

Valitas Insights: The Night Moves: On Labour Costs, Energy Prices, and Automation in Ontario

Economists have long tried to identify “goldilocks wages”: ideal compromises in the tradeoff between higher minimum wages and higher rates of unemployment. This is, of course, far more than a theoretical pursuit. With an election coming up in Ontario next year, it represents a significant issue that is likely to spill over from economics into politics. The province plans on raising its minimum wage from \$11.40 today to \$14 in 2018 and \$15 in 2019. Inevitably, this plan gives rise to the question of whether, as a result, more jobs will be being outsourced or automated if employers decide they cannot afford to pay the higher wages.

So, how susceptible is Ontario to outsourcing or automation? And which of Ontario’s businesses are most likely to benefit from this potential push to automate?

When analyzing susceptibility to outsourcing or automation, two major determinants to consider are labour and energy markets. In both of these categories Ontario is unique, relative to other provinces and states.

Labour

Quantitative

Labour costs are likely to remain relatively high in Ontario. This is because of the expected minimum wage hike, but more importantly, because of the province’s demographic trends. In Ontario, the largest and smallest age groups are, respectively, 50-60 and 0-20. As such, barring an increase in immigration, Ontario’s labour force is likely going to shrink. (Or, at the very least, the share of Ontarians capable of physically strenuous work will shrink). New retirees will begin to outnumber new graduates. This is different from the US, Mexico, or Western Canada, where populations are younger.

Qualitative

It is often said that the occupations least susceptible to high-tech automation or outsourcing will be those in elder-care or child-care. Yet Ontario’s demographic profile suggests that the province will soon have few babies, children, or university students relative to younger places like the US or Western Canada, and few octogenarians, nonagenarians, or centenarians relative to older places like Florida or Eastern Canada.

These two trends - higher labour costs and lower demand for workers in elder-care or child-care—suggest that Ontario may become relatively susceptible to outsourcing or automation, particularly in industries with physically strenuous jobs.

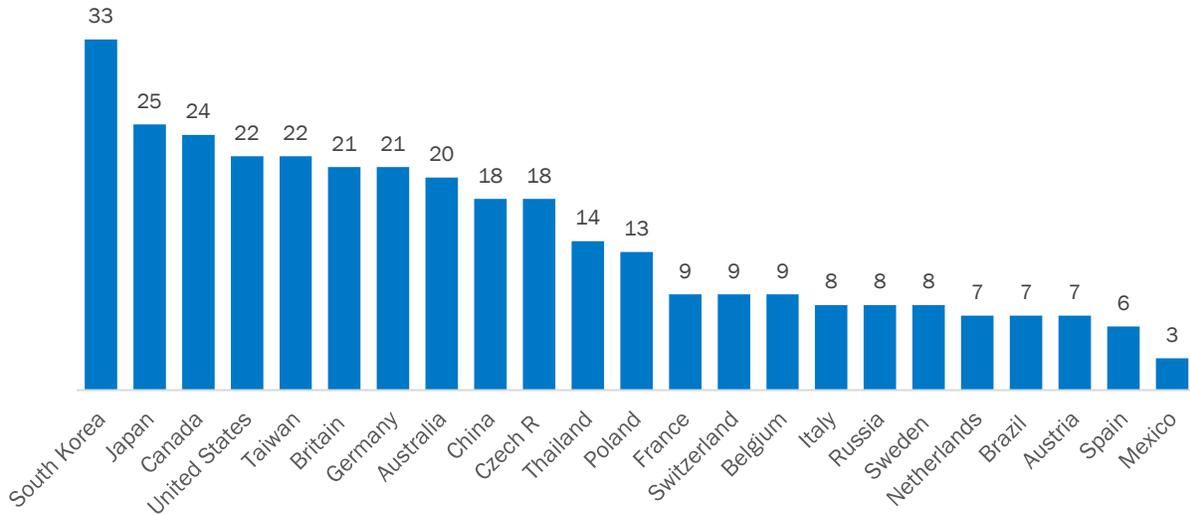
Energy

Quantitative

Ontario’s energy prices are very high by Canadian standards. They are more than double those of Quebec and Manitoba, for example. Yet Ontario’s energy remains roughly middle-of-the-pack when compared to prices in US states, and is even extremely cheap when compared to many wealthy

countries in Europe and Asia. Power in Ontario is about half as expensive as in Germany, and a third cheaper than in Japan. These lower energy costs, when combined with Canada’s relatively high labour costs, is why some have predicted that Canadian firms will realize amongst the highest savings from automation.

