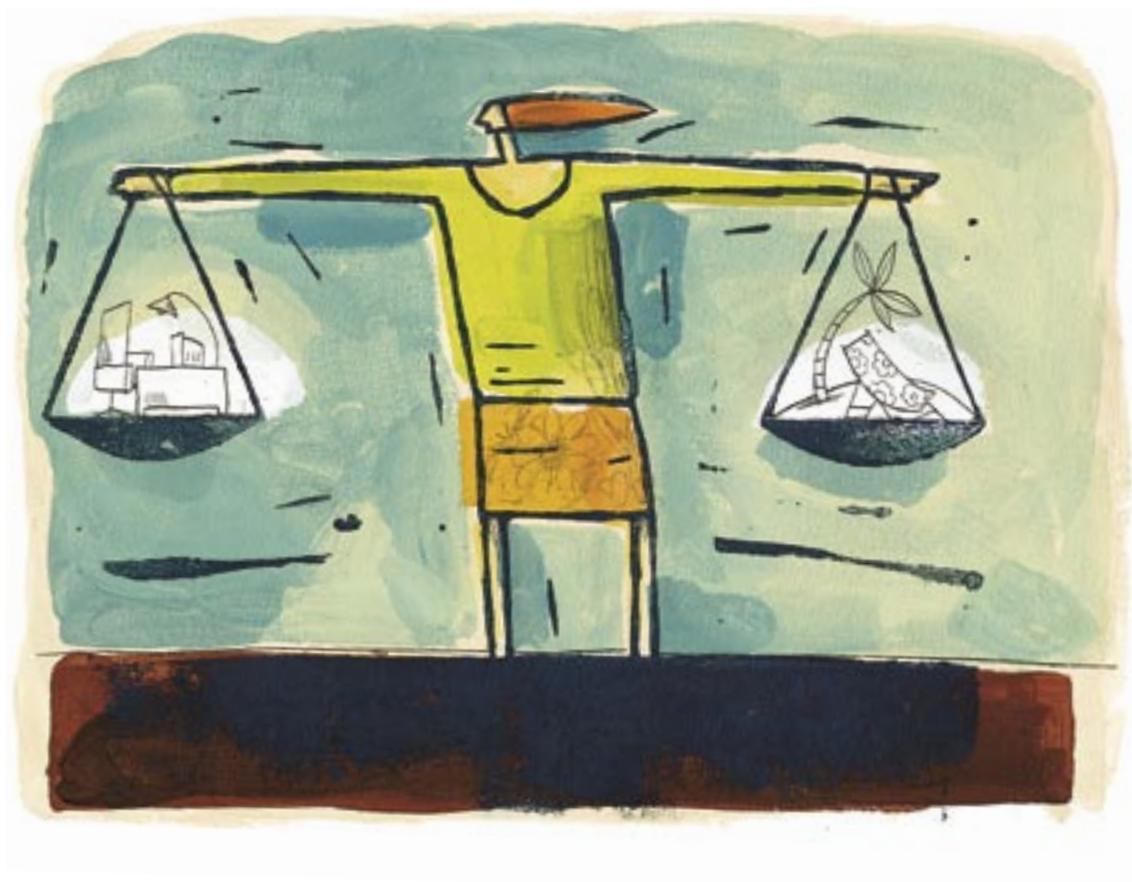


# Time on the job: Intensity and Ontario's prosperity gap

WORKING PAPER 9, SEPTEMBER 2006



The Institute for Competitiveness & Prosperity is an independent not-for-profit organization established in 2001 to serve as the research arm of Ontario's Task Force on Competitiveness, Productivity, and Economic Progress.

Working Papers published by the Institute are primarily intended to raise public awareness and stimulate debate on a range of issues related to competitiveness and prosperity.

The mandate of the Task Force, announced in the April 2001 Speech from the Throne, is to measure and monitor Ontario's competitiveness, productivity, and economic progress compared to other provinces and US states and to report to the public on a regular basis. In the 2004 Budget, the Government asked the Task Force to incorporate innovation and commercialization issues in its mandate.

It is the aspiration of the Institute and the Task Force to have a significant influence in increasing Ontario's competitiveness, productivity, and capacity for innovation. We believe this will help ensure continued success in the creation of good jobs, increased prosperity, and a higher quality of life for all Ontarians. We seek breakthrough findings from our research and propose significant innovations in public policy to stimulate businesses, governments, and educational institutions to take action.

Comments on Working Paper 9 are welcome and should be directed to the Institute for Competitiveness & Prosperity. The Institute for Competitiveness & Prosperity is funded by the Government of Ontario through the Ministry of Economic, Development, and Trade.

# Time on the job: Intensity and Ontario's prosperity gap

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# Foreword and acknowledgements



**I AM PLEASED TO PRESENT** the ninth Working Paper of the Institute for Competitiveness & Prosperity in support of the Task Force on Competitiveness, Productivity, and Economic Progress.

In this Working Paper, we turn our attention to intensity – the hours worked by employed Ontarians in creating prosperity for themselves and their families. We find that the average Ontario worker works nearly three and a half weeks less than US counterparts each year. This lower intensity reduces prosperity by \$3,700 per capita relative to the largest US states.

Intensity is one of four elements that we measure in assessing the province's competitiveness and prosperity versus the other large jurisdictions in North America. The others are demographic profile – what percentage of our population is of working age; utilization – how many of our working aged adults are working; and productivity – how much value are we creating when we are working. Taken together, our performance in these elements has resulted in a large and widening prosperity gap versus our North American peers.

Our research indicates that, while productivity is the key challenge we face in closing this prosperity gap, our lower level of intensity contributes significantly to the gap. Half of the intensity gap is due to our propensity to take more full weeks off work; half is because we work fewer hours when we are at work. But we have always argued that closing the prosperity gap exclusively or primarily through increased work effort is an unwise course. And we have been urging Ontarians to work smarter through higher productivity. A goal of increasing hours worked in general is impractical and unwise.

Yet, as we deepen our understanding of the intensity gap, we find that much of its negative effect is being borne by part-time workers who want to work more. These workers are the least skilled and most vulnerable to the vicissitudes of the economy. Ontario's prosperity gap is the result of our economy not operating at its full potential – and this means that more vulnerable workers have fewer opportunities to build their own prosperity. Increasing skills through education and training of these workers along with a more robust economy that creates more jobs will ease this problem and lead to more opportunities for them. Others have argued that greater regulation to reduce the hours worked by some, so that work can be shared by others, is the answer. Our research indicates that increasing regulation could have the opposite effect – creating more rigidity in the labour market and reducing job opportunities.

We also find that Ontario's intensity gap with US peers is wider among our more productive workers – those with higher education and higher income. Compared to their peer state counterparts, these Ontarians take more vacation time and are less likely to work long work weeks. Our previous research into attitudes indicates that these Ontarians are less interested in working more hours to augment their prosperity. We know, too, that the income premium for higher educational attainment is lower in Ontario than in the peer states. Our economy does not reward higher skill levels as much as the US economy.

Are we in a vicious circle? Because our economy does not value higher skilled workers and managers as much as the peer states, the incentive for them to work longer hours is reduced. Consequently, our overall productivity is reduced, and so on.

**While productivity is the key challenge we face in  
closing the prosperity gap, our lower level  
of intensity contributes significantly to the gap**

In summary, the debate is not about whether we should be more like the long-working Americans or the leisure-loving Europeans. We need Ontario and Canadian solutions to the particular challenges we face in creating opportunities for all of us to choose the amount of work we deem appropriate for our individual situations.

We gratefully acknowledge the funding support from the Ontario Ministry of Economic Development and Trade.

We look forward to sharing and discussing our work and our findings. We welcome your comments and suggestions.



Roger L. Martin, Chairman  
Institute for Competitiveness & Prosperity  
Dean, Joseph L. Rotman School of Management, University of Toronto



## Executive summary

**S**INCE OUR INCEPTION, the Institute for Competitiveness & Prosperity has identified the growing prosperity gap with our North American peers as a major challenge facing Ontarians. We are concerned that, with a similar endowment of human, natural, and physical capital, we have been less successful in creating prosperity.

We have focused on the impact of productivity on the prosperity gap because it is the largest source of the gap and because it represents an ever-increasing opportunity for greater prosperity. There is a limit to how many work hours we can spend in creating prosperity, but productivity has no upper limit.

Nevertheless, we are struck by the significance of the difference in the hours Ontarians work versus their counterparts in the peer states. After productivity, this

difference is the most important contributor to Ontario's prosperity gap. In this Working Paper, we explore in depth the factors behind this intensity gap and the implications of the gap for stakeholders in Ontario's prosperity.

The subject of intensity – hours worked per employed person – has attracted recent attention from economists and those involved with public policy. For some, the key challenge is to ensure that, as our society prospers, the goal of public policy ought to be to reduce the number of hours workers are on the job. There is a variety of good reasons for this stance. Leisure is an important contributor to health and well being. Over worked individuals are less happy and productive than those who work less. And some workers may not have adequate employment opportunities because others are working too many hours, contributing to significant under employment, especially among less educated individuals.

## Leisure is an important contributor to health and well being...but closing some of the intensity gap has the potential to contribute to higher prosperity in Ontario

Others note that there is a downside to working less. In Ontario, the intensity gap with our US peer states has grown significantly over the past thirty years. Ontarians now work about two and a half hours per week less than their counterparts in the largest comparable US jurisdictions. The gap has grown because Ontarians are taking more weeks away from work and because we are working fewer work hours in the weeks when we are at work. At the same time, workers in the peer states have increased the weeks they are at work and the hours they work each week.

This gap cumulates to an annual difference of 128 hours, or nearly three and a half weeks, that each worker spends on the job annually. In our Fourth Annual Report, we estimated that for 2004 the intensity gap accounted for \$3,700 of the \$6,000 per capita prosperity gap with our US peers. Closing some of this intensity gap has the potential to contribute to higher prosperity for Ontario individuals and families. We could also generate significant additional revenue for the Ontario government. This would make possible both higher investment in education and health care and lower taxes.

We agree, however, with the general proposition that closing the prosperity gap exclusively or even primarily through increased work effort is an unwise course. It goes against the idea of working smarter, not harder, to increase prosperity. It is also impractical if it works against individual preferences. But we do not conclude that public policy should be geared toward reducing work hours to match the experience of Europeans, since there is no evidence that this can or should be transplanted. Whether we need new approaches to the amount of time workers spend on the job ought to be informed by a deeper understanding of the situation here in Ontario.

In this Working Paper, we look at the intensity gap and its underlying causes and effects. While there are many similarities in the Ontario and peer workforces and the time they spend on the job, three differences stand out clearly.

- **Nearly a quarter of the intensity gap is involuntary.** More Ontarians than their US peers work part time, and the most important reason for this is that they are unable to find full-time work. The evidence points to economic conditions as the major determinant. Where and when unemployment is higher, involuntary part-time employment increases. In a sense, we have a vicious circle – lower productivity leads to worse economic conditions that, in turn, reduce the demand for labour, especially among the less skilled. This lower work effort reduces our prosperity, and so on. Among the other reasons we have advanced for investing in education, this points to the ongoing imperative for strengthening the skills of Ontarians, since involuntary part-time work is more prevalent among those with lower skills. We need to continue working to ensure that our children are staying in school as long as possible so that they are less vulnerable to the vicissitudes of economic downturns and the employment market.



- **The intensity gap is wider among our more productive workers.** Compared to their peer state counterparts, Ontario workers with higher education and higher incomes take more weeks off work and are less likely to work long work weeks (defined as 50 or more hours per week). In our previous work in exploring Ontarians' attitudes, we did not find significant differences in our overall propensity to work more hours for greater prosperity. However, upon further analysis, we find that the most highly educated and the highest income earners are less interested than peers in working longer hours to augment their prosperity. We also know from our previous work that the premium for higher educational attainment is lower in Ontario than among our peers – our economy does not reward more education as much as the US economy. Again, we may be in a vicious circle. Because our economy does not value higher skilled workers and managers as much as the peer states' economies, the incentive for Ontarians to work longer hours is reduced. Consequently, our overall productivity is lower.

## Nearly a quarter of the intensity gap is a result of involuntary part-time employment

- **The intensity gap is related to our less robust economy.** We find that our lower work intensity is related to our higher unemployment rate and our lower GDP per capita. The inability of our economy to achieve its full competitive potential means that fewer of our workers, particularly those with lower skills, have the choice to work as many hours as they want. For them, the labour-leisure tradeoff is a false dichotomy. We need to recognize that our prosperity gap has real consequences for real people.

**In summary, the intensity gap is a major contributor to our prosperity gap. To the extent that many Ontarians are content to work less and to enjoy the benefits of their prosperity, that is a positive feature of our economy. But, to the extent that those who want to work more to advance their economic situation are being constrained, we need to create opportunities for them to work and earn more. And, to the extent that we are under utilizing the potential contribution from our more productive workers, we need to look for creative solutions to realize all that they can contribute to higher prosperity.**

# Intensity gap contributes to Ontario's prosperity gap

## That Ontarians work fewer hours annually than their US peers accounts for a major portion of our prosperity gap

**IN CARRYING OUT** our mandate to measure and monitor Ontario's competitiveness, productivity, and economic progress, the Institute for Competitiveness & Prosperity has focused on the importance of prosperity to Ontario. While economic prosperity is only one dimension of our quality of life, it is an important basic requirement for achieving the elements that Ontarians value – the potential to enjoy a high standard of living, opportunities for personal development, sound social safety nets, adequate health care, and a clean environment. Without a growing economy, these are difficult to achieve, and the fight against poverty and inequality is harder to win, as there is less for everyone to share.

We have argued that Gross Domestic Product (GDP) per capita is the best measure of our economic success. GDP measures the value added by Ontarians in converting our human, physical,

and natural resources into products and services that consumers buy here and around the world. Over the last four years, the Institute has focused on deepening our understanding of Ontario's prosperity potential, explored reasons why we are not realizing this potential, and developed recommendations for closing the prosperity gap we have identified.

We have confirmed that Ontario has an enviable economic position. Among countries with a population that is similar to or greater than Ontario's, except for the United States, no other country in the world has achieved Ontario's success in building such a competitive and prosperous economy.<sup>1</sup>

As solid as our record is in the international sphere, however, Ontario lags economies that most closely resemble ours. We continue to measure our competitiveness and prosperity against a peer group of the most populous jurisdictions in North America. Against these fourteen US states and Quebec in 2004, we estimate that Ontario's prosperity stood at \$41,800 per capita, while the median of the sixteen peer jurisdictions was \$47,800. Ontario was fully \$6,000 or 12.6 percent behind our peer median<sup>2</sup> (*Exhibit 1*).



<sup>1</sup> Task Force on Competitiveness, Productivity and Economic Progress, Fourth Annual Report, *Rebalancing priorities for prosperity*, November 2005, p. 25.

<sup>2</sup> *Ibid.*, p. 26.

This prosperity gap matters. As we have discussed in our previous work, closing the prosperity gap would provide significant benefits to individuals and governments in Ontario.<sup>3</sup>

To understand the reasons for the prosperity gap and its recent trends, we draw on the same framework we have used in previous reports to disaggregate Ontario's prosperity gap into four measurable elements of our GDP per capita (*Exhibit 2*):

- How many people are of working age? The demographic **profile** in a jurisdiction – the percentage of the population that is between 16 and 64 and can therefore work to contribute to economic prosperity
- How many people are active in the work force? The **utilization** of

the working age population – the percentage of the population between 16 and 64 who are seeking and finding work

- How many hours do people work? The **intensity** of work – the number of hours workers on average spend on the job
- How much value do workers create? The **productivity** of the workforce – the success in translating working hours into products and services valued by customers in Canada and around the world.

Note that the first three factors – profile, utilization, and intensity – capture the overall work effort of Ontarians. Combined, these three factors measure the physical effort we are expending to create economic value.

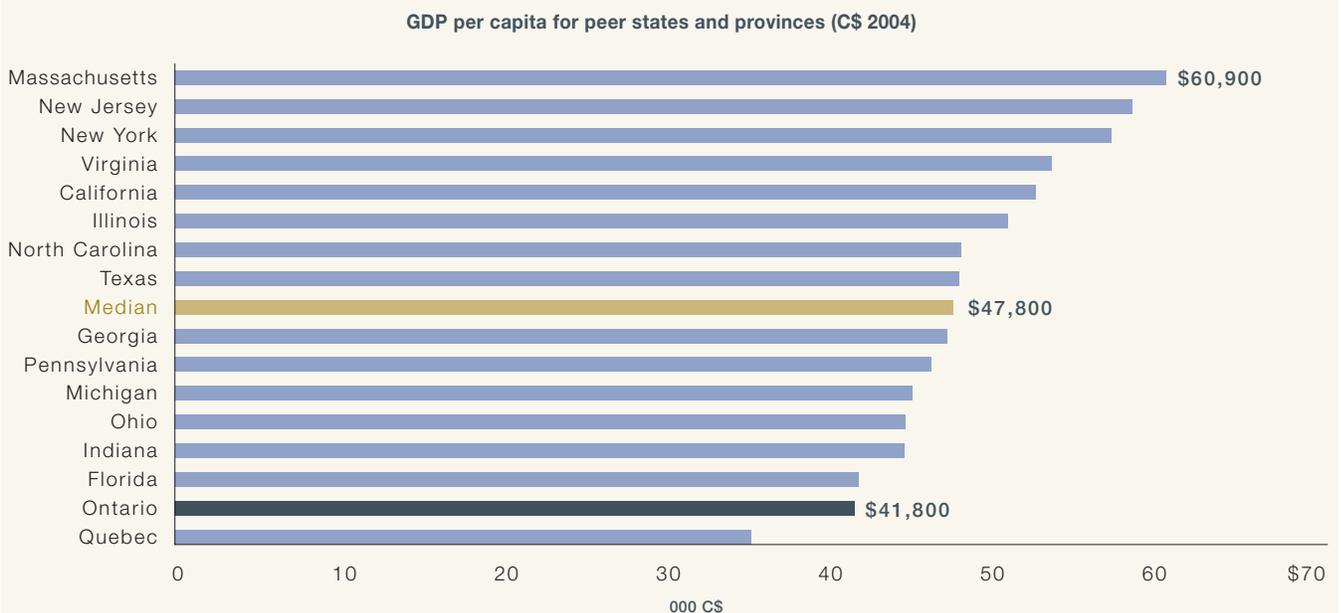
The fourth factor – productivity – measures the effectiveness of our labour force efforts in translating resources into economic value and prosperity.

