> The economic reality of the residential homestead market is that it is associated with enormous interstate flows of capital and labor that are likely to be substantially affected by the Save Our Homes portability provisions. By increasing the relative tax burden on property acquired by newly arriving residents, the Save Our Homes portability provisions are likely to discourage flows of capital into Florida by increasing the cost of acquiring homestead property there.[94]

Although Hellerstein et al. contend that a plausible challenge can be made for the discriminatory effect of SOH portability on interstate commerce, they also acknowledge the difficulty of attributing costs associated with interstate moves solely to the tax burden associated with portability.[95] Because of that difficulty, Hellerstein et al. think that a successful constitutional challenge is more probable on the basis of right to travel,

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[91] For a more extensive discussion of the implications of *Saenz v. Roe*, see Hellerstein et al., *supra* note 3, at 56-57 and 71-76. Hellerstein et al. also noted that in this case, "the Court attempted to clarify (or, perhaps, recast) its earlier decisions in a manner that will no doubt influence analysis of any constitutional attack on the Save Our Homes portability provisions should they become law." Hellerstein et al. outline the differences between the portability provisions in *Saenz* and those in SOH and offer counter-arguments to an analysis that would invalidate applicability of the Court's findings in *Saenz* to SOH.

[92] Such was the conclusion in *Commonwealth Edison Co. v. Montana*, 453 U.S. 69 (1981). This case is discussed in Hellerstein et al., *supra* note 3, at 47.

[93] *Id*. at 62.

[94] *Id*. at 62-63.

[95] *Id.* at 68.

although they think a constitutional challenge based on interstate commerce is also likely.[96]

Legal Challenges to School Districts

We might expect another possible source of legal challenge to come from the projected effects of SOH portability on either the equity or adequacy of Florida's funding formula (Florida Education Finance Program; hereafter FEFP) for public education. Florida's Supreme Court has weighed in on the interpretation of Article IX, § 1 of Florida's constitution in the past 10 years.

First, a bit of history. Florida's 1868 Constitution provided the first legal requirement that the state provide a free public school system to serve all of Florida's children. "Adequacy" was first included in the 1968 Constitution (Article IX, § 1), requiring that "adequate provision shall be made by law for a uniform system of free public schools and for the establishment, maintenance, and operation of institutions of higher learning and other public education programs that the needs of the people may require." During the 1990s, the Florida Supreme Court tackled the interpretation of this section, perhaps most significantly in *Coalition for Adequacy and Fairness in School Funding, Inc. v. Chiles* in 1996.[97] In citing an earlier case, *St. Johns County v. Northeast Florida Builders Association*, the Florida Supreme Court noted: "The constitutional mandate is not that every school district in the state must receive equal funding nor that each educational program must be equivalent. Inherent inequities, such as varying revenues because of higher and lower property values or difference in millage assessments will always favor or disfavor some districts."[98] In a later case, *Florida Department of Education v. Glasser*[99], the Florida Supreme Court also declined to provide a more specific definition of "a uniform system of free schools," and deferred instead to legislative construction. In that case, the concurring opinion of Justice Kogan observed that the uniformity clause was not to be interpreted in a restrictive manner; rather it should provide a larger framework that permits "a broad degree of variation."[100]

In 1998, the Constitutional Revision Commission proposed and the voters approved the following language for Article IX, § 1:

> The education of children is a fundamental value of the people of the State of Florida. It is, therefore, a paramount duty of the state to make adequate provision for the education of all children residing within its borders. Adequate provision shall be made by law for a uniform, efficient, safe, secure, and high quality system of free public schools that allows students to obtain a high quality education and for the establishment, maintenance, and operation of institutions of higher learning and other public education programs that the needs of the people may require.

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[96] *Id.* at 67.
[97] *Coalition for Adequacy and Fairness in School Funding , Inc. v. Chiles* 680 So. 2d 400 (Fla. 1996).
[98] *Id*. Also see *St. Johns County v. Northeast Florida Builders Association* 583 So. 2d 635 (Fla. 1991).
[99] *Florida Department v. Glasser,* 622 So. 2d 944 (Fla. 1993).
[100] *Id*. at 950.

The 1998 version added the language that education is a fundamental value and a paramount duty. Moreover, the standards "efficient, safe, secure, and high quality" were added to "uniform" as an attempt to measure the "adequacy" provision.[101] The earlier court cases reacted to the 1968 version of Article IX, § 1. A more recent case (*Bush v. Holmes*) on the Opportunity Scholarship Program interprets that section in light of the 1998 language. In that case, the Florida Supreme Court declared the voucher program unconstitutional because it was promoting non-uniformity based on the standards applied to public schools—efficient, safe, secure, and high quality.[102]

So where does that leave us with respect to adequacy and equity? The Florida Supreme Court construed "uniformity" pretty liberally by deferring to the Legislature and viewing it more as a framework. Equity has been construed liberally, as well. However, the Court's recent decision on the Opportunity Scholarship Program applies standards to the concept of uniformity. Moreover, in that decision, the Florida Supreme Court appears to be concerned about the diversion of public funds from the public school system to a program benefiting private schools that are not subject to the same uniformity requirements as public schools.[103]

The application of standards and the concern with funding diversion add new dimensions to legal scrutiny of funding adequacy going forward. If SOH had never existed, in 2006 the required local effort levied by schools could have been reduced by 20%.[104] All things equal, SOH shifts the required local effort burden to school districts with lower valuation differentials. Portability might be criticized for reducing local revenues even more than is currently the case and by shifting the property tax burden even more to regions of the state with generally lower valuation differentials. What if these revenue inequities undermine the standards defining adequacy so that Florida's school districts become increasingly non-uniform? What if funding is diverted to such an extent from local revenues that issues of funding diversion become more pronounced? Though we might expect the federal courts to be inhospitable venues for equity challenges to school finance formulas following the U.S. Supreme Court's decision in *Rodriguez v. San Antonio Independent School District* (1973),[105] the degree of hospitability is less clear with respect to adequacy challenges to state funding formulas.

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[101] For an explanation of intent governing these standards, see Jon Mills and Timothy McLendon, "Setting a New Standard for Public Education: Revision 6 Increases the Duty of the State to Make 'Adequate Provision' for Florida Schools," 52 *Florida Law Review* 329, April 2000.

[102] *Bush v. Holmes*, 919 So. 2d 392 (Fla. 2006)

[103] For a critical appraisal of that decision, see Lila Haughey, "Case Comment: Florida Constitutional Law: Closing the Door to Opportunity: the Florida Supreme Court's Analysis of Uniformity in the Context of Article IX, Section 1," 58 *Florida Law Review*, 945, September 2006.

[104] Florida Department of Revenue, *supra* note 8, at 49.

[105] This observation was from Isaac Martin, "Does School Finance Litigation Cause Taxpayer Revolt? Serrano and Proposition 13," 40 *University of Massachusetts Law & Society Review* 525, September 2006. However, *Serrano v. Priest* (Serrano II) in 1976 arguably provided advocates hope for future successful state challenges to school finance inequalities when the California Supreme Court decided for the plaintiffs and ordered the state legislature to develop a new school finance system that equalized "wealth-related" expenditures.

IX.3 Local Revenue Constraints

We now turn to the implications of increasing special assessments and impact fees to offset projected reduced local revenues from SOH portability. One concern has been that special assessments and impact fees will increasingly be used to replace foregone property tax revenues from SOH. The questions are the following: (1) to what extent is such substitution occurring? and, (2) is that substitution raising legal issues? Florida TaxWatch noted that special assessments have almost tripled and impact fees have increased five-fold in the ten years from 1994 to 2004.

But does this growth in alternative local revenue sources substitute for reduced property tax revenues from SOH? An examination of special assessment usage since SOH was implemented shows 47 counties using special assessments from FY 1994-1995 to FY 1998-1999.[106] These are typically affluent and coastal counties and adjoining counties which have experienced increasing property values. The results are mixed with respect to city usage of special assessments. Whereas a number of cities in the 47 counties increased assessments during that 5-year period, nearly the same number reduced or eliminated them.

While there may not be a constitutional issue with special assessments for school districts, the issue might be less clear cut when it comes to impact fees. Florida's school districts may impose and benefit from impact fees. Yet, they have no power to impose impact fees for land development.[107] So one possible concern is whether they are using those fees for questionable purposes.[108] Another possible concern relates to the implications of impact fees for providing uniform and free education in Florida's public schools. In *St. Johns County v. Northeast Florida Builders Association*, the Florida Supreme Court found that an impact fee on building permits to pay for new school facilities did not in itself violate the Florida constitution's uniformity clause in Article 1X, § 1.[109] The Court did have a problem with how the impact fee was structured, however, because it excluded homeowners without children, thus transforming the impact fee into a user fee. So the use of impact fees for school district purposes may be an issue depending on the intended purpose or fee structure.

IX.4 Economic Implications of Potential Legal Challenges

Potential Challenges to the Equal Protection Clause

The U.S. Supreme Court's decision in *Nordlinger* supports the argument that newer and older property owners can be treated differently if the state can demonstrate that this difference rationally promotes a legitimate state interest. As Hellerstein et al. observe,

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[106] Theodore J. Stumm and Pamela Pearson Mann, "Special Assessments in Florida Cities and Counties; Dodging Amendment 10?" *Journal of Public Budgeting, Accounting & Financial Management* 16(2) Summer 2004, 171-188.

[107] Thomas, *supra* note 10, citing Michael W. Woodward, "Free Schools and Cheap Mobile Homes: School Impact Fees Come to Rural Florida," 70 *Florida Bar Journal* (May 1996), at 70. I would note that it is unclear to what extent these fees are used for land development purposes.

[108] *Id*. at 545.

[109] *St. Johns County v. Northeast Florida Builders Association, supra* note 16.

those rational bases for SOH portability could include facilitating residential home sales, the resulting economic development of the residential home market, and protecting the reliance interest of Florida's homeowners in protection from tax increases associated with rapidly escalating real estate valuations.[110] With respect to the last concern, the Court in *Nordlinger* determined that the state "could legitimately conclude that a new owner did not have the same reliance interest warranting protection against local taxes as did an existing owner." What is meant by "reliance interest" in that context is that existing homeowners are "locked in" and have fewer options if indeed their property taxes escalate and therefore are more deserving of protection than prospective homeowners.[111] Other justifications for portability might be encouraging mobility of homeowners to move closer to their workplaces, thus reducing traffic congestion, and providing Floridian residents incentives for homeownership. If someone plans to move to Florida from another state, that person will move anyway and will not need property tax incentives.

We return to the issue of the reliance interest of homeowners in protection from higher property taxes caused by escalating real estate values. At least two sets of questions arise concerning the validity of this interest. First, how much of a problem is the property tax valuation increase for Floridians over time, and are the elderly most likely to be adversely affected? Second, can homeowners access other financing tools to deal with soaring tax increases, and what are the implications for portability? We respond to each of these questions below.

How much of a problem is the property tax valuation increase over time, and are the elderly most likely to be adversely affected?
There is no doubt that SOH has been effective in constraining property tax assessments. In every year since 1995, the median sales price of an existing house has exceeded the constraint on assessments authorized by SOH (the lower of 3% or the rate of inflation). Only in 1995, the first year of SOH implementation, was the increase lower (2%) than the cap. In real dollars, homeowners have realized lower tax bills in 2006 than in 1995.[112] The increases in house prices were particularly high in 2004 (17%) and 2005 (29%). But it is fair to ask whether this trend will continue. The recent downturn in housing sales nationwide has dampened price increases to 6% in 2006, the lowest annual increase since 1998. So the problem might be abating and, if that is the case, the justification for portability might also become less acute.

What do analysts predict about the housing market? Was 2006 a temporary aberration or is it the beginning of a slower but steadier increase in the value of Florida's homesteads? Federal Reserve Chairman Bernanke suggested that while nationally the downward trajectory in housing sales seems to have flattened, the backlog in unsold homes is expected to dampen homebuilders' investments in the residential market, at least in the

[110] Hellerstein et al., *supra* note 3, at 5-6.
[111] *Nordlinger v. Hahn*, *supra* note 7.
[112] Legislative Office of Economic & Demographic Research, Florida's Property Tax Study Interim Report, *supra* note 3, at 12.

short term.[113] Reliable long-term projections are always hard to come by. At a recent conference organized by the Chicago Federal Reserve Bank, Robert Schiller of Yale suggested that the huge appreciation in housing prices since 2000 was not supported by fundamentals and was much greater than in any other period in U.S. history. He attributed this huge appreciation to speculation and observed that it was unclear whether in the long-term home prices would increase at all.[114]

Housing slowdowns have different effects on various regions of the country. A recent study shows that housing prices are above their predicted level in the past six years, primarily along the coasts of California, Florida, and the Northeast. However, much of the increase occurred when mortgage rates were declining and incomes were growing.[115] In Florida, single-home market sales are softening and condominium market sales are struggling but sales prices have apparently not tumbled.[116] The Florida Economic Estimating Conference projects new single family home construction to decline over 38% from 2006 to 2007 and to increase only by 11% in 2008-2009. In the following 7 years through 2015-2016, single family home starts are projected to grow on average by less than 3%, in contrast to over 23% in 2003-2004 and over 11% in 2004–2005.[117] Therefore, we might expect property valuation increases not to continue at the same pace in the future as in recent years. Indeed the Ad Valorem Estimating Conference projections for just valuation of real property growth show an almost 7% increase from 2006 to 2007, compared to an almost 30% increase from 2005 to 2006.[118] Because backlogs of unsold housing stock also vary around the state, we might also expect the housing market to rebound at different speeds throughout the state.

Arguably, housing downturns could have certain negative effects on homeowners if the broader economy goes into a recession. For example, with less spending for construction there is a lower contribution to the overall tax base. (This might be a cautionary note to policymakers who are contemplating replacing the property tax base with a higher sales tax rate.) And homeowners will have less equity in their homes or less disposable income. However, any negative impact on homeowners should be more than offset by the significant valuation gains they experienced in recent years and broadened access for tapping into those gains (a point addressed further below). Moreover, unemployment

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[113] CNNMoney.com, "Read Bernanke's Testimony: Fed Chairman's Monetary Policy Report to Congress before the Committee on Banking, Housing, and Urban Affairs," February 14, 2007; available at: http://money.cnn.com/2007/02/14/news/economy/bernanke_remarks/index.htm.

[114] Cabray Haines, "Developments and Innovations in Real Estate Markets: A Conference Summary," *Chicago Fed Letter*, No. 231a, October 2006.

[115] Cabray L. Haines and Richard J. Rosen, "Bubble, Bubble, Toil, and Trouble," Economic Perspectives, Federal Reserve Bank of Chicago, 1Q, 2007.

[116] Cathy Keen, "UF Study: Outlook for Florida Real Estate Market Not Entirely Negative," December 5, 2006.

[117] Florida Economic Estimating Conference, Long Run Tables, October 26, 2006; available at: http://edr.state.fl.us/conferences/fleconomic/FEEC0610_LRTABLES.pdf.

[118] Ad Valorem Estimating Conference, Table 6, November 9, 2006; available at: http://edr.state.fl.us/conferences/advalorem/adval1106.pdf. This table includes homestead and non-homestead property; however, the percentage changes for just valuation of homestead properties are projected to be similar: 29.5% for 2005-2006, and 8.0% for 2006-2007. See Table 10.

continues to be low and wages have been increasing.[119] These offsetting trends need to be considered in any discussion of property tax relief because the property tax is not the only thing affecting existing homeowners' pocketbooks.

We might expect the impact of property tax increases to affect different age groups of homeowners differently. For example, older people on fixed incomes might have a harder time paying their property taxes than younger people with monthly paychecks. Indeed, the majority of states have property tax relief programs for seniors, including Florida. However, this nation's seniors are less likely to be poor than their children. Indeed, families whose head of household is between 65-74 have the highest net worth of families in any age group. So it might make more sense to target property tax relief to people who really cannot afford to pay their taxes and not to people on the basis of age.[120]

Can homeowners access other financing tools to deal with soaring tax increases, and what are the implications for SOH portability?

To respond to this set of questions, we will consider two groups—existing homeowners and first-time homebuyers. These groups will be affected by SOH portability in a different manner as I will explain. As I noted above, one of the rational bases for furthering state interests cited in the *Nordlinger* decision was protecting the "reliance interest" of Florida's homeowners from tax increases associated with rapidly escalating real estate valuations. If homeownership is something we want to encourage because it is vital to "neighborhood preservation, continuity, and stability," we might ask whether property tax incentives of any kind are even the right approach. According to one study, the home mortgage interest deduction does not appear to be an effective way to increase the homeownership rate.[121] If that is the case, perhaps the same case could be made for SOH, with and without portability. Another interesting question is whether property tax incentives actually discourage homeownership. We might expect SOH without portability to impede existing homeowners from moving up and purchasing bigger homes and perhaps affect prospective first-time homebuyers' decisions to purchase homes (although that is difficult to prove because property taxes are only one factor in the overall purchase decision). We also might expect portability to affect the home purchase decisions of existing homeowners differently than first-time homebuyers for reasons explained below.

