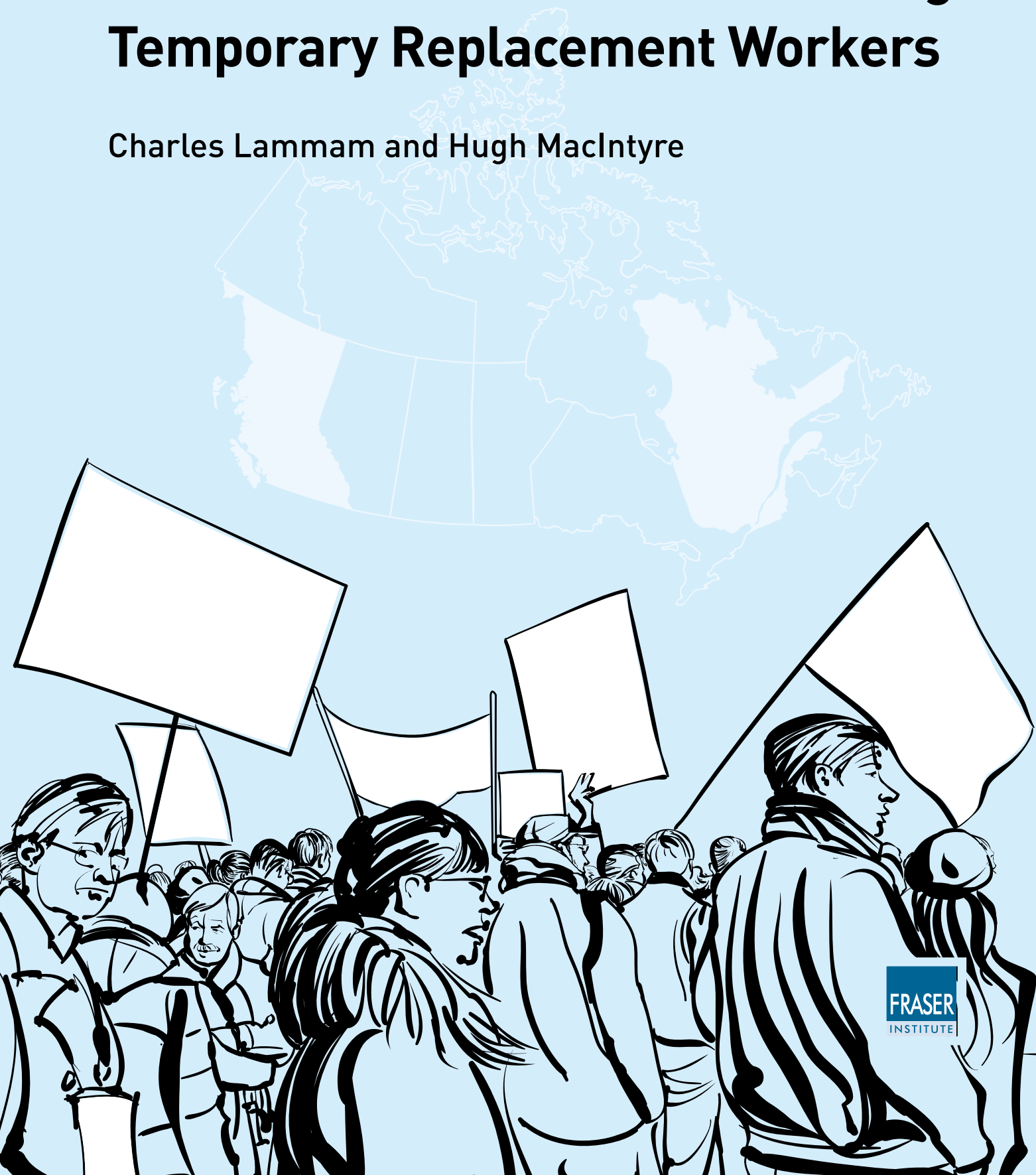


July 2017

The Economic Effects of Banning Temporary Replacement Workers

Charles Lammam and Hugh MacIntyre



FRASER
INSTITUTE

Contents

Executive summary / i

Introduction / 1

The Economic Effects of Banning Temporary Replacement Workers / 3

Labour Relations Laws in Canada—The Broader Context / 14

Conclusion / 20

References / 21

About the authors / 26

Acknowledgments / 26

Publishing information / 27

Supporting the Fraser Institute / 28

Purpose, funding, and independence / 28

About the Fraser Institute / 29

Editorial Advisory Board / 30

Executive summary

British Columbia and Quebec are the only two provinces in Canada that ban the hiring of temporary workers to replace existing employees who are participating in a labour strike or lockout. Although no other Canadian jurisdiction bans temporary replacement workers, or “scabs” as they are colloquially known, it is the subject of recurring debate at both the federal and provincial levels of government.

However, empirical research—based on the experience in British Columbia and Quebec (and a brief ban in Ontario)—shows there are several negative consequences associated with banning temporary replacement workers, both on the broader economy (investment, wages, and jobs) and labour relations (the frequency and duration of strikes).

To understand the economic effects of bans on hiring temporary replacement workers, first consider how the ban affects an employer during a strike or lockout. The ban makes it more difficult and costly for an employer to operate or serve customers during a work stoppage, and this affords union negotiators a marked advantage during collective bargaining by increasing the financial pressure that employers face during a work stoppage.

Meanwhile, workers participating in a strike are able to lessen their own financial pressure by finding employment elsewhere while the strike or lockout is under way. Unions can also provide strike pay to cushion the financial impact on workers. There is a clear imbalance in the way the law is applied to employers on the one hand, and unionized workers on the other.

A number of empirical studies have found direct negative consequences associated with banning temporary replacement workers. One serious adverse effect of such bans is on investment. Entrepreneurs and investors are discouraged from investing and doing business in a jurisdiction with a ban because the ban can raise labour costs and lower the return on investment.

The adverse effect on investment helps explain a counterintuitive finding in the empirical literature: banning temporary replacement workers lowers union wages. Crucially, investment provides workers with the tools, equipment, and technology they need to improve their productivity. And productivity, which is the value produced per hour worked, is closely

tied to the compensation that a worker earns. Workers that produce greater value for a given amount of labour input can command higher wages. That is why a decline in investment depresses worker compensation in the longer term. While union negotiators may pressure employers to pay higher wages, the benefit to workers of those higher wages is short term; in the long term, workers ultimately lose out on wage gains that they would have attained through increased productivity had investment levels been higher in the absence of the replacement worker ban.

Another unintended consequence of bans on temporary replacement workers is fewer available job opportunities. When businesses are discouraged from investing (i.e., setting up, developing, or expanding operations) or hiring labour, the result is that fewer jobs are created.

Despite these demonstrably adverse economic consequences, a common argument made for banning replacement workers is that the policy results in fewer and shorter strikes, and generally contributes to more peaceful labour relations. It is true that long strikes can be costly because they disrupt the production of goods and services and the lives of those who are involved. However, contrary to the argument made by the ban's proponents, empirical studies show that banning replacement workers leads to more frequent and, on balance, longer strikes. In addition, consider that from 2008 to 2016, British Columbia and Quebec, which both maintain the ban, have had the highest number of work days lost due to work stoppages (strikes and lockouts) among Canadian provinces.

Canadian labour relations laws tend to be imbalanced and prescriptive, which are important considerations in the long-running debate about banning temporary replacement workers. If a Canadian jurisdiction without such a ban were to adopt it, it would be a step in the wrong direction for a set of labour relations laws that are already less balanced and more prescriptive than in jurisdictions in the United States. Put differently, a ban on temporary replacement workers in federally regulated industries in Canada, or in the eight provinces that do not already have a ban, would make the labour relations laws in those jurisdictions even less conducive to investment and economic growth. On the other hand, removing the ban in British Columbia and Quebec would be a step towards more balanced laws, which would be of benefit to workers in those provinces.

