A Study of the Impacts of WSIA Coverage Expansion in Ontario

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1. Purpose and Introduction

Currently, about one in four workers in Ontario are not covered by the Ontario Workplace Safety and Insurance Act (WSIA). This is one of the lowest coverage rates in the country. Coverage under the WSIA is on the basis of inclusion, rather than exclusion. That is, employers must participate in the workplace insurance system only if their industry is explicitly named or listed in Schedule 1 or Schedule 2. Most other provinces cover all workers by default and specify exemptions, if any, in their legislation. Consequently, firms in emerging industries such as information technology and service industries are not covered by the WSIA. Among those not covered include workers in call centres, high-tech manufacturing, private day care and private health facilities, banks and other financial institutions. The relative employment growth of some of these excluded industries will result in an erosion of the proportion of workers protected by the WSIA.

The purpose of this report is to estimate the impacts of extending WSIA coverage to industries, currently not covered or excluded, on the following:

- Short-term and longer-term employment levels by industry;
- The financial position of the WSIB, via overhead and legislative obligations costs; and
- Health care costs in the publically funded OHIP (Ontario Health Insurance Plan) system.

2. Background

Ontario remains one of only two provinces that bases coverage on the 'inclusionary' rather than 'exclusionary' principle, whereby it tries to describe or list the covered employers as opposed including everyone and describing those, if any, who are excluded. The issue of WSIA coverage has been reviewed and discussed for over two decades. However, no action has been taken to expand coverage to uncovered sectors – to implement universal coverage.

In his 1996 review of Ontario's workers' compensation system, Jackson wrote:[1]

> *"Under the current approach to coverage, based on schedules listing covered industries, industries are either omitted or specifically excluded, while new and emerging industries are unintentionally left out of the Act. As a result, only some 70 per cent of Ontario's workforce receives the benefits and protection of the Act, the lowest level of coverage of any jurisdiction in Canada …. The other serious consequence of this approach to coverage is that as the economy restructures, the WCB's revenue base continues to erode, placing increasing financial pressures to fund the system on the remaining firms."*

[1] Jackson, Cam (1996). New Directions For Workers' Compensation Reform.

Jackson went on to recommend a review of coverage, specifically to:

> *"Require the WCB to undertake consultations and a full financial review to determine appropriate extensions of coverage to employers and their workers based on sound insurance and business principles and to address implementation issues and stakeholder concerns."*

In 2002, Brock Smith was appointed by the WSIB to chair a public review of the issues of workers' compensation coverage. The review looked at the history, literature and conduced public hearings on the subject. In his final report Smith (2002) recommended that WSIA should be converted to the exclusionary principle whereby all workers and employers are covered except where specifically excluded in the Act.[2]

In 2009 the Auditor General of Ontario,[3] reiterated the concern regarding historically low coverage of the workforce, lower than other provinces:

> *"As the 1996 review pointed out, coverage of Ontario's workforce was significantly lower than in many other provinces. The 1996 review suggested that covering more workers might create additional revenues for the WSIB. Ontario's coverage rate remains among the lowest in the country."*

In a 2012 review of Ontario's workplace safety and insurance system, Arthurs (2012) writes:[4]

> *"Finally, while I have no mandate to offer views on the merits of extending coverage — and offer none — I am convinced that the issue is so critical for the future of Ontario's workplace insurance system that it deserves early and extensive study."*

Today, after decades of discussion, the approach to coverage in Ontario remains unchanged. The table below depicts workforce coverage across provinces in 2017.

[2] Smith, Brock (2002). Coverage Under the WSI Act: Report to Board of Directors.

[3] Auditor General of Ontario (2009), Unfunded Liability of the Workplace Safety and Insurance Board.

[4] Arthurs, Harry (2012). Funding Fairness: A Report on Ontario's Workplace Safety and Insurance System.

Province	% Workforce Covered	Inclusionary/ Exclusionary
Alberta	82.6	Exclusionary
British Columbia	97.2	Exclusionary
Manitoba	78.8	Exclusionary
New Brunswick	91.4	Exclusionary
Newfoundland	97.4	Exclusionary
Nova Scotia	74.9	Inclusionary
Ontario	76.5	Inclusionary
PEI	97.7	Exclusionary
Quebec	92.6	Exclusionary
Saskatchewan	75.8	Exclusionary

Source: All figures based on 2017 AWCBC data

3. Impact of Extending WSIA Coverage on Employment

In this section we will gauge the employment impacts of extending WSIA coverage to industries currently not covered. We will follow the approach as set out in Hyatt (2003).[5]

Ontario WSIB premiums are a payroll tax akin to employer contributions to other statutorily mandated benefits such as Employment Insurance (EI), Canada Pension Plan (CPP) and the Employer Health Tax (EHT). As such, the quantum of any adverse employment impact (job losses) of expanding WSIA coverage to presently excluded industries depends on the sensitivity of employment to increases in payroll taxes (including WSIB premiums), the employment-payroll tax 'elasticity'.

