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# Conference on Workplace Issues in Canada: A showcase of research from the Workplace and Employee Survey

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## Contributors

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## Foreword

The Workplace and Employee Survey (WES) was conducted by Statistics Canada with the support of Human Resources Development Canada. The survey consists of two components: (1) a workplace survey on the adoption of technologies, organizational change, training and other human resource practices, business strategies, and labour turnover in workplaces; and (2) a survey of employees within these same workplaces covering wages, hours of work, job type, human capital, use of technologies and training. The result is a rich new source of linked information on workplaces and their employees.

## Why have a linked workplace and employee survey?

Advanced economies are constantly evolving. There is a general sense that the pace of change has accelerated in recent years, and that we are moving in new directions. This evolution is captured in phrases such as “the knowledge-based economy” or “the learning organization”. Central to these notions is the role of technology, particularly information technology. The implementation of these technologies is thought to have substantial impact on both firms and their workers. Likely related to these technological and environmental changes, many firms have undertaken significant organizational changes and have implemented new human resource practices. Globalization and increasing international competition also contribute to the sense of change.

In this environment, greater attention is being paid to the management and development of human resources within firms. Education and training are increasingly seen as an important investment for improved prosperity—both for firms and individual workers.

Thanks to earlier surveys, researchers have a good understanding of workers’ outcomes regarding wages and wage inequality, job stability and layoffs, training, job creation, and unemployment. What is missing on the employees’ side is the ability to link these changes to events taking place in firms. Such a connection is necessary if we hope to understand the association

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between labour market changes and pressures stemming from global competition, technological change, and the drive to improve human capital. Thus, one primary goal of WES is to establish a link between events occurring in workplaces and the outcomes for workers. The advantage of a linked survey is depicted in the figure which displays the main content blocks in the two surveys.

The second goal of the survey is to develop a better understanding of what is indeed occurring in companies in an era of substantial change. Just how many companies have implemented new information technologies? On what scale? What kind of training is associated with these events? What type of organizational change is occurring in firms? These are the kinds of issues addressed in the WES.

## Introduction

Dramatic changes have taken place in the Canadian economic landscape over the past two decades. For example, markets have become more global, trade patterns have been liberalized, and new technologies have been developed. Firms have responded to these changes in many ways, such as by implementing new production processes and new human resource management practices. In turn, these organizational responses may affect workers in terms of the skills they require, the type of work they do, the stability of their jobs, and the earnings they command in the labour market.

Until recently, our knowledge of the relationships between the global economy, firm-level responses and worker outcomes has been limited. Data on events within firms was scarce, and data linking events and practices within firms to outcomes reported by employees did not exist. Consequently, studies relied on data collected *either* from businesses *or* from employees, and it was not possible to include information from both sides in labour market and workplace research. This constituted a serious shortcoming as a complete analysis on many labour market and workplace issues requires appropriate linked employer-employee data.

The Workplace and Employee Survey (WES) fills this data gap. The WES is the first large-scale Canadian survey linking employers to their employees. First conducted as a pilot survey in 1996 and a full production survey in 1999, the WES is designed to link workers and workplaces at the most micro-level and to be longitudinal—following the same employers for six years and the same employees for two years. Because of these design features, the WES is a valuable tool to both the research community and to the users of this research.<sup>1</sup>

This paper offers a summary of papers presented at the Conference on Workplace Issues held in Ottawa, Ontario, November 14-15, 2002. This was the first conference based on WES research and brought together a wide range of participants from labour economics, industrial relations, business management and government agencies from around Canada and the United States. At the time the papers were prepared, most of the researchers only had access to cross-sectional data from 1999 and their analyses are based on that file. As longitudinal data from the WES becomes available, further research on many of the questions raised by these researchers will be possible.