Introduction

British Columbia and Quebec are the only two provinces in Canada that ban the hiring of temporary workers to replace existing employees who are participating in a labour strike or lockout. Although no other Canadian jurisdiction bans temporary replacement workers, or “scabs” as they are colloquially known, it is the subject of recurring debate at both the federal and provincial levels of government.

For instance, bans on temporary replacement workers were discussed—but ultimately not proposed—in recent reviews of provincial labour laws in both Ontario and Alberta. In 2016, Parliament voted down a private member’s bill that would have applied the ban to federally regulated industries.¹ Despite these failed attempts, proponents continue to push for bans on the hiring of temporary replacement workers.²

When the ban is in place, employers are forbidden from hiring temporary workers to replace existing employees on strike or lockout for the duration of the work stoppage. Empirical research shows there are several adverse consequences associated with banning temporary replacement workers, both on the broader economy (investment, wages, and jobs) and labour relations (the frequency and duration of strikes). This study reviews the empirical evidence on the economic consequences of banning temporary replacement workers, based on the experience of jurisdictions that either have or at one point had such a ban.

The study is divided into two sections. The first reviews the empirical evidence on the economic effects of banning temporary replacement workers. The second examines the broader context of Canada’s labour relations laws and the important role that such laws play in shaping the

¹ Examples of industries that fall under federal jurisdiction include interprovincial transportation, banking, broadcasting, and telecommunication. About 800,000 Canadian workers (5.3 percent) are employed in workplaces covered by federal legislation (Canada Industrial Relations Board, 2014).

² Notably, after Bill C-234 was defeated, the president of the Canadian Labour Congress vowed to continue to fight for a federal ban (Press, 2016). Labour leaders also criticized the Ontario and Alberta governments for not including a ban on temporary replacement workers among their changes to labour relations laws (CUPE, 2017; Cotter, 2017).

economic environment. A ban on temporary replacement workers is one of many critical labour regulations that can hinder economic performance. The paper ends with a final concluding section.

The Economic Effects of Banning Temporary Replacement Workers

This section begins by explaining how bans on temporary replacement workers affect the dynamics of labour negotiations; it then reviews the available empirical evidence on how such bans affect the economy and labour relations.

Economics of bans on temporary replacement workers

Replacement workers are typically distinguished as being new hires rather than existing employees who choose not to participate in the labour strike and continue working (often referred to as crossing the picket line). There is an important distinction between a temporary replacement worker, whose tenure ends once the strike or lockout is over, and a permanent replacement worker who may continue their employment even after the work stoppage is resolved. In most Canadian jurisdictions, hiring permanent replacement workers is effectively banned because striking or locked-out workers are guaranteed the option of returning to their position once the work stoppage is over (Compolieti et al., 2014).³ The United States, however, allows both temporary and permanent replacement workers. In either case, the option to hire replacement workers is important because it means that firms are better equipped to continue operations in the event of a longer or more contentious strike.⁴

³ This is often referred to as reinstatement rights.

⁴ There are a number of reasons why an employer may not choose to hire replacement workers during a labour strike. For instance, the cost of time and money spent searching for temporary replacement workers may be prohibitive in some cases, particularly if the employer is anticipating a relatively short strike. Another factor in the employer's decision could be that, in theory, replacement workers may be less productive than the workers on strike due to a lack of experience or skills (Budd and Wang, 2004; Cramton and Tracey, 1998).

To understand the economic effects of a ban on hiring temporary replacement workers, first consider how the ban affects an employer during a strike or lockout.⁵ The ban makes it more difficult and costly for an employer to operate or serve customers during a work stoppage, and this affords union negotiators a marked advantage during collective bargaining by increasing the financial pressure that employers face during a work stoppage.

Without the option to hire replacement workers, it can be difficult to continue operations during a strike or lockout, which could mean higher costs related to labour stoppages for the employer, manifesting in the form of less revenue and lower profits.⁶ If the firm is unable to provide goods or services, their customers may switch to a competitor or delay purchases, resulting in lower revenues or shrinking market share. Critically, the firm still has to pay any fixed costs it incurs during the work stoppage, such as rent and property taxes. As a result, employers and entrepreneurs can face greater financial pressure than they otherwise would had they been able to hire replacement workers.

Meanwhile, workers participating in a strike are able to lessen their own financial pressure by finding employment elsewhere while the strike or lockout continues.⁷ Unions can also provide strike pay to cushion the financial impact on workers.⁸ There is a clear imbalance in the way the law is applied to employers and unionized workers.

Even if there is no strike, the higher *potential* cost of strikes makes the mere threat of a strike a bargaining chip and tilts the bargaining process in favour of union negotiators. An employer faced with the threat of a strike over wages must weigh the cost of paying higher wages against all the costs associated with a labour strike. The possibility of a costly strike may make the employer more willing to acquiesce to the union's position and avoid a strike. This imbalance in bargaining power may provide a

⁵ A lockout is when the employer closes the workplace and suspends work for employees involved in a labour dispute (Ontario, Ministry of Labour, 2011).

⁶ Employers have a number of strategies they can use to remain operating during a strike even if they are not allowed to hire replacement workers. However, such strategies may not always be practical and in some cases are not legal. For example, employers in British Columbia may make use of workers who have “crossed the picket line” and have chosen to continue working despite being part of a bargaining unit that is on strike. In Quebec, however, crossing the picket line is banned (Guy Pocklington, Information Officer, Labour Relations Board of British Columbia, personal communication, May 8, 2015; see section 109.1 of Quebec's Labour Code).

⁷ Guy Pocklington, Information Officer, Labour Relations Board of British Columbia, personal communication, May 8, 2015; Nathalie Flageol, Labour Relations Officer, Commission des relations du travail, personal communication, August 19, 2016.

⁸ Strike pay is money from the union given to workers on strike.

windfall for unionized workers in the short term, but over the long term, the empirical research shows that bans on replacement workers lead to negative outcomes, even for the wages of workers.

Empirical evidence on banning temporary replacement workers

A number of empirical studies have found direct negative consequences associated with banning temporary replacement workers.⁹ These studies are based on the experiences in British Columbia and Quebec, and a brief ban in Ontario.¹⁰ Quebec was the first jurisdiction to ban all replacement workers in 1978. The ban in BC dates from 1993. Ontario banned replacement workers in 1993, but the ban was lifted in 1995. The research has largely found that banning temporary replacement workers discourages investment, reduces the wages of workers, decreases job opportunities, and leads to more frequent and longer strikes.

Effect on investment, wages, and jobs

Investment

In a major study published in the *Industrial and Labor Relations Review*, University of Minnesota professors John W. Budd and Yijiang Wang (2004) empirically examine the impact of replacement worker bans on investment in Canada from 1967 to 1999. They conclude that such bans decrease the rate of net investment by 25 percent.¹¹ The scholars note that temporary replacement worker bans increase the bargaining power of unions and

⁹ In Canada, the labour relations laws governing most industries fall under the jurisdiction of the various provinces with a handful of industries regulated by the federal government. This means that labour relations laws can vary across provinces. The body of research exploits the variation in labour relations laws in Canada to measure the impact of replacement worker bans as well as other regulations.

¹⁰ A number of jurisdictions outside of Canada and the United States ban replacement workers (Warneck, 2007; Labour Watch, 2006). However, in these jurisdictions there can be important differences in broader labour relations institutions that can affect the context in which the bans exist. For example, Singh and Jain (2001) argue that the significance of the ban on replacement workers in Mexico is limited by arguably stringent rules on what qualifies as a legal strike.