Until the recent troubles in the mortgage industry, which have led to more stringent lending conditions, existing homeowners had more options for tapping into their equity now than they did in the 1978 when Proposition 13 was adopted. Presumably, equity withdrawn from mortgages could be applied to paying off property taxes. Specifically, homeowners could take advantage of home equity loans which were made more palatable

[119] Mark Trumbull, "As Housing Goes, So Goes the Economy? Researchers Say that the Recent Housing Downturn Doesn't Necessarily Mean an End to Economic Growth," *The Christian Science Monitor*, November 30, 2006.

[120] For this argument, see Daphne A. Kenyon, "Talking Sense on Property Tax Relief," *Tax Analysts*, March 20, 2006. In Florida, voters approved a constitutional amendment in 2006 which increased the homestead exemption from $25,000 to $50,000 for low-income seniors and provided a discount on property taxes of permanently disabled veterans 65 and older.

[121] Edward L. Glaeser and Jesse M. Shapiro, "The Benefits of the Home Mortgage Interest Deduction," National Bureau of Economic Research, Working Paper No. 9284, October 2002.

with a change in the tax laws in 1986. Moreover, they could use newer mortgage products to tap into home equity, such as cash-out refinancing and declining transaction costs.[122] Mortgage equity withdrawals rose significantly when compared to income growth, and there is some limited evidence that the pace of these withdrawals may have increased annual consumption by 1-3% from 2000-2005.[123] Consumers were able to tap into mortgage products that allowed for these withdrawals and therefore had more options for paying their property tax bills than they had in 1978. With these options, they were able to exercise more control and did not need to be in the position of deciding whether to divert income away from the purchase of food, clothing or other necessities to pay their property taxes – a concern articulated in *Nordlinger* to support the "reliance interest" of existing homeowners.[124]

First-time home-buyers are another group that will be affected by SOH portability. The tax burden shift from portability would arguably increase their burden because the base of non-homesteaders can be expected to shrink with portability. Even without portability, SOH had the effect of adding $387 to average statewide property taxes for the purchase of a median-valued home ($150,000) in 2005.[125] As noted above, another rational consideration articulated in *Nordlinger* for state interest in policies that distinguish between existing and new homeowners is local neighborhood preservation, continuity, and stability. At the risk of oversimplifying, we might argue that policies impeding renters from purchasing homes in the neighborhoods where they are renting do not promote long-term stability in those neighborhoods. This is particularly the case in less affluent neighborhoods that are a mixture of owner-occupied and rental units when rental units come up for sale. All things equal, homeowners have a greater interest than renters in increasing their long-term property value and preserving their neighborhood so we would expect rental housing that is purchased for occupation by long-term residents to promote neighborhood stability.[126] On the other hand, portability might help homeowners

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[122] Cash-out refinancing permits homeowners to refinance their mortgages for more than they currently owe, with the remaining balance going to them. In contrast to home equity loans, cash-out refinancing replaces the first mortgage and is not a separate loan.

[123] John V. Duca, "Making Sense of the U.S. Housing Slowdown," *Economic Letter – Insights from the Federal Reserve Bank of Dallas*, 1(11), November 2006. Citing a recent Federal Reserve study, *The Wall Street Journal* noted that "borrowing against home values added $600 billion to American consumers' spending power in 2005, or 7% of personal disposable income, up from 3% in 2000, and 1% in 1994." James R. Haggerty, "Trends (A Special Report): Housing; What's Behind the Boom," Wall Street Journal November 21, 2005, at R.4.

[124] *Nordlinger v. Hahn*, *supra* note 7. The U.S. Supreme Court distinguished the relatively more "locked in" situation of existing homeowners as follows: "A new owner has full information about the scope of future tax liability before acquiring the property, and if he thinks the future tax burden is too demanding, he can decide not to complete the purchase at all. By contrast, the existing owner, already saddled with his purchase, does not have the option of deciding not to buy his home if taxes become prohibitively high. To meet his tax obligations, he might be forced to sell his home or to divert his income away from the purchase of food, clothing, or other necessities. In short, the State may decide it is worse to have owned and lost, than never to have owned at all."

[125] Legislative Office of Economic & Demographic Research, *supra* note 3, at 35.

[126] For a comparison of homeowners to renters and their respective relationship to neighborhood stability, see National Association of Realtors, "Social Benefits of Homeownership and Stable Housing," January 2006. The report citing census data noted that while 7.4% of residents in owner-occupied homes moved from 2002-2003, nearly one-third of renters moved.

who would like to move up from their starter homes but currently cannot afford the property taxes of more expensive homes. This increased mobility could free up affordable homes that are in short supply in very expensive metro areas of the state.[127] So the potential effects of portability on first-time homebuyers are mixed.

From 1994-2004 homeownership in the nation grew from 64% to 69%. Reasons for the growth include low interest rates and, more importantly, the introduction of new mortgage products that made financing a starter house easier by reducing the required down payment.[128] Innovations in mortgage products include wider use of adjustable rate loans, interest-only loans, and payment option loans.[129] Besides these changes enabling first-time homebuyers with little equity to purchase homes, credit has also been extended to higher-risk borrowers in recent years. For example, the Technology Open to Approved Lenders (TOTAL) scorecard lets the Federal Housing Administration distinguish between borrowers within the high-risk category that might be more prone to delinquency. Interestingly, this expansion in homeownership was accompanied by a reduction in the total number of renters nationwide.[130]

The down-side of innovative mortgage products is that they may contribute to the default of a certain segment of homebuyers (particularly first-time homebuyers) on their mortgage payments. Indeed, late payments have risen significantly over the past year on subprime mortgages—loans usually made to higher-risk homeowners.[131] It is true that the impact of some of these alternative mortgage products might not be felt in the initial months of home ownership before SOH caps kick in (assuming the new homeowners apply for the homestead exemption which activates them.) Nonetheless, property taxes under a SOH portability scheme would initially be higher for first-time homebuyers than they would in the absence of portability. Public policies that on balance reduce housing affordability for less affluent first-time homebuyers would arguably not contribute to long-term neighborhood stability or preservation.

Economic Implications—Potential Challenges to the Commerce Clause
According to Hellerstein et al., a plausible case for discrimination against interstate commerce with SOH portability would need to demonstrate, among other things, the following:

> the portability provisions effectively imposed a higher cost on interstate than on (many) intrastate relocations; that individual decisions about whether to relocate

[127] For anecdotal evidence of this occurring in Boca Raton, see Linda Rawls, "Middle-class Crunch: Affordable Housing Crisis Threatens Local Economy," *Palm Beach Post*, November 13, 2005.
[128] Matthew Chambers, Carlos Garriga, and Don E. Schlagenhauf, "Accounting for Changes in the Homeownership Rate," paper presented at the 2004 Annual Meetings of the Society for Economic Dynamics, Iowa State University.
[129] Interest-only loans defer principal payments for a specified number of years. Payment option loans allow borrowers to make minimum payments at interest rates below the interest for the loan and apply the balance to the amount owed.
[130] Haines, *supra* note 37.
[131] Christopher Conkey and James R. Hagerty, "Drop in Housing Starts Stirs Worry That Wider Economy Will Weaken," *The Wall Street Journal*, February 17-18, 2007, at A1, A 7.

> in Florida were adversely affected by such costs, thereby affecting interstate labor mobility; that businesses were deterred from relocating in Florida due to the increased costs associated with relocating their employees in the state; and that there were nondiscriminatory alternatives for achieving the ostensible purpose of the portability provisions (*e.g.*, making them available to newly arrived homesteaders on an "as if" basis, *i.e.,* as if their homestead had been in Florida.)[132]

Even if taxpayers can amass sufficient data to support their arguments, Hellerstein et al. note that it would be difficult to prove that the increased tax burden attributable to portability affected individual relocation decisions. However, given the probability of a challenge on the basis to discrimination against interstate commerce, we might ask what type of firms is most likely to be affected by portability and how portability will affect their relocation decisions? Currently, Florida firms have no assessment limits although a proposal currently under consideration would impose a 10% cap. However, if commercial assessments were capped, Florida companies relocating within the state would have at least two competitive advantages over out-of-state firms seeking to relocate in Florida. First, Florida companies could take advantage of the cap for their property and out-of-state companies would need to pay property taxes on the just value. Second, Florida residents employed by firms relocating within the state could benefit from portability, whereas employees relocating with out-of-state firms would have to purchase houses assessed at just value and would not initially be eligible for SOH.

An article on strategic considerations of relocating companies divides out-of-state firms into three categories: (1) the company's entire operation moves from one part of the country to another and takes along most of its employees (these are called "pick up and go") companies; (2) the company selects a location to start-up a new business or reposition an existing business. Most of the employees are hired in the new location (these are called "new horizons" companies); and (3) the company consolidates geographically dispersed operations where the company already has some presence. The company may bring some senior executives from out of state but most of the workforce is in the new location (these are called "consolidation to beachhead" companies).[133]

The "pick up and go" companies tend to be rare because of the cost of moving high salary employees.[134] Low real estate costs and facility costs are reported as being less important than the overall mix in costs of housing, employee commutes to work, proximity to airports, and the locally-based labor pool for support operations. Therefore, for those companies, the extent to which portability promotes intrastate mobility and frees up affordable housing for middle management and professional out-of-state employees would probably be balanced in their relocation decision-making calculus against the initially higher cost of property taxes for all their out-of-state employees.

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[132] Hellerstein et al., *supra* note 3, at 67.

[133] For the typology of companies and ensuing discussion of factors important to these companies, see Martha A. O'Mara, "Strategic Drivers of Location Decisions for Information-Age Companies," *Journal of Real Estate Research*, 17(3), 1999, 365-386.

[134] Another factor might be that employees may be less willing to relocate than in the past. For possible explanations, see Linda K. Stroh, "Does Relocation Still Benefit Corporations and Employees? An Overview of the Literature," *Human Resource Management Review*, 9(3), 1999, 279-308.

Indeed, these companies might benefit to the extent that portability frees up affordable housing for locally-based support staff so they can be closer to the workplace.

The "new horizons" companies are more likely scenarios. Those companies are more interested in lowering their overall costs. To them lower wages and tax savings, such as on property, are important, as are a quality workforce and a desirable location. Because these companies typically draw most of their workforce from the new location, portability would probably be less of a concern to them than to "pick up and go" companies. In fact, to the extent that portability promotes intrastate mobility in homeownership, it actually might benefit these companies.

The "consolidation to beachhead" companies seek to consolidate several geographically-dispersed units on the same campus, in part so they can reduce operating costs and exercise more control and flexibility. An example of this strategy was Citicorp's decision to consolidate its operations in Tampa rather than in New York City. Many factors came into play including labor costs and supply, median housing prices, average commuting times, recreational amenities, crime, weather risks, and spousal accommodation. These companies tend to draw most of their workforce from the new location so portability would also probably be less of a concern to them than to "pick up and go" companies.

For all three company categories, relocation strategies take into account many factors and property taxes are only a small component. As Hellerstein et al. observed, isolating the effect of a property tax policy change on them and then demonstrating causality would certainly be difficult at best.

Economic Implications—Potential Challenges to Funding Equity and Adequacy in Florida's Public Schools

Potential challenges from SOH portability might be more difficult to mount in the case of public schools than challenges to the right to travel and to interstate commerce. As noted, post-Rodriguez the federal courts have been less hospitable to challenges to school formulas based on equity. Challenges based on adequacy have been winding through a number of courts in various states. As I noted, the standards "efficient, safe, secure, and high quality" were added to "uniform" in Florida's constitution in 1998 as an attempt to measure the "adequacy" provision in the constitutional requirement: "The education of children is a fundamental value of the people of the State of Florida. It is, therefore, a paramount duty of the state to make *adequate provision* [italics added] for the education of all children residing within its borders." Therefore, one might need to demonstrate that portability impairs those standards in some way. As I discussed above, Florida's courts have interpreted "uniform" pretty liberally in the past. That interpretation has always applied to the education delivered to Florida's children (output equity) and not to inputs from school districts, no matter how different local effort has been among the districts. So probably the more salient question is: to what extent, if at all, will portability affect the standards (other than uniformity) that describe "adequate provision"? Are individual school districts rendered less efficient, safe, secure, and of lower quality with SOH portability than they would be in the absence of portability? More importantly, causality

is very difficult to demonstrate because of other factors that might, and probably would, explain changes in any of those dimensions.

Assuming one can demonstrate causality, we might look at the pressures affecting Florida's school districts if portability is authorized.[135] Funding for the FEFP comes from a mix of state and local revenues. There are essentially two constraints on school district spending. First, FS 1011.62(4) provides that local property tax contributions to the FEFP can not exceed 90% of each district's FEFP funding. This means that districts exceeding that threshold contribute less local required effort (proportionately less local funding than do districts under the 90% threshold) and the state picks up the remainder. Currently ten districts exceed the 90% adjustment: Charlotte, Collier, Franklin, Gulf, Indian River, Lee, Martin, Monroe, Sarasota, and Walton. This is up from six districts in 2004-2005. Second, a constitutional cap of 10% applies to the combined school millage rate for required local effort, discretionary effort, and capital improvements. The combined school millage rate in all districts is now 7.46 mills.

The 90% constraint on FEFP funding has the effect of shifting the property tax burden from counties that experience more growth to those that experience less. With SOH, that shift is even more pronounced and portability could only be expected to exacerbate it. For example, Broward has 6.3% less of a property tax burden under the existing SOH program than it would in its absence and could even have less than that with portability. However, districts that have more of a burden under the existing SOH program, like Orange, could expect to see that burden increased. The existing SOH program represents a 1.8% property tax burden shift that has disproportionately benefited central and south Florida, and the extreme edges of north Florida; to compensate for this shift in tax burden, other districts have had to raise their school district rates higher than would otherwise have been the case. The tax burden on these counties will even be greater as more counties approach the 90% threshold and the 10 mill cap. The projected slowdown in property valuation, discussed above, will also put more pressure on districts to raise the millage rate. The FEFP 90% cap, even without SOH, has inherent regressive biases. That is, high-growth, more affluent districts use proportionately less of their local dollars to fund the FEFP than do slow-growth, less affluent districts. SOH and portability would compound those regressive propensities. The regressivity caused by the 90% cap is partially offset by supplements for declining enrollment and for sparsity. Overall, however, the FEFP is highly progressive within the state, redistributing revenue from richer to poorer districts.[136]

Another scenario that could shift the tax burden disproportionately to lower growth, less affluent counties includes less state funding for the FEFP over time. This could occur because housing slowdowns contribute to slower sales tax growth. If the country spirals

[135] This discussion generally relies on data contained in Legislative Office of Economic & Demographic Research, *supra* note 3, 37-40. Implications for portability are mine unless otherwise noted. Also, see Florida Department of Education, *2006-2007 Funding for Florida School Districts, Statistical Report*.
[136] In a national context, the FEFP may be regressive. Every Florida district spends less per student than the national average, and the FEFP as implemented does not allow any Florida district to reach the national average.

into a recession, homeowners will be consuming less and will have less disposable income for discretionary purchases, too. In that case, the state would be under more pressure to fund non-FEFP educational programs with stagnating state tax proceeds. The slower growth in lottery proceeds associated with a mature lottery and the projected sluggish long-term funding for the Public Education Capital Outlay (PECO) from the utility gross-receipts tax could put even more pressure on the state's revenue base.[137] Of course, the effect of portability on individual school districts will depend on the nature of the adopted portability scheme and the turnover rate of homestead property. Moreover, we might expect homeowners to buy their subsequent homes in the same district as their current residences. But districts, particularly those in large metro areas, could be affected disproportionately by portability where homeowners might choose to live in one district but work in an adjoining district. If more of the tax burden gets shifted to lower growth, less wealthy regions of the state and local property taxes in those affected districts continue to rise, we might see a public outcry. However, it might be more the issue of political outrage and frustration at the magnitude of the cross-subsidy for required local education funding than a concern that could successfully sustain a legal challenge on the grounds of equitable or adequate funding.