This summary paper highlights several broad research questions:

- (1) Can the workplace explain wage differentials?
- (2) Does the adoption of workplace practices reduce employee turnover?
- (3) What's new in worker employment contracts?
- (4) Training: who wins and who loses?
- (5) Are workplace practices associated with workplace performance and productivity?

## Can the workplace explain wage differentials?

Building on well-established literatures on gender wage differentials, union wage premiums and wage perks related to the age of the workplace, the basic finding of this section is that the workplace matters in explaining differences in the earnings of different groups of workers.

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<sup>1</sup> For more general information about the Workplace and Employee Survey link to the website at: <http://www.statcan.ca/english/survey/business/workplace/workplace.htm>

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The fact that men earn more than women is a persistent feature of the Canadian labour market—in 1999 women earned about 80% of the average male hourly wage. Most studies of gender pay differentials focus on differences in the wage-determining characteristics of men and women, such as experience and education. However, these studies show that a substantial portion of the wage differential cannot be explained by differences in the characteristics that men and women bring to the labour market.

Taking advantage of the linked structure of the WES data, Drolet (2002) explores the contribution of specific workplace characteristics in explaining gender pay differentials. In “*Can the workplace explain gender pay differentials?*”<sup>2</sup>, she finds that workplace characteristics, such as participation in self-directed workgroups, variable pay, foreign ownership and training expenditures—along with traditional human capital factors such as education and experience—account for about 61% of gender pay differentials. This is a substantial improvement over the 50% explained component that is typically reported in studies using household (i.e. employee) survey data. Interestingly, differences in where men and women work contribute substantially more to gender pay differentials (36.2%) than differences in the characteristics of men and women themselves (26.4%). This is strong evidence for the notion that “where you work” matters.

In a similar spirit to Drolet (2002), Verma and Fang provide an innovative analysis of the union wage premium by considering both establishment-level and employee-level variables in their model. Like previous studies on gender pay differentials, union wage differentials have typically been estimated using human capital models with employee data or with establishment level data on average wages using controls for industry and workplaces. In “*Do workplaces practices contribute to Union-Nonunion wage differentials?*” Verma and Fang combine these approaches by linking the union wage premium with

the adoption of innovative workplace practices, such as employee involvement, variable pay and flexible work organization.

They report that in 1999, unionized workers earned 14.3% more than non-unionized workers, but that this difference declines to about 8% when differences in human capital and selected workplace characteristics are taken into account. Standard decomposition techniques show that differences in personal, job and workplace characteristics account for about two-thirds of the pay difference between unionized and non-unionized workers. Unionized workplaces report higher incidences of teams, formal grievance procedures, flexible management, flexible employment and training than their non-unionized counterparts and these practices narrow the wage gap by 1.3%. However, incentive pay and the adoption of new technologies—workplace practices that are found more often in non-unionized settings—tend to widen the differential.

To put the union impact on wages in historical context, Verma and Fang use a variety of Statistics Canada surveys to estimate the union wage premium over selected years between 1984 and 1998. Their estimations show that the union / non-union wage gap narrowed from 18% to 20% in the 1980s to around 11% to 12% by 1998. Their results shed light on two potential reasons why the premium has been shrinking. First, the adoption of innovative workplace practices may have led to increasing efficiencies in the non-union sector. Some of these efficiencies may be passed along to workers in the form of higher earnings and attract a more productive and qualified workforce. Second, in the unionized sector, it may be the case that workplaces are simply not passing the efficiencies gained from innovative practices along to employees in the form of wage premiums but are instead using them to improve job security and employment levels or to strengthen non-wage benefit packages. It may also be the case that in the unionized sector there are no efficiency gains to pass along.

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<sup>2</sup> This paper is available in Canadian Public Policy, Special Issue Summer 2002. A similar paper ‘The Who, What, When and Where’ of Gender Pay Differentials’ can be found in The Evolving Workplace Series, Statistics Canada, June 2002, Catalogue Number 71-584-MPE No. 4.