¹¹ To allow for comparisons across jurisdictions, net investment is measured as new investment minus capital depreciation divided by the capital stock.

allow unions to negotiate a higher share of firm profits. The end result is a lower return for investors, which discourages investment.¹²

It is important to note that bans on temporary replacement workers not only discourage existing businesses in a jurisdiction from investing (i.e., expanding or reinvesting profits), but they also discourage businesses located elsewhere from investing in a jurisdiction where a ban exists. Similarly, entrepreneurs are discouraged from starting a new business. While it is difficult to empirically capture such lost investments, ordinary citizens could miss out on many things including new goods or services that may improve their lives, innovative ways that businesses serve customers, or employment opportunities with higher paying jobs. When assessing the policy implications of bans on temporary replacement workers, it is important to consider how such bans can undermine the competitiveness of a jurisdiction's investment climate.

Wages

The adverse effect on investment may help explain why banning temporary replacement workers ends up lowering union wages, a finding in two separate studies.¹³ Dachis and Hebdon (2010) investigate how labour relations laws affect the wage outcomes in collective bargaining among Canadian provinces from 1978 to 2008.¹⁴ They find that a ban on temporary replacement workers reduces the average *hourly* wage by 3.6 percent. In a study published in *Industrial Relations*, Professor Michele Campolieti of the University of Toronto and his colleagues (2014) studied the same period, employing a similar methodology. They found that the ban on replacement workers reduced the average *annual* wage settlement by 1.8 percent.

These results may seem counterintuitive. One might expect that unions would leverage the increased bargaining power afforded to them by

¹² See Budd and Wang (1998) for a more complete discussion on the connection between banning replacement workers and investment.

¹³ An earlier study by Cramton et al. (1999) found that banning temporary replacement workers had positive effects on wage settlements from collective bargaining, but this study is limited by the period studied—1967 to 1993 compared to 1978 to 2008 in the more recent studies. Campolieti et al. (2014) argue that since replacement bans were adopted toward the end of the period under consideration by the older study, the effect on investment did not have time to have a discernable impact, which would affect outcomes for wages. Dachis and Hebdon (2010) point out that the period covered by the older study meant that it was heavily influenced by the Quebec experience, whereas the period from 1978 to 2008 also captures experiences with replacement worker bans in BC and Ontario.

¹⁴ Each of the studies measuring the effect of replacement worker bans on wages uses a wage settlement dataset limited to bargaining units of 500 or more employees.

replacement worker bans to win higher wages for the workers they represent. However, the authors of both studies explain that the decline in investment due to the ban ultimately results in reduced wages (Dachis and Hebdon, 2010; Compoleiti et al., 2014). Crucially, investment provides workers with the tools, equipment, and technology they need to improve their productivity. And productivity, which is the value produced per hour worked, is closely tied to the compensation that a worker earns (Sherk, 2013). Workers that produce greater value for a given amount of labour input can command higher wages. That is why a decline in investment depresses worker compensation in the longer term. While union negotiators may pressure employers to pay higher wages, workers ultimately lose out on wage gains that they would have attained through increased productivity had investment levels been higher in the absence of the replacement worker ban.

Jobs

Another unintended consequence of such bans is that workers lose out on employment opportunities, an outcome driven by the negative effect on investment. Reduced investment means businesses do not set up, develop, or expand operations, and that can result in fewer jobs being created. In the academic journal *Labour Economics*, Professor Budd (2000) empirically tests the effect of replacement worker bans on employment using data for each Canadian province from 1966 to 1994. He estimates that bans decrease the employment rate by 1.3 percentage points (relative to an average employment rate of 57.9 percent). Budd (2000) also measures the impact of replacement worker bans on the number of workers in the unionized workforce. Based on data from 1966 to 1993, he estimates that banning replacement workers reduced the number of workers in bargaining units by 8.3 percent per year.

Budd (2000) offers three explanations for why a temporary replacement worker ban reduces employment. First, bans make a jurisdiction a less attractive place to invest and start a business, translating into fewer job opportunities. Second, higher wages in the short term due to the increased bargaining power of unions can drive up labour costs and result in employers being less willing to hire more workers. Finally, some firms may shift production (and jobs) to another location when there is a work stoppage since employers cannot hire temporary workers during a strike or lockout.¹⁵

In summary, the experience in provinces with bans on temporary replacement workers shows that such bans have adverse economic con-

¹⁵ Note that the legal requirement to reinstate workers who were on strike may act as a barrier to a permanent shift in production to another location in the immediate aftermath of the strike.

sequences. Entrepreneurs and investors are discouraged from investing and doing business in a jurisdiction with a ban because the ban can raise labour costs and lower the return on investment. In the longer-term, workers themselves get hurt because lower levels of investment ultimately translate into lower wages and fewer job opportunities.

Effect on the incidence and duration of strikes

A common argument made for banning replacement workers is that the policy results in fewer and shorter strikes, and generally contributes to more peaceful labour relations (Duffy and Johnson, 2009; Singh and Jain, 2001).¹⁶ For example, speaking on the recent federal private member's bill to ban temporary replacement workers that was defeated (Bill C-234), the national president of the Canadian Union of Public Employees (CUPE), Mark Hancock, said the bill "would give employers more incentive to sit down and negotiate with workers and could lead to fewer and shorter strikes and lockouts" (CUPE, 2016). Long strikes can be costly because they often disrupt the production of goods and services and the lives of those who are involved.

However, contrary to the argument made by proponents of the ban, a number of studies have found that banning replacement workers in fact leads to more frequent strikes and the research largely shows that banning replacement workers leads to longer strikes.¹⁷ Table 1 summarizes these studies. (In the table, "NSS" means the results are "not statistically significant.") To understand the empirical results, recall that a ban increases the cost of work stoppage for employers. This creates an incentive for unions to more frequently call strikes in order to pressure employers to accept

¹⁶ Part of the argument for banning replacement workers is that it would reduce violence at the picket line during a labour strike, but there is little evidence to support this position. Cramton and Tracy (1998) find that 46 percent of violent strikes in the United States from 1980 to 1989 were associated with the use of replacement workers while only 14 percent of all strikes involved replacement workers. Gunderson (2008: 3), however points out that "management might be more likely to use replacements when they feel that the labour relations climate has deteriorated, and the use of violence is simply a manifestation of that deterioration." He goes on to argue that it may be more appropriate to directly address picket line violence rather than banning replacement workers.

¹⁷ Research into the use of replacement workers in the United States has found that labour strikes tend to last longer if the employer hires replacement workers (Cramton and Tracey, 1998; Schnell and Gramm, 1994). One explanation is that employers are more likely to make use of replacement workers if they are anticipating a longer strike. The literature on strike duration in Canada better captures the overall impact of the policy to ban replacement workers.

Table 1: Canadian Empirical Studies on the Impact of Banning Temporary Replacement Workers on Strike Incidence and Duration

Impact on strike incidence			Impact on strike duration		
Study	Years covered	Strike incidence	Study	Years covered	Strike duration
Compolieti et al. (2014)	1978-2008	NSS	Compolieti et al. (2014)	1978-2008	Longer
Dachis and Hebdon (2010)	1978-2008	Higher	Dachis and Hebdon (2010)	1978-2008	Longer
Duffy and Johnson (2009)	1978-2003	Higher	Duffy and Johnson (2009)	1978-2003	Shorter
Cramton et al. (1999a)	1967-1993	NSS	Cramton et al. (1999a)	1967-1993	Longer
Budd (1996)	1966-1988	NSS	Budd (1996)	1966-1988	Longer
Gunderson et al. (1989)	1971-1985	Higher	Gunderson and Melino (1990)	1967-1985	Longer
Gunderson et al. (1986)	1971-1983	NSS			

Notes:

- “NSS” refers to cases where the findings are reported to be not statistically significant. In cases where the impact on strike incidence was not statistically significant, the sign of the result indicated an increase in strike incidence, with the exception of Gunderson et al. (1986).
- There is not an obvious explanation for why the results from Duffy and Johnson (2009) differ from other studies in terms of strike duration. One possibility is that by using data aggregated at the provincial level rather than bargaining unit level, the authors were not able to control for bargaining unit characteristics, as was done in the other recent studies.
- Duffy and Johnson (2009) measured the frequency of work stoppages which includes both strikes and employer initiated lockouts.
- Budd (1996) examined the impact of banning temporary replacement workers specifically in the manufacturing industry.
- An additional study on the consequences of banning replacement workers on labour strikes is Cramton et al. (1999b), but this study is identical in methodology and results to Cramton et al. (1999a).

the union’s bargaining position. The ban also encourages striking unions to hold out longer on the presumption that employers would be more inclined to accept the union’s proposals after an extended disruption to operations.