IX.6 Conclusion

One never knows what legal challenges will be raised when a new government policy is authorized. The case law referenced above suggests that interstate right to travel under the Equal Protection Clause and impediments to interstate commerce might be reasons for concern. The effects on school districts might also be a source of concern. We might expect them to further raise their required local effort millage rate to offset reduced property tax revenues resulting from SOH portability. Successful legal challenges on the grounds of equity or uniformity might be difficult to mount given the Florida court decisions referenced above. However, if the other constitutionally-prescribed standards (efficiency, safety, security, and high quality) for measuring adequacy are compromised, red flags might be raised. In addition, we might expect school districts to rely even more on alternative funding sources if portability provisions for SOH are authorized. Yet, growing dependence on impact fees might result in more public scrutiny of their use and effects.

Finally, first-time homebuyers and out-of-state homebuyers would be disproportionately affected by portability, as would out-of-state firms seeking to relocate in Florida. We could also expect school districts to experience a tax burden shift even though it may not result in a successful constitutional challenge. The property tax has a good history in terms of both stability and revenue elasticity. It typically keeps pace with other revenue sources but lacks their cyclical variations. As policymakers contemplate various schemes to reform the property tax, they might keep the following observation in mind:

[137] The Legislature authorized in SB 360 the use of a portion of the Documentary Stamp Tax proceeds to be directed to the PECO Trust Fund, so that additional funding will augment the gross receipts tax proceeds for that purpose. Also gambling revenues from slot machines in Broward County should bring in additional funding, to be used for one-time expenditures for public schools. But we may see some substitution for lottery proceeds.

Rather than being a wounded, defective tax instrument, the property tax unbound appears to be a productive tax with a number of positive attributes, not the least of which is that it provides "fiscal empowerment" to local governments. For local governments to be effective in a federal system, they must have independent sources of revenue. The property tax base is one of the few taxes that is not either preempted by higher levels of government or severely hampered by the mobility of the tax base. If this is the case, why then is the property tax so constrained? It will be suggested here that the restrictions and constraints imposed on the property tax are likely the result of political factors in the decision-making process, not structural problems with the tax itself.[138]

Acknowledgment: I am indebted to Dr. David Denslow, Distinguished Service Professor, Bureau of Economic and Business Research, University of Florida, for his careful review and thoughtful suggested edits. All errors and omissions are mine

[138] J. Fred Gertz, "The Property Tax Unbound," *National Tax Journal*, 59 (3), September 2006.

APPENDIX A: THE FLORIDA HOUSING BOOM[139]

The 2000-2005 Florida Housing Boom

The recent rise and subsequent decline of housing prices, both in Florida and across the nation, have led to speculation about the nature of house prices in general. This paper explores recent trends in house prices, especially in Florida. We begin by describing the recent boom in the housing market before offering a model of house prices in an attempt to explain that boom. We then provide empirical evidence in support of the model before elaborating on specific factors, namely the migration of retirees and international immigration, that could affect Florida house prices in the future. Finally, we consider the recent decline in house prices—focusing on the potential of a housing bubble—before concluding with implications for Florida as a retiree destination.

House Prices in Florida and the United States

One problem with many measures of house prices, such as the median price of new houses sold or the average price of all houses sold, is that the quality of houses varies over time. In most places, houses sold in 2005 were better (larger or better insulated, for example) than those sold in 1995. This means that the increase in house prices is partly due to a higher price of a constant-quality house and partly due to improved quality. Though the improved-quality component could theoretically be measured and extracted, that is difficult in practice.

The repeat-sales approach corrects for this by using sales prices of the same house at different times. Fortunately, the Office of Federal Housing Enterprise Oversight (OFHEO) constructs a repeat-sales index of house prices for the nation, for each state, and for most Metropolitan Statistical Areas (MSAs). With thousands of sales from each city, the prices of these houses can be used to construct quarterly indices that control for quality. Even with repeat-sales indices, perfectly controlling for quality is impossible because of depreciation and enhancements to existing structures, though these biases are thought to be small and offsetting.

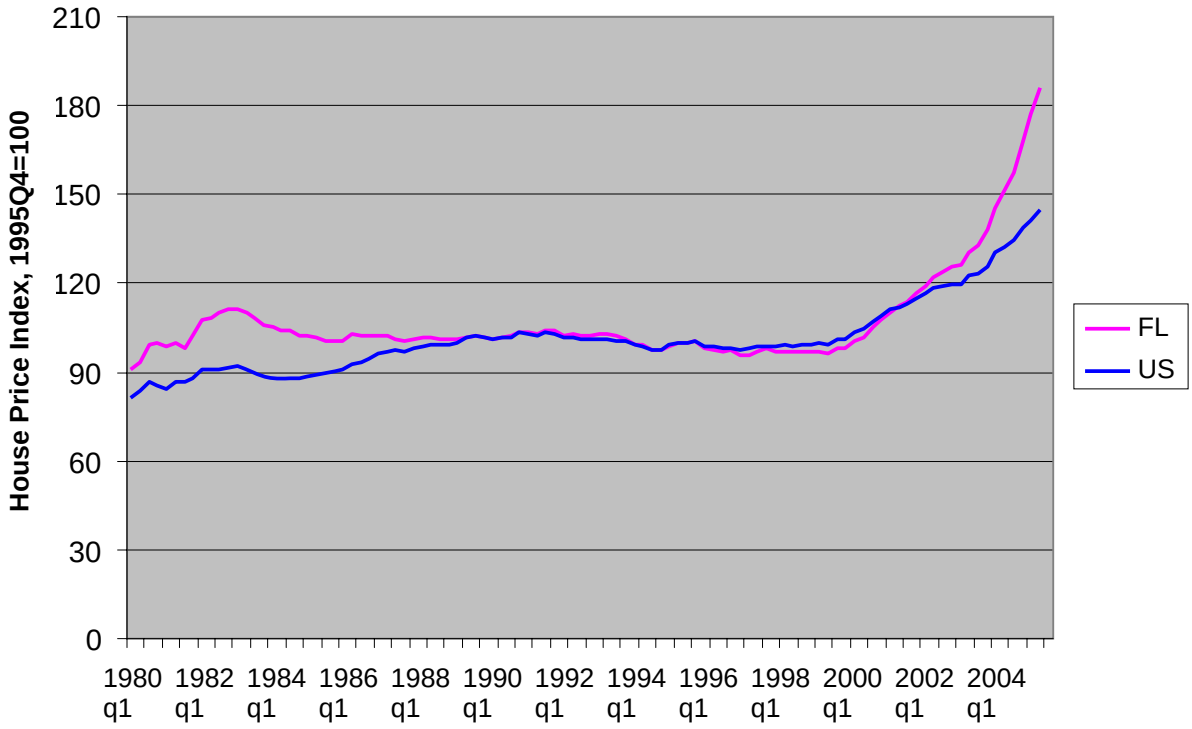
Since the underlying data for the OFHEO index comes from mortgages backed by Ginnie Mae and Fannie Mae, they represent only houses priced low enough to qualify for mortgages financed by those government-sponsored entities. Because of this, the OFHEO index can only be used for comparing house prices over time within a given city and not for comparisons between cities. Moreover, data gathering for the indices began only recently, so data for earlier years is relatively unavailable. Even though the indices are available from 1975 on, for Florida—as for most states—they are relatively unreliable for years prior to

[139] Gabriel Montes Rojas, Sandra T. McGuire, Susan Ivey, and Tom Durrenberger, Bureau of Economic and Business Research, University of Florida. This section was first released in February 2007 as part of the series Florida Focus, Vol. 3, No. 2, published by the Bureau of Economic and Business Research. The original may be accessed at http://www.bebr.ufl.edu/floridafocus. It has been edited for layout, and two technical appendices have been omitted.

1980. Also, the OFHEO indices are not adjusted for overall inflation, but any user can do that easily.

Figure A-1 shows the OFHEO repeat sales indices, adjusted for inflation using the GDP deflator, for Florida and the United States from the first quarter of 1980 through the fourth quarter of 2005. The indices for both the state and the nation are set equal to 100 in the fourth quarter of 1995. As the graph shows, there was a mild boom in house prices in Florida in the early 1980s, followed by a decade of little change. In 1996, aside from the effect of overall inflation, house prices in Florida were about the same as in 1980. In 1996, house prices in Florida started rising more rapidly than the GDP deflator, though not as quickly as in those in the rest of the nation. After 2000, house prices in Florida took off. Over the five years from the fourth quarter of 2000 to the fourth quarter of 2005, adjusted for inflation, house prices in Florida rose by 82 percent in absolute terms and by 31 percent relative to the entire United States.

Figure A-1: Inflation-adjusted House Price Indices, Florida and the U.S.



Source: Office of Federal Housing Enterprise Oversight, May 2006. http://www.ofheo.gov/
Calculations: BEBR.

The Rosen-Roback Model

To understand the recent Florida housing boom, it is useful to start with a model that explains house prices in general. The model we use here, called the Rosen-Roback model, illustrates how differences in productivity and amenities across cities can determine differences in house prices and wages.

In the simplest case, the Rosen-Roback model assumes that all cities are equally desirable places to live and that no city is more productive than any other is. In this model, workers in the same field with the same skill level, education, and experience will command the same wage no matter where they live. If this were not the case, workers in low-wage cities would move to high-wage cities until wages were the same across all cities. By the same token, house prices in one city must be equivalent to those in every other city; otherwise, those living in cities with high house prices would sell their houses, capture the capital gains, and move to cities with lower house prices.
We move toward a more realistic model by forgoing the assumption that all cities are equally pleasant places to live. To attract workers, who are free to choose where they prefer to live, firms in less pleasant cities must pay more than similar firms in more pleasant cities. However, in order to pay their workers more, firms in less pleasant cities will have to charge higher prices for their products and will not be able to compete with lower-cost firms in more-pleasant cities. Firms, followed by workers, would migrate to the most pleasant cities.

In reality, this total migration might be slowed by differences in productivity across cities. For example, Montana may be cold and remote, but its copper mines will pay mining engineers a premium to live there. In contrast, a copper mine might be much less productive in a more pleasant place like West Palm Beach, Florida. Similarly, New York City may be polluted and crowded, but it can attract highly educated financial analysts, whose productivity is increased by interaction and collaboration with other financial analysts on Wall Street. New York firms can pay higher wages and, because they are more productive, still compete with less productive firms that pay lower wages in other cities. Firms in sunny Florida might be less productive in many cases, but they can compete by paying lower wages.

So far we have described two types of cities: those that are unpleasant but highly productive and pay high wages (our example was New York City), and those that are more pleasant but less productive and pay low wages (West Palm Beach). Suppose a city were both highly productive and very pleasant, like, say, Los Angeles. At first it would be able to out-compete both New York and West Palm Beach and would grow very rapidly. Eventually, however, its inelastic supply of land would fall short of the demand for living space. It would become congested, and house prices would increase.

Logically, there is one other type of city: one that is both unpleasant and unproductive, like, perhaps, Flint, MI after General Motors closed its plants there. But such cities will be on the decline, attracting only those unique individuals with uncommon preferences for low income, adverse conditions, and few public goods. Here, then, are our types of cities:

Productivity	Pleasantness	Wages	House Prices	Example
High	High	Moderate	High	Los Angeles, CA
High	Low	High	Moderate	New York City, NY
Low	High	Low	Moderate	West Palm Beach, FL
Low	Low	Moderate	Low	Flint, MI

However, not every citizen participates in the labor market; we must also consider the substantial population of retirees. Where might they choose to live? More likely than not, they will stay where they worked. Preferences for stability, familiarity, close friends or family, and local lifestyle tend to cause people who worked in Chicago to retire in Chicago, or perhaps a nearby suburb. Those who do move, however, will retire to a pleasant, low productivity place like West Palm Beach. Due to its lower productivity, firms in West Palm Beach pay lower wages, leading to cheaper restaurants, hair care, tennis lessons, and the like. Retirees are similar to workers in that they prefer warm climates, but similar to firms in that they prefer low wages.

There is, however, an important difference between retirees and firms: firms care about productivity while retirees do not. As long as there are enough available residences, retirees can find places to live with moderate house prices. During the 1980s, Florida population gained as much as 870 a day without causing inflation-adjusted house prices to rise, thanks to an abundance of land, sufficient infrastructure, and energetic developers.

Now we can introduce two changes: (1) more and more cities, both pleasant and unpleasant, start limiting the supply of housing; and, (2) a little later, the number of retirees begins to surge. What will happen? First, in cities that restrict development, house prices will soar, with the greatest increases being observed in high productivity cities. As workers in those cities retire, they face a greater incentive to move to low-wage, high-amenity areas. By selling their now-expensive homes and realizing the capital gains, they can buy less expensive houses in high-amenity, low-productivity areas and invest the difference to fund a higher standard of living during their retirement. As the first baby boomers reach retirement age, construction in high-amenity, low-wage cities will increase. If enough retirees and the workers serving them move into high-amenity, low-wage cities, house prices will begin to rise. As affordable housing becomes scarce, wages will rise in the retiree destination areas, transforming them from high-amenity, low-wage cities to high-amenity, high-wage cities. We believe this accurately describes what is happening to the housing market in Florida.

Empirical Determinants of House Prices

In accordance with our interpretation of the Rosen-Roback model, we hypothesize that the determinants of home prices during the second half of the housing boom were different from the determinants during the first half. We term the first period—from the first quarter of 1996 through the second quarter of 2000—the high technology housing boom, and the second period—from the fourth quarter of 2000 through the fourth quarter of 2005—the high amenity housing boom. This reflects our belief that home prices during the late 1990s were largely determined by local productivity while home prices in the early 2000s were determined by the rising importance of amenities as the baby boomers began to retire.

During the first period, house price increases were more concentrated. About 60 MSAs experienced a greater than 30 percent increase in house prices. Most of these MSAs are located in California (especially the Silicon Valley area and San Francisco), the New England states, Colorado, Michigan, New York, and New Jersey.

Increases in house prices during the high-amenity housing boom were much more widespread. We identified more than 150 MSAs experiencing increases in house prices greater than 40 percent. Although the increase in house prices during this period was geographically diverse, California and Florida experienced particularly high growth.

We collected data on house prices for 316[140] MSAs during the two periods. For those MSAs, we regressed the data on variation in house prices[141] on the percentage of residents employed in high-technology industries,[142,143] the net in-migration of 55 to 69 year olds from 1995 to 2000,[144] the number of miles of highways and expressways per 100,000 residents,[145] average January temperature, average July temperature,[146] latitude and proximity to a coastline.[147]

During the high-technology housing boom, the regression results showed that employment in high technology industries offered a strong explanation for the behavior of house prices. The proximity of an MSA to a coastline also had a strong effect on house prices as did the in-migration of 55- to 69-year-olds, though neither of these had as strong an effect as the employment variable. The number of miles of highways per 100,000 residents, along with average January temperature, average July temperature, and latitude, had no discernible effect on house prices. Complete results for this first regression are included in Appendix A.

However, during the high-amenity housing boom, employment in high technology occupations had no influence at all on house prices. In contrast, we can identify a strong influence of the in-migration of 55- to 69-year-olds, average January temperature, latitude and proximity to a coastline on the change in house prices. Average July temperature and the number of miles of highways per 100,000 residents were once again insignificant influences on the change in house prices. Complete results for the second regression are included in Appendix B.

These results are consistent with our hypothesis that the economy experienced two separate five-year housing booms during the past decade. During the first—the high-technology housing boom—increases in house prices were concentrated in areas with a large percentage of residents working in high technology industries. The high-amenity housing boom saw the largest increases in house prices in warmer, high-amenity retirement destinations.

Migration to Florida vs. House Prices in the Northeast and Midwest

[140] Out of 379 MSAs, there were complete observations for 316.
[141] OFHEO.
[142] Defined as computer-related, engineering, life sciences and physical sciences.
[143] Data from Bureau of Labor Statistics for 1998 and 2004; http://www.bls.gov
[144] Data from Census 2000 on county-to-county in-migration of the population by age.
[145] Data from US Department of Transportation, Federal Highway Administration, *Highway Statistics 2004*, Quick Find/Roads, March 23, 2006.
http://www.fhwa.dot.gov/policy/ohpi/hss/index.htm
http://www.fhwa.dot.gov/policy/ohim/hs03/re.htm
http://www.fhwa.dot.gov/ohim/1995/section5.htm
[146] From research conducted by Dr. Jim Dewey at BEBR, 1998.
[147] Same.

In another empirical test, we attempted to confirm that the migration patterns to Florida from the Northeast and Midwest during recent years were driven by house price patterns in those regions during the late 1990s. Specifically, we tested the correlation between the percent change in migration from each originating county between 2000 and 2004,[148] and the percent change in house prices in each originating county between the fourth quarter of 1996 and the fourth quarter of 2000.[149] Our analysis was restricted to the 50 counties in the Northeast and Midwest regions that have been supplying Florida with the largest number of migrants since 1996.