The Institute's research has consistently pointed to productivity as Ontario's key challenge in closing our prosperity gap with the United States (*Exhibit 3*). In this Working Paper, we turn our attention to the impact of the intensity gap, as it is the second most important part of the prosperity gap between Ontario and the peer states.

**Higher productivity remains the key to closing the prosperity gap**

Since our First Annual Report four years ago, we have consistently urged Ontarians to address the productivity challenges we face. In our work on productivity, we have emphasized the

**Exhibit 1 Ontario has a significant prosperity gap versus its peer states**



Source: Institute for Competitiveness & Prosperity, based on data from Statistics Canada; US Bureau of Economic Analysis; OECD.

<sup>3</sup> Fourth Annual Report, *Rebalancing Priorities for Prosperity*, pp. 27-28.

importance of investments in post secondary education and machinery, equipment, and software; urbanization in Ontario; and the effectiveness of our industries through greater competition. Taken together the factors related to productivity account for \$4,700 of the \$6,000 gap in per capita GDP. And the importance of productivity to Ontario's prosperity gap has been growing since 2002.<sup>4</sup>

We have not closed the prosperity gap with the peer states, because we have fallen further behind on productivity. But productivity is limited only by human ingenuity, and over the long term there has been no indication that this is a limiting factor. There are, however, natural limits to the amount of work we can carry out – limits of the workforce and time. We think that with more highly skilled workers, greater capital

supporting their efforts, more creative ways to organize work, and ongoing pressures for improvement, our productivity growth is not limited.

Nevertheless, we cannot ignore the importance of the gap in hours worked in explaining our prosperity gap with the peer jurisdictions. We turn to this intensity factor in this Working Paper.

**Intensity gap is significant**

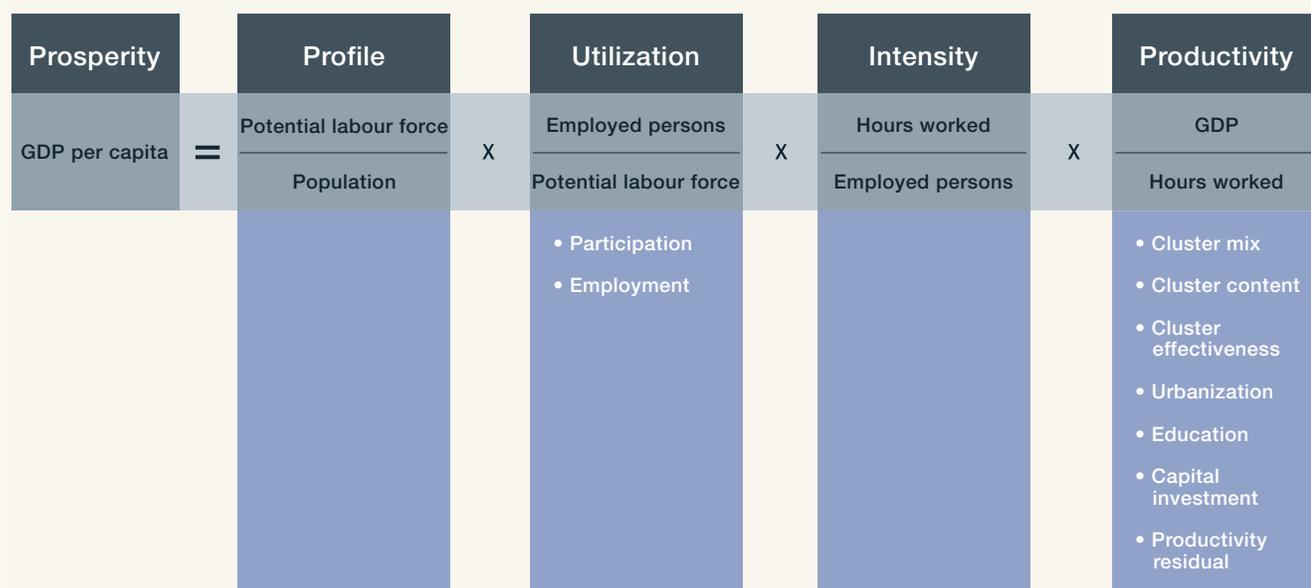
Ontario has had mixed performance in the three factors measuring work effort. We have an ongoing advantage in demographic profile and have made excellent progress in reducing the gap in utilization that opened up in the 1990-92 recession.<sup>5</sup> But we under perform significantly in intensity.

In 2004, 67.5 percent of Ontario's population was between 16 and 64. The median of the peer group stands at 65.5 percent. Ontario, therefore, has a 3.0 percent advantage versus the United States in demographic profile.<sup>6</sup> Holding all other elements constant, demographic profile represents a \$1,200 advantage in GDP per capita versus the United States (see *Exhibit 3*).

In a similar manner, we estimate a \$1,200 utilization advantage for Ontario. This advantage is the net effect of a \$1,600 per capita advantage in Ontario's higher participation rate and a \$400 disadvantage from its higher unemployment rate.

The intensity gap – the difference in the number of hours the average employed person works in a week or a year in Ontario and the peer states – accounts

**Exhibit 2 The Institute assesses four elements of prosperity**



Source: Adapted from J. Baldwin, J.P. Maynard and S. Wells (2000). "Productivity Growth in Canada and the United States" *Isuma* Vol. 1 No. 1 (Spring 2000), Ottawa Policy Research Institute.

<sup>4</sup> Fourth Annual Report, *Rebalancing priorities for prosperity*, p. 9

<sup>5</sup> *Ibid.*, pp. 29-32.

<sup>6</sup> Calculated as [1 minus(65.5 (median of peer jurisdictions)/67.5 (Ontario))=3.0 percent.

for \$3,700 of our prosperity gap with the peer states. As we reported in the Fourth Annual Report of the Task Force, getting this measure right has been a challenge for us and for others as we compare Canadian and US economic performance. In 2005, Statistics Canada published the results of its attempts to produce comparable estimates of hours worked in the two countries.<sup>7</sup> They concluded that the US *Current Population Survey* (CPS) provides the best comparison with Canada's *Labour Force Survey* (LFS). Their research indicated that Canada had a persistent and significant disadvantage versus the United States in hours worked per employee and per job.

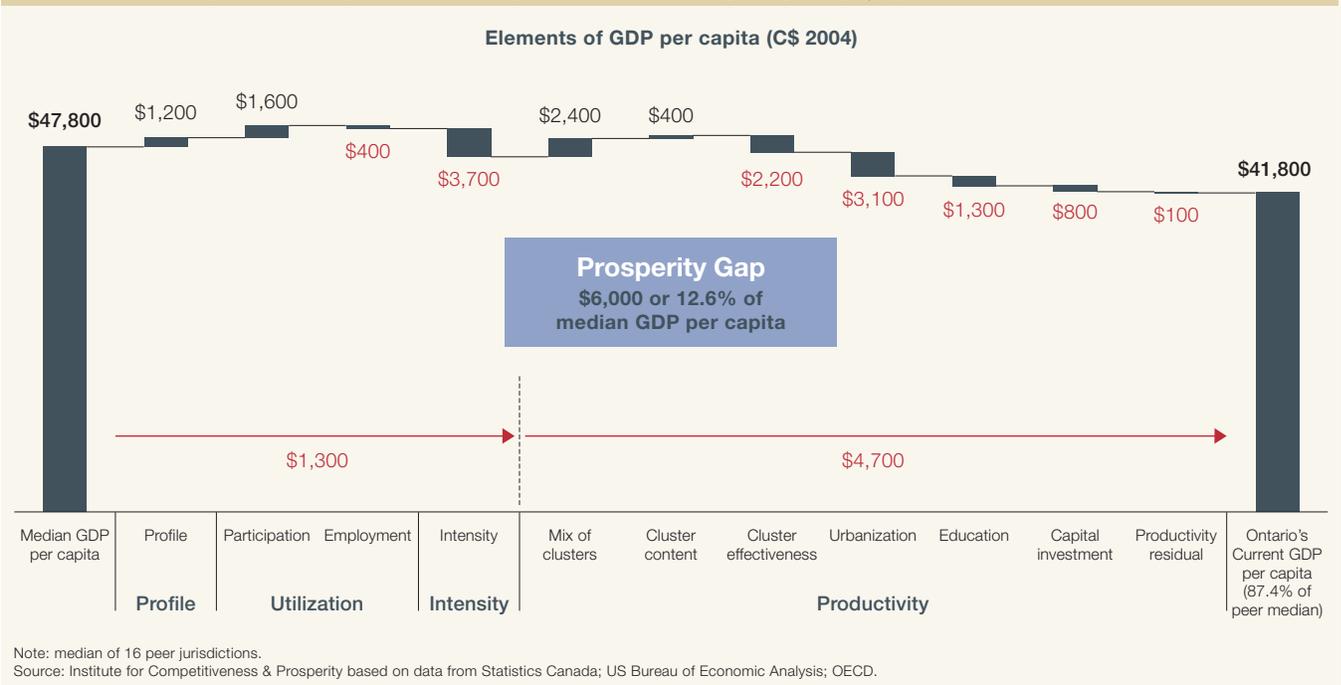
Consistent with their findings, we estimate that, over the 1997-2004 period, the average worker in Ontario

worked 1,739 hours annually, while the average worker in the peer jurisdictions worked 1,867 hours. On average, over the 1997-2004 period, this means that the average worker in Ontario spent 128 fewer hours on the job annually than a counterpart in the peer jurisdictions. For the year 2004, we estimated the impact of this lower intensity on GDP per capita to be \$3,700 – the second most important factor explaining the prosperity gap between Ontario and the peer states.<sup>8</sup>

This intensity gap affects our material prosperity. If we were to match the peer states in annual hours per worker, we would add \$46 billion to Ontario's output. The average Ontario household would gain \$5,100 in after-tax disposable income. This would assist families in meeting financial needs. For example, among mortgage holders,

nearly half their average annual payment (\$11,500) would be covered. Among tenants, more than half of average rental payments (\$8,200) would be offset. Many renters would choose to own their own homes. Closing the prosperity gap would make home renovations (\$5,800 current annual spending among renovators), recreation spending (\$3,900), RRSP contributions (\$3,700) and other expenditures more affordable.<sup>9</sup> In addition, federal, provincial, and local tax revenues raised in Ontario would increase by \$17 billion dollars annually. For the Ontario government, this would mean \$7 billion in additional revenue. This would convert our current deficit situation into a massive surplus. It would make possible simultaneously both higher investment in education and health care as well as cuts in taxes that are hurting our prosperity.<sup>10</sup>

**Exhibit 3 Lower productivity and intensity drive Ontario's prosperity gap**



<sup>7</sup> John R. Baldwin, Jean-Pierre Maynard, Marc Tanguay, Fanny Wong, and Beiling Yan, "A Comparison of Canadian and U.S. Productivity Levels: An Exploration of Measurement Issues," Statistics Canada, Catalogue no. 11F0027 No. 28, January 2005.  
<sup>8</sup> Fourth Annual Report, *Rebalancing priorities for prosperity*, pp. 32-33.  
<sup>9</sup> Statistics Canada, *Spending patterns in Canada, 2003*, Catalogue no 62-202-XIE; figures reflect Ontario results; annual spending among renovators represents national results.  
<sup>10</sup> Institute for Competitiveness & Prosperity, Working Paper 7 *Taxing smarter for prosperity*, March 2005, pp. 43-49.

As important as the intensity gap is for our material prosperity, we recognize that, for many, the less time they spend on the job means more leisure time and that they value this time. But, for some, time spent not working creates hardship. One question, then, is what is the right balance between time spent working and not working. We turn next to this issue.

### Intensity gap between Europe and North America creates debate

Across nearly all developed countries, the trend over the past thirty years has been to reduce the time workers spend on the job. European countries have led the downward trend in intensity, but Japan and Korea have also seen reductions. The United States is a distinct outlier in that hours worked there have been increasing slightly.

Canada's experience has been in the middle, as hours worked have declined but less than in the European countries (*Exhibit 4*).

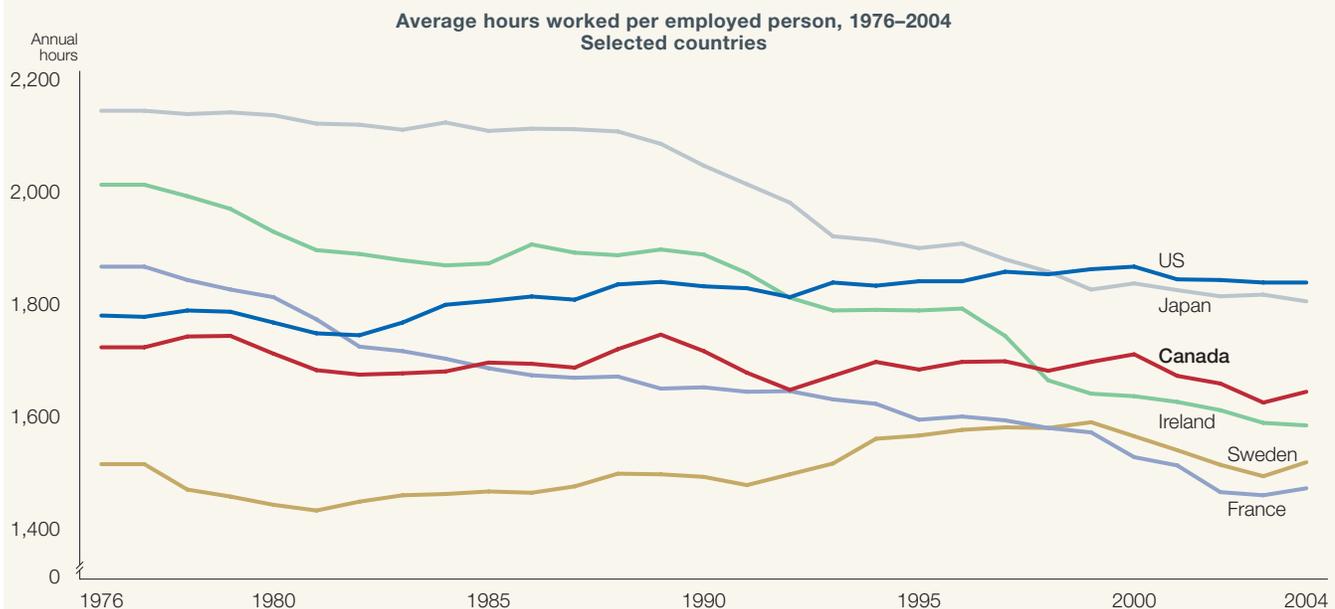
Most economic observers agree that reduced intensity is a natural outcome of rising prosperity. Generally, at lower income levels, workers prefer to work more hours than fewer. Even though they value non-working time, they desire the potential to consume more from working more – a paid work hour increases consumption possibilities, and so people are willing to put in the extra hours on the job. But this is only true up to a point. As wages grow higher and higher and people consume more and more, the added worth or utility of more consumption declines relative to leisure; so people choose to work less.<sup>11</sup> It should come as no surprise then that, as countries

prosper, those in the labour force work less.

Some observers and pundits deplore the growing gap in hours worked between North Americans and Europeans, concluding that happiness is higher among Europeans who work less and have a better sense of work-life balance. Undoubtedly, the goal of a jurisdiction's prosperity is happiness for its residents – and happiness comes from leisure as well as the consumption afforded by paid work. But it is unclear that the Europeans have got it right and North Americans have it wrong – for several reasons.

First, there is some evidence that Americans are gaining more true leisure than they used to from the hours they are not on the job. US economists Mark Aguiar and Erik Hurst<sup>12</sup> find that Americans are spending much less time

**Exhibit 4 Intensity has tended to decline over recent decades**



Note: Results for those 15 years and over except for Sweden (16+).

Source: Institute for Competitiveness & Prosperity based on Statistics Canada, *Labour Force Survey*; US Bureau of Labor Statistics, *Current Population Survey*; OECD, *Productivity Database*.

<sup>11</sup> Although as economists point out when income increases the opportunity cost of not working also increase making leisure more expensive – still the net effect is typically that as incomes increase, so does leisure.

<sup>12</sup> Quoted in Heleen Mees, "Europe's Leisure Trap," *Project Syndicate*, 2006. Available online: [www.project-syndicate.org](http://www.project-syndicate.org)

doing household tasks, such as house-keeping, cooking, running errands, and shopping than they were forty years ago. Appliances, home delivery, the Internet, 24-hour shopping, and more varied and affordable domestic services have increased flexibility and freed up time for other pursuits.

