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ABSTRACT

Voluntary Job Separations and Traditional versus Flexible Workplace Saving Plans: Evidence from Canada*

This paper provides new insights into the longstanding empirical issue of whether the type of workplace saving plan (a "traditional" registered pension plan or RPP, a "flexible" group registered retirement savings plan or group RRSP, and a "hybrid" arrangement of the two) affects employee voluntary job separations. We use a Canadian employer–employee matched dataset that provides information on both job transitions and the types of workplace saving plans being held by employees and offered by employers. This dataset allows us to control for employee self-selection and firm fixed effects. The standard prediction from implicit contract theory suggests that traditional pensions reduce quit rates but flexible plans have little effect due to their portability. The results are partially consistent with this prediction. Implications of these findings for current public policy are discussed.

JEL Classification: J26, J32, J63

Keywords: voluntary job separation, traditional pension, flexible retirement saving plan, implicit contract theory, self-selection, fixed effects

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1 Introduction

Employee turnover, particularly voluntary job separations initiated by employees, can be costly to employers due to such factors as hiring costs, training costs, and possible disruptions to normal business operations. The productivity-enhancing effect of non-wage compensation at reducing quit rates is well-established in labour mobility research. Several factors, including vesting standards and the level of compensation, have been found to deter workers from quitting and to raise job tenure (Schiller and Weiss 1979; Mitchell 1982; McCormick 1984; Ippolito 1991; Even and MacPherson 1996; Luchak, Fang and Gunderson 2004; Messacar 2018c).

The extent to which the type of workplace saving plan offered by employers—for example, a traditional defined benefit (DB) pension, a defined contribution (DC) retirement saving plan, or a mixed arrangement of the two—affects worker mobility is unclear. There are several competing hypotheses for how the type of plan affects such behaviour. First, DB plans are predicted to reward long tenure at a firm as an implicit contract, by imposing a penalty on those who quit early by back-loading program benefits. Benefit entitlements typically accrue disproportionately in later years of employment in DB plans compared with DC plans. Second, DB plans may attract "stayers" and repel "quitters"—a self-selection (or sorting) effect. Carmichael (1989) offers a comprehensive analysis of various implicit contract and life cycle incentive models and shows how they relate to employer-sponsored pension plans and other occupational benefits provisions. Allen et al. (1993) suggest that a combination of selection and marginal quit costs helps explain employee quitting behaviour in firms with DB plans.

Third, in contrast with the first two hypotheses, DB and DC plans could have similar effects on voluntary job separations if they both enhance productivity within the firm by attracting workers who are more likely to stay in their jobs, or a higher quality workforce (Ippolito 2002). In this case, the self-selection effect works in the opposite direction. Beyond these standard predictions, DB and DC plans could have similar effects as a form of reciprocal gift exchange (e.g., Balkin and Richebé [2007]) if the availability of such a plan creates a positive sentiment, appreciation, or goodwill towards the employer resulting in lower turnover. Workers may also exhibit similar responses to different types of plans because they do not fully understand specific details of their coverage due to a lack of knowledge and information or financial illiteracy (Mitchell 1988; Luchak and Gunderson 2000; Sethi-Iyengar, Huberman and Jiang 2004; Gustman, Steinmeier and Tabatabai 2009).

DC plans are increasingly prevalent in Canada and other countries. For example, Panel A of Chart 1 shows that the percent of the Canadian workforce covered by a DC plan has nearly tripled over the past several decades, from 2.4% in 1977 to 6.8% in 2015. Alongside this trend, the percent of the workforce covered by a DB plan has fallen from 43.1% to 25.4% over the same time period, which indicates that DC plans are now relatively more important in the provision of non-wage benefits than they were in the past. Despite these trends, the relative importance of DB plans in Canada remains much higher than in other countries. For example, Panel B of Chart 1 shows the percent of workers in DB versus DC plans conditional on having any pension coverage in their jobs for Canada and the United States. It shows that, by 2015, slightly more than 70% of pension members were in DC plans in the United States compared with just less than 30% in Canada. The distribution of plan coverage in Canada from 2015 resembles that of the United States from 1977. Empirical evidence for whether the type of saving plan affects job separations or tenure has yielded mixed results and is typically based on evidence from the United States on the rapid expansion of 401(k) plans. For example, Munnell, Haverstick and Sanzenbacher (2006) show that job tenure is larger among workers covered by DB plans than DC plans, based on an analysis of the Survey of Income and Program Participation (SIPP). Nyce (2007) finds, using data from Watson Wyatt's Retirement Attitude Survey, that workers in DB plans express a strong commitment to their employer whereas DC plans have no such effect. Lewis and Stoycheva (2016) analyze a reform from the 1980s that moved new federal employees from a DB to hybrid pension, and found—using a 1% sample of federal personnel records—that exit rates for new employees in their late 30s to early 50s were one-third higher under the new system compared with the old system. Lluberas (2008) analyzes several waves of the English Longitudinal Study of Adults (ELSA) from the United Kingdom and finds that workers in DB plans are less likely to move jobs than those in DC plans.

[Chart 1]

In a recent study, Goda, Jones and Manchester (2017) estimate the effects of a transition from a DB to DC plan among unionized non-faculty members from a large research university, in a quasi-experimental research design. To separately estimate the direct effects of the type of plan from self-selection effects, the authors exploit default assignment rules as a source of exogenous variation in plan enrollment. Their results suggest that self-selection plays a role in explaining the difference in mobility between workers covered by DB versus DC plans, as those with high mobility tendencies will sort into DC coverage. While this case-study approach to the research

design is particularly useful for credible identification, it fails to control for important differences that exist across different types of firms, which the present study will find to be relevant in the determination of how plan type affects quits.

In contrast with those studies, Gustman (1993) and Gustman and Steinmeier (1995) show that DB and DC plans reduce separations by similar amounts based on an analysis of the SIPP and several other related datasets. The authors conclude that it is "a mystery as to why [DC] plans, which are not back-loaded, should be associated with lower turnover" (p. 7). Andrietti and Hildebrand (2001) estimate the effects of portability policy changes from the Tax Reform Act of 1986 using the SIPP and find that such reforms only had minor effects on mobility. Decressin et al. (2009) show, using various linked survey and administrative datasets from the United States spanning the late 1990s and early 2000s, that mobility is lower for workers covered by both DB an DC plans compared with those not covered by a plan. Moreover, the authors find that human capital characteristics of workers that are consistently valued across employers play a larger role in explaining the low turnover associated with DC plans compared with the low turnover associated with DB plans. Their results suggest that behavioural factors underpinning why DB versus DC plans reduce mobility are different, possibly due to self-selection.

The aim of this study is to provide new insights into how the type of plan affects voluntary job separations, and to revivify this line of empirical inquiry within the Canadian context in light of recent policy developments. Specifically, this analysis considers how the traditional registered pension plans (RPPs)—which commonly comprise standard vesting rules, lock-in provisions, and back-loaded benefits—versus flexible group registered retirement savings plans (group RRSPs) designed for a mobile workforce—in which benefits transfer easily upon job separation—as well as any "hybrid" arrangement of the two affect quit rates. The analysis also uses the plethora of worker-specific and firm-level characteristics observed in the data to investigate heterogeneity across different types of workers and firms. To control directly for a common confounder that besets the related literature—namely, that workers with different propensities to stay in their jobs may self-select into firms based on the type of saving plan offered by employers, this analysis accounts for firm-level saving plan provisions and includes firm-specific fixed effects in the estimating equation to absorb from the predicted effects of interest any unobserved firm characteristics (e.g., the generosity of saving plan provisions; the mix of the types of plans offered) that may bias the results.

To this end, the analysis uses the Workplace and Employee Survey (WES), 1999 to 2004, an employer–employee matched panel dataset designed to explore a range of issues related to both supply and demand sides of the labour market in Canada. The WES follows workers who separate from their firms and asks them questions about the reasons for job separation—including whether it was voluntary (e.g., quit) or involuntary (e.g., layoff, discharge)—as well as details related to the types of saving plans they had in their jobs, which makes the WES uniquely appropriate to address this research question in Canada. Importantly, the analysis is augmented to control for the possibility that workers may not understand whether they have a workplace saving plan or its true type, and that such misunderstandings could affect mobility decisions. This is achieved by cross-referencing workers' stated coverage with their employers' responses about the availability of each type of plan.

The results of this analysis indicate, first, that having no pension plan is found to raise the quit rate by around 1.5 percentage points—approximately a 20% increase out of a baseline quit rate of around 7 percent relative to belonging to a traditional pension plan. Second, workers covered by hybrid arrangements exhibit very comparable responses to those with traditional pensions, which means the vesting, lock-in, and back-loaded features of hybrid arrangements are sufficient to induce "staying" behaviour. This finding is especially important given that hybrid arrangements are more common in practice than flexible plans. This suggests that employers who offer plans designed to include elements of traditional pension coverage with additional flexibility will still induce staying behaviour but may do so at lower cost to the extent that flexible plans are cheaper to operate. This is likely a desirable strategy for employers looking to attract talented workers by offering generous non-wage benefit packages while minimizing the costs of doing so, although it also suggests that government programs designed to increase flexibility will be unsuccessful if they also include any basic components of traditional pension coverage. Lastly, flexible retirement saving plans are not found to facilitate voluntary job separations any more than traditional pensions at conventional levels of statistical significance, although the point estimates for this effect suggest that those with flexible plans are indeed more mobile. For specific subgroups of workers—i.e., those with low educational attainment—flexible plan coverage does facilitate quits relative to traditional pension coverage, which may suggest that some employees further sort into different types of saving plans after joining the firm (i.e., a post-hire self-selection effect not absorbed by controlling for firm-level provisions or firm fixed effects) or perhaps that workers

with high education are more likely to stay in their jobs as a form of reciprocal gift exchange with their employers.