The correlation result between the two variables is .56, demonstrating a positive and relatively high correlation. This result further suggests that high house prices in other parts of the country are a factor in promoting migration to Florida. This is consistent with the notion that retirees are the dominant cause of rising house prices in Florida, since retirees living in regions with high house prices and high costs of living would have an incentive to sell their homes, capture their capital gains and then move to high-amenity, average-cost locales.

New Retirees and Their Wealth

One important indicator of the potential demand for retiree housing is an estimate of the number of Americans retiring each year from 1950 to 2050. The goal is not to construct a precise measure, but rather an approximate indicator of whether the number retiring in a given year is rising strongly, falling sharply, or staying about the same. One simple means of constructing the approximation would be to note that the most common retirement age is 62 and then simply display the number of people turning 62 each year. We can improve upon that, however, by allowing for a more complex analysis of the retirement age:

1. Few people retire before age 50 or after age 75, so we simplify by assuming that all retirement occurs between these ages.
2. For ages 58 through 66, we use frequencies calculated by Alan Gustman and Thomas Steinmeier from the Current Population Survey for 1992 through 2005.[150]
3. For other ages, we approximate the incidence of retirement using data on employment status for 2005 from the Bureau of Labor Statistics.[151] We calculate the incidence of retirement for each age to be roughly consistent with the labor force participation figures and the Gustman-Steinmeier estimates. The estimates we formed in this manner are shown in Figure A-2.

In spite of the estimates' limitations, they are generally accurate in illustrating how the number of new retirees changed little from 1985 through 2000. The estimates also predict that the number of new retirees will rise by 80 percent from 2000 to 2020 and then remain fairly constant for the next two decades, as shown in Figure A-3.

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[148] Data on county-to-county migration for all US counties collected by the Internal Revenue Service (IRS).
[149] Data from OFHEO.
[150] Alan L. Gustman and Thomas L. Steinmeier, "Retirement and the Stock Market Bubble," National Bureau of Economic Research, Working Paper 9404, December 2002, Figure 4.
[151] Bureau of Labor Statistics, "Household data on employment status of the civilian non-institutional population by age, sex, and race, 2005," ftp://ftp.bls.gov/pub/special.requests/lf/aat3.txt

The growing wealth of new retirees reinforces the effects of their increasing numbers. Figure A-4 shows the average net worth of households whose heads are 35-44 compared to those whose heads are 55-64. Though their net worth fell when the stock market sank after early 2000, the average wealth of those of retirement age has steadily increased over the past fifteen years, especially relative to the average wealth of younger households, affording retirees a greater share of the national housing market.

Figure A-2: Percentage Retiring in the US by Age 50-76

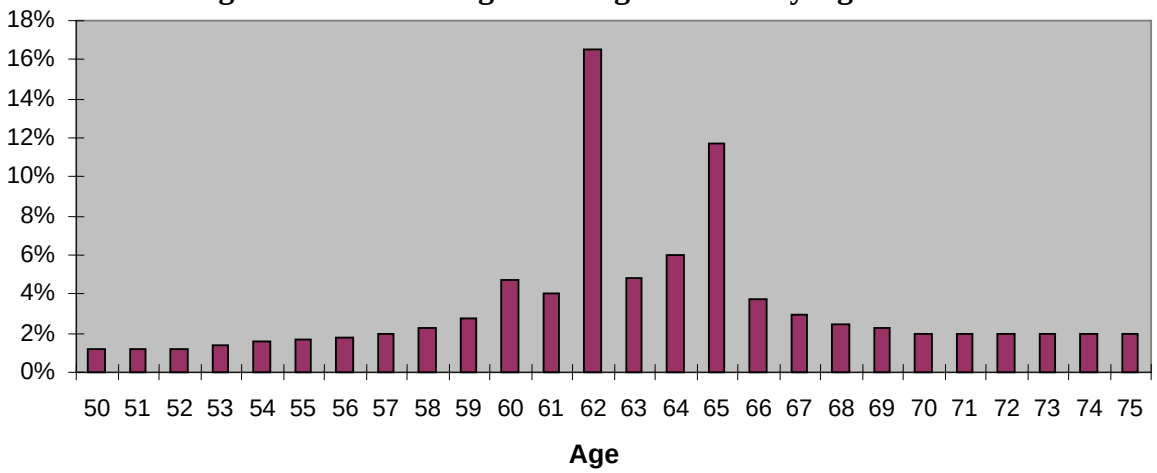
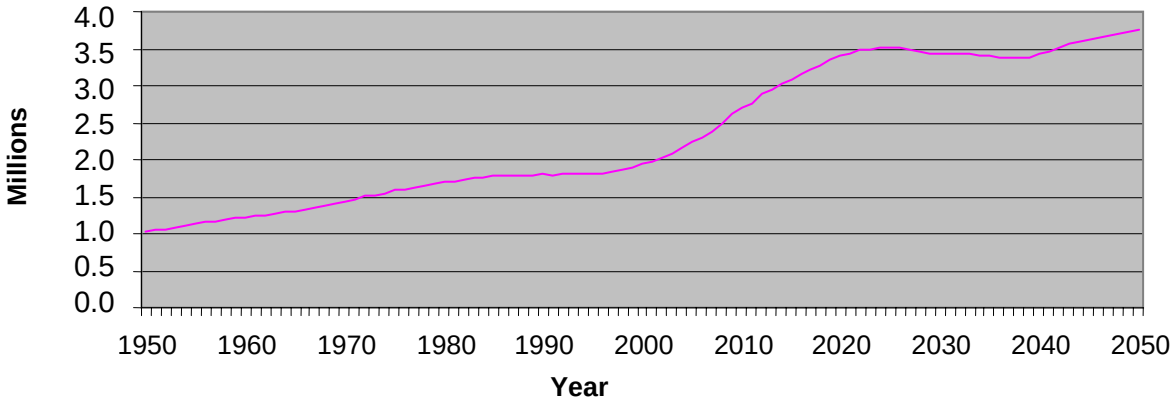


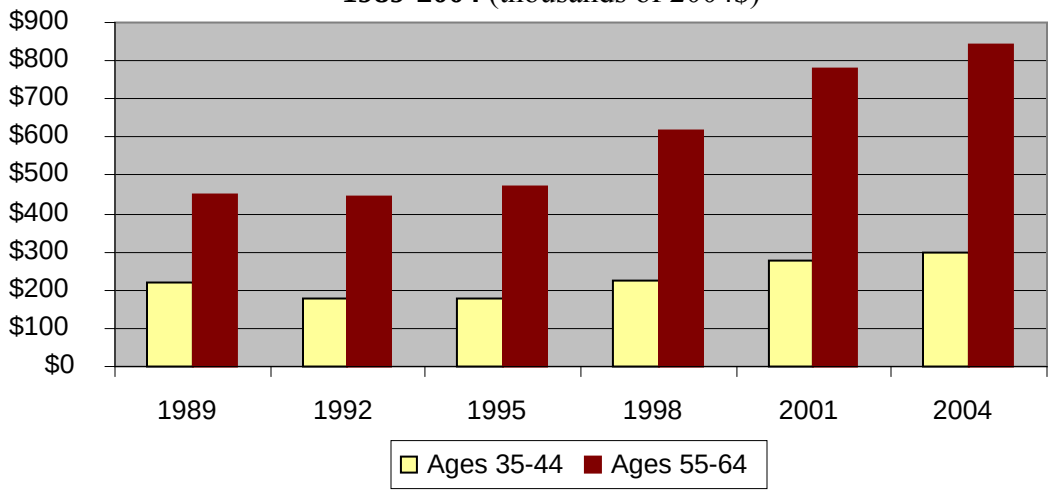
Figure A-3: Estimate of New Retirees per Year in the US, 1950-2050



Source: Census data on population estimates and projections, 1930-2050, http://www.census.gov .
Calculations: BEBR.

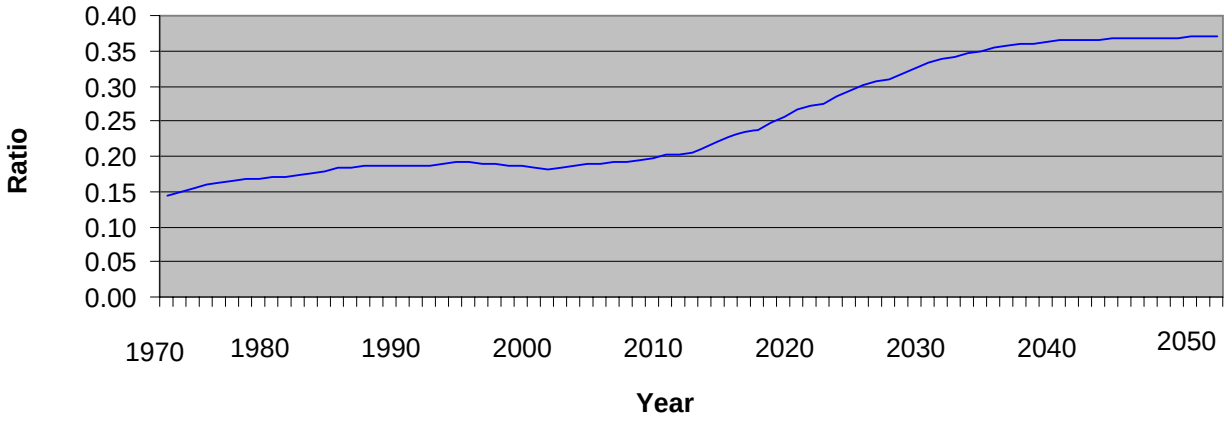
The flow of households into retirement allows us to consider the impact of retirees on the demand for housing construction. However, it is also helpful to look at the stock of retiree households. One indicator of the stock of retiree households is the number of social security recipients projected by the Social Security OASDI Trustees Report, 2006, as shown in Figure A-5.

Figure A-4: Mean Family Wealth for Household Heads Ages 35-44 and 55-64 in the U.S.,
1989-2004 (thousands of 2004$)



Source: Federal Reserve Bank, Federal Reserve Board, Federal Reserve Bulletin 2005. "Statistics: Releases and historical data, survey of consumer finances, Table 3, June 5, 2006, http://www.federalreserve.gov/pubs/oss/oss2/2004/bulletin.tables.pub.xls

Figure A-5: Social Security Retired Beneficiaries per Covered Worker in the U.S., 1970-2050



Source: Social Security, OASDI Trustees Report 2006, Tables IV.B2. and V.C4, http://www.ssa.gov/OACT/TR/TR06/V_programmatic.html#wp182758

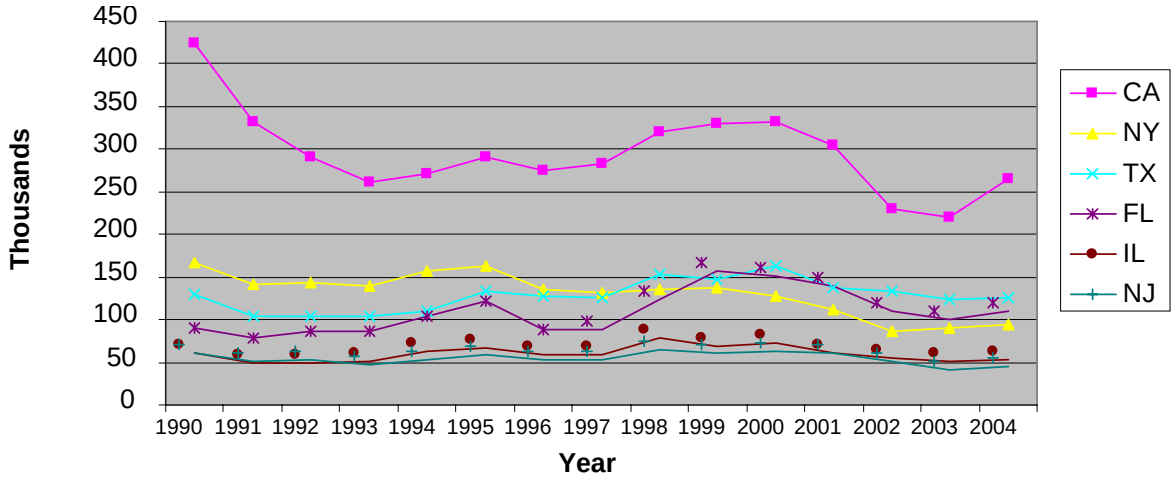
International Immigration

Along with a surge in the number of domestic retirees, increased immigration puts further pressure on the housing market in Florida. In 2004, the United States was home to about 36

million foreign-born residents.[152] Their presence adds to the demand for housing, driving up prices. Since immigrants tend to concentrate in a relatively small number of gateway cities and nearby areas, disparities in house prices across cities may arise. Figure A-6 illustrates that California and Texas are the largest recipients of new immigrants, as is to be expected given their size and borders with Mexico. Florida receives the third largest share of new immigrants, hosting immigrants from a wide variety of origins, but particularly from Latin American nations.

Of the six states with the most immigrants, California, Florida, New York, and New Jersey have seen larger-than-average increases in house prices. The correlation between immigration flows and rising house prices makes it plausible that migration trends are driving spatial differences in prices. The surge in immigration from 1997 through 2001 further supports this notion. We believe, however, that immigration has only amplified the increase in house prices sparked by the shift toward high-amenity areas. Immigrants have largely been drawn to high-productivity areas to provide services to workers there, and to high-amenity destinations to do the same for retirees. The inflow of immigrants to provide these services has added to the demand for homes, but their more immediate impact is likely to be on the market for rental units than on the market for owner-occupied housing.[153]

Figure A-6: Immigration Inflow in the Major Destination States, 1990-2004



Source: Passel, Jeffrey S., & Suro, Roberto (2005a). *Rise, peak, and decline: Trends in U.S. immigration 1992-2004.* Pew Charitable Trust, Pew Spanish Center, September 2005 Report, http://www.pewhispanic.org

[152] Passel and Suro, 2005b.

[153] Saiz, 2003. Supporting the notion that retirees' demand for services attracts immigrants is the fact that Florida's share of the inflow of immigrants rose from around 7% in 1990 to over 9% in 2004.

The Potential Housing Bubble in Florida

Florida's large increase in house prices over the past five years raises the question of whether the state has experienced a housing bubble. Though decreases in nominal house prices are seldom observed in the United States,[154] the dramatic increase in house prices across Florida cities has many wondering whether prices have become divorced from their fundamental determinants.

A number of analysts have concluded that no bubble exists, that high house prices are easily explained by the fundamentals of demand and supply. McCarthy and Peach,[155] for example, say that rising family incomes and low mortgage rates have kept houses affordable even in extremely high-priced areas. They show that even in periods of weak economic growth and high interest rates, nationally aggregated inflation-adjusted housing prices have fallen only modestly. At the regional level, prices may soften along parts of the east and west coasts, where housing supply has been inelastic and historically prices have been volatile.

Glaeser and his co-authors[156] emphasize that soaring home prices are a coastal phenomenon, leaving most interior states untouched. If the difference in price changes is because of higher demand in coastal states, then there should be a positive correlation between price increases and new construction. But they find the correlation to be substantially negative, indicating that differences in price increases arise from differences in supply and not demand. In these and earlier papers, Glaeser et al. state that the sources of the variations in supply remain somewhat a mystery. They suggest that many areas have come to resemble homeowners' cooperatives, with homeowners banding together to restrict development in order to increase the values of their houses. To a certain extent, environmental protections also serve to restrict development. In some areas, we would suggest that the lack of adequate roads providing urban access is another constraint on supply.

Several analysts have pointed out that house prices have two components; the physical structure, and the land on which it resides. Morris and Heathcote[157] note that, from 1996 to 2003, real home prices rose 37 percent, but structure and replacement costs went up only 12 percent. This suggests that most of the increase in price came from rising land values. Glaeser broadens this approach to argue that a house actually has three components; the structure, the land, and a permit to build. In his view, a major contributor to the rising price has been restrictions on issuing permits. Most of his work reinforces the idea that housing supply requires more investigation than it has received.

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[154] Krainer, John. 2003. House price bubbles. Federal Reserve Board of San Francisco, *Economic Letter,* Number2003-06, March 7.

[155] McCarthy, Jonathan and Richard W. Peach. 2004. Are home prices the next "bubble"? Federal Reserve Board of New York, *Economic Policy Review*, December.

[156] Glaeser, Edward L., Joseph Gyourko, and Raven E. Saks. 2005. Why have house prices gone up? Harvard Institute for Economic Research, Discussion Paper 2061, February.

