# Words Matter:

## The Value of Collective Bargaining Agreements

Benjamin W. Arold, Elliott Ash, W. Bentley MacLeod, Suresh Naidu*

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**Abstract**

This paper proposes novel natural language methods to measure worker rights from collective bargaining agreements (CBAs) for use in empirical economic analysis. Applying unsupervised text-as-data algorithms to a new collection of 30,000 CBAs from Canada in the period 1986-2015, we parse legal obligations (e.g. "the employer shall provide...") and legal rights (e.g. "workers shall receive...") from the contract text. We validate that contract clauses provide worker rights, which include both amenities and control over the work environment. Worker-rights clauses increase with firm size, and companies that provide more worker rights score highly on a survey indicating pro-worker management practices. Using time-varying province-level variation in labor income tax rates, we find that higher taxes increase the share of worker-rights clauses while reducing pre-tax wages in unionized firms, consistent with a substitution effect away from taxed compensation (wages) toward untaxed amenities (worker rights). Further, an exogenous increase in the value of outside options (from a Bartik instrument for labor demand) increases the share of worker rights clauses in CBAs. Combining the regression estimates, we infer that a one-standard-deviation increase in worker rights is valued at about 5.4% of wages.

*Benjamin W. Arold: aroldb@ethz.ch, Center for Law and Economics, ETH Zurich; Elliott Ash: ashe@ethz.ch, Center for Law and Economics, ETH Zurich; W. Bentley MacLeod: wbmacleod@princeton.edu, Department of Economics and School of Public and International Affairs, Princeton University; Suresh Naidu, sn2430@columbia.edu, Department of Economics and School of Public and International Affairs, Columbia University. We thank Victor Gamarra, Jeff Jacobs, Yisehak Abraham, Alex Ahmadi, Sungmin An, Eli Ben-Michael, Jakob Brounstein, Zoey Chopra, Leslie Cordero, Sydney Egnasko, Vidushi Jayathilak, Lorenzo Lagos, Ji-Yoon Lee, Tianxiao Ma, Allison Peck, Leo Picard, Jyotirmayee Sabat, Valentin Saitarli, Divya Singh, Dominik Stammbach, Eileen Suh, Anna Vladymyrska, Erin Walsh, Yong Wang, Grace Zheng, and Jon Zytnick for helpful research assistance. We thank Andi Beeri, Ryan Copus, Rosa Ferrer, Eric Helland, Scott Masten, Yuki Shiraito, and the participants at numerous conferences for helpful comments. Columbia University's Program for Economic Research, the National Science Foundation, Washington Center for Equitable Growth, European Research Council, and Swiss National Science Foundation provided financial support for this research.

# 1 Introduction

Labor economists have long been interested in the effects of collective bargaining agreements (CBAs) on wages, benefits, and employment (e.g. Farber et al., 2021; Martins, 2021; Card and Cardoso, 2022; Jäger et al., 2022). Yet CBAs are about much more than worker compensation, often extending across dozens of pages, with hundreds of legally binding plain-text clauses to go along with lists of positions and tables of wages. Is this text merely "cheap talk? That is to say, are legal rights ancillary to wages and enumerated benefits, or do they have economic value to workers and/or firms? Drawing on tools from unsupervised natural language processing, this paper measures the legal content of collective bargaining contracts and shows that they largely consist of rights for workers (rather than for firms). Further, the prevalence of worker-rights language responds to exogenous economic shocks just as the economic theory of non-wage amenities predicts.

A contract's legal content governs a large number of workplace rights and duties, including a variety of non-wage amenities (Budd, 2017; Corradini et al., 2022) such as vacations, pension plans, promotions, dismissal rules, scheduling, and even bathroom breaks. Many of these clauses are fiercely bargained over by highly compensated and trained lawyers and negotiators (McAlevey and Lawlor, 2023). The substantial legal and financial resources expended on refining legal details of collectively bargained text suggest that both firms and unions care about both the broad content and specific wording of contract clauses. Many of these contracted rights have pure option value, in the sense that they can be exercised by workers during the production process without permission from a manager. And workers are often not aware of which rights they have – at least not until those rights are grieved or litigated. When the contract is breached, there is a formal grievance process and legal arbitration, with potentially costly sanctions.

Both union and non-union workers value on-the-job amenities (Lavetti, 2023) such as safety, pensions, or health care, workers also value control rights, such as the ability to work from home (Bloom et al., 2015; Mas and Pallais, 2017, 2020; Cai and Wang, 2022). Yet detailed measures of non-wage benefits and workplace rights have largely come from surveys and cover only relatively narrow sets of workplace conditions (Dube et al., 2022a; Maestas et al., 2023). Our paper leverages the text of collective bargaining agreements to inductively measure a large set of worker rights, from amenities such as

vacations and pensions to control rights such as dismissal rules and scheduling. In the context we study, where managers have residual rights of control over uncontracted actions, we would expect most contract language to grant workers privileges – and indeed this is what we find.

We show that these textual features behave as would be expected if they were non-pecuniary worker benefits in an economic model of union bargaining. We show that they are correlated with firm size, just like wages. We also show that they increase relative to wages when provincial taxes increase, similar to early work by Gruber and Poterba (1994) showing that taxes increase health benefits relative to wages (see also Stabile, 2001). Finally we show that both worker rights and wages increase when contracts are negotiated in periods of high labor demand, consistent with more recent work by Lagos (2020) shows that improved union outside options during collective bargaining alters the text of CBAs in a pro-worker direction.

The first contribution of our paper is comprehensive measurement of the space of workplace rights and obligations. We combine ideas from computational linguistics with the legal semantics of rights and duties to extract relevant text features. The large number of clauses with complex structures makes coding each clause by hand impossible. Instead, we build on the text-analysis techniques developed in Ash et al. (2020) to machine-code the legal requirements articulated by each contract clause. Our method begins by parsing contractual clauses into linguistic primitives of verbs and subjects. The verb determines whether a clause is an obligation, prohibition, permission, or right, following classic ideas in legal theory put forward by Hohfeld (1913). The subject determines whether the clause applies to workers, unions, employers, or managers. For example, "the employer shall..." indicates a firm obligation, while "employees retain..." indicates a worker right. The dimensionality of the other material in the clause is reduced by producing sentence vectors and then grouping them into topics via a clustering algorithm. In principle, the methodology can be applied directly to any English-language corpus of CBAs, and it could easily be adapted to other languages.

We implement the approach in a new corpus of 30,000 collective bargaining agreements from Canada, 1986-2015. Ideally for our purposes, Canada has decentralized firm-level contract negotiation, a high-quality and comprehensive corpus of contract text, and a provincial structure of union regulation. We find that Canadian labor contracts consist mainly of worker rights, worker obligations, and firm obligations.

Qualitatively, the measured worker rights look like a combination of amenities – e.g. holiday pay, sick leave – and control rights – delegations or specifications of decision procedures. Asking a large-language model to do pairwise comparisons of clause types

as being more/less beneficial to workers, we find that worker rights are scored as the most likely clause type to benefit workers. Like wages and other amenities, contract text is correlated with firm size. Further, we find that the share of worker rights in a union contract is correlated with pro-worker dimensions of the World Management Survey's measure of the associated firm's human resource practices (Bloom et al., 2012). Other clause types are either uncorrelated or negatively correlated with pro-worker HR practices.

To the extent that these contracted rights serve as an untaxed amentity, we expect that the prevalence of worker rights clauses might respond to changes in tax rates on wage income. Hence, we empirically examine the effect of provincial effective labor income tax rates, which alter the relative value of wage and non-wage amenities in union bargaining. We identify these effects relying on the fixed schedule of contract expirations as well as a wide set of covariates, including other provincial labor laws, along with province-sector, sector-year, and in some specifications firm fixed effects, union fixed effects, and province-specific time trends. We find that tax increases are associated with an increase in worker rights clauses, consistent with a substitution effect away from taxed compensation (income) and toward untaxed compensation (rights). That result holds in a staggered event-study design and is robust to a number of alternative specifications. Consistent with union contracts adjusting the mix of wages and amenities in response to tax changes, we show that these income tax increases also boost pre-tax wages in labor force data, but more so for non-union than union workers. Dividing the text response by the differential union wage response to taxes allows us to recover an elasticity of substitution between wages and text, and a value of worker-rights language in monetary terms. Based on this calculation, we find that a one-standard-deviation increase in the contract share of worker rights clauses is equivalent in value to a 5.4% increase in worker wages.

A second factor determining contract terms is the relative bargaining power of employers and employees. To look at this, we analyze the effect of changes in the (un)employment rate in a local sector. We calculate a Bartik-style leave-one-out employment rate in a given sector as the average over the employment rates in other sectors to isolate labor demand shocks. We find that increases in the local sectoral Bartik-style employment rate – presumably reflecting stronger worker outside options and a more competitive labor market – are associated with increases in worker rights. This effect holds in a range of alternative specifications including event studies.

We interpret these results using a model of firm-union bargaining with incomplete contracts. In the model, firms set wages and worker rights under strike threat, where

ex-ante contracted rights are costly to draft and provide but are a public good for workers. Contracted worker rights because they protect workers right to exercise amenities during the production process, while uncontracted amenities can be denied by firm management. Our empirical results on firm size, income taxes and outside options affecting rights emerge naturally.

These findings add to several central literatures in economics, starting with a long-standing literature on collective bargaining and unions, surveyed recently by the OECD in Cazes et al. (2019). There has been a recent resurgence of interest from both policymakers and academics in the economic effects of unions and collective bargaining on wages and employment in a variety of countries and contexts, often using administrative data (Jäger et al., 2022; Card and Cardoso, 2022; Naidu, 2022). While the union effect on productivity is ambiguous (Doucouliagos and Laroche 2003, 2009; DiNardo and Lee 2004; MacLeod 2011), in the U.S. and Canada unions have historically been an important force in compressing the wage (and income) distribution (DiNardo et al., 1996; Card, 2001; Farber et al., 2021).[1]

Getting at the granular textual details of contracts is the core of this research. We build on recent work applying computational techniques from natural language processing to the text of written contracts (Sanga, 2014; Moszoro et al., 2016; Ganglmair and Wardlaw, 2017), which in turn is part of a growing area of empirical research using text data by economists and other social scientists (Roberts et al., 2013; Gentzkow and Shapiro, 2010; Gentzkow et al., 2017a,b; Ash and Hansen, 2023). In labor economics, recent work using topic models to analyze contracted amenities includes Lagos (2020) and Corradini et al. (2022), discussed in greater detail below. Our innovation is to use concepts from formal linguistics, especially deontic modal verbs, to evaluate the legal incidence of contractual language on different parties to the contract (see Ash et al., 2020). Recent natural language parsing methods, combined with transformer-based semantic sentence encoders, are used to form quantitative representations of rights and obligations from contract text. Using legally-relevant linguistic ideas allows for a more systematic processing of contract language than learning methods based upon human,

[1]Other related work includes the hysteresis in contract terms documented in Card (1986), suggesting that observed union contracts cannot be viewed as achieving the first best. There is also a large literature in labor and legal history, sociology, and political science concerned with the interaction of labor laws and labor contracts. Research that focuses on hand-coded features of union contracts includes Juravich et al. (2006) and Strunk and Grissom (2010). Stepan-Norris and Zeitlin (2003) argue that certain contract provisions, such as strong stewards, were a key distinctive demand of particularly politicized unions in the post-war period. McCammon (1990) and Pope (2004), among others, have argued that court interpretations of the Wagner Act have been decisive in weakening the strike provisions in contracts.

and thus noisy, labelling of complex contract features.

The rest of this paper is organized as follows. Section 2 provides an institutional background and outlines the data sources. Section 3 describes the text data and methods used to extract relevant clauses. Section 4 provides evidence validating worker rights clauses as a measure of worker amenities and authority. Section 5 outlines the econometric approach and reports the empirical results on how rights respond to tax and employment changes. Section 6 provides a model of bargaining to help interpret the results. Section 7 concludes.

# 2 Background

This section first provides an institutional background on collective bargaining and unions in Canada. Second, it outlines the data sources.

## 2.1 Collective Bargaining in Canada

Canadian collective bargaining has a number of attractive institutional features for our setting. Like the U.S., Canada is a common-law country with de-centralized bargaining at the firm level. The difference between U.S. and Canadian labor market institutions has been the subject of considerable work in economics and industrial relations (Card and Freeman 1993, Card et al. 2004, Card et al. 2020). Eidlin (2018) provides a recent account of the historical origins and the political economy of the divergence between U.S. and Canadian labor union density.[2] While Canada has maintained a higher union density than the U.S., the process of collective bargaining is still somewhat similar between the two nations. Further, and perhaps most importantly, Canada has a comprehensive database of collective bargaining agreements available for use by researchers. The comparable database of contracts maintained by the U.S. Department of Labor does not have sufficient coverage to be used for empirical analysis.

In Canada, collective bargaining is regulated at the "jurisdiction" level, where in most cases the relevant jurisdiction is the province. Labor law includes rules on the process of union recognition (card check vs. secret ballot election), for example, and restrictions on replacing striking workers. Many provinces also have "mandatory arbitration" where disputes between unions and employers are automatically referred to a labor tribunal, while other provinces allow alternative dispute resolution processes,

[2]Kuhn (1998) reviews the empirical evidence on the productivity of unions in Canada. His evidence suggests that public sector unions in Canada reduce productivity, but there is little evidence of this for private section unions.

e.g. mediation, before the case goes to an arbitrator.[3] Overall, this means that there is important variation in labor policies across provinces, so there will be important variation in the content of collective bargaining agreements across provinces even within the same sector or same national union. That is unlike many European contexts, where the national unions hold a large influence even over local bargaining matters, for example by setting agreements that cover entire sectors. In Canada contracts are negotiated at the firm level by local union representatives. Those local unions bargain around and in response to local provincial rules and policies.

Collective bargaining agreements are legally binding contracts with meaningful sanctions for breach. However, there are some restrictions on what can be put in the contracts. For example, there are basic rights in employment law and in the broader Charter of Rights and Freedoms that cannot be abrogated by a collective bargaining agreement. Further, there are unwritten "implied obligations", for example that employers are not to harass and workers are not to shirk. These also vary at the province level.

A core issue in interpretation of the language of collective bargaining agreements is whether or not the employer has residual control rights, as is the case under Canadian common law (originating with British Master and Servant law), and consistent with the property rights approach to modern theory of the firm (Grossman and Hart, 1986). Justice Laskin (1952), in an influential amicus brief, distinguished the collective bargaining regime from the common law regime. Collective bargaining agreements were treated more in line with civil law norms, where disputes rely upon the text of the agreement (Brown et al., 2019). This in turn implies that parties prefer more specific, and hence longer contracts. (Doorey 2020). In particular, if a right has not been specifically provided, then workers cannot claim that right. Under all collective bargaining agreements, firms have the right to manage, hence limitations to that right have to be explicitly contracted upon.

From the perspective of both workers and firms, a notable distinction in the set of granted provisions are those around priced and unpriced rights. That is, contracts could grant wage-like priced amenities, such as vacations and health benefits, or else unpriced amenities and control rights, such as rules around scheduling and grievance procedures. In Canada, as in other contexts, significant bargaining energies are invested in both types of amenities.

[3]Legree et al. (2017) provide a summary of provincial collective bargaining regimes and show that these have significant, if small, effects on unionization rates.

Table 1: Summary Statistics for Contracts Metadata

| Variable | Obs | Mean | Std. Dev. | Min | Max |
|---|---|---|---|---|---|
| Private-Sector | 32,402 | 0.480 | 0.500 | 0 | 1 |
| Number of Employees | 32,402 | 690.52 | 2886.66 | 0 | 170000 |
| Year | 32,402 | 2000.22 | 7.73 | 1986 | 2015 |
| Duration (years) | 32,402 | 2.600 | 1.170 | 0 | 20 |
| Has COLA | 32,402 | 0.282 | 0.450 | 0 | 1 |
| Annual Wage Increase (%) | 9,150 | 2.569 | 1.814 | -7.561 | 19.836 |
| Inflation | 32,165 | 5.245 | 3.193 | -5.930 | 29.986 |
| Union Has Strike | 32,402 | 0.033 | 0.178 | 0 | 1 |
| Income Tax Rate (%) | 24,910 | 22.390 | 1.448 | 16.11 | 25.62 |
| Unemployment Rate (%) | 29,200 | 5.086 | 3.545 | 1.08 | 49.92 |
| Population (1000s) | 29,471 | 5912.1 | 3753.8 | 96.9 | 11385 |
| Employment (1000s) | 29,471 | 213.51 | 168.8 | 0.2 | 696.7 |

**Note:** Summary Statistics (number of observations, mean, standard deviation, minimum, maximum) of contract characteristics and metadata matched to contracts. Data source: Employment and Social Development Canada.

## 2.2 Data Sources

Our data source for Canadian contracts is Employment and Social Development Canada, from which we obtained almost 30K contracts in the English language for the years 1986 through 2015 (this is after removing about 10K French-language contracts), along with metadata (company, year, etc) by contract.

Our data have 32,404 contracts, 7,572 companies (~4 contracts per company), 13 provinces, 906 cities, 11 industry groupings, and 606 industry codes (NAICS codes). Table A.1 reports summary tabulations for the provinces and industry groups. Quebec has relatively few contracts in our sample because most of them are in French.

For each contract, we have the company, union, location, industry, public/private status, and number of employees. We have a set of related dates (signing, effective, and expiry), which allows us to compute contract duration, and match up to short-term changes in economic conditions.

Table 1 provides summary statistics on these variables. Figure A.1 provides histograms for a selection of the real-valued variables. About half of the firms are in the private sector. The number of employees is widely dispersed. There is significant

variation in contract duration, with bunching at 12-month increments. A good number of firms have COLA clauses, with meaningful variation in the gap between COLA and inflation.

Next, we have local labor market data from the Canadian Labor Force Survey. We have numbers by province, sector, and year, for population, labor force, full-time employment, and part-time employment. We use these numbers to compute employment rates by province, sector, and year. In addition, we have data on the implicit personal income tax rate, by province and year, from the Center for the Study of Living Standards.[4] Summary statistics for these data are reported in Table 1.

From the Canadian Labor Force Survey, we also have access to a worker-level dataset for a sample of workers over time, coded by province and sector. In this data, besides province and sector, we have information on wages, and union status. This data is used in analyzing the effects of taxes and employment on wages below.

# 3 Measuring Rights and Obligations in Contracts

This section describes our methods for measuring features of union contracts from the texts of the agreements. We begin by describing our framework for estimating rights and obligations, and then describe the details of how we process the contracts. The data pipeline is an updated version of the one presented in a peer-reviewed technical paper, Ash et al. (2020).

## 3.1 Motivating our Method

A preliminary question is: Why use text? Why not measure wages and maybe some well-defined benefits like health insurance? A first answer is that: Many things that workers care about are not wages or pecuniary benefits. Workers value unpriced amenities and control rights, such as flexible scheduling and dignity at work (Dube et al., 2022b; Corradini et al., 2022). Consistent with that, the contract terms clearly matter to the parties to an agreement. Firms and unions expend significant time, money, and energy in contract drafting, including the expensive expert services of labor lawyers (see Ashenfelter et al., 2013).

[4] Available at `http://www.csls.ca/reports/csls2011-17appendixtables.pdf`. This is the implicit personal income tax rate by province, computed from income tax revenues as a share of income. Union-worker earnings are 1.5 times that of non-union workers, and tend to locate in the middle income tax brackets.

A related question is: Why not measure behavioral responses like strikes or litigation? Those might seem like more meaningful, high-stakes measures of the quality of the worker-firm relationship. But we cannot use them because such outcomes are rare – and more specifically, they occur only out of equilibrium. A goal of a well-designed contract is to reduce conflict, and hence the effects of contract terms on strikes, litigation, and related conflict outcomes are based upon a selected sample of firms, and face the classic problem of sample-selection bias (see e.g. Heckman and Honore, 1990).

In turn, contracts shape expectations and outcomes not just through wages, employment, strikes, and other observables. The requirements articulated in the text, written through a costly negotiation and drafting process, and with the goal of preventing ex post conflict, have independent importance. Yet the scope of a clause – e.g., the set of states where it applies – is not obvious, and often not explicitly demarcated. That requires more information to interpret, either by lawyers or AI. For all these reasons, we focus on language as an outcome, rather than a treatment.

The next question is how to measure relevant features of contracts from text. Social scientists have introduced and evaluated a number of approaches to analyzing text data (Gentzkow et al., 2017a; Grimmer et al., 2022; Ash and Hansen, 2023). Here, we are interested in constructing a "pro-worker" dimension of contracts that measures worker rights. For that, we have a number of options.

First, one could use dictionaries. That is, we could count pro-worker terms in the contracts associated with rights. For example, "health benefits" likely favors workers. A problem with this approach is that it is difficult to prepare a sufficiently complete list of pro-worker terms. And even with such terms, dictionaries miss important context. Some obvious examples include "new employees do not receive health benefits", or "only managers are entitled to health benefits".

Second, one could use supervised learning in which humans annotate a sample of clauses as pro-worker or granting rights, and then train a classifier to scale up to the whole dataset. A roadblock to this approach is that it is not possible to label most observed clauses as pro-worker or not. Even labor lawyers are hesitant to do that except for a few special types of clauses. In Section 4.2 below, we will provide some additional discussion on this point.

Third, one could use supervised learning to scale text that is predictive of a metadata variable indicating a pro-worker orientation. An interesting example of this approach is Lagos (2020), who extracts contract text features that are predictive of firm size. The motivating idea is that higher employment, controlling for wages, reflects higher worker utility at the firm. Analogously, Corradini et al. (2022) measure pro-

women amenities by extracting contract text features that predict female employment share, controlling for the gender wage premium. A downside of this approach is that it relies on strong structural assumptions, given that employment and other labor market factors are endogenously and jointly determined with the contract characteristics. Put differently (and as mentioned above), the observed contract text is an equilibrium outcome along with employment, wages, and other unobserved factors. In turn, the regression model will load on substantial confounding variation which may not reflect worker utility. Section 4.4 below provides further discussion of this approach, adapts it for our context, and compares its outputs with our method's.

Fourth, one can take our approach: a linguistically informed parser-based method combining legal knowledge and grammatical structure to extract pro-worker clauses that provide worker rights. This approach, described in detail below, draws from classic ideas in legal theory that map linguistic indicators to associated legal rights and duties (Hohfeld, 1913; Markovich, 2020). The focus is on modal verbs, where for example *must* and *shall* indicate obligations, while *may* and *can* indicate permissions. In digital texts, such modal relationships can be extracted at scale using syntactic dependency parsing (e.g. Jurafsky and Martin, 2014).

Our parser-based method directly addresses the issues with the other methods. First, it addresses the issue of context and negation from dictionaries, as it bring in the relationships between agents and actions through syntax. Second, it addresses the issues with human annotations by providing a generalizable rule to broadly label sentences. Third, unlike the firm size prediction approach, there is no supervised training to load on confounders, and the relevant predictors are strictly and manually regularized with legal knowledge.

Importantly, the method is *replicable* - the same procedure and methods can be used in other contexts. As new methods for measurement of worker amenities are developed, they can be used to refine our methods in a way that others can easily replicate. In NLP, the recent developments in transformers and large language models are especially promising. As will be described below, we use both BERT-based and GPT-based models in different ways to support our analysis. But at present those methods do not provide a substitute for our legally informed parser-based approach. A fine-tuned BERT could be used for the aforementioned supervised learning approaches, for example, and one would get better predictive performance than simpler models. But using BERT would not solve the problems of obtaining well-calibrated human annotations or the presence of unobserved confounders in firm size prediction models.

Large language models like BERT and GPT are trained on token prediction in

a generic training corpus. The newest generation of aligned language models, such as GPT-3.5+, can bring in external knowledge, although that is not specialized or validated for legal knowledge or for the specific context of Canadian labor law. Beyond human annotations used for model alignment, these model representations are not informed by real-world inputs or outputs – that is, factors outside the text – that are first-order for contract interpretation and design. Hence, the associated predictions and labels cannot be trusted (yet) to be informative of worker rights and duties. That could change in the future, however. In principle, transformer models could be combined with legal knowledge, analogously with how our approach combines syntactic parsers with legal knowledge.

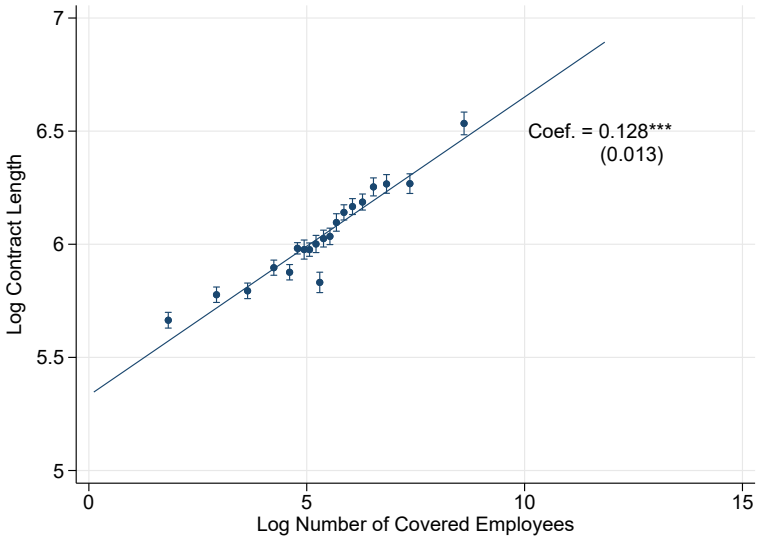
## 3.2 Rights, Obligations, and Modal Verbs

Modal verbs play a pivotal role in legal language. Modal verbs are those verbs that express necessity or possibility: "it must be that X" or "it may that X". Modal verbs can be either epistemic or deontic. Epistemic modal verbs have to do with what is entailed about the world (e.g. based on logical inference or evidence). In the terms of Kratzer (1991), modals have a "possible worlds" semantics, where words like "must" imply compliance in all possible worlds, while words like "may" imply compliance in at least one possible world.

Deontic modal verbs (deontic indicating "duty") capture necessity or possibility in the domain of social freedoms to act; in the legal context it implies compliance with the written law. A firm can/may do X if there is a state of the world in which the firm actually does X (epistemic modal) or a state of the world where the firm does X and is still compliant with law or social expectation (deontic permissive modal). A firm must/will do X if in all states of the world the firm actually does X (epistemic modality), or the firm must do X in order to stay compliant with the law or norm (deontic obligation modal). Deontic verbs can be conditional on an event or another state of the world; for example, a regulatory rule might say "If event A occurs, firms can do X." or "If event A occurs, firms will do X." Different from epistemic modal verbs that are about what is true or false, deontic verbs work in the domain of legitimacy or breach of law: a person can commit an act even when the law says they must not but cannot commit that act in a world where it is a true fact that they must not.

