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Workplace Safety and the future of work in New Zealand

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Disclaimer

The results in this presentation are not official statistics, They have been created for research purposes from the Integrated Data Infrastructure (IDI) managed by Statistics New Zealand (NZ).

The opinions, findings, recommendations and conclusions expressed in this presentation are those of the author(s) not Statistics NZ.

Motivation and Background



Source: Worksafe (2017)

High level of work-related harm in New Zealand (by international standards)

- 240,000 work-related injury claims / 1 claim per 10 full-time-equivalent workers (*Stats NZ 2018*)
- 81 claims for fatal work-related injuries
- 750 – 950 people die from work-related ill health every year / 5000 – 6000 work-related hospitalisations a year

Policy background: Pike River disaster as catalyst for policy change

- Establishment of Worksafe in 2013
- Implementation of the Health and Safety at Work Act 2015

Research Question

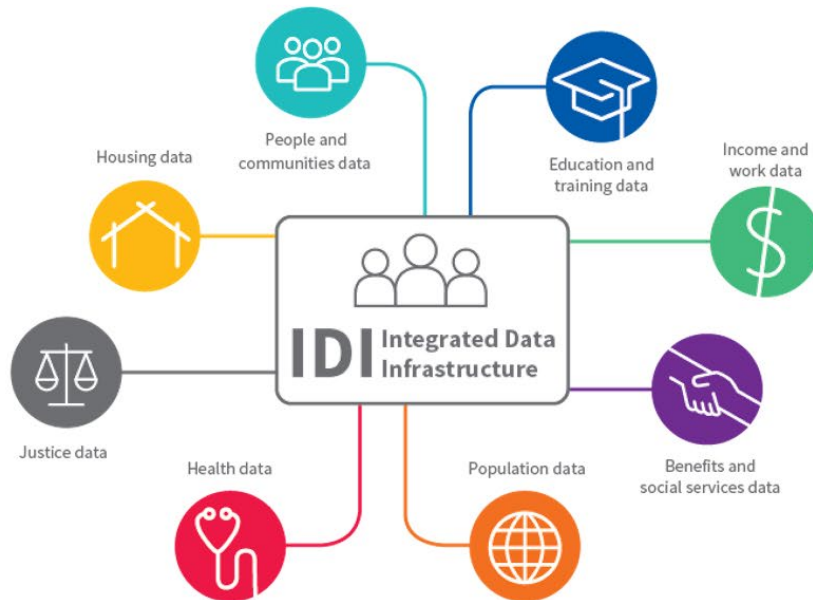
What are the possible implications of future-of-work trends for workplace health and safety (WHS)?

Future-of-work trends:

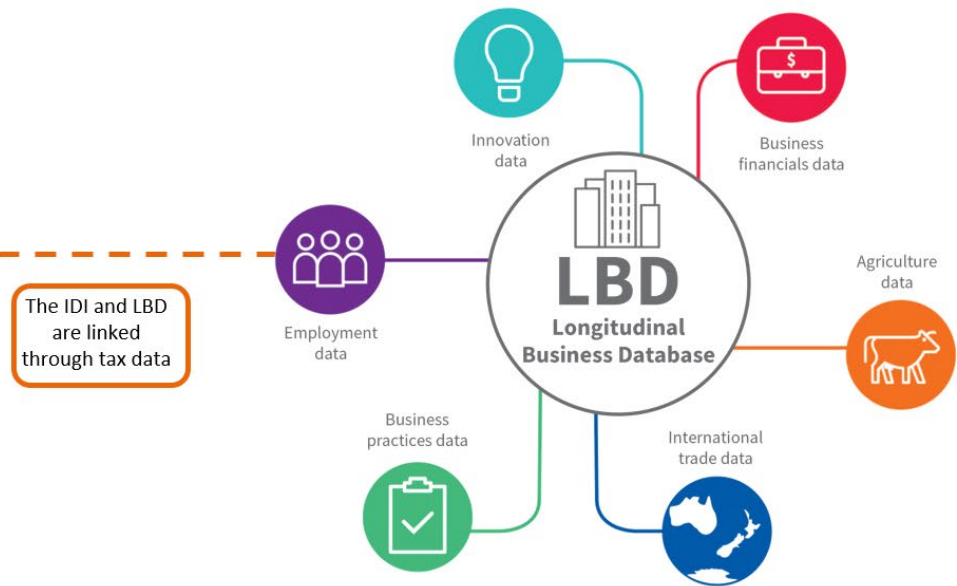
1. Technological advances
2. New organisational work practices
3. Rise of non-standard work
4. Changing industry mix
5. Broader demographic, environmental and economic changes
 - Population ageing, increased female participation, migration growth
 - Globalisation
 - Climate Change

Data

Integrated Data Infrastructure (IDI)



Longitudinal Business Database (LBD)



The IDI and LBD are linked through tax data

Data

- **Spine:** Monthly employee-level Inland Revenue (IR) data of workers with observed 'wage and salary'
 - Multiple payments per individual-month are aggregated and observation with the main source of income is used
- **Additional data sources:**
 - Person details tables and DIA birth records
 - Firm-level information merged from LBD
 - LBF - firm age, firm size, industry, firm profits
 - BOS – firm-level survey data available from 2018
 - **Workplace safety outcomes** merged via unique identifiers from ACC injury claims data (work-related injuries only)

Data – Samples

	Small Firms	Large Firms	Total
Firms	12,555 (66.05%)	6,456 (33.96%)	19,008
Observations	328,452 (4.09%)	7,696,839 (95.91%)	8,025,291
Individuals			914,274

1. **BOS Sample:** All monthly observations of individuals who are employed by firms who participated in the BOS survey
2. **Full Sample:** All monthly observations of individuals in the BOS sample plus all employees in a random sample of small firms with less than six employees

Summary statistics – Individuals

Variable	Category	Mean
Female		0.44
Age	15-24	0.14
	25-34	0.24
	35-44	0.2
	45-54	0.21
	55-64	0.15
	65 and over	0.05
Ethnicity	Māori	0.15
	Pacific Peoples	0.09
	Asian	0.17
	MELAA	0.02
	Other	0.02
	European	0.55
Born in NZ		0.62
Multiple jobs		0.05
New employer		0.09
Job tenure		55.98 months
Monthly gross earnings		\$5,469.23
Observations		8,025,291
Individuals		914,274