At the same time, there is further evidence that Europeans are not gaining as much true leisure time from their greater number of hours off the job. Economists Richard Freeman and Ronald Schettkat have calculated that European women spend ten hours more per week on cooking, cleaning, and childcare than American women.<sup>13</sup> Further evidence of this difference can be found in the penetration of labour saving devices in North America and Europe. For example, 54 percent of Canadian and 53 percent of US households own a dishwasher versus 32 percent of French and 34 percent of German households. In Canada and the United States, 92 percent and 86 percent of households respectively own a microwave oven versus 19 percent in France and 36 percent in Germany. While penetration of clothes washers is very similar across the four countries at 81 to 90 percent, clothes dryers are in 79 percent of Canadian and 82 percent of US households, while they are in only 12 percent of French and 17 percent of German households.<sup>14</sup>

So while North Americans may spend more time on the job, they appear to be using the extra income to reduce the time spent on household chores. This frees up time for more leisure.

Second, it is not clear that Europeans

are more or less happy than Canadians and Americans. In the 1999/2000 World Values Survey,<sup>15</sup> 96 percent of Canadian respondents indicated they felt happy, while 93 percent of respondents in the United States and 91 percent in France agreed. Fully 95 percent of French respondents agreed that work was important in their life, while 89 percent of Canadians and Americans agreed.

Finally, current public policy developments in Germany and France indicate that, as they face high unemployment and stagnating living standards, the current balance between time on and off the job may not be right for them. Recent wage settlements in Germany are resulting in longer working times.<sup>16</sup> Workers and management at Siemens, one of the world's largest electrical engineering and electronics companies, recently agreed to lengthen the work week from 35 to 40 hours – without compensating pay increases. Bavaria's government increased the work week from 38.5 to 40 hours for older workers and to 42 hours for younger workers. Daimler-Chrysler increased work hours in its R&D centre from 35 to 40 hours. Other collective agreements are following suit.

France recently changed its work week, allowing employers to increase working hours from the 35-hour standard. Unlike in Germany, however, workers will be compensated for their extra hours on the job.

Thus it is not clear that public policy should focus on reducing intensity. Nor is it clear that public policy should seek to expand hours worked across the board. Clearly, Ontario's intensity

gap with our US peers has contributed significantly to our widening prosperity gap. Faced with this challenge, Ontario has a chance to explore the potential of opportunities to change our current approaches to the time we spend working. We need to understand the patterns of work that are occurring.

### **The intensity debate raises questions for Ontario and Canada**

Most recently, the debate in Ontario has been about striking the right balance between providing adequate choice for workers about whether to work long hours and giving firms the flexibility to compete nationally and internationally. In March 2005, the Ontario government re-introduced the requirement for Ministry of Labour permits for work arrangements that resulted in a work week longer than 48 hours. Between 2000 and 2005, permits were not required for work weeks shorter than 60 hours.<sup>17</sup> Going back to 1944, employees could refuse to work more than 48 hours in a week. Similarly, the standard work week in Ontario has been 44 hours for several decades – overtime payment of time and a half regular pay must be paid after that threshold.

Over the longer term in Ontario and Canada, however, the public policy debate has focused more on the relationship between hours worked and unemployment. The last significant provincial assessment of hours worked was the Ontario Task Force on Hours of Work and Overtime, which issued its final report to the Ontario Minister of Labour in 1987. Federally, the last focused effort to assess work hours

<sup>13</sup>Richard B. Freeman and Ronald Schettkat, "Marketization of household production and the EU-US gap in work," *Economic Policy*, Vol. 20, Number 41, January 2005, pp. 6-50.

<sup>14</sup>Canadian data: Statistics Canada, *Spending Patterns in Canada*, Catalogue 62-202-X, p. 56, 2002; other countries: Michael Cox and Richard Alm, *Myths of the Rich and Poor*. New York: Basic Books, 1999, p. 97.

<sup>15</sup>European Values Study Group and World Values Survey Association, *World Values Survey, 1981-2004*, v.20060423, 2006. Available online: [www.worldvaluessurvey.org](http://www.worldvaluessurvey.org)

<sup>16</sup>Hans-Werner Sinn, "Europe is Working Longer," *Project Syndicate*, 2005. Available online: [www.project-syndicate.org](http://www.project-syndicate.org)

<sup>17</sup>Work week regulations do not apply in some industries, e.g., construction and farming, and in some occupations, e.g., managerial and supervisory, fire fighters, lawyers, engineers, many health professionals, and information technology professionals.

was the 1994 Advisory Group on Working Time and the Distribution of Work, chaired by Arthur Donner. Its mandate included an assessment of “whether and how shorter working time and a more equitable distribution of work could contribute to job creation.”

Both efforts were initiated when unemployment was high and focused on ways to reduce the jobless rate through a more equitable distribution of hours worked. Both groups<sup>18</sup> made recommendations to lower the standard work week, to reduce the incidence of overtime, and to find ways to share hours between workers. And neither group’s key recommendations were implemented. None of the federal task force’s recommendations was implemented, apparently because the federal government in 1995 turned to battling the deficit.<sup>19</sup>

On another front, organized labour has made shorter work weeks an important priority for their bargaining efforts and as their input to public policy for all workers. A good example of the viewpoint of organized labour is found in the October 2005 submission of the Canadian Auto Workers (CAW) to the Canadian Federal Labour Standards Review. As the CAW pointed out, the founding constitution of the United Auto Workers reads: “[The worker] asks that hours of labor be progressively reduced in proportion as modern machinery increases his productivity.” The CAW also supported the federal Donner Report in its call for reduced work time. It argued that this reduction is important for restoring the balance between work and family, community, and health. It is concerned about a “culture of over-work” in our society. It also advocated a tenth paid holiday in federal jurisdictions and increasing vacation entitlements to

three weeks after one year of employment service and four weeks after ten years of service.

In collaboration with employers, the CAW has also developed a Scheduled Personal Absence (SPA) program to reduce annual working hours without harming capital utilization and simultaneously increasing full-time employment in the automotive industry. SPA began in 1993, and was expanded in 1996 and 1999. At present, CAW members at the Big Three workplaces and a few other firms get two weeks off throughout the year in addition to their regular vacation. The absences are scheduled randomly through the year, requiring each company to have a certain number of “on roll” SPA replacement staff. By the CAW’s estimate, the program has created 2,000 jobs in these high-wage companies. They point to other benefits as well, such as reduced absenteeism and better health and family outcomes.

Some other proponents of legislated shorter weeks argue that this will spur productivity increases by reducing fatigue and increasing the pace of work under reduced hours. But these productivity gains offset the job-creation potential from shorter work weeks.<sup>20</sup>

**Clearly, the intensity gap raises important questions for stakeholders in Ontario’s prosperity. More specifically, in the balance of this Working Paper we answer three questions:**

- **What drives the intensity gap?**
- **Why does intensity vary?**
- **How do Ontario’s intensity and prosperity gaps affect each other?**

<sup>18</sup>Economist Arthur Donner was the chair of the 1987 Ontario task force and the 1994 Canada task force. Both task forces had representatives from business and organized labour.

<sup>19</sup>Arthur Donner, “It’s Been Ten Years,” *Toronto Star* (Op-ed) Dec 16, 2004. Available online: [www.atkinsonfoundation.ca/files/Its\\_Been\\_Ten\\_Years\\_2\\_Arthur\\_Donner.docpub.doc](http://www.atkinsonfoundation.ca/files/Its_Been_Ten_Years_2_Arthur_Donner.docpub.doc)

<sup>20</sup>See Morley Gunderson, “Social and Economic Impact of Labour Standards,” prepared for the Federal Labour Standards Review Commission, December 2005, p. 20 for a discussion of productivity impacts and citations of other research.

# What drives the intensity gap?



## Ontario's widening intensity gap with US peers results from more weeks away from work, involuntary part-time work, and fewer long work weeks

**IN REVIEWING THE** intensity gap, we find that Ontario workers spend fewer hours at work than their counterparts in the peer states (*Exhibit 5*). They are on the job about 128 fewer hours annually than the median of peer workers.

As we analyze this difference we see that it consists of two nearly equal factors: the percentage of employed persons who worked in any given week, and the number of hours they spent on the job during a typical work week (*Exhibit 6*).

Ontarians are **away from work** for more full weeks than workers in the peer median. In any given week, about 7.4 percent of Ontario workers are off the job for a full week. Multiplying this 7.4 percent by 50 work weeks in a year<sup>21</sup> indicates that the average Ontario worker has 3.7 weeks away from work. Among the peers, 4.1 percent of

workers report being away from work for a full week sometime in a given month; this translates to 2.1 weeks in the peer median. In other words, Ontario workers work 96.7 percent as many full weeks as the peer median. This difference of 1.6 weeks per year accounts for 63 hours<sup>22</sup> over the year – or 49 percent of the total 128-hour gap.

In those weeks when they are **at work**, workers in the peer median work an average of 38.9 hours per week. Workers in Ontario achieve 96.4 percent of this, or 37.5 hours weekly. This 1.4 hour difference translates to 65 hours or 51 percent of the total annual 128-hour gap.

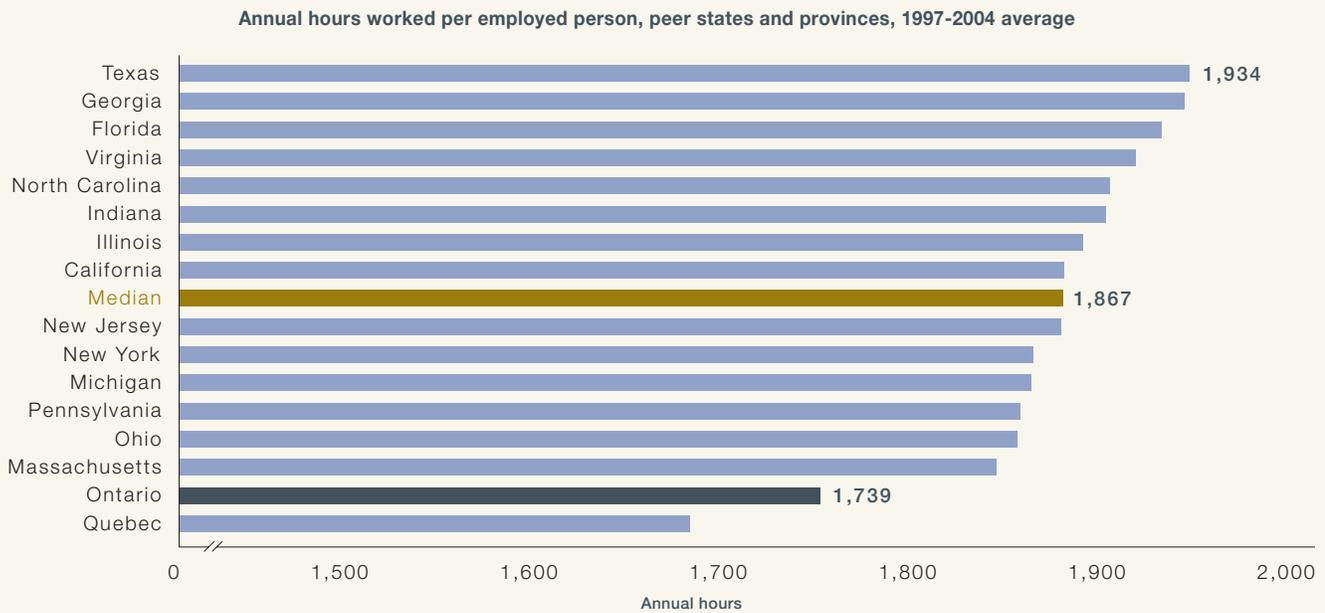
The Ontario-peer median gap has grown in each of these two factors since 1976 (*Exhibit 7*).

Between 1976-80 and 2001-05, the intensity gap widened significantly – from 45 hours annually, or 2.5 percent, behind the peer median, to 138 hours, or 7.4 percent behind. This gap has widened primarily because an increasing percentage of Ontario workers take full weeks off work, largely for vacations, while workers in the peer states report fewer weeks off. To a lesser extent, the widening gap is the result of work weeks becoming shorter in Ontario and longer in the peer states.

<sup>21</sup>Alesina *et al.* count 12 statutory holidays a year in the United States. Maynard shows 6 to 10 holidays in Canada, depending on the province or territory. For our estimates, 10 days or 2 work weeks for statutory holidays seems reasonable. For more detail see; Alberto Alesina, Edward Glaeser, and Bruce Sacerdote, "Work and Leisure in the U.S. and Europe: Why so Different?" Harvard Institute of Economic Research, April 2005, discussion paper No. 2068. And Jean-Pierre Maynard, "Annual measures of the volume of work consistent with the SNA: The Canadian experience," Statistics Canada, 2005, working paper 11F0026 No. 11895.

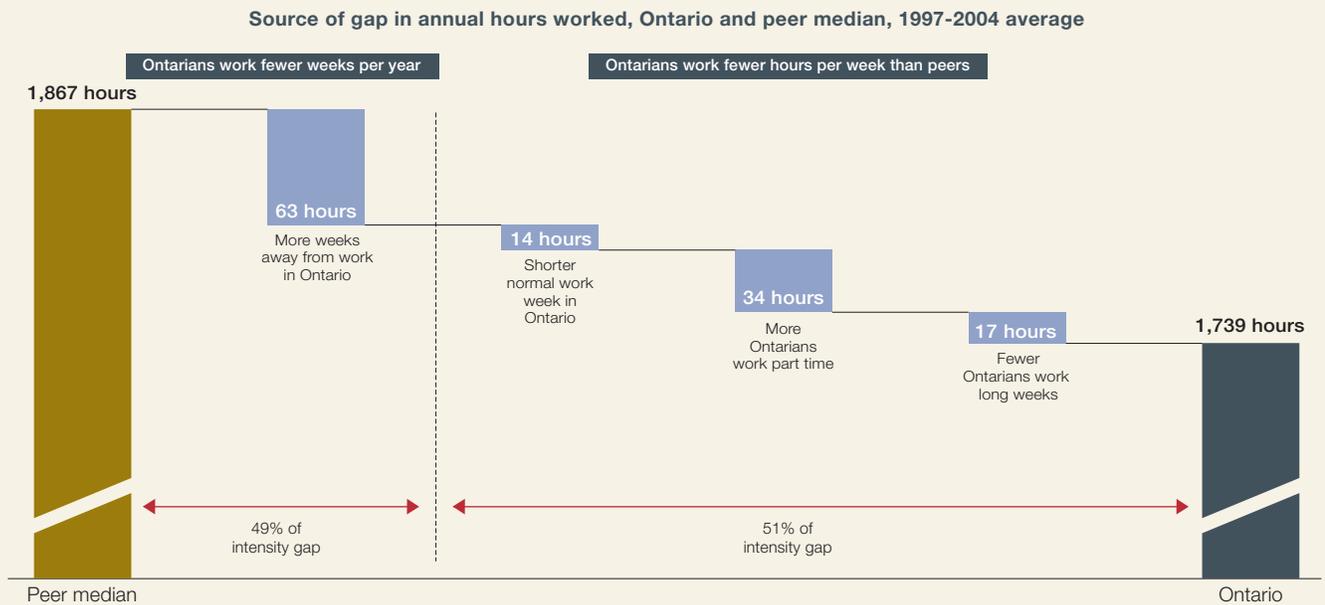
<sup>22</sup>At the Ontario average hours per worker who worked – 37.5 hours.

**Exhibit 5 Intensity is lower in Ontario than in peer states**



Source: Institute for Competitiveness & Prosperity based on Statistics Canada, *Labour Force Survey*; US Bureau of Labor Statistics, *Current Population Survey*.

**Exhibit 6 Ontario's intensity gap is the result of two factors**



Source: Institute for Competitiveness & Prosperity based on Statistics Canada, *Labour Force Survey*; US Bureau of Labor Statistics, *Current Population Survey*.

We now explore each of these factors further.

