MINIMUM WAGES: ISSUES AND OPTIONS FOR ONTARIO

(Prepared for the Ontario Ministry of Finance)

by

Morley Gunderson*

(February, 2007)

* Morley Gunderson holds the CIBC Chair in Youth Employment at the University of Toronto where he is a Professor at the Centre for Industrial Relations and Human Resources, the Department of Economics and the School of Public Policy. He is also a Research Associate of the Institute for Policy Analysis, the Centre for International Studies, and the Institute for Human Development, Life Course and Aging.

Table of Contents

EXECUTIVE AND WORKER SUMMARY

Profile

- Between 11% and 15% of the Ontario workforce would likely have their wages directly affected by a 25% increase in the general minimum wage increase to $10.

- The probability of being affected is substantially greater for:
  - the less educated and especially dropouts
  - industries like accommodation and food services, agriculture, and wholesale and retail trade
  - workers who are part-time, with little job experience, non-union, students and are sons or daughters living with their families

- Overall, 50% of minimum wage workers are teens or youths

- Within the “arsenal of weapons” *moderate* increases in minimum wages are not likely to have disastrous consequences, especially if introduced in expansionary periods. As long as the floor is not raised too much, the roof is not likely to fall in.

MIMINUM WAGES: ISSUES AND OPTIONS FOR ONTARIO

INTRODUCTION

The purpose of this report is to provide an assessment of the issues and options related to the Ontario minimum wage, including approaches and mechanisms that the government can use to establish the level of the minimum wage. The report will be based largely on existing reviews of the literature[1] so that specific studies will generally not be cited, although specific Canadian studies will be cited as appropriate. Components of the report include:

A Profile of Minimum Wage Earners in Ontario, including

- ü age, sex, educational attainment, length of job tenure, hours worked, income and family status

Evidence of the Impact of the Minimum Wage on Employment, such as

- ü reviewing existing academic literature and research conducted in Canada
- ü providing a summary of the quantitative findings of the impact of the minimum wage on employment from Canadian academic studies
- ü comparing the results of Canadian academic studies to results from other countries
- ü examining the relevance of comparing Canadian academic results with findings from other countries
- ü evaluating the likely impacts of a large one-time increase in the minimum wage, for example 25 per cent
- ü comparing the impact of a large one-time increase in the minimum wage to the impact of gradual and periodic increases
- ü assessing the impact of Ontario having a notably higher minimum wage than in the other provinces
- ü identifying other macroeconomic impacts
- ü examining the impact of the differential student minimum wage
- ü identifying and assessing the trade-offs from raising the minimum wage

Evidence of the Impact of the Minimum Wage on Poverty

- ü comparing the earnings of minimum wage workers to commonly used low income measures
- ü reviewing the impact of minimum wage increases on income differentials
- ü comparing the effectiveness of the minimum wage to other programs to address poverty

[1] Those reviews include Brown (1999), Brown, Gilroy and Kohen (1982), Card and Krueger (1995), Gunderson (2005), Kennan (1995), and Neumark and Wascher (2006).

Evidence of the Impact of the Minimum Wage on Business Costs, such as

- identifying which industries would be most affected by minimum wage increases
- examining the impact of the minimum wage on small compared to large businesses
- estimating the increase in business payroll costs associated with potential minimum wage increases
- assessing the impact of minimum wage increases on business competitiveness

Approaches and Mechanisms to Determine Future Minimum Wage Increases in Ontario,

- surveying existing approaches and mechanisms for establishing the minimum wage in Ontario, other provinces and countries
- assessing criterion best suited for Ontario to evaluate the adequacy of the minimum wage relative to consumer prices or the cost of living and average wages
- assessing the relevance that should be attached to economic conditions in minimum wage determination
- noting other relevant factors, such as government policies.