More frequent strikes

An early study that found that banning replacement workers increases the frequency of strikes was published in the *Canadian Journal of Economics* by leading labour economist Morley Gunderson and his colleagues (1989). The study measures the impact of a number of labour relations laws on the probability of a strike occurring in Canada from 1971 to 1985. It finds that banning replacement workers increases the probability of a strike by 24.4

percentage points, compared to the average strike probability of 16 percent in the study's sample.

The Gunderson et al. (1989) study covers a period where the findings are heavily influenced by the experience of Quebec, where a ban on replacement workers was enacted in 1978, whereas more recent studies include the years in which BC (1993 onwards) and Ontario (1993-1995) also had bans. Dachis and Hebdon (2010) and Duffy and Johnson (2009) are examples of more recent studies that find bans on replacement workers increase strike frequency. Dachis and Hebdon (2010) measure the impact of replacement worker bans on the number of strikes per firm (both unionized and non-unionized) in each province from 1978 to 2008, while controlling for a number of other factors such as characteristics related to the striking workers (including union affiliation and number of workers on strike) and economic conditions. They find that banning replacement workers increases the incidence of strikes per firm by about a third. Duffy and Johnson (2009) examine a shorter period (1978-2003) and use the number of work stoppages (both strikes and employer initiated lockouts) per number of firms in each province as their measure.¹⁸ They find that a ban on replacement workers is associated with an increase in the incidence of strikes of approximately 50 percent.

Longer strikes

Table 1 also includes a number of studies that find an association between banning replacement workers and longer labour strikes. Gunderson and Melino (1990) is the earliest paper to measure the impact of temporary replacement worker bans on strike duration in Canada (1967-1985). This study estimates that bans on temporary replacement workers lead to an increase in the duration of strikes by approximately 35 to 42 working days—an increase of 21 percent.

Budd (1996) looks exclusively at the impact on the manufacturing industry in Canada from 1966 to 1988 and finds that, at any given time, the likelihood of a strike ending is higher if there is no ban on replacement workers than if there is a ban. In other words, strikes last longer, on average, when there is a ban on replacement workers.

A later study analyzing the period 1967 to 1993 finds that replacement worker bans in Canada are associated with an approximately 50 percent increase in the average strike duration (Cramton et al., 1999). Cramton et al. calculate that the increased duration of strikes is the equivalent

¹⁸ The data used by Duffy and Johnson (2009) were from the provincial level rather than the bargaining unit level. Provincial-level data did not allow them to control for characteristics of striking/locked out workers.

to an additional cost of approximately \$1.9 million (in 1993 dollars) per contract negotiation. That extra cost does not include the higher costs that the employer faces due to a diminished ability to continue operations resulting from replacement worker bans.

Similar to the early studies on strike frequency, this initial collection of studies on the impact on strike duration is largely based on the experience of Quebec due to the period covered. More recent studies that cover longer periods where bans existed in BC and Ontario largely confirm the findings that the ban on replacement workers tends to lead to longer strikes.¹⁹ For instance, Dachis and Hebdon (2010) investigate the impact of replacement worker bans in Canada from 1978 to 2008. They find that a ban on replacement workers increased the average length of a strike by about 60 percent. Compolieti et al. (2014) examine the same period and use similar controls but employ a different methodology. They also find that a ban on replacement workers is associated with longer strikes, or a 16.1 percent decrease in the probability of a strike ending at any given time. Overall, the evidence on strike duration and incidence runs counter to arguments that a ban on replacement workers would reduce labour strife. In fact, the ban increases it.

Work stoppages in Canadian provinces

A consequence of more frequent and longer strikes is that more productive work days are lost due to work stoppages. This is another way in which bans on temporary replacement workers can harm the economy. More work days lost due to work stoppages can translate into less investment in a jurisdiction experiencing labour strife (see box 1).

Figure 1 displays data from the federal government that records which provinces experience the greatest losses in working days due to strikes and lockouts. A common measure of the extent of work stoppages is person-days lost, which is the number of employees involved in the work stoppage multiplied by the number of working days of the stoppage. To normalize the data across jurisdictions, the number of person-days lost is presented in figure 1 as per 1,000 workers. The available data are for the years 2008 to 2016.

¹⁹ The only study that found a decrease in labour strike duration related to bans on replacement workers was Duffy and Johnson (2009). But there is no obvious explanation for why their results differ from the other studies. One possibility is that by using data aggregated at the provincial level rather than bargaining unit level, the authors were not able to control for bargaining unit characteristics as was done in other studies.

Box 1: The Economic Effects of Labour Disputes

Labour disputes have economic effects.^{*} For instance, they adversely affect employment opportunities for workers by decreasing investment and business activity. They also discourage investment and negatively affect business activity because labour disputes can cause profits and market share to decline. Investment and business activity are critical to workers as they have a positive effect on high and growing wages and, ultimately, on living standards.

Research shows that the primary way in which labour disputes discourage investment and business activity is by lowering the value of firms. They do so because they tend to reduce the rate of return to potential investors. A study by Robert Hanrahan and his colleagues (1997) in the *Review of Financial Economics* examined the impact of labour disputes on the expected profitability of Canadian firms listed on the Toronto Stock Exchange. The authors found that disputes during collective bargaining decreased returns by 4.5%.^{**} Moreover, the main findings suggest that the longer the dispute, the greater the harmful impact on returns. There is similar evidence from the United States. A study in *Industrial Relations* by Jonathan Kramer and Thomas Hyclak (2002) examined the reaction of the stock market to labour disputes in US manufacturing industries from January 1982 to July 1999. They found that strikes had negative effects on the cumulative stock-market returns of firms involved in those strikes: such firms saw their returns decrease by -0.7% to -0.8%.^{***}

Lower rates of return caused by labour disputes have been shown to discourage investors. A study by Morris Kleiner and Hwikwon Ham (2002) examined the impact of national levels of unionization, strike levels, public policies toward labour, and the structure of collective bargaining within a nation on a country's foreign direct investment (FDI). Examining 20 OECD nations from 1985 to 1995 and all US states from 1990 to 1999, the authors found that strikes indeed have a direct effect on FDI: jurisdictions with more days lost from strikes (per 1,000 employees, per year) are associated with lower levels of FDI.

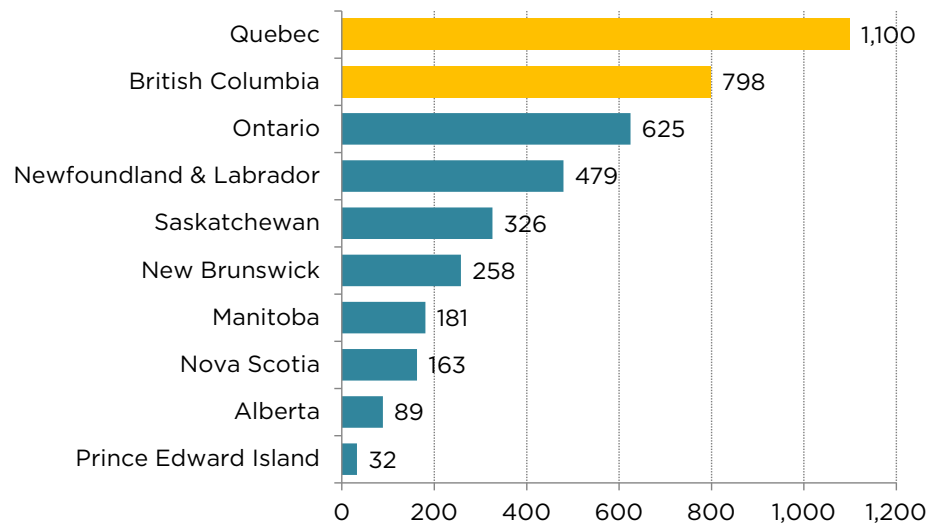
A study by Paroma Sanyal and Nidhiya Menon (2005), using data on investment and business activity (defined as the place where an employer chooses to conduct business) from India for the period from 1997 to 1999, found that jurisdictions that suffer frequent labour disputes have less investment and less business activity than jurisdictions with fewer work stoppages.