To estimate the short-term and long-term impacts on employment, that would be generated by expanding mandatory WSIA coverage to currently excluded industries, we follow these four distinct steps:

1. Generate estimates, by industry, of the number of workers currently not covered by the WSIA;
2. Generate estimates, by industry, of WSIB premiums (i.e., $ per 100 payroll) that might be charged to currently excluded industries;
3. Determine the increased payroll tax burden of newly introduced WSIB premiums on currently excluded industries;
4. Applying the employment-payroll tax elasticities, from a recent simulation using the FOCUS-ONTARIO macroeconomic model, estimate the employment impact, by industry, in the short-term and the longer-term.

[5] Hyatt, Douglas (2003). Workplace Safety and Insurance Act Coverage Study.

Greater detail of these four steps is provided below.

We estimate that approximately 1.7 million Ontario workers are not covered by WSIA.[6] Referring to the table below, we observe that about 60 percent of uncovered workers (almost 1 million workers) are employed in three industries – finance and insurance, health care and social assistance, and professional, scientific and technical services.

Estimated Employment of Industries Not Covered by WSIB, 2017

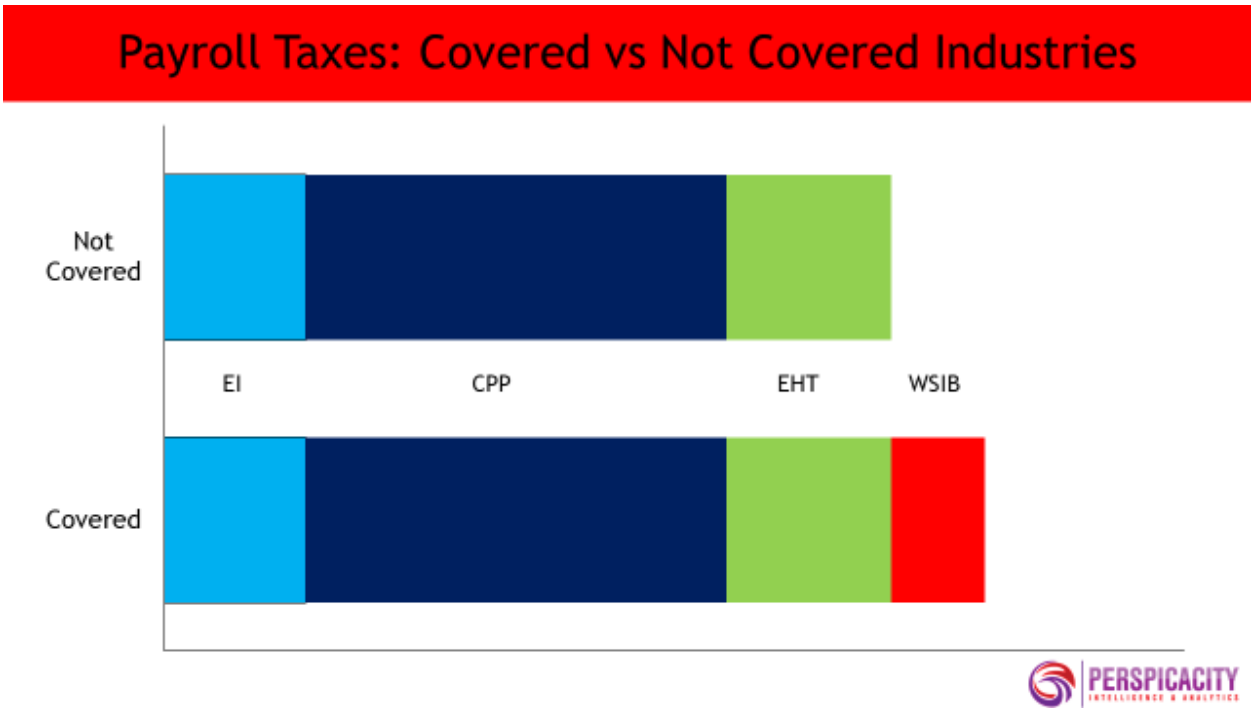
Industry	Employment
Motion picture and sound recording industries [512]	24,718
Radio and television broadcasting [5151]	11,723
Data processing, hosting, and related services [518,5182]	13,172
Other information services [519,5191]	17,971
Finance and insurance [52]	331,570
Real estate [531]	94,699
Professional, scientific and technical services [54,541]	317,381
Excluding Architectural, engineering and related services [5413]	
Management of companies and enterprises [55,551,5511]	36,486
Administrative and support services [561]	103,828
Excluding Employment services [5613]	
Excluding Investigation and security services [5616]	
Excluding Services to buildings and dwellings [5617]	
Educational services [61,611]	155,797
Excluding Elementary and secondary schools [6111]	
Excluding Community colleges and C.E.G.E.P.s [6112]	
Health care and social assistance [62]	324,925
Excluding Offices of physicians [6211]	
Excluding Hospitals [622]	
Excluding Nursing care facilities [6231]	
Excluding Community care facilities for the elderly [6233]	
Arts, entertainment and recreation [71]	114,862
Other services (except public administration) [81]	130,834
Excluding Repair and maintenance [811]	
Excluding Dry cleaning and laundry services [8123]	
SUB-TOTAL	**1,677,966**

[6] Calculation by author based on Hyatt (2003) and Statistics Canada, Employment by Industry.