Summary statistics – Firms

Variable	Small Firms	Large (BOS) Firms
Firm size	2.33	108.1
Firm age	11.61	19.17
Industry		
Agriculture, Forestry & Fishing	0.16	0.09
Mining	S	0.01
Manufacturing	0.06	0.21
Electricity, Gas, Water & Waste Services	S	0.02
Construction	0.17	0.06
Wholesale Trade	0.05	0.08
Retail Trade	0.09	0.05
Accommodation and Food Services	0.07	0.04
Transport, Postal & Warehousing	0.03	0.04
Information Media & Telecommunications	0.01	0.03
Financial & Insurance Services	0.02	0.05
Rental, Hiring & Real Estate Services	0.04	0.02
Professional, Scientific & Technical Services	0.11	0.1
Administration & Support Services	0.04	0.06
Education & Training	0.01	0.03
Health Care & Social Assistance	0.04	0.06
Arts & Recreation Services	0.01	0.02
Other Services	0.07	0.03
Overseas ownership rate	1.17	13.3
Firm profit (amount)	\$66.37	\$4,243.61
Number of firms	12,555	6,456

Data – Workplace Practices (BOS Sample)

Variable	Mean
Automation	
Physical task automation	0.42
New automation of physical tasks	0.08
Flexible working arrangements	
Part-time work option	0.57
Job sharing option	0.2
Shift work option	0.28
Flexi-time option	0.61
Work from home option	0.35
Health & safety influence	
Not at all	0.11
A small amount	0.23
A moderate amount	0.31
A great deal	0.31
Employee engagement	
Decision making	0.58
Health and safety	0.9
Feedback programmes	0.52
Training and mentoring programmes	0.77
Policies & practices	
Ageing workforce policy	0.22
Bullying policy	0.67
Diversity and inclusion policy	0.47

Data – Workplace safety outcome

- **Outcome measure:** Work-related ACC injury claims
 - Injuries that occur while a person is at work in NZ
- **Outcome variables** (month-level)
 - **ACC claim:** Binary indicator for any work-related injury claim
 - **Medical costs:** Sum of the medical costs
 - **Earnings compensation:** Binary indicator
 - **Compensation days:** Sum of all the compensated days off work

Data – ACC claims

Groups	ACC Claims share (%)	Medical costs mean	Earnings comp. share (%)	Comp. days mean
All	0.7	905.12	15.27	6.64
Gender				
Men	0.86	974.73	15.5	6.71
Women	0.51***	753.40***	14.77**	6.49
Age				
15-24	0.85***	516.60***	12.87***	4.78***
25-34	0.71	743.99***	14.99	5.73***
35-44	0.61***	957.88*	15.28	6.85
45-54	0.67***	1,078.65***	16.14***	7.61***
55-64	0.75***	1,252.67***	16.87***	8.30***
65 and over	0.65***	1,074.17***	16.59*	7.83***
Ethnicity				
Maori	1.00***	947.67	17.99***	7.92***
Pacific Peoples	0.95***	729.58***	14.23**	5.75***
Asian	0.51***	785.23***	14.13***	5.65***
MELAA	0.73	813.5	16.8	6.6
Other	0.71	907.68	14.49	5.89
European	0.64***	960.30***	14.62***	6.57

[Full](#)

Methodology

- Multivariate regression analysis

$$P(ACC_{ift}) = \alpha + \beta_1 I_{it} + \beta_2 IR_{it} + \beta_3 F_f + \beta_4 BOS_f + \epsilon_{it}$$
$$(MC_{ift} | ACC_{ift} = 1) = (\alpha + \beta_1 I_{it} + \beta_2 IR_{it} + \beta_3 F_f + \beta_4 BOS_f + \epsilon_{it})$$
$$(CD_{ift} | ACC_{ift} = 1) = (\alpha + \beta_1 I_{it} + \beta_2 IR_{it} + \beta_3 F_f + \beta_4 BOS_f + \epsilon_{it})$$

- Outcome variables:
 - ACC_{ift} : Indicator of whether individual i working in firm f had at least one ACC claim in month t
 - MC_{ift} / CD_{ift} : Medical costs and compensation days of individual i for all ACC claims in month t

Results: Work-related injury claims (individual characteristics)

	All b (se)	Men b (se)	Women b (se)
Female	-0.288*** (0.017)		
Age (Ref.: 15-24 years)			
25-34 years	0.014 (0.016)	0.009 (0.023)	0.017 (0.017)
35-44 years	0.025 (0.018)	0.001 (0.026)	0.054** (0.019)
45-54 years	0.079*** (0.019)	0.026 (0.026)	0.147*** (0.021)
55-64 years	0.125*** (0.021)	0.100*** (0.030)	0.149*** (0.022)
65+ years	0.001 (0.025)	-0.038 (0.035)	0.036 (0.026)
Born in NZ	-0.010 (0.009)	-0.023 (0.014)	0.002 (0.011)
Ethnicity (Ref.: European)			
Maori	0.176*** (0.016)	0.167*** (0.022)	0.162*** (0.019)
Pacific Peoples	0.120*** (0.021)	0.134*** (0.030)	0.051* (0.023)
Asian	-0.168*** (0.016)	-0.219*** (0.021)	-0.099*** (0.016)
MELAA	0.013 (0.027)	-0.052 (0.039)	0.106** (0.036)
Other	0.037 (0.024)	0.047 (0.032)	0.030 (0.033)
Job tenure (Ref.: Less than 1 year)			
1-3 years	-0.082*** (0.014)	-0.118*** (0.019)	-0.046** (0.014)
3-6 years	-0.169*** (0.015)	-0.218*** (0.020)	-0.117*** (0.016)
6 years or more	-0.270*** (0.018)	-0.349*** (0.023)	-0.169*** (0.017)
Monthly gross earnings (Ref.: Less than \$3,000)			
\$3,000-4,500	0.181*** (0.014)	0.243*** (0.023)	0.116*** (0.014)
\$4,500-6,500	0.015 (0.017)	0.034 (0.026)	-0.034 (0.018)
\$6,500 and over	-0.254*** (0.021)	-0.282*** (0.030)	-0.145*** (0.018)
Observations	7,696,755	4,318,317	3,378,438