Deontic modal verbs are uniquely important to legal language as they work to articulate permissions and obligations. In this way, deontic modal verbs come close to operationalizing the legal theorist Hohfeld's characterization of legal relationships

Figure 1: Contract Length is Proportional to Firm Size




**Note:** Binscatter plot of the logarithmized number of clauses in the contract (Y axis) against the logarithmized number of covered employees (X axis). Data source: Employment and Social Development Canada.

into "privilege" "right", "duty", and "no-right". Permissions create privileges, while obligations create duties, and prohibitions create rights and no-rights (Hohfeld, 1913).

## 3.3 Processing the Contracts

The contracts database arrived as scanned PDFs. The first step was to convert them to machine-readable text using OCR software. We excluded wage schedules, exhibits, appendices, and other miscellaneous materials. Next, we split the contracts into sections using a custom-built splitter based on the style of contract section headers. Within each section, we used a sentence tokenizer to split each section into a list of sentences. The resulting corpus consists of 980,909 contract sections (32.9 per contract) and 10.8 million sentences (11.06 per section).

Each contract sentence is parsed using a syntactic dependency parser called spaCy (`spacy.io`). This package uses the ClearNLP dependency schema and has proven accuracy and efficiency relative to other parsers.[5] The parser transforms sentences into parse trees, which represent the relations between words in a recursive hierarchical structure. Appendix Figure A.2 shows the dependency parse for two example sentences.

Like most natural language processing applications, our framework simplifies and abstracts from much of the syntactic and semantic richness of a collective bargaining agreement. Just the length of these contracts is quite informative. Figure 1 shows that

[5]See `http://www.mathcs.emory.edu/~choi/doc/clear-dependency-2012.pdf`.

the number of clauses is tightly and proportionally related to the number of employees covered. That provides some initial descriptive indication for a public-goods nature of contract clauses.

## 3.4 Clause Types

A foundational structure in linguistics is that most English sentences take the form "Subject-Verb-Object" (SVO).[6] Subjects are the thing or person taking action or an attribute in the sentence, verbs are the action the subject is taking, and objects are what are being acted on by the verb. Therefore, in our framework each clause has 3 components: a subject, a verb, and an object.

First, for the subject, we identified four main personas in the contracts: worker, firm, manager, and union. The subject is assigned using a dictionary of synonyms to one of these four agent categories. Second, for verbs, we are most interested in deontic modal verb structures. The modal verb is distinguished as restrictive (*shall*, *will*, *must*, *should*) or permissive (*may*, *can*). Statements are tagged as negative ("shall not" rather than "shall"), and tagged as active ("shall hire") or passive ("shall be hired"). Appendix Table A.2 provides tabulations for the most frequent subjects, modals, and verbs encountered in our data set.

We identify a handful of special verbs that appear often in the contracts and delineate obligations and rights: Obligation Verbs (be required, be expected, be compelled, be obliged, be obligated, have to, ought to), Prohibition Verbs (be prohibited, be forbidden, be banned, be barred, be restricted, be proscribed), Permission Verbs (be allowed, be permitted, be authorized), and Entitlement Verbs (have, receive, retain). We define Action Verbs as all non-special active-tense words, including "be" by itself. Passive Verbs are all non-special passive-tense verbs.

Now, we use these grammatical features to assign statements to one of four types of contract statements (or "other"). The formal requirements, plus some examples, are included in Table 2. An *Obligation* requires that the subject perform an action or set of actions. A *Prohibition* requires that the subject not perform an action or set of actions. A *Permission* gives the subject permission or authority over an action or set of actions. A *Right* gives the subject a right or entitlement. In Ash et al. (2020), we use hand annotation of these phrases to show high precision of these assignments.

We extract each statement type for each agent. Appendix Table A.3 shows the most frequent examples for the matrix of agents and statement types. Table 3 reports

[6]SVO is the second most common order found across languages; SOV is the most common.

Table 2: Contract Clause Typology

| **Categorization Logic** | **Examples** |
|---|---|
| **Obligations** | |
| Positive & Strict Modal & Active Verb | shall provide, shall include, shall notify, shall continue |
| Positive & Strict Modal & Obligation Verb | shall be required, shall be expected, shall be obliged |
| Positive & Non-Modal & Obligation Verb | is required, is expected |
| **Prohibitions** | |
| Negative & Any Modal & Active Verb | shall not exceed, shall not use, shall not discriminate |
| Negative & Permission Verb | shall not be allowed, is not permitted |
| Positive & Strict Modal & Constraint Verb | shall be prohibited, shall be restricted |
| **Permissions** | |
| Positive & Non-Modal & Permission Verb | is allowed, is permitted, is authorized |
| Positive & Strict Modal & Permission Verb | shall be allowed, shall be permitted |
| Positive & Permissive Modal & Active Verb | may be, may request, may use, may require, may apply |
| Negative & Any Modal & Constraint Verb | shall not be restricted, shall not be prohibited |
| **Rights** | |
| Strict Modal & Passive Verb | shall be paid, shall be given, shall not be discharged |
| Positive & Strict Modal & Entitlement Verb | shall have, shall receive, shall retain |
| Negative & Any Modal & Obligation Verb | may not be required |

**Note:** Typology of clause types, word patterns, and corresponding examples.

Table 3: Summary Statistics: What do Union Contracts Consist of?

| Agent | Obligations | | Rights | | Permissions | | Prohibitions | | Total | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Count | % | Count | % | Count | % | Count | % | Count | % |
| Worker | 666021 | 20.9 | 730327 | 22.9 | 266278 | 8.4 | 99795 | 3.1 | 1,762,421 | **55.3** |
| Firm | 788857 | 24.7 | 27382 | 0.9 | 108114 | 3.4 | 49099 | 1.5 | 973,452 | **30.5** |
| Union | 224119 | 7.0 | 68410 | 2.1 | 62912 | 2.0 | 17786 | 0.6 | 373,227 | **11.7** |
| Manager | 55518 | 1.7 | 7512 | 0.2 | 12537 | 0.4 | 3107 | 0.1 | 78,674 | **2.5** |
| Total | 1,734,515 | **54.4** | 833,631 | **26.2** | 449,841 | **14.1** | 169,787 | **5.3** | 3,187,774 | 100.0 |

**Note:** Counts and frequencies (%) of clause types in the contracts corpus, by agent (rows) and statement type (columns). Data source: Employment and Social Development Canada.

summary statistics on the overall frequencies. Clauses mostly concern workers (55.3%) and the firm (30.5%), rather than the union (11.7%) or managers (2.5%). In terms of statement types, a majority are obligations (54.4%), followed by rights (26.2%), permissions (14.1%), and prohibitions (5.3%). The three most important agent×clause assignments are firm obligations (24.7%), worker rights (22.9%), and worker obligations (20.9%). Notably, there are very few firm rights (0.9%). Overall, then, union contracts mainly do three things: (1) impose obligations on workers, (2) impose obligations on firms, and (3) grant rights to workers.

Appendix Figure A.3 provides a descriptive look into the legal content of these union contracts over time. We plot for each year the average number of rights and obligations by contract, for workers and firms, respectively. We can see that firm obligations, worker rights, and worker obligations increase steadily until 2005. Since then, they are rather constant. The number of firm rights remains small throughout the years.

# 4 Validation of Worker Rights Clauses

The set of clauses that we call worker rights capture workplace amenities and worker authority over the workplace. They are clauses where a worker subject (e.g. "worker", "employee") is attached to a verb phrase indicating entitlement to some amenity or control right (see Appendix Table 2). Those verb phrases include a strict modal attached to a passive verb (e.g., "workers shall be paid", "employees will be given"), a non-negated strict modal attached to an entitlement verb (e.g., "workers shall have", "employees will receive"), or a negated modal attached to an obligation verb (e.g. "workers may not be required", "employees should not be expected"). These phrase templates and rules were developed through application of legal knowledge to close reading of the clause texts, careful inspection of the associated syntactic parse outputs, and checking of the rule-based category assignments.

This section provides supporting material to help validate this procedure for identifying worker rights and our interpretation of rights as containing amenities and authority. We show a combination of qualitative and quantitative evidence for this interpretation. We also compare our measure to an alternative text-based measure of amenities proposed in the literature.

## 4.1 Qualitative Inspection of Topics Covered by Worker Rights

We first provide a qualitative validation of rights by illustration and inspection of the NLP pipeline outputs. A sample of 16 worker rights from the whole corpus are listed in Appendix Table A.4. As intended, these clauses reflect the assignment of various rights or benefits to workers. For example, limits on extended work hours (1, 3, 4, 5), requirements for timely payments (2), provisions around missing work or holidays (6, 7, 9, 11, 16), life insurance benefits (10), or seniority (13, 14). Some rights are very specific, such as employees being elected to political office being entitled to a leave of absence (15).

To move forward and provide a more comprehensive view beyond specific examples, we apply NLP tools to group the rights into topics. First, we take each sentence and vectorize them using a transformer-based sentence encoder (Reimers and Gurevych, 2019). These 768-dimensional vectors encode context-sensitive semantic information based on a pre-training task predicting logical relationships between sentences. The resulting sentence embeddings have a spatial representation, where the location in the vector space is semantically meaningful. That is, sentences that are semantically similar will tend to be spatially proximate in the space. And regions of high density in the space correspond to clusters of semantically related clauses. In line with that, we construct topics using k-means clustering applied to the sentence embeddings, with separate clusters constructed for each clause type – in particular, within the set of worker rights. These clusters can then be understood as prototypes representing the semantic distribution of rights.

Like popular topic model algorithms such as latent Dirichlet allocation (LDA) (Blei et al., 2003; Hansen et al., 2017), this method learns topics inductively from the corpus texts, without labels. There are three main advantages over LDA for our context. First, the method is word-embedding-based, rather than bag-of-words-based, such that the meanings of words are interdependent, rather than independent. For example, our method registers that "employee" and "worker" are synonyms, whereas LDA treats those words as independent. Second, the method learns context-sensitive representations. For example, the word "lunch" can have a different meaning in clauses about worker lunch breaks, versus clauses about the lunch shift for restaurant workers. LDA does not make such a distinction. Third, our clustering method assigns each individual clause to a single topic, rather than a distribution across topics. That results in a simpler dataset, and makes more sense for short documents (single sentences) rather than long documents.

Given that these topics are for descriptive traction and interpretability, we take a

practical approach in tuning the clustering algorithm. After some experimentation, we settled on 30 topics.[7] For further interpretability, we further manually aggregated the 30 "narrow" topics into seven more interpretable "broad" topics.[8]

The 30 topics associated with worker rights are listed and annotated in Table 4. Each row corresponds to a topic and we have four columns. The first column ("Topic Label") provides a hand-annotated topic label. Skimming through the list, we see intuitive sets of amenities, benefits, and provisions describing workplace rules and requirements. The third column ("Frequency") gives the proportion of rights clauses associated to that topic. It indicates that rights clauses are relatively evenly distributed across topics, with the smallest topic ("Jury Duty") containing 1% of the rights clauses, and the largest topic ("Work Hours") comprising 6% of the rights clauses.

The fourth column gives a GPT-4-generated summary of the topic. That was produced by providing a random sample of clauses and prompting GPT-4 to summarize the associated rights being provided. We can see that the topics are intuitively related to amenities at work, including holidays, sick leave, and payments, as well as measures of workplace decision-making, such as scheduling, seniority, and termination. That provides some qualitative support of our measure of text-based measure capturing worker rights and the associated interpretation as comprising amenities and assignments of control rights.

Table 4 is sorted by the second column, "Sim to Wages." This score is motivated by a key conceptual distinction in the space of worker rights – of whether or not a right is a cash-like benefit that is substitutable with wages. These "priced" amenities can be distinguished from "unpriced" control rights or authority, the benefits of which are more subjective and may vary from one employee to another. To integrate the notion of amenities and control rights into our data, we score each narrow topic as indicating a priced amenity. We start with the codebook from U.S. Bureau of Labor Statistics's National Compensation Survey. That codebook provides a detailed list of employment benefits and amenities that impose a quantifiable cost to employers – that is, they are priced. We extract and parse this list of priced amenities, phrased as they would appear in contracts.[9] We then construct simulated priced-amenity clauses

[7] In the $k$-means algorithm, we selected 32 clusters. We dropped 2 outlier topics that were about a specific occupation (teachers).

[8] See see Appendix Table A.7 for the match between narrow and broad topics. Appendix Figure A.4 shows the time series of the broad worker rights topic shares over time. They are quite stable.

[9] The full list is: incentive-based pay, a commission, a production bonus, a piece rate, a cost-of-living allowance, hazard pay, a uniform allowance, a tool allowance, free room and board, subsidized room and board, paid vacation leave, paid holiday leave, paid sick leave, paid personal leave, overtime pay, shift differential pay life insurance, health insurance, disability insurance, retirement benefits.

Table 4: Topics Describing Contracted Worker Rights

| Topic Label | Sim to Wages | Frequency | Topic Summary |
|---|---|---|---|
| Grievance & Discipline | 0.1590 | 0.031 | The clauses provide workers with rights related to disciplinary actions, grievance procedures, and representation, ensuring transparency, due process, and the ability to challenge or appeal employer decisions. |
| Job Security | 0.1677 | 0.03 | The clauses provide workers with rights related to job security and stability, including provisions for notification and options in the event of workforce adjustments, opportunities for training or retraining, recall rights for seasonal or displaced employees, and protections for seniority and pay rate in cases of job changes or redundancies. |
| Notice Requirements | 0.1750 | 0.027 | The clauses provide workers with rights to receive advance notice regarding absences, layoffs, job vacancies, shutdowns, and meetings, ensuring they have adequate time to prepare for changes in their employment status or work conditions. |
| Recall | 0.1768 | 0.032 | The clauses provide rights related to job security and recall for workers who have been laid off, including options to accept vacant positions, refuse temporary recalls without penalty, and priority for rehiring in their former or equivalent positions if they become available. |
| Jury Duty | 0.1779 | 0.009 | The clauses provide rights to workers for compensation or pay adjustments when they are required to serve on jury duty or appear in court as witnesses, ensuring they are not financially disadvantaged for fulfilling these civic duties. |
| Personnel Records | 0.1789 | 0.024 | The clauses provide workers with the right to access, copy, and be informed about their personal and employment-related documents, including personnel files, job assignments, employment letters, disciplinary documents, and performance reviews. |
| Seniority & Promotion | 0.1792 | 0.03 | The clauses are granting workers rights related to job preference, promotion, and transfer based on seniority, qualifications, and experience. |
| Parental Leave | 0.1838 | 0.027 | The clauses provide rights related to maternity and parental leave, including paid and unpaid leave, allowances, and special considerations for employees who are pregnant or adopting a child. |
| Probation Period | 0.1838 | 0.015 | The clauses provide rights related to the recognition and crediting of probationary periods for employees, including extensions, credit for previous service, and exemptions from additional probationary periods for certain transfers or promotions. |
| Bereavement Leave | 0.1895 | 0.028 | The clauses provide workers with bereavement leave, allowing them time off, often with pay, to grieve and attend funerals following the death of a close relative or family member. |
| Part-Time | 0.2014 | 0.023 | The clauses are providing rights related to compensation, work hours, seniority, and benefits for part-time employees. |
| Work Hours | 0.2045 | 0.058 | The clauses provide workers with rights to guaranteed minimum pay for short-notice work, overtime compensation, pay for additional duties or hours beyond their regular schedule, and specific pay rates for work under certain conditions or times. |
| Reimbursements | 0.2051 | 0.022 | The clauses provide workers with rights to compensation and allowances for time spent and expenses incurred due to work-related travel, delays, and use of personal vehicles for work purposes. |
| Breaks | 0.2065 | 0.013 | The clauses are granting workers the right to paid rest and wash breaks during their work shifts. |
| Shift Premiums | 0.2070 | 0.025 | The clauses are providing workers with additional compensation for working under specific conditions, such as shift differentials, premium pay for weekends or consecutive shifts, and pay increases for assuming additional responsibilities or working in particular locations. |

*... continued on next page...*

Table 4 (cont.): Topics Describing Contracted Worker Rights

| Topic Label | Sim to Wages | Frequency | Topic Summary |
|---|---|---|---|
| Termination | 0.2076 | 0.026 | The clauses are providing workers with rights to various forms of compensation upon termination of employment, including severance pay, payment for unused vacation, and other forms of separation payments. |
| Leaves of Absence | 0.2100 | 0.039 | The clauses provide workers with the right to take leaves of absence for union activities, public service, education, retraining, and other approved reasons, with varying conditions regarding pay and benefits. |
| Overtime | 0.21094 | 0.026 | The clauses provide workers with rights to receive enhanced compensation and specific benefits for working overtime, including higher pay rates for overtime hours, compensation for cancelled overtime, meal reimbursements, and shift change notifications. |
| Position Classification | 0.2115 | 0.036 | The clauses are providing workers with rights to receive pay adjustments or increases when they take on duties in higher paying classifications, substitute in higher paying roles, transfer to new positions with higher salary scales, or are temporarily appointed to positions of a higher pay grade. |
| Workplace Safety | 0.2118 | 0.054 | The clauses provide workers with rights related to workplace safety, health protection, and compensation in case of job loss due to technological changes, as well as opportunities for union engagement and training on safety procedures. |
| Meals | 0.2126 | 0.015 | The clauses are granting workers rights related to receiving meal allowances, paid or unpaid meal breaks, and compensation related to meal times during or adjacent to their work shifts. |
| Workplace Injuries | 0.2131 | 0.024 | The clauses provide workers with rights to compensation and benefits in cases of injury, illness, or accidents occurring in the course of employment, including coverage for lost wages, protection against costs for damaged equipment, and provisions for receiving full or partial pay under specific conditions. |
| Scheduling | 0.2146 | 0.03 | The clauses provide workers with rights related to scheduling flexibility, compensation for working during non-standard hours or days off, and benefits during absences or layoffs. |
| Seniority-Based Benefits | 0.2194 | 0.039 | The clauses provide workers with rights related to pro-rated benefits, eligibility for allowances based on employment duration, credit for service and seniority during leaves, cost-sharing for benefits, and entitlements based on continuous service, including adjustments in pay and long-term disability plans. |
| Sick Leave | 0.2237 | 0.025 | The clauses provide workers with rights related to receiving pay or benefits during periods of illness, injury, or medical leave, ensuring financial stability during times they are unable to work due to health reasons. |
| Holiday Pay | 0.2335 | 0.037 | The clauses provide workers with rights to paid holidays, additional compensation for working on holidays, and adjustments to vacation schedules or pay in the event a holiday falls during their vacation period. |
| Holiday Work Pay | 0.23925 | 0.026 | The clauses provide workers with enhanced compensation for working on holidays, weekends, or their scheduled days off, including provisions for part-time and temporary employees. |
| Vacations | 0.2405 | 0.045 | The clauses are granting workers rights related to vacation entitlements, including the timing, duration, and pay during their vacation periods. |
| Seniority-Based Vacation | 0.2411 | 0.038 | The clauses are granting workers vacation benefits and time off based on their length of service and seniority. |
| Payment Rules | 0.2414 | 0.051 | The clauses are giving workers rights related to the timing, frequency, and accuracy of their wage payments. |

**Note:** List of topics describing worker rights clauses. "Topic Label" is a human-provided label based on the contained clauses and summary. "Sim to Wages" is the sorting variable and scores the topics by their similarity to priced amenities (see details in text). "Frequency" is the share of worker rights on that topic. Topic Summary Label is a GPT-4-generated summary of the topic based on a sample of associated clauses.

as "Employees shall have ...", followed by each of these priced-amenity phrases. We compute sentence embedding vectors for each simulated priced-amenity clause, just as we do for the clauses in the contracts corpus. Finally, we compute "Sim to Wages" as the proximity of each clause embedding to each topic cluster centroid. Topics that are closest to the list of priced-amenity clauses, shown at the bottom of Table 4 (e.g. payments, vacations, and sick leave), are the most substitutable with wages and tend to reflect amenities and benefits. Topics that are furthest from the list, shown at the top of the table (e.g. grievance procedures, job security, and recall), are the least substitutable and tend to set rules and assign control rights.

Appendix A.3 lists the rights clauses associated with each topic which were used to construct the GPT-4 summaries. Even when they are about amenities, the clauses tend to reflect limits or conditions on the amenity. Still, because management reserve rights, these conditional clauses are expanding worker rights rather than limiting them.

## 4.2 Validation with Pairwise Comparisons of Clauses

While the example worker rights clauses discussed above can be fairly interpreted as rights or amenities that benefit workers, it could be that such an interpretation would also fairly extend to many clauses from the other clause types. It is quite difficult to set an objective threshold for whether a given clause is proworker or not. That is a subjective determination that is difficult to calibrate, so human annotations of a sample of contract clauses (worker right and other) as pro-worker or not might be of limited value. We therefore use a large language model to assist in independently validating our measure of pro-worker clauses.

A much easier annotation task is to take pairs of clauses and decide which of the two is more favorable to workers. For example, the clause "Employees who retire as well as current retirees and survivors will be provided with Life Insurance in the amount of $6,000", versus "If the parties mutually agree, the Company may hire temporary employees for short term periods not longer than 30 work days for non-routine work or special projects". The second clause (a firm permission) is not clearly favoring or disfavoring workers on its own. But a pairwise comparison is much easier: the second clause is clearly less beneficial to workers than the first clause (a worker right).

A downside of pairwise comparisons is that it requires more annotation data. Say we want to get a pro-worker score for 100 clauses for each of the 16 clause types (4 agents $\times$ 4 provisions). That adds up to 1600 annotations. In contrast, with pairwise comparisons we have $16 \times 15 = 240$ across-clause-type pairs; or 24,000 annotations to get

100 annotations for each type pair.

That is quite costly in terms of human annotation resources. Fortunately, pairwise comparisons in terms of pro-worker clauses is an easy enough task that the newest generation of human-aligned large language models (LLMs) are "smart enough" to reliably make such comparisons. We validate and implement that approach here.

We use OpenAI's GPT-3.5 model (gpt-3.5-turbo-0613) with the system prompt, "You are a helpful legal assistant." The user prompt is, "Which of these sentences from a union collective bargaining agreement is more likely to be interpreted as an entitlement, benefit, or amenity for workers? Answer 'Definitely 1', 'Probably 1', 'Probably 2', 'Definitely 2', or 'Neither'. 1. [sentence 1]. 2. [sentence 2.]" For the input sentences, we input a randomly sampled pair from two different clause types.

First, we validated that this LLM method reproduces human annotations of the pairwise comparisons. For the example pair above, it picks the first clause on life insurance benefits. Consider the following more difficult pair: (1) "The Employer and the Union will not tolerate, ignore or condone workplace harassment."; (2) "The principal should be specific in his/her comments and should base comments on personal observation." In that case, GPT-3.5 quite reasonably answers, "Neither". We compared the GPT-3.5 output to 102 human-labeled pairs, finding an agreement rate of 62.7%. More relevant to our purposes, the agreement rate is 83.3% when one of the clauses in a pair is a worker right.

We then implement this automated annotation procedure for a random sample of 24,000 across-clause-type pairs of clauses in the labor union contracts corpus. Based on this sample, we compute the predicted probability that each clause type is more pro-worker than all other clause types.

The results of that exercise are shown in Table 5. According to the LLM pairwise annotations, the clauses that we label as worker rights are substantially more pro-worker than the other categories. Specifically, they are more pro-worker 81% of the time, far higher than the second-ranked category of union rights (67%). The other frequent categories are even lower: firm obligations and worker obligations are both labeled as relatively pro-worker just 56% of the time.

## 4.3 Validation Against Survey Data on Pro-Worker Practices

Next we validate our measure of worker rights by relating it to metadata. Specifically, we show that it is predictive of actual pro-worker human resources practices in firms. Our data source for these practices is the World Management Survey (Bloom et al.,

Table 5: LLM Validation of Worker Rights as Favoring Workers

| Clause Type | Clause Frequency (%) | Pro-Worker Frequency (%) |
|---|---|---|
| **Worker Right** | **22.9** | **80.9** |
| Union Right | 2.1 | 67.8 |
| Worker Permission | 8.4 | 63.08 |
| Manager Right | 0.2 | 59.85 |
| Firm Obligation | 24.7 | 55.63 |
| Worker Prohibition | 3.1 | 55.51 |
| Worker Obligation | 20.9 | 55.33 |
| Union Permission | 2.0 | 46.33 |
| Manager Prohibition | 0.1 | 44.36 |
| Firm Right | 0.9 | 39.0 |
| Union Obligation | 7.0 | 38.74 |
| Union Prohibition | 0.6 | 38.73 |
| Manager Obligation | 1.7 | 38.5 |
| Manager Permission | 0.4 | 37.43 |
| Firm Prohibition | 1.5 | 36.17 |
| Firm Permission | 3.4 | 35.56 |

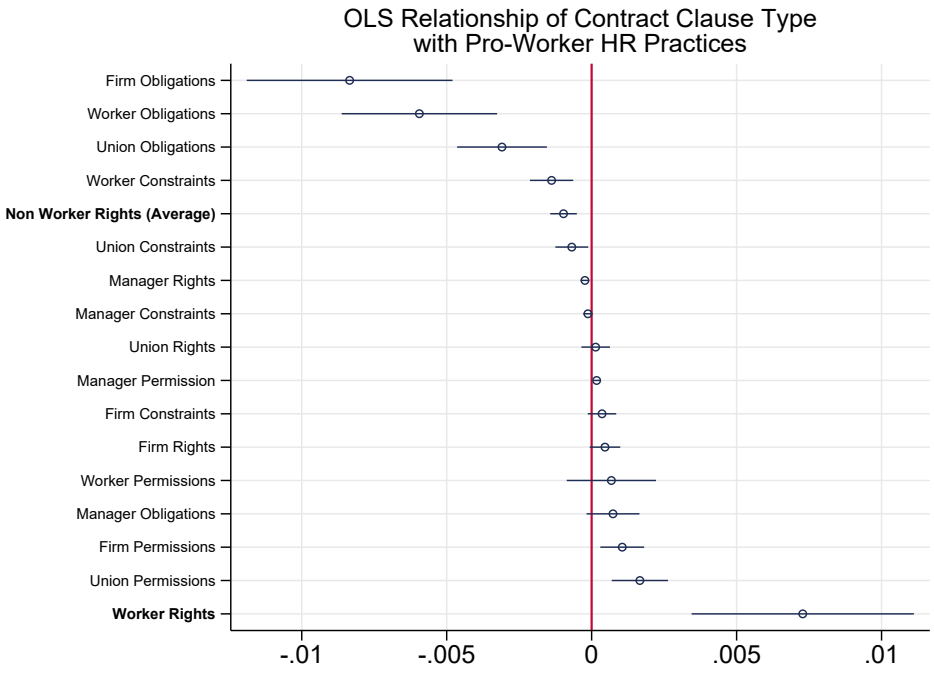
**Note:** Statistics from pairwise comparisons of clause types with GPT-3.5, as described in the text. Rows indicate clause types. Second column gives the frequency of that clause in the corpus; third column gives the proportion of pairwise comparisons where that category's clause is annotated as more beneficial to workers than the paired clause from another category. Sorted by third column. Data source: Employment and Social Development Canada.