PROFILE OF MINIMUM WAGE EARNERS IN ONTARIO

Profile Issues

There are a variety of ways of providing a picture of minimum wage earners. For purposes of this paper, the most informative is to provide a picture of those who would be potentially affected by an increase in the minimum wage in that their wages fall between the old minimum wage and a new minimum wage (e.g., between the current $8.00 minimum and a proposed $10.00 minimum). Hereafter, they will simply be referred to as minimum wage workers, although formally they are persons whose wage will likely be affected by a minimum wage change and increased to the new minimum wage.

An alternative is to provide a picture of those whose wages are simply below the proposed new general minimum of $10.00, and not necessarily above the old minimum. That latter measure would also include persons who were below the old general minimum wage and most of these people are unlikely to be directly affected by a general minimum wage increase because they were not affected by the previous general minimum wage increase in that their wage remained below that minimum. This could reflect the effect of separate sub-minimums (e.g., students not subject to the regular minimum, liquor servers), ineligibility, measurement error, or illegally working below the legal minimum. To the extent that these people would also fall below a new general minimum wage, then they should not be counted as persons potentially affected by the new general minimum. On the other hand, to the extent that their wages would also be indirectly raised when the new general minimum wage as increased, at least some may be affected by the minimum wage increase. This could be the case, for example, for those working at a sub-minimum wage that may increase if the general minimum wage increased or if the sub-

minimums were abolished. It could also be the case for some low-wage workers who simply may have their wages increased, albeit their wages could also fall from the competitive pressure from those who are disemployed because of the general minimum wage increase. For these reasons, the portrait based on all wages unde

Incidence or Probability of Being Affected by Minimum Wage Increase

As illustrated in the top row of Table 1, of the slightly over 5.5 million paid workers in Ontario, 620,200 worked for wages between the general minimum wage of $7.75 at that time and up to but not including a hypothetical new minimum wage of $10.00. This represents 11.2% of

- sons or daughters or relatives living with their families (25.6%) and especially for teens whether in school (50.7%) or out of school (52.8%) and youths whether in school (38.4%) or out of school (23.1%)
- unattached teens or youths living alone (18.3%) or with non-relatives (24.6%).
- the incidence or probability of having your wage affected by such a minimum wage increase is about the same for single parent heads of families (11.4%) including those with a youngest child under 18 (12.0%) as the average overall probability of 11.2%.

Share or Distribution of Minimum Wage Workers

The share figures in Table 1 showing how minimum wage workers are distributed across the various characteristics often exhibit a similar pattern as the incidence figures since a higher probability of being a minimum wage worker in a particular group contributes to that group constituting a higher share of minimum wage workers. However, the patterns can differ depending upon group size. The most interesting results for the share figures are:

- 62% of minimum wage workers are female compared to 38% male
- 29% of minimum wage workers are teens and 23% are youths for a combined total of 52% being age 15-24.[2] 39% of minimum wage workers are in the middle age group of 25-54 in spite of their low incidence, reflecting the simple fact that most workers are in that age group.
- About 40% have not completed either high school (23.9%) or post-secondary institutions (15.7%), many of whom are drop-outs.
- 88% are in the service sector, with 38% being in wholesale or retail trade, and 20.2% being in accommodation and food services
- 51% are in full-time jobs in spite of the low incidence in full-time jobs, reflecting the fact that most workers are in full-time jobs.
- 18.2% have been in their job less than four months and almost half (46.4%) have been in their job for a year or less, with 14.8% having been in their job for over five years (61+ months)
- Almost half (46.7%) are in large firms of more than 500 employees in spite of their low incidence, reflecting the fact that most employees are in such large firms
- Only 10.4% are union members or covered by a collective agreement

With respect to family characteristics of Table 2:

- Very few (1.3%) have an unemployed spouse or a spouse not in the labour force (4.8%) and very few (0.5%) have an employed spouse who works at the minimum wage or less.

