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# Kentucky's Structural Deficit

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CENTER FOR BUSINESS AND ECONOMIC RESEARCH

**ISSUE BRIEF**

*on topics affecting Kentucky's economy*

September 2012  
No. 7

*Kentucky is facing a \$1 billion structural deficit by 2020.*

*The growth of revenue is not keeping pace with growth in the economy, especially in the last decade.*

*Revenue elasticity is declining.*

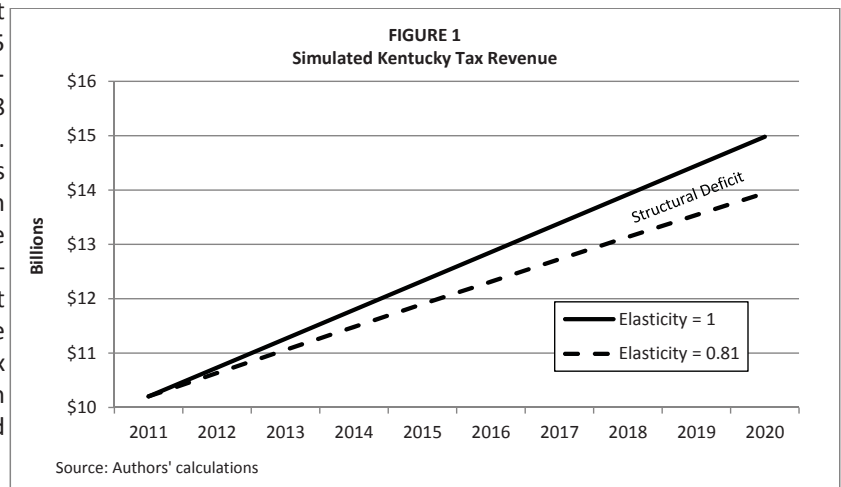
*Two scenarios of future revenue.*

**Kentucky's Structural Deficit**

*By Michael Childress (michael.childress@uky.edu) & William Hoyt (whoht@uky.edu)*

Kentucky faces a structural deficit that could reach \$1 billion by 2020 (see Figure 1).<sup>1</sup> Fundamental tax reform that improves the elasticity in the system—ensuring that tax revenues grow adequately with the economy—will go a long way toward solving Kentucky's structural deficit. Addressing this structural deficit promises to become more difficult in the future since the underlying economic, demographic, and political trends reducing elasticity are continuing and show no sign of abating. Moreover, there are a number of financial factors likely to intensify state-level budgetary pressures in the future, such as Kentucky's \$30 billion unfunded pension obligation and long-term fiscal problems at the federal level.

Revenue growth in Kentucky has slowed in the last several years. From 2000 to 2011, tax revenue failed to keep pace with the economy or declined more than the economy in eight years while revenue growth exceeded economic growth in three years. If the revenue trend demonstrated from 2000 to 2008 continues to 2020, then state government would decrease to below 6.5 percent of the economy—a level not seen since 1968 when it was 5.9 percent. Meanwhile, if expenditures such as education, health care, and infrastructure maintenance and development continue to grow at about the same rate as the economy, then by 2020 tax revenue would be more than a \$1 billion short of expected demand for public services.



Kentucky's recurring budgetary problems are due, in part, to the long-term decline in revenue elasticity—a measure of whether revenue is keeping pace with the economy. Kentucky's main revenue sources are growing slower than its economy (Table 1). While the average elasticity in the earlier periods has been about 1.0, it has slowed to 0.81 from 2000 to 2008. This point is also illustrated by examining Kentucky's total tax collections as a percentage of personal income (see Figure 2), which has declined steadily from its peak of 8.52% in 1995 to 6.94% in 2011.

We simulate Kentucky revenue to 2020 using two different assumptions. In the first scenario we assume that tax revenues will grow at the same rate as the economy—which was the case, more or less, in the 1970s, 1980s, and 1990s. Then, in the second scenario we assume that revenue will grow at the same elasticity that occurred from 2000

**TABLE 1**  
**Kentucky Revenue Elasticity**

Period	Total Tax Revenue	Individual Income Tax Revenue	General Sales Tax Revenue
1970 - 1979	1.09	1.39	0.84
1980 - 1989	1.26	1.56	1.05
1990 - 1999	1.07	1.63	1.00
2000 - 2008	0.81	0.82	0.87

Source: Authors' calculations.  
Note: The total tax revenue and general sales tax revenue were adjusted for the sales tax increase from 5 to 6 percent that occurred in 1991.