This study is among the first to provide a comprehensive and dynamic analysis of the effects of traditional workplace pension plans (RPPs) and alternative retirement saving plans (group RRSPs), and a combination of both plans, on worker mobility in the Canadian context. A notable exception is Fang (2005), who considers how traditional and flexible workplace saving plans affect quit transitions based on an analysis of the 1999–2000 waves of the WES. This study extends that early work by expanding the analysis to all years of available data (i.e., 1999–2006) and by documenting heterogeneity in workers' responses across various personal and firm-level characteristics of relevance, including by age group, sex, marital status, educational attainment and firm size. In addition, this study differs in that it tests the effects of flexible and hybrid plans against traditional pensions as the reference category, whereas Fang (2005) tests for effects of all three plans using no pension coverage as the benchmark. More broadly, there is a large literature on financial well-being, self-employment, savings, mobility, and transition pathways of workers who lose their jobs—i.e., involuntary job separations—in Canada and internationally to which this study loosely relates (Chan and Stevens 1999, 2001; Greiff 2009; Rege, Telle and Votruba 2009; Chetty et al. 2014; Flaaen, Shapiro and Sorkin 2017; Huttunen, Møen and Salvanes 2018). For example, studies by Morissette, Zhang and Frenette (2007), Hijzen, Upward and Wright (2010) and Bonikowska and Morissette (2012) estimate permanent earnings losses of workers with stable labour market attachment who lose their jobs. Ci, Frenette, and Morissette (2016) assess the extent to which job loss increases transitions to postsecondary education for Canadian adults. Finnie and Gray (2018) show that re-employment, early retirement, and Employment Insurance (EI) benefit receipt are all common pathways used by older laid-off workers in Canada and that the probability of re-employment decreases with age. Their results are particularly relevant for this study insofar as they show how pension coverage influences voluntary job separations not only for the purpose of transitioning to a new job but also for retirement, partial retirement or bridge employment. An evolving literature shows that gradual pathways to full retirement are increasingly common (Schellenberg, Turcotte and Ram 2005; Wang et al. 2008; Giandria, Cahill and Quinn 2009; Bonikowska and Schellenberg 2014). Understanding how job characteristics, such as pension coverage, affect work transitions is very complementary to the study of how workers fare upon job separation.

Further analysis of how pension portability affects mobility is relevant from a public policy perspective given the ongoing changes to retirement income systems in Canada and other countries. For example, the Quebec provincial government recently introduced voluntary retirement savings plans (VRSPs), which are DC plans that lock in contributions but permit assets to transfer easily upon job separation. Retraite Québec (n.d.) notes that VRSPs are adaptable to today's workforce, and that the "time when workers spent their entire career with one employer is long gone. No matter how many employers you have over the course of your working life, your VRSPs could follow you." Employers who do not offer another form of saving plan and who have at least the required number of employees were expected to begin offering a VRSP by December, 2017. A unique feature of this saving vehicle is that employees are automatically enrolled into VRSPs at default (pre-determined) contribution rates, but they can modify or opt out of the arrangement at any time. If similar programs are adopted in other provinces or nationally, the relative importance of DC plans in Canada may be expected to increase over time to more closely resemble that of the United States and other countries. A similar program is underway in the state of California, in which employers must offer access to individual retirement accounts (IRAs) through automatic payroll deductions managed by a private-sector financial firm. The program aims to increase the accessibility of voluntary, low-risk, low-cost, portable workplace saving options to many American workers by 2019 (State of California 2016).

These two programs are examples of regional governments implementing evidence-based policies to boost retirement saving outcomes. They are based on developments in behavioural economics on the impacts of automatic enrollment, default options, simplification, and other "nudges" (Madrian and Shea 2001; Choi et al. 2004; Thaler and Benartzi 2004; Thaler and Sunstein 2008; Iwry and John 2009; Chetty et al. 2014; Messacar 2018a). However, the extent to which workplace saving plans create a labour market rigidity by reducing worker mobility irrespective of the plan type—even if such an effect is not well-explained by the standard economic model—warrants investigation. The results of this study suggest that expanding workplace saving plan options through automatic enrollment might also directly or indirectly affect employee mobility and turnover to the extent that such plans continue to offer some traditional, back-loaded incentives irrespective of other portability features.

The paper proceeds as follows. Section 2 provides an overview of Canada's retirement income system. Section 3 describes the dataset used and empirical method. Section 4 presents the empirical results. Lastly, Section 5 concludes.

2 Institutional Details

Over this period of study, there were two main federally-regulated saving vehicles available in Canada that offered tax advantage. The first vehicle is the registered pension plan (RPP), which is a traditional pension in the sense that it typically involves an arrangement between an employer and employee to provide benefits during retirement in the form of periodic payments. These plans may be either DB, DC, or mixed arrangements, although most workers belong to DB plans (Morissette and Drolet 2014). While employers have moved toward DC plans over the past few decades, especially in the private sector, this transition in Canada is not as pronounced as in such countries as the United Kingdom or the United States (Munnell 2006; Baldwin 2008; Treasury Inspector General for Tax Administration 2010; KPMG 2011; Munnell, Aubry and Crawford 2015). Employers are required to contribute at least 1% of the worker's earnings into the RPP annually, which is non-taxable. Employees also make contributions in most cases on a tax-deductible basis. In addition, the capital gains on employer and employee contributions are tax-deferred. Benefit schedules may be back-loaded in job tenure and contributions by both employers and employees lock in notwithstanding a short vesting period of (usually) two or five years of continuous service or plan membership.

Second, the registered retirement savings plan (RRSP) is a DC account that individuals set up and maintain through financial institutions, similar to IRAs in the United States. Contributions to RRSPs are also tax-deductible. In addition, a group saving option for RRSPs exist if sponsored by the employer, to which contributions are made directly by payroll deductions. A unique feature of RRSPs, compared with similar plans in other countries, is that there are no explicit penalties on withdrawing from RRSPs before retirement. Mawani and Paquette (2011) show that, while these plans are labelled for retirement, account holders often use them for income smoothing and precautionary saving purposes. The only deterrent to withdrawing is that the income is taxable, hence the benefits from contributing and withdrawing depend on the marginal tax rates of the account holder at the time of making such decisions (Veall 2001).[1] Overall, RRSP contributions do not lock in, benefits are not typically back-loaded, and funds are easily transferrable upon job separation. Herein, the flexible plan analyzed is a variant of this plan called a group RRSP. This

[1] Financial institutions are required to withhold a portion of payment and remit this income to the Canada Revenue Agency as a partial payment of the taxes owed (a refund is issued if the tax withholding rate exceeds the final marginal tax rate, as with tax withholding of labour income payments by employers). Messacar (2018b) shows that this tax withholding serves as a de facto commitment device for some savers.

is a retirement saving vehicle designed to encourage individuals to save at work by being administered by employers on a group basis. Both employees and employers may contribute. All of the contributions are tax-deductible and investment earnings are tax-sheltered. As with individual RRSPs, workers may decide how their money is invested and employers may provide a range of investment options to choose from, although there may be fewer investment choices than with individual RRSPs. It follows that a "hybrid" arrangement is one in which workers are covered by both traditional and flexible plans in their jobs.

It is important to note that there are also several other forms of tax-preferred saving vehicles in Canada. For example, employees with workplace saving may have deferred profit-sharing plans (DPSPs), although the fraction of workers with DPSPs relative to RPPs has historically been small (Frenken 1995). The tax-free savings account (TFSA) was introduced in 2009 to provide investors with a tax-prepaid form of saving, similar to Roth IRAs. The TFSA is typically a saving plan that individuals set up on their own through their financial institutions. Taken together, RPPs and RRSPs are an important pillar of the retirement income system in Canada for middle-income and high-income Canadians to avoid significant drops in living standards at retirement (Ostrovsky and Schellenberg 2009). These plans are summarized in Table 1.

[Table 1]

According to Morissette and Zhang (2004), approximately 40% of employees (including those in the public sector) had an RPP in their jobs, based on an analysis of data from the Pension Plans in Canada Survey. This percentage decreased slightly from 45% in 1991. The majority of RPP members are in DB plans: 89.8% in 1991 compared with 84.1% in 2000. Morissette and Zhang also note that anecdotal evidence suggests group RRSPs were becoming more popular around that time, although information on employee participation is difficult to obtain from survey data because workers do not seem to have a clear understanding of what constitutes this type of plan. For example, in 2001, 2.1 million private-sector employees reported having a group RRSP in their job, but 0.5 million were employed in firms that reported they did not offer such a plan. Nevertheless, the remaining 1.6 million employees constitute approximately 14% of the private-sector workforce, suggesting that group RRSPs are a meaningful form of workplace saving for at least a sizeable minority of workers. Confusion on the part of employees about what constitutes an RPP, group RRSP, or other saving option motivates controlling for the type of plan using the employers' reported availability.

3 Data and Empirical Method

This section begins by describing the dataset used in this study and the sample selection. Then, the primary estimating equation is formally presented.