Results: firm characteristics

- **Industry:** Workers in industries which have been identified as priorities for WHS (agriculture, forestry & fishing, manufacturing, construction), have relatively high likelihood of having injury claim. Workers in service industries have relatively low injury claim rates.
- **Firm size:** no clear evidence, strong gender differences (negative association for men but positive for women)
- **Firm age:** Higher likelihood for (male) workers in younger firms
- **Profits:** no significant association

Results: workplace practices

- **Automation:** Lower claim rates for workers in firms with higher levels of physical task automation
- **Contract types:**
 - lower for workers whose firms offer options of part-time work
 - no significant association with respect to casual employment agreements or service contract
- **Organisational work practices:** Workers in firms that offer working-from-home options have lower workplace injury claim rates. In addition, female workers in firms with flexi-time options have lower workplace injury claim rates

Results: workplace practices

- **H&S influence:** Higher likelihood for workers in firms who report that H&S considerations influence their businesses (reverse causality!)
- Coefficients on **most other workplace practice variables** not statistically significant (incl. leave and childcare arrangements, employee engagement and workplace policies and practices)

Results: Injury severity

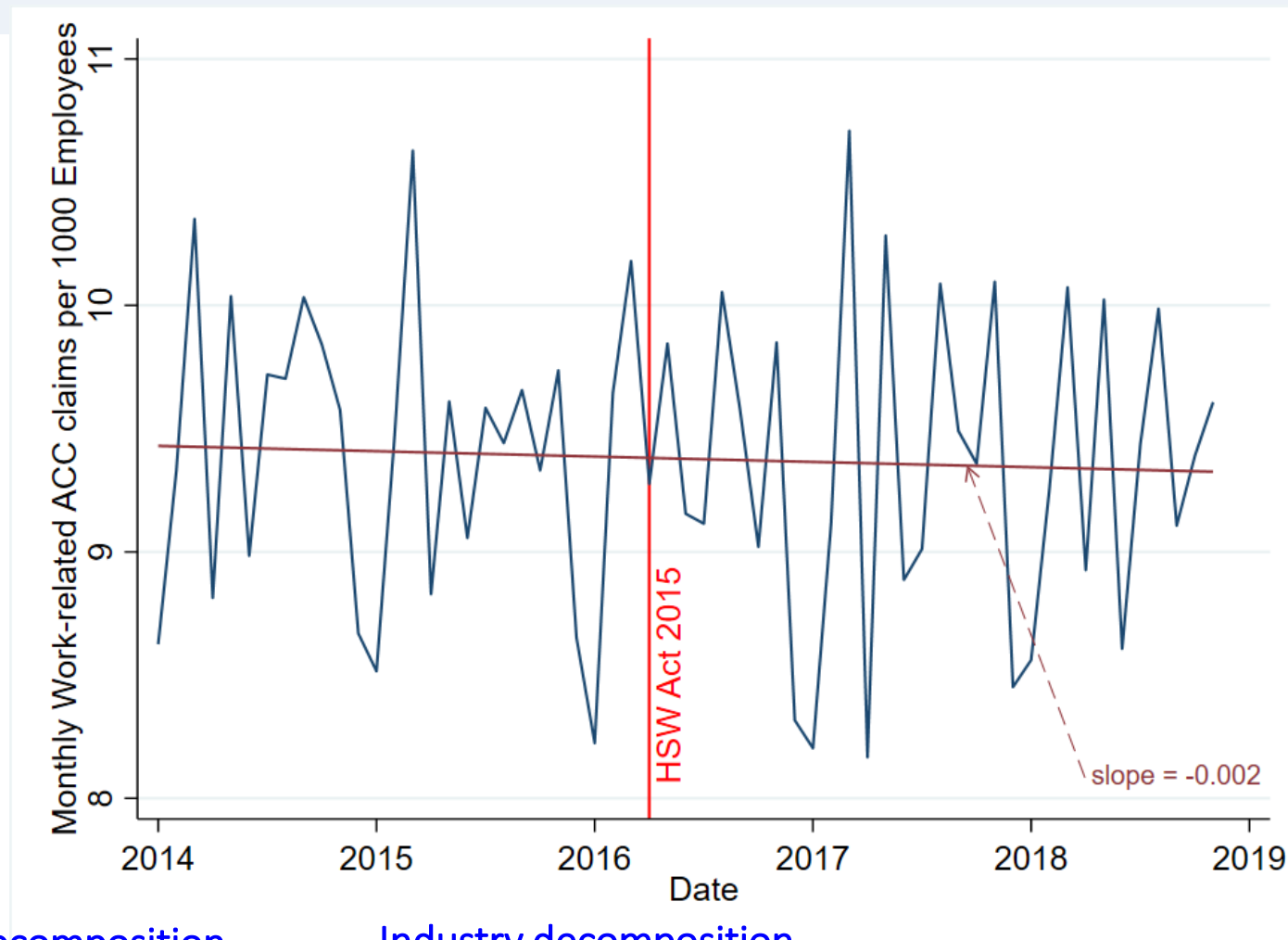
- **Gender:** Female workers (who have work-related injury claims) have lower medical costs (about \$246 lower on average) and compensation days (about 1.2 fewer days on average) than male workers
- **Age:** Severity tends to increase with age
- **Ethnicity:** No strong difference in medical costs by ethnicity, slightly lower medical costs for Pacific (reporting and take-up selection!)
- **Industry:** Workers in service industries, who have injuries, have lower medical costs and compensated days off work than those in the manufacturing industry, higher severity in transport, postal & warehousing
- **Other firm characteristics:** No significant differences in severity with respect to firm size, firm age or firm profits

[Estimation results \(individual\)](#)

[Estimation results \(firm\)](#)

The Health and Safety at Work Act 2015

- Did the **work-related injury claim rate** change since the **introduction of HWSA** in April 2016?



