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Are High Taxes Restricting Indiana's Growth?

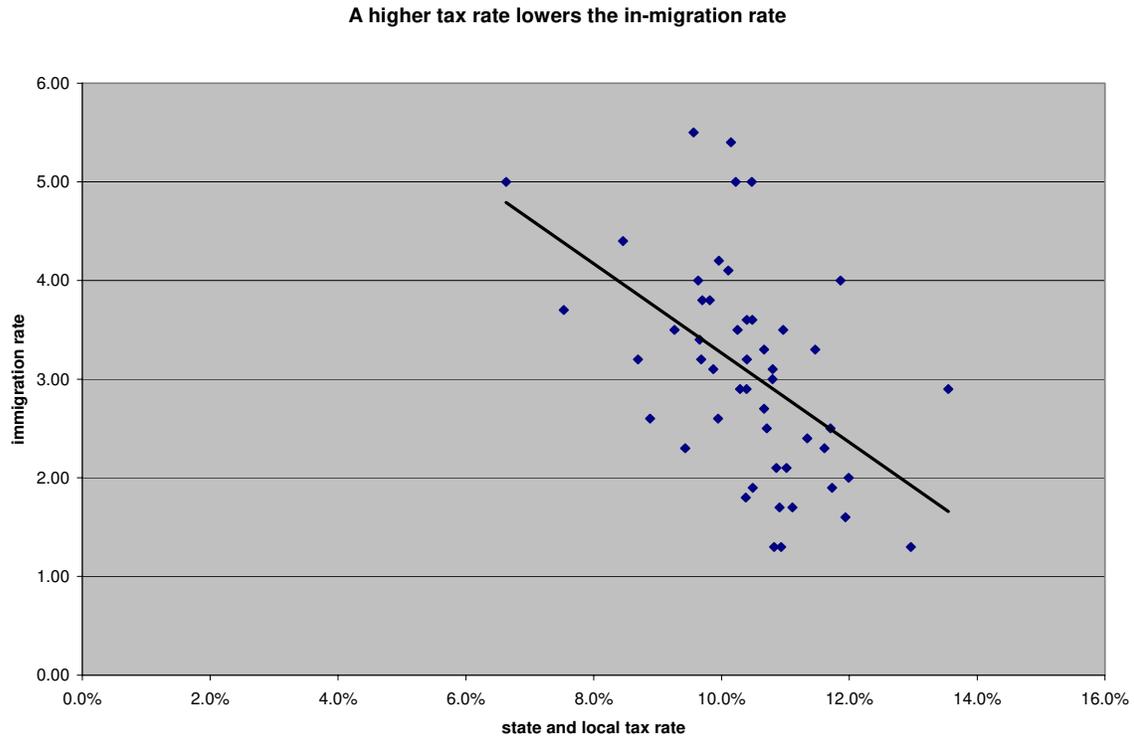
John A. Tatom

A "Hoosier Comeback" program, sponsored by the Indiana Economic Development Corporation, is part of a strategy to boost economic growth, in this case through increasing the quantity and quality of available human resources. The plan envisions subsidies to encourage the return of former residents. Indiana's population growth has been weak relative to the rest of the country, though not as weak as in the 1970s and 80s. It is set to return to a much weaker pace, however, according to the US Census Bureau. In 1972-87, Indiana's population growth rate was only 0.2 percent per year, well below the US pace of one percent per year. In some years, population even fell (1980-83 and 1986). Subsequently, Indiana's population grew at a 0.8 percent average annual rate from 1987 to 2005, closer to, but still below, the national pace of 1.2 percent per year. Over the next 25 years US population growth is expected to slow (0.8 percent per year) and Indiana's is expected to fall back more sharply (to 0.3 percent per year). Such slow growth in population and the workforce will curtail the pace of expansion of overall output and income in the US and all the more so in Indiana.¹