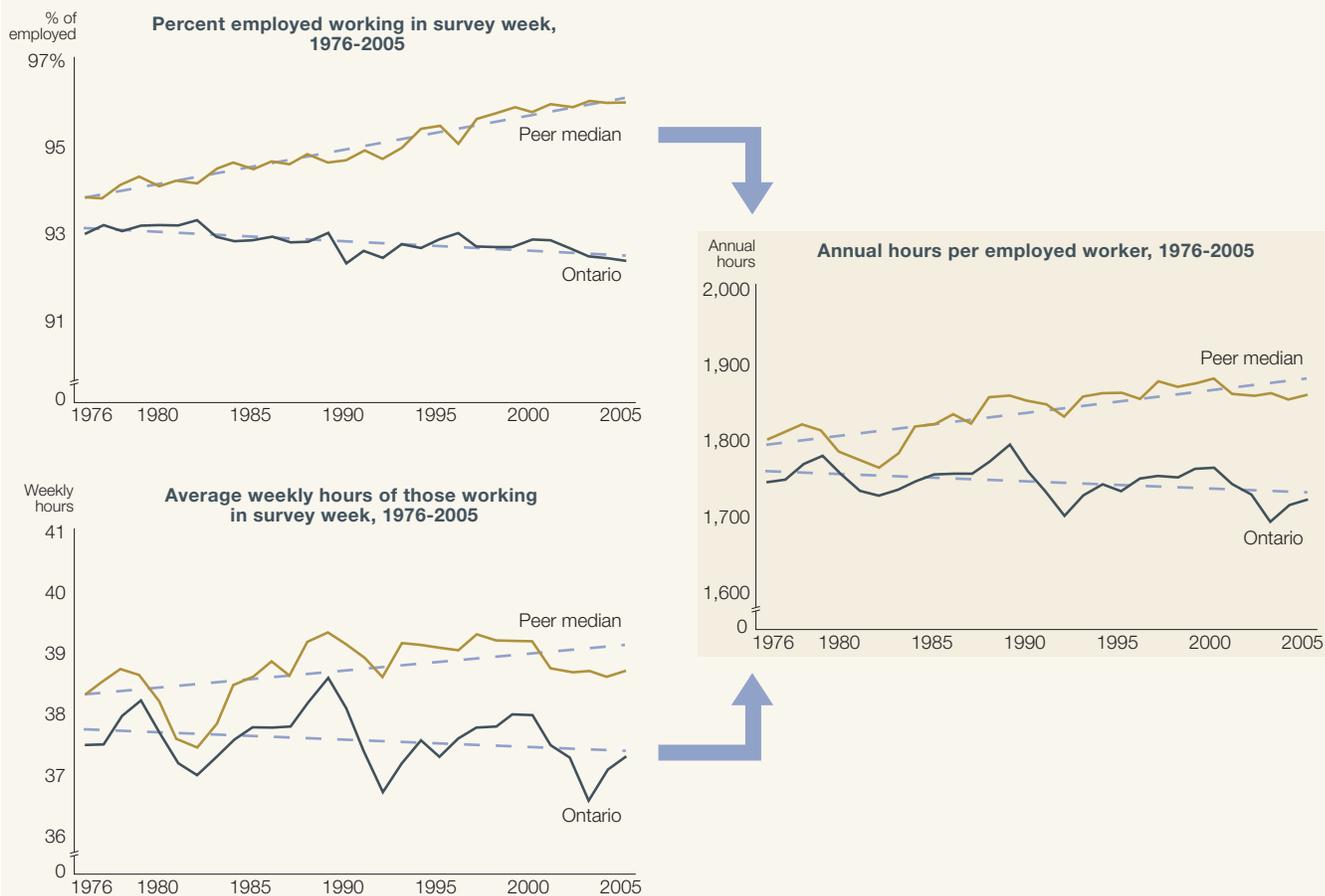
**Ontarians work fewer weeks per year**

In both Canada and the United States, statistical agencies<sup>23</sup> sample large numbers of households every month. In each survey, respondents are asked detailed questions about their hours of work during a specific recent week – called the reference week. In both

surveys, respondents are asked how many hours they usually work at their job and whether they worked a different number of hours for the reference week. In some cases, respondents report that they were absent from their job for the entire reference week – that is, they worked zero hours. As discussed above, Ontario workers are more likely than their peer state counterparts to respond that they worked zero hours during the reference week, accounting for just under half of the intensity gap.

Those away for an entire week are then asked why they worked zero hours during the reference week and the replies are categorized in both countries as vacation, illness, personal or family responsibility, or other. In Ontario, 51 percent of the gap in weeks worked is because we take more week-long vacations, although we miss fewer days because of less-than-week-long vacations;<sup>24</sup> 31 percent is because of week-long absences related to personal or family responsibilities; and 18 percent

**Exhibit 7 Intensity gap has widened since 1976**



Note: Persons aged 15 and over. Source: Institute for Competitiveness & Prosperity based on Statistics Canada, *Labour Force Survey*; US Bureau of Labor Statistics, *Current Population Survey*.

<sup>23</sup>In Canada, our source of hours worked data is the *Labour Force Survey* conducted by Statistics Canada; in the United States our source is the *Current Population Survey* conducted by the US Bureau of Labor.

<sup>24</sup>The net effect is that the average Ontario worker takes 15.3 vacation days annually while a US counterpart takes 9.7 vacation days annually.

is because of more week-long illnesses in Ontario. There is no difference in other responses (*Exhibit 8*).

The gap in weeks worked per year has widened since 1976, as seen in Exhibit 7, largely because fewer workers in the peer states take full weeks off. Contributing less to the widening gap is the growth in the percentage of Ontario workers taking weeks off work.

Vacation differences have a marked seasonal pattern. Fully 44.5 percent of the annual difference between Ontario and the 14 US peer average<sup>25</sup> is in the July-August period, and another 31.2 percent is in March, most likely related to school breaks. This pattern appears to be a social phenomenon rather than weather-related, as the seasonal patterns for the US border states resemble those in the rest of their

country much more than they resemble patterns in Ontario.

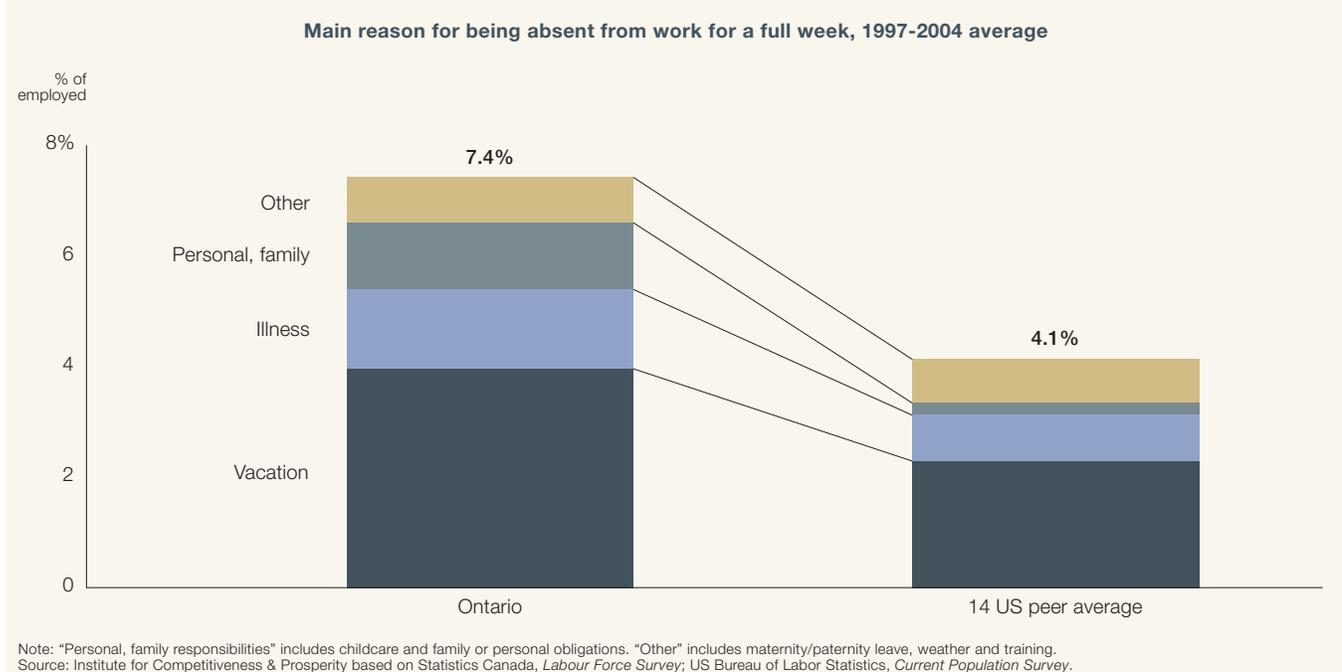
Since there are no seasonal patterns for weeks off due to illness, it seems reasonable to conclude that respondents to the two statistical agencies are truly reporting illness and not vacation time. Thus it is difficult to explain the differences between the two countries in how many full weeks workers take off because of illness.

A further look at the weeks-worked gap shows that it is pervasive across **industries**. Across the ten largest industries by employment, workers in Ontario's public sector industries (public administration, health care and social assistance, and educational services) are most likely to take full weeks off from work. The gap is wider for public employees than for private employees

(a gap of 5.4 percentage points versus 3.3 in the private sector). Workers in financial services industries in peer states are less likely than average to be away from work, while in Ontario the opposite is true. Hence the Ontario-peer state gap in weeks away from work is above average for financial services.

This tendency for more weeks off is related to the impact of **unionization**. Unionized workers, especially those in the public sector, tend to take more full weeks off work – a trend observed in Ontario and the peer states. Overall, unions have been successful in achieving more weeks off for workers in Ontario than their counterparts have been in the peer states.

**Exhibit 8 Ontario workers are much more likely than US counterparts to be away from work for a full week**



<sup>25</sup>While our usual measure of central tendency for the peers is the median, we need to use averages when we are dealing with results that compare more than one variable – e.g., reasons for taking full weeks off work

# To retire or not to retire?

That is the question an ever-growing number of Ontarians are facing. Over the next five to ten years, more of us than ever will be in a position to go to work for the last time. Ontario is on the verge of a retirement revolution.

Several factors drive the decision to retire. Traditionally, most people choose to retire when their personal desire for more leisure is matched with an adequate pension or personal savings. Health conditions also play a role. However, the decision to retire can be forced upon people by built-in economic disincentives for continuing to work.

Since 1976, the median retirement age has fallen from 65 to close to 60, as more and more Canadians are choosing retirement at a younger age and using their rising incomes to finance an earlier exit from the labour force. As the oldest members of the baby boom generation turn 60 in 2006, the expected large-scale departure of older workers from the labour market could soon begin.

By contrast, mandatory retirement is being eliminated in some jurisdictions. In December 2006, Ontario will join Quebec and Manitoba in banning mandatory retirement. In contrast, three provinces allow for mandatory retirement at age 65 in their human rights codes: British Columbia, Saskatchewan, and Newfoundland and Labrador. The Maritime provinces and Alberta have removed the age ceiling but still allow employers to impose mandatory retirement restrictions through exemptions in their provincial human rights codes.

The United States banned mandatory retirement in 1986. The ban recognized the realities of the baby boom demographics and longer life expectancies in developed countries.

Labour economist Morley Gunderson observes, however, that the experience in the United States indicates that employers adjusted the post-retirement and early-retirement features of defined benefit plans after the ban on mandatory retirement to motivate workers to retire at 65. However, in the Canadian jurisdictions that have imposed the mandatory retirement ban, the courts may not allow such actuarial adjustments by employers.<sup>a</sup>

Proponents of mandatory retirement usually worry that the *quid pro quo* of a

pension plan will be abandoned along with the elimination of mandatory retirement. According to this view, pensions represent a contract between employers and employees. An employee works for an employer, and both contribute to the plan; when the employee reaches the mandatory retirement age, pension benefits begin. If mandatory retirement is banned, then part of the contract is missing – and it could break down over time.

According to Gunderson, trade unions see this as the thin edge of the wedge. They are concerned that employers and governments may claim that since workers can continue to earn income after age 65, they do not need to provide pension plans.

## What are the effects of later retirement?

There is some evidence that postponing retirement has positive health effects. Using data from the University of Michigan's Health and Retirement Study, Dhaval Dave, Inas Rashad and Jasmina Spasojevic<sup>b</sup> find that retiring at a later age may lessen or postpone negative health outcomes for older adults, raise well being, and reduce the demand for health care services. They observe that "complete retirement leads to a 23-29 percent increase in difficulties associated with mobility and daily activities, an 8 percent increase in illness conditions and an 11 percent decline in mental health."<sup>c</sup>

Postponing retirement could also have positive benefits for government old age security programs. In 1976, 20 percent of employed Canadians were aged 50 or older; in 2005, this group represented 25 percent of those employed. Banning mandatory retirement is one way to face the challenge that Canada's population is aging. In 1971, one in five Canadians was 50 or older. Today, almost one in three falls into this age group. Increasingly, the worry is that supporting retirees will place a strain on the old age security system, especially with a shrinking work force.

As we pointed out in the Task Force's Fourth Annual Report, Statistics Canada projects that the percentage of Ontarians between the ages of 16 and 64 will fall from 68 percent in 2010 to 64 percent in 2025.<sup>d</sup> By itself, this change would cost about \$2,400 in GDP per capita. Allowing

or encouraging people to stay in the workforce beyond 65 would lower the cost of retirement to our overall economic prosperity.

## Do we have the right retirement incentives?

Canadian income security programs contain stronger incentives for early retirement than US programs do. Pierre Fortin<sup>e</sup> cites a study by Courtney Coile and Jonathan Gruber<sup>f</sup> that finds that US workers begin to lose money on average if they retire past age 64. Using the same methodology for Canada, Gruber along with Michael Baker and Kevin Milligan,<sup>g</sup> found that Canadian workers begin to lose money if they retire past age 60. Finn Poschmann found that seniors face marginal effective tax rates exceeding 70 percent for employment earnings between \$8,400 and \$9,100. This occurs largely because of the stiff clawback rates to the Guaranteed Income Supplement and Spouse Allowance.<sup>h</sup>

As Fortin concludes, the net social welfare significance of earlier Canadian retirement is unclear. "It could be a faithful reflection of Canada-US differences in individual preferences, but it could also partly be the outcome of poor design of income programs in the two countries."

Governments, employers, and employees need to understand better the attitudes and desires of older working people. Then they need to adapt retirement programs and innovate to seize the potential opportunities for greater work force participation of our older population. That way, they could choose to continue to make a contribution to closing our productivity and prosperity gaps.

<sup>a</sup> Morley Gunderson, "Morley Gunderson on the impact of banning mandatory retirement," Pensions at Work Interview, February, 2006. Available online: [www.pensionsatwork.ca/english/ed\\_tools/scholarly\\_works/sw\\_edition5/sw\\_edition5\\_q7.php](http://www.pensionsatwork.ca/english/ed_tools/scholarly_works/sw_edition5/sw_edition5_q7.php)

<sup>b</sup> Dhaval Dave, Inas Rashad, and Jasmina Spasojevic, "The Effects of Retirement on Physical and Mental Health Outcomes," NBER working paper 12123, March 2006.

<sup>c</sup> *Ibid.*, p.2.

<sup>d</sup> Fourth Annual Report, *Rebalancing priorities for prosperity*, p. 29.

<sup>e</sup> Pierre Fortin, "Differences in annual work hours per capita between the United States and Canada," International Productivity Monitor, Spring 2003, p.43.

<sup>f</sup> Courtney Coile and Jonathan Gruber, "Social Security and Retirement," NBER working paper No. 7830, August 2000.

<sup>g</sup> Michael Baker, Jonathan Gruber, and Kevin Milligan, "The Retirement Incentive Effects of Canada's Income Security Programs," NBER working paper No. 8658, December 2001.

<sup>h</sup> Institute for Competitiveness & Prosperity, Working Paper 7, *Taxing smarter for prosperity*, March 2005, pp. 44-45.

The incidence of full weeks away from work does not vary much by **educational attainment** in Ontario or the peer states. In both, there is a slight tendency for more educated workers to take more full weeks off from work, and this tendency is more pronounced in Ontario. Consequently, while the weeks-away-from-work gap pervades across levels of educational attainment, it is widest among university graduates.

**Women** are more likely to take full weeks off work than men in both Ontario and the peer states – 9.1 percent of Ontario female workers and 5.1 percent in the peer states are away from work for a full week versus 6.0 percent of Ontario men and 3.3 percent of peer state male workers. The gap in weeks worked between Ontario and the peer states is wider for married women.

Weeks away from work increase with the worker's **age**. In Ontario, 4.7 percent of workers between ages 17 and 24 report being absent from work for a full week. This grows to 7.5 percent for workers aged 25 to 44, to 8.3 percent for workers aged 45 to 64, and to 9.7 percent for those above 65 who are still in the labour force. The Ontario-peer state gap is widest during prime working ages – 25 to 64.

The most significant differences in weeks worked are by **income levels**. In Ontario, higher labour income leads to more weeks away from work. Among those workers in the top income quartile, fully 6.1 percent report being away from work for a full week of vacation versus 2.3 percent of those in the lowest labour income quartile. In

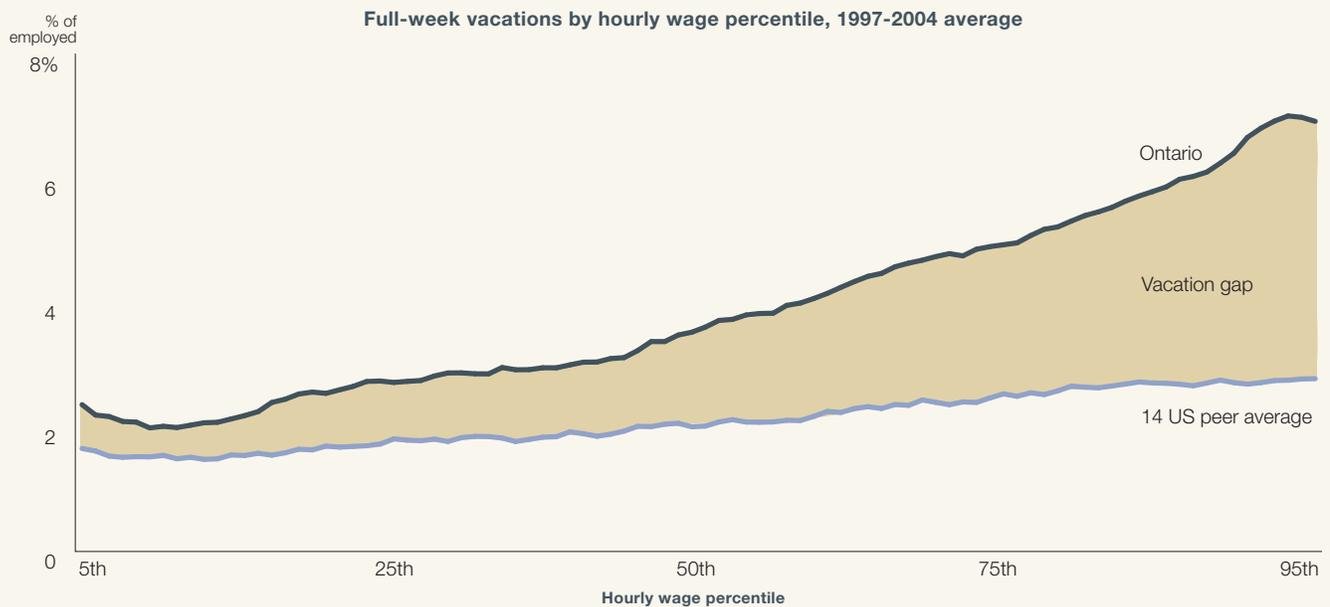
the peer states, there is little variation across income levels from the overall average of 2.1 percent (*Exhibit 9*).