[Firm size decomposition](#)

[Industry decomposition](#)

Concluding Remarks

- Examined the relationship between WHS outcomes and individual /firm characteristics, with a focus on FoW trends
- Use linked administrative and survey data from Stats NZ
- Differences between bivariate relationships and regression results underline the **role of mediating factors** and the importance of a multivariate analysis
- Overall – men, Māori and Pacific ethnicities, short job tenure and higher risk industries have higher work-related injury claims
- Older workers have more injury claims and greater severity

Concluding Remarks

- Several FoW variables insignificant, except the degree to which a firm automated physical tasks
- Future work could use the HLFS and link with ACC data (gender differences highlight the importance of occupation)
- Individual-level information on FoW trends would be helpful in the future, including data on provision vs uptake

Thank you for your attention!



Data – Workplace Practices (BOS Sample)

Variable	Mean
Firm structure	
Utilised the gig / sharing economy	0.02
Identifies as a Maori business	0.04
Mergers and acquisitions	0.04
Equipment age	
Fully up to date	0.45
Up to 4 years behind	0.27
4-10 years behind	0.1
> 10 years behind	0.03
Don't know	0.15
Recruitment Difficulties	
None	0.14
Moderate	0.41
Severe	0.36
Don't know	0.08
Leave & childcare arrangements	
Buy extra annual leave / take unpaid leave	0.61
Care leave	0.71
Childcare allowance or facilities	0.09
Parental leave provision	0.19

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Data – Workplace Practices (BOS Sample)

Variable		Mean
Share of employees...		
...in full-time employment		0.8
...in management & professional positions		0.2
... on different contract types	Permanent	0.8
	Fixed-term	0.05
	Casual	0.11
	Contract for services	0.04
... covered by collective employment agreement	None	0.71
	1-10%	0.05
	11-50%	0.05
	51-90%	0.04
	91-100%	0.11

Groups	ACC Claims share (%)	Medical costs mean	Earnings comp. share (%)	Comp. days mean
NZ Born				
Not NZ Born	0.64	839.3	0.14	5.97
NZ Born	0.74***	939.81***	0.16***	6.99***
Multiple jobs				
Has only one job	0.7	913.85	15.36	6.68
Has multiple jobs	0.79***	749.43***	13.67**	5.92*
New employer				
Stayed with same employer	0.68	916.69	15.16	6.64
Started job with new employer	0.91***	814.04**	16.12**	6.63
Job tenure				
Less than 1 year	0.89***	833.10***	15.77**	6.77
1-3 years	0.75***	923.05	15.37	6.66
3-6 years	0.64***	968.30**	15.08	6.73
6 years or more	0.53***	944.35	14.35***	6.34*
Monthly gross earnings				
Less than \$3,000	0.73***	940.8	19.38***	8.41***
\$3,000-\$4,500	0.94***	844.75***	15.58	6.7
\$4,500-\$6,500	0.76***	929.91	13.75***	5.96***
\$6,500 and over	0.39***	936.32	9.77***	4.48***
Firm size				
6+ employees	0.7	903.43	15.48	6.68
< 6 employees	0.87***	936.8	11.36***	5.91*

continued on next slide...

[Back](#)

Groups	ACC Claims share (%)	Medical costs mean	Earnings comp. share (%)	Comp. days mean
Industry				
Agriculture, Forestry & Fishing	1.36***	924.16	13.79***	6.45
Mining	0.58***	1317.75**	16.86	6.97**
Manufacturing	0.95***	939.89	16.42***	6.97**
Electricity, Gas, Water & Waste Services	0.85***	861.03	14.27	6.41
Construction	1.11***	995.88**	15.45	6.78
Wholesale Trade	0.66***	846.56	14.04**	6.04*
Retail Trade	0.58***	668.67***	12.72***	5.16***
Accommodation and Food Services	0.61***	600.78***	12.04***	4.47***
Transport, Postal & Warehousing	0.88***	1,334.70***	20.96***	9.41***
Information Media & Telecommunications	0.16***	532.32**	5	2.29***
Financial & Insurance Services	0.14***	681.49**	7.81***	3.61***
Rental, Hiring & Real Estate Services	0.58***	671.70**	10.46***	4.16***
Professional, Scientific & Technical Services	0.20***	642.56***	8.41***	3.50***
Administration & Support Services	0.82***	720.03***	15.17	6.66
Education & Training	0.62***	625.97***	10.59***	3.94***
Health Care & Social Assistance	0.61***	963.4	17.84***	8.15***
Arts & Recreation Services	0.59***	771.38	13.91	5.82
Other Services	1.07***	918.29	10.02***	4.79**

Results: Work-related injury claims (firm characteristics)

	All b/se	Men b/se	Women b/se
Industry (Ref.: Manufacturing)			
Agriculture, Forestry & Fishing	0.177** (0.056)	0.132* (0.064)	0.253*** (0.064)
Mining	-0.332*** (0.070)	-0.383*** (0.073)	-0.0231
Electricity, Gas, Water & Waste Services	0.034 (0.138)	0.148 (0.151)	-0.02193
Construction	0.061 (0.049)	0.044 (0.050)	-0.248*** (0.048)
Wholesale Trade	-0.248*** (0.039)	-0.300*** (0.049)	-0.167*** (0.037)
Retail Trade	-0.385*** (0.043)	-0.559*** (0.057)	-0.154*** (0.044)
Accommodation & Food Services	-0.259*** (0.048)	-0.506*** (0.060)	-0.019 (0.044)
Transport, Postal & Warehousing	-0.082 (0.049)	-0.088 (0.057)	-0.059 (0.047)
Information Media & Telecommunications	-0.467*** (0.055)	-0.542*** (0.066)	-0.362*** (0.047)
Financial & Insurance Services	-0.424*** (0.050)	-0.501*** (0.069)	-0.340*** (0.041)
Rental, Hiring & Real Estate Services	-0.431*** (0.058)	-0.483*** (0.071)	-0.267*** (0.062)
Professional, Scientific & Technical Services	-0.389*** (0.038)	-0.508*** (0.046)	-0.217*** (0.044)
Administration & Support Services	-0.221*** (0.053)	-0.211** (0.068)	-0.181*** (0.046)
Education & Training	-0.282*** (0.083)	-0.485** (0.172)	-0.076 (0.059)
Health Care & Social Assistance	-0.222*** (0.046)	-0.542*** (0.062)	-0.114** (0.042)
Arts & Recreation Services	-0.163 (0.087)	-0.173 (0.145)	-0.110 (0.060)
Other Services	0.070 (0.093)	0.073 (0.102)	-0.286** (0.101)
Firm size (Ref.: 6-49 employees)			
50-249 employees	0.010 (0.027)	-0.022 (0.036)	0.080*** (0.023)
250+ employees	-0.020 (0.037)	-0.119* (0.048)	0.141*** (0.033)
Firm age (Ref.: Less than 5 years)			
5-9 years	0.113* (0.044)	0.161** (0.055)	0.031 (0.037)
10-24 years	0.107* (0.045)	0.127* (0.056)	0.043 (0.038)
25-49 years	0.055 (0.047)	0.096 (0.058)	-0.012 (0.037)
50+ years	0.072 (0.054)	0.117 (0.064)	-0.002 (0.049)
Firm profit (amount)	0.015 (0.014)	0.007 (0.019)	0.003 (0.009)

