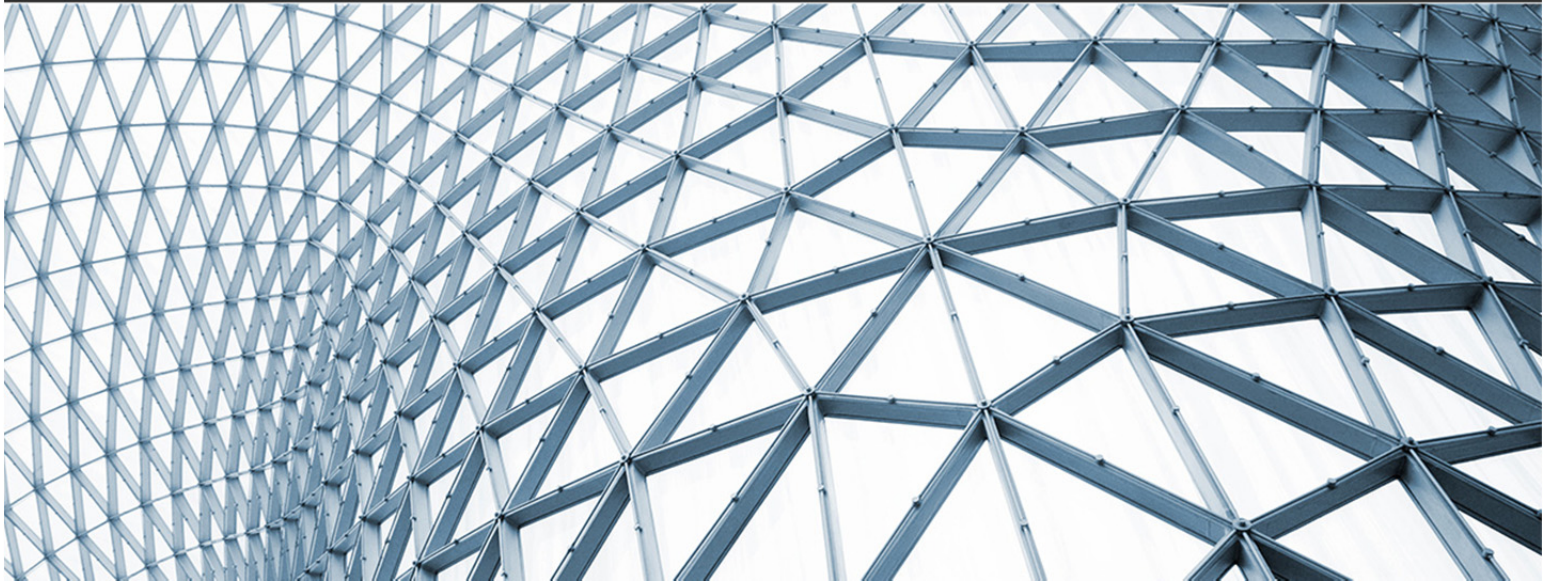


Taxes and the Rise of the Robots: Short-Term Impact Likely



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By Marvin A. Kirsner | May 24, 2018 | Daily Business Review

The robotics industry received two favorable tax breaks in the recent Tax Cuts and Jobs Act (TCJA) that will likely help spur the development of this burgeoning technology. However, state and local governments are beginning to discuss taxing robots in order to replace taxes lost to automation and this could result in some additional costs for robot users.

The TCJA helps the robotics industry under two much-discussed provisions. First, businesses can now deduct 100 percent of the cost of equipment up front, rather than having to depreciate the cost over a period of up to seven years. This benefit is available to any equipment purchased for use in a business—it is not limited to investment in robotic equipment. The ability to immediately write off 100 percent of the investment might sway some businesses to make the decision to invest in robots to do the work that an employee can do, because a business will be able to deduct 100 percent of the cost of robotic equipment in the year of purchase. The resulting tax savings for the year might result in some businesses deciding to purchase robots rather than hiring workers. For example, let's say that a business could either hire 20 workers for a total cost of \$1,000,000 per year in total salary and benefits, or purchase a robotic system for \$8,000,000 to perform the same task (not including the cost of any custom software, which is not 100

percent deductible in the year of purchase). Assuming the business is a pass-through entity, and its owners are in the top 37 percent federal tax bracket, the \$8,000,000 investment which can be written off in the year the equipment is placed in service would generate a total tax savings worth nearly \$3,000,000 to all of the owners in the first year. This 100 percent write-off is available until the end of 2024, at which point it begins to phase out. (Note that if the 100 percent deduction results in a net operating loss, there are limitations on the amount that may be deducted in subsequent years).