In the second step, we need to estimate the expected WSIB premiums that uncovered firms and industries might pay if they become covered. Until the WSIB has enough time to observe actual accident claims cost experience for the excluded industries, they would out of necessity need to set a rate that is based on similar covered industries.

The premiums used in our simulations, shown in the table in Appendix I, are based on premiums currently being charged to closely comparable covered industries. For some of the uncovered industries, there was more than one possible comparator industry. In these situations, the highest premium rate from the alternatives was chosen (the most conservative approach). The premiums range from 19 cents per $100 of payroll in finance and insurance, real estate, and administrative support services to $2.98 per $100 of payroll in health care and social assistance.

In the third step, we need to determine the increased payroll tax burden of WSIB premiums on the excluded (not covered) industries. As noted earlier, WSIB premiums are a payroll tax, akin to EI, CPP, EHT contributions. Currently, employer contributions to these payroll taxes total $8.56 per $100 of payroll - $1.66 for EI, $4.95 fore CPP, and $1.95 for EHT. These payroll tax figures are the maximums for each of the taxes.[7]



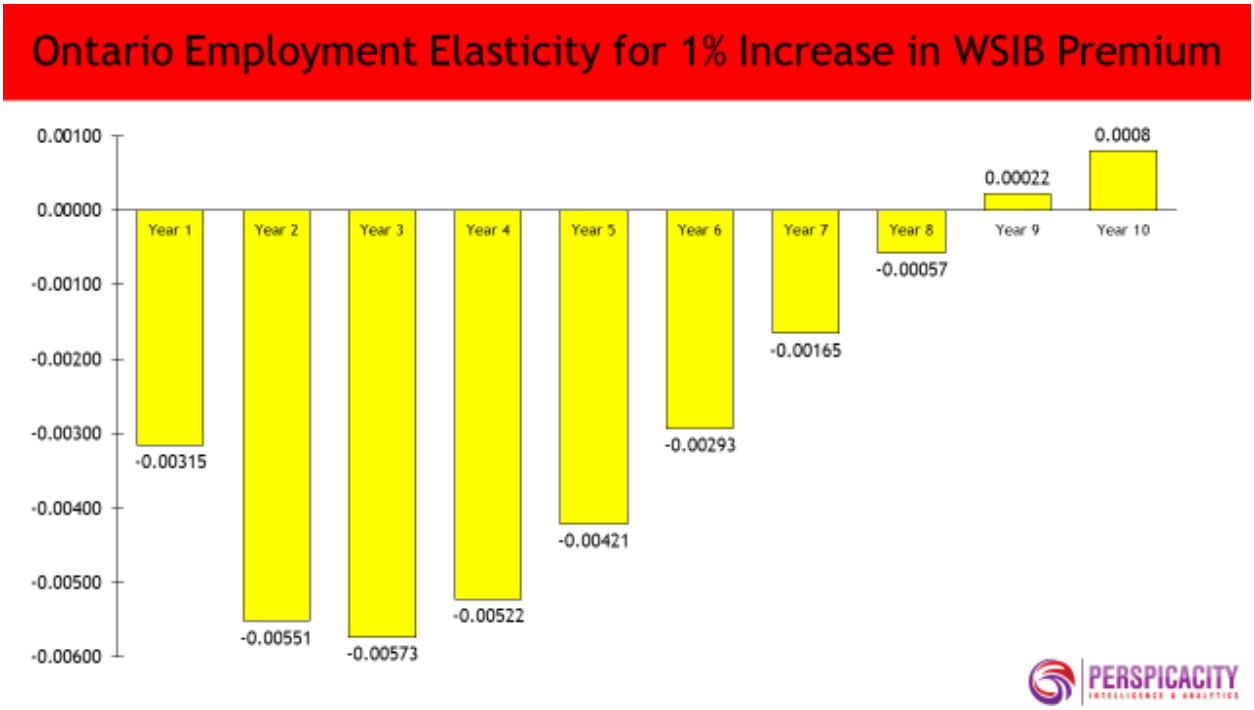
The percentage increase in total payroll taxes that would be generated by expanding coverage would range from a low of 2.2 percent [$0.19 / $8.56] in the finance and

[7] The employer's total cost for these benefits per $100 of payroll may be less than the maximums depending on the extent to which workers earn more than the statutory maximum earnings for assessment purposes.

insurance, real estate, and administrative and support services industries to 34.8 percent [$2.98 / $8.56] in the health care and social assistance industries.