^{*} Labour disputes include strikes and lock-outs. In a strike, employees cease working in an attempt to compel the employer to accept certain working conditions. In a lock-out, an employer closes the place of employment, suspends work, or refuses to continue to employ a number of his employees in an attempt to compel workers to accept certain employment conditions (Craig, 1990).

^{**} Becker and Olson (1986) found similar results. Using data from 1962 to 1982, they found that strikes substantially affected shareholder equity: the average strike involving 1,000 or more workers resulted in a 4.1% drop in shareholder equity.

^{***} Strikes affect not only the value of struck firms; they can also affect the value of third-party firms. For instance, Persons (1995) used stock-market data for the years 1965 to 1990 to estimate the effects of strikes against US automobile producers on the stock value of their steel suppliers. Persons found that steel suppliers had returns ranging from -1.6% to -2.5% upon announcements of automobile strikes.

Figure 1: Working Days Lost per 1,000 Workers Due To Work Stoppages, 2008-2016



Notes:

- Work stoppages include both strikes and lock-outs. Work stoppages that amount to less than 10 person-days of loss work are excluded.
- It is necessary to look at work stoppages over a long period because the number of person-days lost tends to fluctuate from year-to-year. For example, in 2014 British Columbia lost 537 person-days of work for every 1,000 workers, but lost only 23 person-days in 2015. Similar patterns of extreme fluctuation can be found in other provinces. Another example would be Ontario in 2009 where 241 person-days of work were lost but only 43 person-days were lost in 2008. The year 2008 is the earliest year of readily available data.
- Work stoppages in industries under federal jurisdictions are not included.

Source: Canada, Employment and Social Development, 2017; Statistics Canada 2017a; calculations by authors.

The two provinces that currently ban temporary replacement workers, Quebec and British Columbia, experienced the greatest loss in person-days per 1,000 workers from 2008 to 2016. Quebec had 1,100 person-days lost per 1,000 workers; in British Columbia it was 798. The next highest rate of person-days lost was in Ontario with 625 per 1,000 workers. In other words, the extent of work stoppages in Quebec and British Columbia are more than three-quarters and a quarter higher than in Ontario, respectively. In comparison, the person-days lost per 1,000 workers in the three provinces with the lowest losses are 163 in Nova Scotia, 89 in Alberta, and 32 in Prince Edward Island.

To summarize, proponents of bans on temporary replacement workers often claim that such bans will result in fewer and shorter strikes, but this belies the experience of provinces that have bans. The empirical evidence shows that bans lead to more frequent and longer strikes. Not only does a ban on temporary replacement workers fail to achieve the goal of fostering more peaceful labour relations, a ban actually causes more labour strife.

Labour Relations Laws in Canada— The Broader Context

A ban on temporary replacement workers must be assessed and considered in the context of a broader set of labour relations laws, which regulate the interactions between unionized workers, their collective representatives (unions), and employers. This section first discusses the importance of balanced and non-prescriptive labour relations laws for positive economic outcomes and then looks at bans on temporary replacement workers in light of Canada's generally unbalanced and prescriptive set of laws. Critically, the bans in British Columbia and Quebec exacerbate a general problem that these and other Canadian jurisdictions suffer as a result of their maintaining unbalanced and prescriptive laws. If adopted in other jurisdictions, the ban will be a step towards even less balanced labour relations laws.

Why labour relations laws matter

Labour relations laws cover different aspects of labour relations including: the process through which unions gain and lose the right to represent workers in collective bargaining; the rules that either allow or prohibit making union membership and/or union dues a condition of employment; and the regulations that influence the employer-union relationship once a union has been certified, including collective bargaining between an employer and union negotiators. These laws have broad economic implications because they affect labour market flexibility, which determines how well labour markets adjust to changing economic conditions.

When a labour market is flexible, workers can more easily move from one employer to another in search of better pay or working conditions. At the same time, in such an environment, employers can reallocate resources to improve profitability or better serve consumers as market circumstances change. Put differently, a flexible labour market better enables both firms and workers to pursue opportunities that ultimately lead to a growing and more prosperous economy.

Empirical research from around the world shows that more flexible labour markets lead to positive economic outcomes including more job creation, lower unemployment, increased labour market participation, stronger economic growth, a faster recovery from economic crises, and greater benefits from economic change and innovation.²⁰ Research also shows, on the other hand, that regulations that reduce labour market flexibility are associated with lower labour-force participation and higher unemployment (Botero et al., 2005; Bierhanzl and Gwartney, 1998).

Labour relations laws increase labour market flexibility when they balance the interests of workers, union representatives, and employers. However, when such laws favour one group over another, prevent innovation, or prescribe outcomes rather than foster negotiation, they can undermine the flexibility of labour markets. Numerous studies have found negative economic consequences associated with unbalanced and overly prescriptive labour relations laws. For example, research finds that laws biased at the expense of employers are associated with lower investment and lower employment as well as other negative outcomes (Besley and Burgess, 2004; Ahsan and Pagés, 2008).

Other research comparing labour relations institutions across 20 OECD countries (including Canada), finds that jurisdictions with more restrictive labour relations institutions attract less investment and experience less economic growth (Kleiner and Ham, 2002). A recent study analyzing data from 11 OECD countries finds that investment per worker is lower where unions have more bargaining power (Cardullo et al., 2015). In general, unbalanced and prescriptive labour relations laws discourage investment and economic growth, ultimately diminishing a jurisdiction's economic prosperity.

Labour relations laws in Canada

In Canada, labour relations laws differ by province because responsibility for the creation and enforcement of such laws is largely decentralized to the provinces, with a few industries falling under federal jurisdiction.²¹ However, overall, there is a tendency for Canadian labour relations laws to be unbalanced and overly prescriptive, particularly when compared to the

²⁰ For an overview on the literature regarding labour market flexibility, see MacIntyre and Lammam (2014) and Karabegović et al. (2012).

²¹ Examples of industries that fall under federal jurisdiction include interprovincial transportation, banking, broadcasting, and telecommunication. About 800,000 Canadian workers (5.3 percent) are employed in workplaces covered by federal legislation (Canada Industrial Relations Board, 2014).