A broader effort could usefully focus on recruiting others to migrate to Indiana or on inducing existing residents to stay. Charles Tiebout, in a famous paper published a half-century ago, explained that consumers vote with their feet, sorting themselves into political jurisdictions based on their preferences for public sector goods and services. This "Tiebout hypothesis" has found strong statistical support in a variety of contexts ever since and has become a critical feature of local government expenditure and tax analysis. If people vote with their feet, then governments that reduce government programs or raise taxes would discourage residency and economic activity in their jurisdictions. Indiana could attract back more former residents, or keep those it has, by lowering the tax burden, if people vote with their feet. In the reverse direction, Smith Conway and Houtenville (2001) provide evidence that the elderly are attracted to move to states with sales-tax-exempt food, low personal income tax rates, low death taxes, and low welfare spending. LaFaive (2006) cites evidence of large net out-migration in Michigan recently due to the large and rising tax burden.

In-migration rates are strongly affected by state and local tax rates. Chart 1 below shows the tax rate prepared by the Tax Foundation for the 50 states for 2005 and in-migration rates prepared by the US Bureau of the Census for 2005.² The in-migration rate is measured by the number of residents over one year of age who did not live in a state in the prior year divided by the current population. The tax rate includes all state and local taxes as a percent of net state product. Evidence supporting consumers voting with their feet can be seen in the chart. While there are many other factors that affect in-migration, the negative relation between the state and local tax rate and in-migration is apparent.

Chart 1



The in-migration rate is very sensitive to the tax rate.³ In the linear formulation of the data captured by the trend line shown in the figure, each one percentage point rise in the tax rate will reduce the in-migration rate by 0.41 percentage points. This effect is statistically significant at a conventional level of significance (t-ratio equals -3.62, which implies that the effect is significantly different from zero at a 99.9 percent confidence level). This means that there is less than one chance in a thousand that such a value (0.41) could occur randomly when the true value is zero, or that there is no relationship between tax rates and in-migration whatsoever.

There are other factors that could affect the in-migration rate besides the tax rate and some of those could be correlated with the tax rate so that the simple linear relationship is really just due to those other non-tax factors. Two such factors were added to the statistical relationship to check the robustness of the tax rate effect, the growth rate of employment in the previous year and the level of per capita personal income. Including either measure does not have an effect on the statistical significance of the tax effect. Per capita income does not affect in-migration in these tests. This is a potentially useful measure to capture non-tax effects on in-migration because it is uncorrelated with, or not statistically related to, the tax rate measure (the “correlation coefficient” which measures such a relationship is only 0.04; this measure has a value of one if there is a perfect correlation and zero if there is no relationship). One might expect that out-of-state residents are attracted to states with higher per capita income. Per capita personal income

has no effect on in-migration (its coefficient has the wrong sign and its t-ratio equals 0.55), however. Its inclusion has essentially no effect on the size (0.40) or significance (t-ratio is -3.53) of the tax rate effect.

Including past employment growth in the analysis of in-migration along with the other two measures does have a systematic positive effect, as would be expected. People are influenced to move into a state where employment growth has been relatively more rapid. The coefficient on employment growth is 0.75 and it is statistically significant (t-ratio equals 6.81), strongly supporting this view. The absolute size of the tax effect drops to -0.27 (t-ratio equals -3.24) in this estimate. The implication of this result is that high past employment growth that attracts in-migration is highly correlated with low tax rates, which is not surprising. The correlation coefficient, which indicates this negative correlation, -0.32, is relatively high for the number of observations (fifty states) here. Arguably, the expectation of low tax rates accounts for both effects.

In Indiana, the state and local tax rate rose from 10.0 percent to 10.6 percent between 2000 and 2005. According to the linear relationship in the data, this tax hike would reduce the in-migration rate by 0.24 percentage points. This is half the decline in population growth for the 2005-30 period projected by the Census Bureau. Placed on top of the decline already projected, this would bring the population growth rate to about 0.1 percent per year from 2005 to 2030. On the other hand, pushing taxes back down by a similar amount could raise the in-migration rate enough to boost the population growth rate closer to the US average rate and keep the state's share of population and income from declining as much. Accounting for out-migration would reinforce these effects on population growth.