The final step is to link the increase in payroll tax burden to changes in employment levels. We commissioned a simulation of the FOCUS and FOCUS ONTARIO macroeconomic model to estimate the employment impacts of payroll tax increases (via WSIB premium) in Ontario and generate the employment-payroll tax elasticity. A brief description of the FOCUS model is provided in Appendix II.

The Ontario employment-payroll tax elasticities, by year following the premium increase, are depicted in the figure that follows. This shows the percentage change in employment given a one percentage change in a payroll tax. A negative elasticity indicates a decline or loss in employment, and a positive elasticity indicates an increase in employment.



We see that employment losses peak at three years following the increase in the payroll tax. Then, the declines dissipate until the end of year 8, after which the employment declines are fully reversed. The positive elasticities in year 9 and year 10 are consistent with past findings that pass-through to wages is typically overshot, that is the reduction in wages is larger than the payroll tax.

The general process of adjustment is described by Dungan (2000):[8]

[8] Dungan, Peter (2000). "The Effect of Workers' Compensation and Other Payroll Taxes on the Macro Economies of Canada and Ontario". In Morley Gunderson and Douglas Hyatt (eds.), *Workers' Compensation: Foundations for Reform*. Toronto: University of Toronto Press: 118-161.

"The employment and wage equations will yield the result that the short-term incidence of a payroll-tax change in on the employer. Under, for example, a payroll tax increase, wage costs to the firm will immediately rise and corporate profits will fall. Investment demand will begin to decline with lower profitability. However, with a small lag, firms will begin to economize on the more-expensive labour and will also begin to pass through the higher unit labour costs to prices, likely reducing aggregate demand. The fall in aggregate demand will further reduce employment. As employment falls, the unemployment rate will rise almost in proportion (although some of the unemployed become 'discouraged' as the unemployment rate rises). The rising unemployment rate reduces real-wage demands (although nominal wages may rise somewhat in response to the tax pass-through to prices).

Real wages will continue to fall over time as long as the tax increase is causing unemployment. Eventually, real wages decline sufficiently to absorb the full amount of the payroll tax increase; the entire long-run incidence is borne by labour because labour-supply is insensitive to the real wage. Output prices, and corporate profits return to their levels before the tax change, and so does investment, but the disturbance may persist for a long time in the capital stock."

The key insights from the modelling exercise, for our purposes of examining the impacts of expanding WSIA coverage to currently excluded industries, are as follows:

- Expanding workers' compensation coverage results in an increase in the payroll tax burden of employers in industries currently excluded from WSIA.

- As a result, there is an increase in employment costs associated with WSIB premiums and a reduction in employment levels.

- The actual impact on employment in Ontario of increases in payroll taxes (including workers' compensation) is fairly small. Our FOCUS model simulation found that a 10 percent increase in workers compensation rates across all currently covered employers would generate a maximum reduction in employment of less than 4,500 workers. Or about 4,500 fewer workers would be employed than would be the case without the premium increase.

- With time the economy adjusts to the workers' compensation premium cost increases. The higher costs are shifted to other economic agents (including workers) from employer. For example, there may be lower wages and/or benefits for workers, lower profits for shareholders, and higher prices for consumers.

- In the FOCUS model, most of the costs of workers compensation premiums are shifted to workers via lower wages or other benefits. The adverse employment

effects are generated due to the time it takes to pass-through the higher payroll costs to wage rates.

- Our simulation indicates that it takes about 8 years for these costs to be fully passed on. As the costs are passed to other economic agents, the economy returns to its long term trend