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In “*Wages, employee and employer characteristics*” McCracken and Waslander examine the notion that the level of wages paid by a business is positively related to the length of time the business has been in operation, even after controlling for firm size, location and type of production activity. The theoretical underpinnings of this notion can be traced to the work of Brown and Medoff (2001). They argue that there is a relationship between wages and the age of the firm based on the composition of the firm’s workforce (i.e. tenure, experience and education), the risk of firm failure and job stability, the composition of compensation (i.e. employee benefits) and profitability.

McCracken and Waslander find a positive association between the age of the workplace and wages after controlling for size, industry, region and other workplace and human capital characteristics. This contrasts with evidence based on U.S. data which suggests that the wage-age of business association is insignificant or negative once controls for employee characteristics are included (Brown and Medoff, 2001). However, once McCracken and Waslander take into account worker job tenure, their results mirror those of Brown and Medoff (2001).

### **Does the adoption of workplace practices reduce employee turnover?**

Limiting the detrimental effects of employee turnover is one of the many reasons why firms adopt new workplace practices and human resource management strategies. For example, teamwork and flexible job design are important non-pecuniary aspects of jobs, and firms can use these strategies to organize work in an attempt to make jobs more interesting, to enhance morale, to increase productivity and to improve profitability. The literature suggests that alternative workplace practices are associated with lower rates of labour turnover.

In “*Do teamwork and flexible job design reduce quit rates?*”, Morissette and Rosa address a number of key questions in this area. First, they examine whether a negative relationship between workplace practices and quit rates is evident in all sectors of the economy. Second, building on the existing literature and taking advantage of the linked and longitudinal nature of the

WES data, they estimate this relationship using panel data of individuals. Their analysis includes a rich set of individual-level control variables as well as workplace-specific fixed effects (i.e. workplace specific characteristics not related to the workplace practices under study (such as management quality) that may result in lower quit rates).

The authors provide evidence—at both the worker and the workplace level—that alternative work practices appear to reduce quit rates in high-skill services. The magnitude of the negative relationship still remains once controls are introduced at the worker-level for workplace-specific effects. However, the negative relationship between workplace practices and quit rates is weak in low-skilled sectors and non-existent in manufacturing industries. These strikingly different patterns across industries and the possibility that other confounding factors underlie the correlation in high skill services suggest that it is premature to conclude that alternative work practices are the prescription to reduce quit rates.

Some workplaces find labour turnover costly and consequently dedicate substantial resources to strategies such as pay raises, benefits, promotions, and other HR initiatives designed to reduce employees’ propensity to quit. In “*An organizational level analysis of the influence of human resource management practices on employee turnover*”, Haines and Jalette use information on voluntary separations and specific human resource management practices—such as employee suggestion programs, information sharing, problem solving teams, self-directed workgroups, dispute resolution procedures and training—to answer the question “why do some workplaces have higher turnover rates than others?”

Their results show that human resource management practices that are designed to either enhance employee participation or to provide employees with a “voice” are generally associated with lower turnover rates. However, there is little evidence that employer investments in training are associated with employee turnover, while other forms of training are associated with higher turnover. In some sense, training may be viewed as facilitating employee movement by providing marketable and transferable skills that are valuable to other employers.

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### What's new in worker employment contracts?

Over the past two decades, two salient features of the Canadian labour market have been the growth in part-time employment and the increased participation of married women in the labour force. These changes have generated interest in increasingly diverse employment contracts and have sparked a renewed interest in segmentation theories, the provision of family friendly benefits, and the match between preferred and actual hours worked. The extent to which the labour market has been flexible enough to accommodate these diverse employment contracts is an important question from a policy perspective.