In summary, Ontario workers generally take more weeks off work than their counterparts in the peer states. But this tendency is most pronounced among public sector workers, unionized workers, and higher income workers.

**Ontarians work fewer hours per week**

As we have seen in Exhibit 6, fewer hours per week among workers in Ontario contributes just over half, or 51 percent, of the total intensity gap. Three factors drive this difference in weekly hours worked. First, most employees work shorter work weeks – though this only accounts for only 22 percent of the gap in weekly hours worked. Second,

**Exhibit 9 The vacation gap widens significantly as income increases**



Note: Excludes self-employed. Source: Institute for Competitiveness & Prosperity based on Statistics Canada, *Labour Force Survey*; US Bureau of Labor Statistics, *Current Population Survey*.

about 20 percent of Ontario workers are part-time employees, compared with 16 percent of those in the peer states. This difference accounts for 52 percent of this weekly hours worked gap. Finally, the lower incidence of long work weeks (50 or more hours) among Ontarians contributes 26 percent to the weekly hours gap. We discuss each of these three factors in turn.

**Ontario has shorter normal work weeks**

The bulk of workers in Ontario and the peer jurisdictions work between 30 and 50 hours weekly – accounting for 65 percent<sup>26</sup> in each country over the 1997-2004 period.

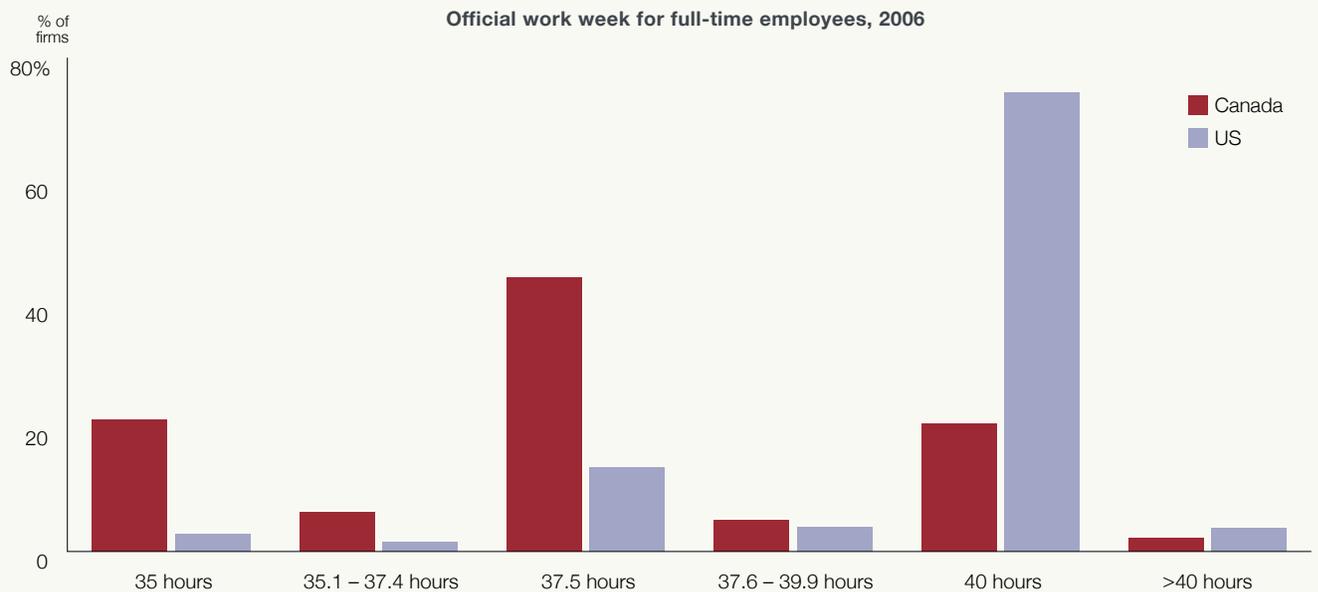
The differences in normal work weeks can be observed in survey data recently collected by Mercer Human Resource Consulting. As part of its services to clients, Mercer surveys employers

to benchmark various elements of the working environment. This data is collected in Mercer’s Policies & Practices survey, conducted in both Canada and the United States. One of the key elements of the survey is the standard work week for full-time employees in Canada and the United States (*Exhibit 10*). Consistent with government statistics, Mercer’s results indicate that, in Canada, most typical work weeks are 37.5 or 35 hours, while in the United States, the norm is 40 hours. The average for Canada is 37.6 hours and for the United States it is 39.5 hours. Detailed statistics from Canada’s *Labour Force Survey* and the US *Current Population Survey* are directionally consistent with the Mercer results. However, the government surveys measure actual hours as reported by workers rather than official company policies. These results

indicate that the 2005 gap in average work week for those workers who work between 30 and 40 hours weekly was between 0.9 hours and 1.3 hours.<sup>27</sup>

For our analysis, we define a normal week as being between 30 and 49 actual hours. Because Statistics Canada and most international agencies use 30 hours as the boundary between part-time and full-time jobs, we set 30 hours as the lower limit for a normal work week. For the upper limit we set 49 hours – even though company policies rarely go beyond 40 hours. This follows the practice of some researchers into long work weeks, particularly Peter Kuhn and Fernando Lozano<sup>28</sup> who define long work weeks as 50 hours or more. When we define the norm as 30 to 49 hours, we are capturing just under two thirds of the work force in both countries.

**Exhibit 10 Mercer survey indicates longer official work week in the United States**



Based on survey of 140 Canadian firms and 470 US firms. Source: Mercer Human Resource Consulting, *Policies & Practices Database, 2006 edition*. For more information please go to [imercer.ca/policies](http://imercer.ca/policies).

<sup>26</sup>Of individuals who worked during the week, e.g., excluding zero-hour workers.

<sup>27</sup>Depending on whether “usual” hours and “actual” hours worked is measured. See Baldwin, *et al.*, *A Comparison of Canadian and US Productivity Levels*, for definitions.

<sup>28</sup>Peter Kuhn and Fernando Lozano, “The Expanding Workweek? Understanding Trends in Long Work Hours Among US Men, 1979 – 2004,” NBER Working Paper No. 11895, December 2005.

For those workers who work a normal week, we find that the average work week over the 1997-2004 period hardly varies between Ontario and the peer states. The average Ontario worker worked 38.9 hours weekly compared to 39.5 hours, the median result for the 16 jurisdictions, for a relatively small difference of 0.6 hours weekly. If those Ontarians working the normal work week matched the peer median, total annual hours worked in Ontario would increase by 14 hours per worker (see *Exhibit 6*). This difference accounts for only 22 percent of the weekly hours worked gap – and 11 percent of the total intensity gap. A narrower definition of the normal (30 to 45 hours weekly) work week results in a gap of only 0.4 hours and does not change the conclusion of the real importance of part-time work.

**Ontario has more part-time work**

In Ontario, the difference in the incidence of part-time work accounts for 52 percent of the total difference in weekly hours worked, or 26 percent of the Intensity gap, over the 1997-2004 period. If we reduced the incidence of part-time work in Ontario to match the peer median level with a matching increase in full-time work, average annual work time would increase by 34 hours.

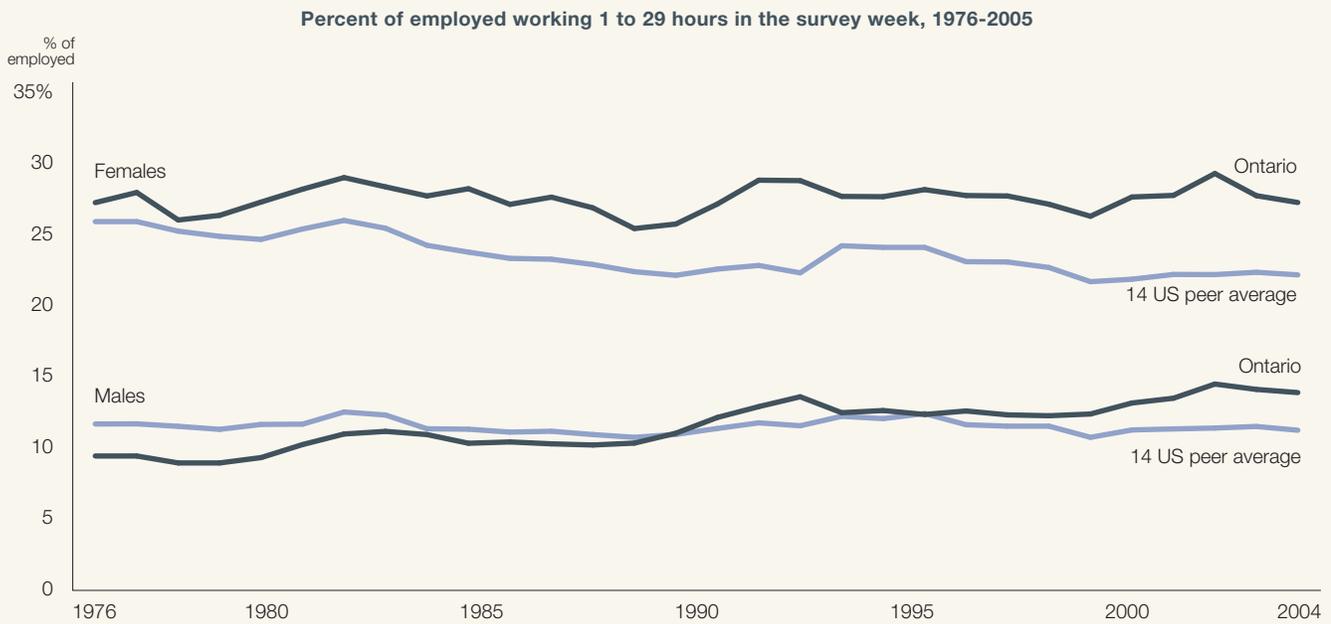
Over time, the incidence of part-time employment has increased in Ontario relative to that in the peer states. Between 1976 and 1980, slightly fewer people worked part time in Ontario than in the peer jurisdictions (16.0 percent versus 17.2 percent). But since 1980, the incidence of part-time jobs has increased in Ontario, while it has decreased slightly in the peer states. Over the 2001-2005 period, 20.1 percent of

Ontario workers were employed part time versus an average of 16.1 percent across the 14 peer states.

The proportion of Ontario men working part time increased 50 percent from 1976-80 to 2001-05 from 9.1 percent to 13.6 percent, while the proportion fell slightly in the peer states from 11.5 to 11.2 percent. Economic conditions appear to contribute to this phenomenon. In the recessions of the early 1980s and 1990s, the incidence of part-time work among Ontarians increased dramatically and did not fully return to pre-recession levels once they were over. This was also observed during the milder slow-down of the early 2000s.

Among women, the gap has also widened, as fewer in the peer states are working part time, while the incidence is unchanged in Ontario. Periods of

**Exhibit 11 Part-time work has been increasing in Ontario**



Source: Institute for Competitiveness & Prosperity based on Statistics Canada, *Labour Force Survey*; US Bureau of Labor Statistics, *Current Population Survey*.

economic slowdown are associated with growth in part-time work among women (Exhibit 11).

We observe differences in the incidence of part-time work for nearly every category of worker – age, occupation, industry, union status, educational attainment. Overall, more Ontario workers have part-time jobs than their US counterparts.

Of itself, the higher incidence of part time is not an issue. But there is evidence that more people are working part-time involuntarily in Ontario than in the peer states. Since 1997 Statistics Canada has been asking part-timers why they do not work more hours. Between 1997 and 2004, fully 32 percent of part-timers aged 25 to 64 in Ontario replied that they “couldn’t find full time work”; in the US peer states,

this response is only given by 16 percent to a similar question (Exhibit 12).

More workers indicate they are working part time to care for their children in the peer states than in Ontario. This may explain why peer state workers are less likely to miss full weeks from work because of personal and family responsibilities. Part-time work arrangements may offer better solutions in the US peer states for workers with responsibilities for children.

Involuntary part-time employment is more prevalent among less-educated workers on both sides of the border. Fully 15 percent of Ontario workers with less than a high school diploma are working part time, and of these, 36 percent would prefer more hours of work. The incidence of part-time jobs tends to decline as educational

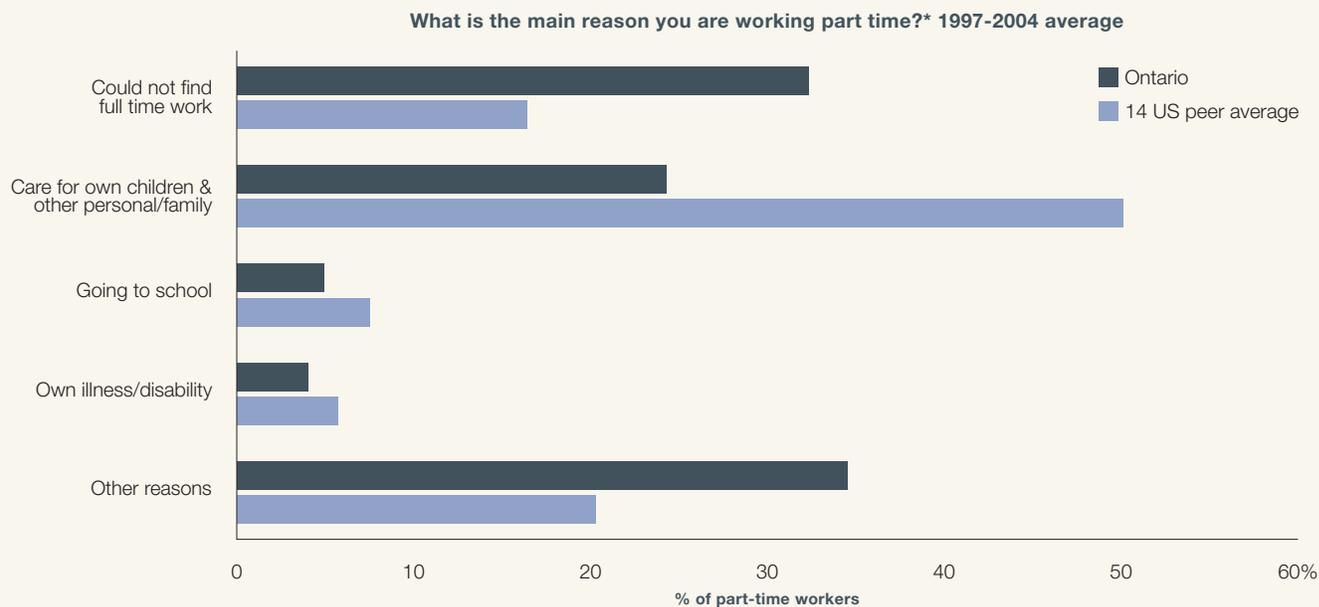
attainment increases. But at all levels of education, there is a gap with US counterparts, and this gap is more pronounced among workers with lower levels of education (Exhibit 13).

Adding to the evidence that involuntary part-time work is a challenge for Ontario’s prosperity is the fact that it has increased in Ontario during periods of economic slowdown. To the extent that involuntary part-time work contributes to the intensity gap between Ontario and the peer states, this is not a positive feature of the gap. It points to opportunities to strengthen Ontario workers’ skills to help them in finding more hours of work and to help close our prosperity gap.