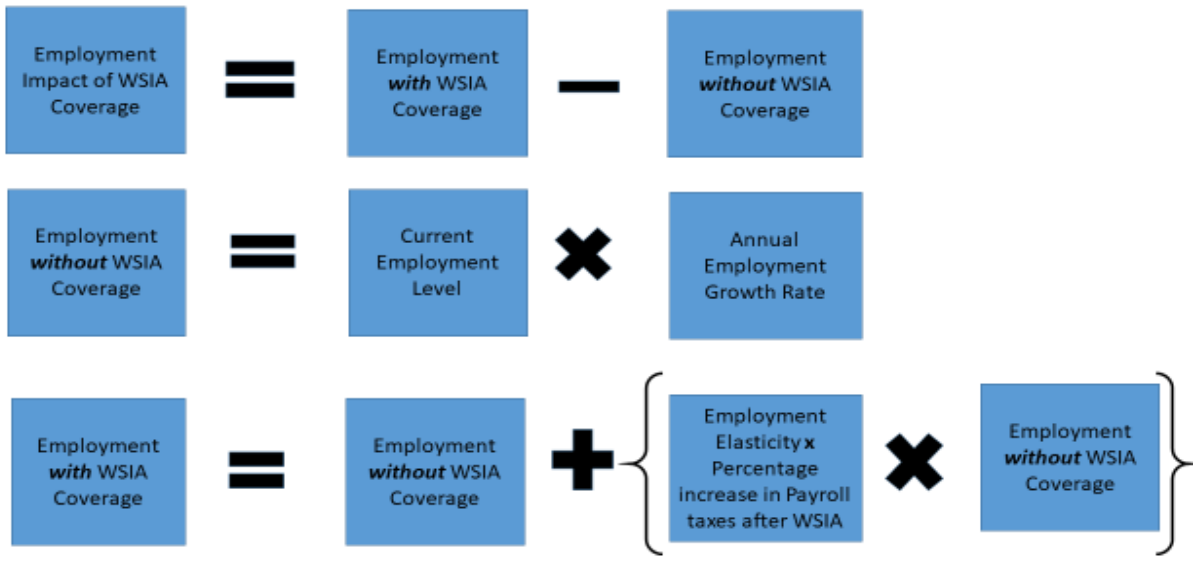
3.1 Empirical Results

The last column of the table in Appendix I depicts the empirical estimates of employment loss for each industry. To illustrate the method used, we will consider the example of Real Estate (NAICS code 531), the row in shown in boldface.

- In 2017, employers classified as Real Estate employed 94,699 workers. Over the 2013-2017 period, employment grew at annual average 4.6 percent. This annual rate of employment growth is assumed to persist into the future.

- The assumed WSIB premium for the industry is $0.19 per $100 of payroll. The payroll tax base, before WSIB premiums, total $8.56. This represents an increase in total payroll taxes of 2.2 percent ($0.19 / $8.56).

- Using the employment-payroll tax elasticities generated by the FOCUS model, the difference in employment for each year (over a 10 year horizon), compared to employment in the absence of extending WSIA coverage to the industry is calculated as depicted below.



The results of the exercise for the Real Estate industry is presented in the following table.

Year	Employment With WSIA	Employment No WSIA	Difference
Current	94,699	94,699	0
Year 1	99,090	99,083	-7
Year 2	103,684	103,672	-13
Year 3	108,492	108,478	**-14**
Year 4	113,522	113,509	-13
Year 5	118,786	118,775	-11
Year 6	124,293	124,285	-8
Year 7	130,056	130,052	-5
Year 8	136,086	136,085	-2
Year 9	142,396	142,397	1
Year 10	148,999	149,001	3

We observe that the maximum expected adverse employment impact, occurring in year 3, would be 14 workers. That is to say that employment would be 108,478 instead of 108,492. By the end of year 8, the adverse employment effect disappears, as the WSIA costs are fully passed on to workers.

For all the currently uncovered industries, with about 1.7 million workers, the maximum employment loss is estimated to be 1,308 workers 3 years following the introduction of WSIA coverage. As noted earlier, by the end of year 8, employment will have returned to the level that would have been observed in the absence of extended coverage. It takes about 8 years for the payroll tax increase (WSIB premium) to fully pass through to lower wage increases than would have been the case in the absence of WSIA coverage.

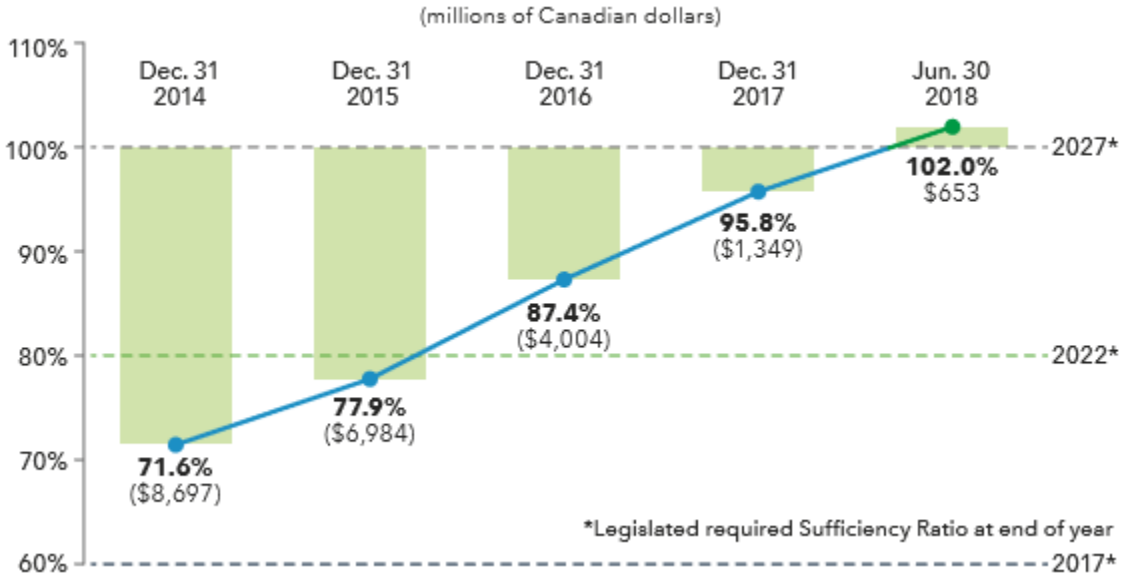
3.2 Comments and Caveats

In 2018 the WSIB achieved a major milestone when, for the first time, it reached a Sufficiency Ratio of 100 percent (i.e., eliminated unfunded liabilities).[9]

Currently, past claim costs make up about 38% of WSIB premium rates. With the elimination of the unfunded liabilities, this component of the rate should be eliminated.