Traditional views of the labour market argue that the “core” labour market—full-time continuous employment—is characterized by high wages and non-wage benefits, opportunities for training and advancement, and job security, while the periphery labour market—those workers with a non-standard employment contract—has the opposite characteristics. The paper “*Peripheries within non-standard employment contracts*” by Zeytinoglu, Weber and Gordon hypothesizes that in addition to the core-periphery separation, some employees in the periphery are more marginalized than others. They provide information on employees in different types of non-standard jobs, and their discussion raises questions regarding the opportunities for moving from these jobs into more permanent, full-time positions.

In addition to the notion that the quality of wages and benefits are determined by the nature of the employment contract, economic theory also proposes that there is a relationship between wages and benefits. On the one hand, the theory of compensating wage differentials suggests that in the presence of a competitive market, workers accept lower wages in order to procure benefits. On the other hand, segmented labour market theory suggests that markets are not competitive, and that jobs in some markets bring both higher wages and benefits while jobs in others do not. In “*Family friendly employee benefits, women and unions: Evidence for compensating differentials or a segmented labour market?*”, Gagné examines the trade-off between wages and family friendly benefits, such as flexible work hours, paid leave, Employment Insurance (EI)

supplements, childcare, elder care and other family support systems.

The paper finds support for both theories. In general, benefits such as flexible work hours and paid leave are found in the presence of higher wages, supporting the segmented labour market theory. However, there is some evidence suggesting in some sectors there is a trade-off between wages and family friendly benefits, supporting the theory of compensating wage differentials.

In the paper “*Why do some workers report hours constraints?*”, Friesen examines the (mis)match between the number of hours preferred by employees and the number of hours actually worked. The proportion of employees who were satisfied with the number of hours worked was 67% in 1995 (based on the 1995 Survey of Work Arrangements) and 75% in 1999 (based on the WES). However, the sampling frames for these two surveys differ, so it remains to be seen whether this apparent increase in work hour satisfaction remains when appropriate adjustments are made. Friesen exploits two streams of thought that have been largely ignored in the literature on work hour constraints. First, she theorizes that some reported hours constraints may be considered “frictional” reflecting search and mobility costs. This may result from imperfect information on the distribution of hours offered by the jobs available to workers, an inability to locate a job with the preferred hours schedule, or difficulties in coordinating labour inputs with other production inputs that would enable firms to offer a variety of work schedules. Second, Friesen hypothesizes that hours constraints may be “structural” if government regulation prevents the market from providing a set of hours choices at a given wage rate. Other explanations of hours constraints not explored in the paper may include responses to changing macroeconomic or family conditions, illusions with respect to societal norms and binding long-term contracts leading to *ex post* hours constraints.

The paper suggests that workers are more likely to want additional work hours than a reduction in hours at a given wage rate but the reported hours constraints appear to reflect a temporary mismatch in worker

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preferences and actual hours worked. Another main finding of the paper is that statutory fixed costs and overtime pay regulation affects both desired and actual hours. Friesen points to the capacity of the WES to support a longitudinal analysis of hours constraints—specifically, the extent to which mismatches between desired and actual hours are resolved from one year to the next, and whether this is due to workers changing their hours or their preferences.

### **Training: Who wins and who loses?**

The provision of training is often identified as a necessity for a modern and productive economy. With on-going changes in the economy, in the implementation of advanced technologies and the adoption of alternative work practices, the capacity of workers to learn is critical for both individual and organizational success. The collection of papers in this section addresses the determinants of training (at the level of the worker, the workplace, or both) and identifies a “skills divide” between advantaged and disadvantaged populations.

Most previous studies on the determinants of training centred on survey data collected at either the household (i.e. employee) or the firm level. The paper “*New evidence on the determinants of training in Canadian business locations*” by Turcotte, Montmarquette and Léonard offers two advances. First, they analyze the determinants of classroom training and on-the-job training separately from the perspectives of both the employer and the employee. And second, they examine the incidence of training—as measured by the proportion of workplaces that provide training—as well as the intensity of training—as measured by the proportion of workers who receive training within those workplaces.