2012). We were able to link the survey responses from 125 Canadian manufacturing firms to our labor contracts dataset.

Among many other things, this survey asks about human resource management practices. Following Bloom and Van Reenen (2010), we constructed a seven-point index for pro-worker HR practices as follows. Items that increase our index are "managers care about workers", "promotes good workers", and "employees are valued". Items that decrease the index are "focus on top talent", "incentives", and "fire poor performers". The summed index ranges from zero to six. We then standardize the pro-worker HR index and compare it to our text-based measure of pro-worker rights and other clause types.

A coefficient plot of our worker right measure, regressed against the pro-worker index, is shown in Figure 2. We see that worker rights are an outlier among the clause types in being highly correlated with the index, with high statistical significance. In contrast, the other two frequent clause types (worker obligations and firm obligations), are negatively related to the index (see also Appendix Figure A.5). Overall, that is consistent with our interpretation of worker rights as measuring pro-worker amenities

Figure 2: Clause Types and Pro-Worker HR Practices




**Note:** Figure presents coefficients and 95% confidence intervals of regression of contract clause types on index for Pro-Worker HR Practices. Each coefficient is from a separate OLS regression. Outcome: Clause type, defined as inverse hyperbolic sine of the share of clauses of given type (number of clauses of type in question over the number of all clauses). Treatment: Standardized index of Pro-Worker HR Practices, defined as sum of approval rates to six statements about worker practices; it increases in "managers care about workers", "promotes good workers", and "employees are valued," and decreases in "focus on top talent", "incentives", and "fire poor performers". Controls: None. Inference: Heteroscedasticity-robust standard errors. Data sources: Employment and Social Development Canada, World Management Survey (Bloom et al., 2012).

and worker autonomy. The other contract clauses do not have such an interpretation.[10]

## 4.4 Comparison with Alternative Supervised-Learning-Based Method

An alternative approach to measuring pro-worker amenities in labor union contracts is provided by Lagos (2020). Lagos's NLP method is based on the concept of "poaching" workers. In the first step, the contracts are vectorized using LDA, to produce topic shares $\vec{L}$. Second, a regression model is fitted to predict higher firm employment $N$ based on the contract features $\vec{L}$, adjusting for wages and fixed effects. The regression model extracts contract topics that contribute to higher worker in-flows – that is, contract terms that allow the firm to "poach" workers from competitors. That poaching index is summarized by the predicted values $\hat{N}(\vec{L})$. In a variant of this method designed to identify pro-women amenities, Corradini et al. (2022) use lasso regressions to predict higher female employment with $\vec{L}$, adjusting for gender wage premia.

We adapt Lagos's method to our dataset. We train an LDA model on our contracts to get $\vec{L}$ and link it to the number of covered employees, an imperfect proxy for worker in-flows $N$ in the presence of fixed effects. Because we don't observe firm-level wages, we impute the province-sector-year wage from the LFS. We also adjust for province-sector and sector-year FE and then compute $\hat{N}(\vec{L})$ from the resulting regression.

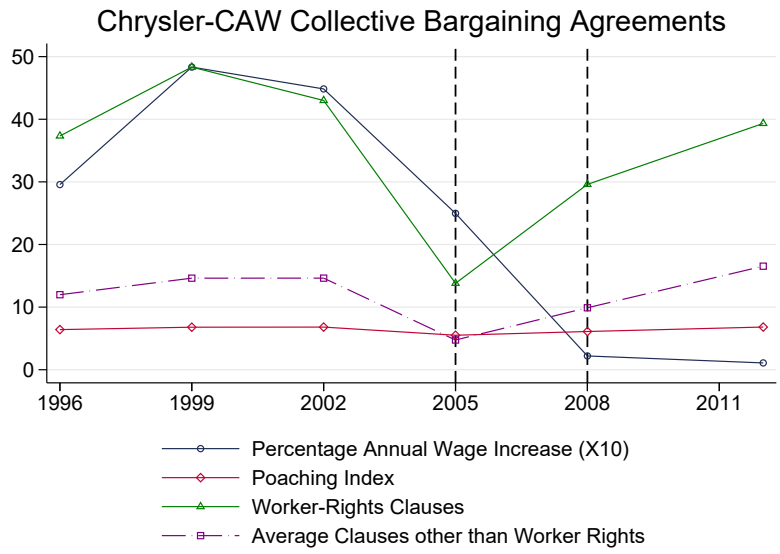
Appendix Figure A.6 provides the main comparison for the poaching index measure (text-predicted firm size). The poaching index is significantly positively correlated with our parser-based measure of worker rights. However, it is not correlated with the pro-worker HR practices index from Bloom and Van Reenen (2010). That gives some additional support for using our parser-based measure.

## 4.5 Case Study: Canadian Auto Workers

As a final descriptive validation, we zoom in on the labor contracts between the Canadian Auto Workers (CAW, later Unifor) and Chrysler. Historically, these contracts had special significance because of the "pattern bargaining" norm in the Canadian auto industry, where contracts across Ford, General Motors, and Chrysler tend to exhibit similar characteristics. We focus on the 2005 auto industry crisis, a period where post-

[10] In Appendix Table A.9, we show that the workers' rights that are the least "wage like" – that is, ranking lowest on text similarity to priced amenities – are most predictive of the pro-worker HR index. That is, workplace rules and control rights are more indicative of pro-worker practices than more wage-like amenities.

Figure 3: Case Study: Pay and Rights During the 2005 Auto Industry Crisis




**Note:** Time series of features of the Chrysler-CAW contract, 1996 to 2012. The series includes contracted wage increases (blue), parsed worker rights (green), average of other clauses besides worker rights (orange), and the poaching index from Lagos (2020) (red). The dashed vertical line in 2005 indicated the year of the auto industry crises, the dashed vertical line in 2008 indicates the year of the financial crisis.

WTO imports and escalating oil prices exerted substantial competitive pressures on Candian automakers. CAW had to make substantial concessions, not just with wages but also in highly valued workers' rights.

Reports at the time speak to the special turning point in these union negotiations. The New York Times reported that the contracts were "the most modest ever signed by the C.A.W." CAW President Buzz Hargrove described the negotiations as "totally unprecedented . . . there was 'no business as usual' in this round of bargaining". He wrote that "The companies started bargaining by demanding big concessions: like replacing wage increases with lump sums, abandoning COLA (even for pensioners), 10% co-pays on prescriptions, and giving up a week of paid time off per year." That is, there were pressures on both wages and rights.

We use this setting to undertake a more targeted validation of our NLP method. We expect that contract amenities, as measured by worker rights, will decrease in the contract negotiated in 2005. Figure 3 shows a time series of these rights across Chrysler-CAW contracts (green series). As expected, rights drop precipitously in the 2005 contract. Similarly, contracted wage increases (in blue) also decrease in that round. In contrast, other contract features (the average of other clause types besides worker rights, in orange) shows not much of a change. And the poaching index from

Lagos (2020) (in red) is also flat.

The divergence between wages and contract language in the 2008 bargain is also consistent with our model. In May 2008, there was a historically high exchange rate between Canadian and U.S. dollars, making Canadian auto wages highly non-competitive with U.S. worker wages. Thus the auto companies demanded, and received, no wage increases, and conceded a variety of contractual rights (including no two-tier contracts and keeping a plant open) in response. We observe those trends directly in our time series: a further reduction in contracted wage increases (blue), yet a rebound in rights (green).

Overall, this CAW case study provides additional grounding for our approach. Our parser-based measure of worker rights behaves like a valuable amenity that has to be traded off under significant bargaining pressure. Hence, we can use counts over rights clauses as a well-grounded measure in our subsequent empirical analysis.

# 5 Empirical Analysis

We are interested in measuring how observed contract terms in Canadian collective bargaining agreements respond to changes in local economic conditions. Section 5.1 outlines the empirical approach. Then we look at the effect on worker rights of changes in provincial tax rates (Section 5.2), and changes in the local employment rate (Section 5.3).[11]

## 5.1 Empirical Approach

The dataset is built at the level of the contract $i$ in province $s$ signed at year $t$. As outcomes $y^k_{sit}$, we look at the various clause types, by agent, indexed by $k$. Based on the discussion above and further results below, we will focus more specifically on rights per worker. In the main specification, we look at the the share of each clause type – that is, divided by the total number of statements in the contract. In robustness checks, we will report other specifications for the outcome variable.

We focus on two treatment variables $z_{sit}$. First, we have a measure of the labor income tax rate that varies at the province by year level. Second, we use the local employment rate, calculated as a leave-one-out employment rate in which the employment rate in a given province, year, and sector is replaced by the average of the employment

[11] We also assessed the effects on worker rights of local political control (local government controlled by New Democratic Party, Canada's labor party), and local sectoral competition (more establishments in an industry in a province) without finding conclusive results.

rates in that province and year in all other sectors. This Bartik-style employment variable is a proxy for the outside option of workers during the bargaining process. For both tax and employment, we will use a continuous measure for panel regressions, and a discretized version for event study regressions.

In our data, an observation is a contract, indexed by province $s$, firm $i$, and effective year $t$. For each contract we have a set of outcomes, represented by $y_{sit}$. We use a linear model

$$y_{sit} = \rho z_{sit} + \alpha_{sit} + X'_{sit}\beta + \epsilon_{sit}, \tag{1}$$

with the components described as follows. First, $z_{sit}$ is the explanatory variable of interest, with $\rho$ giving the corresponding OLS coefficient. Depending on the specification and associated assumptions, $\hat{\rho}$ may or may not estimate a causal relationship. Second, $\alpha_{sit}$ includes a set of fixed effects, which may include indicators for year, province, sector, union, or company. It may also include interacted fixed effects. Third, $X_{sit}$ includes a set of time-varying controls, for use in assessing robustness of $\hat{\rho}$. Finally, $\epsilon_{sit}$ is an error term. Standard errors are clustered by province-sector. In robustness checks, we show that the main results are robust to clustering by province.

Identification of this specification is threatened by omitted variables that are correlated with both $z_{sit}$ and $y_{sit}$. We first note that because contract renegotiation is generally on a pre-specified timeline, the scope for endogenous timing of contract renegotiation is limited. Nonetheless, taxes could be correlated with a variety of other policies, or political environments that may also influence union negotiations. In Appendix Table A.10, we show that there no effects on other contract features, such as the presence of a COLA clause or number of workers covered. We also control for NDP party control as well as a range of pro-union labor laws to mitigate concerns about endogenous treatment timing. Similarly, our proxy for outside options may be correlated with own-firm or same-industry labor demand. Thus, we explore specifications where we control for own province-sector-year employment rate in addition to the leave-one-out Bartik shock.

To assess the plausibility of the parallel trends assumption, we also estimate an event study model. We define an event as the largest labor tax (employment) increase in each province. Decreases are defined analogously, and all events are limited to the middle years in the sample to ensure a sufficiently large number of pre- and post event years. To account for heterogeneous treatment effects in the presence of staggered treatment timing (Sun and Abraham, 2021), we implement the event study estimator

by Callaway and Sant'Anna (2021) using not-yet treated units as controls.[12] We test for parallel trends by looking for evidence of pre-trends, and by computing the joint significance of the pre-period coefficients.

Our theoretical model makes predictions about the effects of these shocks on wages of union workers. We expect an increase in taxes to decrease wage income when workers can negotiate for rights instead, and we expect improvements in labor market outside options to have a smaller effect on wages when unions can also negotiate rights. To analyze wages as an outcome, we use the worker-level micro-data from the Labor Force Survey, where union status is available starting 1997.

We model the hourly wage $w_{sit}$ as a function of union status $u_{sit}$, the treatment variables $z_{sit}$, and their interaction. We regress

$$y_{sit} = \rho_1 z_{sit} + \rho_2 u_{sit} + \rho_3 u_{sit} z_{sit} + \alpha_{sit} + X'_{sit}\beta + \epsilon_{sit}, \tag{2}$$

where the other terms are as above, but now at the worker level. In particular $X_{sit}$ can include worker education level. The coefficients of interest are $\rho_1$, the effect of the treatment on non-union workers, $\rho_2$, the average difference in the outcome between union and non-union workers, and especially $\rho_3$, the interaction describing the relative effect of the treatment on union workers.

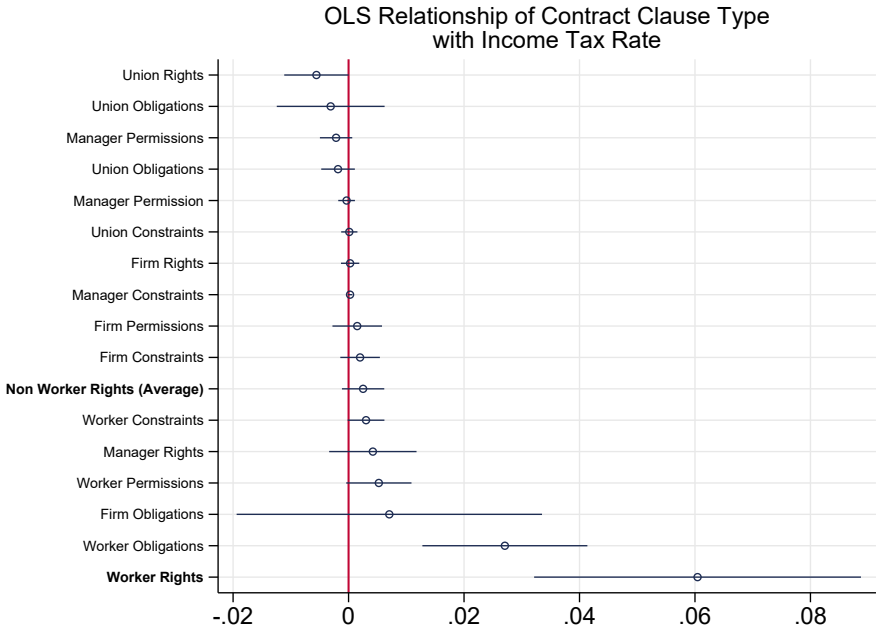
## 5.2 Effect of Labor Income Taxes on Rights and Wages

First, we look at province income tax rates. These rates vary at the province level by year. These are personal income tax rates, that is, taxes on wages. Given the incomes of unionized occupations, and the Canadian tax brackets, these tax rates are binding on most workers covered by our sample of contracts. We take the log of the tax rate to estimate elasticities of the associated clauses. The identification assumption is that tax rates affect the content of contracts without a third confounding variable influencing both, after adjusting for the fixed effects.

In our first exploratory analysis, we regress all of the different contract term outcomes on the respective explanatory variables. That is, for each outcome, we estimate OLS coefficients and standard errors from Equation 1. We report those results as coefficient plots with ranked effect sizes. In the appendix, we report tables with robustness checks for different specification choices.

[12] Two years are grouped together in bins to smooth the number of observations, as there are varying sample sizes in each year. The bins at the beginning (end) of the domain additionally include the years prior to (following) the domain's starting (ending) year (Schmidheiny and Siegloch, 2023).

Figure 4: Effect of Labor Income Tax Rates on Contract Terms




**Note:** Figure presents coefficients and 95% confidence intervals of effect of labor tax rate on contract clause types. Each coefficient is from a separate OLS regression. Outcome: Clause type, defined as inverse hyperbolic sine of the share of clauses of given type (number of clauses of type in question over the number of all clauses). Treatment: Labor tax rate, defined as logarithmized implicit personal income tax rate. Controls: Province-by-sector fixed effects and year-by-sector fixed effects. Inference: Standard errors clustered at the province-by-sector level. Data sources: Employment and Social Development Canada, Center for the Study of Living Standards.

First, we look at province-wide shocks to wages due to tax policy. In Figure 4, we look at whether changes to the within-province tax rate are associated with changes to text features. We find that a higher income tax is associated with higher worker rights. This is consistent with a substitution away from the taxed income (wages) toward untaxed income (rights). In terms of magnitudes, these coefficients imply that a one percent increase in taxes is associated with an increase in the share of contractual worker rights between 0.03 to 0.09 percent. Table 6 Panel A and Appendix Table A.8 show that the result for taxes and worker rights is robust to a range of parametric specifications controlling, among others, for province-specific time trends, firm fixed effects, or a set of variables encoding pro- and anti-union state laws (such as laws banning professional strike-breakers, or mandating secret-ballot certification elections).

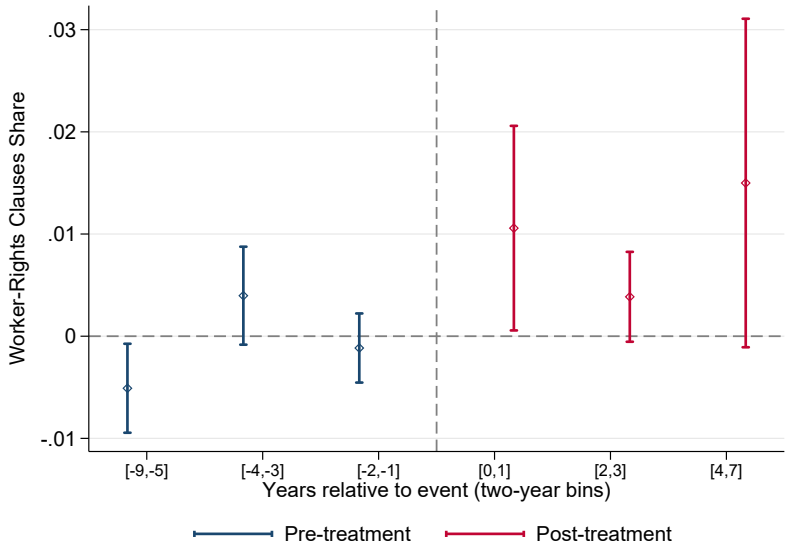
The main result for worker rights also holds in non-parametric event-study specifications. Figure 5 displays the dynamic Callaway and Sant'Anna (2021) estimator of large, discrete labor tax rate changes, where Panel A shows the effect for tax increases and Panel B shows the effect for tax decreases. For pre-event periods in both increases and decreases, we find no trend in worker rights, supporting the identifying assumption of parallel trends (p-value of omnibus hypothesis test of zero pre-event effect equals 0.39 of increases; 0.24 for decreases). After a tax increase (Panel A), we observe a direct, persistent, and significant increase in worker rights (p-value of omnibus hypothesis test of zero post-event effect equals 0.02). After a tax decrease (Panel B), we find a significant reduction in worker rights (p-value for joint significance of 0.09). In sum, the effects on worker rights go in opposite directions for tax increases and decreases, being consistent, respectively, with a substitution effect between taxed and untaxed income.

To provide more detail on these results, we break out the effect of taxes on worker rights separately by clause topic group. Appendix Figures A.7 and A.8 show that rights are expanding quite generally in response to taxes. The largest effect is on rights related to scheduling (work time), with smaller increases for rights related to termination, payments, health & well-being, seniority, and vacations. Further, we use the ranking of the topics by their substitutability with wages. Appendix Figure A.9 shows that the effect of taxes is similar for worker rights that are close and distant wage substitutes, respectively. [13] Hence, higher income taxes are associated with increases in both priced amenities (cash-like benefits) and unpriced control rights.

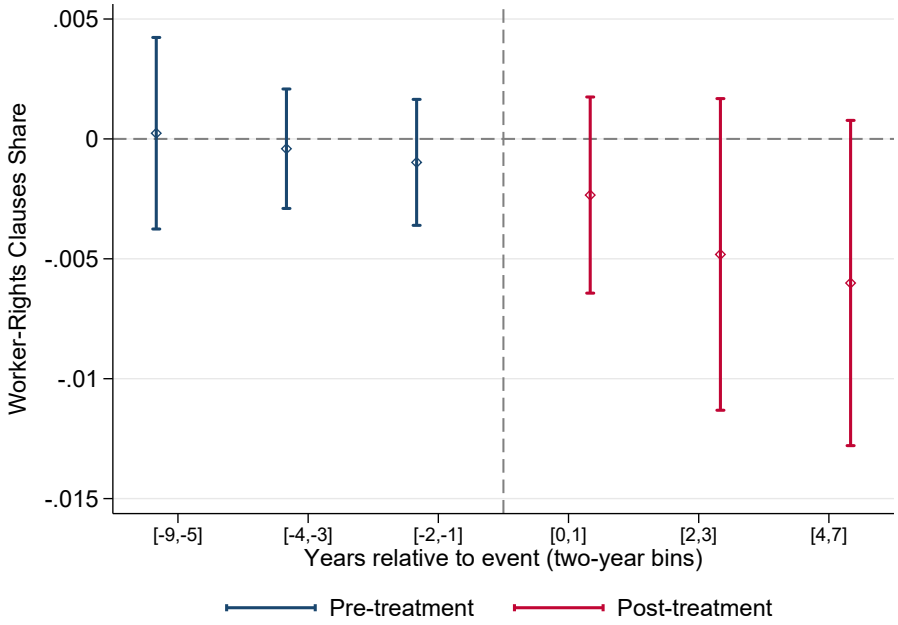
[13] Appendix Table A.9 reports some additional evidence suggesting that the effect of tax rates on rules / control rights – that is, the least wage-like clauses – is more robust than the tax rate effect on wage-like amenities.

Figure 5: Event Study: Income Tax Increases/Decreases and Worker Rights

A. Discrete Increase in Labor Income Tax Rates




B. Discrete Decrease in Labor Income Tax Rates




**Note:** Figure presents coefficients and 95% confidence intervals for time indicators before and after labor tax rate increase (Panel A) or decrease (Panel B) on share of worker-rights clauses. Callaway and Sant'Anna (2021) estimator in the implementation of Rios-Avila et al. (2022), accounting for heterogeneous treatment effects and staggered treatment timing. Dynamic aggregation/event study effects, using doubly robust inverse probability weighting. Outcome: Worker rights, defined as inverse hyperbolic sine of the share of worker rights (number of worker rights over the number of all clauses). Controls: Not-yet-treated observations. Numbers on horizontal axis refer to final year of respective two-year bins; i.e., -1 = last two years prior to event. Event is defined the largest labor tax increase or decrease, respectively in a given province in the 1990s, where labor tax rate is defined as logarithmized implicit personal income tax rate. Inference: Standard errors clustered at the province-by-sector level. For Panel A (tax increases), the p-values of omnibus hypothesis tests of zero pre- and post-event effects are 0.385 and 0.020, respectively. For Panel B (tax decreases), the associated p-values are 0.244 (pre-period) and 0.088 (post-period). Data sources: Employment and Social Development Canada, Center for the Study of Living Standards.

Figure 6: Effect of Labor Income Tax Rates and Union Status on Wages




**Note:** Figure presents coefficients and 95% confidence intervals of effect of labor tax rate, union status, and the interaction of labor tax rate and union status on individual wages. All coefficient are from the same OLS regression. Outcome: Individual wages, defined as worker's logarithmized hourly wage (before taxes and other deductions, but including tips, commission and bonuses). Treatments: Labor tax rate, defined as logarithmized implicit personal income tax rate; union status, defined as indicator variable that equals one if worker is member of a union, and zero otherwise. Controls: Province-by-sector fixed effects, and year-by-sector fixed effects. Inference: Standard errors clustered at the province level. Sample: 1999-2006 (excludes years from the financial crisis 2007 onward). Data sources: Canadian Labor Force Survey, Center for the Study of Living Standards.

We think of the labor contract as a combination of wages and rights. We have shown an effect of taxes on rights; now we look at wages. For this purpose, we use the worker-level micro-data and use log hourly wages as the outcome. The log tax rate treatment is interacted with worker union status, as shown in Equation (2). The results are shown in Figure 6. They show that taxes are associated with increased pre-tax wages, consistent with partial pass-through to the firm. Further, the negative union interaction shows that the effect is statistically smaller for union workers, relative to non-union workers.

Beyond clause types and wages, we also analyze tax effects on firm exits, the number of employees, and whether the employees have a COLA clause (Appendix Table A.10 Panel A). We find no effects on these outcomes. That is consistent with the absence of endogenous changes to the sample composition of firms, and the number of workers affected by these contracts.

## 5.3 Effects of Outside Options on Rights and Wages

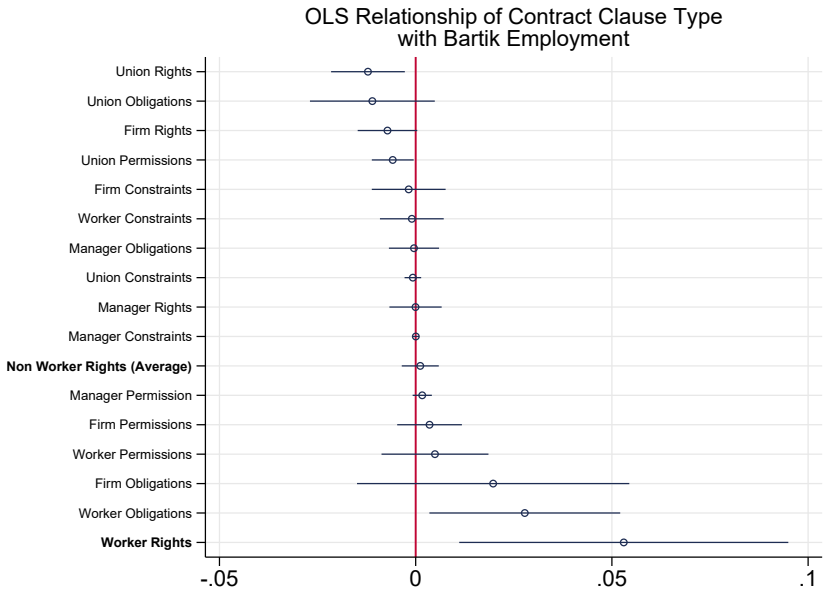
The second economic variable that we look at is the local sectoral employment rate at the time of contract negotiation. This leave-one-out Bartik-style employment rate can be seen as a positive shock to worker outside options, indicating a stronger labor market on the worker side. The identification assumption is that all omitted variables that are related to both the treatment (local employment) and outcome (clause type in the contract) are absorbed by province-sector and sector-year fixed effects.