[Back](#)

Results: Work-related injury claims (workplace practices I)

	All b/se	Men b/se	Women b/se
Automation			
Automation of physical tasks	-0.074*** (0.022)	-0.080** (0.028)	-0.036 (0.018)
New automation of physical tasks	0.070 (0.040)	0.069 (0.050)	0.049 (0.039)
Flexible working arrangements			
Part-time work option	-0.117*** (0.028)	-0.153*** (0.035)	-0.029 (0.024)
Job sharing option	0.018 (0.024)	0.036 (0.032)	0.001 (0.020)
Shift work option	0.042 (0.025)	-0.001 (0.032)	0.110*** (0.021)
Flexi-time option	-0.074** (0.028)	-0.029 (0.036)	-0.132*** (0.028)
Work from home option	-0.145*** (0.026)	-0.210*** (0.033)	-0.043* (0.021)
Share of employees...			
...in full-time employment	0.002*** (0.000)	0.003*** (0.001)	0.001 (0.000)
...in management and professional positions	-0.003*** (0.001)	-0.004*** (0.001)	-0.002*** (0.000)
...in casual employment agreements	0.000 (0.001)	-0.000 (0.001)	0.001 (0.001)
...on service contracts	-0.001 (0.001)	-0.001 (0.001)	-0.001 (0.001)
Utilised the gig / sharing economy	-0.098 (0.055)	-0.083 (0.066)	-0.116** (0.043)
Equipment age (Ref.: Up to date)			
Up to 4 years behind	-0.008 (0.024)	0.009 (0.030)	-0.022 (0.020)
4-10 years behind	-0.035 (0.043)	-0.026 (0.052)	-0.045 (0.037)
More than 10 years behind	-0.14* (0.06)	-0.143 (0.076)	-0.1* (0.049)
Don't know	-0.017 (0.027)	0.015 (0.033)	-0.051* (0.025)
Health and safety influence (Ref.: Not at all)			
A small amount	0.016 (0.035)	0.024 (0.049)	-0.012 (0.030)
A moderate amount	0.087* (0.037)	0.105* (0.049)	0.032 (0.032)
A great deal	0.130*** (0.035)	0.157** (0.048)	0.054 (0.030)
Don't know	0.139** (0.049)	0.208** (0.071)	0.023 (0.045)

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[Back](#)

Results: Work-related injury claims (workplace practices II)

	All b/se	Men b/se	Women b/se
Share of employees covered by collective agreements (Ref.: None)			
1-10%	-0.031 (0.036)	-0.040 (0.046)	-0.009 (0.029)
11-50%	-0.002618	-0.126** (0.046)	-0.045 (0.028)
51-90%	-0.127** (0.046)	-0.188** (0.060)	-0.029 (0.040)
91-100%	-0.012 (0.050)	-0.026 (0.069)	0.001 (0.041)
N/A	-0.097 (0.057)	-0.16* (0.068)	0.006 (0.049)
Employee engagement			
Decision making	0.028 (0.023)	0.057* (0.028)	0.001 (0.020)
Health and safety	0.065 (0.060)	0.013 (0.078)	0.066 (0.048)
Feedback programmes	-0.071** (0.026)	-0.097** (0.032)	-0.023 (0.027)
Performance reviews	-0.015 (0.041)	0.022 (0.043)	-0.059 (0.049)
Training and mentoring programmes	0.065 (0.037)	0.052 (0.050)	0.061 (0.031)
Policies and practices			
Pay gap policy	-0.044 (0.027)	-0.013 (0.035)	-0.078*** (0.022)
Ageing workforce policy	0.032 (0.025)	0.017 (0.031)	0.049* (0.022)
Bullying policy	-0.052 (0.031)	-0.064 (0.039)	-0.005 (0.030)
Diversity and inclusion policy	-0.037 (0.028)	-0.053 (0.037)	0.011 (0.026)
Leave and childcare arrangements			
Buy extra annual leave / unpaid leave	-0.003 (0.026)	0.002 (0.033)	-0.008 (0.022)
Care leave	0.016 (0.031)	0.029 (0.040)	0.006 (0.026)
Childcare allowance or facilities	0.090** (0.033)	0.074 (0.042)	0.076** (0.028)
Parental leave provision	-0.008 (0.027)	0.001 (0.034)	-0.042 (0.022)

Results: Injury severity (individual)

