



PRIMER

The Importance of the Tax Wedge on Labor in Evaluating Tax Systems

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Key Points

- The tax wedge on labor is the difference between the total labor costs and the net take-home pay of a single average worker, expressed as a percentage of the total labor costs.
- Because the tax wedge factors in personal income taxes and both employee and employer social insurance contributions, it provides a useful measure of a country's relative tax burden on labor and employment.
- For example: The total labor costs for an average worker in Austria amounts to roughly \$68,800 per year. About 47.4 percent of that \$68,800—more than \$32,600—is attributable to taxes, while the average employee's take-home pay represents just a little more than half the total.
- Most relevant economic research has demonstrated a negative correlation between a country's tax wedge and employment rates.
- **Bottom Line:** *As countries continually evaluate their economic competitiveness, they should consider the combined impact of their income tax and social security systems, all of which impose significant burdens on labor and employment.*

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Introduction

As more countries work to make their tax systems more internationally competitive, the impact of tax policies on employment and wages is a significant consideration. For example, advocates frequently cite the impact of the corporate income tax on labor—both wages and job growth—as evidence in support of or against certain tax proposals. However, the connection among taxes, the demand for labor, and employment extends beyond the corporate tax. A country’s tax wedge, or the gap between an employer’s average labor costs and an employee’s average take-home pay, is another important consideration.

To be more specific, the Organisation for Economic Co-operation and Development (OECD) defines the tax wedge as the “sum of personal income tax and social security contributions paid by the employee and employer (including payroll taxes) net of family benefits expressed as a percentage of total labour costs.” Or, in other words, it is the “difference between an employer’s cost of hiring a worker and the worker’s net disposable income.”

These taxes are typically used to finance politically popular government benefits such as retirement and health care services. However, the evidence suggests that these taxes, and the programs they fund, come at an economic and human cost—they can and do impact the ability of employers to hire workers or increase wages. Therefore, as with the corporate tax, a country’s workers tend to bear much of the burden of a large tax wedge through lower wages and fewer job opportunities.

What Is the Tax Wedge?

Stated simply, the tax wedge is a measure of the relative tax burden a country imposes on labor. More specifically, it is the percentage of the labor costs for an average worker that can be attributed to taxes, including the employee’s income taxes, social insurance contributions, and the employer’s payroll taxes. For workers, the tax wedge will determine how much of their paycheck they will take home after the government takes its share.

Average labor costs are determined by combining the average worker’s gross wage earnings with employers’ average payroll taxes and social insurance contributions.

$$\text{Employee Wage Earnings} + \text{Employer Social Insurance \& Payroll Taxes} = \text{Average Total Labor Costs}$$

The net take-home pay for an average worker is determined by subtracting the employee’s income taxes and social insurance contributions from their wage earnings plus any cash transfers or benefits the worker may have received from the government.

$$\text{Employee Wage Earnings} - \text{Income \& Social Insurance Taxes} + \text{Cash Transfers} = \text{Net Take-Home Pay}$$

The tax wedge is simply the difference between these two figures expressed as a percentage of the average total labor costs. That difference—and the accompanying percentage—is the portion of the labor costs attributable to taxes. In other words, the tax wedge represents the total average burden the government—through income taxes and mandated social insurance contributions—imposes on employment.

$$\frac{\text{Average Total Labor Costs} - \text{Net Take-Home Pay}}{\text{Average Total Labor Costs}} = \text{Tax Wedge}$$

Real-World Example: Austria

To illustrate, let's look at some real-world tax and wage data. According to OECD, the average total labor costs for a single, childless worker in **Austria** amounted to roughly \$68,800 (current USD) in 2017. Of that total, \$53,538 was attributable to gross employee wages. Average employer payroll taxes and social security contributions amounted to \$15,262, or a little more than 22 percent of the total labor costs.

This average worker paid roughly \$7,733—about 11.2 percent of the total labor costs—in personal income taxes and \$9,624—just under 14 percent of the total—in social security contributions. Subtracting those two figures from the average gross wages amount leaves the average Austrian worker with **\$36,181 in net take-home pay**.

The difference between the average total labor costs and the average net take-home pay is \$32,619, which is about 47.4 percent of the total labor costs. Therefore, **Austria's tax wedge was 47.4 percent in 2017, meaning nearly half of the total cost of employing a worker in Austria was attributable to taxes.**¹

Austria in 2017

Total Average Labor Costs (USD):	\$68,800
Personal Income Tax:	11.2%
Employee Social Insurance Contributions:	13.9%
Employer Payroll Taxes and Social Insurance Contributions:	22.2%
Total Tax Wedge:	47.4%

Source: OECD, *Tax Wages 2018* (figures approximate)

These figures leave Austria with the fifth largest tax wedge among OECD countries—trailing only Belgium, Germany, Italy, and France—and well above the OECD average of 35.9 percent. Austria's comparatively large tax wedge is mostly attributable to its required social insurance contributions, which, for both employees and employers, are among the highest in the industrialized world. In contrast, Austria's personal income tax rates are actually slightly below the average among OECD countries.²

¹ OECD, *Taxing Wages 2018*, 186.