The coefficients and standard errors across different clause types are reported in Figure 7. A higher employment rate is associated with an increase in measured worker rights, but not other clause types. Table 6 Panel B and Appendix Table A.11 show that the estimate is robust to a range of alternative specifications.

The effect also holds in non-parametric event-study specifications Callaway and Sant'Anna (2021), as displayed in Figure 8. For employment rate increases (Panel A), there is no significant trend in worker rights for pre-event periods (p-value equals 0.20), and an increase in rights after the event, although shy of statistical significance (p-value equals 0.17). The corresponding event-study specification for employment *decreases* (Panel B) shows no pre-trends (p-value equals 0.82) and a decrease in rights after the event (p-value equals 0.001). In sum, worker rights move in opposite directions for employment increases and decreases, being consistent, respectively, with shifts in relative bargaining power between workers and employers.

To help interpret the effect, we analyze the effect of employment rates on the worker

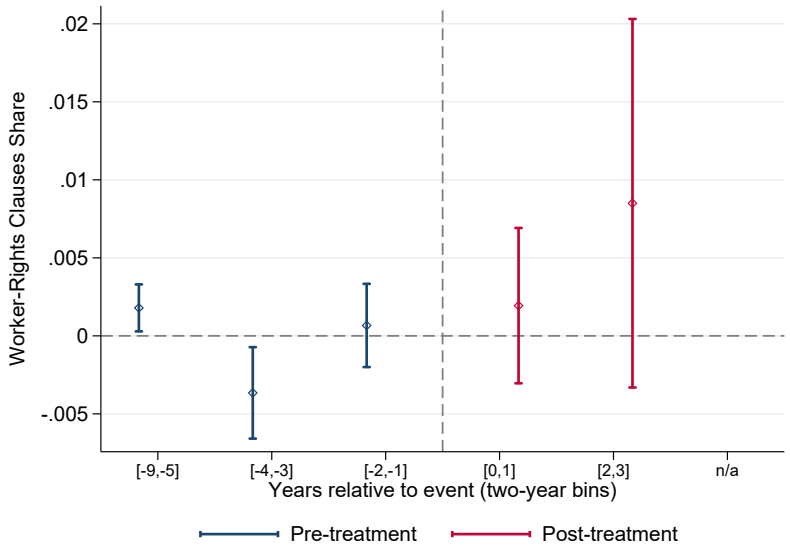
Figure 7: Effect of Outside Options (Employment Rate) on Contract Terms



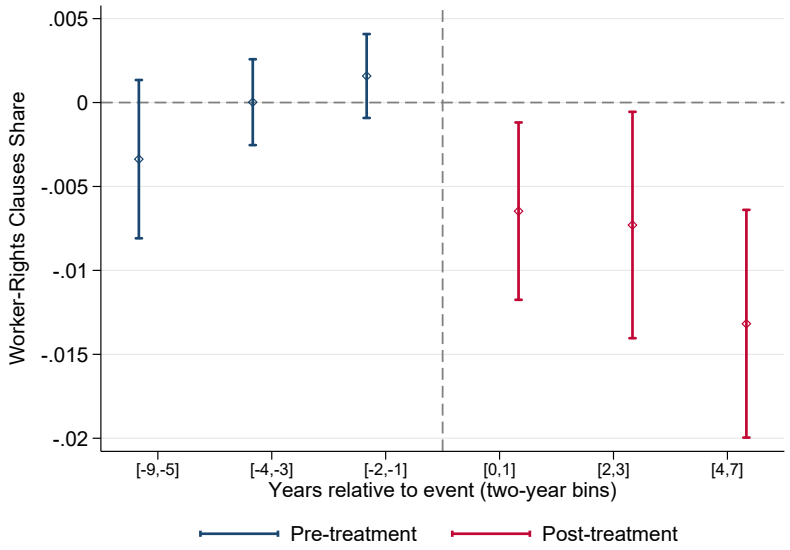

**Note:** Figure presents coefficients and 95% confidence intervals of effect of Bartik-style leave-one-out employment rate on contract clause types. Each coefficient is from a separate OLS regression. Outcome: Clause type, defined as inverse hyperbolic sine of the share of clauses of given type (number of clauses of type in question over the number of all clauses). Treatment: Bartik-style leave-one-out employment rate in a given sector, defined as the logarithmized average over the employment rates in other sectors. Controls: Province-by-sector fixed effects and year-by-sector fixed effects. Inference: Standard errors clustered at the province-by-sector level. Data sources: Employment and Social Development Canada, Canadian Labor Force Survey.

Figure 8: Event Study: Employment Increases/Decreases and Worker Rights

A. Employment Rate Increases




B . Employment Rate Decreases




**Note:** Figure presents coefficients and 95% confidence intervals for time indicators before and after employment increase (Panel A) or decrease (Panel B) on share of worker-rights clauses. Callaway and Sant'Anna (2021) estimator in the implementation of Rios-Avila et al. (2022), accounting for heterogeneous treatment effects and staggered treatment timing. Dynamic aggregation/event study effects, using doubly robust inverse probability weighting. Outcome: Worker rights, defined as inverse hyperbolic sine of the share of worker rights (number of worker rights over the number of all clauses). Controls: Not-yet-treated observations. Numbers on horizontal axis refer to final year of respective two-year bins; i.e., -1 = last two years prior to event. Event is defined the largest employment increase or decrease, respectively in a given province in the 1990s, where employment is defined as Bartik-style leave-one-out employment rate in a given sector (logarithmized average over the employment rates in other sectors; there were no such observations for the 4-7 window for employment rate increases). Inference: Clustering at province-by-sector level. The p-values of omnibus hypothesis tests for employment increases (Panel A) for pre- and post-event effects are 0.200 and 0.169, respectively. For employment decreases (Panel B), those p-values are 0.816 and 0.001, respectively. Data sources: Employment and Social Development Canada, Canadian Labor Force Survey.

rights by topic. As shown in Appendix Figure A.10, we see effects that are largest and most significant for scheduling, and smaller but non-negligible for a range of other topics including work termination (see also Appendix Figure A.11). In Appendix Figure A.12, we show that the effect is similar for worker rights that are close and distant wage substitutes, respectively.

Next, we look at the effect of employment on wages using the worker micro-data. As shown in Appendix Figure A.13, we do not find a significant interaction between employment and union status. Finally, we find no effects of employment on firm exits, and the number of employees, and the presence of a COLA clause, consistent with the absence of endogenous changes to the sample composition (Appendix Table A.10 Panel B).

## 5.4 Discussion of Results

The main differences-in-differences regression results are reported in Table 6. According to Panel A, a 1% increase in the tax rate causes a 0.06% increase in worker rights clauses. According to Panel B, a 1% increase in the employment rate is associated with a 0.05% increase in worker rights clauses. Both of these effects are predicted by the model described below in Section 6.

The estimated effects of taxes on wages, combined with the result for taxes and worker rights, is consistent with a substitution effect in response to income taxes. Notably, the effect of taxes on pre-tax wages for non-union firms is wholly reversed for unionized firms, and actually goes negative. Unionized firms can bargain around untaxed amenities in addition to wages. Hence, in response to a tax increase, there is more movement among unions on rights clauses rather than wages. In public finance, this result is important because it shows that estimates of taxable income elasticity may be biased if amenities are endogenous (e.g. Chetty, 2009; Chetty et al., 2011).

Our regression estimates for taxes mean that a 10% increase in the income tax rate would cause the share of worker rights in contracts to increase by roughly 0.6%, or 0.23 standard deviations. Meanwhile, a 10% tax increase would cause union wages to fall by 1.25%. Taken together, these estimates imply that a one-S.D. increase in the share of worker rights is worth about 5.4% of wages.

This estimate is not strictly comparable to estimates of the value of amenities from the literature, as it includes bargaining parameters as well as firm costs. Still, it is interesting that it is in line with other reported magnitudes. For example, the estimates in Lagos (2020) suggest that CBA employment protection is worth 4% of

Table 6: Main Regression Results

| | **Effect on Log Worker-Rights Clauses** | | | |
|---|---|---|---|---|
| *A. Effect of Tax Rates* | | | | |
| | (1) | (2) | (3) | (4) |
| Log Income Tax Rate | 0.060*** | 0.060*** | 0.041*** | 0.049*** |
| | (0.014) | (0.014) | (0.014) | (0.018) |
| R-Squared | 0.15 | 0.16 | 0.55 | 0.34 |
| Number of Observations | 24,826 | 24,826 | 22,554 | 10,841 |
| *B. Effect of Employment Rates* | | | | |
| | (5) | (6) | (7) | (8) |
| Log Employment Rate | 0.053** | 0.051** | 0.039** | 0.055** |
| | (0.021) | (0.021) | (0.018) | (0.027) |
| R-Squared | 0.15 | 0.16 | 0.56 | 0.36 |
| Number of Observations | 29,157 | 29,157 | 26,669 | 13,735 |
| Province-Sector FEs | X | X | X | X |
| Sector-Year FEs | X | X | X | X |
| Contract Controls | | X | | |
| Firm FE | | | X | |
| Union FE | | | | X |

**Note:** Coefficients and standard errors of effect of labor tax rate (Panel A) or Bartik-style leave-one-out employment rate (Panel B) on worker rights clauses, for different specifications as indicated in first entry of each row. Outcome: Worker-rights clauses, defined as inverse hyperbolic sine of the share of worker rights clauses. Treatment, Panel A: Labor tax rate is defined as logarithmized implicit personal income tax rate. Treatment, Panel B: Bartik-style leave-one-out employment rate in a given sector, defined as the logarithmized average over the employment rates in other sectors. Inference: Standard errors clustered at the province-by-sector level. Single, double, and triple asterisks indicate statistical significance at the 10%, 5%,and 1% levels, respectively. Data sources: Employment and Social Development Canada, Center for the Study of Living Standards, Canadian Labor Force Survey.

wages to workers. Dube et al. (2022b) find that a one S.D. increase in "workplace dignity" is worth about 6% of wages, while Anelli and Koenig (2023) find that reducing workplace fatality risk by 1 in 100,000 is worth 9% of wages. Using data from job posts, Roussille and Scuderi (2023) find that a one S.D. increase in amenities is worth about 12% of wages. Our results situate the value of contracted worker rights among these other measures of workplace amenities.

The pattern of event-study results yields asymmetries consistent with widely documented downward wage rigidity. Tax increases could be offset by a combination of wage cuts and amenity increases, but in the presence of downward wage rigidity, the only adjustment margin is increased rights and amenities. Tax decreases could be met by a combination of wage increases and amenity decreases, and in the absence of upward wage rigidity could potentially result in just wage increases with no movement in amenities. Consistent with this, we find larger effects of tax increases than tax decreases. Similarly, increases in outside options could be met with wage increases only, with no response of rights. But decreases in outside options (say when a contract expires in a recession) along with downward wage rigidity would result in "concession bargaining" where the union gives up worker rights.

# 6 Collective Bargaining Agreements as Endogenously Incomplete Contracts

To interpret our empirical results, we present here a simple, stylized model. The model starts with the setup from Dube et al. (2022b) on the choice of wages and worker amenity rights under conditions of monopsony, where we replace the labor supply function with a no-strike constraint to capture the collective bargaining process. We extend that model by allowing only a subset of worker rights on amenities to be contracted on ex-ante, so that firm management retains residual rights over non-contracted worker amenity rights after the contract is agreed to, borrowing some ideas on endogenous incomplete contracts from Acemoglu et al. (2007).

Workers have constant marginal product $p$ and are paid a uniform wage $w$, taxed at a rate $\tau$. There is a unit mass of potential rights, indexed by $i$, that are exercised during production. Workers like rights and accrue benefits $a_i \in [0, 1]$ for each $i$ exercised, while employers dislike them with costs $ca_i$, $c \in (0, 1)$. Union collective bargaining agreements are contracts over wages $w$ and ex-ante actions $a_i$ that workers have the right to take, including exercising amenities. We assume that management reserves

rights, in the sense that every non-contracted action is chosen by management, and that management can terminate a worker for disobeying a non-contracted command, but not for complying with the contract., ta

As in Dube et al. (2022b), there is a representative worker whose utility is a CES aggregate of after-tax income and worker rights, given by:

$$V(\{a\}, w) = \left( (\int_0^1 a_i di)^\rho + ((1-\tau)w)^\rho \right)^{1/\rho}$$

with $\rho < 1$.

We suppose that firms make a take-it-or-leave-it offer to a union that represents workers. Unions get a private signal about their costs of striking and can choose to strike if $V < V^0 - \epsilon$, where $\epsilon$ is a random shock with monotonically decreasing density. Denote the counter-cumulative distribution of $\epsilon$ with $F(V - V_0) = 1 - G_\epsilon(V_0 - V)$ and $f = F' > 0$ and $F$ concave. Amenity costs are borne after the strike is settled.

Let $T \in [0, 1]$ give the number of worker rights clauses in the contract. We suppose a positive, increasing, and convex cost for the firm of writing clauses $C(T)$, with $C'(0) = 0$ and $C'(1) = \infty$. This setup is similar to the role of technology in Acemoglu et al. (2007), where $T$ reflects the number of inputs chosen ex-ante. [14]Firm profit is given by:

$$(p - w - \int_0^1 c a_i di) F(V(T, \{a_i\}, w) - V^0) - C(T)$$

The timing is:

1. Firms choose the length of the contract $T$, the contractual terms for the specified actions of workers $a_i^*$, and the wage $w$.

2. $\epsilon$ is realized, and unions choose to immediately accept the contract or strike. If the contract is accepted, production begins. If unions strike, they get $V^0$, the outside option.

3. If the action is contracted ($i \in (0, T]$), then managers can only ask workers to do the contracted action $a^*$, as captured by the associated clause provision (a worker **may** choose $a^*$or a firm **must** choose $a^*$). If the action is not contracted ($i \in (T, 1]$), the manager chooses the workers' action $a_i$.

[14]Unlike Acemoglu, Antras, and Helpman, we do not have workers choosing ex-ante investments, so there is no hold-up problem. We also assume that wages are paid ex-ante, and ex-post firms make take-it-or-leave offers to each worker about the choice of action, rather than bargaining at will with each worker, which gives the Shapley value for the division of the surplus, and thus ties the number of contracted tasks to the return for each task.

4. Production occurs and manager fires workers who refuse to comply with the contracted actions or with manager choices for uncontracted actions. Fired workers get utility 0.

5. Utility is realized and wages are paid to workers that are still employed.

Solving by backward induction, we first have that no workers are fired in equilibrium. For the set of contracted actions $i \in (0, T]$, managers follow the contract and we get $a_i = a^*$. For the set of uncontracted actions $i \in (T, 1]$, managers pick the lowest-cost action and so $a_i = 0$.

Worker utility without a strike (if production begins) is given by:

$$V(\{a^*\}_{i=0}^{T}, \{0\}_{i=T}^{1}, w) = V(Ta^*, w) = \left((Ta^*)^\rho + ((1-\tau)w)^\rho\right)^{1/\rho}$$

Firm expected profit, incorporating the probability of a strike and net of contracting costs, reduces to:

$$\max_{\{a^*, T, w\}} (p - w - cTa^*)F(V(Ta^*, w) - V^0) - C(T)$$

Taking first-order conditions, using the CES utility, and collecting terms, we get the following intuitive characterization of equilibrium wages and amenities, where the marginal rate of substitution for workers is equal to the marginal rate of transformation of the firm, modified by the net of tax parameter.

$$\frac{1}{c(1-\tau)^\rho} = (\frac{w}{Ta^*})^{\rho-1}$$

So that if $\rho$ is less than 1 (wages and amenities are imperfect substitutes), then an increase in taxes $\tau$ reduce wages relative to amenities. This also implies that $Ta^*$ and $w$ have elasticity of substitution $\sigma = \rho/(\rho - 1)$ . Taking logs, we get

$$\log(\frac{w}{Ta^*}) = c_0 - \sigma \log(1-\tau)$$

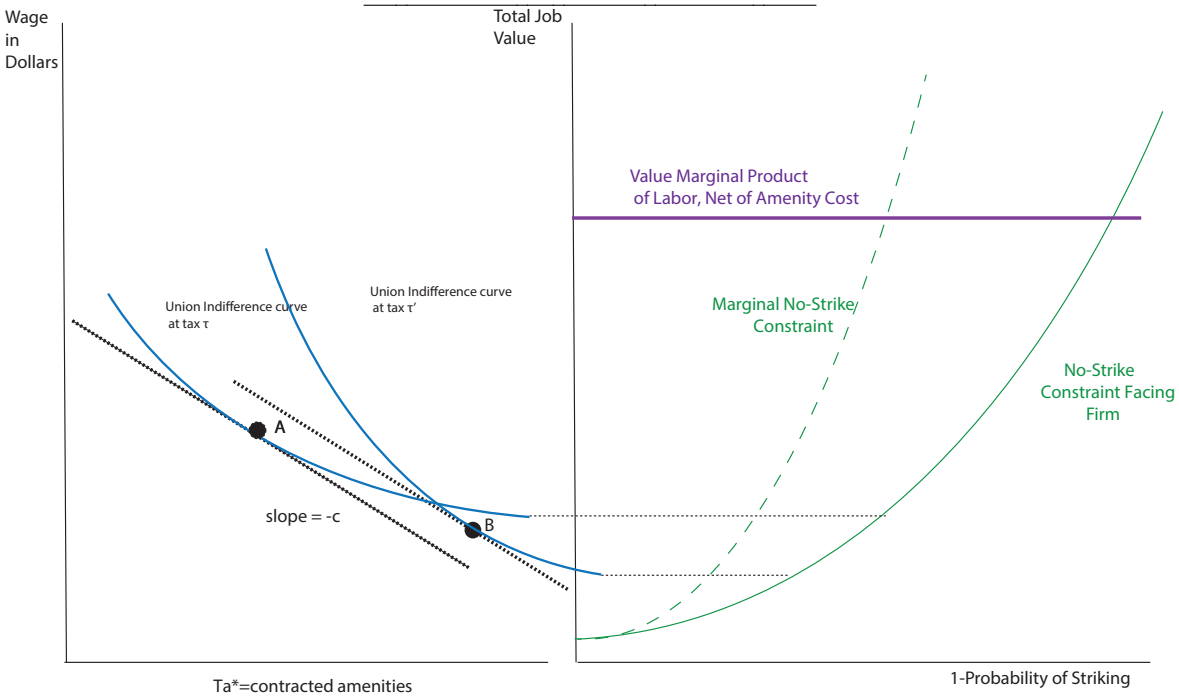
where $c_0 = \frac{\log c}{\rho - 1}$ is a constant. That is, the effect of log taxes on the log wages/amenities ratio recovers the elasticity of substitution.

Now write

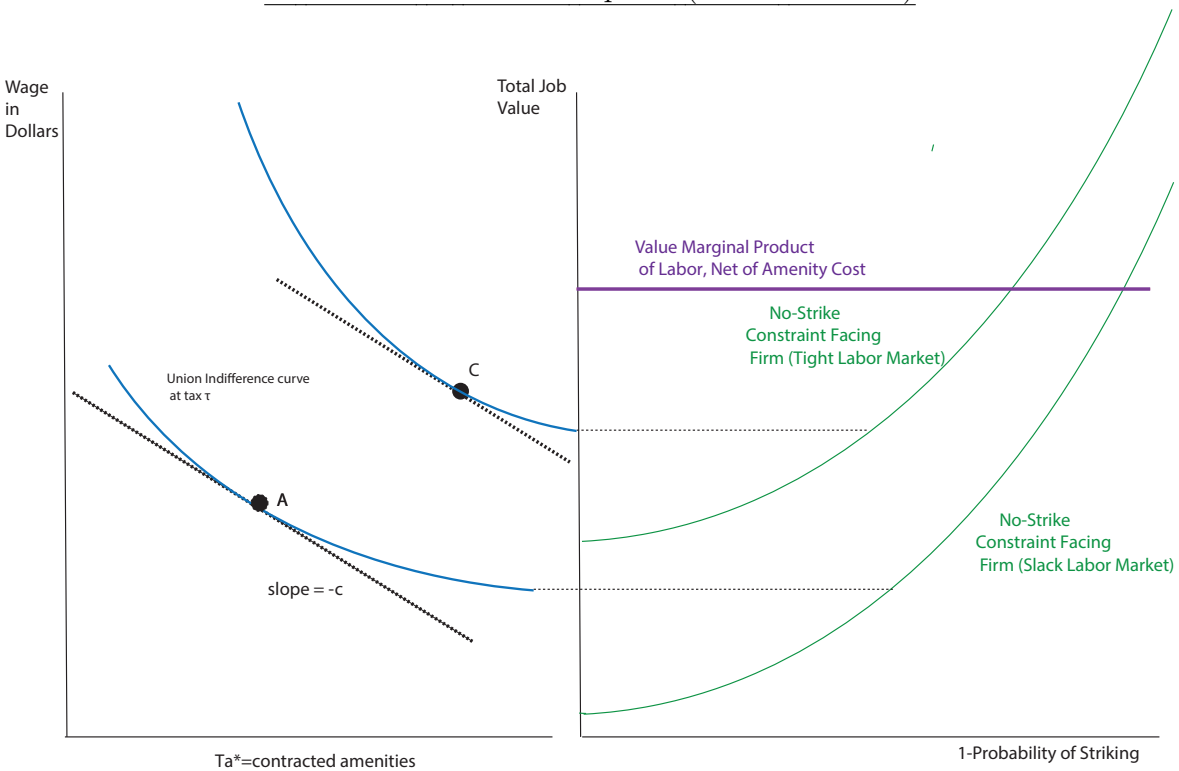
$$\pi^*(T, V^0) = \max_{\{a^*, w\}} (p - w - cTa^*)F(V(Ta^*, w) - V^0).$$

Figure 9: Comparative Statics of Income Taxes and Labor Demand on Worker Rights

A. Increase in Labor Income Tax




B. Increase in Outside Option (Labor Demand)




**Note:** Figure presents graphical representation of the model's comparative statics. Right side shows the firm's optimization facing the no-strike constraint. Left side shows the corresponding worker indifference curves over wages and worker amenity rights. Panel A: Effect of an increase in the tax $\tau$: wages fall, amenity rights rise, worker utility falls, firm profit falls. Panel B shows the effect of an increase in the outside option $V^0$: both wages and amenity rights increase, alongside an increase in worker's utility and a decrease in profit.

By the envelope theorem, we have

$$\pi_T^* = (p - w - Ta^*)f(V(Ta^*, w) - V^0)V_T - a^*F(V(Ta^*, w) - V^0)$$

and cross-partial

$$\pi_{TV^0}^* = -(p - w - Ta^*)f'(V(Ta^*, w) - V^0)V_T + a^*f(V(Ta^*, w) - V^0).$$

Since $F(\cdot)$ is concave, then $\pi_{TV^0}^* > 0$, and so $\frac{dT}{dV^0} > 0$ follows from the implicit function theorem and $\pi(\cdot)$ being concave in $T$. Increases in the union's outside option, for example due to increases in local labor demand, increases the number of contracted clauses. A similar logic shows that $\frac{dT}{dp} > 0$, so more productive (i.e. larger) firms will have longer contracts, as well as higher $a^*$and wages.

Figure 9 provides a graphical illustration of the model's key comparative statics. Panel A shows the effect of an increase in the tax $\tau$, while Panel B shows the effect of an increase in the outside option $V^0$. In each panel, the right hand side shows the firm's choice of total worker compensation ($V(\cdot)$, vertical axis) against the inverse probability of a strike (horizontal axis), where the no-strike constraint is traced out in green. while the left-hand side shows the corresponding worker indifference curves over wages (vertical axis) and worker amenity rights (horizontal axis). With a tax increase (Panel A), wages fall, amenity rights rise, worker utility falls, and firm profit falls. With a boost to the outside option (Panel B), both wages and amenity rights increase, alongside an increase in worker's utility and a decrease in profit.

# 7 Conclusion

This paper has used natural language processing tools to analyze the content of labor union contracts. We showed that in the main, labor contracts impose obligations on both workers and firms, and give rights to workers. We validate worker rights as a measure of amenities and worker authority. Empirically, we show that worker rights vary across firms and over time in response to economic factors. By treating each firm as a jurisdiction, and each contract as a workplace constitution, we obtain fine, granular evidence that the "rules of the game" correspond to economic outcomes. Even in an era of weakening unions, details of contract writing could contribute to the design labor-market rules and regulations to govern workplace amenities, rent-sharing, and control rights.

In addition to uncovering "what unions do," this research aims to uncover "what

unions want" – and inform what future collective bargaining institutions might look like. By comparing contracts with strong unions to contracts with weak unions, we can produce statistical evidence on what types of clauses – amenities, obligations, rights, and protections – unions tend to bargain for. These dimensions of workplace autonomy are difficult to measure with traditional datasets, but may be an important component of well-being on the job. While previous work shows that unions compressed the income distribution, this research also documents further effects on workplace rights. The lessons from these contracts will help policymakers design labor-market rules that efficiently govern workplace issues. Given the recent emphasis on heterogeneity in firms as a source of wage inequality, understanding the firm-specific institutions that govern work conditions is important for unpacking the income distribution.

In addition, we can provide evidence on what clauses increase the quality of the firm-employee relationship and increase efficiency. While a now considerable literature has measured firm productivity, comparatively little has gone into measuring amenities, and hardly any on less pecuniary contract features such as worker control. Collective bargaining agreements might provide one way to get a sense of historical variation in quality of the workplace. Indeed, if unregulated labor markets are characterized by various imperfections, union bargains, which some work has suggested is efficient (Abowd 1989), may provide more accurate valuations of job conditions than traditional hedonic regressions.

Next, in the domain of law and economics, while there is extensive theorizing about contract language, there is little credible empirical evidence. A fundamental identification problem is that the terms used in contracts are rarely tested in court, so it is difficult to decide what is boilerplate and what is probative. Our measurement and identification approach provides one way to gain some traction on this problem. Our results are consist with the hypothesis that workers and firms care about contract terms, and that the construction of these contracts is a costly activity. This is consistent with the work of Ashenfelter et al. (2013) who find that lawyers matter, and hence contract formation is part of the "technology" of employment. The fact that contracts are so complex and heterogeneous is a barrier to understand the economics of contract design. The natural language tools developed here will hopefully contribute to better understanding of the contracting process that should be of interest to legal scholars and social scientists interested in the effects of legal institutions on outcomes.