3.1 Data

This study is based on an analysis of the Workplace and Employee Survey (WES) of Statistics Canada, for the years spanning 1999 to 2004. The sample is restricted to individuals aged 25 to 64 to ensure that individuals who may be enrolled in secondary or postsecondary education and who are not the focus of analysis are excluded. The upper age threshold helps to condition on pre-retirement job transitions, given that 65 years old is the age at which individuals may begin to collect Old Age Security. As previously mentioned, gradual transitions into full retirement through partial retirement or bridge employment are becoming increasingly common and may be affected by workplace pension plan coverage. The WES matches both the supply (employee) and demand (employer) sides of the labour market in a comprehensive survey, where establishments are sampled and then workers are selected to be interviewed from within those firms. For example, in 1999, there were 23,540 employees surveyed within 5,733 establishments. The WES contains demographic and labour market information on individual workers, as well as details on workplace characteristics, business strategies, and innovative human resource practices for firms. Pension and other benefit questions were asked at both the employer and employee levels, making it possible to cross-examine the reliability of pension and group RRSP coverage responses. Questions posed to workers who separated from their employers make it possible to assess the reasons for job separation, while information provided by employers on the number of job separations in each year and the reasons for separations make it possible to control for mass quits, mass layoffs, and other group behaviours. Unfortunately, more recent waves of the WES are not available because this survey was discontinued; the last year of data available that facilitates this analysis is 2004. The WES is nevertheless the dataset best suited to study the effect of plan type on mobility in Canada; no other survey or administrative file currently exists that could facilitate this type of analysis. Moreover, Canada's retirement income system has been very stable in recent years, so there is no reason to believe the lessons learned from this analysis do not reliably extend to the current time period.

To provide some further insights into this issue, Table 2 compares various demographic, labour market, job and economic characteristics from 1999–2003 and 2013–2017 to show that

socio-economic conditions are comparable between then and now. Although Canada's population has increased over this time period, the share of the population who are of working age (15 to 64) is approximately unchanged. The labour market participation rate and employment rate both increased from 1999 to 2017 by only 0.3 and 1.0 percentage points, respectively, and the unemployment rate decreased over this time period by only approximately 1.3 percentage points. The composition of the workforce in terms of its distribution of full-time versus part-time workers and multiple job holders both remained quite constant over time. Further, Table 2 indicates that average job tenure increased from 96.2 months in 1999 to 103.4 months in 2017, which may suggest that voluntary job separations systematically changed over time in some way. However, the median age of the workforce increased from 36.4 years to 40.6 years over the same time period, hence the job tenure-to-age ratio has remained quite constant. The unionization and occupational pension coverage rates both decreased only slightly and average growth rates of gross domestic product are comparable across all years, on average. The only notable increase is the hourly wage, from $22.6 in 2001 to $25.8 in 2017 (in 2017 constant dollars), although the usual hours worked each week decreased slightly over this time period, as well. Importantly, in the 1990s there was also an institutional reform to the EI program that made those who quit their jobs without just cause, those who were fired for misconduct or those who refused to accept suitable employment ineligible for such benefits, which affects the incentive of workers to separate from their jobs and may do so in a way that relates to the type of workplace saving plan offered. However, this reform occurred in 1993 (CEIC 2017), well before the start of the sample period, such that any sorting into plans by workers is not likely to be affected by this reform.

[Table 2 here]

A limitation of the WES is that employees are only followed for two years, due to the difficulty of integrating new employers into the location sample as workers change companies. As a result, new samples of employees were drawn on every second occasion—in 1999, 2001, and 2003 (Statistics Canada 2009). On this basis, the sample is restricted to workers and employers who are observed over consecutive years from 1999 to 2000, from 2001 to 2002, and from 2003 to 2004, and the effects of the plan type on voluntary job separations is assessed over these time intervals. The restriction that employees must be observed over a two-year interval ensures that the results are not confounded by attrition, if those sampled in the first year are unobserved in the second for reasons correlated with coverage or plan type. This is similar to a fixed effect estimator, which predicts mobility by first-differencing within individuals over time.

The data provide responses to several questions about mobility in the 2000, 2002, and 2004 survey waves: (1) whether the worker stayed with the firm or separated; (2) among those who separated, whether it occurred voluntarily or because the job came to an end (or both); and (3) among those who separated, reasons why this occurred. A voluntary job separation is defined as a separation that occurred for reasons other than the worker being laid off or the job coming to an end. Moreover, workers who separated from their employer and exited the labour force are not included in voluntary job separations, since the focus of this analysis is how the type of workplace saving plan affects worker mobility rather than incentives to work.

Table 3 provides the descriptive statistics of employees surveyed in the WES who are included in this analysis. Individuals are approximately 41.6 years old on average, of whom 74.1% are married or in common-law relationships, 52.7% are female and 47.3% are male, 70.9% and 21.4% speak English and French as the language at home, respectively, 81.6% were born in Canada, and 53.9% have dependent kids. The majority of workers, 66.1%, report having at least some postsecondary education. In their jobs, approximately 30.5% of the employees sampled belong to a collective bargaining unit, and 38.3% report having some supervisory responsibilities. The hourly wage (in nominal dollars) is approximately $21.80. In addition, the table provides a range of characteristics about firms; for example, 88.8% of employees are employed by firms who report less than 10% foreign ownership.

[Table 3]

3.2 Empirical Method

The unit of observation in this study is the individual, and firm-level information from matched employer responses is also used. For individual i belonging to firm j at time t, define $Q_{ij,t+1}$ as an indicator of whether a quit occurred between the survey window from t to $t+1$, which takes the value of "1" if this occurred and "0" otherwise. Given the survey structure of the WES, it follows that $t \in \{1999, 2001, 2003\}$. The statistical model is:

$$\Pr(Q_{ij,t+1} = 1) = f(\beta NONE_{ijt} + \gamma FLEX_{ijt} + \delta HYBR_{ijt} + \boldsymbol{X}'_{ijt}\boldsymbol{\theta} + \boldsymbol{Z}'_{jt}\boldsymbol{\phi} + \boldsymbol{t}' + \epsilon_{ijt}) \quad (1).$$

The variables $NONE_{ijt}$, $FLEX_{ijt}$, and $HYBR_{ijt}$ are (mutually-exclusive) indicators of whether the individual had no pension coverage, a flexible employer-sponsored retirement saving plan, or a hybrid arrangement with the employer, respectively. These variables pertain to the type of coverage initially held before individuals may or may not have switched firms to assess the effect of current coverage on mobility. Information about the characteristics of employers that

individuals switch into is not available, since many employees transition into firms that are not covered by the survey. The excluded (reference) category is the traditional pension plan; specifying the model in this way means that tests of statistical significance for the coefficients are compared to the benchmark case of the worker belonging to a traditional pension. For example, if the coefficient for the flexible saving plan is significant, it indicates that such coverage affects quit transitions differently than traditional plans. To the extent that traditional pensions reduce mobility as implicit contracts, the expectation is for $\beta > 0, \gamma = 0$, and $\delta \geq 0$, since flexible plans do not mitigate employee quits. The expectation that the effect for a hybrid plan is non-negative, but might either be zero or positive, reflects the fact that it is a weighted average of the effect of the other two plan types. In contrast, if simply having some form of employer-sponsored saving reduces quits for other reasons discussed earlier, such as post-hire self-selection or financial illiteracy, the expectation is that $\beta > 0$ and $\gamma, \delta = 0$.

As equation (1) shows, the effects of the types of workplace saving on voluntary job separations are estimated controlling for employee characteristics $\boldsymbol{X}_{ijt}$, including age, sex, language spoken at home, country of birth, marital status, has dependent children, highest level of educational attainment, whether the employee belongs to a collective bargaining agreement, whether the employee is in a supervisory role, hourly wage, provisions of dental, medical and life insurance benefits, whether the employee has a flexible work arrangement, family income, and other income. In addition, the model controls for firm-level characteristics $\boldsymbol{Z}_{jt}$, including the share of foreign assets, whether the firm is not-for-profit, indicators for offering group incentives, individual incentives, on-the-job training, or flexible job designs for employees, the region, firm size, and industry of employment. These variables are also listed in Table 1. The vector $\boldsymbol{t}$ is a set of year indicator variables, and controls for time fixed effects. The vector ϵ_{ijt} is the statistical residual. Lastly, $f(\cdot)$ is a general functional form that may be linear or non-linear; in practice, the model is implemented using the Probit, Logit, and Linear Probability Model (LPM) estimators.

This statistical model is extended to test the robustness of the baseline results. A feature of the WES is that it provides matched employee–employer records, making it possible to control directly for firm-level fixed effects. This accounts for the possibility that employees within firms quit for reasons not observed in the data, but which correlate with the type of saving plan offered. For example, it may be that good employers offer generous traditional pensions and promote workers to stay, whereas bad employers do not and have high turnover rates. This can be modelled in equation (1) by decomposing the residual into components, $\epsilon_{ijt} = \rho_j + \mu_{ijt}$, where ρ_j is a firm-

level effect. Workers may self-select into firms based on these unobserved characteristics. The data permit controlling directly for these firm-level characteristics using a fixed effect model. Other firm-level effects (e.g., incentive pay, classroom or on-the-job training, self-directed teams) might also affect quits, and are directly controlled for in the model (Morissette and Rosa 2002; Batt, Colvin and Keefe 2002). The results will show, however, that including firm fixed effects has little effect on the results, which likely arises from the fact that such a wide array of firm-level characteristics are already being controlled for.