**Ontario has fewer long work weeks**

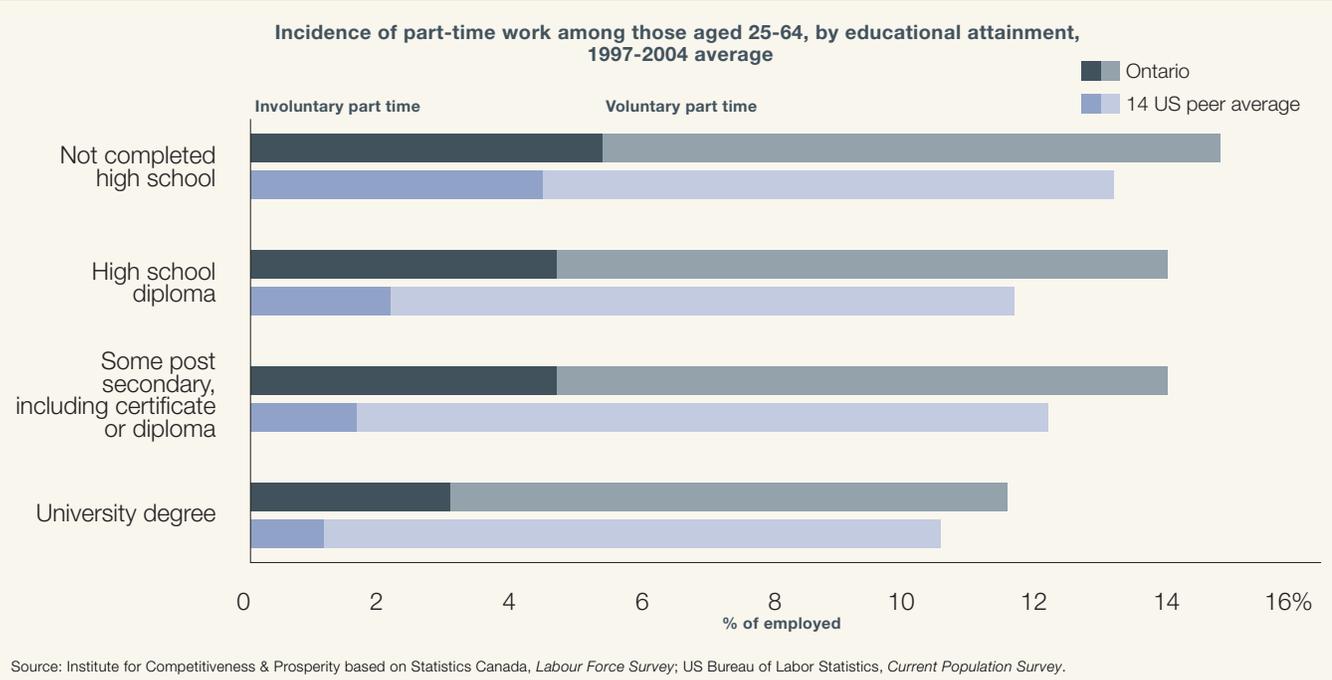
At the other end of the spectrum, more workers put in long work weeks (50 or

Exhibit 12 **Many Ontario part-time workers would prefer full-time work**

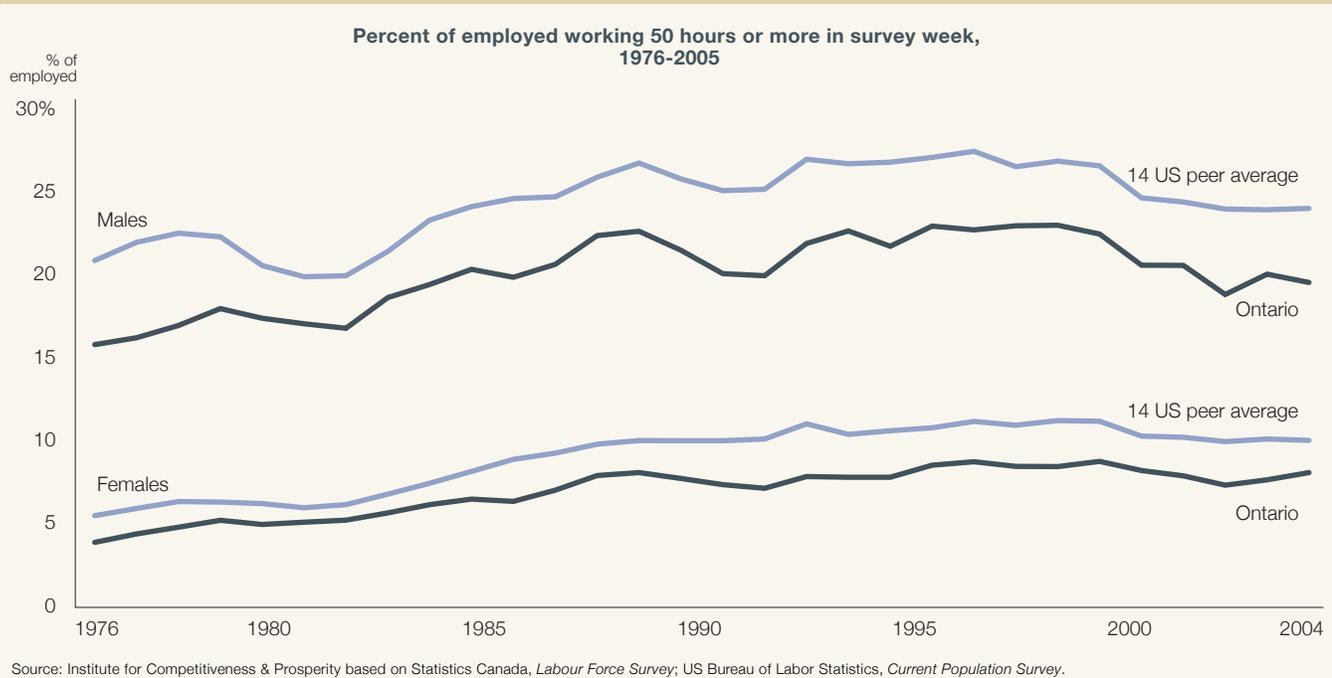


\* Part-time workers defined as those 25 to 64 years of age or older who usually work less than 35 hours a week in total for all jobs and who worked less than 30 hours in their main job. Source: Institute for Competitiveness & Prosperity based on Statistics Canada, *Labour Force Survey*; US Bureau of Labor Statistics, *Current Population Survey*.

**Exhibit 13 Part-time work is higher among workers with lower educational attainment**



**Exhibit 14 Ontarians are less likely to work long work weeks**



more hours per week) in the peer states than in Ontario. This lower incidence of long work weeks accounts for 26 percent of the weekly hours gap or 13 percent of the Intensity gap. If we increased the incidence of long work weeks in Ontario to match the peer median level with a matching decrease in normal work weeks, annual work time would increase by 17 hours.

Over the 2001-2005 period, 17.0 percent of workers in the 14 US peer states worked long hours, compared with only 13.7 percent in Ontario. For the 1976-80 period, the proportions were 14.8 percent and 11.6 percent. Among men, this gap has been stable; it has widened slightly among women (*Exhibit 14*).

In both countries, married men are most likely to work 50 hours or more

weekly, followed by single men. In Ontario for the 1997-2004 period, 24.2 percent of married men worked long weeks, compared to 28.5 percent in the peer states – Ontario married men are 4.3 percent less likely to work 50 hours or more weekly than their US counterparts. Over the same period, the proportion of women who worked long weeks was 8.1 percent in Ontario and 10.5 percent in the peer states.<sup>29</sup>

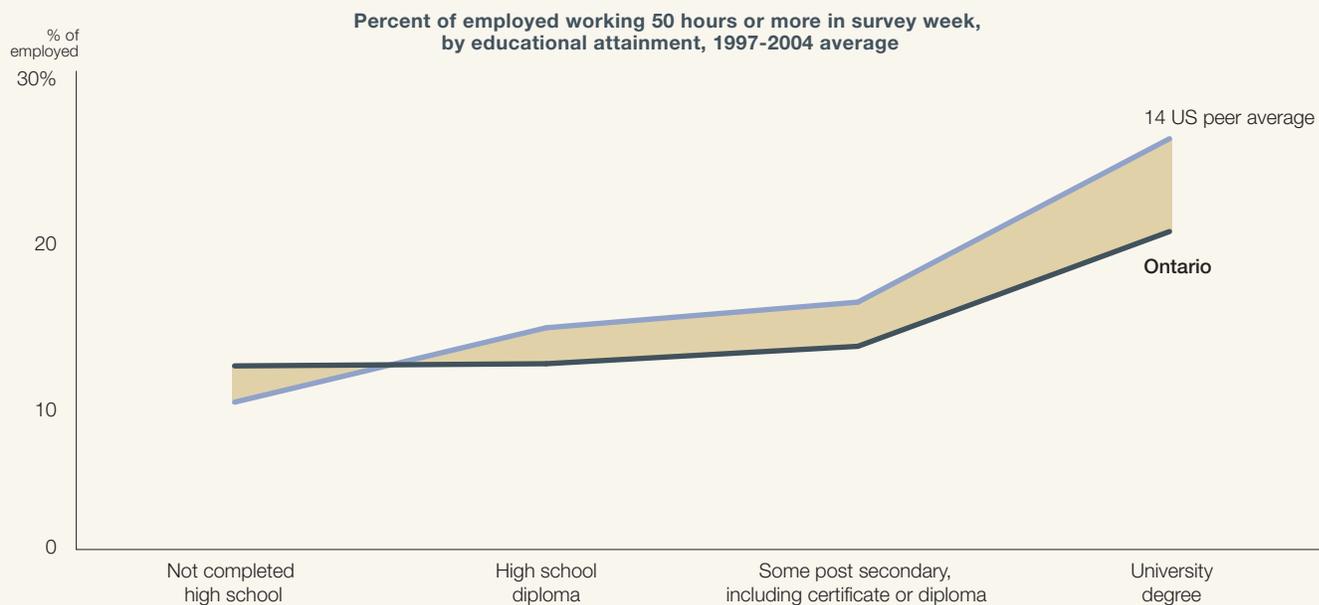
Workers between the ages of 30 and 59 are most likely to work long weeks. The gap between Ontario and peer state workers exists primarily among this large cohort. Among workers aged 60 and higher, the gap disappears – although the number of workers at these ages is considerably lower.

Managers are much more likely to work long weeks than other workers. In both

the peer states and Ontario, they account for about 21 percent of the incidence of long work weeks, but about 10 percent of the work force. More highly educated workers have a greater incidence of long work weeks, particularly in the peer states, where 23.8 percent of bachelor's degree holders and 30.8 percent of advanced degree holders report working 50 hours or more weekly. In Ontario, while higher education also leads to greater incidence of longer work weeks, the proportions are smaller – 18.0 percent of bachelor's degree holders and 25.7 percent of advanced degree holders. Among the least educated workers – those without a high school diploma – more Ontarians work longer hours than their US counterparts (*Exhibit 15*).

Among Ontario managers with university degrees, 33 percent work

**Exhibit 15 Gap in long work weeks increases with education**



Source: Institute for Competitiveness & Prosperity based on Statistics Canada, *Labour Force Survey*; US Bureau of Labor Statistics, *Current Population Survey*.

<sup>29</sup>For women, marital status has little impact on the incidence of working long weeks in both Ontario and the peer states.

# Long work weeks can be welcome<sup>a</sup>

**B**oth employers and employees can benefit from longer than standard work weeks.

From the employer perspective, there are several reasons to draw on long weeks. Some employers prefer to encourage their employees to work longer hours rather than to hire more workers because of the fixed costs involved in recruiting, hiring, and training. Each new worker also brings the possibility of termination, which has associated costs, and these may be part of the decision making. An employer can also prefer overtime when Employment Insurance and Canada Pension Plan costs for current workers have reached the ceiling, since hiring new workers will incur the costs of these benefits.

Also, some employers operate in greater conditions of uncertainty of demand for their products or services and need the flexibility of having the potential for more overtime from their workers. This uncertainty may come about from market conditions or from the ongoing implementation of just-in-time production where sudden changes in product requirements need to be met quickly.

For employees, longer hours may appeal to single-earner families desiring the longer hours to increase household income without requiring both spouses to be away from home. Some employees may simply desire more work hours to increase their income – indicating a preference for consumption over leisure.

## **Are long work week restrictions beneficial to employees and employers?**

Some advocate legal restrictions on long hours as a way to create jobs, reduce accidents, and increase personal happiness through greater choice. But many of the arguments do not stand scrutiny.

**Job creation potential from restricting work hours is limited.** One of the rationales for restricting hours of work is to create new jobs. The logic is that, by relieving over worked people of the possibility of working long hours, new jobs will be created for the unemployed and under employed. But according to Gunderson, the evidence for the job creation potential is limited. Raising mandatory wage premiums for overtime would not reduce employers' demand for overtime hours by a significant amount. Implementing this policy through regulations that restrict maximum hours imposes costs on employers and may reduce their demand for labour altogether. It is unlikely that new recruits can easily replace the skills lost by restricting current employees' hours. This is the discredited "lump of labour" fallacy that assumes an economy requires a fixed number of work hours and that these hours can be easily shifted from one worker to another. In reviewing these arguments and the economic literature surrounding them, the Ontario Task Force on Hours of Work and Overtime in 1987 concluded that only about half the job creation potential from reduced hours would be gained.

**Direct links to health and safety concerns are unproven.** According to Gunderson, the academic research indicates that long hours of work are associated with increased accidents and injuries. However, the evidence of a direct causal linkage is missing. The underlying causal factors, such as speed-up, continuous operation, poor maintenance of equipment, and the introduction of new equipment, may be associated with long hours. Additionally, restricting long hours may lead to hiring of temporary or inexperienced workers who could be more accident prone. Restricting overtime would also lead to lower pay for affected workers, which could raise their stress levels and the potential for workplace accidents.

**Restrictions limit employee choices.** Workers should have the right to refuse overtime. This is especially true for dual-earner families where child care considerations are critical. As with other rights, some procedures need to be in place. If employers give advance notice of overtime requirements, employees would need to respond by a certain time so that the employer can make alternative arrangements.

However, overtime restrictions can have the disadvantage of being rigid and unresponsive to the need for flexibility in the work place. They can also give rise to inequities between single-earner and dual-earner families. Increasing family time by restricting hours worked sounds attractive, but forcing more family time and lowering family earnings for single-earner families does not facilitate choice. Nor is it clear that the level of happiness is raised by restricting hours worked and income.

long weeks compared with 39 percent in the peer states; among managers without university degrees, the percentages working long weeks in Ontario and the peer states are about the same – 31 percent in Ontario and 30 percent in the peer states.

Many observers express concern over long work weeks. However, where there is a conscious choice among workers and their employers, long work weeks may indeed be welcomed by workers. (See *Long work weeks can be welcome.*)

In their recent study, Peter Kuhn and Fernando Lozano observed an increase in the incidence of long work weeks among highly educated, high earning, and older men. For university-educated men, the proportion working 50 hours or more climbed from 22.2 percent to 30.5 percent between 1979 and 2002. Over the same period, the incidence of long work weeks grew by 14.4 percentage points among the highest quintile of earners, while it fell by 6.7 percentage points among the lowest quintile. Among high school dropouts, there was no increase in hours worked.<sup>30</sup>

Kuhn and Lozano conclude that these workers are not getting immediate overtime pay for their longer hours. Instead, they are realizing higher earnings over the long term through bonuses, raises, or promotions. Or, the researchers conclude, these workers may be investing the longer hours to acquire extra skills or establish networks and contacts that could lead to higher compensation. It may also be that these workers are concerned about keeping their jobs in the event of future layoffs. They point out that in the US perceived job insecurity has risen substantially among highly educated workers.

As we have observed, in Ontario, the widest gap in long work weeks exists among more highly educated workers. This is consistent with our earlier findings that we match US peers at the basic levels of performance. But then we stop short.<sup>31</sup> More highly educated workers in Ontario do not earn as much of an income premium as their US counterparts; nor do they invest as much in longer work weeks. The rewards for investing in higher education and greater work effort do not match US results. We may be in a vicious circle – the rewards for more productive workers are less than in the peer states; hence our productive workers work less, and in turn this reduces our prosperity potential, which reduces opportunities for more productive workers.

Union coverage has little impact on the incidence of long work weeks. Unionized workers in Ontario are 4.4 percent less likely than their peer state counterparts to work 50 or more hours weekly. Among non-unionized workers, Ontarians are 3.6 percent less likely to work long work weeks.

Among the ten industries with the highest employment, three have above average incidence of long work weeks in both countries – transportation, construction, and professional/scientific/technical.<sup>32</sup> In construction and transportation, the incidence of long weeks in Ontario exceeds that of the peer states. But for professional/scientific/technical there is greater incidence of long work weeks in the peer states.

Among the ten largest industries, the incidence of long work weeks is below average in Ontario and the peer states for retail trade and two large public

sector employers: health care/social assistance and public administration. In these industries, Ontarians are less likely to work long work weeks than their peer counterparts. For the other large public employer, educational services, the incidence of long weeks is well below average for the peer states, but about average in Ontario.

**In summary, we have a large and widening intensity gap with our US counterparts. This gap is widening because we are taking more full weeks away from work, primarily for vacation, and because we work fewer hours per week. But this shorter work week is not being experienced across the bulk of the labour force. The real difference is among those who work short and long work weeks. About 25 percent of the total intensity gap is the result of involuntary part-time employment; another 13 percent is because fewer of us are working long work weeks – a phenomenon seen more among higher income and more highly educated workers.**

<sup>30</sup>Kuhn and Lozano, "The Expanding Workweek?"

<sup>31</sup>Task Force on Competitiveness, Productivity and Economic Progress, Second Annual Report, *Investing for prosperity*, November 2003, pp. 7-9.

<sup>32</sup>e.g., legal, accounting, engineering, architectural services.

# Why does intensity vary?



## Institutional and economic differences determine how much workers work

**RECENTLY**, the international differences in intensity have attracted the attention of policy makers and academics. Variations in working hours across countries encompass a number of factors, including social conditions, employment practices, and government policies. Most academic work has focused on the widening intensity gap between the United States and Europe.

In this section, we look at what the leading academics conclude is the cause of differences in hours worked across countries and at the evidence in Ontario, Canada, and the United States. We classify the leading theories into two categories – those related to the supply of labour hours by workers, and those related to the demand for labour hours by employers. We discuss each factor and the impact we observe on the Canada-US intensity gap. We conclude the section by bringing the two factors together in a multi-regression analysis that enables us to account for interactions across factors.

## Workers' choices to work differ

Factors affecting workers' decisions to work can be based on inherent characteristics of the labour force, such as attitudes towards work and leisure. Or they can be the result of legislation, taxation, or other public policy and structural characteristics. We have evaluated four labour supply theories used to explain this divergence in intensity.