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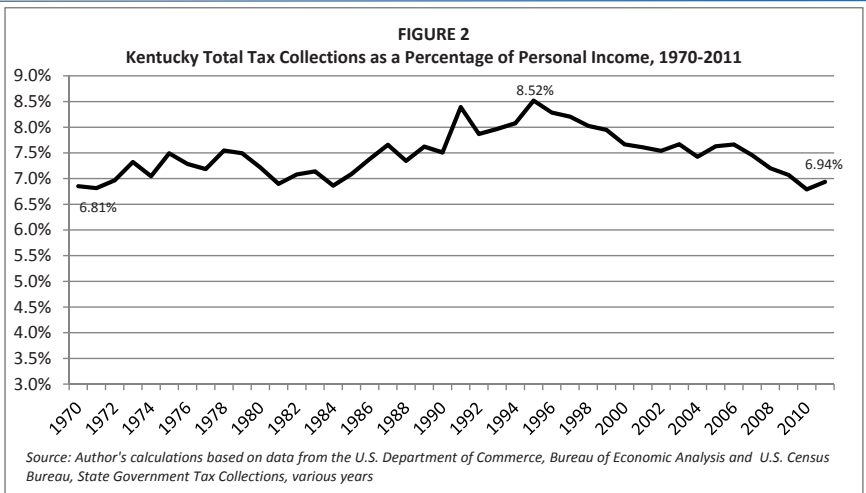
to 2008. The second scenario is more likely since the trends, factors, and forces that have been reducing revenue elasticity are still in place and are expected to remain for the foreseeable future. In both scenarios we assume that Kentucky's economy will grow at the compound annual rate of 4.2 percent, which is the rate experienced from 2000 to 2008.

*Improved elasticity will reduce the structural deficit.*

Total tax revenue grows in both scenarios—as does Kentucky's economy—but the size of state government, as well as its ability to deliver services, is markedly lower in the second scenario given the expected annual shortfalls (see Table 2). Tax revenue remains at about 6.9 percent of the economy in the first scenario but declines to below 6.5 percent in the second scenario (Figure 3). Addressing this structural deficit by improving revenue elasticity is necessary for the long-term finance of Kentucky state government services and investments—regardless of the size of government.

*Many factors are causing the reduced elasticity.*

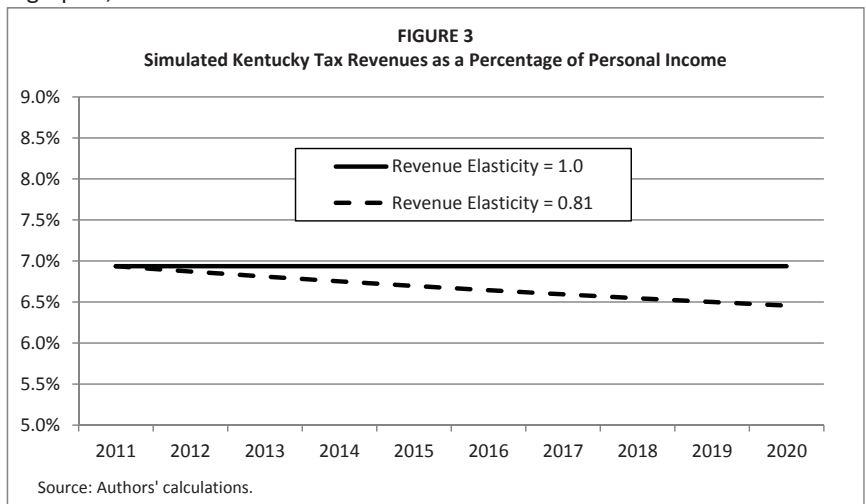
There are several economic, demographic, and political factors contributing to the gradual reduction in elasticity. A multitude of systemic factors affect these sources of revenue, including the gradual shift in personal income away from taxable sources (e.g., wages, salaries, and proprietors' income) and toward mostly nontaxable sources (e.g., some transfer payments and nontaxable employee benefits, like pensions, retirement income, and health insurance); the transition from a goods-producing economy that is taxed to a service-providing economy that is largely untaxed; the rise of "mail order" or remote retail sales, which includes Internet and catalog purchases; an aging population whose spending patterns generate less revenue compared to younger cohorts; and the prevalence of tax exemptions. Given the systemic nature of these changes, the long-term decline in revenue elasticity will likely continue in the absence of tax reform.



**TABLE 2**  
Kentucky Revenue Simulation

Year	Revenue (Elasticity = 1.0) (\$millions)	Revenue (Elasticity = 0.81) (\$millions)	Shortfall (\$millions)
2013	\$ 11,265	\$ 11,059	(\$ 206)
2014	\$ 11,796	\$ 11,481	(\$ 314)
2015	\$ 12,327	\$ 11,900	(\$ 427)
2016	\$ 12,858	\$ 12,315	(\$ 543)
2017	\$ 13,389	\$ 12,727	(\$ 662)
2018	\$ 13,919	\$ 13,136	(\$ 784)
2019	\$ 14,450	\$ 13,541	(\$ 909)
2020	\$ 14,981	\$ 13,944	(\$ 1,037)

Source: Authors' calculations.



**Notes**

<sup>1</sup>This analysis was originally done for the Governor's Blue Ribbon Commission on Tax Reform, which is available in its entirety at the CBER Web site: <http://cber.uky.edu>.