The recent increase in the tax rate is large. According to Tax Foundation data, Indiana's state and local tax burden rose from 35th in the nation in 2000 to 25th in 2005. In 2000, Indiana had a lower tax rate than all of its neighbors. Since then, all of these states had rising tax rates, but Indiana's tax rate increase was sufficiently large to put it above the rate in Kentucky. Ohio had the highest tax rate of neighboring states in 2005; at 11.8 percent, 0.8 percentage points higher than in 2000. Ohio's tax rate put the state at the 10th highest level in the nation. Ohio's in-migration rate was only 1.6 percent in 2005, below Indiana's 2.1 percent and lower than the rate in all states except New York, California, and Michigan, which tied for the lowest in-migration rate in the country at 1.3 per thousand. All three are high-tax states, especially New York where the tax rate was highest in 2005 at 14 percent.

The Tax Foundation also prepares a State Business Tax Index, which assesses the attractiveness of a state based on its tax system.⁴ Their index is based on five subcomponents of the tax system: individual income taxes, corporate income taxes, sales taxes, unemployment insurance taxes and property taxes. Somewhat ironically, their index shows Indiana as a very attractive state. How can a state have the 25th highest taxes in the land and yet have the 12th best tax climate?⁶ The answer is that the Tax Foundation ranks low individual income taxes with an especially large weight compared

with other taxes and Indiana has one of the lowest individual tax rates in the country, ranking eleventh lowest.⁵

Indiana relies more heavily on corporate income taxes and property taxes than other states and, while sales taxes are relatively low, these tax rates have increased most rapidly since 2000. It is arguable whether a given tax burden arising from an income tax is substantially less onerous than one arising from taxes on corporate capital income or property taxes, but this is not reflected in the Tax Foundation's State Business Climate Index. Even the climate index shows deterioration, however. In the first two estimates of the index for 2003 and 2004, Indiana ranked 10th in the country. Some of the deterioration, at least judged by the climb in the tax rate, occurred between 2000 and 2003.⁶

The Tax Foundation's State Business Climate Index suggests that more bang would come from cutting the individual income tax than other taxes. A lower income tax rate directly affects take-home pay and may be more transparent than assessing other taxes for an interstate move. On the other hand, the taxes that have risen most in recent years have been sales and property taxes. Indiana is already relatively lower on the income tax ranking. The important point is that cutting taxes of any type will attract more people to Indiana and please existing residents; it also does not expand government programs.