	Medical Costs b/se	Compensation Days b/se
Female	-246.36*** (31.26)	-1.20*** (0.25)
Born in NZ	23.50 (42.89)	0.47 (0.25)
Age (Ref.: 15-24 years)		
25-34 years	301.91*** (32.97)	2.25*** (0.26)
35-44 years	546.92*** (44.85)	3.83*** (0.32)
45-54 years	685.45*** (49.85)	4.68*** (0.34)
55-64 years	841.99*** (56.24)	5.24*** (0.39)
65+ years	619.14*** (75.23)	4.20*** (0.59)
Ethnicity (Ref.: European)		
Maori	8.75 (37.54)	0.87** (0.29)
Pacific Peoples	-179.30*** (51.42)	-1.08** (0.39)
Asian	-85.54 (54.29)	-0.49 (0.35)
MELAA	-44.10 (93.97)	0.36 (0.66)
Other	-104.74 (85.18)	-0.88 (0.57)
Job tenure (Ref.: Less than 1 year)		
1-3 years	21.89 (37.31)	-0.09 (0.26)
3-6 years	-17.69 (46.35)	-0.38 (0.32)
6 years or more	-154.97** (47.89)	-1.34*** (0.32)
Monthly gross earnings (Ref.: Less than \$3,000)		
\$3,000-4,500	-235.64*** (41.15)	-2.70*** (0.30)
\$4,500-6,500	-300.63*** (54.10)	-4.33*** (0.37)
\$6,500 and over	-345.92*** (70.00)	-6.08*** (0.41)

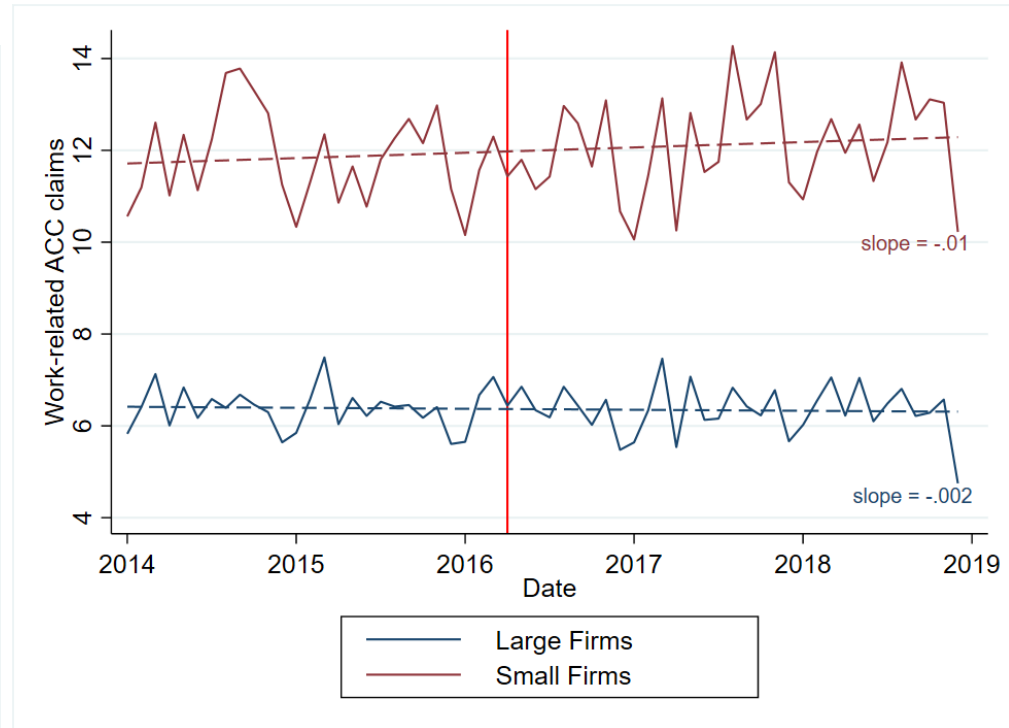
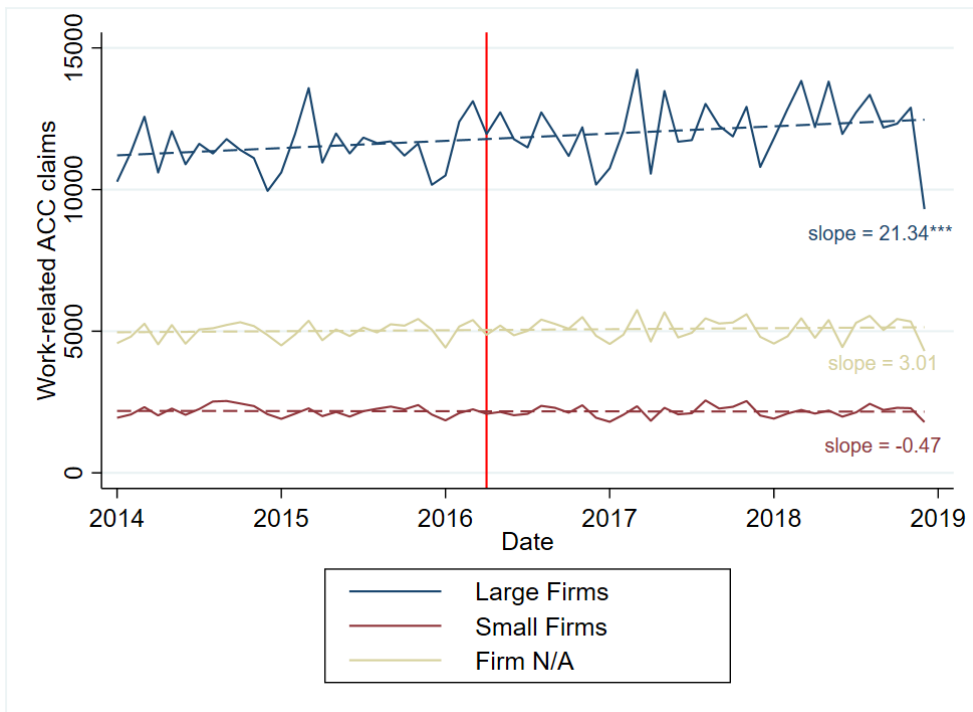
Results: Injury severity (firm)