A second incentive to invest in robots under the TCJA is more subtle, but might be of greater importance in the long run for businesses structured as pass-through entities. Section 199A of the new law allows a 20 percent deduction for income from pass-through entities, such as LLCs, partnerships and subchapter S corporations. For example, if a pass-through business eligible for this tax benefit has a \$1 million profit, its owners can deduct up to \$200,000, so that they pay income tax on only \$800,000. But there is an important limitation—the 20 percent deduction is limited to the greater of: 50 percent of W-2 wages paid by the business; or 25 percent of W-2 wages, plus 2.5 percent of tangible capital assets owned by the business. Using this example, unless the business pays at least \$400,000 in W-2 wages to workers, or owns \$8,000,000 in equipment, or a combination of both, its owners will not be able to take advantage of the full benefit. In our example, if the business has no W-2 wages and no depreciable assets because the employees are leased and all of its manufacturing is contracted out to a third party, the owners' deduction allowed under Section 199A would be \$0.

Let's say that our hypothetical business decides to undertake its own manufacturing operations, and a decision must be made whether to hire workers or invest in robotic equipment. For every \$2 of W-2 wages it pays to employees, the owners would be able to use \$1 of their Section 199A deduction. On the other hand, if instead of hiring workers, the business purchases robots, for every \$40 of robotic equipment purchased, the owners would be able to use \$1 of their Section 199A deduction. So the owners have a choice—either spend money to hire workers or invest in robots to replace workers in order to take advantage of the Section 199A deduction. This provision of the new law establishes a standard to compare the tax benefit of investing either in robots or new workers of 20 to 1—each \$20 one-time investment in robots would derive the same Section 199A deduction benefit for each \$1 paid in wages every year when satisfying the Section 199A deduction limitation test. When the 100 percent first year write-off is taken into consideration, this might cause some pass-through businesses to invest in robots over human workers.

Three things should be noted here. First, the 2.5 percent amount of equipment that is allowed toward the 20 percent pass-through business deduction is determined on its original cost, not the depreciated amount. Second, the purchase cost of the robot used to satisfy this 25 percent test can only be used for ten years after the purchase. And third, only investment in equipment counts toward this 2.5 percent test, not software, because only purchases of tangible depreciable property are included in this amount. Unless the IRS offers guidance or Congress clarifies this issue, investment in artificial intelligence would not appear to be included in this 2.5 percent test.

As for state and local taxation, currently, states do not yet have a tax specifically imposed on robots. However, they are beginning to eye ways to impose such a tax. Part of this is due to a fear that they will lose tax revenue on income earned by displaced workers, and part is a concern over the economic impact of jobs lost to robotic technology.

Bill Gates is the most prominent figure to propose a tax on robots to deal with the disruption in the employment market. Jane Kim, a member of the San Francisco Board of Supervisors has proposed a fund dedicated to re-training workers displaced by robots to be paid by an as yet undisclosed tax on robots. Such a robot tax might take several forms. It is possible that such a tax might be similar to a sales tax on

data processing services; or a tax based on the income that a human worker would have been paid to perform the same work; or a value added tax based on the additional value that the robot adds to the products or services sold by the business; or simply a higher tangible personal property tax rate or sales tax rate for robots than for other equipment. Since the slate is blank on a robot tax, any such tax regime is wide open.

This is not the first time that government has sought to impose taxes on new emerging technologies. The list of taxes on new technologies spans well over a century, but they did not deter their growth because of the enhanced efficiency of these technologies. For example, electricity prevailed over steam-driven machinery despite taxation, because it was more efficient. Likewise, telephone service was taxed but it prevailed over the telegraph industry because telephones were more efficient than telegraphs. New taxes on these new technologies did not terribly stunt their growth, and future taxes will not likely deter the rise of the robots.

Even if some future state tax might have a short-term impact on the use of robots in our economy it is not likely to threaten their long-term dominance. No matter what form of tax systems are ultimately enacted, like the cyborg portrayed on the silver screen by one former California governor decades ago, they'll be back.

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