## Attitudinal differences exist in the business community and among higher educated and higher income people

According to some observers,<sup>33</sup> culture is a particularly important factor in explaining European-US differences in the supply of hours worked. Olivier Blanchard and others<sup>34</sup> argue that, as prosperity has increased, Europeans have chosen to work less and enjoy more leisure; by contrast, Americans have chosen to work more to earn higher incomes and spend more on consumption. They observe that Americans began working longer than Europeans sometime between the 1970s and the early 1980s and that this reflects attitudinal differences towards the labour-leisure tradeoff.

<sup>33</sup>See, for example, Michael Adams, *Fire and Ice*, Toronto: Penguin Canada, 2004, pp.60-61.

<sup>34</sup>See: Oliver Blanchard, "The economic future of Europe," *Journal of Economic Perspective*, Vol. 18, No. 4, 2004, pp. 3-26; Adair Turner, "What's wrong with the European economy?" Mimeo, London School of Economics, February 2003; Michael Huberman and Chris Minns, "Hours of Work in Old and New Worlds: The Long View, 1870-2000," The Institute for International Integration Studies Discussion paper series iisdp95, IIS, October 2005.

In 2003, the Institute for Competitiveness & Prosperity surveyed attitudinal differences between Ontarians and their counterparts in eleven of the more populous US states.<sup>35</sup> We explored attitudes of the public and the business community toward issues of competitiveness, innovation, risk taking, and others. We were struck by the similarities between Ontarians and their US counterparts in most attitudes. We asked questions about people's willingness to work more hours to advance in prosperity.

For the general public, we found no statistically significant differences in respondents' willingness to work extra hours to achieve a higher standard of living for themselves or their family (*Exhibit 16*). While this finding does not address directly the overall cultural

attitudes towards work and leisure, it does indicate that Ontarians and their US peers do not have dramatically different attitudes towards extra work for economic advancement.

However, when we break down the survey results by respondent groups, we find that there are some statistically significant differences among university educated and higher income people. In Ontario, 48 percent of respondents among the general public with a graduate degree agreed that they were willing to work three out of five nights a week to improve their standard of living, while 63 percent of their US counterparts expressed this willingness. Similarly, 25 percent of respondents with a graduate degree in Ontario indicate a willingness to work three out of four weekends versus 45 percent

of their US peers.<sup>36</sup> Among those with an undergraduate degree or a college diploma, we found no differences between Ontario and the peer states.

Given that higher education is associated with higher incomes, it is not surprising to see a similar result for higher income respondents. In Ontario, 55 percent of respondents earning \$100 thousand or more annually report a willingness to work three out of five week nights to advance their standard of living versus 65 percent of their US counterparts.<sup>37</sup> This difference is also seen among those earning between \$75 and \$100 thousand annually. On the other measure – willingness to work three of four weekends – we see no statistical difference between Ontarians and their US counterparts on the basis of income.

**Exhibit 16 Willingness to work more is similar among the general public in Ontario and US peer states**

	General public		Business community	
	Ontario (n=500) %	US (n=800) %	Ontario (n=250) %	US (n=675) %
For each of the following situations, would you please tell me which, if any, you would be prepared to do in order to achieve a higher standard of living for yourself and/or your family				
Would work late at least occasionally	92	92	99	99
Would work late 3 out of 5 nights a week	56	61	68	76*
Would not work late even occasionally	7	8	1	1
Would work weekends at least occasionally	84	86	91	92
Would work 3 out of 4 weekends	43	47	41	52*
Would not work weekends even occasionally	15	13	9	8

\* Difference is statistically significant at the 5 percent level.  
Source: Institute for Competitiveness & Prosperity, Working Paper 4: *Striking similarities: Attitudes and Ontario's prosperity gap*, September 2003, p 31.

<sup>35</sup>Institute for Competitiveness & Prosperity, Working Paper 4, *Striking similarities: Attitudes and Ontario's prosperity gap*, September 2003.

<sup>36</sup>Both differences are statistically significant at the 1 percent level.

<sup>37</sup>Statistically significant at the 5 percent level.

For the business community, we found that a smaller percentage would work many late nights and weekends. This difference is statistically significant.

In summary, we cannot find solid evidence that there is a pervasive cultural or attitudinal difference in how Ontarians and their peer state counterparts think about trading off work and leisure. But we do see some significant differences in the business community and among those with above-average education and income. It is possible that different incentives and opportunities are at work. As we have shown in previous work, more highly educated people in Ontario earn a lower wage premium than their peer state counterparts.<sup>38</sup> As a result, the income forgone from greater leisure (known as the opportunity cost) is lower in Ontario than peer states for high income people.

#### **Wage inequality may help explain the intensity gap**

A second labour supply theory, developed primarily by Linda Bell and Richard Freeman attribute the trend toward diverging work hours between countries to differences in wage inequality.<sup>39</sup> Contrasting the German and US experience, they hypothesize that, where workers' wages are less evenly distributed, workers have greater incentive to work longer hours in order to climb the income ladder. The more unevenly wages are distributed among workers, the greater the potential reward for working longer hours. By contrast, in a country with a more even distribution of earnings, potential marginal increases in earnings are less significant, and thus the motivation to increase work hours is lessened. Bell and Freeman argue

that, since their earnings are among the most unequally distributed, more US workers have the incentive to work longer in order to gain promotions and wage increases and to advance in the distribution of earnings.

To be sure, not all academics are persuaded that Bell and Freeman's hypothesis is correct. Lars Osberg, a professor at Dalhousie University, examined the composition of the work forces in Germany and the United States over the 1980-2000 period and concluded that the real driver of the difference in hours worked was among those workers who work few hours – “the extreme lower tail.”<sup>40</sup> He pointed out that there were smaller differences among prime working age male workers (aged 25-54). In fact, the most significant difference in hours worked between Germany and the United States is among women, and this is not likely related to wage inequality, but more to national differences in preferences and lifestyles, “particularly those that concern gender roles and the appropriate locus of care for younger children.” Consequently, he concluded that differences in wage inequality between Germany and the United States were not drivers of differences in hours worked.

We find some evidence that this hypothesis may contribute to explaining the Ontario-peer state intensity gap. Income is more unevenly distributed in the US than in Canada.<sup>41</sup> As we discussed earlier, higher income Ontarians take more vacation time than their US counterparts and are less likely to work long work weeks. The net effect is that for men aged 25 to 54 the hours worked gap widens with income. It may be that the payoff for investing

in more hours is lower in Ontario and for this reason higher income workers in Ontario have a wider intensity gap with their US peers. The Institute intends to explore this hypothesis as it applies to Canada and the United States in future work.

#### **Higher tax rates have negligible impact**

In a third theory about labour supply, Edward Prescott used a dynamic model of investment and labour supply to argue that all of the decrease in hours worked in Europe can be attributed to tax increases.<sup>42</sup> Like others, he has observed that, in the 1970s, hours worked per person in the United States and European countries, such as France and Germany, were very similar. However, in the 1990s, the average employed American worked 25 percent to 30 percent more hours than a German or French counterpart. Since the 1970s, the increase in marginal tax rates in European countries, compared to those in the United States, discouraged labour supply and gave people an incentive to devote more time to leisure or, more accurately according to Prescott, “non-market” activities. Prescott also observed that higher taxation provides the necessary funding for transfer payments to individuals. These government transfer payments create an income effect that might provide a disincentive to more work hours and an incentive to more leisure time.

We have assessed the impact of marginal tax rates on hours worked differences across Canadian provinces and US states. To measure marginal tax rates on labour, we computed for each state and province the weighted average of statutory income tax rates for singles with no dependents at each

<sup>38</sup>Task Force on Competitiveness, Productivity and Economic Progress, Second Annual Report, *Investing for prosperity*, November 2003, pp. 20-21.

<sup>39</sup>Linda Bell and Richard Freeman (1995), “Why do Americans and Germans work different hours?” in F. Buttler, W. Franz, R. Schettkat, and D. Soskice (eds.), *Institutional Frameworks and Labor Market Performance: Comparative Views on the U.S. and German Economies*, New York: Routledge, pp. 101-131.

<sup>40</sup>Lars Osberg, “Understanding Growth and Inequality Trends: The Role of Labour Supply in the US and Germany,” *Canadian Public Policy*, Volume XXIX, Supplement 2003.

<sup>41</sup>Institute for Competitiveness & Prosperity, *Realizing Canada's prosperity potential*, Report on Canada 2005, January 2005, pp. 10-11.

<sup>42</sup>Edward Prescott, “Why do Americans work so much more than Europeans?” *Federal Reserve Bank of Minneapolis Quarterly Review*, Vol.28, No.1, July 2004, pp. 2-13.

income level between \$1,000 and \$200,000. We included estimates for payroll taxes (such as Employment Insurance and Canada Pension Plan in Canada and Social Security and Medicare in the United States). The weights were estimated on the basis of the Canadian distribution of employees' hourly wages from the *Labour Force Survey* and applied to all provinces and states. Using a single set of weights for all jurisdictions enables us to focus on the differences in tax structures across jurisdictions. A simple regression between marginal effective tax rates and hours worked indicates a weak relationship in Canada and the United States (*Exhibit 17*).

In addition to the simple relationship between marginal tax rates and annual hours we conducted a multiple

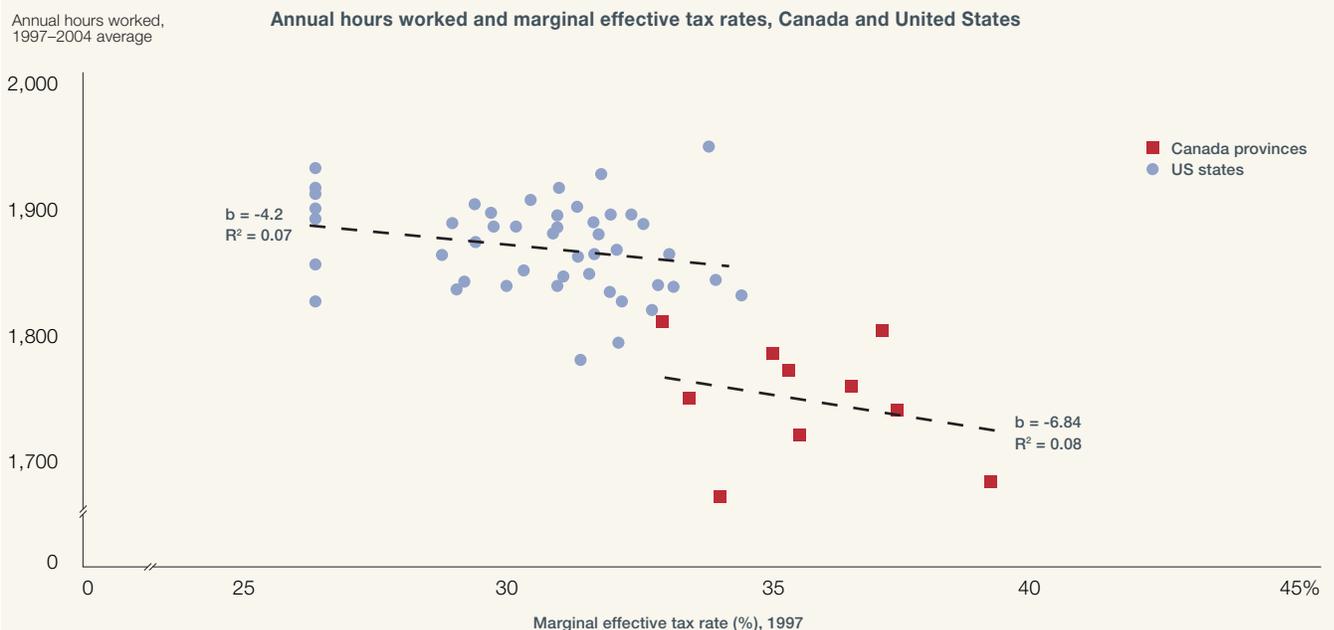
regression that assessed the impact of several variables at once. (See *A multiple regression analysis of the Canada-US intensity gap*.) This analysis indicates that Canada's higher marginal tax rates on labour explain only 10 percent of the intensity gap between the two countries.

**Institutional factors affect labour supply**

A fourth set of theories on labour supply contends that institutional factors, including unionization and labour market regulations, rank among the causes of the international differences in hours worked. Alberto Alesina, Edward Glaeser, and Bruce Sacerdote criticize Prescott's study on the grounds that the labour supply elasticity number he uses in his calculation is implausibly high compared to that usually found in

studies using microdata.<sup>43</sup> They argue that, although taxes play a role, the dominant factor explaining differences in hours worked between the United States and Europe is differences in unionization and labour regulations. In the United States, which the authors describe as being "less friendly to the policies of the left," less than 20 percent of the labour force is covered by collective bargaining agreements, compared to more than 80 percent in France, Germany, and Sweden. Furthermore, the United States has no federally mandated weeks of vacation,<sup>44</sup> unlike European countries. As a result, US full-time workers spend an average of only 7.5 days of the year on vacation, compared to 21.3 days for their European counterparts.

**Exhibit 17 Marginal effective tax rates have a limited impact on hours worked**



Source: Institute for Competitiveness & Prosperity based on Statistics Canada, *Labour Force Survey*; US Bureau of Labor Statistics, *Current Population Survey*; Kevin Milligan, (2006), "Canadian Tax and Credit Simulator," University of British Columbia; National Bureau of Economic National Bureau of Economic Research, TAXSIM.

<sup>43</sup>Alesina et al., "Work and Leisure in the U.S. and Europe."

<sup>44</sup>Although there are federally mandated statutory holidays such as Christmas and Thanksgiving

# A multiple regression analysis of the Canada-US intensity gap

To assess the impact of the various factors used to explain differences in hours worked, we conducted a multiple regression analysis. The analyses in Exhibits 17 to 19 are based on simple regressions, where we assess separately the impact of marginal tax rates, labour regulations, and unionization coverage rates on hours worked across Canadian provinces and US states. While these simple regressions show the relationship between hours worked and each of these factors, they are not informative about their relative importance. Using multiple regression analysis, we are able to account for the individual contribution of each of these factors, while controlling for additional factors that may also have an impact on hours worked.

In our multiple regression analysis, we assessed the impact of the following factors on intensity in each of Canada's ten provinces and the 50 US states and the District of Columbia:<sup>a</sup>

- labour standards index as calculated by Block, Roberts and Clarke
- percentage of workers covered by a union contract
- unemployment rate
- average marginal tax rate in the province or state
- GDP per capita.

This statistical technique enables us to determine if increases and decreases in each factor over time and across states and provinces – after controlling for all of the other factors – are associated with annual hours worked. We consider separately the impact of these factors on intensity (annual hours worked per employed) and on one of its components, the percent of the employed who work in the survey week.

We drew on annual data for each of the 61 jurisdictions for each of the 25 years from 1978 to 2002, giving us 1,525 observations. Our regressions account for factors that are specific to each province and state and do not vary over time. In a separate regression to explain the percent of employed who work part time but wished to work full-time, we use the 1997-2002 period only because of limited data availability.

The results indicate that a robust economy is a very important factor in explaining the intensity gap between Canada and the US, accounting for close to 50 percent of the gap in annual hours (31.2 percent related to Canada's higher unemployment rate and 18.4 percent related to our lower GDP per capita) and just over 60 percent of the gap in the percentage of involuntary part-timers (*Exhibit A*). By our estimation, close to 40 percent of the annual hours worked gap between Canada and the United States is explained by differences in labour regulations. The other institutional factor, union coverage, accounts for 16 percent of the gap.

Prosperity as measured by GDP per capita is positively correlated with hours worked. More than 18 percent of our hours worked gap is related to our prosperity gap. We cannot conclude which drives which. But this result indicates that, over the 1978-2002 period within North America, higher prosperity is not associated with reductions in hours worked.

Canada's higher marginal taxes on labour have a small influence on intensity, accounting for about 11 percent of the gap in annual hours worked.

Interestingly, the two factors that explain the bulk of the differences in annual hours worked, the robustness of the economy and labour regulations, are not relevant to explain the gap in the percent of employed workers who work in the survey week. This component of the intensity gap, which is largely representative of vacation time, is explained mostly by Canada's higher unionization coverage rate (39 percent) and by unspecified national differences (51 percent). As we discuss in the Working Paper, Canadian unions have placed a high priority on reducing weeks worked; the regression results indicate that these efforts have been successful. The unspecified national differences indicate that attitudes or cultural norms may play a significant role in explaining the differences in vacation time across the two countries.

## Exhibit A Intensity gap is associated with institutional factors and economic performance

### Results from multiple regression analysis

	% of employed who work in survey week	Annual hours worked	% of part-time who want full-time work
Period	1978–2002	1978–2002	1997–2002
Canadian average	92.4	1,756	28.5
US average	95.0	1,852	7.9
Gap (percentage points, hours)	-2.6	-96	20.6
<b>Percent of Canada disadvantage explained by</b>			
Canada's higher labour standards index	-4.0	39.3*	15.3*
Canada's higher unionization coverage rate	39.4*	16.4*	4.6*
Canada's higher unemployment rate	2.3	31.2*	28.6*
Canada's higher marginal income tax rates	0.0	10.7*	0.3
Canada's lower GDP per capita	10.9*	18.4*	31.6*
Unspecified national differences	51.3*	-16.0*	19.7*
Observations	1,525	1,525	366
R <sup>2</sup>	0.89	0.86	0.98

\* Statistically significant at the 1 percent level.