[2] Interestingly, for Canada as a whole, almost half (47%) of minimum wage workers are teenagers and a further 16% are youths age 20-24. The fact that raising the minimum wage to $10 in Ontario would lead to only 29% of minimum wage workers being teens and a further 23% being youths, highlights that such a large increase would move coverage considerably up the wage distribution involving more youths and even adults as opposed to simply teens. That is, in Canada as a whole, the normal minimum wages jobs tend to be occupied by teens. An increase to

- ü 7.6% of minimum wage workers are single-parent heads of families with 7% having a youngest child less than 18 years old
- ü 50% are the son, daughter or relative living with a family, with slightly less than half of those being in school
- ü 10.9% are unattached individuals
- ü Overall, almost one-third (31.4%) are members of a couple and one-quarter (25.3%) have their spouse employed, with most of these (21.6%) having their spouse earn more than the minimum wage
- ü Overall, 50% of minimum wage workers are teens or youths who live with their parents[3], 31.4% are couples (of which almost 70% (21.6/31.4) have a spouse employed at a job above the minimum wage), approximately 11% are unattached individuals and 7.6% are single heads of families.

Relationship to Average Earnings

Average hourly earnings over the 12 months of 2006 in Ontario were $18.67. The general minimum wage that prevailed at that time from February 1, 2006 throughout the rest of 2006 was $7.75 or 41.5% of average hourly earnings. A $10.00 minimum wage in Ontario at that time would be 53.6% of average hourly earnings.

Updating the Ontario average hourly earnings to 2007 by an assumed 3% wage increase to $19.23 and using the 2007 minimum wage of $8.00 would yield a virtually similar minimum wage ratio of 41.6% average hourly earnings. Using the hypothetical $10.00 minimum would yield a minimum wage being 52% of average hourly earnings.

Over time, in Canada, minimum wages were about 45% of average hourly earnings in 1965, rising to a peak of 50% by 1976, falling to around 38% in the mid 1980s to the early 1990s, and then rising slightly to about 41% in 2001. As a percent of average hourly earnings, minimum wages in 2001 ranged from lows of 30% to 35% in the North West Territories, Nunavut and Alberta (reflecting the high wages in those areas) to highs of 45% in Quebec and 45% in B.C.

Clearly, an increase in the Ontario minimum wage to $10 would yield a minimum wage that is highest relative to average hourly earnings by historical standards and relative to other jurisdictions in Canada.

[3] The proportion who are teens and youths in this situation for Ontario is lower than the general picture for Canada as a whole because, as indicated previously, an increase in the Ontario minimum to $10.00 would affect persons higher in the wage distribution. Based on other data for Canada as a whole, 60% of minimum wage workers are teens or youths who live with their parents, 25% are couples (of which 75% have a spouse employed at a job above the minimum wage), 11% are unattached individuals and 4% are single heads of families.

EVIDENCE OF THE IMPACT OF THE MINIMUM WAGE ON EMPLOYMENT

In analysing the impact of minimum wages on employment it is important to emphasise that the employment impact will *not* likely occur in the form of a short-run response of *laying off or terminating workers* whose wages are now increasing because of the minimum wage. Rather, the response will likely occur in the form of slower employment growth in the areas of low-wage employment affected by minimum wages. That is, the adverse employment effect will occur in the form of less employment than would otherwise be the case in the absence of the minimum wage, and not reductions in the employment of those who are already employed. These adverse employment effects will occur as firms substitute other inputs (e.g., capital equipment and even higher priced labour) for the now more expensive low-wage labour, and some firms may reduce their output (and possibly even go out of business) as

Over the 1950s, 60s and 70s, there was a consensus view, based mainly on time series analysis, that the elasticity of teenage employment (the group most often studied) with respect to the minimum wage was about –0.1 to –0.3; that is, a 10% increase in the minimum wage led to a

no significant impact. That is, the evidence of a positive employment impact has been discounted as has the evidence of a statistically significant substantial adverse employment effect at the higher end of the old consensus range, except perhaps for less educated teens not in school. Nevertheless, a number of more recent U.S. studies have found adverse employment effects that are close to the old consensus range and even higher.