Predicted labour-cost savings (%) from adoption of advanced industrial robots, by 2025

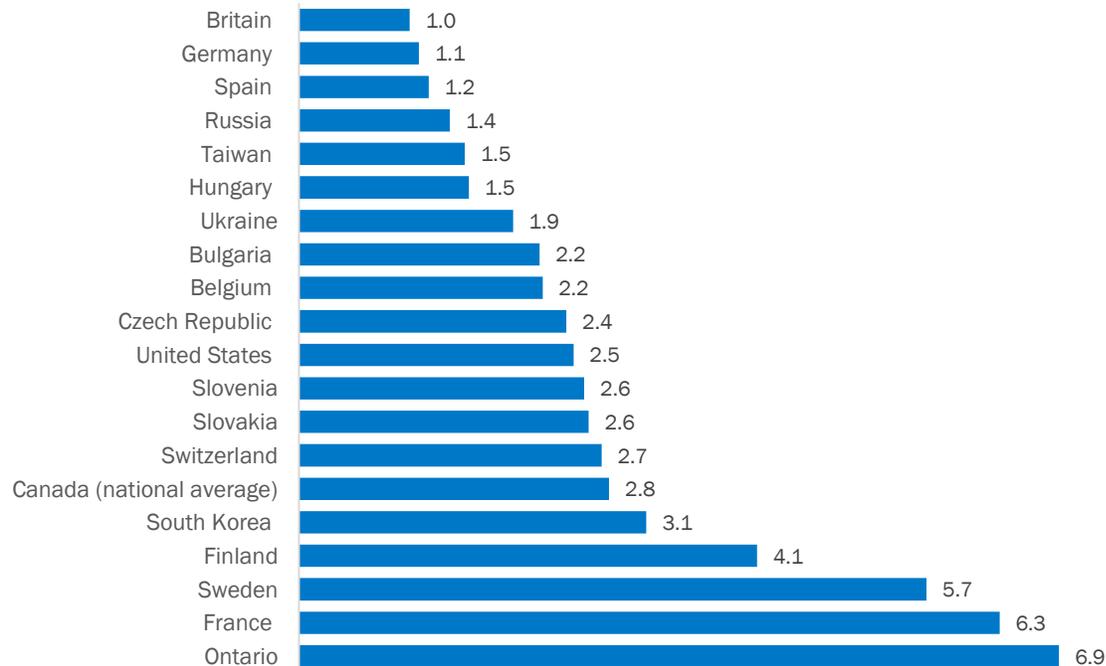


Source: Boston Consulting Group

Qualitative

While Canada has a high disparity between energy costs (which are relatively cheap) and labour costs (which are relatively expensive), Ontario has a high disparity between *daytime* energy costs (which are relatively expensive) and overnight energy costs (which are relatively cheap). This is because Ontario is a world leader in nuclear power generation (see graph below). Nuclear power plants, unlike natural gas or hydroelectric plants, cannot be shut off at night without wasting fuel. Ontario has such a large surplus of overnight electricity that producers may be paid to turn off their power plants at night, and overnight power is often sold at prices that are well below the cost of production.

Per Capita Nuclear Power Generation (GwH)



Source: US Energy Information Administration

As economies rely more on gas plants (which *can* easily be shut off at night) and solar power (which cannot produce power after sunset), nuclear economies like Ontario are becoming far more unique in their disparity between daytime and overnight energy prices. Moreover, because of its geographic size, Ontario is a burgeoning player in the wind-power industry. Wind turbines cannot be shut off overnight without wasting “fuel” (i.e. without wasting wind). This too is driving Ontario’s disparity between its daytime and overnight costs, a disparity that could become a major determinant in the susceptibility of its labour force to automation.

Conclusion: Investor Insights

With its higher labour costs, lower energy costs, a lower demand for robot-proof occupations in child-care or elder-care, and a high disparity between daytime and overnight energy costs, certain Ontario-based businesses are positioned to benefit from automation. These might include businesses where time is of the essence but labour costs are high, such as those engaged in the preparation of fresh food overnight, or in high-volume industries such as auto parts manufacturing, or in overnight road maintenance, snow removal, or garbage collection. In the future, the use of autonomous electric vehicles could also create an advantage; such vehicles often charge their batteries overnight, and may be used to [quietly](#) deliver cargo overnight in a way that louder, fuel-driven engines could not.

Given its labour and energy market trends, Ontario’s competitive advantage lies in the overnight automation of physically strenuous jobs. Ontario is unlikely to be a leader in automation that consists of human labourers working alongside robots. Automation involving human-machine teamwork is more competitive in other economies, where manual labour costs are cheaper than they are in Ontario.



Rather, Ontario is more likely to pursue areas of automation that require very few or no human labourers, taking advantage of cheap overnight energy costs, while avoiding the need to incur paying its increasingly high manual labour costs.