

The “Three Legged Stool” and the “Tax Balance Index”

In discussing tax policy, policy makers often refer to the concept of the “Three Legged Stool.” Some argue that a state should have a balanced tax portfolio, implying that tax collections should be split evenly among income, sales, and property taxes. The tax portfolio is “balanced” if each leg of the three-legged stool – the income tax leg, the sales tax leg, and the property tax leg – is of equal length.

The “tax balance index” is a measure of the degree to which the legs are of equal length. If tax collections are one-third from income taxes, one-third from sales taxes, and one-third from property taxes, the three-legged stool is perfectly level and the index is 100. If all tax collections come from only one of the three taxes, the balance index is zero.¹

Tax shares for each of the big-three taxes are shown in Table 4, along with each year’s tax balance index.ⁱ In the early 1960’s, when Minnesota had no sales tax, Minnesota’s tax balance index was below 40. With the enactment of the sales tax, the balance index rose to 80 in the 1970’s. Between 1986 and 2007, the tax balance index exceeded 90 every year, hitting a peak of 95 in 2004. The index fell below 90 in 2009, rose again to 90 for one year in 2012, but has remained below 90 since 2013. It is expected to oscillate between 89% and 88% between 2019 and 2023, only rising to 90% in 2020.

In 2009, the property tax share exceeded the income tax share for the first time since 1996, and remained so through 2012, but fell below the income tax share in 2013 and is forecast to remain below in forecast years 2019 through 2023.

The sales tax share reached an all-time high of 31.9% in 2003, but it then fell steadily to 25.3% in 2018 and is forecast to rise to 26% for years 2019 through 2023.

The income tax share exceeded 40% in 1979-84. It ranged between 34% and 39% for 30 years before rising above 40% again in 2015. It is forecasted to remain so through forecasted years 2019-2022, before decreasing to 39.8% in 2023.

¹ The formula for the “tax balance index” is:

$$\text{Index} = 100 * \{1 - [\text{abs}(\text{Share1} - 33.333\%) + \text{abs}(\text{Share2} - 33.333\%) + \text{abs}(\text{Share3} - 33.333\%)] / 1.333\},$$

where Share# is the share of one of the three taxes.

ⁱ Multiplying by 100 and dividing by 1.333 creates an index with a range between 0 and 100.