Overall, the U.S. evidence remains controversial with minimum wage employment elasticities ranging from 0 to -0.3% and even –0.6% or more being plausible.

Some of the U.S. evidence is based on the so called "natural experiments" using a "difference-in-difference" methodology whereby employment changes in states that instituted minimum wage changes are compared to employment changes in contiguous states that did not institute the change. Although involving simple comparison of average employment differences, such methodologies can be informative if other changes are not contaminating the results (e.g., if firms were randomly assigned to "treatment" states that experienced a minimum wage increase, and "comparison group" states that did not experience an increase), and if sufficient time passed for longer-run impacts to be assessed. Such random assignment, of course, did not occur. As such, this methodology may underestimate the true impact of the minimum wage increase for a number of reasons:

- Other factors, not controlled for in the analysis, may be changing in different ways across the states that raised their minimum wages and those that did not.
- Minimum wages may be endogenous in that they may be more likely to be instituted through the political process in states where employment growth is likely to be robust (so that any adverse employment effect is less transparent) and the opposite in states with expected slow employment growth.
- The employment outcomes are generally short-run since they are observed shortly after a minimum wage increase, and the longer run adverse employment effects may take some time as they occur through changes in the flows of hiring and terminations and require time for production processes to change.
- The increases were at a time when real minimum wages had eroded so few were affected
- It has not been possible to replicate some of the studies, although this is (unfortunately) common in much of the minimum wage literature.

<u>British Evidence</u>

British evidence on the impact of its first-ever national minimum wage adopted in 1999 is often interpreted as suggesting no adverse employment effect. However, that evidence as reported by The Low Pay Commission in its background studies is essentially based on case studies or surveys indicating *perceptions* of the effect at the time the law was passed. The few rigorous econometric evaluations find no adverse employment effect *economy-wide* but a conventional adverse employment effect in the

employment effect for three reasons: they were done shortly after the minimum wage came into effect so that longer-run effects are not observed; the policy was anticipated and some adjustments may have occurred prior; and the minimum wage increases were very small and were instituted at a time when they could easily be absorbed by an expanding economy.

OECD Evidence

Based on pooled time-series, cross-section regressions for nine OECD countries over the period 1975 to 1996, the OECD (1998, p.46) concluded:

> Minimum-wage rises have a negative impact on teenage employment although the magnitude of the reported elasticities varies significantly, from -0.3 to -0.6 when Spain and Portugal are excluded, and from 0 to -0.2 when they are included in the regression. In some of the specifications, negative employment effects are also found for groups of workers other than teenagers.

They did the analysis with and without including Spain and Portugal because of data limitations for those countries. Overall, the OECD evidence suggests an adverse employment effect of -0.3 to -0.6 (based on the more reliable data that did not include Spain and Portugal), which is higher than the earlier "consensus" range of -0.1 to -0.3 based on U.S. data, although the OECD evidence is within the earlier U.S. consensus range when the less reliable data from Spain and Portugal is included. Overall, they conclude (p.47):

> Firstly, the results suggest that a rise in the minimum wage has a negative effect on teenage employment. Secondly, negative employment effects for young adults are generally close to zero or insignificantly different from zero. Thirdly, for prime- age adults, the most plausible specifications suggest that minimum wages have no impact on their employment outcomes.

Canadian Studies

Canadian data is generally regarded as better than US data for estimating the impact of minimum wages since minimum wages in Canada are largely under provincial jurisdiction and there is considerable variation both across provinces and over time in minimum wages. This facilitates identifying their effects. In contrast, in the U.S., minimum wages are under the federal jurisdiction, with changes seldom occurring. Variation in minimum wages in the U.S. tends to come from differences in state 'top-ups', the extent of coverage or the slow erosion of the real value of the minimum wage as its infrequent changes do not keep up with changes in the average wage of the state.