Table 2: Components and indicators of the Index of Labour Relations Laws

Component/Indicator

(1) Organizing a union

- Mandatory secret ballot for certification
- No remedial certifications
- Equal thresholds for certification and decertification applications
- Terms of first contract can be freely negotiated

(2) Union security

- Mandatory union membership not allowed
- Mandatory union dues not allowed

(3) Regulation of unionized firm

- Successor companies free to negotiate own agreement
 - No mandatory advanced notice of technological change
 - No mandatory arbitration for grievances
 - Replacement workers during strikes allowed
 - Bans on second site picketing during strike
-

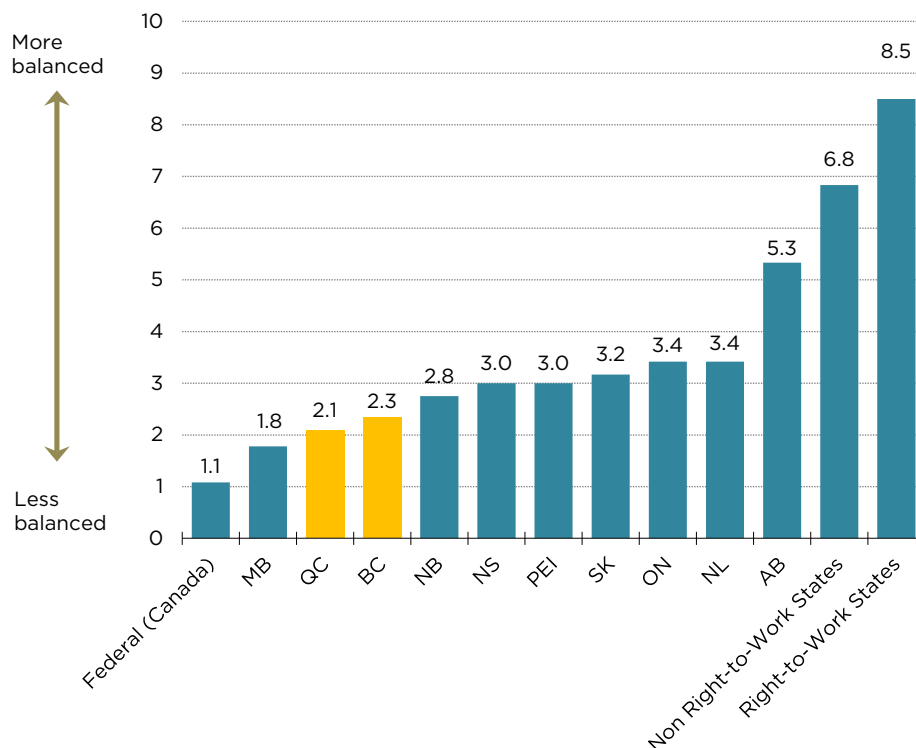
Source: MacIntyre and Lammam, 2014.

Note: Each indicator is weighted equally within each component, and each component is weighted equally for the overall index.

United States. The debate about banning temporary replacement workers must therefore be assessed and considered against a backdrop of generally unbalanced labour relations laws. Since such bans are shown to contribute to unbalanced labour relations laws in British Columbia and Quebec, their adoption elsewhere would worsen an existing problem in other Canadian jurisdictions. The result would be a less competitive investment climate and weaker economic performance.

MacIntyre and Lammam (2014) have measured the degree of balance and prescriptiveness in labour relations laws across jurisdictions in Canada and the United States. Their *Index of Labour Relations Laws* is based on three broad areas of labour relations laws: organizing a union; worker choice regarding union membership and dues payment (“union security”); and regulations of unionized firms (see table 2). The index for 2014 includes Canada’s federally regulated jurisdiction, the 10 Canadian provinces, and 50 American states.

Figure 2 presents the overall index results. A higher score (out of 10) indicates a more balanced and less prescriptive set of labour relations

Figure 2: Index of Labour Relations Laws, 2014**Notes:**

- A higher score indicated a more balanced and less prescriptive set of labour relation laws and a lower score indicates less balanced and more prescriptiveness.
- There have been several changes to labour relations laws since the publishing of MacIntyre and Lammam (2014) that would effect the scores on the index. For example, Manitoba recently reformed its rules for certifying unions to make the process more balanced. Specifically, Manitoba now requires that union certification be approved via a mandatory secret ballot vote. In contrast, the Alberta government recently proposed to move away from a mandatory secret ballot, which would mean a lower score for that province.
- Right-to-Work states are jurisdictions that have implemented laws that allow non-union employees in a unionized work space to opt-out of union dues. At the time that the index was published, Right-to-Work States included: Alabama, Arizona, Arkansas, Florida, Georgia, Idaho, Indiana, Iowa, Kansas, Louisiana, Michigan, Mississippi, Nebraska, Nevada, North Carolina, North Dakota, Oklahoma, South Carolina, South Dakota, Tennessee, Texas, Utah, Virginia, and Wyoming. In addition, subsequent to the publishing of the 2014 Index of Labour Relations Law, Wisconsin, West Virginia, Kentucky, and Missouri have become Right-to-Work states.

Source: MacIntyre and Lammam, 2014.

laws, while a lower score indicates less balance and more prescriptiveness in terms of determining outcomes between employers, employees, and unions. As figure 2 clearly shows, Canadian jurisdictions are universally less balanced and more prescriptive than American jurisdictions.²² Private-sector labour relations laws show less variation in the United States than Canada because they are largely set by the federal government and individual states have only a limited ability to make changes. Most notably though, states do have the power to enact Right-to-Work (or “worker choice”) laws, which guarantee those workers who fall under the purview of the *National Labor Relations Act*²³ the choice of whether or not to pay union dues.²⁴ States that have Right-to-Work laws score 8.5 on the index, whereas states that do not score 6.8.

Of the Canadian jurisdictions, Alberta has the highest score (5.3), meaning that this province has the most balanced and least prescriptive private sector labour laws in Canada. But Alberta’s score is still well below the scores of the American jurisdictions. Ontario and Newfoundland & Labrador, with scores of 3.4 each, are a distant second among Canadian jurisdictions. Federally regulated industries in Canada (with a score of 1.1) have the most unbalanced and prescriptive labour relations laws of all jurisdictions assessed. British Columbia (scoring 2.3) and Quebec (scoring 2.1) also have low scores on the Index, partly due to being the only jurisdictions that ban the use of temporary replacement workers.

²² One consequence of unbalanced private-sector labour laws that are biased in favour of union representatives is that they tend to encourage higher private sector unionization rates (Clemens et al. 2005). This partly explains why Canada has a higher rate of private sector unionization than the United States. In 2016, 16.1 percent of Canadian private sector workers were covered by a union contract compared to 7.3 percent in the United States (Statistics Canada, 2017b; Hirsch and Macpherson, 2017).

²³ Right-to-Work laws do not apply to the railway and airport industries because they fall under the purview of the *Railway Labor Act*.

²⁴ Under Right-to-Work laws, workers still do not have the option to opt-out of union representation. Workers who are covered by a union contract but who would prefer to negotiate their own contract cannot do so. This is in contrast to New Zealand where union contracts apply only to workers who choose to be covered (Labour Watch, 2006).

Conclusion

The evidence shows that banning the use of temporary replacement workers during a strike or lockout has several negative economic consequences. The bans discourage investment and ultimately lead to worse outcomes for workers in the long term, including lower wages and fewer job opportunities. Critically, the bans not only discourage existing businesses in a jurisdiction from investing, but they also discourage businesses located elsewhere from investing in a jurisdiction with a ban. And contrary to arguments made by proponents of bans, they lead to more frequent and longer strikes, causing increased labour strife.

More broadly, banning temporary replacement workers provides union negotiators with a marked advantage over employers and therefore makes the collection of labour relations laws in British Columbia and Quebec, which are already less balanced than competing jurisdictions in the United States, even more unbalanced and prescriptive. This in turn undermines the flexibility of the labour market, resulting in weaker economic outcomes (less job creation, higher unemployment, decreased labour market participation, and a slower growing economy). Put simply, the bans on temporary replacement workers in British Columbia and Quebec have real economic costs—to the detriment of workers—and should be avoided in other Canadian jurisdictions.

References

Ahsan, Ahmad, and Carmen Pagés (2008). *Are All Labor Regulations Equal? Evidence from Indian Manufacturing*. IZA Discussion Papers, No. 3394. Institute for the Study of Labor. <<http://ftp.iza.org/dp3394.pdf>>, as of July 7, 2017.

Becker, Brian E., and Craig A. Olson (1986). The Impact of Strikes on Shareholder Equity. *Industrial and Labor Relations Review* 39, 3: 425–438.

Besley, Timothy, and Robin Burgess (2004). Can Labour Regulation Hinder Economic Performance? Evidence from India. *Quarterly Journal of Economics* 119, 1 (February): 91–134.