² OECD, "Taxing Wages – Comparative Tables," <https://stats.oecd.org/Index.aspx?QueryId=55129>.

The Tax Wedge and Employment

As a rule, when the cost of any commodity increases, the amount that is demanded decreases. Labor costs are no exception. When the cost of employing workers goes up, employers are consequently less inclined to add new jobs. On the workers' side, with a reduction in the benefits of employment—such as a tax hike or a decrease in wages—there is less incentive to work. The latter is particularly relevant to this discussion because, by definition, as a given country's tax wedge gets larger, workers are taking home a progressively smaller portion of the total labor costs.

Most of the relevant economic research suggests a negative relationship between tax wedges and employment.³ In other words, when a country expands its tax wedge by hiking taxes or raising social insurance contribution requirements, thereby increasing the cost of employing workers, employment is likely to go down and unemployment will likely go up. Conversely, by decreasing its tax wedge, through a reduction of either taxes or social insurance contributions, a country can increase demand for labor, which will inevitably result in higher rates of employment and lower rates of unemployment. In addition, shrinking the tax wedge can increase the percentage of total labor costs that workers take home, thereby eliminating disincentives for work.

Much of this connection can be explained through common economic reasoning that is not specific to the tax wedge concept. All taxes on employers—whether on their business earnings or on their payroll—reduce incentives for investment. Less investment generally means fewer productive workers and ultimately reduced employment and lower wages.

Literature Review

Most of the relevant economic research has demonstrated the negative relationship between the tax wedge and employment. For example, a 2003 study by Stephen Nickell reported that a 10 percent increase in the tax wedge reduces labor market input by around 2 percent. He also compared the European countries with the largest tax wedges at that time—France, Germany, and Italy—with the United States and found that tax wedge differences—roughly 16 percent at the time of the study—accounted for about one-quarter of the difference in employment rates.⁴ A few years earlier, Nickell, along with Richard Laynard, produced a panel analysis of 20 OECD countries between the mid-1980s and mid-1990s and found that a five percentage-point decrease in the tax wedge would reduce the unemployment rate by 13 percent.⁵

3 See Primož Dolenc, and Suzana Laporšek, "Tax Wedge on Labour and Its Effect of Employment Growth in the European Union," *Prague Economic Papers* 4 (2010), 345, https://researchgate.net/publication/227473547_Tax_Wedge_on_Labour_and_its_Effect_on_Employment_Growth_in_the_European_Union.

4 Stephen Nickell, "Employment and Taxes," CESifo Working Paper, No. 1109, Center for Economic Studies and Ifo Institute (CESifo), December 2003.

5 Stephen Nickell and Richard Laynard, "Labor Market Institutions and Economic Performance," in Orley Ashenfelder and David Card, eds., *Handbook of Labor Economics* (Amsterdam: North Holland Publishing Co., 1999).

In 2010, Primož Dolenc and Suzana Laporšek published a study in *Prague Economic Papers* confirming a negative tax wedge-employment relationship. Specifically, they found that a 1 percent increase in the tax wedge decreases employment growth in the relevant countries by roughly 0.04 percent. The study ultimately included a recommendation that EU members reduce their tax wedge to both increase employment and bring down unemployment rates.⁶

Paying particular attention to the tax wedge impact in Macedonia, Predrag Trpeski and Biljana Tashevska performed a cluster analysis of 43 OECD and EU countries' tax wedge data. Their study similarly found a negative correlation between tax wedge and employment, though it also found that some countries with exceptionally weak labor market outcomes—Balkan states in particular—had some of the lowest tax wedges in Europe. These incongruencies, they determined, were likely the result of additional factors, such as political matters and demographic pressures, among others.⁷

Conclusion

As countries continue to evaluate the competitiveness of their tax systems, they must consider the impact taxes have on labor and employment. Tax wedge analysis provides important insights to help quantify that impact. By separately considering a country's tax wedge, observers and policymakers pay specific attention to those taxes that most directly impact the costs businesses deal with as they hire and employ workers, as well as those that most directly impact an employee's work incentives.

In addition, factoring in the tax wedge on labor helps to better assess the economic impact of worker and employer social insurance contributions, which are often glossed over when the focus is on the broader tax. The arguments in favor of increased social insurance contributions tend to focus on the benefits of an expanded social safety net. However, those programs tend to come with large price tags and, because increasing contributions means expanding total labor costs and enlarging the tax wedge, workers can end up paying the price for their countries' social insurance systems through lower wages and fewer jobs.

6 Primož Dolenc, and Suzana Laporšek, "Tax Wedge on Labour and Its Effect of Employment Growth in the European Union."

7 Predrag Trpeski and Biljana Tashevska, "Labour Tax Wedge in the Republic of Macedonia – Trends and International Comparison," *Annales Universitatis Apulensis Series Oeconomica* 14(2), 2012, 571-585, <http://oeconomica.uab.ro/upload/lucrari/1420122/24.pdf>.