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# A Appendix

## A.1 Appendix Material: Data Sources

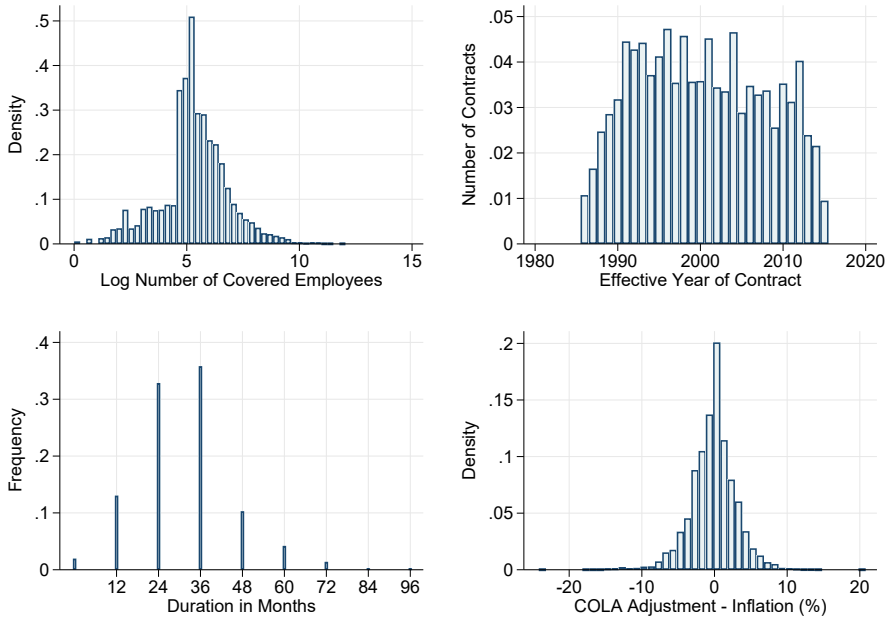
Table A.1: Summary Tabulations for Contracts Metadata

| Province | Freq. | Percent |
|---|---|---|
| Alberta | 3,820 | 11.79 |
| British Columbia | 4,085 | 12.61 |
| Manitoba | 1,639 | 5.06 |
| Multiprovince | 2,005 | 6.19 |
| New Brunswick | 740 | 2.28 |
| Newfoundland / Labrador | 539 | 1.66 |
| Northwest Territories | 438 | 1.35 |
| Nova Scotia | 1,169 | 3.61 |
| Nunavut | 171 | 0.53 |
| Ontario | 15,719 | 48.51 |
| Prince Edward Island | 146 | 0.45 |
| Quebec | 558 | 1.72 |
| Saskatchewan | 1,177 | 3.63 |
| Yukon Territory | 196 | 0.6 |
| Total | 32,402 | 100 |

| Industry Group | Freq. | Percent |
|---|---|---|
| Construction | 1,626 | 5.02 |
| Educational / Health | 11,461 | 35.37 |
| Entertainment | 945 | 2.92 |
| Finance / Real Estate | 886 | 2.73 |
| Information / Culture | 1,295 | 4 |
| Manufacturing | 5,485 | 16.93 |
| Primary industries | 465 | 1.44 |
| Public admin | 3,882 | 11.98 |
| Transportation | 4,893 | 15.1 |
| Utilities | 560 | 1.73 |
| Wholesale / Retail | 904 | 2.79 |
| Total | 32,402 | 100 |

**Note:** Absolute and relative frequencies of contracts, by province/territory and industry group.

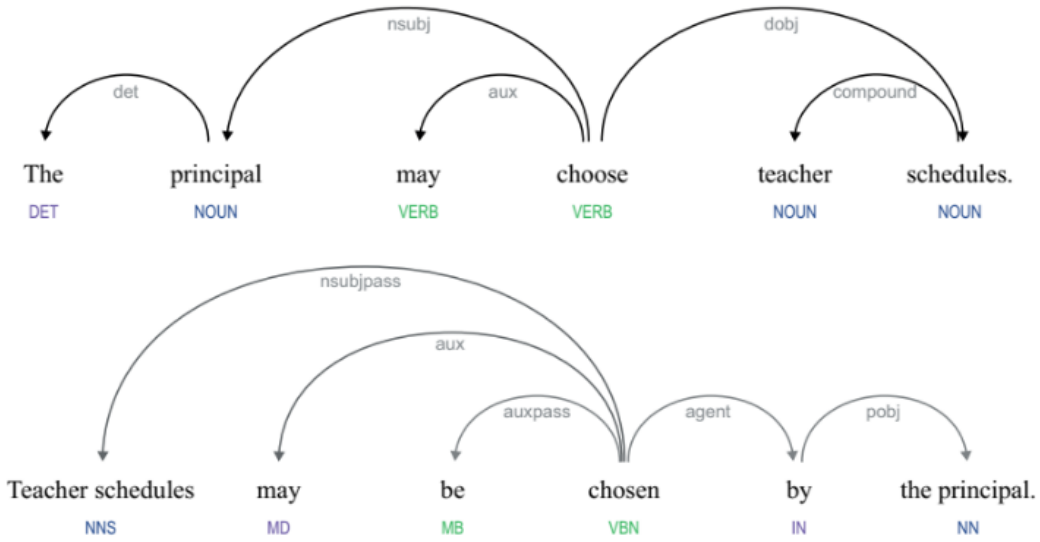
Figure A.1: Summary Figures for Contracts Metadata




**Note:** Histograms of selected metadata of contracts: (i) Log number of employees covered by given contract; (ii) Effective year of contract; (iii) Duration of a given contract in months, (iv) Cost-Of-Living Adjustment Adjustments.

## A.2 Appendix Material: Contract Parsing

Figure A.2: Syntactic Dependency Parse for Deontic Modal Verb Structures




**Note:** Two examples of a parse tree. Each parse tree represents the relations between words in a recursive hierarchical structure. The edge labels indicate the relation between two words in a sentence.

Table A.2: Summary Tabulations: Subjects, Modals, and Verbs

| Subject | Freq. |
|---|---|
| employee | 32465 |
| who | 12633 |
| it | 7198 |
| employer | 6431 |
| company | 5666 |
| which | 5404 |
| he | 5101 |
| party | 4044 |
| they | 3997 |
| there | 3081 |
| union | 2735 |
| that | 2649 |
| teacher | 2598 |
| member | 2501 |
| leave | 2303 |
| board | 2247 |
| grievance | 2092 |
| dans | 1960 |
| nurse | 1809 |
| hour | 1690 |
| hospital | 1626 |
| rate | 1612 |
| time | 1596 |
| period | 1572 |
| he/she | 1485 |
| she | 1460 |
| committee | 1350 |
| day | 1346 |
| work | 1301 |
| agreement | 1299 |
| provision | 1278 |
| seniority | 1267 |
| notice | 1233 |
| position | 1224 |

| Modal | Freq. |
|---|---|
| shall | 57263 |
| will | 30974 |
| may | 13491 |
| must | 3465 |
| should | 1954 |
| would | 1788 |
| can | 1702 |
| could | 206 |
| might | 130 |
| ought | 79 |
| need | 27 |

| Verb | Freq. |
|---|---|
| be | 35265 |
| have | 6212 |
| agree | 5900 |
| be_pay | 5400 |
| receive | 4236 |
| work | 4035 |
| be_require | 3656 |
| apply | 3468 |
| provide | 3045 |
| be_make | 2955 |
| be_entitle | 2694 |
| be_grant | 2663 |
| continue | 2355 |
| be_give | 2301 |
| pay | 2237 |
| be_consider | 1945 |
| include | 1639 |
| make | 1570 |
| become | 1553 |
| mean | 1518 |
| be_provide | 1495 |
| occur | 1486 |
| complete | 1420 |
| be_understand | 1402 |
| leave | 1301 |
| require | 1293 |
| take | 1224 |
| be_agree | 1212 |
| recognize | 1202 |
| be_deem | 1188 |
| meet | 1142 |
| give | 1102 |
| notify | 1092 |
| commence | 1063 |

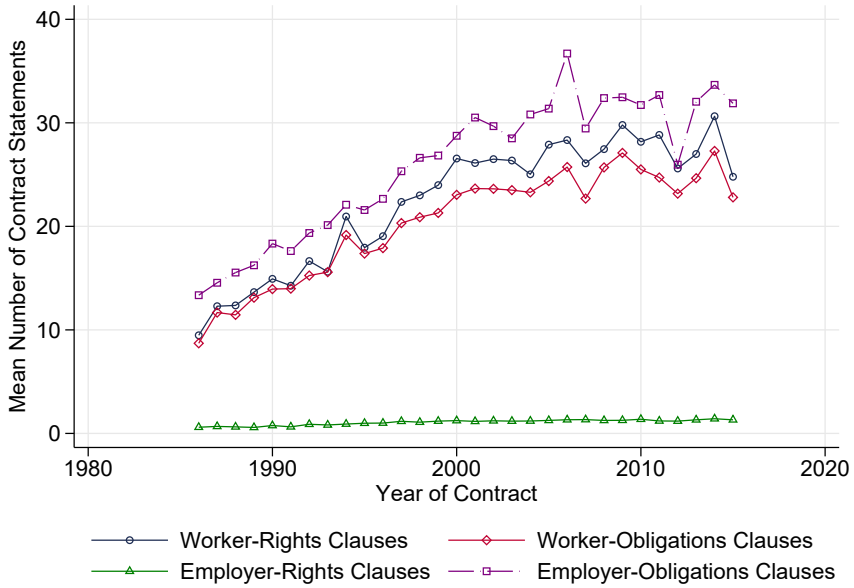
**Note:** List of most common subjects, modal verbs, and verbs in the extracted contract clauses, ordered by absolute frequency, respectively.

## Table A.3: Example Subject-Verb Tuples by Clause Type

| subject | obligations | prohibitions | permissions | right | others |
|---|---|---|---|---|---|
| worker | employee is required (41789) employee shall be (21968) employees shall be (14350) | employee shall not lose (3578) employee shall not be (3517) employee will not be (2997) | employee may request (11120) employee may elect (9148) employee shall be allowed (7524) | employee shall be paid (61643) employee shall receive (57367) employee has (54772) | employee is (181457) employee works (42449) employees are (24868) |
| firm | company agrees (83488) employer agrees (76739) employer shall provide (19909) | board shall not be authorized (2397) company shall not be (1403) company will not be (1133) | employer may require (4992) employer may grant (4307) company may require (2705) | company has (9725) board shall have (7767) employer has (7506) | employer recognizes (13744) company recognizes (13531) company is (9089) |
| union | union agrees (46060) union shall notify (6113) member is required (3034) | union will not cause (967) union will not engage (590) representatives shall not suffer (316) | representative may be (3452) union may refer (1983) union may submit (1785) | union shall have (9463) union has (5231) member shall receive (4184) | union recognizes (15091) member is (12139) union is (10315) |
| manager | supervisor shall give (1278) management agrees (1272) manager shall give (1057) | supervisors shall not perform (343) supervisors will not perform (284) management will not take (139) | administrator may desire (566) director may grant (384) administrator may grant (377) | principal shall receive (973) administrator may have (808) principal shall be paid (516) | supervisor is (2126) management is fix (1375) management is vest (1334) |
| other | there shall be (73307) parties agree (70143) there will be (33167) | provisions shall apply (4494) leave shall not exceed (4242) | case may be (14213) which may arise (6131) which may be (6042) | who has (36467) leave shall be granted (15557) leave will be granted (10311) | who is (141114) there is (116098) it is understood (102328) |

**Note:** Most frequent examples of subject-verb tuples by clause type.

## Figure A.3: Rights and Obligations Over Time, By Agent




**Note:** Mean number of rights and obligations for workers and firms, respectively, over time.

## A.3 Appendix Material: Exploring and Validating Worker-Rights Clauses

Table A.5: Worker-Rights Clauses, By Industry Grouping

| Industry Grouping | Worker-Rights Clauses | |
|---|---|---|
| | *Mean* | *Standard Deviation* |
| Construction | 0.034 | 0.020 |
| Educational, Health | 0.041 | 0.025 |
| Entertainment/Hospitality | 0.038 | 0.024 |
| Finance, real estate | 0.048 | 0.025 |
| Information and culture | 0.041 | 0.026 |
| Manufacturing | 0.040 | 0.020 |
| Primary industries | 0.039 | 0.021 |
| Public administration | 0.047 | 0.032 |
| Transportation | 0.038 | 0.027 |
| Utilities | 0.046 | 0.021 |
| Wholesale/Retail Trade | 0.051 | 0.033 |

**Note:** Mean and Standard Error of worker rights clauses, by industry. Worker rights clauses defined as inverse hyperbolic sine of the share of worker-rights clauses (number of worker rights clauses over the number of all clauses).

Table A.4: Example Worker-Rights Clauses

1. Employees should not be required to work more than two (2) hours after the end of their regular shift in such cases and shall be provided transportation by the Company, on request.

2. Such employees shall be paid not later than three (3) weeks after the date of application.

3. Where the Company schedules an employee to work in excess of seventy-seven (77) hours in one pay period, the employee will be paid for the excess hours at the applicable overtime rate.

4. However, an employee will receive one day of seniority if he or she works 5 or more hours on an overtime shift on Saturday or Sunday.

5. Standby Pay and Call-In Pay. An employee who is required by the Company to work overtime shall be paid at the rate of one and one-half times his applicable pro-rated hourly rate for time worked by him: (a) in excess of 8 hours in a work day

6. Where an employee is prevented by circumstances beyond his control from returning to work on time, he shall be paid for the holidays.

7. An employee who visits Occupational Health Services at the request of the Company following the completion of his shift will be paid in accordance with Section 16.01 and will be provided with transportation if necessary.

8. An employee in such instances will be paid at his/her regular rate upon returning to work.

9. If a general holiday falls on the regular pay day, employees shall be paid the last day worked before the general holiday.

10. Employees who retire as well as current retirees and survivors will be provided with Life Insurance in the amount of $6,000.

11. The employee shall be entitled to additional time off for any holidays occurring within such vacation period.

12. An employee terminated during his probationary period would be entitled to review under the grievance procedure up to and including Step 3.

13. An employee not in a labour pool shall only be entitled to make application for an equal or higher rated job or, for a job which is in a line having a higher rated job than exists in his current line of promotion except that: 1 .

14. However, where practicable, senior employees in each job shall be given the opportunity to perform any available work in that job, on their shift, within their Department.

15. Any employee elected at the Federal or Provincial level will be granted a leave of absence without pay and without benefits, to extend to one (1) term in office.

16. The employee shall be entitled to additional time off for any holidays occurring within such vacation period.

Table A.6: Share of Worker-Rights Clauses, By Union

| Union | # of Contracts | | Share of worker |
|---|---|---|---|
| | Private-Sector | Public-Sector | rights clauses |
| Canadian Union of Public Employees | 234 | 1850 | 0.0411 |
| National Automobile, Aerospace, Transportation and General | 836 | 189 | 0.0377 |
| Workers Union of Canada (CAW Canada) | | | |
| Public Service Alliance of Canada | 317 | 664 | 0.0703 |
| Ontario Nurses' Association | 29 | 650 | 0.0433 |
| International Brotherhood of Teamsters | 624 | 47 | 0.0472 |
| Service Employees International Union | 128 | 510 | 0.0327 |
| Ontario Secondary School Teachers' Federation | 7 | 592 | 0.0369 |
| Teamsters Canada | 491 | 30 | 0.0459 |
| Communications, Energy and Paperworkers Union of Canada | 454 | 42 | 0.0434 |
| Ontario English Catholic Teachers' Association | 0 | 450 | 0.0445 |
| Ontario Public Service Employees Union | 37 | 324 | 0.0351 |
| Elementary Teachers' Federation of Ontario | 0 | 334 | 0.0472 |
| United Steelworkers of America | 303 | 18 | 0.0355 |
| Alberta Teachers' Association | 1 | 320 | 0.0532 |
| United Food and Commercial Workers International Union | 278 | 24 | 0.0452 |
| Alberta Union of Provincial Employees | 44 | 238 | 0.0589 |
| Christian Labour Association of Canada | 231 | 30 | 0.0583 |
| United Steel, Paper and Forestry, Rubber, Manufacturing, | 210 | 24 | 0.0365 |
| Energy, Allied Industrial and Service Workers Intl. Union | | | |
| United Food and Commercial Workers Canada | 219 | 10 | 0.0487 |
| International Association of Machinists and Aerospace | 221 | 0 | 0.0353 |
| Workers | | | |
| International Brotherhood of Electrical Workers | 115 | 80 | 0.0434 |
| International Union of Operating Engineers | 128 | 63 | 0.0476 |
| Canadian Merchant Service Guild | 167 | 3 | 0.0154 |
| British Columbia Government and Service Employees' Union | 70 | 82 | 0.0426 |
| Seafarers' International Union of Canada | 132 | 0 | 0.0308 |
| Professional Institute of the Public Service of Canada | 8 | 115 | 0.0816 |
| Amalgamated Transit Union | 71 | 45 | 0.0409 |
| Unifor | 92 | 23 | 0.0393 |
| Laborers' International Union of North America | 96 | 18 | 0.0373 |
| United Brotherhood of Carpenters and Joiners of America | 90 | 11 | 0.0373 |

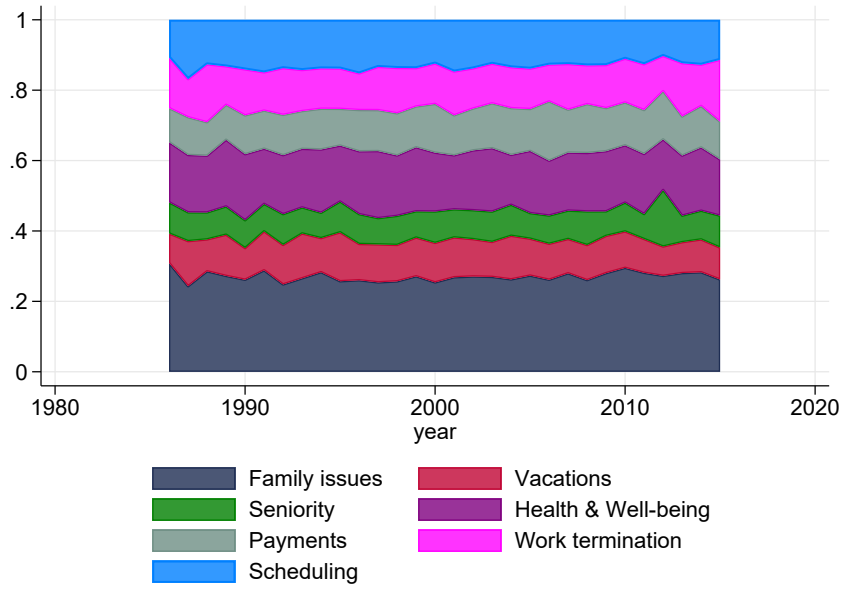
**Note:** Share of worker rights clauses by union. Unions ordered by number of contracts in the private and public sector; top 30 unions displayed.

Table A.7: Match of Broad Topics and Narrow Topics

| Broad Topic (Share) | Narrow Topic (Share) | Most Associated Words |
|---|---|---|
| Scheduling (0.228) | Work Hours (0.058) | hours, work, rate, shift, regular, minimum, worked, called, scheduled, half |
| | Seniority-Based Benefits (0.039) | service, year, years, plan, benefits, retirement, salary, date, month, 00 |
| | Leave of Absence (0.039) | leave, absence, granted, union, elected, loss, period, seniority, employer, year |
| | Scheduling (0.030) | day, work, days, required, rest, scheduled, hours, consecutive, week, shift |
| | Overtime (0.026) | overtime, hours, work, worked, rate, regular, shift, required, half, scheduled |
| | Part-Time Employment (0.023) | hours, seniority, credit, basis, status, changed, service, worked, work, regular |
| | Breaks (0.013) | rest, minute, 15, break, shift, period, minutes, hours, periods, half |
| Vacation (0.146) | Vacations (0.045) | vacation, year, period, entitlement, annual, leave, employment, earned, following, service |
| | Seniority-Based Vacation (0.038) | vacation, years, service, year, weeks, continuous, completed, days, annual, percent |
| | Holiday Pay (0.037) | holiday, day, holidays, statutory, falls, vacation, general, following, work, regular |
| | Holiday Work Pay (0.026) | holiday, hours, rate, day, worked, holidays, regular, statutory, work, half |
| Health / Wellness (0.118) | Workplace safety (0.054) | union, agreement, required, provided, covered, granted, work, given, company, collective |
| | Sick Leave (0.025) | sick, leave, credits, days, illness, granted, absence, month, year, injury |
| | Workplace Injuries (0.024) | injury, compensation, injured, work, workers, disability, accident, medical, benefits, shift |
| | Meals (0.015) | meal, lunch, period, hours, hour, overtime, work, break, half, shift |
| Seniority (0.111) | Position Classification (0.036) | rate, classification, higher, job, position, salary, transferred, new, assigned, lower |
| | Job Security (0.030) | position, job, temporary, given, vacancy, hired, nurse, opportunity, offered, months |
| | Seniority & Promotion/Transfer (0.030) | seniority, given, senior, preference, selected, job, ability, qualifications, positions, classification |
| | Probation Period (0.015) | probationary, period, agreement, rights, probation, privileges, completion, hired, completed, seniority |
| Payments (0.098) | Payment Rules (0.051) | rate, weekly, regular, day, hourly, agreement, hours, work, bi, half |
| | Shift Premiums (0.025) | shift, hour, premium, cents, hours, worked, 00, rate, regular, hourly |
| | Reimbursements (0.022) | travel, transportation, expenses, reimbursed, allowance, traveling, vehicle, employer, use, business |
| Family Issues (0.086) | Grievance & Discipline (0.031) | grievance, steward, union, discipline, discharge, discharged, notified, representative, suspended, procedure |
| | Bereavement Leave (0.028) | death, law, bereavement, leave, funeral, days, granted, family, immediate, day |
| | Parental Leave (0.027) | leave, parental, child, maternity, weeks, pregnancy, granted, adoption, birth, pregnant |
| Termination (0.085) | Recall (0.032) | laid, layoff, recall, given, lay, hired, new, opportunity, work, recalled |
| | Notice Requirements (0.027) | notice, notified, given, days, layoff, change, advance, working, written, writing |
| | Termination (0.026) | severance, employment, service, notice, termination, laid, continuous, layoff, terminated, year |
| Others (0.128) | Teacher Compensation (0.066) | teacher, teachers, school, salary, occasional, teaching, board, year, experience, day, |
| | Teacher Leave (0.029) | teacher, leave, sick, school, year, granted, teachers, days, absence, board |
| | Files (0.024) | copy, file, given, written, provided, request, performance, review, personnel, appraisal |
| | Jury duty (0.009) | jury, witness, duty, court, subpoenaed, difference, required, day, received, serve |

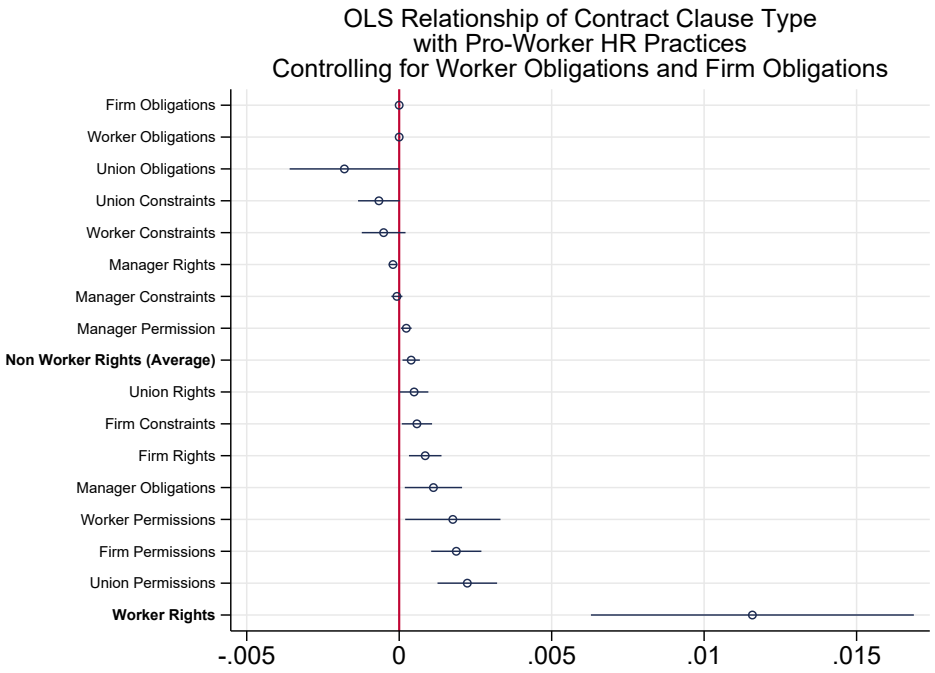
**Note:** Label, share (relative frequency), and 10 most associated words of topic clusters describing worker rights. Most associated words ordered by association strength. Data source: Employment and Social Development Canada.

Figure A.4: Worker-Rights Clauses Topics Over Time




**Note:** Shares of topic clusters of worker rights clauses, over time.

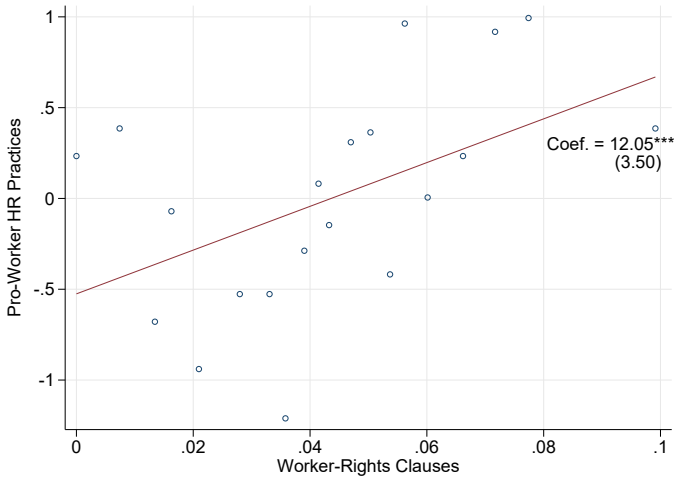
Figure A.5: Clause Types and Pro-Worker HR, Conditioning on Obligations



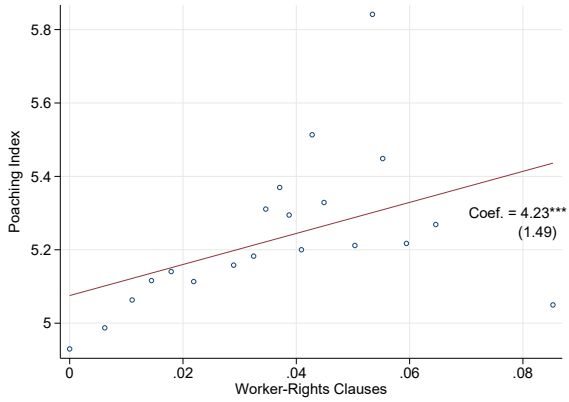

**Note:** Figure presents coefficients and 95% confidence intervals of regression of contract clause types on index for Pro-Worker HR Practices. Each coefficient is from a separate OLS regression. Outcome: Clause type, defined as inverse hyperbolic sine of the share of clauses of given type (number of clauses of type in question over the number of all clauses). Treatment: Standardized index of Pro-Worker HR Practices, defined as sum of approval rates to six statements about worker practices; it increases in "managers care about workers", "promotes good workers", and "employees are valued," and decreases in "focus on top talent", "incentives", and "fire poor performers". Controls: Firm obligations and worker obligations, defined as inverse hyperbolic sine of the share of clauses of given type (number of clauses of type in question over the number of all clauses). Inference: Heteroscedasticity-robust standard errors. Data sources: Employment and Social Development Canada, World Management Survey (Bloom et al., 2012).