Bold numbers are estimated regression coefficients multiplied by the average US-Canada difference of each explanatory variable and divided by the average US-Canada difference in the dependent variable. For example, the estimated coefficient of the unemployment rate in the annual hours worked regression is -7.13, which multiplied by the average gap in unemployment between US and Canada over 1978-2002 (4.2) and divided by the gap in annual hours over the same period (96) gives the 31.2 figure in the table. The regressions were estimated using a three-step procedure that allows us to identify time-invariant variables, such as the labour standard index and a US dummy variable, while controlling for fixed province and state effects. See Thomas Plumper and Vera E. Troeger, "The estimation of time-invariant variables in panel analyses with unit fixed effects," Working Paper, Social Science Research Network, 2005. Available online: [http://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=565904](http://papers.ssrn.com/sol3/papers.cfm?abstract_id=565904).

Source: Institute for Competitiveness & Prosperity

<sup>a</sup> The data sources for the dependent variables and the unemployment rates are Statistics Canada, *Labour Force Survey*, and US Bureau of Labor Statistics, *Current Population Survey*. The data sources for the GDP per capita, marginal tax rates, labour standards index, and unionization rates (from 1997) are noted, respectively, in Exhibits 1, 17, 18, and 19. To compute average marginal tax rates for different years we adjusted the income levels used in the calculation by each country's CPI. Unionization rates before 1997 were taken from Statistics Canada, CANSIM II Table 27900251.

Alesina *et al.* conclude that observed attitudinal or cultural differences can be explained by these institutional structures. As working hours in Europe began to decline through union agreements and government regulation, more vacation time created a “social multiplier” effect that increased people’s desire for leisure. This effect results from the increasing value people place on enjoying time off when a larger number of friends and family members are taking a vacation at the same time. The social multiplier effect also reduces workplace productivity, since when many are on vacation, there are fewer workers left to interact with one another within and across firms and organizations.

In Canada, University of Quebec at Montreal economist Pierre Fortin shows that institutional structural differences

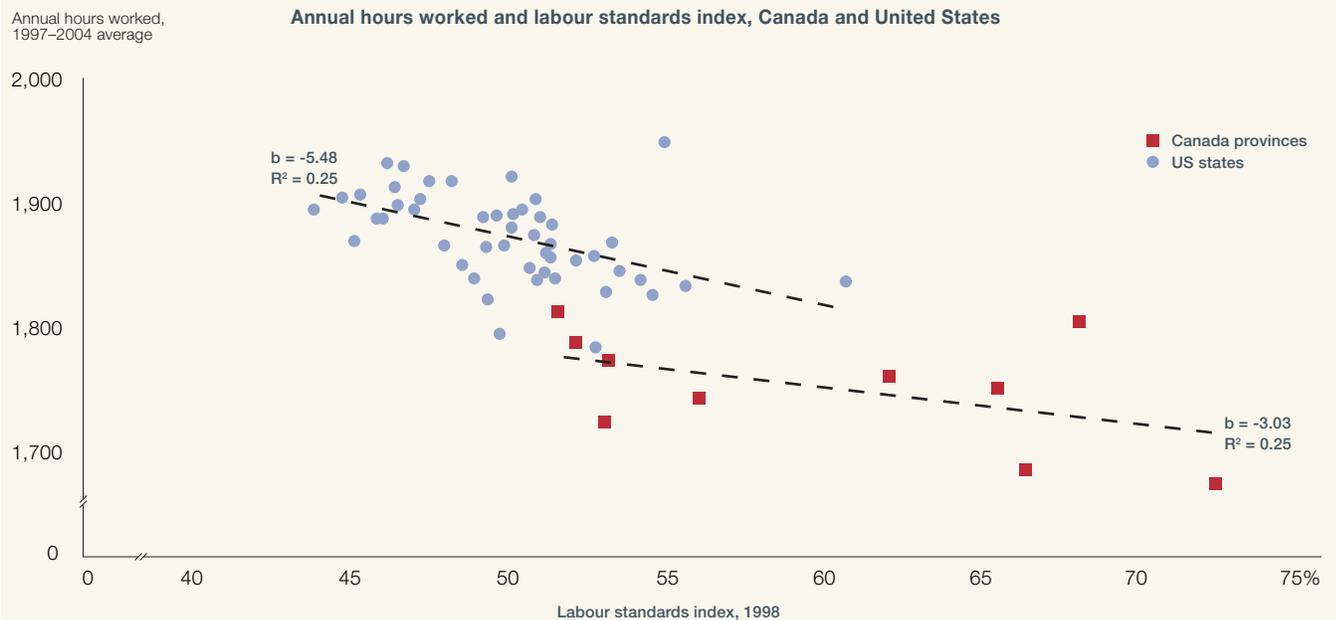
between the provinces explain regional differences in hours worked.<sup>45</sup> He notes that while the number of hours worked in Canada falls between US and European levels, Ontario is closer to the US level, and Quebec is closer to the Europeans. To explain these regional differences, Fortin points to the work disincentives inherent in Canada’s income security system and to differences in unionization rates. He also takes into account the social multiplier effect.

To test the applicability of Fortin’s hypothesis to Canada-US differences, we draw on Richard Block, Karen Roberts and Oliver Clarke<sup>46</sup> who developed a detailed index of labour standards regulation across Canadian provinces and US states. This index comprises ten sub-indices, five of which

relate to standards requiring employer payments (minimum wage, overtime, paid time off, employment insurance, and workers’ compensation), and five relate to standards constraining employer allocation of labour (collective bargaining, employment equity, unjust discharge, occupational safety and health, and advance notice of plant closings and large scale layoffs). They adjust each sub-index by the proportion of the labour force covered by the regulation and sum these adjusted sub-indices to calculate an overall labour standard index.

The index for each state or province can be seen as a measure of how much regulation is in place to affect working conditions and labour-management relationships. The indices indicate that labour standards tend to

**Exhibit 18 More stringent labour standards reduce hours worked**



Source: Institute for Competitiveness & Prosperity based on Statistics Canada, *Labour Force Survey*; US Bureau of Labor Statistics, *Current Population Survey*; R. Block, K. Roberts, and R. O. Clarke (2003), “Labour Standards in the United States and Canada” (labour standards index).

<sup>45</sup>Pierre Fortin, “Differences in annual work hours per capita between Canada and the United States,” *International Productivity Monitor*, Spring 2003.

<sup>46</sup>Richard N. Block, Karen Roberts, and R. Oliver Clarke, *Labor Standards in the United States and Canada*, Kalamazoo, Michigan: W.E. Upjohn Institute for Employment Research, 2003.

be more stringent in Canada than in the United States. When we regress the overall indexes against hours worked in each of the ten provinces and 50 states and DC, we find a negative relationship – as the labour standard index increases, hours worked decreases (*Exhibit 18*). The interprovincial and interstate relationships are similar, as are the strengths of the relationships.

Our multiple regression analysis confirms the importance of labour regulations in explaining the hours worked gap. We estimate that 39 percent of the Canada-US annual hours worked gap over the 1978-2002 period can be attributed to tighter labour standards in Canada.

This analysis also indicates that more stringent labour standards account for 15 percent of the difference in invol-

untary part-time employment. In other words, stringent labour regulations may not be helping the most vulnerable workers – those who work part time but would prefer to be working full time. In fact, through increased rigidity in the economy, these standards may be having the opposite effect.

In sum, the impact of more stringent labour regulation is stronger than marginal effective tax rates on the supply of hours worked.

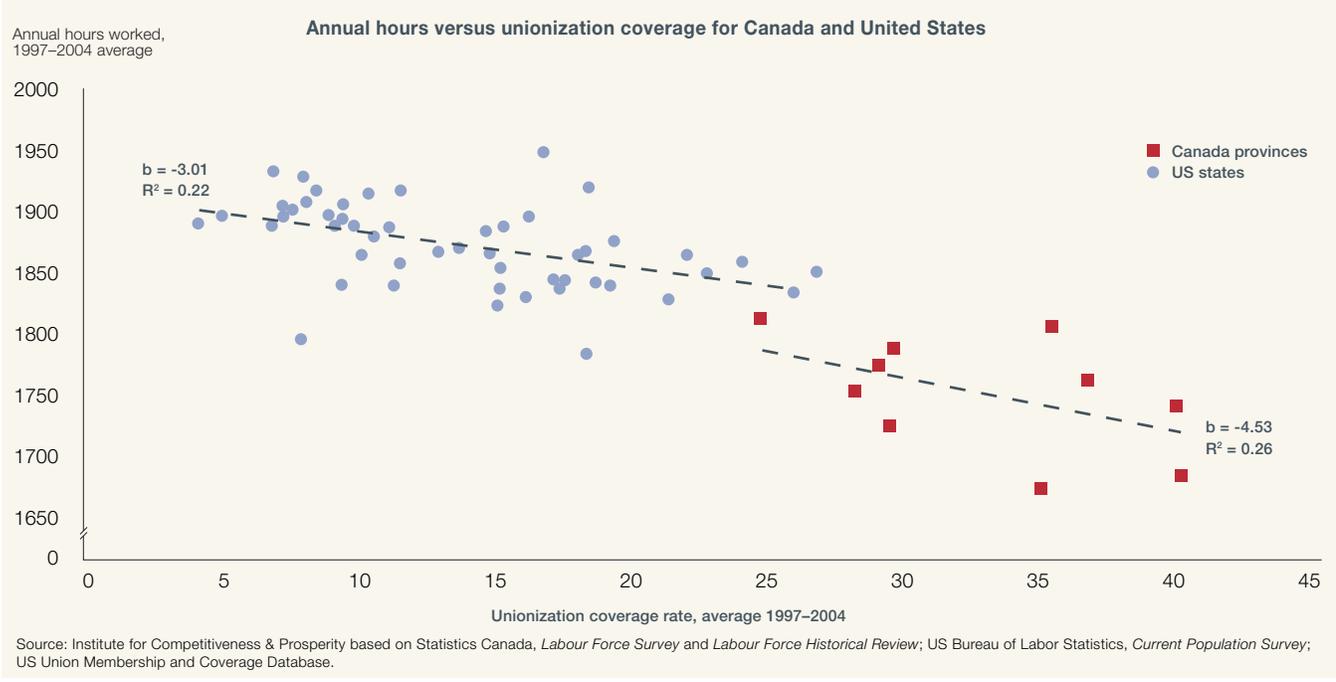
Alesina *et al.* also use union coverage – the percentage of the work force covered by collective bargaining agreements – as a measure of regulatory impact. We find that greater union coverage means fewer hours worked across both the provinces and states (*Exhibit 19*). The results for the interprovincial and interstate relationships are similar.

In our multiple regression analysis, the incidence of unionization is an important contributor to the gap in hours worked between Canada and the United States. It explains 39 percent of the gap in weeks worked and 16 percent of the overall hours worked gap. Unionization and the labour regulation work together as institutional factors<sup>47</sup> and are important drivers of the intensity gap. This is true even after controlling for other factors, such as GDP per capita, marginal tax rates, and unemployment rates.

**Employers’ need for workers vary according to economic conditions**

We now turn from explanations of intensity on the supply of labour to explanations driven by strength or weakness in the demand for labour. As we review demand for worker hours

**Exhibit 19 Higher union coverage lowers hours worked**



<sup>47</sup>The labour regulation index and the incidence of unionization work together in a jurisdiction. A simple regression of the percentage of workers covered by a union contract and the labour regulation index we use in this Working Paper results in an R-squared of 28 percent across Canadian provinces and 26 percent across US states.

across Canadian provinces and US states, we find evidence that the prosperity gap – the difference in GDP per capita – is driving intensity differences across jurisdictions. And we see that the unemployment rate also drives differences in hours worked. During periods of economic slowdown, more workers hold part-time jobs, which reduces intensity.

Andrew Heisz and Sébastien LaRochelle-Côté from Statistics Canada find a relationship between differences in Canada-US hours worked and unemployment rates.<sup>48</sup> Their study finds that the sluggish economic growth in Canada relative to the United States during most of the 1990s led to a reduced demand for labour, contributing to the widening intensity gap between Canada and the United States.

It appears that the negative impact of unemployment on hours worked is largely attributable to the incidence of involuntary part-time work. In both Canada and the United States, higher unemployment rates are strongly associated with involuntary part-time jobs, particularly for lower income workers. As we have shown, the greater incidence of involuntary part-time in Ontario is an important factor in explaining the differences in hours worked between Ontario and peer state workers. While results of involuntary part-time work are only available back to 1997, we can see that periods of high unemployment – the early 1980s and 1990s – witnessed a dramatic increase in the incidence of part-time work overall, and it is likely that involuntary part-time employment was an important contributor to those increases.

In our multiple regression analysis, we find a significant negative relationship between unemployment rates in a state or province and the hours worked by individuals there. As more of the labour force is unable to find work, the average hours worked per worker declines. In fact, Canada-US differences in unemployment account for 31 percent of the overall intensity gap and 29 percent of the greater incidence of involuntary part-time work in Canada.

Marie Drolet and René Morissette from Statistics Canada studied results from the special supplement to the *Labour Force Survey* conducted in 1985 and 1995. In this supplement, respondents were asked extra questions on their preference for more or fewer work hours. Drolet and Morissette observed a shift away from "standard" jobs involving 35- to 40-hour work weeks to part-time, temporary, and contract employment in the early 1980s and 1990s. This shift in demand away from jobs requiring longer hours resulted in an involuntary polarization between those who wanted more work hours and those who were working long hours. The result was a growing number of dissatisfied Canadians who would prefer to work more hours for more pay rather than fewer hours for less pay.<sup>49</sup>

**Our analysis shows that institutional factors, such as labour standards and unionization, account for about half of the intensity gap between Ontario and the peer states. These factors may reflect a choice by Ontarians; but labour standards may be having unintended consequences. Factors related to the robustness of the economy, which drives the demand for the labour, also account for about half of the gap. We see that our higher incidence of involuntary part-time employment is a major contributor to the intensity gap. A more competitive economy would offer more opportunities for many workers to choose the time they spend at work and the income they want.**

<sup>48</sup> Andrew Heisz and Sébastien LaRochelle-Côté, "Working hours in Canada and the United States," Statistics Canada working paper 11F0019MIE No. 209, September 2003.

<sup>49</sup> Marie Drolet and René Morissette, "Working more? Working less? What do Canadians prefer?" Statistics Canada working paper 11F00019MPENo. 104, May 1997.

# How do Ontario's intensity and prosperity gaps affect each other?

## Ontarians need to invest more to increase productivity and intensity to close the prosperity gap

**IN PREVIOUS WORK** we have used our AIMS framework to help understand what drives Ontario's prosperity gap with our peer US states. And we have shown that AIMS drives prosperity; and prosperity drives AIMS. Here, once again, we have found that the elements – attitudes, investment, motivation, and structures – offer a practical way to frame our findings and recommendations. This time we draw on the model to summarize our conclusions on the intensity gap.

In general, we find mixed evidence on the importance of Ontarians' **attitudes** towards hours worked. Our previous work in exploring differences in attitudes between Ontarians and their peer state counterparts identified no fundamental fissures in how we think about competitiveness, risk taking, and innovation. Nor did we find significant differences

overall about our attitudes toward working extra hours or days to improve our economic well being.

However, we do find dramatic differences in our desire for vacation weeks. None of the observable factors, such as unemployment or regulation, explain statistically why more Ontarians are away from work for full weeks. One explanation may be attitudinal – we forgo work income and the potential consumption opportunities because we simply prefer more vacation time. As our living standards have risen in Ontario, we are taking more weeks off work than our counterparts in the peer states.

We also find that among higher income and more highly educated Ontarians, attitudes towards the desirability of extra work for economic gain diverge from their peer state counterparts. And the vacation gap is widest among this group.

Finally, our political process – which reflects attitudes – has resulted in more stringent standards regulating hours worked than in the United States.



If we think of hours worked as **investments** in individuals' prosperity, we find some evidence that Ontarians are not as prepared to make these investments as our US peers. Fewer of us work long work weeks than our peer state counterparts. As we discussed in this Working Paper, some researchers find that high income, highly educated workers in the United States are working longer hours for future gains. They are investing work hours to strengthen skills, build personal networks, and establish their standing in their organizations. To be sure, the researchers note that perceived job insecurity is part of this investment.

We find little evidence that Ontario's higher marginal tax rates on labour are acting to blunt **motivations** for longer work hours. In our earlier work, we found that higher marginal tax rates on business investment are a limiting factor for Ontario's prosperity. To date, we have not found evidence that higher taxes are significantly reducing hours workers spend on the job.

Finally, the **structures** in our economy are contributing to the intensity gap. We have observed that our higher incidence of unionization and the more stringent labour regulations affect hours worked. But equally important is our higher unemployment and lower prosperity, which can be described as elements of our economic structure. Our economy's inability to create as many jobs as in the peer states and our prosperity gap are associated with our intensity gap.

Determining cause and effect is a challenge. Does our lower prosperity mean fewer jobs, more part-time employment, and therefore less opportunity for some Ontarians to work as many hours as they wish? Or do we "invest" fewer hours because of attitudes and other structural factors and this causes us to miss our prosperity potential, which in turn means fewer jobs for Ontarians?

In a sense the causality doesn't matter. What does matter is that our intensity gap reinforces the need for Ontarians to reduce our prosperity and productivity gap. Many of us are benefiting from prosperity by choosing more leisure; but for many others, our unrealized prosperity potential means fewer opportunities to advance economically by working more.

**Ontario's intensity gap is an important part of Ontario's prosperity gap; but closing our prosperity gap primarily or exclusively through increased work effort is not the solution. We do need to address particular challenges here in Ontario to ensure that our economy is creating the opportunities for all of us to choose the amount of work we deem appropriate for our individual situations. On balance, this will increase the time Ontarians spend at work. That will lead to a reduction of the intensity gap – and, in turn, to a smaller prosperity gap.**

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