Their findings are consistent with earlier research using either household survey data (e.g. more educated workers are more likely to receive training) or employer-based surveys (e.g. there is a strong correlation between training and innovation or implementation of new technologies). However, probing the determinants of both classroom training and on-the-job training, the authors cast doubt on the speculation of some commentators that the lower

likelihood of participating in classroom training among young, less educated workers is compensated for by their greater participation in on-the-job training. The authors also note that on-the-job-training is more uniform across groups of workers and establishments than classroom training. Including on-the-job training in the statistics narrows, but does not eliminate, participation gaps between various groups of workers, including those in smaller and larger firms.

In their paper “*Employer sponsored training among recent immigrants*”, Sangster and Lochhead examine the extent to which recent immigrants have access to and participate in employer sponsored training. This is an important issue given concerns regarding a “skills divide” between various groups of workers, demographic pressures of an ageing population, and a policy agenda to support life-long learning in response to the threat of skills shortages.

As noted in the previous paper, not all groups have equal access to training and many studies find that workers with higher levels of educational attainment are more likely to receive training than others. However, this ubiquitous finding does not hold for the population of recent immigrants (those who arrived in Canada after 1989). Even after controlling for age, sex and education level, Sangster and Lochhead find that recent immigrants are less likely than Canadian-born employees to receive employer sponsored training (either classroom training or on-the-job training). Consistent with other evidence, the authors show that recent immigrants are disproportionately overqualified for their job relative to the Canadian-born population, defined as having education levels that exceed the minimum educational requirements of the job. This under-utilization of skills most likely reflects the fact that education and skills obtained in a foreign country are often unrecognized in Canada. The authors conclude that a “skills divide” will grow between advantaged and disadvantages workers.

The previous two papers identified that the provision of employer sponsored training is skewed towards educated individuals while other individuals are less likely to receive or have the means to obtain further job-related training. The paper “*Unions and job related*

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*training*” by Laliberté addresses the idea that the problem is not only one of the provision of job-related training but also one of the distribution of that training. The paper argues that there are compelling reasons—such as collective voice—to believe that unions may play a positive role in insuring greater access to training and a wider distribution of training benefits among the workforce.

Laliberté notes that union membership is associated with a greater incidence of training reported by establishments and employees, as well as a greater financial commitment by establishments to training. This advantage is most evident in establishments where the collective bargaining agreement includes formal provisions regarding training. However, the union advantage is not evident in terms of the amount of training received as, on average, unionized employees who receive classroom training spend a smaller amount of time in training than their non-unionized counterparts. In terms of who gets training, Laliberté provides evidence indicating that union membership plays a positive role in insuring a broader distribution of classroom training across socio-economic groups: being unionized gives women, visible minorities, part-time workers and low-wage workers a slight edge over their non-unionized counterparts in the likelihood of receiving training.

### **Are workplace practices associated with workplace performance and productivity?**

There is a widely held view that there is a set of identifiable organizational traits – often labelled “high performance work organizations” —that when adopted (either in isolation or in bundles) will improve organizational performance. In the paper “*Does high performance work organization mean anything?*”, Parent and Smith provide a critical assessment of this view. They first address several difficulties encountered when conducting research in this area—namely limited theoretical properties, varying definitions of high performance workplace practices, respondent knowledge of whether a specific practice is present or not, numerous measurement issues, quality of previous evidence from survey data with low response-rates and

problems with measures of workplace performance. Their second objective is to examine the relationship between the presence of high performance workplace practices and organizational performance.

Parent and Smith argue that the quality of data and longitudinal structure of the WES will allow for more plausible inferences to be made. Using the linked nature of the WES, they argue that one should be cautious of the results of previous research that rely entirely on managers’ reports of high performance workplace practices. This is because manager-reported practices are often at odds with the views of employees. Parent and Smith note that the results from cross-sectional analyses and fixed effects approaches are often different. They conclude that, when better quality data are used, evidence does not tend to support the claims about the performance effects of high performance workplace practices, and researchers advocating the positive effects of those practices must muster stronger evidence in support of their claims.