[9] WSIB (2018), 2018 Economic Statement.

Net Assets (UFL) on Sufficiency Ratio Basis and Sufficiency Ratios



However, for the purposes of this study, the employment effects that we estimate are based on a premium that reflects an unfunded liability surcharge. Hence, our estimates of the employment impacts will be overstated to the extent that no unfunded liability surcharge is assessed, or if the surcharge is less than we assumed.

The short-term adverse employment impacts may be smaller than those estimated if WSIB premium costs are offset by reductions in premiums for other forms of disability insurance that excluded employers are currently providing.

Finally, newly covered employers may consider WSIB premiums as an incremental or additional cost compared to the absence of coverage. However, these employers also need to consider that in the absence of WSIA coverage the injured workers have the option of suing their employers. Some uncovered employers may erroneously assess that these litigation risks are zero, but the potential costs of litigation can be rather considerable.

4. WSIB Financial Impact

There are two sources of potential WSIB costs savings from expanded coverage. These relate to savings in WSIB administrative overhead costs (lower average costs via economies of scale), and legislative requirement for prevention services costs. Legislative obligations includes expenses the WSIB is required to fund under the Occupational Health and Safety Act, the Workplace Safety and Insurance Appeals Tribunal, Office of the Employer Advisor, Office of the Worker Advisor, Health and

Safety Associations and research. These two categories of savings (two components of WSIB premiums) would result in lower premiums for currently covered employers.

In this section we estimate the WSIB financial impact of expanding WSIA coverage to currently uncovered industries. We follow the general methodology as set by Mackenzie (2013):[10]

- Estimate, using Statistics Canada data, the total employment and payroll of industries currently not covered by WSIA.
- Adjust the payroll estimate to reflect that only payroll up to the WSIB coverage maximum would be added to the WSIB payroll base.
- Dividing total WSIB premiums revenue into its component parts, estimate the revenue that would be derived from applying the current effective premium rate for administrative and legislative overhead requirements to the additional payroll base.

For the industries not currently covered by WSIA, the average (employment weighted) weekly wage is $1,103.26. Total employment in those industries is 1,677,966, yielding a total payroll base of $96.3 billion. Adjusting this estimate for total annual payroll for the estimated ratio of insured payroll to total payroll in covered industries (82 percent) generates an estimated $78.9 billion increase in the WSIBs insured payroll base.

The division of total premium revenue across all Schedule 1 employers is reported by the WSIB in the Premium Rates Manual. This is depicted in the table below.

2018 Premiums - Schedule 1	$4,649,082,225	
Average Premium Rate	2.35%	per $100
Components of Premium:		
Legislative Obligations	6%	0.138
Overhead/Administration	17%	0.391
Unfunded Liability	38%	0.891
New Claims	40%	0.930

We observe that for Schedule 1, 6 percent of the average premium of $2.35 per $100 of payroll is for legislative obligations, which would clearly be the same for every employer. An additional, 17 percent is for administrative overhead, which again would be the same for every employer.

Schedule 1 employers as a group is dominated by the manufacturing, raw materials processing and construction industries, is not representative of industries not covered by WSIA. We selected an industry group that is currently covered and that is most

[10] Mackenzie, Hugh (2013), Review of Universal Coverage Ontario WSIB.

representative of those not covered, Class I – Other Services. A listing of the industries included and the rate data for Class I – Other Services is shown in the tables below.

Class I - Other Services; Rate Groups & Descriptions	
905	Apartment and Condominium Services
908	Other Real Estate Services
911	Security and Investigative Services
919	Restaurant and Catering
921	Hotels, Motels and Camping
923	Janitorial Services
929	Supply of Non-Clerical Labour
933	Equipment Rental and Repair Services
937	Recreational Services and Facilities
944	Personal Services
956	Legal and Financial Services
958	Technical and Business Services
962	Advertising and Entertainment
975	Linen and Laundry Services
981	Membership Organizations
983	Communications Industries

2018 Premiums - Class I	$464,296,691	
Average Premium Rate	1.14%	per $100
Components of Premium:		
Legislative Obligations	7%	0.075
Overhead/Administration	18%	0.206
Unfunded Liability	38%	0.433
New Claims	38%	0.428

Applying the rates for legislative and overhead administration costs for Class I – Other Services to the new payroll base we can estimate the contribution by newly covered industries. These calculation suggest that expanding coverage would add:

- $59.2 million to the contribution to legislative requirements; and
- $162.6 million to the contribution to administrative overhead.