[157] Morris, A. Davis and Jonathan Heathcote. 2004. The price and quantity of residential land in the United States. Federal Reserve Board of Governors and Georgetown University. Version of July 2004.

Some analysts are more pessimistic than the majority of their colleagues. A Harvard study calls attention to the fact that the most recent housing boom lasted for 14 consecutive years.[158] Even with the bursting of the stock market bubble and the recession of 2001, the housing market barely paused in its upward race. The authors conclude, "as a result, prices could be headed for a more significant correction when the next major downturn occurs."

However, unlike the stock market, the housing market is unlikely to collapse. In the stock market people can dump their stocks in a few days. In the housing market, changes occur more gradually. It can take months to sell a house during a cooling housing market. The initial slow down in the housing market is linked to higher interest rates, which have led to higher mortgage rates, along with high house prices, skyrocketing insurance costs, and increases in property taxes.

Housing markets are slowing down across nearly all Florida MSAs, but they are slowing most in the southwest and southeast coastal areas. Statewide sales of existing single-family homes are declining, as are sales of existing condominiums. In the second quarter of 2006, sales of condominiums and single-family homes dropped 33 and 27 percent, respectively, compared to the second quarter of 2005. Over the same period, the price of single-family homes rose nine percent, while the price of condominiums rose just one percent, far from the double-digit price increases seen in Florida during 2005. Adjusted for inflation, the average home is worth less than it was a year ago.

The Florida housing market is also slowing relative to the U.S. housing market as a whole. This is illustrated by a decrease in Florida's share of total U.S. building permits, as shown in Figure A-7. The cooling of the housing market in Florida is further illustrated in Table A-1, which displays single-family existing home sales from May-June 2005 to May-June 2006.

From the fourth quarter of 2005 to the fourth quarter of 2006, sales of existing homes in Florida sales of existing homes fell by 36 percent, according to the National Association of Realtors. Only Florida and Nevada saw declines of more than 30 percent. During the fourth quarter of 2006, prices of single-family homes fell in over half of the 149 largest MSAs in the country. "The biggest declines were in Florida—Sarasota-Bradenton (down 18 percent), Palm Bay-Melbourne (17 percent) and Cape Coral-Ft. Myers (11.7 percent)."[159]

Both the short-run trials and the long-run potential of the Florida construction market are illustrated by an article in the London Financial Times, describing the purchase of Florida Rock, a producer of asphalt and cement, by Vulcan Materials, the largest U.S. company in the construction materials industry.[160] In spite of the fact that "the deal comes at a sensitive time for the construction market in Florida, where the residential housing market has suffered a painful

[158] Joint Center for Housing Studies of Harvard University, *The State of the Nation's Housing*, 2005, p. 19
[159] Vikas Bajaj, "Home Prices Fall in More than Half of Nation's Biggest Markets," *New York Times*, February 16, 2007.
[160] James Politi, "Vulcan cements $4.6bn deal with rival Florida Rock," London *Financial Times*, February 20, 2007.

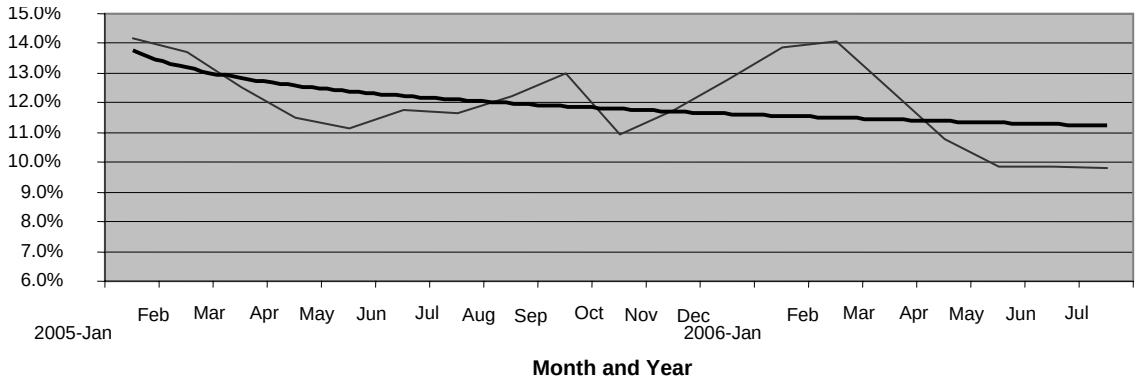
boom and bust," Vulcan offered $68 a share or $4.6 billion, a 45 percent premium over Florida Rock's closing stock price. Don James, Vulcan's CEO said, "There has been a correction in housing in many markets but we have to have a long-term focus and while we can't really predict how long the downturn will last, the factor that's important is that the demand for aggregates is going to continue to grow in Florida." We agree with James that after a period of turmoil, Florida's fundamental strengths will reassert themselves, leading to recovery of the housing industry and rising real estate prices.

Table A-1: Florida Single-Family Existing Homes Sales, 2005-06

State and MSA	May-Jul 05	May-Jul 06	% change
Statewide year-to-date	390,023	292,795	-24.9
Statewide	71,766	51,220	-28.6
Daytona Beach	4,301	2,699	-37.2
Ft. Lauderdale	3,403	2,444	-28.2
Ft. Myers-Cape Coral	3,632	2,578	-29.0
Ft. Pierce-Port St. Lucie	2,084	1,432	-31.3
Ft. Walton Beach	1,386	1,015	-26.8
Gainesville	1,300	1,033	-20.5
Jacksonville	4,928	4,670	-5.2
Lakeland-Winter Haven	1,764	1,450	-17.8
Melbourne-Titusville-Palm Bay	2,391	1,672	-30.1
Miami	3,598	2,432	-32.4
Naples	1,511	814	-46.1
Ocala	1,677	1,515	-9.7
Orlando	10,347	7,979	-22.9
Panama City	661	520	-21.3
Pensacola	1,792	1,545	-13.8
Punta Gorda	1,262	899	-28.8
Sarasota-Bradenton	3,190	1,945	-39.0
Tallahassee	1,567	1,502	-4.1
Tampa-St. Petersburg-Clearwater	15,454	9,619	-37.8
West Palm Beach-Boca Raton	4,167	2,643	-36.6

Source: Florida Sales Report produced by Florida Association of Realtors and the University of Florida, Real Estate Research Center.

Figure A-7: Florida Share of U.S. Single-family Building Permits, 2005-2006



Source: U.S. Census Bureau.

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APPENDIX B: SOARING HOUSE PRICES AND WAGES OF LOCAL GOVERNMENT EMPLOYEES[161]

Local governments in Florida are concerned that the same soaring house prices that have boosted their revenue base have also increased the wages they have to pay to attract a qualified work force, especially relative to similar local governments in many other states where the housing boom has been less remarkable. The doubling of Florida house prices over the past six years that increased local property tax revenue raises concerns that a shortage of affordable housing will undermine their efforts to recruit and retain employees.

In this article, we note that the relevant determinants of how wages will change in the long run are the implicit rent of owner-occupied housing—which is theoretically equivalent to user cost of housing—and the actual rent of apartments and rented houses in an area. The price of owning a house differs from the monthly rent charged for living in it. It is even possible that the price of a house could rise while the rent charged for living in it falls. Similarly, at the same time that the price of buying a house rises, the economic opportunity cost of living in it—what the national income accountants call the cost of shelter or implicit rent—could fall. That has not happened in much of Florida, but it is true that both actual and implicit rents have far less than doubled. As a result, the effect of the doubling of house prices on wages is less than one might at first think. To estimate the effect, it is necessary to know what has happened to rent.

In this *Focus*, after studying the link between house prices and implicit rent, we present an estimate based on repeat data for 1,121 apartment complexes that, between the last half of 2000 and the first half of 2007 and before adjustment for inflation, apartment rents in Florida rose 27 percent. Over the same period, the national consumer price index rose by 19 percent, indicating that inflation-adjusted rent in Florida during the most striking years of the housing boom rose by about seven percent overall. Using the formula for estimating the effect of rent on wages (which we develop later in the article), this suggests that the effect of the housing boom to date has been to raise real wages by approximately two percent. Of course, there are caveats regarding this estimate. First, some of the same forces that have increased the demand for owner-occupied houses, such as creative mortgages, have weakened the demand for apartments. Second, apartment rent probably responds to housing user cost with a substantial lag. Third, we are relying on advertised rents, not those actually paid. Nonetheless, we think this is the best estimate currently available.

Rent Has Risen Less Than Home Prices

[161] Tom Durrenberger, David Denslow, and Jim Dewey, Bureau of Economic and Business Research, University of Florida. This section was first released in June 2007 as part of the series Florida Focus, Vol. 3, No. 2, published by the Bureau of Economic and Business Research. The original may be accessed at http://www.bebr.ufl.edu/floridafocus. It has been edited for layout, and its technical appendix has been omitted.

As previously noted, the price of homes in Florida has doubled over the past six years. However, during this span, the cost of renting homes has risen at a more measured pace. In forecasting changes in the price level, which is one determinant of wages in an area, only the price of obtaining shelter—i.e., either the cost of renting or the monthly opportunity cost of owning but *not* the price of housing—is relevant. Homes are financial assets; therefore, increases in home prices are akin to increases in the prices of other financial assets—like, say, corporate stocks. Such increases do not make it more costly to survive; they only indicate that it may now be more profitable to own that financial asset than it has been in the past. Because of this, the fact that rents have risen much more slowly in percentage terms than the price of housing has important implications for wages across the state of Florida.

In this *Focus*, we provide evidence that, while home prices have risen sharply since 2000, the cost of renting has only increased moderately. We then provide an explanation of recent changes in home prices and rents as well as an argument that even rising rent costs may not have the dramatic effect on wages that might otherwise be expected.

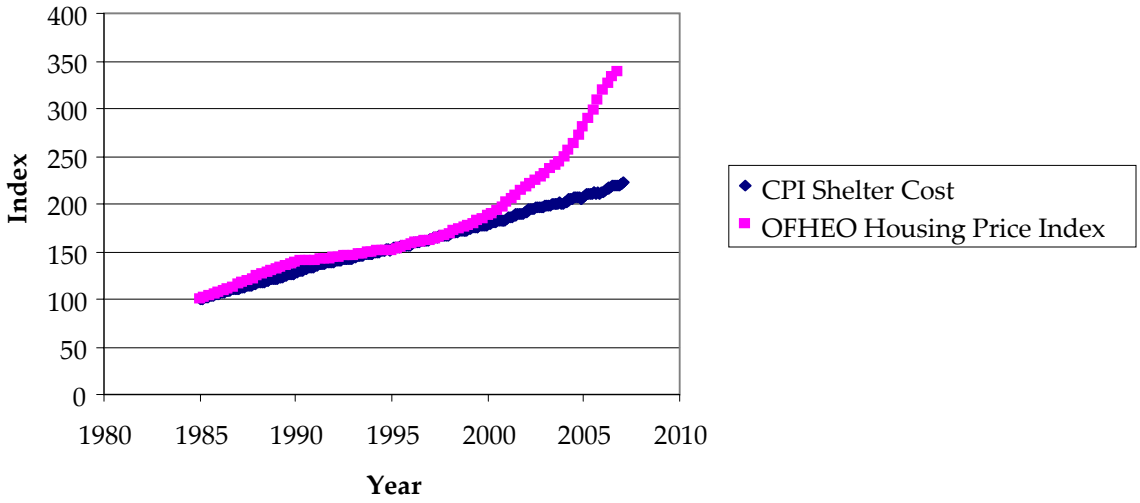
Between 1985 and 2000, the growth in home prices and rental costs tracked roughly together. However, since 2000, the increase in home prices has been much greater than the change in rents. To illustrate this, we plot the shelter cost component of the Consumer Price Index—which we use here as a proxy for rental costs—against the Office of Federal Housing Enterprise Oversight's (OFHEO) Housing Price Index, which measures the average price changes in repeat sales and refinancing of homes during each quarter. Figure B-1 illustrates the tracking of the CPI shelter cost component against the OFHEO Housing Price Index since 1985, where the 1985Q1 values for both series are normalized to 100. The most recent data is for the fourth quarter of 2006.

The split between the percentage growth of home prices and rental costs has not been uniform across the United States. In many places, especially many Florida cities, the difference between growth in the price of housing and growth in the cost of rent has been even more dramatic than the national average.

Miami provides an excellent case-in-point. Figure B-2 illustrates the national data since 2000; this provides a comparison for Figure B-3, which is restricted to the Miami metropolitan area. In both figures, the values for 2000Q1 are indexed to 100.

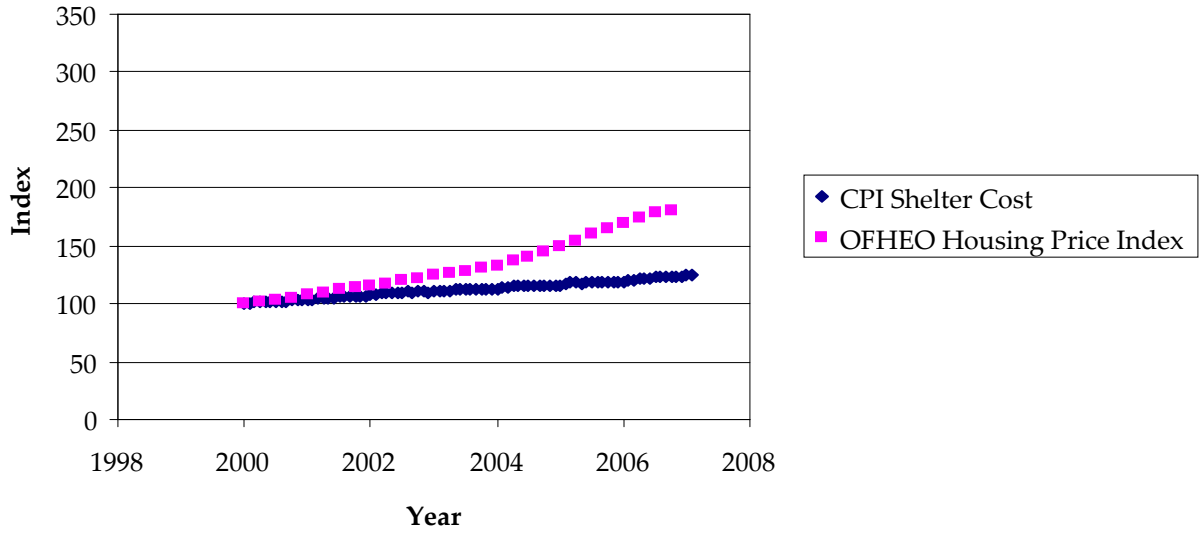
While the national OFHEO index has increased 75 percent since 2000, the index for Miami has increased almost 200 percent. Annualized, the national index has risen 8 percent per year, while the Miami index has increased an astonishing 15.7 percent per year. Yet over the same period, the percentage increase in shelter costs for Miami has been much less dramatic. In Miami, shelter costs have increased a little less than 39 percent, while national shelter costs have increased slightly more than 25 percent. Annualized, that is an increase of 4.7 percent per year for Miami versus an increase of 3.2 percent per year nationally.

Figure B-1: Shelter Cost vs. Housing Prices in the United States since 1985



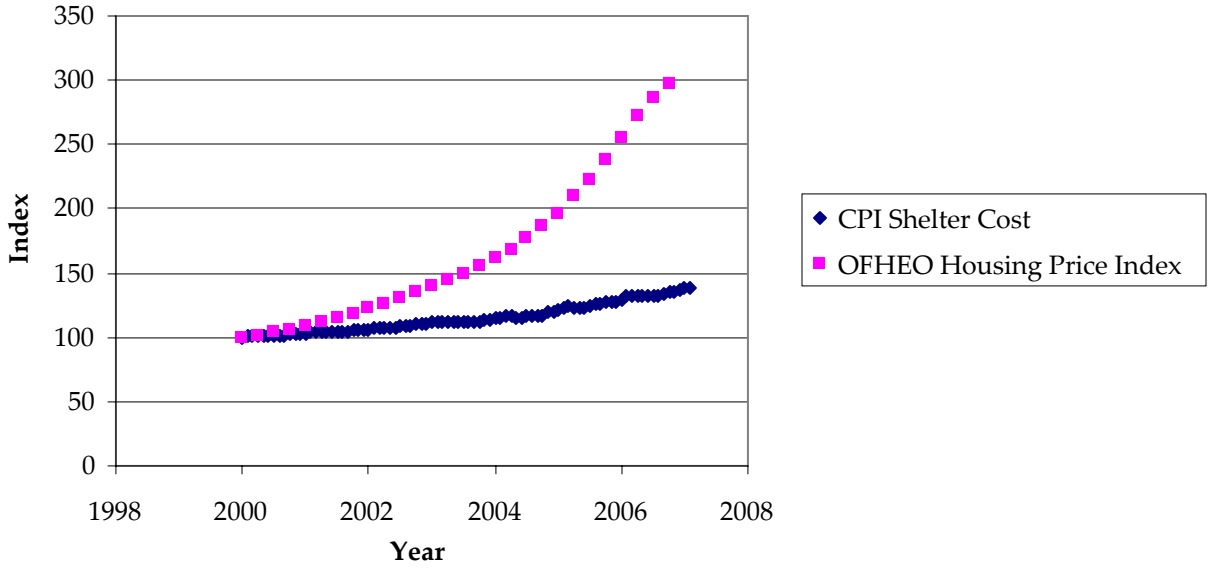
Source: Economagic.com and U.S. Office of Federal Housing Enterprise Oversight, www.ofheo.gov (accessed May 10, 2007).