Unfortunately, given the panel data length of two years for quitters and the loss of one year from constructing the quit variable, $Q_{ij,t+1}$, it is not possible to control for individual fixed effects throughout the analysis. This is a potential concern, as individual-level unobserved confounders may correlate with workplace saving plan type (e.g., aversion to risk). Controlling for the wide set of individual covariates used—including not only income and demographics but other worker-specific job traits—partially mitigates this concern by purging from the estimates much of the individual heterogeneity that would otherwise bias the results (Aydemir and Skuterud 2008).

4 Results

This section begins by presenting details about workplace saving plan coverage and quit rates for the sample analyzed. Then, the primary results and robustness checks are described. Lastly, a heterogeneity analysis is implemented to test for different types of responses across workers based on firm size and various personal characteristics.

4.1 Workplace Saving Plans and Quits: Cross-Tabulations

Table 4 shows the percentage of workers who report having a traditional, flexible, or hybrid workplace saving plan, as well as the percentage of those who report having coverage and whose employers report providing it. For example, a worker who states that he or she has a traditional pension plan but whose employer does not offer this type of plan is assumed to not have any form of saving plan. In such a case, the worker may actually be covered by a flexible retirement saving plan or simply confused payroll deductions to the public pension plan—the Canada Pension Plan or Quebec Pension Plan—as employer-sponsored saving. The analysis indicates that the adjustment for traditional pensions is comparatively small; 31.4% of workers surveyed report having coverage whereas 27.5% are deemed to have coverage after the adjustment (12% difference). For flexible plans, the size of the adjustment is somewhat larger, where 7.3% of workers report having coverage but only 5.7% are deemed to actually have coverage (22%

difference). The largest magnitude of adjustment is for hybrid arrangements, where 13.4% report having coverage but only 6.7% are deemed to have such coverage (50% difference). As the next section will show, controlling for differences in perceived versus actual coverage has implications for the results of this study.

[Table 4]

To explore the relationships between employee characteristics and workplace saving coverage, Table 5 shows the probability of workers belonging to a traditional, flexible, or hybrid plan across various demographic, education, and labour market characteristics. This analysis shows that traditional pensions are the most common form of workplace saving, followed by hybrid arrangements and then flexible plans. As age increases, employees are more likely to have traditional pension coverage but become slightly less likely to have a flexible plan, which stems from the gradual transition away from DB pensions in Canada. Sex and marital status are not significant factors determining coverage, although employees who are single are the least likely to have traditional pensions. As expected, coverage increases with education and collective bargaining coverage, and supervisors are the least likely to have traditional pensions but the most likely to have flexible or hybrid plans.

[Table 5]

Lastly, Table 6 plots the cross-tabulations of the likelihood of a voluntary job separation by the type of workplace saving plan and various observed characteristics. The analysis shows, first, that quits are more likely to occur among younger workers and those in small firms. On balance, women and unmarried workers are also slightly less likely to quit, whereas level of educational attainment has little effect on such behaviour. Second, the analysis indicates that quit rates are low among workers covered by traditional and hybrid pensions irrespective of other personal characteristics (around 3 to 4 percent, on average), whereas those covered by flexible plans and with no form of workplace saving have the highest quit rates (around 6 to 9 percent, on average). The next section explores whether these differences are statistically significant in a regression-based framework that controls simultaneously for many individual and firm-level characteristics that may affect voluntary job separations.

[Table 6]

4.2 Primary Regression Results and Robustness Checks

This section begins by presenting the main findings, which cross-reference workers' reported coverage with firm-level availability of the plans. Then, the analysis is extended to consider

heterogeneous responses by different types of workers across several observed worker-specific and firm-level characteristics.

An underlying concern for this analysis is that workers do not always understand specific details of their workplace saving plans. Hence, voluntary job separations are affected not by the actual type of plan offered but by workers' perceptions of their coverage; the gap between these two factors has implications for financial literacy research. This analysis begins by estimating the main specification in equation (1) for how the effects of belonging to a flexible or hybrid workplace saving plan, or having no plan coverage at all, affects voluntary job separations while also testing how actual versus perceived coverage affects the quit rate. Specifically, Table 7 uses information on the availability of traditional and flexible saving plans within firms reported by employers. Various types of estimators (Probit, Logit, and LPM with and without firm-level fixed effects) are employed as a robustness check. In Panel A, having no plan is associated with a higher quit rate by about 1.6 to 2.2 percentage points relative to the traditional pension plan consistently across estimators. This finding is robust to the inclusion of a wide set of individual and employer characteristics that may affect such behaviour, including demographics, education, job traits, income, workplace traits, and industry of employment variables. However, in contrast with expectations based on the theory that traditional pensions are implicit contracts whereas flexible retirement saving plans promote mobility, there does not appear to be any discernible difference between the flexible or hybrid plans relative to the traditional pension as the benchmark on the quit rate. The point estimates for flexible and hybrid plans are very close to zero and statistically insignificant.

[Table 7]

Panel B tests the direct effect of firm-level provisions on the quit rate; in this case, the level of identification is the firm since every worker belonging to a firm with traditional, flexible, or both types of plans are treated as having the same coverage. In this case, the point estimates continue to suggest that all types of workplace saving plans reduce quits by approximately equal amounts. However, in this case, all variation is at the firm level and the fixed effect model requires the firm to switch its plan coverage options (or to report a change in coverage) over the relevant time period in order to be counted in the model. Since such variation is comparatively more scarce, it is not surprising that estimates are more imprecise and the predicted effects of plan coverage are closer to zero in this case.

Panel C shows how the results change when the level of identification is the worker but the indicators of coverage are adjusted by firm availability. In this case, the direction of the effect for flexible plans is positive but statistically insignificant across all estimators. The results for no pension coverage continues to indicate that traditional pensions are associated with reduced quit rates, hence back-loaded benefits and other related features of traditional pensions reduce employee turnover. While the estimate is not statistically significant with the LPM and firm fixed effects, this is not surprising since the inclusion of firm effects increases standard errors of the estimates; the point estimates between the first and second columns and the fourth column are very similar. While the point estimates suggest that flexible arrangements are more likely to facilitate mobility than traditional pension plans as they are designed to do, the fact that sorting may occur by employees into different saving plans after they are hired, or that flexible plans may discourage quits by serving as a form of reciprocal gift exchange, cannot be ruled out.

Further to this point, Table A–1 in the Appendix repeats the analysis in Table 7 using the workers with no workplace saving plan as the reference category. This modification of equation (1) does not change the information obtained from the estimator but it helps illustrate that flexible plans appear somewhat less likely to discourage quitting behaviour than traditional or flexible plans based on point estimates obtained, although the difference between them is not different from zero at conventional levels of statistical significance. However, traditional and flexible plans differ from each other only insofar as their effects on quits vary in magnitude and significance when compared against the effect of having no plan at all. This is a distinction that is not observed for the traditional versus hybrid plans.

Throughout the remainder of this analysis, the Probit estimator and the adjusted measures of plan coverage (as in Panel C of Table 7) are used. Nonlinear estimation is preferred since the LPM only correctly predicts quit transitions on the [0,1] interval in about 75%–80% of cases, which means the coefficient estimates reported in the third and fourth columns of Table 7 may be skewed in some way by incorrect model specification. The adjusted coverage is desired since it permits variation at both worker and firm levels but accounts for misreporting caused by uncertainty about plan coverage among workers.

Table 8 shows regression results from the preferred model specification, i.e., based on equation (1) using the Probit estimator. In particular, the table repeats the previous analysis but either controlling or not controlling for employer characteristics that may affect job transitions in some way that are correlated with the type of saving plan offered, in order to assess how the results

vary when firm-level characteristics are omitted from the model. In addition, this analysis tests the robustness of the previous findings by considering a variant of equation (1) that only includes a single indicator for having no plan coverage at all, where having any type of plan (traditional, flexible or hybrid) is the reference category; or by restricting the analysis to workers who have any coverage and assessing the effects of flexible or hybrid plans on quits, where traditional pensions is the reference category.

[Table 8]

The results indicate that having no workplace saving increases the probability of quitting in a given year relative to the traditional pension by approximately 1.5 to 2.1 percentage points, on balance. Moreover, similar results are obtained when comparing no plan versus any plan, which likely arises because the majority of individuals are covered by traditional pensions. As shown, the inclusion of firm-level characteristics reduces the magnitude of this effect only slightly, but does not affect the interpretation of the results. Lastly, as before, the analysis that conditions on plan members yields estimates for hybrid plans that are nearly identical to the traditional pensions. In this case, however, the exclusion of workers with no plan coverage as a relevant comparison group means that the point estimate for flexible plans—while still insignificant—is now also close to zero.

The results of the control variables are also consistent with expectations, which strengthens the credibility of these main findings. For example, the preferred model specification shows that the probability of quitting decreases with age. This likely occurs for several reasons, as middle-aged and older workers are more established in their careers, have already had time to search for jobs that are well-suited to their interests and expertise, and have greater financial commitments that preclude risk-taking than younger workers. Collective bargaining and higher hourly wages also reduce quits, and such behaviour is less common in large firms.