Given that these increases in WSIB revenue for items not directly related to current claims would not result in substantial increased costs for the WSIB, expanding coverage would result in cost savings (lower premium) for industries currently covered by WSIA. Referring to the table below, we see that expanding coverage to currently

uncovered sectors (universal coverage), currently covered employers could benefit from a premium rate reduction of about 3.9 percent.

Impact on Currently Covered Industries on Legislative Obligation and Overhead Rates

	Current	New revenue no premium change	Adjustment to restore current revenue	New Premium Rate	Premium Rate Savings
Legislative	$273,009,935	$59,196,364	-18%	0.113	0.025
Overhead	$773,528,149	$162,592,680	-17%	0.323	0.068
Total				0.436	0.093
$ per 100				0.44	0.09
Average premium cut					**3.9%**

A 3.9 percent reduction in the premiums of currently covered employers translates into about $180 million that employers can re-deploy to other productive purposes. Similarly, a 3.9 percent cut in premiums of currently covered employers is estimated, in the short term, to increase employment by approximately 1,000 workers.

The existing $273 million cost to fund legislative obligations would be spread among a larger group of employers resulting in a reallocation of about $59 million of costs from currently covered to newly covered employers.[11]

5. OHIP Health Care Cost Impact

In addition to the impact of expanded coverage on the economies of the WSIB, universal coverage would also shift the medical care costs currently borne by the general public, through OHIP, to the newly covered employers.

Workers' compensation established the system for employer's financial responsibility for medical care arising out of workplace injuries prior to the existence universal publicly funded health care. When the national public health care system was developed, policy makers decided that employers should continue to be financially responsible for injured workers' medical costs and the Canada Health Act contains a specific exemption for this purpose.[12]

[11] This refers to Occupational Health and Safety Act, the Workplace Safety and Insurance Appeals Tribunal, Office of the Employer Advisor, Office of the Worker Advisor, Health and Safety Associations and research funding.
[12] Stanley, Douglas (2014). Pricing Fairness: A Deliverable Framework for Fairly Allocation WSIB Insurance Costs.

Expanded WSIA coverage will generate savings for the public tax base required to fund OHIP. Based on data provided by the WSIB, see table below, health care costs account for 38 percent of new claim costs for Class I – Other Services, the closest current class to the industries that would be added through expanded coverage.[13]

Class I - Other Services: New Claim Costs and Health Care Costs

Year	New Claim Cost (NCC)	Health Care NCC	Health Care as % of NCC
2013	$138,197,429	$50,004,317	36.2%
2014	$132,329,542	$52,498,215	39.7%
2015	$112,932,454	$44,656,099	39.5%
2016	$114,305,135	$46,543,347	40.7%
2017	$153,889,383	$52,319,262	34.0%
		Average:	*38.0%*

Assuming that the current claims costs represent the same proportion of covered payroll for the newly added industry group as it does for Class I – Other Services (0.428 of covered payroll), health care costs are expected to constitute 38 percent of that amount, or 0.163 percent of payroll.

On our estimated expanded coverage payroll base of about $78.9 billion, health care costs would constitute about $128.5 million out of estimated current claims base of $337.8 million.

This suggests the newly covered employers would absorb approximately $128.5 million in health care costs that are currently borne by the publically funded OHIP system.

[13] Health care costs include costs of medical services and devices (hearing aid devices and services and medical devices).

6. Summary

Currently, about one in four workers in Ontario are not covered by the Ontario Workplace Safety and Insurance Act (WSIA). This is one of the lowest coverage rates in the country, currently about 1.7 million Ontario workers are not covered. Coverage under the WSIA is on the basis of inclusion, rather than exclusion. This study has examined and quantified the impacts of expanding WSIA coverage to all Ontario workers (universal coverage).

The main concern, expressed by some employers, is that coverage expansion to currently uncovered industries would result in job losses as the cost of labour via increased payroll taxes (WSIB premium) rises. In this study we estimated the quantum and permanence of any adverse employment effects from expanding coverage.

Using results from the FOCUS macroeconomic simulation model, we find that three years following the expansion of WSIA coverage to currently uncovered industries, 1,308 fewer jobs are created than would have been created had coverage not been extended. This is compared to total employment in the uncovered sector of 1.809 million workers. Eight years after the expansion of coverage, employment fully recovers to where it would have been expected had coverage not been extended. That is, over this 8 year period, employers will have sufficient time to adjust wages and benefits to offset the increased WSIB premium (payroll taxe) costs.

In summary, with respect to employment levels, the expansion of WSIA coverage to previously uncovered sectors is likely to have an extremely small, and ultimately only transient, adverse employment impact.

We identify and quantify, two areas of potential savings from coverage expansion. The first relates to economies in WSIB overhead expenses relating to legislative obligations and administration. And the second relates to savings to the public, general taxpayer, via the appropriate shifting of relevant OHIP health care costs to employers via WSIB premiums.

Using WSIB rate data for the most comparable currently covered sector, Class –I Other Services, as a proxy of the experience that can be expected from newly covered industries we are able to estimate the additional WSIB revenues from coverage expansion via premiums for legislative and administrative overhead.