Figure B-2: Shelter Cost vs. Housing Prices in the United States since 2000



Source: Economagic.com and U.S. Office of Federal Housing Enterprise Oversight, www.ofheo.gov (accessed May 10, 2007).

Figure B-3: Shelter Cost vs. Housing Prices in Miami, FL, since 2000



Source: Economagic.com and U.S. Office of Federal Housing Enterprise Oversight, www.ofheo.gov (accessed May 10, 2007).

The Link between Home Prices and Rents

In considering the recent trends of rents and housing prices, it is important to understand how these two concepts are related. The chief notion here is that of non-arbitrage. If United States Smelting, for example, could buy gold in Paris for €400 an ounce and the exchange rate is $1.30/€, they will not purchase gold in New York for more than $520 (since 400*1.3=520). And if they think the Paris price a year from today will be €450, they will use any extra funds to buy gold rather than investing those funds at five percent (since a price increase from 400 to 450 would represent an increase of 12.5 percent, which is greater than five percent). Of course, the market for homes is less efficient than the market for gold. Nonetheless, the principle of non-arbitrage serves as a useful reference, even though it does not apply perfectly.

For potential homebuyers in an efficient market, the cost of owning a home and the cost of renting a comparable home should be equivalent. If this were not the case, all participants in the housing market would either own their own homes or reside in rental units. A similar concept holds for landlords. If the price of a home were always greater than the benefits of renting it out, then all landlords would sell their overvalued properties and none would buy. Similarly, if the price of a home were always less than the benefits of renting it out, then all landlords would buy and none would sell. Since there are both buyers and sellers at any given time in the housing market, the cost of owning a property must be approximately equivalent to the benefits of renting it out.

In this way, homes can be thought of as simple financial instruments in which the discounted sum of expected rent payments is equivalent to the price. This relationship can be expressed by the following equation

$$P = \frac{R}{U},$$

where P is the home price, R is the periodic rent payment for that home, and U is a discount factor called the *user cost*. For practical purposes, the user cost should always hold some value between zero and one, so decreases in the user cost increase the spread between the price of housing and the cost of renting while increases in the user cost close that gap.

The user cost incorporates all of the financial incentives and disincentives of owning a home. Specifically, the user cost for an individual homeowner for each year is defined by the following

$$r = d + m + (1 - I)(i + p) - a,$$

where d is the depreciation of the home, m is the maintenance that the home requires, p is the property tax rate, I is the marginal income tax rate, i is the interest rate at which the homeowner could borrow or lend, and a is the property's appreciation.[162] Note that increases in depreciation, maintenance, the property tax rate, and the homeowner's interest rate increase the user cost. Conversely, increases in the capital gains for the homeowner decrease the user cost, as do increases in the marginal income tax rate since payments toward property taxes are deducted from taxable income.

Because of the link between rent and home prices, changes in the user cost must be responsible for relative changes between the two. The most obvious cause for the change in user cost since 2000 has been the decline in interest rates, which has decreased the opportunity cost to homeowners of having funds tied up in their homes. Because the money spent in the purchase of a home could otherwise be invested, presumably at the rate of interest, decreases in the interest rate lower the potential returns from other investments. Additionally, even though interest rates are approximately equivalent throughout the United States, the change in interest rates—in conjunction with the fact that different localities face different levels of home appreciation—may also explain why areas such as Miami have experienced a much larger percentage increase in home prices than has the average United States city. A simple numerical example illustrates this point.

Consider two cities. Assume that in both City A and City B interest rates and the rate of appreciation are the only relevant elements of the user cost. Assume further that, while interest rates are the same across both cities, the rate of appreciation in City A is fixed at three percent while the rate of appreciation in City B is fixed at one percent. Let rents for

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[162] Poterba, James M., "Tax Subsidies to Owner-Occupied Housing: An Asset-Market Approach," *The Quarterly Journal of Economics*, 99 (November 1984): 729-752.

any house in either city be $12,000. Initially, let the interest rate be nine percent. The initial home prices in Cities A and B, represented by P_{A1} and P_{B1} respectively, are

$$P_{A1} = \frac{\$12{,}000}{9\% - 3\%} = \$200{,}000$$
$$P_{B1} = \frac{\$12{,}000}{9\% - 1\%} = \$150{,}000$$

If the interest rate were to decrease from nine percent to five percent, the new prices of homes in City A and City B (P_{A2} and P_{B2}, respectively) would be

$$P_{A2} = \frac{\$12{,}000}{5\% - 3\%} = \$600{,}000$$
$$P_{B2} = \frac{\$12{,}000}{5\% - 1\%} = \$300{,}000$$

Notice that even though the change in interest rates was the same for both cities, the percentage change in home prices for the two cities was not the same. City A experienced a jump in home prices of 200 percent while City B experienced only a 100 percent increase. If Miami consistently has a higher rate of appreciation than the national average, which seems reasonable, then it stands to reason that changes in the national interest rate would have a greater percentage impact on Miami home prices than those in the typical American city.

In the example, we assumed that the rates of appreciation remained the same within each respective city. An additional explanation as to why the percentage change in home prices in Florida has outpaced the national average might be that the rate of home appreciation is also increasing faster in this state than across the nation as a whole. This, in turn, could be due to several factors, such as unexpected increases in wealth and income inequality or unexpectedly large numbers of baby boomers retiring to Florida. (Note that, since the number of baby boomers retiring to Florida has been predicted to increase for a number of years, the increase in housing appreciation as a result of these boomers should have already been incorporated into home prices. Only unexpectedly large increases should have an impact on current prices.) All of these factors would tend to increase the expected future demand for upscale homes, decreasing the user cost of owning them. Because of this, areas with large numbers of upscale homes would experience the largest percentage increases in average home price.

It is worth noting that, since the value of a housing structure is constrained by the cost of building the structure, most of the increase in home prices is due to increases in the value of land and not increases in value of the housing structure. Consider a $20,000 car parked on a lot worth $200,000, giving a total value for both lot and car of $220,000. If the price of the lot and car together increased to $320,000 while the price of similar cars was still $20,000, the $100,000 increase in price would surely be a result of an increase in the value of the land rather than an increase in the value of the car. In the same way, the value of housing structures in a competitive market can never increase to a value greater

than the cost of building the structure, which has remained relatively stable in recent years.[163] Presumably, then, since the cost of building housing structures is approximately fixed, most increases in home prices are a result of increases in the value of land. Even in recent years, building costs have risen less than the value of the land.

Apartment Rent in Florida, 2000 and 2007

A serious limitation of the CPI implicit rent component is that it is available within Florida for only one urban area—Miami—which may not be representative of the entire state. For that reason, we have estimated the increase in apartment rent throughout Florida between 2000 and 2007. The Bureau of Economic and Business Research had previously collected rent estimates for various types of units in 1,583 complexes in the second half of 2000 for the construction of the Florida Price Level Index. For this study, during March and April 2007 we collected current rent information for 1,121 of the same complexes. Of course, some of the rental complexes surveyed in 2000 have since been taken off the market, and many have been converted to condominiums.

Our results are in Table B-1. "MSA" stands for Metropolitan Statistical Area. "Complexes" is the number of different apartment complexes, and "Units" is the number of types of units for which we have obtained data for both 2000 and 2007, distinguished by complex and, within a given complex, the number of bedrooms, number of bathrooms, square footage, and sometimes other features. "Nominal" is the change in nominal rent between 2000 and 2007, averaged across units, and "Real" is the change in rent adjusted for inflation, using the national CPI. Table B-1 suggests that the increases in apartment rent in Florida have been smallest in the middle of the state and largest in the coastal Panhandle and the most southern areas of the state. These results are partially confirmed by results from Department of Housing and Urban Development's Fair Market Rent (FMR) datasets, which we have included as a check against our data, in Table B-2.

Fair market rents are designed to be estimates of the 40th percentile gross rent in an area, excluding new or public housing. Accordingly, they include shelter rent along with the cost of all utilities other than telephones. HUD constructs these estimates by generating base year FMRs from the decennial census and then annually updating the base year via data from the American Housing Survey and telephone surveys.

Where the FMR results conflict with our apartment rent results in the measure of the percentage change in rents among cities, we believe that our data are superior. For instance, the FMR data shows large real percentage decreases in rent for Naples, Orlando, and Tampa, where house prices have skyrocketed. This result does not seem to be consistent with newspaper reports of rents rising more rapidly than inflation. Additionally, it seems unlikely that, in cities like Gainesville and Tallahassee, the difference between the change in real rent for three-bedroom units and for four-bedroom units would be as large as it is (13 and 14 percent, respectively), again calling into question the validity of the FMR data. However, it may also be worth noting that our

[163] There are exceptional cases, such as structures that come to have artistic or historic value, but these are the exception rather than the rule.

apartment rent data are not entirely analogous to the FMR data since we focus on the mean apartment rent in an area, while the FMR only reports the 40th percentile rent in each metropolitan area. For example, some of the larger discrepancies between the two datasets may be at least partially attributable to a change in the skewness of the distribution of rents, perhaps making the divergence between results not as large as would first appear. In any case, the FMR data are consistent with our main point—namely, that rent has risen far less than house prices.

We note that in Miami, our data indicate a 32 percent increase in apartment rent between 2000H2 and 2007H1, compared to a 39 percent increase in the shelter component of the CPI for that MSA from the year 2000 to 2006Q1. That the CPI figure would be higher for implicit rent may be simply due to sampling error or other data issues. The difference is quite plausible, however. First, apartment rent may take time to adjust. Second, as noted in the introduction to the section, the creative mortgage financing and house price expectations that induced people to move into owner-occupied houses would have weakened the increase in demand for rental units.

Table B-1: Changes in Apartment Rent, Florida, 2000H2 to 2007H1

MSA	Complexes	Units	Nominal (%)	Real (%)
Ft. Myers-Cape Coral	31	81	35	13
Ft. Walton Beach	21	50	32	11
Gainesville	77	209	26	6
Jacksonville	113	351	28	8
Lakeland-Winter Haven	14	66	27	7
Miami-Ft. Lauderdale, Miami Beach	211	668	32	11
Naples-Marco Island	16	45	26	6
Orlando-Kissimmee	195	640	24	4
Melbourne-Titusville-Palm Bay	23	60	28	8
Panama City-Lynn Haven	16	42	35	13
Pensacola-Ferry Pass-Brent	43	143	28	8
Sarasota-Bradenton-Venice	46	123	24	4
Sebastian-Vero Beach*	3	5	25	5
Tallahassee	75	218	20	1
Tampa-St. Petersburg-Clearwater	208	703	27	7
Florida	1,121	3,534	27	7

*Due to the small sample size (only five units), the reader should interpret the Sebastian-Vero Beach results with caution.

Table B-2: Percentage Changes in Florida Fair Market Rents, 2001 to 2007

	3 Bedroom		4 Bedroom	
Metropolitan Area	Nominal	Real	Nominal	Real
Ft. Myers-Cape Coral	25	6	23	5
Ft. Walton Beach	37	17	28	9
Gainesville	27	8	11	-5
Jacksonville	16	-1	19	2
Lakeland-Winter Haven	24	6	33	14
Miami-Miami Beach-Kendall HMFA*	24	6	25	6
Naples	7	-9	0	-15
Orlando	12	-4	8	-8
Melbourne-Titusville-Palm Bay	22	4	17	0
Panama City	31	12	36	16
Pensacola	27	9	31	12
Sarasota-Bradenton	27	9	28	10
Tallahassee HMFA*	19	1	1	-13
Tampa-St. Petersburg-Clearwater	13	-4	13	-4
Vero Beach-Sebastian	17	0	7	-8

*HUD metro FMR area as defined by the *Federal Register* at http://www.huduser.org/datasets/fmr/fmr2007f/FY2007F_FR_Preamble.pdf.

Source: U.S. Department of Housing and Urban Development, www.huduser.org/datasets/fmr.html (accessed May 10, 2007).

First, controlling for skill and job characteristics, we can think of the wage level in an area as being determined by both the consumer price level and the level of amenities in that area. Because of this relationship, then, the *change* in the wage level must be determined by the *changes* in the consumer price level and the level of amenities. If we assume that, in each area, the level of amenities has remained approximately unchanged across the United States since 2000, we may conclude that the change in the wage level in an area is due almost entirely to changes in the consumer price level. For small changes, the percentage change in the wage level is roughly equal to the percentage change in the consumer price level. This is an important result—one that we will use in the next paragraph.

The total consumer price level in an area is a weighted average of several different components, including the price of shelter, the consumer price level of local goods and services, and the price level of tradables (that is, the price level of non-local goods that may be imported). Once again, changes in the price level must be a result of changes in its component parts. For our purposes, we can assume that the price of tradables has remained unchanged since 2000. We can further assume that changes in the price of local goods and services are equal to changes in the wage level. Therefore, the change in the price level in an area is determined by the change in the price of shelter and the change in the wage level. Remember from above, however, that the percentage change in the price level is equal to the percentage change in the wage level. This yields the result that changes in the wage level are a function of changes in the price of shelter. Mathematically, this is

$$\Delta W = [(\alpha+\beta\rho)/(1-\beta\lambda)]\ \Delta R,$$

where α is the share of shelter in consumers' budgets, β is the budget share of local goods and services, ρ is the share of land and structures in local firms' production costs, and λ is the share of local labor in local firms' production costs. The term $(\alpha+\beta\rho)/(1-\beta\lambda)$ is the rent-to-wage impact coefficient, that translates an exogenously caused change in the cost of shelter or rent, ΔR, into a change in wages, ΔW.
If we now suppose, for example, that α is 0.2, β is 0.3, ρ is 0.2 and λ is 0.5—that is, households spend 20 percent of their budgets on rent and 30 percent on local goods and services, while rent accounts for 20 percent and local labor for 50 percent of firms' costs—then we find that

$$\Delta W = 0.31\ \Delta R.$$

In other words, a one percent increase in the price of shelter only increases the wage level by about three-tenths of one percent. Miami has experienced a growth in the price of shelter of approximately 40 percent since 2000. On an annualized basis, this is a growth rate of about five percent per year. However, if our previous analysis is correct, then the real increase in the price of shelter has only been responsible for a 1.5 percent per year real increase in the Miami wage level.

Real apartment rents, as indicated in our earlier table, rose by 11 percent in Miami and by seven percent in Florida. This would indicate real wage gains attributable to the higher price of shelter of just over three percent in Miami and just over two percent in Florida. According to the consumer price index, the cost of shelter in Miami rose 40 percent over the seven years from March 2000 to March 2007, compared to 25 percent nationally and compared to a 20 percent increase in the national CPI. That suggests that the real price of shelter rose by about five percent nationally and 17 percent in Miami. Since the change in apartment rents was nominally 32 percent in Miami and 27 percent in Florida overall, we estimate that the increase in the CPI shelter cost for all of Florida might be perhaps 35 percent nominally, for perhaps a 12 to 13 percent real increase. Combining houses and apartments, we think the effect of Florida's housing boom on real wages, other things the same, should be to raise them by around four percent, compared with 1.5 percent nationally. Of course, some parts of the state experienced larger increases than others. If the wages make up roughly 75 percent of local government spending, then the effect of higher shelter costs would be to raise local government costs by approximately three percent. Of course, housing costs are only one determinant of the total cost of local government wages. More generally, Florida's local governments must match wages in other states and in the private sector.