4.3 Heterogeneous Responses

Given that the dataset used provides matched employer–employee information, it is possible to consider how the results—based on the individual as the unit of observation—vary by the extent of employee turnover occurring at the firm level. Specifically, Table 9 repeats the analysis conditional on whether a mass layoff or a mass quit occurred in the past year. Following Chetty et al. (2014) and the related literature, a mass layoff or quit is defined as having at least 10% of employees separate involuntarily or voluntarily from the firm, respectively. To account for the fact that the action of a single employee has a larger effect on workforce size—in percentage terms—

within smaller firms, this analysis delineates between small firms (1–99 workers), medium-sized firms (100–499 workers), and large firms (500 or more workers). The goal of this analysis is to control for the possibility that voluntary job separations are the result of firm-level characteristics (e.g., "good" versus "bad" employers or "sinking" versus "healthy" firms), and that these unobserved traits are correlated with the type of plan offered, the mobility outcomes of all workers within the firms is a proxy for firm quality.

[Table 9]

The results of this analysis are generally consistent with the main findings that having no plan is associated with a higher quit rate than having traditional pension coverage and that the point estimate for the effect of having a hybrid plan suggests that such coverage is not different from having a traditional pension plan. Such behaviour is most prevalent among firms with low overall quit rates—which suggests that, in firms with rapid turnover or many workers who are "abandoning ship" the type of plan coverage is not a relevant determinant of such behaviour. This suggests that other factors beyond the type of compensation offered—including management quality and styles—drives mobility in such cases. In contrast, the type of plan matters more when dismissal rates are high compared with when they are low, which is consistent with traditional pensions acting as an incentive for workers to remain with their current employers despite the high threat of job loss. Note that, in the case of the forced job separation rate being low—which comprises the majority of the sample—the estimates are qualitatively similar to the main results presented earlier but are no longer statistically significant due to the loss of sample size. This suggests workers in firms with high forced job separations to some extent drive the results but that the findings may also generalize to workers in firms with more stable employment conditions.

To further explore these results, Table 10 carries out the baseline analysis separately for workers belonging to firms of different sizes. Notably, the effect of having no plan coverage is found to be statistically different from that of traditional pensions for medium-sized firms, which (as Table 5 shows) were also the most likely to offer flexible or hybrid arrangements. While statistically insignificant, it is interesting to note that point estimates for the flexible plans are close to zero or negative and, thus, the most similar to traditional pensions within medium-sized and large firms. This finding could suggest that post-hire self-selection effects vary by firm size and, hence, research that uses a case-study approach to identifying the effect of plan type on quit rates (e.g., Goda et al. [2017]) may not generalize to the full population of workers. Further analysis of this issue would benefit from larger sample sizes and is left for future research. Note that the low

statistical significance for the large firm sample may simply be the result of the comparatively low quit rate for large firms and the smaller sample size

[Table 10]

Lastly, Table 11 considers how the results vary across different types of workers based on age, sex, marital status, and level of educational attainment. The results are mostly consistent with the baseline findings except that, for example, the effect of having no plan is slightly larger for younger workers than older workers; no effect is observed for men versus women separately, although this likely results from the drop in precision of the estimator due to the lower sample size, as the point estimates for not having a plan are nearly the same for both groups. The only notable exception is with respect to workers with high educational attainment, defined as having at least some postsecondary education, where flexible plans also significantly raise the quit rate compared with traditional pensions. This result is surprising because, to the extent that confusion about plan type is driven by low financial literacy, the expectation was for less-educated workers to be the most likely to stay within firms when covered by a flexible plan that they incorrectly viewed to be a traditional pension. The preferred explanations for this result are that well-educated workers are also the most likely to self-select into different types of plans upon joining the firms or to stay with employers as a form of reciprocal gift exchange.

[Table 11]

5 Conclusion

This paper provides novel insights into a longstanding, empirically unresolved issue of whether the type of workplace saving plan affects voluntary, employee-initiated job separations, centring on differences between traditional pensions and flexible retirement saving plans. The goal was to revivify this line of inquiry in light of recent policy initiatives within Canada and the United States aimed at expanding the availability of low-cost, portable workplace saving options in a way that incorporates lessons from behavioural economics.

The results show that having no workplace saving plan is associated with a higher probability of a voluntary job separation of approximately 1.5 percentage points compared with having a traditional pension. This finding is robust to controlling for employee and employer characteristics, accounting for firm-level fixed effects, using different estimators, and augmenting the analysis to control for the availability of plans within firms as reported by employers. Consistent with the standard prediction that DB pensions are implicit contracts whereas DC plans

are not typically back-loaded and should not affect mobility, traditional and hybrid plans were found to have the largest effects on the quit rate. That is, the estimates for hybrid plans were nearly zero and statistically indistinguishable from the traditional pension. This is an important finding for current pension program design in Canada, since hybrid arrangements are more popular than flexible plans and—while intended to facilitate mobility—are not found to do so at all in practice. The effect for flexible plans was somewhat mixed because point estimates suggest that they permit greater worker mobility but, because these plans are not very widespread, the difference from traditional pensions is always statistically insignificant. While it is outside the scope of this paper to determine whether this result stems from a post-hire self-selection effect or reciprocal gift exchange, the analysis rules out the possibility that such behaviour is the result of workers not understanding specific details of their saving plans by controlling for employer availability within firms and by delineating the analysis across workers with different levels of education. Estimating the effects of plan type on the quit rate while controlling for post-hire self-selection effects by employing nationally-representative data remains a relevant topic for future research.

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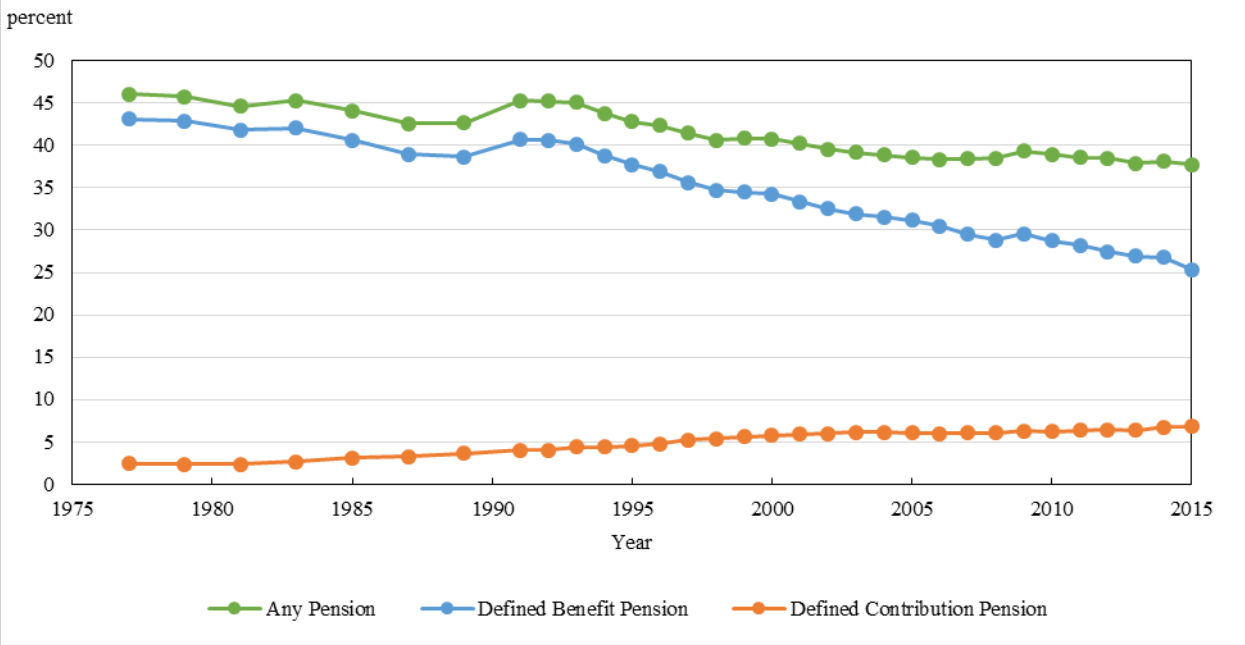
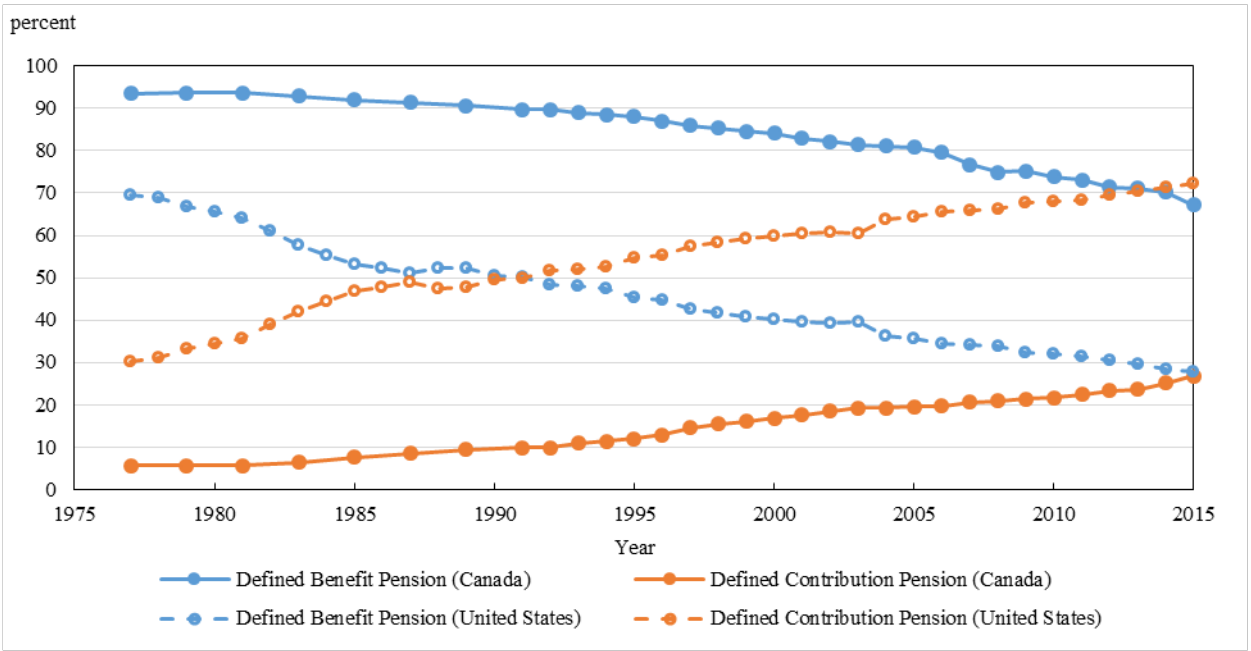
Chart 1
Defined benefit versus defined contribution pension plan coverage in Canada and the United States, 1977 to 2015