	Medical Costs b/se	Compensation Days b/se
Industry (Ref.: Manufacturing)		
Agriculture, Forestry & Fishing	-41.77 (63.14)	-0.64 (0.59)
Mining	224.40 (229.27)	0.44 (1.36)
Electricity, Gas, Water & Waste Services	-158.85 (112.20)	-1.03 (0.93)
Construction	5.56 (65.64)	0.34 (0.60)
Wholesale Trade	-100.46 (66.73)	-0.84 (0.72)
Retail Trade	-265.22*** (70.62)	-2.68*** (0.51)
Accommodation & Food Services	-209.16** (77.18)	-2.75*** (0.82)
Transport, Postal & Warehousing	371.94*** (97.46)	2.04*** (0.60)
Information Media & Telecommunications	-315.74** (117.49)	-4.34*** (0.81)
Financial & Insurance Services	-77.29 (121.52)	-3.57*** (0.68)
Rental, Hiring & Real Estate Services	-280.20* (133.16)	-2.71** (0.85)
Professional, Scientific & Technical Services	-289.913*** (73.07)	-2.58*** (0.58)
Administration & Support Services	-241.72*** (57.20)	-1.93** (0.62)
Education & Training	-268.55*** (69.94)	-3.99*** (0.82)
Health Care & Social Assistance	-22.57 (82.64)	-0.25 (0.79)
Arts & Recreation Services	-69.27 (119.45)	-0.80 (0.86)
Other Services	-62.40 (112.87)	-1.10 (0.76)
Firm size (Ref.: 5 or less employees)		
6-49 employees	31.51 (78.14)	0.04 (0.54)
50-249 employees	54.53 (68.69)	0.36 (0.49)
250+ employees	-10.65 (73.87)	2.70*** (0.61)
Firm age (Ref.: Less than 5 years)		
5-9 years	10.41 (51.72)	-0.43 (0.53)
10-24 years	50.80 (51.48)	-0.05 (0.59)
25-49 years	-36.10 (52.71)	-0.49 (0.60)
50+ years	14.17 (86.08)	-0.90 (0.82)
Ownership and profit		
Overseas Ownership Rate	-0.78 (0.58)	-0.0001
Firm Profit (amount)	-69.01 (43.84)	0.24 (0.24)
Observations	56,502	56,502

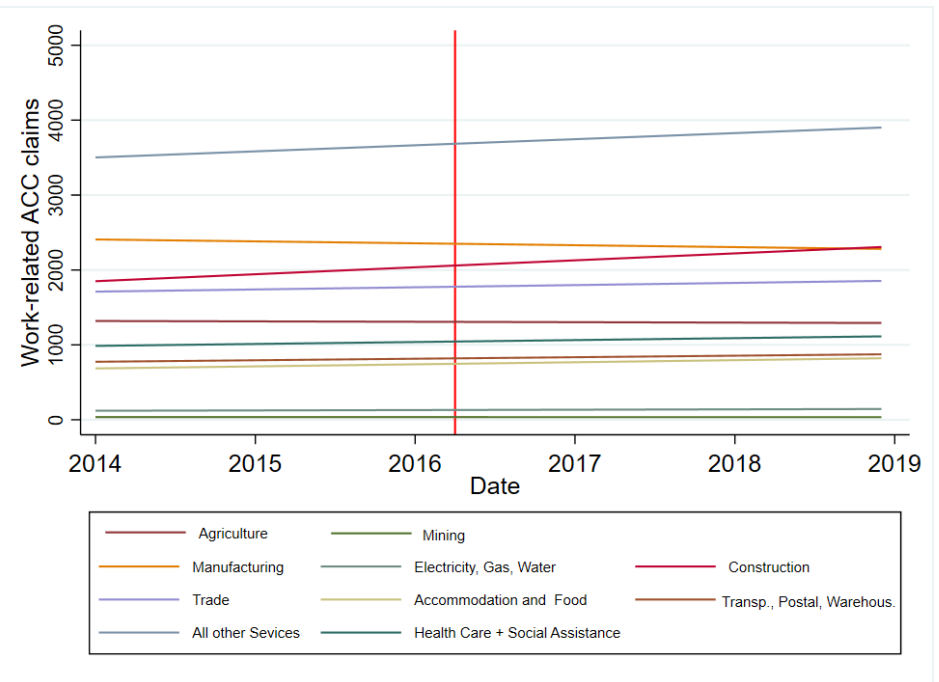
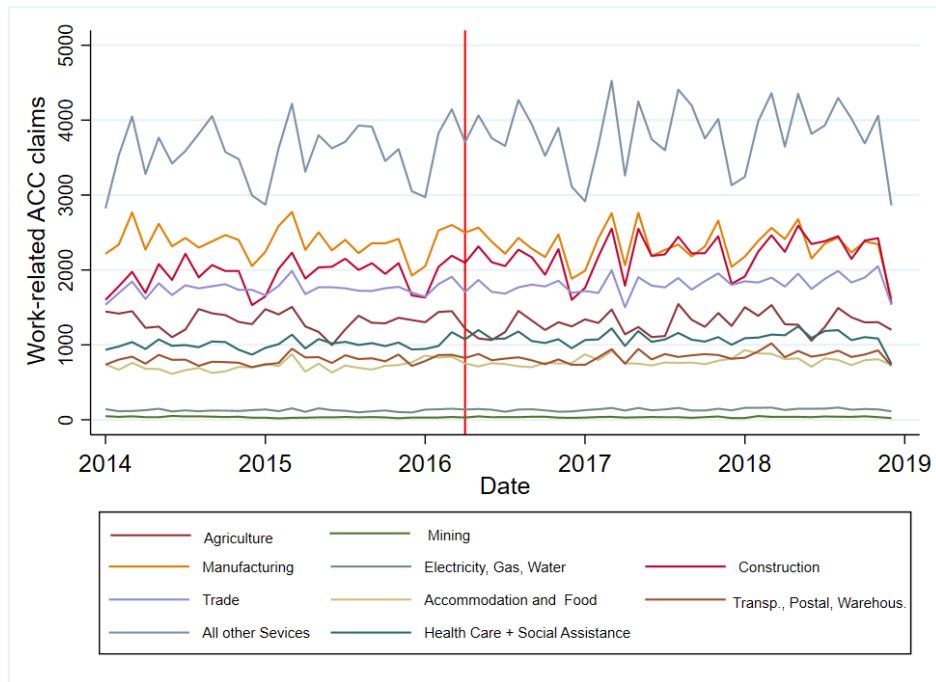
Results: Injury severity (firm)