Conclusion

Despite dramatic increases in home prices in Florida, apartment rent, the actual rent of tenant-occupied houses, and (assuming housing markets are reasonably efficient) the implicit rental cost of owner-occupied houses has increased only moderately in percentage terms since 2000. The difference in the percentage growth between home prices and the price of shelter has been caused by a decrease in the user cost, one result of

falling interest rates and rising levels of home appreciation in certain areas of the country. We approximate the wage level as a function of the consumer price level and the level of amenities in an area. Since home prices are not a component of the price level, they have no direct effect on wages; therefore, the dramatic increases in home prices since 2000 have raised wages in Florida less than one might expect intuitively. Even increases in the price of shelter have had only a limited impact on the wage level.

Acknowledgements

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APPENDIX C: MOTOR VEHICLE FUEL TAXES: A REVENUE ALTERNATIVE?[164]

Introduction

Rising concern about carbon emissions and high motor fuel taxes in other countries ($5.79 a gallon in the United Kingdom, $5.57 in Germany, $4.24 in Japan) suggest that a substantial increase in Florida's gasoline tax may be worth thinking about as an alternative revenue source if voters pass the proposed constitutional amendment adding tiered exemption options to the calculation of assessed property values. Though the direct impact of the resulting revenue constraints would be felt by local governments, Florida's state and local expenditures are intertwined. The interaction is direct through the use of both property tax revenue and general revenue for funding schools and indirect through services that can be provided either by the state or by local governments, such as roadways and public safety.

As a practical matter, a substantial increase in the gasoline tax, on the order of fifty cents to a dollar a gallon, would have to be at the state level. Because of inter-local competition in the retail market for gasoline, local governments would be unlikely to impose increases of this magnitude, even if allowed to do so. As an additional practical matter, a substantial increase is not a near-term option. At present, a large gasoline tax hike is politically unfeasible. The next five to ten years, however, may bring a different perspective, perhaps because of rising concern about global warming, about the condition of Florida's infrastructure as reduced funding limits construction and maintenance, and perhaps because of worries about American funds going to unfriendly regimes in OPEC. Our first point is that a large gasoline tax hike would generate enough revenue to improve our infrastructure markedly. Our second point is that, despite the considerations noted above, such a hike is unlikely, even over a twenty-year horizon.

Virtues of the Gasoline Excise Tax

If such a tax were to pass, the amount of revenue it could raise would be substantial. To provide perspective, Floridians today pay property taxes somewhat over a thousand dollars a year per resident. They also buy about 500 gallons of gasoline year per resident. Since the elasticity of demand for gasoline is low, a tax hike of fifty cents a gallon would raise about $250 a year per resident, about a fourth of the revenue from the property tax, and a dollar a gallon would raise almost $500 a year. With respect to the long-run, however, a fixed tax on gasoline, even if adjusted for inflation, would be a shrinking source of revenue relative to income, as vehicles become more fuel efficient and the amount of driving per household hits a limit. Over the past 25 years Florida's gasoline consumption per resident has not changed much. The just value of real estate in Florida, in contrast, has maintained a nearly constant ratio to income. Even though the gasoline tax is a cyclically stable source of revenue, at a constant rate it would not be an adequate source for the long run.

[164] This section was drafted by Gabriel Montes-Rojas and Julia Ferdowsi, who are not responsible for its final form.

There are several reasons many public finance specialists favor large increases in gasoline taxes. First, the elasticity of demand for gasoline is low. This implies that raising the gasoline tax will result in only small deadweight losses. Households are now even more dependent on automobiles for daily transportation than they were during the 1970's and 1980's, and thus are less able to reduce gasoline consumption in response to higher prices. One theory proposes that an increase in suburban development has led to larger distances between travel destinations. Consequently, drivers have less ability to adjust to price changes in gasoline because greater distances decrease the practicality of alternative modes of transportation such as walking or biking. The decrease in the availability of public transit has further heightened dependence on gasoline consumption.

Second, state taxes may be passed to pump prices by less than a 100 percent. That is, if a state increases its tax by some percentage, the price to consumers may increase by a smaller percentage. Third, gasoline taxes have some properties that make them preferable to a general sales tax (for a recent discussion of the properties of this tax see Parry and Small, 2005). The four main negative externalities associated with gasoline consumption (climate change, local pollution, congestion, and accidents) justify the increase in this tax. According to the Environment New Mexico Research & Policy Center (2007), Florida ranked third highest in carbon dioxide (CO_2) emissions from motor gasoline consumption with 72.7 million metric tons (mmt) in 2004. Between 1990 and 2004 Florida had an absolute increase in carbon dioxide (CO_2) emissions from motor gasoline consumption of 41%, ranking second nationwide. Of course this is due mainly to population growth, but the point is that Florida is becoming large enough to be a global example. Beyond the global implications of Florida's carbon emissions, significant reductions would also improve local air quality, with lower-order effects on quality of life and health. A second negative externality is congestion: Between 1990 and 2004, vehicle travel on Florida's Interstates increased by 73 percent, while lane miles on the system increased by only 15 percent. High gasoline taxes raise the cost of driving compared to public transportation, and therefore, reduce traffic congestion and traffic-related accidents.

Fourth, the gasoline excise tax is a more stable revenue source than the general retail sales tax. The revenue stream from sales taxes is difficult to forecast accurately given the instability of consumer purchases of durable goods. Gasoline consumption, in contrast, has remained relatively steady. Even following the 1990 Iraqi invasion of Kuwait, as oil prices soared and a recession hit, Floridians' gasoline consumption per resident fell by only 6% [Florida Motor Gasoline and Diesel Fuel Report, February 2007].

Lastly, as stated in Poterba (1991), when measures of lifetime income are used, gasoline taxes appear to be less regressive than is commonly thought. Although the poor pay a higher proportion of their income in fuel tax than do the rich, as Martin Wachs (2003) argues, the fuel tax appears to be fairer than alternative sources of funding. Low income individuals who actually drive pay the fuel tax while those whose poverty precludes them from driving are not charged. The users of public transit on average have much lower incomes than highway users; as fuel taxes are diverted to transit expenditures, lower income people are the primary beneficiaries. Also, in a state with no income tax, the most substantial alternative source of transportation finance is sales taxes, which are roughly as

regressive as gasoline taxes. But sales taxes are paid by everyone, regardless of their use of the highways, and are less fair because they charge the non-driving poor as much for highways as they charge the poor who do drive. Jurisdictions that increase their fuel taxes allotted for transportation are less likely to raise general sales taxes for proceeds to improve transportation. Greater reliance on motor fuel taxes for transportation allows government to devote their general sales taxing capacity to support non-transportation programs that could benefit everyone including the non-driving poor – such as education, public safety, and health care.

This analysis makes sense only if current gasoline taxes are not set too high, and Parry and Small (2005) found that the optimal level for gasoline taxes in the U.S. should be of about twice the current rate. They concluded that the optimal tax should be approximately $1.01 per gallon. In other words, taxes may be increased to obtain efficiency (in the Parry and Small sense).

According to the American Petroleum Institute as of March 2007, the nationwide average tax on gasoline is 45.8 cents per gallon. The state of New York, with the highest gasoline tax in the U.S. of 60.8 cents per gallon, is nonetheless far below the optimal tax rate. Although Florida's gasoline tax, including local option taxes, is above the national average tax rate at 51.0 cents per gallon, it is far below the Parry- Small optimal tax of $1.01 per gallon. Florida has the capacity to increase its tax.

Even if a higher gasoline tax turns out to be a practical offset to the reduction in property taxes, user charges would be more efficient economically. User fees are an excellent mechanism for funding because they vary in proportion to the use of the road and highway systems. The fuel tax is a poor means of reducing driving-related externalities such as congestion because it is too indirect, causing greater shifts in the fuel economy than in the amount of travel. Parry and Small propose a vehicle-miles traveled tax (VMT tax), a tax on travel distance denominated in cents per vehicle-mile, as a practical alternative to gasoline taxation. Given that most externalities are mileage-related, the VMT tax has a greater impact on reducing externalities than the fuel tax, per dollar of revenue raised. Other popular user fees include an emissions tax on air pollutants, peak-period congestions fees, road pricing and toll collection. In Ft. Myers, a 50 percent discount on the toll was offered on the Midpoint and Cape Coral before and after rush hours. Survey data from the U.S. Federal Highway Administration (2006) revealed that, among those eligible for the discount, there was an increase in traffic of as much as 20 percent during the discount period before the morning rush hours, with corresponding drops in the rush hour itself.

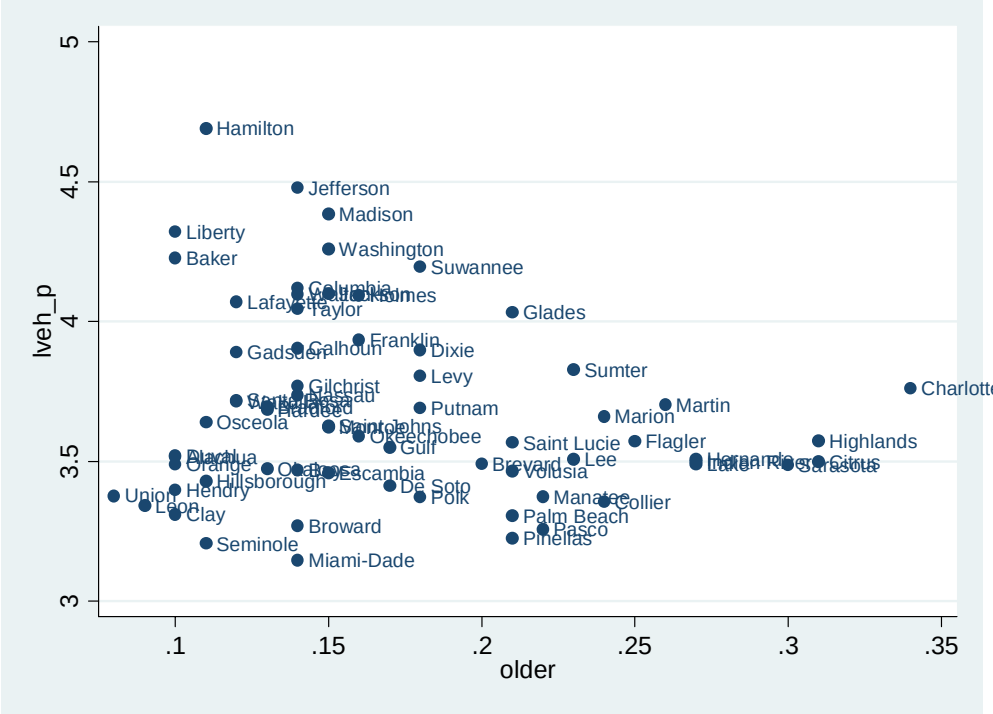
User fees have been advocated by a number of transportation economists, primarily based on arguments of system efficiency. However, ideal externality taxes have not been widely implemented because they raise objections on equity grounds, they require administrative sophistication, and there is often political opposition to the idea per se of introducing new taxes. Fuel taxes, by contrast, have low collection costs and are extraordinarily efficient. While manual toll collection incurs costs that range from twenty to twenty-five percent of the revenue produced, the cost of administering the fuel tax is typically one or two

percent of the revenue. Moreover, the gas tax is collected directly from gasoline distributors, rather than from retailers or motorists, which helps keep collection costs low and reduces the potential for payment evasion. Also, paying fuel taxes does not inconvenience drivers since the tax is incorporated directly into the price of fuel.

Likelihood of Such a Hike

Although we think such a hike in the gasoline tax unlikely, the case is not cut and dried. We discuss first why Florida may be more likely than other states to raise the gasoline tax eventually. First, Florida's large and growing share of retirees among voters may reduce opposition to gasoline tax increases. Studies indicate a positive relationship between the price-elasticity of demand for gasoline and age. The higher elasticity of the older age group can be explained by the fact that retirees do not commute to work. Their trips are more flexible. Moreover, older individuals are also significantly less likely to own vehicles, and they drive less.
Figure illustrates the relationship between vehicle miles traveled and the percentages of individuals sixty-five years or older by county. The figure illustrates the fact that, as shown by national studies, those 65 and older consume about a third less fuel than younger adults. As voters, they may be more tolerant of gasoline taxes.

Figure C-1: Vehicle Miles Traveled Per Capita and Share of Population 65 and Older, by County



Second, Florida does not produce oil or manufacture automobiles. The U.S. has many sources of petroleum, the exploitation of which involves politically important business interests. These interests form the core of the highway lobby that has supported policies favoring motor vehicle transportation and opposed increases in gasoline taxes.

Third, the state of Florida is spatially unique, with thirty-five counties along coastal waters. The total land area of Florida is 54,190 square miles; the coastal counties account for 30,069 square miles (55.5% of Florida's land area) and the non-coastal counties account for the remaining 24,121 square miles (44.5%). The coastal location denotes limited access to transportation infrastructure. Coastal counties do not have access from 360 degrees, thus their residents and workers cannot use the Interstate System as easily. With a limited transportation network and few alternative routes, people are forced to endure congestion. Florida's population growth, its historically low levels of federal funding for transportation infrastructure and its geography are primary causes of congestion. Florida is more crowded than the average state. As noted by Julie Hauserman (2007), approximately 80% of Floridians live or work in one of the state's thirty-five coastal counties. As these counties become more and more crowded, their voters may become more likely to support an increase in the gasoline tax. Even the trucking industry might support higher fuel taxes if it could see a link to congestion relief.

Fourth, the recent effort to reduce the significantly large amounts of gasoline consumed by Floridians is primarily motivated by two concerns: the environment and the national security. Recently, global climate change has become a more salient policy issue at the state level. Florida's coastal counties are vulnerable to the forces of wind, waves, sediment transport, hurricanes, and sea level rise often linked to carbon emissions. This is another reason Floridians may be willing to raise the gasoline tax before the nation is.

In spite of these reasons for thinking Florida may be an early state to raise the gasoline tax by a significant amount, we think that while we cannot rule out the occurrence of such a hike, it would be unlikely, even ten or fifteen years from now. The older voters who buy less gasoline are also less likely to have to endure severe rush hour congesting, having more flexibility in timing their downtown trips. They may be less willing to support taxes to support investment in transportation infrastructure. And even though Florida has no large oil or automobile industry, it does have an important tourism sector, which may challenge a higher gasoline tax. According to Visit Florida, tourism generated more than $65 billion in 2006 and created more than 983,800 jobs. Nearly 85 million tourists visited in 2006, making Florida one of the most popular travel destinations in the world. An increase in the motor fuel tax may deter some tourists from visiting. The European visitor is accustomed to high gasoline taxes, but the Latin American is not.

Moreover, Florida's majority-minority legislative districts increase the likelihood that the state will continue to have a legislature reluctant to raise taxes, even for infrastructure investment, and even legislators who are more tolerant of taxes in general may be precisely the ones opposed to a gasoline tax because of its regressivity. Turning from the legislature to the general electorate, passing a constitutional amendment raising the gasoline tax would require an implausible sixty percent positive popular vote. Finally, even though the vehicle and oil industries have limited presence in Florida, the attempt to spread the sales tax to services in the 1980s demonstrated how strongly industries outside a state will campaign against a tax that they fear may serve as an exemplar to other states. Altogether, the considerations make a large gasoline tax hike unlikely.

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APPENDIX D: RAISING PARKING FEES WOULD REDUCE CONGESTION AND HELP LOCAL BUDGETS[165]

Introduction

One way in which cities can recoup revenue lost to proposed changes in the property tax system is by making their existing operations more efficient. For example, cities could profitably increase user-charges for non-essential services they provide, and we have a particular service in mind: Local governments could both increase revenue and improve efficiency by raising parking meter rates, since low on-street parking prices, coupled with high garage prices, generate congestion in the state's downtowns.

The cost of on-street parking is the sum of the money price of the meter and the time and gasoline used in finding an open space. Because current meter rates are below-equilibrium prices, there is a shortage of on-street parking spaces, leading travelers to circle the block searching for an open space. Motorists exacerbate downtown traffic in two ways: continued circulation of their vehicles adds to the total number of cars on the road, and because they are searching for inexpensive parking, they slow down and decrease the average speed of traffic, increasing the time each car spends in transit. Although motorists are intimately aware of the costs in time, gasoline, and frustration, to themselves of a prolonged search, they do not account for the same costs their actions impose on each other.

Raising Parking Meter Rates

Clearing Congestion
By raising meter rates to equilibrium prices, local governments could increase efficiency because there would cease to be a shortage of on-street parking. Congestion would diminish because individuals would be less willing to spend time circling for a space knowing that it will cost just as much as parking in the nearby garage, plus it will cost them time to find an open space.