Panel A — Percent of Canadian workers covered by a pension plan in their jobs, by type of plan



Panel B — Percent of Canadian and American workers in defined benefit versus defined contribution plans conditional on having pension coverage in their jobs



Note: The data used from Labour Force Survey (labour force and paid workers) are annual averages to which the number of Canadian Forces and Reserve Forces members was added. Workers refers to employees in the public and private sector and include self-employed workers in incorporated business (with and without paid help).
Source: Statistics Canada, Pension Plans in Canada Survey and Labour Force Survey; and Employee Benefits Security Administration (2018).

Table 1
Summary of workplace and non-workplace saving plans

Name of plan	Type of plan	Details	Included in the analysis
Registered pension plan	Workplace, "traditional"	An arrangement between an employer and an employee to provide benefits during retirement in the form of periodic payments. These plans may be defined-benefit or defined-contribution plans, although the majority of workers are covered by defined-benefit plans. Employer contributions are non-taxable and employee contributions are tax-deductible.	Yes
Deferred profit-sharing plan	Workplace	An employer-sponsored profit-sharing plan that is registered with the Canada Revenue Agency.	No
Registered retirement savings plan	Non-workplace	A voluntary, defined-contribution retirement savings plan that individuals set up and maintain through their financial institutions. Contributions to these plans are tax-deductible.	No
Group registered retirement savings plan	Workplace, "flexible"	A collection of individual registered retirement savings plans offered to employees by their sponsoring employer, whereby contributions are made through payroll deductions and are tax-deductible.	Yes
…	Workplace, "hybrid"	A composite measure of workplace saving, defined as having both a traditional and flexible plan.	Yes
Tax-free savings account	Non-workplace	A voluntary, defined-contribution saving plan that individuals set up and maintain through their financial institutions. Contributions to thesep lans are made with after-tax income, but investment income accrues tax-free and capital gains are non-taxable.	No

Notes: The "Hybrid" plan is a composite workplace benefit structure and, thus, does not have a plan name. Non-workplace saving plans are not observed in the dataset and are necessarily excluded from the analysis.
Source: Authors.

Table 2
Comparison of key economic indicators between the relevant time period analyzed in this study due to data availability and recent years

	1999	2001	2003	2013	2015	2017
			count (millions)			
Labour market characteristics						
Population	30.4	31.0	31.6	35.2	35.8	36.7
			percent			
Working age population (percent of total)	68.1	68.5	68.9	68.6	67.8	67.1
Participation rate	65.5	65.9	67.6	66.5	65.8	65.8
Employment rate	60.6	61.1	62.4	61.8	61.3	61.6
Unemployment rate	7.6	7.2	7.6	7.1	6.9	6.3
			median			
Worker characteristics	36.4	37.2	38	40.2	40.5	40.6
Age						
			percent			
Full-time	81.6	81.9	81.0	80.9	81.1	80.9
Part-time	18.4	18.1	19.0	19.1	18.9	19.1
Multiple job holder	5.0	4.7	5.0	5.3	5.3	5.6
			average (months)			
Job tenure	96.2	95.6	97.8	103.3	103.6	103.4
Job tenure divided by median age	2.6	2.6	2.6	2.6	2.6	2.5
			average (2017 constant dollars)			
Job characteristics						
Hourly wages	…	22.6	22.5	25.1	25.8	25.8
Weekly wages	…	843.7	838.6	932.2	956.8	953.6
			average			
Usual weekly hours	…	36.4	36.3	36.1	36.1	35.9
			percent			
Unionized	32.3	32.3	32.2	31.1	30.6	30.4
Has workplace pension plan	35.4	36.4	35.3	35.0	34.9	34.0
Economy						
Gross domestic product growth rate	5.2	1.8	1.8	2.5	1.0	3.1

Notes: Working age population is defined as individuals 15 to 64 years old. Full-time and part-time employment and the share of individuals with multiple jobs are expressed as percentages of total employment. Data for job characteristics are not available for the year 1999.

Source: Authors' calculations from Statistics Canada Tables 11-10-0133-01, 14-10-0018-01, 14-10-0023-01, 14-10-0044-01, 14-10-0051-01, 14-10-0132-01, 14-10-0320-01, 17-10-0005-01 and 18-10-0005-01. Gross domestc product growth rate data are obtained from the World Bank.

Table 3
Descriptive statistics

Statistic:	Mean
	years
Demographics	
Age	41.6
	percent
Marital status	
Single	16.6
Married or common-law	74.0
Divorced or separated	8.7
Widowed	0.7
Sex	
Female	52.7
Male	47.3
Language at home	
English	70.9
French	21.4
Other	7.7
Born in Canada	81.6
Dependent kids	53.9
Education	
Less than high school	8.8
High school diploma or trades certificate	25.1
Some postsecondary or college diploma	37.8
Bachelor's degree or higher	28.3
Job traits	
Collective bargaining	30.5
Supervisor	38.3
Flexible work hours	37.0
Dental plan	59.9
Medical coverage	57.9
Life insurance	64.3
	nominal dollars
Hourly wage rate	21.8
Income	
Family income	71,850.0
Other income	2,100.0
	percent
Workplace traits	
Non-profit	24.5
Group incentives	17.1
Individual incentives	42.9
On-the-job training	20.2
Flexible job design	18.4
Region	
Atlantic	6.6
Quebec	23.0
Ontario	42.0
Alberta	10.0
British Columbia	11.9
Manitoba	3.6
Saskatchewan	2.9
Foreign ownership	15.5
Firm size	
Small	55.0
Medium	22.7
Large	23.6

Table 3 (concluded)

Statistic:	Mean
	percent
Industry	
Agriculture, forestry, fishing and hunting	0.5
Mining, oil and gas extraction; utilities; construction	5.9
Manufacturing	18.1
Wholesale trade; retail trade; transportation and warehousing	20.2
Information and cultural industries; finance, insurance, real estate, rental and leasing;	20.8
professional, scientific, and technical services; management of companies and enterprises;	24.4
administrative support, waste management, and remediation services	
Educational services; health care and social assistance	
Arts, entertainment and recreation; accommodation and food services	7.1
Other services (except public administration)	3.2
	count
Number of observations	39,294

Notes: The summary statistics are based on the relevant sample of employees considered in this study, pooled over all relevant years. Small, medium, and large firm sizes refer to 1–99, 100–499, and 500 or more workers, respectively. Sample weights are used to ensure generalizability of the results to the full population of Canadians.

Source: Statistics Canada, Workplace and Employee Survey.

Table 4
Probabilities of traditional, flexible, hybrid, and no plan coverage, unadjusted and adjusted for firm provisions

Statistic:	Probability of the worker reporting coverage	Probability of the worker reporting coverage and the employer providing such coverage
	percent	
Traditional plan	31.4	27.5
Flexible plan	7.3	5.7
Hybrid plan	13.4	6.7
No plan	47.9	60.1

Notes: Results are based on pooled data across all relevant years. Sample weights are used to ensure generalizability of the results to the full population of Canadians.

Source: Statistics Canada, Workplace and Employee Survey.

Table 5
Probabilities of traditional, flexible, hybrid, and no plan coverage by various worker characteristics, adjusted for firm provisions

	Type of plan			
Type of plan:	**Traditional**	**Flexible**	**Hybrid**	**No plan**
		percent		
Full sample	27.5	5.7	6.7	60.1
Demographics				
Age group				
25 to 29	15.2	5.4	4.3	75.1
30 to 34	20.7	6.4	6.6	66.3
35 to 39	25.4	6.2	7.1	61.3
40 to 44	29.0	5.6	6.7	58.7
45 to 49	32.7	5.9	7.7	53.7
50 to 54	35.8	4.8	7.2	52.2
55 to 59	32.4	4.7	6.8	56.1
Marital status				
Married	29.5	6.1	7.2	57.2
Separated	28.1	4.1	4.9	62.9
Divorced	36.1	4.1	6.8	53.0
Widowed	27.4	1.4	6.9	64.3
Single	20.3	5.0	5.4	69.3
Common-law	23.7	5.7	6.4	64.2
Sex				
Female	28.7	4.5	6.2	60.6
Male	26.2	7.0	7.3	59.5
Education				
Less than high school	19.2	3.7	4.1	73.0
High school diploma	22.6	5.3	5.8	66.3
Trades certificate	23.6	5.9	6.9	63.6
Some postsecondary	24.6	5.8	6.2	63.4
College diploma	29.5	5.6	7.6	57.3
Bachelor's degree	34.8	6.4	8.0	50.8
Master's degree	35.3	6.4	7.5	50.8
Other	27.3	6.9	5.5	60.3
Job traits				
Collective bargaining				
No	16.2	6.8	6.4	70.6
Yes	53.3	3.0	7.4	36.3
Supervisor				
No	29.2	4.9	6.5	59.4
Yes	24.9	6.9	7.0	61.2
Workplace traits				
Firm size				
Small	12.6	5.9	3.9	77.6
Medium	35.8	7.4	10.7	46.1
Large	56.0	3.4	9.6	31.0

Notes: Results are based on pooled data across all relevant years. Small, medium, and large firm sizes refer to 1–99, 100–499, and 500 or more workers, respectively. Sample weights are used to ensure generalizability of the results to the full population of Canadians.
Source: Statistics Canada, Workplace and Employee Survey.