	Medical Costs b/se	Compensation Days b/se
Industry (Ref.: Manufacturing)		
Agriculture, Forestry & Fishing	-41.77 (63.14)	-0.64 (0.59)
Mining	224.40 (229.27)	0.44 (1.36)
Electricity, Gas, Water & Waste Services	-158.85 (112.20)	-1.03 (0.93)
Construction	5.56 (65.64)	0.34 (0.60)
Wholesale Trade	-100.46 (66.73)	-0.84 (0.72)
Retail Trade	-265.22*** (70.62)	-2.68*** (0.51)
Accommodation & Food Services	-209.16** (77.18)	-2.75*** (0.82)
Transport, Postal & Warehousing	371.94*** (97.46)	2.04*** (0.60)
Information Media & Telecommunications	-315.74** (117.49)	-4.34*** (0.81)
Financial & Insurance Services	-77.29 (121.52)	-3.57*** (0.68)
Rental, Hiring & Real Estate Services	-280.20* (133.16)	-2.71** (0.85)
Professional, Scientific & Technical Services	-289.913*** (73.07)	-2.58*** (0.58)
Administration & Support Services	-241.72*** (57.20)	-1.93** (0.62)
Education & Training	-268.55*** (69.94)	-3.99*** (0.82)
Health Care & Social Assistance	-22.57 (82.64)	-0.25 (0.79)
Arts & Recreation Services	-69.27 (119.45)	-0.80 (0.86)
Other Services	-62.40 (112.87)	-1.10 (0.76)
Firm size (Ref.: 5 or less employees)		
6-49 employees	31.51 (78.14)	0.04 (0.54)
50-249 employees	54.53 (68.69)	0.36 (0.49)
250+ employees	-10.65 (73.87)	2.70*** (0.61)
Firm age (Ref.: Less than 5 years)		
5-9 years	10.41 (51.72)	-0.43 (0.53)
10-24 years	50.80 (51.48)	-0.05 (0.59)
25-49 years	-36.10 (52.71)	-0.49 (0.60)
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[Back](#)

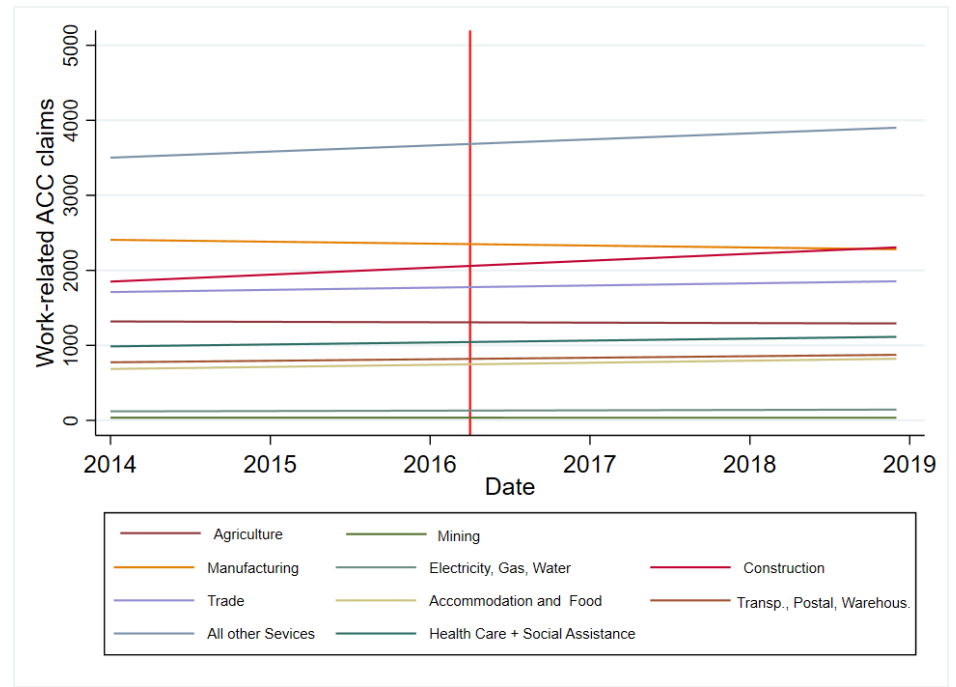
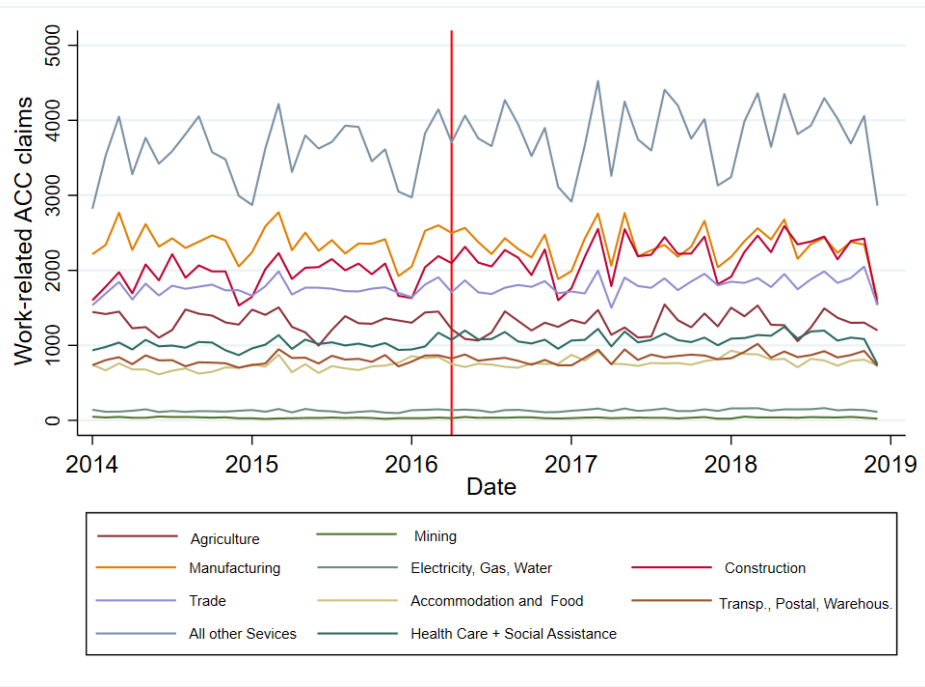


[Back](#)



[Back](#)

[Services decomposition](#)



[Back](#)

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