Chart 2

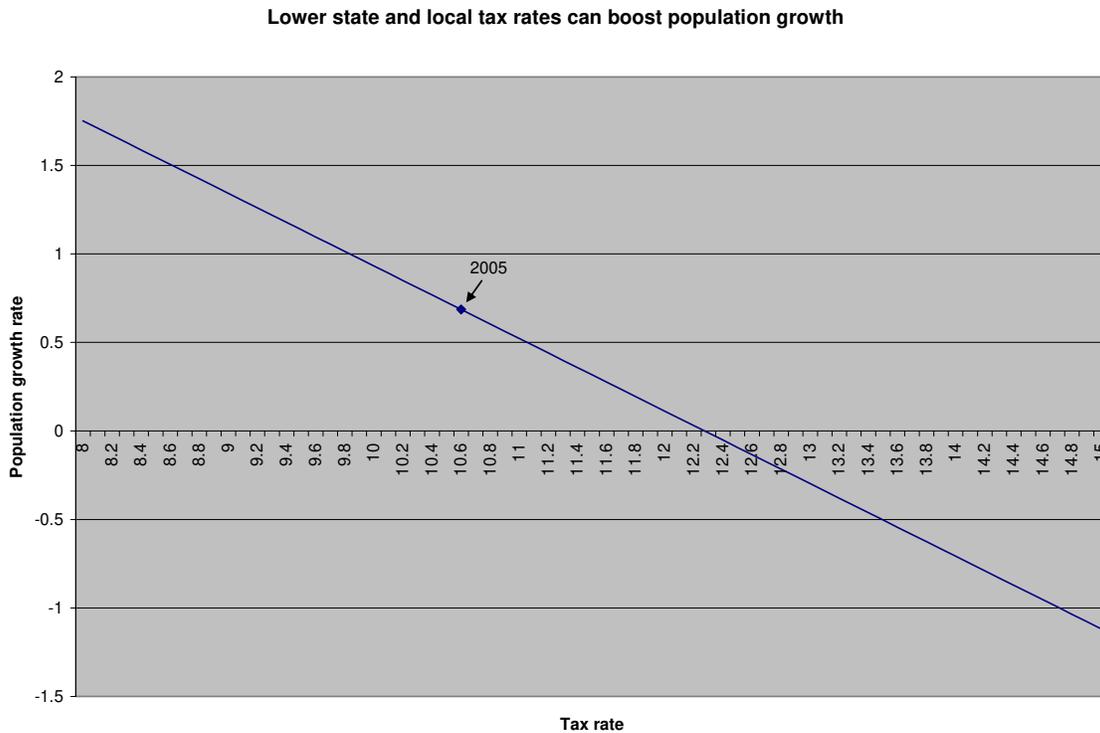


Chart 2 shows the effects of the Indiana state and local tax rate on population growth as tax rates are varied from 8 percent, the 2005 low rate in New Hampshire, to 14 percent, the 2005 maximum rate in New York around the 2005 point for Indiana, where the tax rate was 10.6 percent and the population growth rate was about 0.7 percent. Raising the tax rate further, to 12.3 percent would bring population growth to a halt or raising it to New York's level would bring on a rate of population decline in Indiana of -0.7 percent. Conversely, lowering the overall rate to 10 percent could bring the population growth rate up to 0.9 percent, higher than the US Census Department estimate for the 2005-30 population growth rate. Matching New Hampshire's 8 percent rate could boost population growth to 1.8 percent, more than twice the prospective national rate. These estimates account for only the effects of the tax rate on in-migration and do not include the reinforcing effects on out-migration.

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Endnotes

1. See U.S. Census Bureau, Population Division, Interim State Population Projections, 2005.
2. The tax rate data are from Dubay(2007).
3. The elasticity of the in-migration rate with respect to the tax rate is -1.39, which means that a doubling of the tax rate will cut the in-migration rate by more than one-half. When past employment growth and per capita income are included in this estimate, the elasticity drops to -0.95 (t-ratio equals -3.48), which is still quite large and highly significant.
4. See Dubay and Atkins (2006) for a description of the index and its latest rankings.
5. In addition, there are other features of the tax system that are ranked; indeed, there are 113 variables that factor in to the five subcomponents of the tax climate index.
6. The Cato Institute assigned a "D" to the Indiana Governor's tax policy in 2006 based on proposals, and the capping of property tax relief. They failed to point out the rise in local sales taxes in several counties, although this may not be properly attributed to the Governor. See Slivinski (2006). Local income taxes approved in the latest and previous legislative sessions and property tax increases and other new taxes, will sharply raise tax rates in this and coming years, well beyond items currently in the Tax foundation estimates.

References:

Dubay, Curtis S., "State and Local tax Burdens Hit 25-Year High," Tax Foundation Special Report No. 153, April 4 2007.

_____, and Chris Atkins, "2007 State Business Tax Climate Index," Tax Foundation Background Paper No. 52, October 2006.

Epple, Dennis, Thomas Romer and Holger Sieg, "Interjurisdictional Sorting and Majority Rule: An Empirical Analysis," *Econometrica*, vol. 69(6), November 2001, pages 1437-1465.

Indiana Economic Development Commission, *Accelerating Growth: Indiana's Strategic Economic Development Plan, 2006*, April 2006.

LaFaive, Michael, "High Taxes Spur Michigan Migration," *The Heartland Institute Budget and Tax News*, September 2006.

Slivinski, Stephen, "Fiscal Policy Report on America's Governors: 2006," *Cato Institute Policy Analysis*, No. 581, October 24, 2006.

Smith Conway, Karen and Andrew J. Houtenville, "Elderly Migration and State Fiscal Policy: Evidence from the 1990 Census Migration Flows," *National Tax Journal*, 54, March 2001, pp.103-24.

Tiebout, Charles, "A Pure Theory of Local Government Expenditure," *Journal of Political Economy*, 64, (1956), pp. 416-24.