A firm’s ability to innovate is the result of a complex interaction between its own internal capacity and external expertise. Of particular importance is the knowledge embodied in the firm’s workforce, and consequently retaining and motivating employees is critical for innovation. The novel contribution of the study “*Empowering employees: A route to innovation*” by Therrien and Léonard is the link between human resource management strategies and the novelty of innovation by Canadian workplaces.

Therrien and Léonard find that there is a positive relationship between workplaces that empower their employees—by allowing them to offer new ideas, to play a role in decision making and to have a better overview of the production process—and the likelihood of launching a “first in the market” (e.g. local, Canadian or world) innovation. The magnitude of this relationship varies, but the positive relationship remains true across all industrial sectors. Next, the authors determine that the relationship is stronger when workplaces use a coherent system of human resource management practices.

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In their paper “*The effect of organizational change and information technology on productivity: Firm level evidence*”, Gera and Gu examine whether investments in information and communications technologies (ICTs)—combined with new organizational practices, the adoption of human resource management practices, and better worker skills—contribute to higher productivity among Canadian firms. The WES does not contain an objective measure of productivity, so the authors use a subjective measure based on managers’ reports of whether workplace productivity increased / decreased / stayed the same since the previous year. Their tentative conclusions are that investments in ICTs, along with other organizational practices, are associated with productivity improvements, and that this relationship is strongest when ICTs are adopted as part of a system of mutually reinforcing organizational approaches. However, the authors note that their argument would be strengthened by the availability and use of objective measures of firm productivity.

In a similar spirit, Turcotte and Whewell in “*Productivity and wages: Measuring the effect of human capital and technology use from linked employer and employee data*” examine the association between productivity gains and ICTs use in Canadian workplaces. Taking advantage of the linked nature of the WES data, their work departs from the existing literature in an important way—they investigate the extent to which investments in ICT combined with investments in human capital affects the productivity of firms and the wages of workers. Turcotte and Whewell use a proxy measure of productivity and define productivity as a value-added concept.

Turcotte and Whewell conclude that workplace productivity is strongly associated with computer-related investments and that these gains are significantly improved when the workforce is more educated and trained. Their results confirm that the type of training matters more than the quantity of training. Sizable productivity gains can be made by combining investments in technology with investments in human capital, in particular providing computer training to less educated workers.

## Conclusion

The collection of research showcased at the conference provides a first glimpse into the value of the Workplace and Employee Survey as well as into the unique opportunities for research in the fields of labour economics, industrial relations and business management. The inter-disciplinary nature of the data encourages researchers to examine a number of questions from a variety of different, yet complementary perspectives. The conference also provided an opportunity for researchers from a variety of disciplines and backgrounds to exchange ideas and strengthen networks.

The WES is Canada’s first large scale survey that includes information on a broad range of workplace, job and individual level characteristics and outcomes. This breadth, coupled with the linked and longitudinal design of the survey, make it a very powerful resource. The WES enables researchers to tease out the true impact of certain factors from a knot of confounding factors. For instance, we saw how linked data allowed researchers to include both establishment and employee characteristics in the pay determination process and found that pay policies do matter. This is an important advance in the wage determination literature since most studies use only worker-level data. As well, issues related to the skills of Canadian workers were linked to what goes on in the workplace in terms of investments in technology and human capital. This is an important advance in the literature since most studies to date have relied on firm-level data alone.

Public policy has traditionally been informed by survey data from either the household or business perspective. The arrival of the WES data offers a valuable new insight for discussion and debate and will provide greater support for evidence-based decision making by policy analysts. The research opportunities afforded by the WES will increase markedly over the next few years as more years of longitudinal data become available. Tracking establishment and employee outcomes over several years will allow new research questions to be addressed, and will provide more complete answers to many old questions.

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