Figure A.6: Worker-Rights Clauses, Pro-Worker HR Practices, and Poaching Index

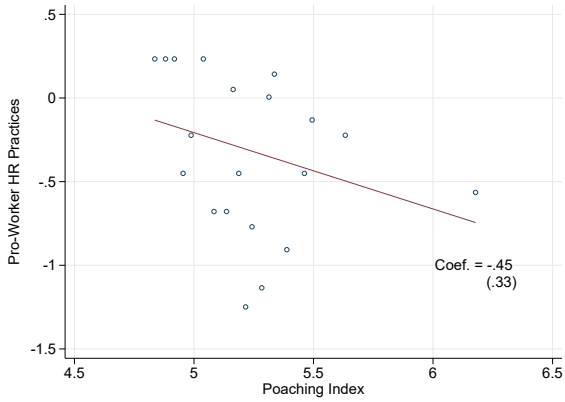
A. Pro-Worker HR Practices vs. Worker-Rights Clauses




B. Poaching Index vs. Worker-Rights Clauses




C. Poaching Index vs. Pro-Worker HR Practices




**Note:** Panel A: Binscatter plot of worker rights clauses (horizontal axis) and index for Pro-Worker HR Practices (vertical axis). Panel B: Binscatter plot of worker rights clauses (horizontal axis) and poaching index (vertical axis). Panel C: Binscatter plot of poaching index (horizontal axis) and index for Pro-Worker HR Practices (vertical axis). Worker rights clauses is defined as inverse hyperbolic sine of the share of worker rights clauses (number of worker rights clauses over the number of all clauses). Index of Pro-Worker HR Practices is defined as standardized sum of approval rates to six statements about worker practices; it increases in "managers care about workers", "promotes good workers", and "employees are valued," and decreases in "focus on top talent", "incentives", and "fire poor performers". Poaching index (text-predicted firm size) from Lagos (2020). Worker right measure significantly positively correlated with Pro-Worker HR Practices (Panel A). Poaching index significantly positively correlated with worker rights measure (Panel B), but not correlated with the pro-worker HR practices (Panel C). Data sources: Employment and Social Development Canada, World Management Survey (Bloom et al., 2012).

## A.4 Appendix Material: Supporting Results

Table A.8: Robustness: Labor Income Tax Rate and Worker-Rights Clauses

| | Worker-Rights Clauses | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) |
| Log Income Tax Rate | 0.060*** | 0.037*** | 0.060*** | 0.058*** | 0.059*** | 0.059*** | 0.060*** | 0.046*** | 0.035*** | 0.155** |
| | (0.014) | (0.011) | (0.015) | (0.015) | (0.015) | (0.015) | (0.015) | (0.014) | (0.011) | (0.078) |
| Province-Sector FEs | X | X | X | X | X | X | X | X | X | X |
| Sector-Year FEs | X | X | X | X | X | X | X | X | X | X |
| Province Trends | | X | | | | | | | | |
| Cluster by Province | | | X | | | | | | | |
| Pro-Union Law Controls | | | | X | | | | | | |
| Anti-Union Law Controls | | | | | X | | | | | |
| NDP Party Control | | | | | | X | | | | |
| Employment Control | | | | | | | X | | | |
| Worker and Firm Obligation Control | | | | | | | | X | | |
| Share Parsed Clauses Control | | | | | | | | | X | |
| Outcome Redefinition | | | | | | | | | | X |

**Note:** Coefficients and standard errors of effect of labor tax rate on worker rights clauses, for different specifications as indicated in first entry of each row. Outcome: Worker-rights clauses, defined as inverse hyperbolic sine of the share of worker rights clauses (col. 1-9: number of worker rights clauses over the number of all clauses; col. 10: number of worker rights clauses over the number of all worker clauses). Treatment: Labor tax rate is defined as logarithmized implicit personal income tax rate. Controls: Pro-Union (Anti-Union) Law Controls includes set of separate indicator variables for whether a given law favorable (unfavorable) to unions is in place, see Table 3 in Legree et al. (2017) for list of laws. Inference: Standard errors clustered at the province-by-sector level, unless noted otherwise. Single, double, and triple asterisks indicate statistical significance at the 10%, 5%,and 1% levels, respectively. Data sources: Employment and Social Development Canada, Center for the Study of Living Standards.

Figure A.7: Effect of Labor Income Tax Rates on Worker-Rights Clauses by Topic Group




**Note:** Figure presents coefficients and 95% confidence intervals of effect of labor tax rate on worker right topic groups. Each coefficient is from a separate OLS regression. Outcome: Worker right topic group, defined as inverse hyperbolic sine of share of worker rights clauses that belong to given topic group (number of clauses of topic group in question over the number of all clauses). Treatment: Labor tax rate, defined as logarithmized implicit personal income tax rate. Controls: Province-by-sector fixed effects and year-by-sector fixed effects. Inference: Standard errors clustered at the province-by-sector level. Data sources: Employment and Social Development Canada, Center for the Study of Living Standards.

Table A.9: Worker Rights, Labor Tax, and HR Index

| | Worker Rights (Distant Wage Substitutes) | Worker Rights (Close Wage Substitutes) | Worker Rights (Distant Wage Substitutes) | Log Income Tax Rate | Pro-Worker HR Index |
|---|---|---|---|---|---|
| | (1) | (2) | (3) | (4) | (5) |
| Log Income Tax Rate | 1.723*** | 1.305*** | 0.847* | | |
| | (0.512) | (0.457) | (0.450) | | |
| Worker Rights (Close Wage Substitutes) | | | 0.672*** | 0.0002 | 0.034 |
| | | | (0.037) | (0.0004) | (0.290) |
| Worker Rights (Distant Wage Substitutes) | | | | 0.0008* | 0.965*** |
| | | | | (0.0005) | (0.294) |
| Province-Sector FEs | X | X | X | X | |
| Sector-Year FEs | X | X | X | X | |

**Note:** Outcome variables indicated in column header. Worker rights variables standardized. Substitutability with wages of given topic calculated as the dot-product similarity between the centroid of the topic and the following 20 statements: "Employees shall have ..." incentive-based pay. a commission. a production bonus. a piece rate. a cost-of-living allowance. hazard pay. a uniform allowance. a tool allowance. free room and board. subsidized room and board. paid vacation leave. paid holiday leave. paid sick leave. paid personal leave. overtime pay. shift differential pay. life insurance. health insurance. disability insurance. retirement benefits. 16 topics most (least) close to these statements are grouped in categories of close (distant) substitutes of wages. Worker rights, defined as inverse hyperbolic sine of the share of worker entitlements. Standard errors clustered at the province-by-sector level, except for column 5. Single, double, and triple asterisks indicate statistical significance at the 10%, 5%,and 1% levels, respectively.

Figure A.8: Effect of Labor Income Tax Rates Worker-Rights Clauses by Topic – 30 Topics




**Note:** Figure presents coefficients and 95% confidence intervals of effect of labor tax rate on worker right topics. Each coefficient is from a separate OLS regression. Outcome: Worker right topic, defined as inverse hyperbolic sine of share of worker rights clauses that belong to given topic (number of clauses of topic in question over the number of all clauses). Treatment: Labor tax rate, defined as logarithmized implicit personal income tax rate. Controls: Province-by-sector fixed effects and year-by-sector fixed effects. Inference: Standard errors clustered at the province-by-sector level. Data sources: Employment and Social Development Canada, Center for the Study of Living Standards.

Figure A.9: Effect of Tax Rates on Worker-Rights Clauses, by Substitutability with Wages




**Note:** Figure presents coefficients and 95% confidence intervals of effect of labor tax rate on worker-right topical categories (by substitutability with wages). Substitutability with wages of given topic calculated as the dot-product similarity between the centroid of the topic and the following 20 statements: "Employees shall have ..." incentive-based pay. a commission. a production bonus. a piece rate. a cost-of-living allowance. hazard pay. a uniform allowance. a tool allowance. free room and board. subsidized room and board. paid vacation leave. paid holiday leave. paid sick leave. paid personal leave. overtime pay. shift differential pay. life insurance. health insurance. disability insurance. retirement benefits. 16 topics most (least) close to these statements are grouped in categories of close (distant) substitutes of wages. Each coefficient is from a separate OLS regression. Outcome: Worker right topic, defined as standardized sum of 16 applicable topics, each defined as inverse hyperbolic sine of share of worker rights clauses that belong to given topic (number of clauses of topic in question over the number of all clauses). Treatment: Labor tax rate, defined as logarithmized implicit personal income tax rate. Controls: Province-by-sector fixed effects and year-by-sector fixed effects. Inference: Standard errors clustered at the province-by-sector level. Data sources: Employment and Social Development Canada, Center for the Study of Living Standards.

## Table A.10: Effect of Tax Rate and Employment Rate on Selected Outcomes

| | Firm Exit | Firm Size | COLA Clause |
|---|---|---|---|
| | (1) | (2) | (3) |
| Panel A: | | | |
| Log Income Tax Rate | 0.055 | -0.391 | -0.003 |
| | (0.224) | (0.478) | (0.182) |
| Panel B: | | | |
| Log Employment Rate | -0.081 | -1.040 | -0.268 |
| | (0.331) | (0.968) | (0.383) |
| Province-Sector FEs | X | X | X |
| Sector-Year FEs | X | X | X |

**Note:** Coefficients and standard errors of effect of logarithmized tax rate (Panel A) and logarithmized Bartik-style leave-one-out employment rate (Panel B) on outcome indicated in the column header (firm exits, and COLA clause are indicator variables, firm size is logarithmized). Inference: Standard errors clustered at the province-by-sector level. Single, double, and triple asterisks indicate statistical significance at the 10%, 5%,and 1% levels, respectively. Data sources: Employment and Social Development Canada, Center for the Study of Living Standards, Canadian Labor Force Survey.

## Table A.11: Robustness: Effect of Employment Rate on Worker-Rights Clauses

| | Worker-Rights Clauses | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) |
| Log Emp. Rate | 0.053** | 0.050*** | 0.053* | 0.077*** | 0.056*** | 0.049** | 0.049** | 0.037** | 0.035** | 0.055 |
| | (0.021) | (0.019) | (0.024) | (0.019) | (0.017) | (0.020) | (0.021) | (0.018) | (0.014) | (0.101) |
| Province-Sector FEs | X | X | X | X | X | X | X | X | X | X |
| Sector-Year FEs | X | X | X | X | X | X | X | X | X | X |
| Province Trends | | X | | | | | | | | |
| Cluster by Province | | | X | | | | | | | |
| Pro-Union Law Controls | | | | X | | | | | | |
| Anti-Union Law Controls | | | | | X | | | | | |
| NDP Party Control | | | | | | X | | | | |
| Employment Control | | | | | | | X | | | |
| Worker and Firm Obligation Control | | | | | | | | X | | |
| Share Parsed Clauses Control | | | | | | | | | X | |
| Outcome Redefinition | | | | | | | | | | X |

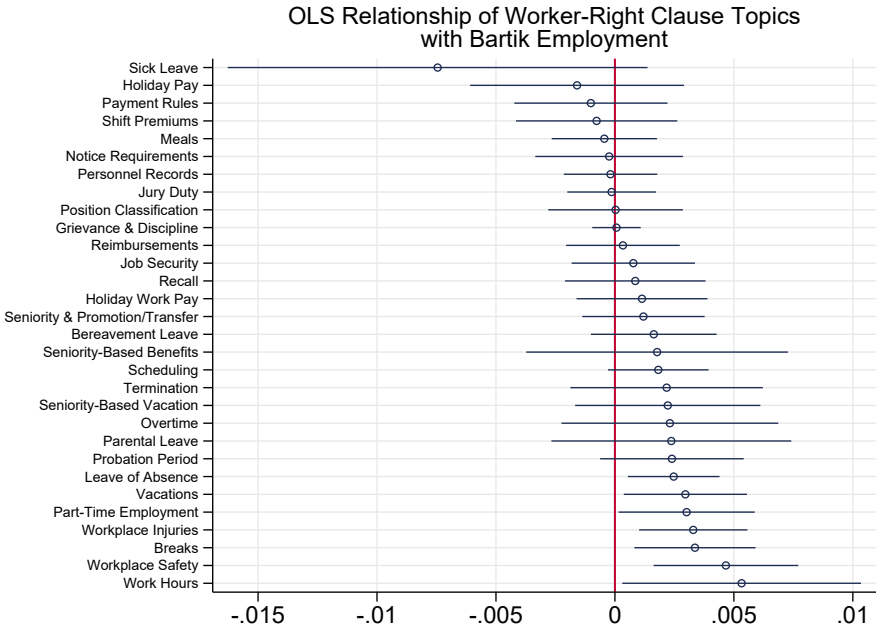
**Note:** Coefficients and standard errors of effect of Bartik-style leave-one-out employment rate on worker rights clauses, for different specifications as indicated in first entry of each row. Outcome: Worker-rights clauses, defined as inverse hyperbolic sine of the share of worker rights clauses (col. 1-9: number of worker rights clauses over the number of all clauses; col. 10: number of worker rights clauses over the number of all worker clauses). Treatment: Bartik-style leave-one-out employment rate in a given sector, defined as the logarithmized average over the employment rates in other sectors. Controls: Pro-Union (Anti-Union) Law Controls includes set of separate indicator variables for whether a given law favorable (unfavorable) to unions is in place, see Table 3 in Legree et al. (2017) for list of laws. Employment control controls for logarithmized employment rate (own sector). Inference: Standard errors clustered at the province-by-sector level, unless noted otherwise. Single, double, and triple asterisks indicate statistical significance at the 10%, 5%,and 1% levels, respectively. Data sources: Employment and Social Development Canada, Canadian Labor Force Survey.

Figure A.10: Effect of Employment Rate on Worker-Rights Clauses by Topic Group



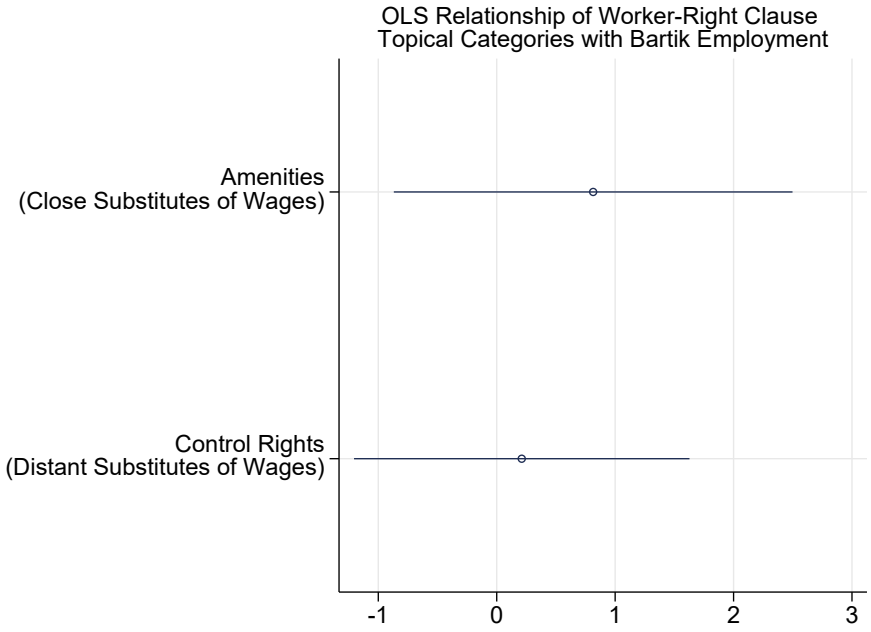

**Note:** Figure presents coefficients and 95% confidence intervals of effect of logarithmized Bartik-style leave-one-out employment rate on worker right topic groups. Each coefficient is from a separate OLS regression. Outcome: Worker right topic group, defined as inverse hyperbolic sine of share of worker rights clauses that belong to given topic group (number of clauses of topic group in question over the number of all clauses). Treatment: Bartik-style leave-one-out employment rate in a given sector, defined as the logarithmized average over the employment rates in other sectors. Controls: Province-by-sector fixed effects and year-by-sector fixed effects. Inference: Standard errors clustered at the province-by-sector level. Data sources: Employment and Social Development Canada, Canadian Labor Force Survey.

Figure A.11: Effect of Employment Rate on Worker-Rights Clauses by Topic



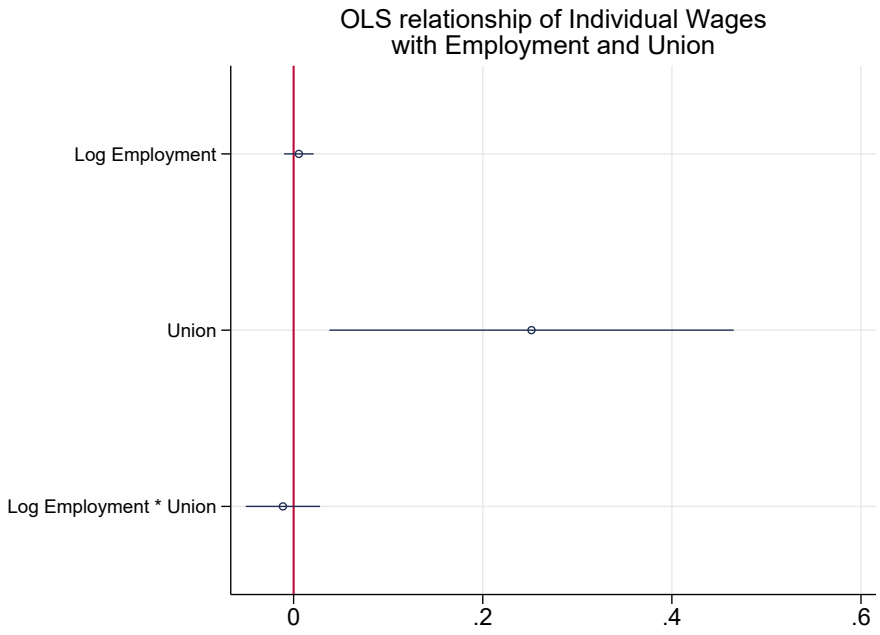

**Note:** Figure presents coefficients and 95% confidence intervals of effect of logarithmized Bartik-style leave-one-out employment rate on worker right topics. Each coefficient is from a separate OLS regression. Outcome: Worker right topic, defined as inverse hyperbolic sine of share of worker rights clauses that belong to given topic (number of clauses of topic in question over the number of all clauses). Treatment: Bartik-style leave-one-out employment rate in a given sector, defined as the logarithmized average over the employment rates in other sectors. Controls: Province-by-sector fixed effects and year-by-sector fixed effects. Inference: Standard errors clustered at the province-by-sector level. Data sources: Employment and Social Development Canada, Canadian Labor Force Survey.

Figure A.12: Effect of Employment on Worker-Rights Clauses, by Substitutability with Wages




**Note:** Figure presents coefficients and 95% confidence intervals of effect of logarithmized Bartik-style leave-one-out employment rate on worker-right topical categories (by substitutability with wages). Substitutability with wages of given topic calculated as the dot-product similarity between the centroid of the topic and the following 20 statements: "Employees shall have ..." incentive-based pay. a commission. a production bonus. a piece rate. a cost-of-living allowance. hazard pay. a uniform allowance. a tool allowance. free room and board. subsidized room and board. paid vacation leave. paid holiday leave. paid sick leave. paid personal leave. overtime pay. shift differential pay. life insurance. health insurance. disability insurance. retirement benefits. 16 topics most (least) close to these statements are grouped in categories of close (distant) substitutes of wages. Each coefficient is from a separate OLS regression. Outcome: Worker right topic, defined as standardized sum of 16 applicable topics, each defined as inverse hyperbolic sine of share of worker rights clauses that belong to given topic (number of clauses of topic in question over the number of all clauses). Treatment: Bartik-style leave-one-out employment rate in a given sector, defined as the logarithmized average over the employment rates in other sectors. Controls: Province-by-sector fixed effects and year-by-sector fixed effects. Inference: Standard errors clustered at the province-by-sector level. Data sources: Employment and Social Development Canada, Center for the Study of Living Standards.

Figure A.13: Effect of Employment Rates and Union Status on Wages




**Note:** Figure presents coefficients and 95% confidence intervals of effect of employment rate, union status on the interaction of employment rate and union status on individual wages. All coefficient are from the same OLS regression. Outcome: Individual wages, defined as worker's logarithmized hourly wage (before taxes and other deductions, but including tips, commission and bonuses). Treatments: Employment rate, defined as logarithmized employment rate; union status, defined as indicator variable that equals one if worker is member of a union, and zero otherwise. Controls: Province-by-sector fixed effects and year-by-sector fixed effects. Sample: 1999-2006 (excludes years from the financial crisis 2007 onward). Inference: Standard errors clustered at the province level. Data source: Canadian Labor Force Survey.

## A.5 List of Worker Rights Clauses by Topic

This appendix provides ten example clauses for each of the topics extracted for worker rights clauses. The topics are listed in the order from Table 4. At the end, the two miscellaneous occupation-specific topics for teachers, which were dropped from the main analysis, are listed. For each topic, we recap the title, wage-similarity score, topic share, and GPT-4 summary. The 10 listed clauses are those used to construct that GPT-4 summary.

1. **Grievance & Discipline** 0.15900 0.031 The clauses provide workers with rights related to disciplinary actions, grievance procedures, and representation, ensuring transparency, due process, and the ability to challenge or appeal employer decisions.

    - 1. More severe disciplines will be purged from the employee's personnel file after twenty-four (24) months if the employee receives no additional disciplinary actions, of a similar nature, during that period.
    - 2. in such cases, employees shall be offered an irrevocable choice of either a formal or informal investigation.
    - 3. The claim by an employee, other than a probationary employee, that he has been suspended or discharged without just cause may be presented as a grievance within seven (7) calendar days after the employee has been notified of his suspension or discharge and such grievance will be processed in the following manner:
    - 4. An employee wishing to dispute any such entry shall be entitled to recourse through the grievance procedure.
    - 5. If the complaint affects the rate of pay of an employee, the Department Steward shall be informed.
    - 6. If the Employer representative is unable to meet the Steward during the Steward's normal working hours, the Steward shall be paid for all the time spent during the processing of the grievances with the Employer on the Employer's property or at any other place which is mutually agreed upon by both the Union and the Employer.
    - 7. If no written decision has been given to an employee at Step No. 1 within the time limits specified above, the grievance will be settled in favour of the grievor provided that such settlement shall not prejudice any future such

complaint or grievance, or the employee shall be entitled to submit the grievance to the next stage including arbitration.

- 8. The names of the Grievance Committee, Chairman and Stewards, or where absent a substitute, from time to time selected shall be given to the Home in writing and the Home shall not be required to recognize any steward until it has been notified in writing by the Union of the name of same.
- 9. The employee and the Union will be given a copy of any warning, reprimand, suspension or disciplinary layoff entered on any employee's personnel record, within two (2) working days of the alleged violation becoming known to the Company.
- 10. 5.1 A newly hired employee shall be informed in writing whether his or her position is within the bargaining unit, the name and address of the bargaining agent and the name and work location of the local Union steward which shall be provided as per Article 22.5.4 (Grievance Procedure).

2. **Job Security** 0.16773 0.03 The clauses provide workers with rights related to job security and stability, including provisions for notification and options in the event of workforce adjustments, opportunities for training or retraining, recall rights for seasonal or displaced employees, and protections for seniority and pay rate in cases of job changes or redundancies.

    - 1. If the position is affected by a workforce adjustment, the employee will be notified and provided with an opportunity to exercise her options under Article 34 unless otherwise agreed by the parties.
    - 2. Where a nurse receives training under this provision, she or he need not be considered for any further vacancies for a period of six (6) months from the date she or he is placed in the position.
    - 3. 36.7 Recall Subject to the establishment of labour requirements for the following season, seasonal employees will be offered seasonal employment for the subsequent work season by the employer.
    - 4. Such reinstatement or placement will be without loss of seniority and at not less than the same rate of pay to which the employee would be entitled had she remained in her former position.
    - 5. Any employee who is declared redundant to a work location shall be given

the option of transferring to the first available position of equal classification or be demoted to the next lower classification.

- 6. The nurse shall be reinstated to her former position unless the position has been discontinued in which case she shall be given a comparable job.
- 7. An employee who is displaced by technological change or mechanization shall be given the opportunity to fill another vacancy if capable of doing so and according to seniority or be given a period of training sufficient to perfect or acquire the skills necessitated by the new methods of operation.
- 8. If an Employee has moved into an area to work on a project and his employment has been terminated, and such Employee does not remain in the area sixty (60) days after termination to qualify as a local resident, and such Employee is hired by the aforementioned Employer or a new Employer, such Employee shall be treated as a non-resident for all purposes and conditions of this Agreement.
- 9. b) Employees with recalllreinstatement rights will be offered the position in accordance with Article 79.02 c)
- 10. Such regularly assigned employees shall be protected by guarantee providing they take up their new assignment within the first cycle of operation of the run of their choice commencing from the date of selection.

3. **Recall** 0.17688 0.032 The clauses provide rights related to job security and recall for workers who have been laid off, including options to accept vacant positions, refuse temporary recalls without penalty, and priority for rehiring in their former or equivalent positions if they become available.