The decrease in congestion will result in secondary effects that have positive environmental impacts. As drivers spend less time circling for spaces, and as more drivers turn to using public transportation, there will be a decrease in emissions in downtown areas. Additionally, if drivers spend less time searching for spaces, they won't waste as much fuel. Individuals who find parking on the street are randomly selected from all of the individuals searching for a space, so the average user must value the space more when the price is higher. We believe that people who continue to use higher priced street-parking will be people with high time-costs: people in a hurry are those with remunerative professions. In contrast, individuals with low time costs and less willing to pay increased rates may turn to public transportation.

Increased City Revenue

[165] This section was drafted by Rachel Kaplan, who is not responsible for the current version.

In addition to reducing congestion, by raising parking meter rates cities would experience an increase in revenue that could partially offset the decrease in property tax revenue. For example, Cincinnati in 2007 raised the price of its 1,400 meters from $0.60 per hour to $0.75 per hour, yielding $250,000 in new revenue.

Florida's cities vary widely in what and how they charge for street and garage parking. In 2003, Miami, which had 7,981 meters raised $4.8 million in parking meter revenues while Fort Lauderdale with 6,596 meters raised $5.3 million, Palm Beach with 823 meters raised $398,613 and in 2005 Tallahassee raised $301,532 with about 1,200 meters.[166] As evidence of the scope cities have in raising their meter prices, the differences in price between the most expensive meter and most expensive garage ranges from $0.35 in Tampa to $8.50 in Miami and $9.25 in Orlando. In some cities, the added revenue could total millions of dollars, while elsewhere it could reasonably pay for the wages of several city employees.

Local Businesses

Even though it is rational for cities to increase rates of downtown meter prices, there is some objection from local business owners, who argue that such increases lead consumers to prefer suburban shopping centers where parking is free over downtown shopping. However, we feel that consumers who undertake the monetary costs and frustration of searching for downtown parking spaces will judge reasonable increases in meter rates as a worthwhile exchange for speedier access to parking. Possibly coupled with pricing that varies by hour and day of the week—to account for the different sensitivities to price and time of consumers and professionals— and reinvestment of some proceeds into beautification and development projects, we feel that an equilibrating price increase will have only modest effects on downtown businesses.

Conclusion

In short, higher fees for downtown parking meters represent for many cities in Florida a modest source of untapped revenue, even if such revenue cannot even come close to compensating for lost property tax revenue. Such a move is simply an example of a user fee that should be raised. Doing so would reduce downtown congestion and its accompanying frustration and pollution, increasing use of public transportation.

[166] In Miami, meter rates range from $0.75 to $1.50 per hour while garage prices range from $1.00 to $6.25 per hour. Fort Lauderdale charges between $0.25 and $1.50 per hour for on-street parking and sets garage rates at $0.75 cents per hour up to a flat rate of $10.00 per entry. Palm Beach is consistent, setting meter rates at $0.50 per hour, garage rates at $1.00 per hour and charging a $7.00 flat fee for late night garage parking. Tampa's meter rates range from $0.125 to $1.25 per hour, while its garage rates are set at $1.60 per hour. In Orlando, meter rates are set at $0.75 per hour, while garage rates range from $0.75 per hour to a flat rate of $10.00.

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APPENDIX E: FLORIDA'S HIGHWAYS: PRIVATIZATION AS A POSSIBLE SOLUTION TO CONGESTION[167]

Introduction

In the thirteen years between 1990 and 2003, Florida's population grew 32%, and this influx has not only caused urban areas to become more crowded, but has led to further growth in the state's suburbs and bedroom communities. As a consequence, over the same 13-year period there was a 69% or two thirds increase in vehicle travel. The state's current transportation infrastructure has been unable to accommodate these changes, and congestion on highways has become increasingly severe.

Developing Florida's transportation infrastructure to the point where it functions efficiently will cost significant sums of money. Florida Department of Transportation projects that, from the years 2007-2016, there is $12 billion available for road spending, but the funding needed over that period of time will be nearly triple that figure: $34 billion, or a shortfall of $22 billion. By 2030 the shortfall is expected to more than double to $45 billion. Moreover, proposed changes to the state's property tax system could lead to over $30 billion in lost revenue over the next five years. Property taxes are used by all local governments to fund road programs, and thus these tax cuts will affect road spending across the state.

Current Funding

The total amount of revenue available to the state for highways in 2005 was close to $8 billion dollars, almost half of which came from highway-user revenues. Federal funding and state bond proceeds each accounted for roughly a quarter of state spending on highways.[168] The remaining percentage was spread out over contributions from local governments, apportionments from the General Fund and other state imposts.

Revenues used by local governments for highways in 2004 totaled $3.7 billion, with almost a quarter of that coming from local imposts. Other large portions were derived from fuel and vehicle tax revenues, bond proceeds and apportionments from the state's General Fund. The remainder included revenue from property taxes, special assessments, road and crossing tolls, and miscellaneous state and federal funds. No local revenue came from the Highway Trust Fund.

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[167] This section was drafted by Rachel Kapal, who bears no responsibility for the current version.

[168] Federal funding for the construction and maintenance of the interstate highway system comes from the Highway Trust Fund and is allocated by a formula developed by Congress and the Federal Highway Administration that distributes revenues from the federal excise tax on gasoline. The 2005 Safe, Accountable, Flexible, Efficient Transportation Equity Act : A Legacy for Users (SAFTEA-LU) allocates 87 cents of every dollar in the excise tax collected in the state of Florida. The principal SAFTEA-LU funding formulas are based on a state's total population, not on population growth, but the Act's Growing States Allocation provides Florida's urban areas $46.1 million and its non-urban areas $8.6 million for additional road spending through the year 2009.

In 1985, the Florida legislature adopted the Growth Management Act, which requires that all cities and counties create local government comprehensive plans to direct growth and development. Such plans must be financially feasible and be based on the premise of concurrency.[169] Nevertheless, local governments often adopt levels-of-service that are too low to accommodate growth, and they are often too optimistic about funding or expenditure, creating plans that prove to be financially unfeasible.

As an example, consider that Miami-Dade's 2004 long range transportation plan estimates that the county will receive $19.3 billion in revenues and spend $19.3 billion on its projects over the years 2010-2030. These financial estimates in the plan were based on "the estimated growth of population, gasoline/diesel fuel use, vehicle miles traveled, fuel efficiency, and motor vehicle registrations." However, the Reason Foundation, a non-partisan think-tank determined that Miami-Dade will need to spend $30 billion, half again what the county itself predicts, over that period to reduce congestion.[170]

Costs of Congestion

Highway congestion has real costs for the state, which in 2003 amounted to nearly $4.4 billion dollars based on data produced by RAND, of which about $2.5 billion was borne by southern Florida.[171] Moreover, in order to maintain 2003 congestion levels of the five urban areas cited without imposing additional fees, the state would have had to add 461 lane miles of highway. Beyond the cost to the individual traveler, the cost incurred by the trucking industry is sizeable. According to the Federal Highway Administration, highway congestion in the eight worst bottle necks in Florida causes an annual delay of 3.6 million hours and cost truck companies $116 million. If the state does not drastically decrease congestion, the losses that these companies endure will continue to increase, and this will harm the state's economy.

Option: Congestion Fees

One way for the state and local governments to alleviate congestion is to levy a congestion fee. There is no reason to charge a congestion fee outside of peak hours or in out-of-the-way places. However, in the absence of some form of access pricing such as congestion fees or tolls, once the roadway is at capacity—e.g. during rush hour—each additional driver causes every other driver an increasing delay. The optimal congestion fee would be set so as to discourage using the highway during peak hours.

Unfortunately, a state-imposed congestion fee is not politically feasible. Even though the congestion fee imposed in London in 2003 has had some success, similar

[169] Title XI Chapter 163 Section 13d of the Florida Statutes states that financial feasibility is important because "… the premise of concurrency is that the public facilities will be provided in order to achieve and maintain the adopted level-of-service standard."

[170] "16th Annual Report on the Performance of State Highway Systems (1984–2005)," The Reason Foundation estimates are based on data from the Texas Transportation Institute's Travel Time Index, and the Federal Highway Administration's Highway Economic Requirement Study and Highway Capacity Manual.

[171] The congestion cost used includes both the time cost and wasted fuel cost due to congestion resulting from incident and recurring delay. http://fl.rand.org/stats/community/trafficcongestion.html

proposals in major American cities have been met with much disapproval.[172] Even if a state-imposed congestion fee were politically viable, the only working example in London is inefficient. Todd Litman of The Victoria Transport Policy Institute claims that London's congestion fee is not optimal for three reasons. First, it charges the same amount per car, regardless of how many miles each driver travels. Second, the fee is the same throughout the day; it does not take into account that certain times of day are more congested than others. Finally, the fee is the same in all parts of the city and does not take into account that some areas become more congested than others. Charging optimal fees is too much of a burden for governments to handle. Furthermore, the start up costs and operating costs are quite steep.

Option: Increasing Lanes

Instead of focusing on managing demand, counties and cities can concentrate on increasing supply. By increasing the capacity of existing highways, and constructing new roads, traffic will be less dense and congestion will lessen. During the 1980s congestion continued to increase across the country, but during that time, three cities saw substantial reductions in their Traffic Congestion Index (TCI). These reductions are linked to significant increases in lane-miles in all three of the areas.

Phoenix's TCI decreased 10% after they increased their lane-miles by 88%. Houston's TCI also decreased 10% after increasing their lane-miles by 23%. Detroit's TCI decreased a modest 3% after increasing their lane-miles by 11%. Increasing lane-miles is an effective way to manage congestion, but as things stand Florida lacks the funding to create as many lane-miles as is necessary to ease congestion.

Option: Privatization

As Florida's highways become more congested, and it becomes clearer that the state lacks the funds to solve this problem, other alternatives will be considered. One such alternative is privatizing some of Florida's highways. Some argue against privatization on a theoretical level, asserting that it is wrong to make citizens start paying to use roads. However, road usage is not currently free. In the state of Florida, citizens pay an average gas tax of 50 cents per gallon purchased.

Furthermore, while many assert that highways are public goods, they do not fulfill two criteria necessary for something to be a true public good. First, each user of the highway imposes a cost on all other users because they occupy space, creating a time delay, and wear on the road, necessitating maintenance. Second, it is very easy for users to be denied access to the highway through regulation, making charging a toll feasible.

Privatizing roads is not a new idea. In fact from 1790 to 1821 10,000 miles of roads in the United State were built and operated by private companies. Private investors were, and are, favored to build and maintain roads because they can manage the projects more efficiently. For example, 23 miles of Texas Highway 121 was built by Cintra, a private company, 10 years faster than the state could have constructed it.

[172] In 2007, Mayor Bloomberg of New York City proposed an $8 fee for cars and a $21 fee for trucks entering certain parts of Manhattan. It is estimated that these changes would bring in $400 million in the first year, but the plan has stalled.

Local governments have less pressure to provide an efficient price than do private investors. As a result, there is a road shortage and highways are over-used and under-priced, creating congestion. The tax system used by the government to fund roads fails to provide enough revenue for transportation infrastructure. Much of the revenue that is used to fund highways is collected from federal, state and local gas taxes. With increased fuel efficiency, individuals can drive longer distances with less gas, and the amount actually collected per mile from gas taxes does not reach the level anticipated when the tax was instated. Furthermore, gas taxes are the same for everyone who fills up, regardless of whether or not they are peak time travelers.
Instead of just using a flat rate to tax drivers, it would be more efficient to charge based on road usage. Private investors can do what the government is unable to do and charge drivers optimal prices based on time of day, miles traveled and areas visited. This way, congestion will be optimally reduced.

Aside from increasing pricing efficiency and decreasing congestion on roads that are privatized, awarding a contract to a private investor translates into significant revenue that the state can use in other areas of transportation infrastructure that need improvement. Because increasing taxes is not politically viable, raising money by creating public-private partnerships is an alternative way to reduce Florida's congestion.

Experiences with privatization elsewhere

In 1995, the Dulles Greenway opened in Northern Virginia. This 14-mile highway was designed, built and operated by TRIP II for a price tag of $350 million. The agreement was for 42.5 years, and the return to the investor was capped at 18%. Because a free alternative road, Route 91, was widened shortly after the completion of the Greenway, low demand caused TRIP II to experience lower than expected toll revenues, causing the company to refinance. In 2001, because the company was not close to reaching its projected return, Virginia extended its contract another 20 years. And in 2005, Macquarie Infrastructure Group bought out TRIP II for $617.5 million.

In looking at the Dulles Greenway, one can see that even when a project does not pay as expected, the burden of having to finance and operate it may not necessarily fall on the general taxpayer but on the user of the project. If contracts are constructed so that a private investor who is not on track to reach its goals can refinance, extend the lease, or transfer ownership, then it is likely that the project will ultimately pay its own way.

In 2004, Chicago began the bidding process for a private investor to operate the Chicago Skyway, a 7.8 mile-long bridge from Chicago to the Indiana border. The city signed a 99-year lease agreement with The Skyway Concession Company, LLC (SCC) for $1.83 billion. Under the terms of the contract, SCC is responsible for all operations and maintenance of the Chicago Skyway, and they are also entitled to all toll and concession revenue. The two parties agreed to specific toll prices and included a provision for potential congestion pricing increases.

In 2005, the state of Indiana decided to seek out a public-private partnership for the Indiana Toll Road, a 157 mile-long roadway that serves as the primary connection between the largest cities on the Great Lakes and the Eastern Seaboard. In 2006, Indiana signed a deal with ITR Concession Company, LLC for a 75-year lease for $3.85 billion. Like the Chicago/SCC contract, the Indiana/ITR deal includes provisions for toll rates, and allows for the possibility of increased congestion pricing. However, this contract takes the agreement one step further, establishing a limit on how high the return is to the private investor.

By establishing price ceilings in the contract, local governments can ensure that private toll operators do not charge monopoly prices. Even if such provisions are not included within the contract, nearby roads may constrain their ability to raise prices, as was the case in Virginia.

Some citizens stand against privatization. In 2007, the state legislature of Texas passed a bill to put a moratorium on privately financed road projects for a two-year period in a move partly aimed at the 23 miles of Texas Highway 121. The Texas legislature did so because citizens feel that they are the rightful owners of the state's roads, and feel uncomfortable selling portions to private investors. Unfortunately for Texans, over the past 25 years the state has seen a population increase of 57%, an increase in traffic of 95%, but an increase in road capacity of only 8%. The 50-year deal between Texas and Cintra brought in $2.8 billion of revenue. Running out of other options to keep up with growth, Texans may find themselves with no choice but to repeal the moratorium.

Financing Options

Just as there are many ways to form a public-private partnership, there are different ways to auction off contracts for those partnerships. Two interesting ways to auction contracts for public-private partnerships are Demsetz auctions and Present-Value-of-Revenues (PVR) auctions.

Demsetz auctions are created so that the investor who bids the lowest toll wins the contract. If there is sufficient competition among bidders, then the lowest toll will equal average cost, and monopoly profits will be eliminated. If this is the case, then even though the highway has characteristics of a monopoly, it will be run as if it faced competition. The biggest foreseeable problem is that of demand-side risk; the investor can earn more or less than expected, depending on the demand for the roadway. The way to solve for this is to allow for a buyout provision within the contract, whereby when the company reaches a certain return, it transfers ownership back to the state.

PVR auctions are set up so that the investor who bids the lowest present value of returns on toll revenue wins the contract. The great advantage of PVR contracts is that if problems arise so that the investor is unable or unwilling to continue to operate the roadway, another company or the state can purchase the contract for the difference between the initial present value bid and the present value of revenue received. If the Dulles Greenway had been created with a PVR contract, then when Virginia decided to

widen Route 91, TRIP II could have sold the contract back to the state for the remaining present value; and after Route 91 was completed, Virginia could have set up another PVR auction to sign a new contract for the operation of the Dulles Greenway that would take into account the free alternative route.

A common criticism of any contract that has flexible lease terms which allow the private investor a specified return on investment is that the investor will be indifferent about increasing demand for the roadway because profits are guaranteed in the long term. Furthermore, critics believe that investors will not adequately maintain the roadways.

However, as long as quality is maintained, highways are not a good for which the operator can significantly affect demand. Furthermore, the investor's priority is to maximize profit, and in order to maximize toll collection, these operators who maintain the road induce more cars to pass through their toll facilities.

Conclusion

As Florida's legislature debates property tax cuts, the state must look to how it will augment funding for transportation infrastructure. Politically, tax increases are not an option, and with limited funding coming from the Federal government and low gas tax revenue, the state must consider privatizing some of Florida's highways. Private investors can ease congestion by building more lane-miles and charging optimal congestion fees or tolls. The state simply lacks the money to accomplish the projects needed to ease congestion, and must look to an alternative.

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