Bierhanzl, Edward, and James Gwartney (1998). Regulation, Unions, and Labor Markets. *Regulation* 21, 3: 40–53.

Botero, Juan C., Simeon Djankov, Rafael La Porta, Florencio Lopez-de-Silanes, and Andrei Shleifer (2004). The Regulation of Labor. *Quarterly Journal of Economics* 119, 4 (November): 1339–82

Budd, John W. (1996). Canadian Strike Replacement Legislation and Collective Bargaining: Lessons for the United States. *Industrial Relations* 35, 2 (April): 245–260.

Budd, John W. (2000). The Effect of Strike Replacement Legislation on Employment. *Labour Economics* 7: 225–47.

Budd, John W., and Yijiang Wang (1998). *The Ambiguity of Strike Replacement Legislation and Wages: A Sequential Investment-Bargaining Model*. *SSRN Electronic Journal*. <https://papers.ssrn.com/sol3/papers.cfm?abstract_id=150328>, as of July 5, 2017.

Budd, John W., and Yijiang Wang (2004). Labor Policy and Investment: Evidence from Canada. *Industrial and Labor Relations Review* 57, 3 (April): 386–401.

Campolieti, Michele, Robert Hebdon, and Benjamin Dachis (2014). The Impact of Collective Bargaining Legislation on Strike Activity and Wage Settlements. *Industrial Relations* 53, 3 (July): 394–429.

Canada, Employment and Social Development (2017). Work Stoppage by Sector and Year. Web tables. Government of Canada. <<https://www.canada.ca/en/employment-social-development/services/collective-bargaining-data/work-stoppages/work-stoppages-year-sector.html>>, as of July 5, 2017.

Canada Industrial Relations Board (2014). *Reports on Plans and Priorities, 2014-2015*. Government of Canada. <<http://www.cirb-ccri.gc.ca/eic/site/047.nsf/eng/00641.html>>, as of July 5, 2017.

Canadian Union of Public Employees [CUPE] (2016, February 25). CUPE Salutes NDP's Anti-Scab Bill. News release. CUPE. <<http://cupe.ca/cupe-salutes-ndps-anti-scab-bill>>, as of July 5, 2017.

Canadian Union of Public Employees [CUPE] (2017, May 24). Major Labour Law Reform? *Changing Workplace Review Final Report* “Majorly Disappointing,” Says CUPE Ontario President. News Release. CUPE. <<https://cupe.ca/major-labour-law-reform-changing-workplace-review-final-report-majorly-disappointing-says-cupe>>, as of July 5, 2017.

Cardullo, Gabriele, Maurizio Conti, and Giovanni Sulis (2015). Sunk Capital, Unions and the Hold-Up Problem: Theory and Evidence from Cross-Country Sectoral Data. *European Economic Review* 76: 253–287.

Clemens, Jason, Niels Veldhuis, and Amela Karabegović (2005). *Explaining Canada's High Unionization Rates*. Fraser Institute. <<https://www.fraserinstitute.org/sites/default/files/explaining-canadas-high-unionization-rates.pdf>>, as of July 5, 2017.

Cotter, John (2017, May 24). Alberta Introduces First Overhaul of Workplace Rules in Almost 30 Years. *Fort McMurray Today*. <<http://www.fortmcmurraytoday.com/2017/05/24/alberta-introduces-first-overhaul-of-workplace-rules-in-almost-30-years>>, as of July 5, 2017.

Craig, Alton W. J. (1990). *The System of Industrial Relations in Canada*. Prentice-Hall.

Cramton, Peter, Morley Gunderson, and Joseph Tracy (1999). The Effect of Collective Bargaining Legislation on Strikes and Wages. *Review of Economics and Statistics* 81, 3 (August): 475–87.

Cramton, Peter, and Joseph Tracy (1998). The Use of Replacement Workers in Union Contract Negotiations: The US Experience, 1980–1989. *Journal of Labor Economics* 16, 4: 667–701.

Dachis, Benjamin and Robert Hebdon (2010). *The Laws of Unintended Consequence: The Effect of Labour Legislation on Wages and Strikes*. Commentary number 304 (June). CD Howe Institute. <https://www.cdhowe.org/sites/default/files/attachments/research_papers/mixed/commentary_304.pdf>, as of July 5, 2017.

Gunderson, Morley (2008). *Bans on Strike Replacement Workers: Pouring Oil on the Fire*. Commentary number 4. Atlantic Institute for Market Studies. <<http://www.aims.ca/site/media/aims/LabourSeries4.pdf>>, as of July 5, 2017.

Gunderson, Morley, and Angelo Melino (1990). The Effect of Public Policy on Strike Duration. *Journal of Labor Economics* 8, 3 (July): 295–316.

Gunderson, Morley, John Kervin, and Frank Reid (1986). Logit Estimates of Strike Incidence from Canadian Contract Data. *Journal of Labor Economics* 4, 2 (April): 257–276.

Gunderson, Morley, John Kervin, and Frank Reid (1989). The Effect of Labour Relations Legislation on Strike Incidence. *Canadian Journal of Economics* 22, 4 (November): 779–794.

Hanrahan, Robert, Joseph Kushner, Felice Martinello, and Isidore Masse (1997). The Effect of Work Stoppages on the Value of Firms in Canada. *Review of Financial Economics* 6, 2: 151–166.

Hirsch, Barry, and David Macpherson (2017). *Union Membership and Coverage Database from the CPS*. Unionstats.com. <<http://www.unionstats.com/>>, as of June 19, 2017.

Karabegović, Amela, Nachum Gabler, and Niels Veldhuis (2012). *Measuring Labour Markets in Canada and the United States, 2012 Edition*. Fraser Institute. <<https://www.fraserinstitute.org/sites/default/files/Measuring-Labour-Markets-2012.pdf>>, as of July 5, 2017.

Kleiner, Morris M., and Hwiwon Ham (2002). *Do Industrial Relations Institutions Impact Economic Outcomes?: International and U.S. State-Level Evidence*. NBER Working Paper 8729. National Bureau of Economic Research. <<http://www.nber.org/papers/w8729.pdf>>, as of July 5, 2017.

Kramer, Jonathan K., and Thomas Hyclak (2002). Why Strikes Occur: Evidence from the Capital Markets. *Industrial Relations* 41, 1: 80–93.

Labour Watch (2006). *Unions and Employee Choice Rights: A Five Country Comparison. Canada, Australia, New Zealand, United Kingdom, and United States*. Labour Watch. <http://www.labourwatch.com/docs/research/five_country_international_labourLaw_comparison.pdf>, as of July 5, 2017.

MacIntyre, Hugh and Charles Lammam (2014). *Labour Relations Laws in Canada and the United States: an Empirical Comparison, 2014 Edition*. Fraser Institute. <<https://www.fraserinstitute.org/sites/default/files/labour-relations-laws-in-canada-and-the-united-states-2014-rev.pdf>>, as of July 16th, 2015.

Persons, Obeua S. (1995). The Effects of Automobile Strikes on the Stock Value of Steel Suppliers. *Industrial and Labor Relations Review* 49, 1: 78–87.

Press, Jordan (2016, Nov. 27). Federal Government Advised against Federal Ban on Replacement Workers. *News 1130*. Canadian Press. <<http://www.news1130.com/2016/11/27/federal-government-advised-against-federal-ban-on-replacement-workers/>>, as of July 5, 2017.

Ontario, Ministry of Labour (2011). *Strike and Lock-out: FAQ*. Web page. Government of Ontario. <https://www.labour.gov.on.ca/english/lr/faqs/lr_faq3.php>, as of July 5, 2017.

Sanyal, Paroma, and Nidhiya Menon (2005). Labor Disputes and the Economics of Firm Geography: A Study of Domestic Investment in India. *Economic Development and Cultural Change* 53: 825–854.

