Economic Impact on Wisconsin of Trade-supported Technical Education

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Introduction

An effort to change the relationship between the construction industry and the trades in Wisconsin is ongoing. Proponents of this change suggest that it will make Wisconsin more attractive to business investment. However, an annual survey of corporate executives conducted by *Area Development* magazine and published in 2014 found that the leading determinant affecting location decisions was the "availability of skilled labor."

This analysis, produced by the University of Wisconsin-Whitewater Fiscal and Economic Research Center and Economic Development Partners, LLC, has determined that altering the relationship between trade unions and the construction industry puts at risk three important components of the development of skilled labor.

- The first is the funding of trade-supported technical education (TSTE). TSTE creates over 500 jobs per year in Wisconsin and appropriately assigns the cost of this education to the users of the skilled trades.
- The second is the allocation of the cost of the training to those directly who benefit from it. With diminished trade presence, this negotiated funding may disappear and be placed directly on all taxpayers. This cost would be assigned whether taxpayers benefit from the skilled workers or not.
- A final consideration is the dilution of wages, which would create a disincentive for the trades to negotiate this funding. With declining wages for the trades, this portion of the wage could be reappropriated from technical education and sent directly to the worker, thus defunding these programs. In the long run, this would cost Wisconsin jobs due to the decay of the skilled worker base that employers seek.

Methodology

To determine the economic impact of TSTE on Wisconsin, we used the 2013 IMPLAN economic modeling system. This system produces an economic multiplier, which is a quantitative measure of economic impact that recognizes that all levels of economies are interconnected networks of interdependent activity. When one part of the economy changes, the rest of the economy will be influenced by that change. This will typically result in a greater total impact than was caused by the original injection of capital into the economy.

Only a portion of the money provided for technical education likely remains in the local economy, as some of those funds "leak" out through taxes or through spending outside of the local economy. For example, people who work within the industry may live outside the state. Insurance dollars paid by the employers and employees might go to a company in a different state. The training equipment could have been assembled by people from outside the community, or might have been designed and fabricated in a state other than Wisconsin. Each of these scenarios, and many others, allows for money to leak out of the economy and to have an effect on other areas. The multiplier effect compensates for this leak.

IMPLAN analysis

To calculate the impact of expenditures by TSTE, we used an IMPLAN input/output (I/O) model. The model is capable of determining the overall economic impact that initial spending has on the local economy. It uses data gathered in surveys and estimates to determine to what extent different spending categories affect the local economy in terms of initial effect, direct effect, indirect effect and induced effect.

Direct effect – this refers to production change associated with a change in demand for the good itself. It is the initial impact to the economy, which is exogenous to the model. In the case of TSTE, this includes the spending brought about by training facilities and schools funded by the trades.

Indirect effect – this refers to the secondary impact caused by changing input needs of directly affected industries (e.g., additional input purchases to produce additional output). It concerns inter-industry transactions, as TSTE creates a demand for locally sourced materials (paper for tests, welding equipment, electrical equipment, etc.) needed to produce its product. The success of TSTE affects all of its suppliers.

Induced effect – this is caused by changes in household spending due to the additional employment generated by direct and indirect effects. The induced effect measures the effects of the changes in household income, as individuals working in the training facilities and the industry's suppliers spend money at restaurants, grocery stores and shops.

Economic Impact

We measured the economic impact of TSTE, using data from apprenticeship and training centers from throughout the state, for operating expenses and capital costs for the previous three years. Our analysis indicates that as a direct result of the funding of this technical education, 505 jobs were created, which provided $21,201,081 in wages and benefits for a total direct effect on the economy of $52,379,874. These results are covered in **Table 1.**

One of the unique attributes of the trade-supported technical education's impact on Wisconsin's economy is its vertical integration. Since most of the trained workers can be employed in the Wisconsin economy, this ultimately underscores the long-term impact of the program. As **Table 2** shows, each of the top 10 sectors where jobs are created by the training program are in the service sector. The operation of these training facilities and the students they train create long-term economic benefit to the state in terms of unmeasured income, spending and tax revenue.

TABLE 1

IMPACT TYPE	EMPLOYMENT	LABOR INCOME	OUTPUT
Direct Effect	330.6	$14,025,518	$28,199,999
Indirect Effect	66.5	$2,769,259	$10,445,448
Induced Effect	108.5	$4,406,304	$13,734,427
Total Effect	505.6	$21,201,081	$52,379,874

= 50 Jobs = $1,000,000

TABLE 2

ECONOMIC SECTOR	EMPLOYMENT	LABOR INCOME	OUTPUT
Private Junior Colleges, Colleges, Universities, and Professional Schools	332.3	$14,097,622	$28,344,972
Real Estate Establishments	20.0	$197,867	$2,381,348
Food Services and Drinking Places	17.8	$325,106	$979,589
Private Hospitals	6.3	$403,402	$894,556
Offices of Physicians, Dentists, and Other Health Practitioners	5.3	$484,535	$773,817
Wholesale Trade Businesses	5.2	$382,712	$891,560
Other State and Local Government Enterprise	4.9	$273,867	$1,035,862
Services to Buildings and Dwellings	4.9	$121,285	$287,526
Nursing and Residential Care Facilities	4.2	$135,221	$257,242
Retail Stores General Merchandise	4.1	$103,796	$235,409

= 1 Job = $100,000

Conclusion

The funding of the training facilities by the trades creates an additional tax benefit to the State of Wisconsin. The purchase of equipment and supplies to educate students creates over $730,000 per year in increased sales taxes. The training facilities also create over $500,000 in Wisconsin state income tax revenue. One final area of increased taxes comes from the enhanced earnings of the tradespeople educated through this funding. This is not measured in this analysis, but it is important to note that this funding is not an expense — it is an investment. Wisconsin ultimately benefits from the increased income levels gained through increased human capital. Besides the intangible quality of life benefits afforded to the state, these workers pay higher state taxes due to their higher incomes.

Finally, the potential loss of funding for the education and training programs would equate to a significant loss to the State of Wisconsin. These programs are currently funded by trade-directed allocations. Once collected the funds are then transferred to the training programs, which then use this funding to pay for the education of the next generation of tradespeople. Without this direct funding mechanism, the alternatives are that either all citizens of Wisconsin would pay for these programs (whether they directly benefit or not) through increased taxes, or these programs would not be funded and the students would have to pay directly for these programs.
In the case of student funding, there may be a shortage of skilled tradespeople since this would require an expectation of higher wages that would compensate them for this increased human capital and training cost. If employers are not willing to pay higher wages, or if they are forced to pay lower wages to keep their costs low to offer lower bids, some students may choose to not be trained.

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