Table 6
Probabilities of voluntary job separation by type of plan and various worker characteristics

Type of plan:	Unconditional	Type of plan				No plan
		Any	Traditional	Flexible	Hybrid	
				percent		
Full sample	6.8	3.6	3.2	6.3	3.3	8.8
Demographics						
Age group						
Low	7.5	3.9	3.4	6.6	3.5	9.8
High	4.1	2.9	2.6	5.0	2.9	5.2
Sex						
Female	7.1	3.7	3.4	5.3	3.9	9.3
Male	6.4	3.6	2.9	6.9	2.8	8.3
Marital status						
Married	6.4	3.7	3.3	6.7	3.1	8.2
Unmarried	7.9	3.2	2.7	4.8	4.3	10.5
Education						
Low	6.8	3.8	2.3	10.9	3.2	8.2
High	6.8	3.6	3.5	4.3	3.4	9.2
Workplace traits						
Firm size						
Small	8.8	5.7	4.9	8.1	4.7	9.8
Medium	5.4	3.2	2.9	4.2	3.5	7.9
Large	3.1	2.3	2.4	2.8	1.7	4.7

Notes: For the age groups, "low" refers to workers under the age of 50 and "high" refers to those who are at least 50 years old. The "married" category includes both legally married couples and those in common-law relationships. For the education groups, "low" refers to a high school diploma or less and "high" refers to having attained at least some postsecondary education. Small, medium, and large firm sizes refer to 1–99, 100–499, and 500 or more workers, respectively. Results are based on pooled data across all relevant years. Sample weights are used to ensure generalizability of the results to the full population of Canadians.

Source: Statistics Canada, Workplace and Employee Survey.

Table 7
Estimated marginal effects of no plan and flexible and hybrid plans on voluntary job separations by estimator and controlling for firm provisions

Estimator:	Probit	Logit	Linear probability model	Linear probability model, with firm fixed effects
			coefficient estimates	
Panel A: Unadjusted coverage				
No plan	0.022 ***	0.022 ***	0.018 **	0.016 **
	(0.008)	(0.008)	(0.007)	(0.008)
Flexible plan	0.006	0.005	-0.001	-0.008
	(0.015)	(0.016)	(0.013)	(0.010)
Hybrid plan	-0.003	-0.004	-0.003	-0.002
	(0.008)	(0.010)	(0.006)	(0.006)
			statistics	
R-squared/Pseudo R-squared	0.096	0.098	0.050	0.344
Observations	39,294	39,294	39,294	39,294
			coefficient estimates	
Panel B: Firm provisions				
No plan	0.014	0.014	0.014	0.005
	(0.009)	(0.009)	(0.010)	(0.018)
Flexible plan	0.007	0.007	0.004	-0.002
	(0.009)	(0.010)	(0.010)	(0.018)
Hybrid plan	0.005	0.005	0.002	-0.005
	(0.008)	(0.009)	(0.006)	(0.010)
			statistics	
R-squared	0.095	0.096	0.050	0.344
Observations	39,294	39,294	39,294	39,294
			coefficient estimates	
Panel C: Adjusted coverage				
No plan	0.015 **	0.016 **	0.009	0.012
	(0.007)	(0.008)	(0.006)	(0.008)
Flexible plan	0.016	0.016	0.006	0.009
	(0.017)	(0.018)	(0.017)	(0.011)
Hybrid plan	-0.004	-0.006	-0.006	-0.006
	(0.010)	(0.011)	(0.006)	(0.008)
			statistics	
R-squared/Pseudo R-squared	0.095	0.096	0.050	0.344
Observations	39,294	39,294	39,294	39,294

***statistically significant at the 1% level.

** statistically significant at the 5% level.

Notes: Panels A and B present the effects of the type of plan based on workers' responses about coverage and employers' responses about plan availability, respectively, on voluntary job separations. Panel C is based on an adjusted measure of coverage using both the workers' and employers' responses. Marginal effects from the Probit model are reported. Standard errors (in parentheses) are clustered by individual. Sample weights are used to ensure the results generalize to the full population of Canadians.

Source: Statistics Canada, Workplace and Employee Survey.

Table 8
Estimated marginal effects of no plan and flexible and hybrid plans on voluntary job separations, Probit

	Any plan, all workers		Type of plan, all workers		Type of plan, workers with a plan	
Sets of controls:	**Individual, job, and family**	**Individual, job, family, and work**	**Individual, job, and family**	**Individual, job, family, and work**	**Individual, job, and family**	**Individual, job, family, and work**
			coefficient estimates			
Type of plan						
No plan	0.025 ***	0.021 ***	0.021 ***	0.015 **	…	…
	(0.007)	(0.007)	(0.007)	(0.007)		
Flexible plan	…	…	0.022	0.016	0.014	0.007
			(0.017)	(0.017)	(0.010)	(0.008)
Hybrid plan	…	…	-0.004	-0.004	-0.004	-0.002
			(0.010)	(0.010)	(0.006)	(0.006)
Demographics						
Age group						
30 to 34	-0.035 **	-0.034 **	-0.036 **	-0.035 **	-0.010	-0.011
35 to 39	-0.048 ***	-0.046 ***	-0.048 ***	-0.046 ***	-0.026 *	-0.027 **
40 to 44	-0.072 ***	-0.069 ***	-0.073 ***	-0.070 ***	-0.035 **	-0.036 ***
45 to 49	-0.076 ***	-0.073 ***	-0.077 ***	-0.074 ***	-0.032 *	-0.037 ***
50 to 54	-0.079 ***	-0.077 ***	-0.080 ***	-0.077 ***	-0.043 ***	-0.044 ***
55 to 59	-0.068 ***	-0.064 ***	-0.069 ***	-0.065 ***	-0.004	-0.008
Sex						
Female	-0.003	-0.004	-0.003	-0.004	0.002	0.006
Marital status						
Married or common-law	0.003	0.005	0.003	0.005	0.011	0.011 *
Divorced or separated	0.013	0.015	0.013	0.015	0.013	0.015
Widowed	-0.024	-0.021	-0.022	-0.020	-0.019 **	-0.020 ***
Language at home						
French	-0.011	-0.005	-0.012	-0.006	-0.001	0.014
Other	-0.013	-0.013	-0.014	-0.013	-0.005	-0.008
Other						
Born in Canada	0.013 *	0.011	0.013 *	0.012	0.010	0.004
Dependent kids	0.001	0.002	0.001	0.002	0.002	0.002
Education						
High school diploma or trades certificate	0.011	0.008	0.010	0.008	0.018 *	0.016 *
Some postsecondary or college diploma	0.012	0.013	0.012	0.013	0.007	0.008
Bachelor's degree or higher	0.018	0.020 *	0.018	0.020 *	0.020 **	0.021 **

Table 8 (continued)

Sets of controls:	Any plan, all workers		Type of plan, all workers		Type of plan, workers with a plan	
	Individual, job, and family	Individual, job, family, and work	Individual, job, and family	Individual, job, family, and work	Individual, job, and family	Individual, job, family, and work
	coefficient estimates					
Job traits						
Collective bargaining	-0.031 ***	-0.025 ***	-0.030 ***	-0.025 ***	-0.016 ***	-0.016 ***
Supervisor	-0.005	-0.007	-0.005	-0.007	0.008	0.004
Hourly wage rate	-0.001 ***	0.000 *	-0.001 ***	-0.001 *	-0.001 **	0.000
Flexible work hours	0.004	0.003	0.004	0.002	0.011	0.009
Dental plan	-0.013	-0.013	-0.015 *	-0.015 *	0.008	0.007
Medical coverage	-0.009	-0.007	-0.010	-0.008	0.001	0.001
Life insurance	-0.014 *	-0.011	-0.018 **	-0.015 *	-0.024 **	-0.019 *
Income						
Family income	0.000	0.000	0.000	0.000	0.000	0.000
Other income	0.000	0.000	0.000	0.000	0.000	0.000
Workplace traits						
Non-profit	…	0.013	…	0.012	…	0.015
Group incentives	…	-0.009	…	-0.009	…	-0.005
Individual incentives	…	0.011 *	…	0.011 *	…	-0.003
On-the-job training	…	-0.004	…	-0.004	…	0.008
Flexible job design	…	0.021 **	…	0.020 **	…	0.017 **
Region						
Quebec	…	0.006	…	0.007	…	-0.011
Ontario	…	0.000	…	0.000	…	-0.009
Alberta	…	0.034 ***	…	0.034 ***	…	0.024 *
British Columbia	…	0.026 **	…	0.025 **	…	0.012
Manitoba	…	0.034 **	…	0.033 **	…	0.011
Saskatchewan	…	-0.007	…	-0.007	…	-0.006
Foreign ownership	…	0.009	…	0.008	…	-0.001
Firm size						
Medium	…	-0.008	…	-0.008	…	-0.013 **
Large	…	-0.007	…	-0.007	…	-0.006
			indicators			
Other covariates						
Industry	No	Yes	No	Yes	No	Yes

Table 8 (concluded)

Sets of controls:	Any plan, all workers		Type of plan, all workers		Type of plan, workers with a plan	
	Individual, job, and family	Individual, job, family, and work	Individual, job, and family	Individual, job, family, and work	Individual, job, and family	Individual, job, family, and work
				statistics		
Pseudo R-squared	0.075	0.096	0.074	0.095	0.057	0.104
Observations	39,294	39,294	39,294	39,294	18,048	18,048

*** statistically significant at the 1% level.

** statistically significant at the 5% level.

* statistically significant at the 10% level.