Schnell, John F., and Cynthia L. Gramm (1994). The Empirical Relations between Employers' Striker Replacement Strategies and Strike Duration. *Industrial and Labor Relations Review* 47, 2 (January): 189–206.

Sherk, James (2013). *Productivity and Compensation: Growing Together*. Backgrounder number 2825 (July). The Heritage Foundation. <<http://thfmedia.s3.amazonaws.com/2013/pdf/bg2825.pdf>>, as of July 5, 2017.

Singh, Parbudyal, and Harish C. Jain (2001). Striker Replacements in the United States, Canada, and Mexico: A Review of the Law and Empirical Research. *Industrial Relations* 40, 1 (January): 22–53.

Statistics Canada (2017a). *CANSIM Table 282-0002: Labour Force Survey Estimates (LFS), by Sex and Detailed Age Group*. Government of Canada. <<http://www5.statcan.gc.ca/cansim/a26?lang=eng&id=2820002>>, as of July 5, 2017.

Statistics Canada (2017b). *CANSIM Table 282-0078: Labour Force Survey Estimates, Employees by Union Coverage, North American Industry Classification System, Sex and Age Group*. Government of Canada. <<http://www5.statcan.gc.ca/cansim/a26?lang=eng&retrLang=eng&id=2820078&paSer=&pattern=&stByVal=1&p1=1&p2=50&tabMode=dataTable&csid=>>>, as of June 19, 2017.

Warneck, Wiebke (2007). *Strike Rules in the EU27 and Beyond: A Comparative Overview*. European Trade Union Institute. <http://www.asi.is/media/7581/Strike_rules_in_the_EU27.pdf>, as of July 5, 2017.

About the authors



Charles Lammam

Charles Lammam is director of fiscal studies at the Fraser Institute. He holds an MA in public policy and a BA in economics with a minor in business administration from Simon Fraser University. Since joining the Institute, Mr. Lammam has published over 90 studies and 370 original articles on a wide range of economic policy issues including taxation, public finances, pensions, investment, income inequality, poverty, labour, entrepreneurship, public-private partnerships, and charitable giving. His articles have appeared in every major national and regional newspaper in Canada as well as many prominent US-based publications. Mr. Lammam regularly gives presentations to various groups, comments in print media, and appears on radio and television broadcasts across the country to discuss the Institute's research. He also frequently provides expert testimony for government panels and committees.



Hugh MacIntyre

Hugh MacIntyre is a policy analyst at the Fraser Institute. He holds an MSc in Political Science from the University of Edinburgh and an Honours BA from the University of Toronto. He has co-authored numerous studies on topics such as government finances and government performance. His commentaries have appeared in various media outlets including the *National Post* and the American Enterprise Institute's prestigious magazine, *The American*.

Acknowledgments

The authors wish to thank the unidentified reviewers for their many helpful comments and suggestions. Any remaining errors or oversights are the sole responsibility of the authors. As the researchers have worked independently, the views and conclusions expressed in this paper do not necessarily reflect those of the Board of Directors of the Fraser Institute, the staff, or supporters.

Publishing information

Distribution

These publications are available from <<http://www.fraserinstitute.org>> in Portable Document Format (PDF) and can be read with Adobe Acrobat® or Adobe Reader®, versions 7 or later. Adobe Reader® XI, the most recent version, is available free of charge from Adobe Systems Inc. at <<http://get.adobe.com/reader/>>. Readers having trouble viewing or printing our PDF files using applications from other manufacturers (e.g., Apple's Preview) should use Reader® or Acrobat®.

Ordering publications

To order printed publications from the Fraser Institute, please contact:

- e-mail: sales@fraserinstitute.org
- telephone: 604.688.0221 ext. 580 or, toll free, 1.800.665.3558 ext. 580
- fax: 604.688.8539.

Media

For media enquiries, please contact our communications department at 604.714.4582 or via e-mail at communications@fraserinstitute.org.

Copyright

Copyright © 2017 by the Fraser Institute. All rights reserved. No part of this publication may be reproduced in any manner whatsoever without written permission except in the case of brief passages quoted in critical articles and reviews.

Date of issue

July 2017

ISBN

978-0-88975-458-4

Citation

Lammam, Charles, and Hugh MacIntyre (2017). *The Economic Effects of Banning Temporary Replacement Workers*. Fraser Institute. <<http://www.fraserinstitute.org>>.

Supporting the Fraser Institute

To learn how to support the Fraser Institute, please contact

- » Development Department, Fraser Institute
Fourth Floor, 1770 Burrard Street
Vancouver, British Columbia, V6J 3G7 Canada
- » telephone, toll-free: 1.800.665.3558 ext. 586
- » e-mail: development@fraserinstitute.org
- » website: <<http://www.fraserinstitute.org/support-us/overview.aspx>>

Purpose, funding, and independence

The Fraser Institute provides a useful public service. We report objective information about the economic and social effects of current public policies, and we offer evidence-based research and education about policy options that can improve the quality of life.

The Institute is a non-profit organization. Our activities are funded by charitable donations, unrestricted grants, ticket sales, and sponsorships from events, the licensing of products for public distribution, and the sale of publications.

All research is subject to rigorous review by external experts, and is conducted and published separately from the Institute's Board of Trustees and its donors.

The opinions expressed by authors are their own, and do not necessarily reflect those of the Institute, its Board of Trustees, its donors and supporters, or its staff. This publication in no way implies that the Fraser Institute, its trustees, or staff are in favour of, or oppose the passage of, any bill; or that they support or oppose any particular political party or candidate.

As a healthy part of public discussion among fellow citizens who desire to improve the lives of people through better public policy, the Institute welcomes evidence-focused scrutiny of the research we publish, including verification of data sources, replication of analytical methods, and intelligent debate about the practical effects of policy recommendations.

About the Fraser Institute

Our mission is to improve the quality of life for Canadians, their families, and future generations by studying, measuring, and broadly communicating the effects of government policies, entrepreneurship, and choice on their well-being.

Notre mission consiste à améliorer la qualité de vie des Canadiens et des générations à venir en étudiant, en mesurant et en diffusant les effets des politiques gouvernementales, de l'entrepreneuriat et des choix sur leur bien-être.

Peer review—validating the accuracy of our research

The Fraser Institute maintains a rigorous peer review process for its research. New research, major research projects, and substantively modified research conducted by the Fraser Institute are reviewed by experts with a recognized expertise in the topic area being addressed. Whenever possible, external review is a blind process. Updates to previously reviewed research or new editions of previously reviewed research are not reviewed unless the update includes substantive or material changes in the methodology.

The review process is overseen by the directors of the Institute's research departments who are responsible for ensuring all research published by the Institute passes through the appropriate peer review. If a dispute about the recommendations of the reviewers should arise during the Institute's peer review process, the Institute has an Editorial Advisory Board, a panel of scholars from Canada, the United States, and Europe to whom it can turn for help in resolving the dispute.

Editorial Advisory Board

Members

Prof. Terry L. Anderson

Prof. Robert Barro

Prof. Jean-Pierre Centi

Prof. John Chant

Prof. Bev Dahlby

Prof. Erwin Diewert

Prof. Stephen Easton

Prof. J.C. Herbert Emery

Prof. Jack L. Granatstein

Prof. Herbert G. Grubel

Prof. James Gwartney

Prof. Ronald W. Jones

Dr. Jerry Jordan

Prof. Ross McKittrick

Prof. Michael Parkin

Prof. Friedrich Schneider

Prof. Lawrence B. Smith

Dr. Vito Tanzi

Past members

Prof. Armen Alchian*

Prof. Michael Bliss

Prof. James M. Buchanan* †

Prof. Friedrich A. Hayek* †

Prof. H.G. Johnson*

Prof. F.G. Pennance*

Prof. George Stigler* †

Sir Alan Walters*

Prof. Edwin G. West*

* deceased; † Nobel Laureate