    - 1. Employees who are laid off will be entitled to recall to classifications in their OGL for a period of three (3) years frorn the date of hislher layoff.
    - 2. When an Employee has been given notice of lay-off, the Employee has the option of: a) Accepting a vacant position, if available, provided the Employee meets the minimum requirements to perform the position.
    - 3. An employee who has been recalled to such temporary vacancy shall not be required to accept such recall and may instead remain on lay-off.
    - 4. Whenever it becomes necessary to reduce the work force, the employee affected shall be given

- 5. Tradesmen not working at their trade and all other employees involved will receive the established shutdown rate.
- 6. An employee who has been recalled to such temporary vacancy shall not be required to accept such recall and may instead remain on layoff.
- 7. An employee recalled to work in a different classification from which she was laid off, or an employee who has displaced an employee in a lower or identical paying classification shall be entitled to return to the position she held prior to the layoff should it become vacant within six (6) months of the layoff, provided that the employee remains qualified and abte to perform the duties of her former position.
- 8. No new employees shall be hired until all those laid off have been given an opportunity to return to work and have failed to do so, in accordance with the loss of seniority provision, or have been found unable to perform the work available.
- 9. An Owner/Operator who receives a notice of lay-off (a)
- 10. a full-time employee who has displaced a part-time employee shall be entitled to return to the position he held prior to the layoff should it become vacant within twenty-four (24) months of the layoff, provided that the employee remains qualified and able to perform the duties of his former position.

4. **Notice Requirements** 0.17505 0.027 The clauses provide workers with rights to receive advance notice regarding absences, layoffs, job vacancies, shutdowns, and meetings, ensuring they have adequate time to prepare for changes in their employment status or work conditions.

    - 1. Where possible, the Employer will be provided with two weeks notice of such absences.
    - 2. he/she shall be paid schedule wages for the time in excess of 10 days whatever the decision might be.
    - 3. Written notice of the proposed shutdown shall be given to the Union not later than two (2) weeks in advance of the shutdown date, in the event an Employee is included in the shutdown, the employee will be paid his accumulated Vacation Pay, if any in the accrued amount to the end of the pay period immediately proceeding the shutdown.

- 4. Unlicensed personnel will receive a notice of seventy-two (72) hours prior to joining the ship unless exceptional circumstances arise.
- 5. Each employee who applies for a posted vacancy during the seven (7) day posting period will be notified in writing of the disposition of her application.
- 6. Employees in these categories will receive twenty-four (24) hours written notice of lay- off).
- 7. Where practical, the employee shall receive a minimum of one (1) day's notice of such a meeting and shall be informed of the reason for it.
- 8. Employees with ten (10) years continuous service, shall receive forty (40) working days notice.
- 9. Such employees for whom no employment is available will be given at least thirty (30) days notice of separation.
- 10. In the event of a permanent layoff as defined in the Employment Standards Act, all employees to be laid-off will be given at least eight (8) weeks notice of lay-off.

5. **Jury Duty** 0.17799 0.009 The clauses provide rights to workers for compensation or pay adjustments when they are required to serve on jury duty or appear in court as witnesses, ensuring they are not financially disadvantaged for fulfilling these civic duties.

    - 1. No jury duty pay will be allowed for any day which the employee is entitled to vacation or general holiday pay.
    - 2. Any regular full-time employee who is required to report for Jury Duty, Coroner's Inquest, or who is required to appear as a Crown Witness, on a day on which he would normally have worked, will be reimbursed by the Company for the difference between the pay received for Coroner's Inquest, Jury or Witness Duty and his regular straight time hourly rate of pay for his regularly scheduled hours of work necessarily lost.
    - 3. An employee when called for jury duty or subpoenaed as a witness shall be paid full salary.
    - 4. 17.01 An employee who is selected for service as a juror or subpoenaed as a witness will be compensated for loss of pay from his regularly
    - 5. An employee who is summoned for jury duty and is required to lose time from his assignment as a result thereof, shall be paid for actual time

lost with a maximum of one basic day's pay at the straight time rate of his position for each day lost, less the amount allowed him for jury duty for each such day excluding allowances paid by the court for meals, lodging or transportation, subject to the following requirements and limitations: (i)

- 6. 12.01 Each seniority employee who is summoned to and reports for jury duty, or as a court witness, as prescribed by applicable law (subject to the eligibility requirements in (a), (b), and (c)), shall be paid by the Company the difference between the employee's regular base rate, exclusive of premiums, for the number of hours up to eight (8), regardless of shift that he otherwise would have been scheduled to work: and the daily jury fee paid by the Court (not including travelling allowance or reimbursement of expenses).
- 7. The 14.14 Appearance in Court An employee summoned to appear or required to ~rve jury duty, or one who has been served with a subpoena to appear aS a witness, shall be paid the difference between what he would have earned for his scheduled hours at his paid rate and the court fee received.
- 8. Any employee will be compensated for time spent as a witness on behalf of the Company to a maximum of the basic work day or basic work week.
- 9. Any regular full-time employee who is required to perform Jury Duty, or who is subpoenaed to serve as a witness in a Court action or Coroner's Inquest, save and except actions involving the Company or Trade Unions, unless subpoenaed by the Crown, on a day on which he would normally have worked, will be reimbursed by the Company for the difference between the pay received for such duty and his regular straight time hourly rate of pay for his regularly scheduled hours of work.
- 10. No employee shall be entitled to receive such pay where the employee is summoned to give evidence in any civil litigation to which the City is not a Party, or where the employee is summoned to give evidence in a criminal case, or when the employee is the person charged in any court, unless such criminal case arises out of actions by the employee in the course of their employment.

6. **Personnel Records** 0.17894 0.024 The clauses provide workers with the right to access, copy, and be informed about their personal and employment-related documents, including personnel files, job assignments, employment letters, disciplinary documents, and performance reviews.

- 1. The employee shall be entitled to make a copy of any information contained in their personnel file.
- 2. ITie employee will be provided with a written confirmation of the information provided Ir&rr to ArtMe ll.lJ
- 3. For call-outs, Employees will be informed of the specific job(s) to be performed when called by the Company.
- 4. A Teacher shall be entitled upon request, to copies of materials contained in his/her personnel file.
- 5. On written request the employee shall be provided with a copy of any such personal material.
- 6. Employees shall receive a letter of employment which will include the Employee's: a) b) c)
- 7. An employee shall be given a copy of any such document placed on the employee's file which might be the basis of disciplinary action.
- 8. Immediate Supervisor" means that person from whom an Employee normally receives her work assignments.
- 9. In the event that a written report is required by the employee, the employee will be given a copy of any written complaint while protecting the identity of the complainant.
- 10. 26.01 Employee Performance Review When a formal review of an employee's performance is made, the employee concerned shall be given an opportunity to discuss, sign and make written comments on the review form in question and the employee is to receive a signed copy to indicate that its contents have been read.

7. **Seniority & Promotion/Transfer** 0.17922 0.03 The clauses are granting workers rights related to job preference, promotion, and transfer based on seniority, qualifications, and experience.

    - 1. Such employees will be given preference in the hiring process.
    - 2. The most qualified employee, as determined by the Employer, shall be selected.
    - 3. In transfers from one job classification to another, senior employees shall receive first consideration.

- 4. An employee who is bypassed in favour of an employee with less seniority to fill vacant job, shall be notified in wnting as to the reason@)
- 5. When less than 1/4 of the department manpower is needed, senior employees from the above mentioned departments who request work, will be given the opportunity to work if they have the skill and ability to perform the job.
- 6. The experience, not treated as classification seniority, the employee has received in the position he/
- 7. In departments other than the Trucking Department, in the event of shift changes of more than two hours, senior employees within the classification and within the department shall be given shift preference.
- 8. 11.03 Employees shall be selected for positions under Article .O1
- 9. The employee, where appointed, will be given assistance and instruction in the higher rated job.
- 10. Such employee will be given a seniority date on the full time employees' seniority list, which will reflect the amount of his full time seniority determined in accordance with the foregoing formula.

8. **Parental Leave** 0.18385 0.027 The clauses provide rights related to maternity and parental leave, including paid and unpaid leave, allowances, and special considerations for employees who are pregnant or adopting a child.

    - 1. After completion of 6 months continuous employment, an employee who provides the Employer with proof that she has applied for and is in receipt of unemployment insurance benefits pursuant to Section 18, Unemployment Insurance Act, shall be paid a maternity leave allowance in accordance with the Supplementary Unemployment Benefit Plan.
    - 2. An employee who adopts a child under the laws of the province or becomes the natural parent of a child is entitled to parental leave to a maximum of 37 continuous weeks in the event that: 9.6(g) (i)
    - 3. a pregnant employee takes a Maternity Leave to which she is entitled pursuant to the Employment Standards Act, and Sec.
    - 4. the CFO transitional allowance, for each week of the waiting period, less any other monies earned during this period; and (ii) for each week that the employee receives a maternity benefit under Employment Insurance or

the Québec Parental Insurance Plan, she is eligible to receive the difference between ninety-three percent (93%) of her weekly rate of pay and, where applicable, the CFO transitional allowance, and the maternity benefit, less any other monies earned during this period which may result in a decrease in her maternity benefit to which she would have been eligible if no extra monies had been earned during this period.

- 5. On the occasion of the birth of his child, a male Nurse shall be granted, on request, special leave with pay to a maximum of one (1) day during the confinement of his spouse.
- 6. An Employee who has completed her probationary period shall, upon written request, be granted leave without pay for up to twelve (12) months as necessary for the purpose of adopting a child.
- 7. An employee who is pregnant and has completed six (6) months or more consecutive service shall be entitled to maternity leave without pay for a period not to exceed fifteen (15) weeks.
- 8. An employee who chooses not to take parental leave is entitled to a Day off with pay when their child is born or adopted, provided they were scheduled to work that day.
- 9. An employee who becomes pregnant shall, upon request, be granted maternity leave without pay for a period beginning before, on or after the termination date of pregnancy and ending not later îhan twenty-seven (27) weeks after the termination date of pregnancy, subject to the Paternity Leave Without Pay clause 17.09.
- 10. Employees who are pregnant shall not be required to operate VDTs.

9. **Probation Period** 0.18385 0.015 The clauses provide rights related to the recognition and crediting of probationary periods for employees, including extensions, credit for previous service, and exemptions from additional probationary periods for certain transfers or promotions.

    - 1. It is mutually agreed between the parties that the probationary period may be extended a further period not exceeding three (3) months and in such event the employee and the Union shall be notified in writing of such extension.
    - 2. Following successful completion of the employee's probationary period, the employee shall be placed on the seniority list and will be credited with

seniority at the date of hiring in the Caretaking and Maintenance Department (prorated for under twenty (20) hours per week) and the employee will be notified in writing of the employee's change of status.

- 3. a nurse who has been transferred to the Hospital and who has not completed her or his probationary period at the Hospital where she or he was formerly employed shall receive credit for her or his service during such probationary period, and shall complete the balance of the probationary period required by this agreement.
- 4. A nurse who transfers from casual part-time or full-time to regular part-time status shall not be required to serve a probationary period where such nurse has previously completed one since her or his date of last hire.
- 5. (b)A nurse who transfers from casual or regular part-time to full-time status shall not be required to serve a probationary period where such nurse has previously completed one since her or his date of last hire.
- 6. 12.01 Probationary Period Probationary periods are outlined in Appendices E, K, L and M. 12.02 Coverage Under the Collective Agreement During the Probationary Period During the probationary period provided for in Clause 12.01, an employee is entitled to the advantages provided for in the present Collective Agreement, except as otherwise provided.
- 7. During the probationary period, employees shall be entitled to all rights and privileges of this Agreement, except with respect to discharge and annual vacation which may be taken during the probationary period with the approval of the Employer and which would result in an extension of the probationary period in time equal to that taken in annual vacation.
- 8. A nurse who transfers from casual or regular part-time to full-time status shall not be required to serve a probationary period where such nurse has previously completed one since her or his date of last hire.
- 9. Service Letter: At the termination of employment, employees who have completed their probationary period will be given a letter, upon request, showing his term of service and capacity in which employed.
- 10. A temporary full-time employee entering a full-time permanent position will not be required to serve a probationary period provided the employee held and worked in the identical full-time temporary position for at least twelve (12) months immediately prior to entering the full-time permanent position.

10. **Bereavement Leave** 0.18957 0.028 The clauses provide workers with bereavement leave, allowing them time off, often with pay, to grieve and attend funerals following the death of a close relative or family member.

    - 1. A part-time employee shall be granted bereavement leave in accordance with Article
    - 2. In the event the funeral is held on an employee's regular work day other than the three (3) days immediately following the day of death, the employee will be granted upon request, leave on that day to attend the funeral.
    - 3. An employee who has not completed three (3) consecutive months of continuous employment shall be granted bereavement leave without pay on any of the scheduled working days that occur during the three (3) days immediately following the day of the death of a close relative.
    - 4. a full time employee will be granted one (1) days leave of absence with pay to attend the funeral.
    - 5. Bereavement Leave Employees shall be granted up to five ( 5 ) working days for absence occasioned by the death of a relative.
    - 6. An employee shall be granted up to five (5) regularly scheduled consecutive work days' leave without loss of salary or wages in the case of death or serious illness in the immediate family, defined as spouse, child, mother, father, brother, sister, mother-in-law, father-in-law, grandmother, grandfather, step-parent, step-child, grandchild, court appointed ward, court appointed guardian.
    - 7. Teachers shall be granted compassionate leave with pay in the event of the death or serious illness of spouse, mother, father, brother, sister, son, daughter, step-parent, stepchild, parent-in-law, brother-in-law, sister-in-law, son-in-law, daughter-in-law, grandparent, grandchild, aunt, uncle, niece and nephew and a maximum of one day leave with pay will be granted to attend the funeral of the grandparent, grandchild, niece or nephew of the teacher's spouse.
    - 8. 12.04 – Bereavement Leave Any employee who notifies the Hospital as soon as possible following a bereavement will be granted bereavement leave for three (3) consecutive working days off without loss of regular pay from regularly scheduled hours, in conjunction with the death of the spouse, child,

parent, sister, brother, mother-in-law, father-in-law, grandparent, grandchild, brother-inlaw, sister-in-law or grandparent of spouse.

- 9. Employee would be paid bereavement leave for Wednesday and Thursday.
- 10. Upon the death of a nurse's mother-in-law, father-in-law, brother, sister, brother-in-law, legal guardian, grandparent, sister-in-law, grandchildren, son-in-law or daughter-in-law, a nurse shall be granted up to three ( 3 ) continuous calendar days without loss of pay.

11. **Part-Time Employment** 0.20145 0.023 The clauses are providing rights related to compensation, work hours, seniority, and benefits for part-time employees.

    - 1. For 'the purposes of the rate progression scale, a 9 part-time employee will receive credit for a week of service " fi when he works his scheduled hours in any week.
    - 2. Eligible part-time employees shall be compensated as follows:
    - 3. Part-Time Employees who report to work for any shift will be guaranteed at least four (4) hours of work, or if no work is available, will be paid at least four (4) hours.
    - 4. An employee who has elected to work part-time shall be entitled to a prorated gratuity based on the proportion of time the employee works relative to full-time employment.
    - 5. In the event any full-time employee exercises his right under Section 21.04 and noves to another classification or moves to another department, said employee shall be given the 2,501-hour level for the first eight (8) weeks (300 hours), the 3,001-hour level for the next eight (8) weeks (300 hours) and the top rate thereafter in that classification.
    - 6. 58.04 Part-time employees shall be paid at the hourly rate of pay for all work performed up to seven decimal five (7.5) hours in a day or thirty-seven decimal five (37.5) hours in a week.
    - 7. The employee will be given credit in his seniority for his continuous service and will be entitled to the app licabl e part time rate of pay.
    - 8. Regular part-time employees in a probationary period shall receive 12% in lieu of all benefits including annual vacations, general holidays and sick leave.

- 9. A part-time nurse who changes status to full-time will be given seniority credit on the basis of fourteen hundred (1400) paid hours of part-time service being equivalent to one (1) year of fulltime service and vice versa.
- 10. 4.2.1 Part-time employees shall be paid on the salary scale of the group to which they are assigned and progression shall occur at 1040 or 2080 (which ever is applicable

12. **Work Hours** 0.20458 0.058 The clauses provide workers with rights to guaranteed minimum pay for short-notice work, overtime compensation, pay for additional duties or hours beyond their regular schedule, and specific pay rates for work under certain conditions or times.

    - 1. In the event a part-time Employee is called in for extra work and no work is available, that Employee will be paid a minimum of three (3) hours.
    - 2. Employees who normally work less than thirty-five (35) hours over five (5) days, shall be compensated at 1.5 times their hourly rate for the first two hours and double their hourly rate after that time for work performed on a sixth or seventh day.
    - 3. The employee will be paid for each hour or part hour worked, rounded to the nearest fifteen (15) minutes to the Employer's advantage at the wage rates specified in the Appendix to this agreement.
    - 4. If Tour Workers are asked to remain after their shift is scheduled to end, to put on felt, they shall be paid for the time worked plus three (3) hours.
    - 5. Employees shall be paid two times' (2x) the Employee's regular hourly rate for time worked in excess of forty eight (48) hours in any work week.
    - 6. Where a nurse attends a committee meeting outside of regularly scheduled hours, she or he will be paid for all hours spent in attendance at meetings at her or his regular straight time hourly rate.
    - 7. In each instance the employee will be compensated at his single hourly rate not exceeding eight (8) hours for such travelling time in any twenty-four (24) hour period.
    - 8. A shift employee wol1ting berwecn 1600 to 0800 llours and for all hours worked on a Sunday shall be paid as follows:
    - 9. Therefore, the Non-Permanent employee would receive 5.5 hours of statutory pay.

- 10. If an employee is suspended for a day and his shift is more than eight (8) hours, the employee will be given the option of making up the hours in excess of eight (8) on another day in the week of suspension.

13. **Reimbursements** 0.20510 0.022 The clauses provide workers with rights to compensation and allowances for time spent and expenses incurred due to work-related travel, delays, and use of personal vehicles for work purposes.

    - 1. When the transportation provided by the Employer for the conveyance of Employees is delayed by circumstances beyond the control of the Employees, the Employees shall be paid for all such time, up to a limit of two (2) hours at the Classification Basic Hourly Rate.
    - 2. When an employee has been notified prior to leaving his place of residence not to report for work, the two (2) hours reporting time in paragraph (I) shall not apply, If on any project work cannot proceed due to shortage of mataid or other reason within the control of the Company, men living away f h m home will either be returned home (Le,) paid travel expense, travel time & subsistence allowance for travel day out and when requested to retum to job site shall be paid same when returning to work) or at the option of the Employer and with the consent of the employees will be paid three (3) hours and subsistence if applicable for the days that the work is delayed.
    - 3. In such a case, employees who use their own vehicles will be paid thirty-five (35) cents per kilometer.
    - 4. 3.06.1 Report Time Operators shall be paid the following report time for taking trolley coaches or motor buses out of the garage to operate in regular scheduled service and charter runs:
    - 5. A n employee authorized by his Department Head to use his personal automobile in the performance of his duties shall be paid as follows:
    - 6. An An Operator performing Tour or Multi-day Charter work requiring expense money will receive an advance from the Company for all reasonable expenses which will be incurred during such trip.
    - 7. Employees on out-of-town assignments who require overnight accommodation shall receive in addition to the per diems in Article 12.2.1, first class, single accommodation, equivalent to AAA (American Automobile Association) or CAA (Canadian Automobile Association) standards.

- 8. Such Employee shall be reimbursed for a round trip between the Hospital and his home a t
- 9. Any employee covered by this Collective Agreement, authorized by the Director or designate to travel as part of the job, shall be paid a travelling allowance per kilometre ae approved from time to time by the Board.
- 10. When the transportation provided by the Employer for the conveyance of employees is delayed by circumstances beyond the control of the employees, the employees shall be paid for all such time, up to a limit of two (2) hours at the applicable straight time rate.

14. **Breaks** 0.20653 0.013 The clauses are granting workers the right to paid rest and wash breaks during their work shifts.

    - 1. All employees shall be granted five (5) minutes wash time without loss of pay at the end of a regular work day.
    - 2. Employees will be entitled to a rest brcak of not more than fifteen ( I 5) minutes during each half day worked.
    - 3. 24.10 Employees will be given one fifteen (15) rest period for the first four (4) hours scheduled to work, and worked.
    - 4. Each employee shall receive 2 work breaks of 15 minutes in each day's work
    - 5. The employee shall be entitled to a fifteen (15) minutes rest period in the morning and in the afternoon.
    - 6. An employee shall receive a 15 (fifteen1 minute rest period during eath half of a full eight (8) hour working day.
    - 7. Employees will be entitled to a fifteen (15) minute break in the first half of their a) shift and a fifteen (15 ) minute break in the second half of their shift without loss of pay.
    - 8. Part-time employees shall be entitled to a paid, rest period of fifteen (15) minutes for each three and three-quarters (3 and 3/4) hours of work during their shift at a time to be determined by the Employer.
    - 9. Any employee shall be entitled t o one (1) break of fifteen (1 5) minutes during both the first half and second half of any shift and where practical, during each t w o (2) hour period of overtime excepting during that period where a meal period is provided under Section 1 above.

- 10. Part-time employees shall be entitled to a paid rest period of fifteen (15) minutes for each three and three-quarters (3 3/4) hours of work during their shift.

15. **Shift Premiums** 0.20708 0.025 The clauses are providing workers with additional compensation for working under specific conditions, such as shift differentials, premium pay for weekends or consecutive shifts, and pay increases for assuming additional responsibilities or working in particular locations.

    - 1. Employees shall be paid a shift differential of 40 cents per hour for all hours worked between 7:
    - 2. A Full Time nurse will receive premium pay as outlined in the contract for all hours worked on a second consecutive and subsequent consecutive weekend, save and except where: such weekend has been worked by the nurse to satisfy specific days off requested by such nurse; or
    - 3. If the employee works three decimal seven five (3.75) hours or more he or she shall be paid the full premium for the day and his or her normal daily rate of pay.
    - 4. Where, an employee's shift schedule is changed by the Company, the affected employee will be paid at the rate of time and one half for the first Shift.
    - 5. Where incremental steps exist, the employee shall be paid an increase of at least sixty-five cents ($0.65) per hour or the next higher incremental step, whichever is greater.
    - 6. Operations Administrative Clerk Office Clerk Operations Clerk Section A.2 - Leadhand Premium Employees who are assigned by the Company to perform the duties of leadhand shall receive a premium of twenty-five dollars ($25.00) per week for the weeks they perform the duties of leadhand.
    - 7. Employees shall receive a shift premium of one dollar ($1.00) per hour for all hours worked on evening and night shifts, including overtime hours.
    - 8. Employees shall be paid an additional twenty-one cents ($0.21) per hour, effective June 1, 2003, while working at the Family Leisure Centre or the Echo Dale Regional Park.
    - 9. Hourly rated employees who work an afternoon shift shall be paid one dollar ($1.00) per hour over their regular rate of pay, if they start work prior

to twelve noon, and one dollar and twenty-five cents ($1.25) per hour if they start work after twelve noon.

- 10. Aquatic Centre employees working such shifts shall be paid appropriate shift premiums.

16. **Termination** 0.20761 0.026 The clauses are providing workers with rights to various forms of compensation upon termination of employment, including severance pay, payment for unused vacation, and other forms of separation payments.

    - 1. On termination of employment, except for termination for just cause, a permanent employee who is entitled to an immediate annuity or an immediate annual allowance under the Public Service Superannuation Act, shall be paid severance pay equal to the product obtained by multiplying hidher weekly rate of pay on termination of employment by the number of completed years of continuous employment less any period in respect of which he/she was granted severance pay.
    - 2. less any period in respect of which the employee was granted severance pay under 46.01(a)(i).
    - 3. For example, an employee who terminates after accumulating five (5) weeks' service in the year would be entitled to 5/20ths of three days.
    - 4. Eligible Employees will be entitled to receive Separation Payment at their regular rate of pay according to the attached schedule.
    - 5. An employee whose employment is terminated for any reason shall be paid with his final pay an amount of money equivalent to any vacation which may have accrued to his benefit in accordance with Article 26.02.
    - 6. The employee may be given equivalent pay in lieu of written notice.
    - 7. Upon dismissal for any reason other than for gross misconduct or for self-provoked dismissal for the purpose of collecting severance pay, an employee shall receive cash severance pay in a lump sum equal to one week's pay for every 5 months continuous service or major fraction thereof up to a maximum of 52 wepks'ala?:
    - 8. When an employee dies or otherwise ceases to the employed, he or his estate shall be paid an amount equal to the product obtained by multiplying the number of days of earned but unused vacation with pay to his credit by the daily rate of pay as calculated from the classification prescribed in his certificate of appointment on the date of the termination of his employment.

- 9. Established employees shall be paid Severance Pay in accordance with the Canada Labour Code.
- 10. Long-Term Maintenance employees who are assigned work on a major plant shutdown will be paid Short-Term Maintenance rates and overtime conditions during the period of the major shutdown.

17. **Leaves of Absence** 0.21003 0.039 The clauses provide workers with the right to take leaves of absence for union activities, public service, education, retraining, and other approved reasons, with varying conditions regarding pay and benefits.

    - 1. If an employee is elected or appointed as an official delegate to attend conventions or business meetings in connection with the affairs of the Union, he shall, on giving the Co-operative at least seven (7) calendar days' notice, be granted such leave of absence without pay as may be necessary to enable him to attend such meetings or conventions.
    - 2. Any employee who is elected to a full-time municipal, provincial or federal government office shall be granted a leave of absence in order to allow him to fulfill his elected duties.
    - 3. An employee on such leave shall receive the pay and benefits provided in this Agreement.
    - 4. 15.02 Education -Leave (a) If required by the Employer, an employee shall be entitled to leave of absence with pay and without loss of seniority and benefits to write examinations to upgrade his or her employment qualifications.
    - 5. The public service leave described in Article 15.02(2) will be either with or without pay depending on the following circumstances: (a) where the Employee receives an honorarium for the public service that is equal to or greater than the Daily Rate of Pay, public service leave is granted without pay;
    - 6. Apart from any on-the-job training offered by the Hospital, any employee subject to layoff Who may require a leave of absence to undertake retraining in accordance with the foregoing shall be granted an unpaid leave of absence which shall not exceed six (6) months.
    - 7. Employees residing within these limits shall be entitled to a mutually agreed leave of absence at no cost to the Employer of five (5) or seven (7)

days to be arranged between the employee and the Employer subject to the same qualifiers provided in the periodic or turn-around clauses.

- 8. The employee shall be notified when the leave is approved whether such allowances are to be continued in whole or in part.
- 9. An employee who is selected as a dele- Leave of absence may be granted for good reason.
- 10. An employee who is elected or selected for a full time position with the union or any body with which the union is affiliated, shall be granted leave of absence without loss of seniority for a period of one year.

18. **Overtime** 0.21094 0.026 The clauses provide workers with rights to receive enhanced compensation and specific benefits for working overtime, including higher pay rates for overtime hours, compensation for cancelled overtime, meal reimbursements, and shift change notifications.