Our calculations suggest that expanding coverage would add:

- $59.2 million to the contribution to legislative requirements; and
- $162.6 million to the contribution to administrative overhead.

Given that these increases in WSIB revenue for items not directly related to current claims would not result in substantial increased costs for the WSIB, expanding coverage would result in cost savings (lower premium) for industries currently covered

by WSIA. Specifically, currently covered employers could benefit from a premium rate reduction of about 3.9 percent.

Finally, the expansion of WSIA coverage would appropriately shift related health care costs from the general public, through OHIP, to the newly covered sector employers. We estimate these savings to OHIP to be about $128.5 million.

Appendix I

Estimates of Maximum Short Term Employment Impacts, by Industry

Industry	Employment 2017	2013-2017 % Annual Growth	Assmnt Rate 2018	Employment in 3 yrs without WSIA Coverage	Employment in 3 yrs with WSIA Coverage	Change
Motion picture and sound recording industries [512]	24,718	10.8%	$1.12	33,636	33,610	-25
Radio and television broadcasting [5151]	11,723	-4.0%	$0.31	10,364	10,361	-2
Data processing, hosting, and related services [518,5182]	13,172	4.5%	$0.33	15,024	15,021	-3
Other information services [519,5191]	17,971	3.5%	$0.33	19,944	19,939	-4
Finance and insurance [52]	331,570	1.8%	$0.19	349,823	349,778	-44
Real estate [531]	***94,699***	***4.6%***	***$0.19***	***108,492***	***108,478***	***-14***
Professional, scientific and technical services [54,541]*	317,381	3.1%	$0.33	348,081	348,004	-77
Management of companies and enterprises [55,551,5511]	36,486	-2.6%	$0.33	33,753	33,746	-7
Administrative and support services [561]*	103,828	1.1%	$0.19	107,133	107,120	-14
Educational services [61,611]*	155,797	1.7%	$0.76	164,096	164,013	-83
Health care and social assistance [62]*	324,925	2.8%	$2.98	352,554	351,851	-703
Arts, entertainment and recreation [71]*	114,862	5.6%	$1.12	135,149	135,047	-101
Other services (except public administration) [81]*	130,834	0.2%	$2.60	131,510	131,281	-229
TOTAL	**1,677,966**			**1,809,557**	**1,808,248**	**- 1,308**

** With exclusions*

APPENDIX II – FOCUS Forecasting Model

FOCUS is a quarterly macro-econometric model of the Canadian economy, developed and maintained at the Institute for Policy Analysis (now the Rotman Institute for International Business), University of Toronto. FOCUS is an acronym for FOreCasting and User Simulation model. FOCUS has been designed for policy analysis and trend projection over the medium and the long term. Over the last few years however we have moved the FOCUS model back into short-term forecasting to complement the longer term analysis.

FOCUS is supported by the Institute's Policy and Economic Analysis Program (PEAP) - a continuing research project financed by contributions from public and private member-subscribers. Important financial contributions to the development of FOCUS have also been made by the University of Toronto, the Social Sciences and Humanities Research Council of Canada, the Donner Foundation and the Canadian Tax Foundation.

In size, FOCUS is a medium-scale model consisting of some 350+ behavioural equations and identities. Its orientation is Keynesian as opposed to monetarist or neo-Classical, though the model can (at least theoretically) depict full-employment, or long-run equilibria in addition to the familiar under-employment equilibria of the Keynesian short run. Some care has been taken in developing the model's structural equations to ensure that they embody desirable long-run properties as well as plausible short-run dynamics.

FOCUS-ONTARIO is a model of the Ontario economy oriented to aggregate expenditure and fiscal detail and intended for policy analysis (of both national and Ontario-specific initiatives) and scenario projection. It was constructed and is maintained at the University of Toronto, under the auspices of the Policy and Economic Analysis Program (PEAP).

FOCUS-ONTARIO operates in tandem with FOCUS, PEAP's national macro-model.

Unlike many other provincial models, it cannot be effectively operated as a `stand-alone'. The present division of responsibilities between FOCUS and FOCUS-ONTARIO module is as follows:

FOCUS determines the exchange rate and all interest rates. FOCUS-ONTARIO solves for variables deemed specific to Ontario: all income and expenditure detail, provincial employment, labour force and wages, and detail on revenue and expenditure by level of government. As well, FOCUS-ONTARIO solves for prices and foreign trade, although to a large extent the results are driven by the national equations.

The FOCUS-ONTARIO model consists of over 400 variables of which over 300 are behaviourly determined or are identities. The major exogenous series within the model include demographics and various fiscal levers and instruments. Also exogenous to the Ontario equations are, of course, all the national variables of FOCUS.

Performing a policy analysis or impact simulation with the FOCUS-ONTARIO model almost always requires an equivalent simulation of FOCUS. The FOCUS simulation solves for national market variables and provides Canada -total estimates for items like demand and income against which the Ontario simulation results can be compared.