Notes: Small, medium, and large firm sizes refer to 1–99, 100–499, and 500 or more workers, respectively. The reference categories are as follows: 25 to 29 year olds for the age group indicators; single for the marital status indicators; males for the female indicator; English for the indicators of language spoken at home; less than high school for the indicators of educational attainment; Atlantic Canada for the workplace region indicators; 0% foreign ownership for the indicators of the share of foreign ownership; and small for the firm size indicators. The variables for family income and other income are expressed in thousands of dollars. The set of industry indicators is based on the 2-digit North American Industrial Classification System (NAICS) code. Marginal effects from the Probit model are reported. Significances are based on standard errors (in parentheses, for the key variables only due to compactness) clustered by individual. Sample weights are used to ensure the results generalize to the full population of Canadians.

Source: Statistics Canada, Workplace and Employee Survey.

Table 9
Estimated marginal effects of no plan and flexible and hybrid plans on voluntary job separations controlling for the frequency of job separations within firms by firm size, Probit

Reason for separation:	Share of workers with voluntary job separations (quits)		Share of workers with forced job separations (layoffs, dismissals)	
Frequency:	**Low**	**High**	**Low**	**High**
	coefficient estimates			
Panel A: All firms				
No plan	0.016 **	0.008	0.012	0.046 *
	(0.007)	(0.015)	(0.007)	(0.024)
Flexible plan	0.004	0.023	0.013	0.040
	(0.013)	(0.034)	(0.018)	(0.035)
Hybrid plan	-0.006	-0.001	-0.006	0.036
	(0.010)	(0.021)	(0.010)	(0.038)
	statistics			
Pseudo R-squared	0.112	0.097	0.091	0.162
Observations	27,163	12,131	33,036	6,258
	coefficient estimates			
Panel B: Medium and large firms				
No plan	0.017 ***	0.005	0.013 **	0.048 **
	(0.006)	(0.013)	(0.006)	(0.021)
Flexible plan	-0.002	-0.005	0.002	-0.002
	(0.009)	(0.019)	(0.009)	(0.027)
Hybrid plan	-0.007	-0.011	-0.007	0.026
	(0.007)	(0.018)	(0.007)	(0.031)
	statistics			
Pseudo R-squared	0.138	0.143	0.118	0.350
Observations	13,167	4,881	16,274	1,667

*** statistically significant at the 1% level.

** statistically significant at the 5% level.

* statistically significant at the 10% level.

Notes: Low versus high quit and firing rates are defined according to whether the rates are strictly less than 10%, or at least 10%, respectively. Medium and large firm sizes refer to 100–499 and 500 or more workers, respectively. Marginal effects from the Probit model are reported. Standard errors (in parentheses) are clustered by individual. Sample weights are used to ensure the results generalize to the full population of Canadians.

Source: Statistics Canada, Workplace and Employee Survey.

Table 10
Estimated marginal effects of no plan and flexible and hybrid plans on voluntary job separations by firm size, Probit

Firm size:	Small	Small or medium	Medium	Medium or large	Large
			coefficient estimates		
No plan	0.012	0.021 **	0.027 ***	0.015 ***	0.003
	(0.015)	(0.010)	(0.009)	(0.006)	(0.007)
Flexible plan	0.028	0.023	0.007	-0.002	-0.010
	(0.029)	(0.021)	(0.013)	(0.009)	(0.013)
Hybrid plan	0.003	0.001	0.001	-0.006	-0.013
	(0.021)	(0.013)	(0.012)	(0.008)	(0.008)
			statistics		
Pseudo R-squared	0.086	0.084	0.128	0.123	0.142
Observations	21,227	33,004	11,777	11,867	6,198

*** statistically significant at the 1% level.

** statistically significant at the 5% level.

Notes: Small, medium, and large firm sizes refer to 1–99, 100–499, and 500 or more workers, respectively. Marginal effects from the Probit model are reported. Standard errors (in parentheses) are clustered by individual. Sample weights are used to ensure the results generalize to the full population of Canadians.

Source: Statistics Canada, Workplace and Employee Survey.

Table 11

Estimated marginal effects of no plan and flexible and hybrid plans on voluntary job separations by various worker characteristics, Probit

Margin of analysis:	Age		Sex	
Group:	Younger	Older	Female	Male
		coefficient estimates		
No plan	0.017 *	0.013	0.014	0.013
	(0.009)	(0.010)	(0.010)	(0.009)
Flexible plan	0.019	0.017	0.005	0.016
	(0.021)	(0.019)	(0.019)	(0.020)
Hybrid plan	-0.005	0.003	0.007	-0.016
	(0.012)	(0.014)	(0.013)	(0.013)
		statistics		
Pseudo R-squared	0.102	0.080	0.115	0.102
Observations	30,275	9,019	17,368	21,926
Margin of analysis:	**Marital status**		**Educational attainment**	
Group:	**Single**	**Other**	**Lower**	**Higher**
		coefficient estimates		
No plan	0.021	0.013 *	0.017	0.016 *
	(0.018)	(0.008)	(0.012)	(0.009)
Flexible plan	-0.052 *	0.018	0.071 ***	-0.013
	(0.028)	(0.016)	(0.026)	(0.014)
Hybrid plan	-0.020	-0.003	0.015	-0.010
	(0.028)	(0.010)	(0.017)	(0.011)
		statistics		
Pseudo R-squared	0.190	0.093	0.146	0.097
Observations	5,908	33,386	14,510	24,784

*** statistically significant at the 1% level.

* statistically significant at the 10% level.

Notes: Younger and older workers are defined as those who are less than 50 years old, or at least 50 years old, respectively. In this analysis, "other" includes workers who are married, in common-law relationships, divorced, separated or widowed. Lower and higher educational attainment refers to having a high school diploma or less, or at least some postsecondary education, respectively. Marginal effects from the Probit model are reported. Standard errors (in parentheses) are clustered by individual. Sample weights are used to ensure the results generalize to the full population of Canadians.

Source: Statistics Canada, Workplace and Employee Survey.

Appendix

Table A−1
Estimated marginal effects of traditional, flexible and hybrid plans on voluntary job separations by estimator and controlling for firm provisions

Estimator:	Probit	Logit	Linear probability model	Linear probability model, with firm fixed effects
			coefficient estimates	
Panel A: Unadjusted coverage				
Traditional plan	-0.022 ***	-0.022 ***	-0.018 **	-0.016 **
	(0.008)	(0.008)	(0.007)	(0.008)
Flexible plan	-0.016	-0.016	-0.019	-0.024 **
	(0.015)	(0.016)	(0.014)	(0.011)
Hybrid plan	-0.025 ***	-0.026 ***	-0.021 ***	-0.018 **
	(0.009)	(0.010)	(0.008)	(0.009)
			statistics	
R-squared/Pseudo R-squared			0.050	0.344
Observations	39,294	39,294	39,294	39,294
			coefficient estimates	
Panel B: Firm provisions				
Traditional plan	-0.014	-0.014	-0.014	-0.005
	(0.009)	(0.009)	(0.010)	(0.018)
Flexible plan	-0.007	-0.007	-0.011	-0.007
	(0.008)	(0.009)	(0.010)	(0.018)
Hybrid plan	-0.009	-0.009	-0.012	-0.010
	(0.010)	(0.010)	(0.010)	(0.018)
			statistics	
R-squared			0.050	0.344
Observations	39,294	39,294	39,294	39,294
			coefficient estimates	
Panel C: Adjusted coverage				
Traditional plan	-0.015 **	-0.016 **	-0.009	-0.012
	(0.007)	(0.008)	(0.006)	(0.008)
Flexible plan	0.001	0.000	-0.003	-0.003
	(0.017)	(0.018)	(0.017)	(0.010)
Hybrid plan	-0.020 **	-0.022 **	-0.015 **	-0.018 *
	(0.010)	(0.011)	(0.007)	(0.010)
			statistics	
R-squared/Pseudo R-squared			0.050	0.344
Observations	39,294	39,294	39,294	39,294

***statistically significant at the 1% level.

** statistically significant at the 5% level.

* statistically significant at the 10% level.

Notes: This is a replication of the results from Table 7, in text, except that the reference category in the regressions is employees with no workplace saving plan rather than those with traditional workplace pensions. See the notes in Table 7 for further information.

Source: Statistics Canada, Workplace and Employee Survey.