    - 1. An employee required to work authorized overtime in excess of their regularly scheduled hours on a paid holiday (but not including hours on a subsequent regularly scheduled shift), shall receive and two (2) times her regular straight time hourly rate for such additional authorized overtime.
    - 2. If two or more overtime premiums are applicable to the same hours worked an employee shall receive only the highest overtime premium applicable to such hours, except calculation of overtime for the night shift will include the shift premium to which they are entitled.
    - 3. An employee who is required to work more than two (2) hours of overtime immediately before or following hisher regularly scheduled hours of work, without notification of the requirement to work such overtime prior to the end of hisher previous regularly scheduled shift, shall be reimbursed for the cost of one (1) meal to a maximum of ten dollars ($10.00).
    - 4. If an employeeis asked to work overtime, and agrees to, and the overtimeis cancelled within 1 1/2 hours before the end of their regular shift or part way through the overtime period, the employee will receive 2 hours at time and one-half or hours worked on overtime, whichever is greater.
    - 5. Unscheduled overtime shall be defined for the purposes of this section as being overtime for which,the Employee receives no notice thereof until the last regularly scheduled shift which the overtime follows.

- 6. An employee is entitled to overtime compensation under clause 14.02 and 14.03 for each completed fifteen (15) · minute period of overtime worked by the employee:
- 7. If it is necessary to change the employees' shift within a day, without having given them at least forty-eight (48) hours notice of the change, they shall be paid the appropriate overtime premium for all hours worked on the first shift so changed.
- 8. The lob Steward shall be offered the opportunity to share in the overtime on the site on which he/she is working.
- 9. Pursuant to Sub-clause 17.03(b) of the Master Agreement, Correctional Service Workers who are assigned to work other than in centres listed in Supplement I of the Master Agreement and who are authorized to work in excess of the normal weekly hours of work shall be compensated at one and one-half (1 1/2) times the Employee's regular salary for all overtime hours worked.
- 10. Notwithstanding the callout minimum, an employee who is at the work place prior to the commencement of the employee's regular shift and who is required to commence work prior to the commencement of the employee's regular shift, shall be paid in accordance with the overtime provisions for the actual time worked prior to the commencement of the employee's regular shift.

19. **Position Classification** 0.21151 0.036 The clauses are providing workers with rights to receive pay adjustments or increases when they take on duties in higher paying classifications, substitute in higher paying roles, transfer to new positions with higher salary scales, or are temporarily appointed to positions of a higher pay grade.

    - 1. If an employee substitutes in a higher paying classification where the salary placement in the salary range is less than the salary they would have received if substituting in a classification between their current classification and the substituting classification, then the salary placement will be equivalent to the higher rate.
    - 2. not more than ten (lo$) cents below the job rate for the occupational classification for which they were hired and will be advanced to the job rate when they produce the normal quantity and quality and their performance

is otherwise satisfactory, and in any event at the end of a period not to exceed six months from the date of hiring.

- 3. The employee will be paid at the new rate of pay that is closest but no less than his or her current rate of pay.
- 4. When an employee receives an increment in the lower rated position the employee's acting rate of pay will, if required, be adjusted accordingly.
- 5. An employee who transfers to a new position such that the minimum of the salary scale of the level of the new position is higher than that of the employee's previous position will be granted a promotional increase equal to the greater of five percent (5%) without exceeding the maximum of the applicable salary scale, or the amount necessary to bring the employee's salary to the minimum of the salary scale for the new position.
- 6. If the employee is receiving an out of line differential prior to the dates (b) specified in Section 1, the rate of pay of such employee shall be increased by the amount by which the rate for Job Class 1 has been increased, as provided in Section 1, and the following shall govern:
- 7. If the employee continues to act in the position for more than one (1) calendar year, they will no longer receive the compensation set out in (a) or (b) above, but will be placed on a step in the range of that classification.
- 8. Temporary Transfer Where an employee is assigned temporarily to perform the duties and assume the responsibilities of a higher paying position in the bargaining unit for a period in excess of one-half of a shift, he shall be paid the rate in the higher salary range immediately above his current rate from the commencement of the shift on which he was assigned the job.
- 9. Effective 2001 September 21, when an employee is temporarily appointed to carry out the duties incident to a position covered by this Agreement which is a higher pay grade than the position which the employee normally holds, the employee shall be paid for each full day the duties of the higher pay grade position are carried out at the minimum rate in the scale for such higher pay grade position except where the salary received in the employee's own position
- 10. If there is no such incremental rate the employee shall receive the next higher incremental rate.

20. **Workplace Safety** 0.21186 0.054 The clauses provide workers with rights related

to workplace safety, health protection, and compensation in case of job loss due to technological changes, as well as opportunities for union engagement and training on safety procedures.

- 1. It has been agreed that employees handling hazardous material shall be supplied by the Company with a l l necessary equipment (rubber clothing, goggles, etc.) to protect the employee's person.
- 2. All temporary and part-time employees will be hired as Material Processors.
- 3. ( e ) Employees whose services are terminated because of automation or technological change, shall receive a separation allowan~cein accordance with the scale outlined in Article 23 of the Agreement.
- 4. The newly-hired employee shall be trained and instructed in the area in which assigned work, on aU safety and health procedures related to his job and his safety responsibility to himself and fellow workers, and wiU be introduced to the Union Safety and Health Committee member in his department.
- 5. Once every second month, employees may be given the opportunity to meet and discuss Union matters in a room provided by the Employer on the Employer's premises.
- 6. Employees shall be entitled to apply for enrolment in the Medical Services Plan.
- 7. The parties acknowledge that newly hired employees will be trained and instructed on health and safety matters relating to the job and their responsibility to themselves, their fellow employees and to the Employer.
- 8. In no event shall any employee be entitled to more than ten (10)
- 9. All employees shall be covered by The Workplace Health and Safety Compensation Aci.
- 10. (b) upon request, and with the approval of the Employer, the employee may be granted: (i)

21. **Meals** 0.21262 0.015 The clauses are granting workers rights related to receiving meal allowances, paid or unpaid meal breaks, and compensation related to meal times during or adjacent to their work shifts.

- 1. An employee required to work overtime for a period in excess of two hours immediately following his or her regular hours of work shall be granted $8.00 as lunch money provided
- 2. The time at which employees are granted unpaid meal periods shall be determined by the Department Head.
- 3. 5.16 Employees who work one and one-half (1-1/2) or more hours overtime before their regular starting time or after their regular quitting time shall be paid a lunch allowance of nine dollars ($9.00) in cash.
- 4. the employee shall be entitled to a meal at the small options facility at the Employer's expense.
- 5. An employee working 3 hours or more after their regular shift shall be given a meal allowance and every 4 hours thereafter.
- 6. Each employee shall be given a paid twenty (20) minute lunch break at the completion of the regular shift hour to consume such meal.
- 7. Aday employee who, without prior notice given before the beginning of his shift, is required to work during the normal lunch hour will be provided with a lunch ticket.
- 8. Employees are also entitled to one (1) unpaid meal break of one-half (1/2) hour on each regularly scheduled day of work.
- 9. If a full course meal cannot be suljplied, then the employees will receive one-half (l/2) hour's pay at the applicable overtime rate.
- 10. The employee upon reporting after the meal break shall receive a minimum of two (2) hours pay at the rate applicable.

22. **Workplace Injuries** 0.21316 0.024 The clauses provide workers with rights to compensation and benefits in cases of injury, illness, or accidents occurring in the course of employment, including coverage for lost wages, protection against costs for damaged equipment, and provisions for receiving full or partial pay under specific conditions.

    - 1. He shall be reimbursed for all lost time and benefits if reimbursement is part of the judgment.
    - 2. An employee prevented from performing their regular work with the Employer on account of an occupational accident that is recognized by the

Worksafe BC as compensable within the meaning of the Act, shall receive from the Employer the net pay an employee would receive while at work.

- 3. An employee who becomes sick or injured while on assignment away fiom home base will receive his normal basic home base salary until compensation liability has been established.
- 4. Unless willful negligence is established, employees shall not be required to pay for lost, broken or otherwisedamaged equipment.
- 5. An employee shall be granted Workers' Compensation leave with net pay in the event that the Workers' Compensation Board determines that the employee has established a claim (time loss benefits) and they are unable to perform their duties by reason of the compensable injury which occurred while employed by the Employer.
- 6. An employee who is injured while at work and is sent home for the balance of the shift by his Supervisor shall be paid for the balance of the shift on which the injury occurred.
- 7. If such employee is requlred to deal wlth matters arlslng out Of thls Agreement, up to but not lncludlng matters arlslng from any arbltration proceedlng, durlng a shlft for whlch he was scheduled to work, the employee wlll be compensated by the Employer to the extent of hls regular pay for such tlme.
- 8. A disabled employee may earn from employment, other than employment with The City or'any of its Associated Boards, Commissions, Authorities or Agencies, up to twenty percent (20%) of his annual full pay without any reduction in the employee's full pay but any monies earned by the employee from such employment in excess thereof shall be deducted from the employee's full pay.
- 9. the employee receives benefits from the As of the slxty-first (61et) day of a disability, the employee considered eligible for disability benefits under federal or provinclal law, wlth the exception of the Employment Insurance Act, must, at the board's written request along with the appropriate forms, make Ihe request and accept any obligations arising there from.
- 10. he would have received full base pay pursuant to the relevant article, but such payments will not reduce his/her general illness entitlement for that year.

23. **Scheduling** 0.21460 0.03 The clauses provide workers with rights related to scheduling flexibility, compensation for working during non-standard hours or days off, and benefits during absences or layoffs.

    - 1. shall be applied only to absences on the employee's regularly scheduled workdays and shall not be applied to any days for which the employee is receiving Weekly Indemnity benefits.
    - 2. If a Retail Store employee voluntarily elects to work on their regular day off in the week in which a closure is observed, the employee shall be paid at straight time for hours worked on that day
    - 3. Where possible, an employee will not be required to continue at work through his regular
    - 4. an employee is entitled to one (1) working day including the day of the funeral; e) I n the case of paragraphs a), b), c) and d)
    - 5. He will not be required to report for work until the end of the eight (8) hours rest period.
    - 6. Where possible, employees will be given opportunities to select their work periods from among the established work schedules for their respective departments.
    - 7. An employee who works a scheduled tour any period of which falls between midnight Saturday and midnight Sunday shall be paid Sunday Premium Pay.
    - 8. These requirements will be considered to have been met for any week for which the Employee receives a Federal Unemployment Benefit.
    - 9. On Vancouver Island, employees working outside their local area on the night shift shall not be required to work the day shift on the following day.
    - 10. An eligible employee entitled to a partial automatic short week benefit with respect to certain hours of layoff not included in an Unemployment Insurance System week of unemployment, as provided in Section 3(a)(5) of Article 1, will receive an amount computed as provided in subsection 2(a) above, based on the number by which the hours for which the employee would regularly have been compensated exceeds his/her compensated or available hours, with respect to the days within the work week not included in such Unemployment Insurance System week of unemployment.

24. **Seniority-Based Benefits** 0.21947 0.039 The clauses provide workers with rights related to pro-rated benefits, eligibility for allowances based on employment duration, credit for service and seniority during leaves, cost-sharing for benefits, and entitlements based on continuous service, including adjustments in pay and long-term disability plans.

    - 1. Employees eligible to receive this allowance who are not actively employed for the full contract year shall receive a pro-rated amount of 1/12 of benefit amount, for each full month of active employment.
    - 2. Each eligible employee who has at least one year of continuous employment as of April 1, 2015, shall be entitled to receive, between July 1, 2016 and March 31 2017,
    - 3. For employees appointed prior to December 2, 1997, their anniversary date will be the date on which the employee received his last pay increment.
    - 4. Where an employee dies and he would have been entitled to receive a Retirement Allowance, such allowance shall be paid: (a) (b) to his beneficiary; or, to his estate if there is no such beneficiary.
    - 5. Each employee will be entitled to one-half (1/2)
    - 6. Employees will receive service and seniority credit for all leaves granted under this Article.
    - 7. Where an employee is covered for the foregoing benefits, sixty-five per cent (65%) of the costs of providing the benefits shall be borne by the Board and thirty-five per cent (35%) by the employee.
    - 8. All Full-Time Employees covered by this Agreement shall be provided with a Long Term Disability Plan, 100% of the cost to be paid by the City.
    - 9. Regular employees with six (6) or more years of continuous service as of July 1st are entitled to eighteen
    - 10. (c) Anniversary date refers to the anniversary of the employee's first date of continuous employment and such date shall be designated as the date when an employee may be entitled to move across the pay level to the next increment subject to a satisfactory performance appraisal.

25. **Sick Leave** 0.22376 0.025 The clauses provide workers with rights related to receiving pay or benefits during periods of illness, injury, or medical leave, ensuring financial stability during times they are unable to work due to health reasons.

- 1. 8.1 1 All time absent (up to thirty-one 1311 days) because of sickness or off-the-job accidents, and all time absent because of on-the-job accidents, shall be considered as time worked for the purposes of determining vacation pay to which full-time employees are entitled.
- 2. Where the processing of an employee's claim for LTD benefits has been delayed beyond the 120 day elimination period and the employee is in no way responsible for the delay, the Board will continue to pay the employee out of hidher accumulated sick leave credits until the employee receives benefits from the LTD Plan.
- 3. An Employee employed by the Thames Valley District School Board on 1998 June 30 shall be entitled to have credited to the Employee's account any sick days accumulated with a predecessor Board on or before 1998 June 30.
- 4. The employee shall be entitled on a biweekly basis, to utilize accrued sick credits in units of half days in order to supplement his or her rate of pay in the alternate position; but the combination of sick pay supplement and rate of pay in the alternate position shall not exceed the regular rate of pay in his or her former position.
- 5. Part-time employees shall be paid 100% of their regular salary (as per their full-time equivalent status) for up to eleven ( 11) days of absence due to illness.
- 6. An employee is entitled to sick leave with pay when he/she is unable to perform his /her duties because of illness or injury, provided that: (a)
- 7. Where, in respect of any period of compensatory leave, an employee is granted sick leave with pay on production of a medical certificate,
- 8. Employees who have been properly appointed to permanent positions in accordance with this Agreement shall be entitled to payment for absence from work due to sickness to the extent they have established sick leave credits under 11.1, hereof.
- 9. An employee shall earn sick leave credits at the rate of 8.
- 10. Where, in respect of any period of vacation leave, an employee is granted sick leave with pay, on production of a medical certificate, the sick leave granted shall be substituted for vacation leave.

26. **Holiday Pay** 0.23358 0.037 The clauses provide workers with rights to paid holidays, additional compensation for working on holidays, and adjustments to vacation schedules or pay in the event a holiday falls during their vacation period.

    - 1. All qualifying employees who have completed their probationary period will be entitled to the following paid holidays:
    - 2. Starting January 1" 2003, an employee required to work on the following public holidays and for which he is qualified for in accordance with clause 11.2 : New Year's Day Good Friday Victoria Day Christmas Day Canada Day Labour Day Thanksgiving Day Boxing Day shall receive one and one-half (1 %) times
    - 3. In addition to the provision contained in Article 10.2(a), an employee who works on a Statutory Holiday; shall be entitled to a day off with pay or straight time
    - 4. An employee who qualifies for such Statutory Holiday on the day it occurs, and works on that day, will be paid for the Statutory Holiday at straight-time rates.
    - 5. In addition, if an employee is eligible to receive pay under this clause for Christmas Day, he shall also be paid for Boxing Day and New Year‘s Day.
    - 6. If such service occurs within a payroll period which includes a holiday, he shall receive holiday pay.
    - 7. Where an employee receives three (3) or more weeks' vacation with pay and a statutory holiday occurs during the employee's paid vacation, an extra day's pay may be given in lieu of an extra day's vacation with pay if, in the opinion of the Employer, an extra day's vacation with pay will interfere with vacation schedules or hamper operations.
    - 8. Ol All eligible employees shall be entitled to the benefits provided in this Article 18 in respect to the following Statutory Holidays: New Year's Day Good Friday Easter Monday Victoria Day Canada Day British Columbia Day Labour Day Thanksgiving Day -cey Christmas Day Boxing Day and any additional Statutory Holidays proclaimed or declared by the Government of Canada, the Province of British Columbia or the District of Saanich.
    - 9. Friday Victoria Day Dominion Day Civic Holiday Each employee shall be entitled to one additional holiday with pay each year, such holiday to be scheduled by mutual agreement within a period of thirty (30) days before or

after the employee's first and subsequent anniversary date of employment with the Hospital.

- 10. If a Holiday under Article 21:01, or a Presidential Day, falls during an employee's vacation period, the employee will not be required to use any vacation credit to cover the holiday.

27. **Holiday Work Pay** 0.23925 0.026 The clauses provide workers with enhanced compensation for working on holidays, weekends, or their scheduled days off, including provisions for part-time and temporary employees.

    - 1. 10.03 Part-time employees shall receive payment for holidays proportionate to their actual time worked, calculated on the basis of the four (4) calendar weeks preceding the holiday.
    - 2. An employee who performs work on a Sunday or second scheduled day off shall be paid at the rate of two (2) times their regular rate of pay, exclusive of premiums.
    - 3. For the purpose of pay for work performed on General Holidays, hourly employees including spare board employees will be paid at one and one-half times the hourly rate.
    - 4. ) - Double time and one-half for time worked on any days on which any of the designated holidays is observed unless the holiday falls on one of the employee's regularly scheduled days off in which event the employee, in addition to holiday pay under Section (84), will be paid double time for time worked.
    - 5. Employees who work on a continuous operations schedulewill receive 11.5straight time hours of pay for holidays, jury duty, and bereavement leave, provided that they meet thespecific criteriaforeachofthese provisions already contained within the Agreement.
    - 6. In addition to (1) above, Temporary employees shall receive holiday pay, at their basic rate calculated on a pro-rata basis, based on the average number of hours worked per day in the previous thirty (30) calendar days, whether work is performed on the holiday or not;
    - 7. If an employee works on any of the holidays listed in Article 32.06 they shall be paid at the rate of two and one-half (2½) times their regular straight time hourly rate for all hours worked on such holiday.

- 8. If an employee works on two (2) consecutive days off, the employee will be paid at the rate of double time (2) for all hours worked on the second consecutive day.
- 9. An employee who does not qualify for holiday pay under paragraph 21.02 for a paid holiday must be paid at least time and one half the employee's regular rate for each hour worked on a recognized holiday as set out in Article 21.01.
- 10. Each full-time employee shall be paid eight (8) hours pay for each such Holiday, following the first thirty (30) days of employment, which is calculated from the first day on payroll.

28. **Vacations** 0.24054 0.045 The clauses are granting workers rights related to vacation entitlements, including the timing, duration, and pay during their vacation periods.

    - 1. As far as possible, Regular Full-time Employees shall be granted their choice of vacation periods; however, the final allotment of vacation remains within the responsibility and authority of the Employer.
    - 2. Regular full time employees with less than one (1) year of employment shall receive vacation pay in accordance with the regulations established under the Canada Labour Standards Code as of July 1965 or any subsequent amendment thereto.
    - 3. Where military leave is approved an employee shall not be required to forfeit any of his vacation entitlements.
    - 4. Where military leave is approved an Employee shall not be required to forfeit any of his/her vacation entitlements.
    - 5. This amount multiplied by the number of days to which an employee is entitled will represent the total value of an employee's vacation pay.
    - 6. An employee is entitled to vacation leave to the extent of the employee's earned credits.
    - 7. All other employees who leave the service shall be entitled to vacation in accordance with the appropriate clauses in this Section.
    - 8. (d) Employees who are in their seventeenth (17th) anniversary year shall be granted five (5) weeks vacation with pay.

- 9. The basic intent is to ensure that an employee receives his earned vacation where, because of a bonafide medical reason this may not have been possible.
- 10. An operating employee covered by paragraph 22.3 hereof will be entitled to vacation on the basis outlined therein if on his or her fourth or subsequent service anniversary date

29. **Seniority-Based Vacation** 0.24117 0.038 The clauses are granting workers vacation benefits and time off based on their length of service and seniority.

    - 1. After completing twenty-two (22) years continuous service with the Corporation, each employee shall be entitled to six (6) weeks of vacation, with vacation pay computed at twelve (12) percent of gross annual earnings.
    - 2. Where an employee leaves the Regular Service prior to the completion of six (6) months service as computed in accordance with Article 72.7, he or she is entitled to vacation pay at the rate of four percent (4%) of total earnings paid during the period of his or her employment.
    - 3. An employee who has completed twenty-five (25) years of service as of December 31 shall receive 217.5 work hours of vacation.
    - 4. A m@ar employee who has worked a minimum of fifteen hundred (1500) hours in a calendar year shall be entitled to maximum vacation pay benefits as spelled out under this article.
    - 5. After fifteen years' continuous service ~ four weeks with |0°/a of gross wages, As l'ar as possible, employees shall be granted their choice of vacation periods according to their seniority.
    - 6. Any employee completing nineteen (19) years of service shall receive six ( 6 ) weeks' vacation with pay of twelve percent (12%) of gross earnings.
    - 7. After one year of employment, an employee shall be granted two (2) weeks of vacation and the pay shall be based upon four and one-half percent (4½%) of his gross earnings during the applicable vacation year or eighty (80) hours at his regular pay, whichever is greater.
    - 8. (b) Employees who have completed twenty (20) years of employment by November 30th in any year shall receive five ( 5 ) weeks vacation with pay; however, if an employee has not completed his twentieth (20th) year of employment when taking his vacation, the pay for the fifth (5th) week shall be delayed until his twentieth (20th) anniversary date of employment.

- 9. During the fifth (5th) and sixth (6th) full vacation years of continuous service: the Employee earns three (3) weeks vacation fifteen (15) days.
- 10. Employees who have accumulated one hundred and twenty (120) days seniority will be granted two (2) floating holidays per year.

30. **Payment Rules** (0.24143, 0.051). The clauses are giving workers rights related to the timing, frequency, and accuracy of their wage payments.
    - 1. All personnel employed before the 31st of December 1979 will be paid at the maximum rate indicated in this Schedule for their classification subject to the provisions of note number two (2).
    - 2. an employee receives h i s pay cheque, t h e Company s h a l
    - 3. 18.03 Part-time employees shall be paid six (6))
    - 4. If, as and when an error occurs in an employee's pay cheque and the amount is equivalent to one (I) day's pay or more, he shall be entitled, on request, to a cheque being issued in favour of such employee as soon as possible and not later than the flrst (1st) Friday following the pay day on which the error was made for such shortage.
    - 5. All employees covered by this Agreement shall be paid on a definite bi-weekly basis, and dates will not be altered without consent of the Union.
    - 6. All regular Employees shall be paid twice each working month, on the fifteenth (15th) and last day of the month except where the fifteenth (15th) or last day of the month falls on a nonworking day, in which case pay day shall be the last applicable working day.
    - 7. the rate of wages to which the employee is entitled; (iii)
    - 8. 5.20.1 Accumulati~on of 'Time The employees will be entitled to bank a maximum of thirty (301 m i n u
    - 9. 30)calendar days In any dispute over a pay cheque or pay statement or any matter thereon the time limit shall be calculated from the date the employee received the pay cheque or pay statement.
    - 10. Employees will be paid every other Thursday.

Here are the two miscellaneous teacher topics, which were dropped from the analysis:

1. **Teacher Compensation** (0.15594, 0.066). The clauses are providing rights related to recognition of experience, compensation for additional duties, payment methods, seniority benefits, and allocated time for non-teaching activities.

- 1. Exnerience Credit A Teacher on part-time assignment shall receive credit for teaching experience on the following basis: a) less than .5 assignment or less than one-half school year: one-half year credit.
- 2. Sample Calculations Teacher is hired and he/she has 3.2 years experience.
- 3. When a teacher provides noon supervision the teacher shall earn one day ofleave, without loss of salary; for every fifteen (15) hours of noon supervision to a maximum of three (3) days.
- 4. If the position is not filled after the application of 32.06.1, any Teacher may be hired to fill the position.
- 5. b) Teachers will receive payment by automatic deposit into the financial institution they set up with the Division, at the start of such payment.
- 6. 13:02 Previous Experience a. Teachers shall receive full placement for past experience as recognized by the Department of Education to maximum.
- 7. The teacher shall receive l i
- 8. A teacher having seniority as determined by Article 13.01 who might be proposed for transfer because of a reduction of teaching time in the teacher's subject, will be given the opMrtunity over an incumbent with less seniority to teach in a subject or subjects that do not require a reduction of teaching time, provided the teacher with seniority has had teaching experience in such a subject or subjects.
- 9. Teachers leaving the employment of the Board will be paid in full on or before the second Friday in July.
- 10. Teachers in Grade 7 81 8 shall be granted a minimum of 240 minutes of release time from classroom instruction per 6 day cycle, or equivalent, for the purpose of preparation, planning and evaluation.

2. **Teacher Leave** (0.17779, 0.029). The clauses provide various types of leave (such as sick leave, maternity leave, compassionate leave, and leave for professional development or personal reasons) and ensure proportional benefits for part-time and occasional teachers, as well as specific rights related to the school calendar and adoption.

    - 1. it occurs on a regular school day, a teacher shall be granted one (1) day leave with pay to attend to needs directly related to the adoption of a child.

- 2. Teachers employed on a fixed-term contract or on a part-time basis under contract shall be entitled to sick leave on a pro-rata basis.
- 3. A Teacher may be granted up to the lesser of two (2) meetings or two (2) days leave without loss of pay or Sick Leave or CumulativeSick Leave Credits for the purpose of participating on a committee of a professional association, exclusive of committees concerned with salary negotiations.
- 4. Part-time teachers shall be paid 100lll of their regular salary (as per their ful~tlme equivalent status) for up to eleven (11) days of absence due to nlness.
- 5. Effective September 1, 2014, a teacher is entitled to maternity leave for a period of fifteen (15) calendar weeks.
- 6. Any teacher may be granted, upon request and approval of the Board, a leave of absence without pay for the purpose of: (a) Improvement of qualifications, (b) travel, (c)
- 7. Each teacher in the Division shall be granted compassionate leave without loss of salary, to a maximum of one (1) day in the case of death of the teacher's sister-in-law, brother-in-law or grandparent-in-law.
- 8. The Occasional Teacher has not taught one (1) day in the previous school year unless such Occasional Teacher has been granted an extended leave in accordance with the provisions of Article 10.
- 9. The teacher shall be entitled to the same designated holidays, Christmas break, Easter or mid-winter break, and summer break, as observed by school boards of the province or territory in which he or she works.
- 10. If hired after the beginning of the fiscal year, a full--time teacher is entitled to the full allocation of sick leave credits as per sections 2 and B. 6.