Based on data prior to the 1980s, the earlier Canadian studies tended to find adverse employment effects that were in the range of US consensus estimates, and sometimes higher, where a 10% increase in the minimum wage would give rise to a 1-3% reduction in employment.

Based on data to include the 1980s, the Canadian studies tended to find smaller effects that were at the lower end of the consensus range, and possibly zero, as was often also the case in the US. It is possible that this weaker effect of minimum wages throughout the latter part of the 1970s and early 1980s reflects the fact that the *real* minimum had declined by so much since nominal minimum wages were infrequently adjusted and hence had not kept up with inflation. The *declining* real minimum wages may not have elicited an *increase* in low-wage employment in the same fashion as an *increase* in real minimum wages may elicit a *reduction* in low-wage employment. This could occur because the increases are overt and entail an announced increase while the declines are passive involving a slow erosion of the real minimum wage. Employers may not increase low wage employment in response to such passive signals because they feel the decline is temporary and will soon be offset by upward adjustments, and perhaps substantial ones to offset the cumulative decline.

Importantly, the more recent Canadian studies[5], using the most recent data as well as different and more sophisticated

absence of the minimum wage increase, while in times of economic contraction it is more likely to occur in the form of actual layoffs. As well, in times of tight labour markets the minimum wage increase is less likely to be a binding constraint in that the expansion would raise the wages of low-wage workers and hence have fewer of them affected by the minimum wage. Canadian evidence supports this in that only about 1% of workers in the tight labour market of Alberta are working at the minimum wage compared to about 4% in Canada as a whole and over 8% in Newfoundland and Labrador. In essence, a tight labour market is likely to be a low-wage workers "best friend."

Summary of Canadian Evidence and International Perspective

Overall, the following generalizations emerge from the Canadian evidence:

- Minimum wages in Canada are very likely to create an adverse employment effect, especially for teens and to a lesser extent for young adults. Specifically, a 10% increase in the minimum wage is likely to reduce the employment of teens by 3% to 6%, and slightly lower for young adults (i.e., a minimum wage elasticity of -0.3 to -0.6 for teens).
- This involves a reduction in employment relative to what would have occurred in the absence of the minimum wage increase and not necessarily a decline in their actual employment. That is, it leads to slower employment growth in times of economic expansion, although there is the possibility of employment reductions in times of economic contraction.
- The adverse employment effect in Canada appears larger than that which exists in the U.S. were there is not a consensus and where negative employment elasticities tend to range from 0 to - 0.6% rather than the -0.3% to -0.6% in Canada. This could reflect any combination of: better data in Canada for estimating the employment effects; more workers being affected by minimum wages in Canada; and longer run impacts being estimated in Canada.
- The adverse employment effects in Canada also tend to be larger than those reported in Britain where minimum wages were just introduced. However, British evidence of no effect is often based on employer *perceptions.* The few rigorous econometric evaluations find no adverse employment effect

less for youths) is consistent with OECD evidence when restricted to reliable data, and it is at the high end when other comparisons are made (with the typical range of elasticities indicated in parenthesis): when less reliable OEDC data is included (-0.1 to -0.3); when compared to British data for the low-wage sector (-0.1 to -0.3); and for U.S. data (0 to -0.6).

- *Since the Canadian evidence tends to be at the higher end of the international evidence, perhaps a reasonable conclusion is to use the lower bound of -0.3 of the Canadian range of -0.3 to -0.6 as a best "point estimate," slightly lower for youths and higher for teens.*
- It is an open question as to whether the larger adverse employment effects in Canada occur because of better data; more workers affected; or estimating longer-run effects.
- Minimum wages also likely reduce labour force participation inducing some to leave the labour force because of a lack of jobs and this means that not all of the employment reductions get translated into unemployment rate increases.
- Limited evidence in Canada suggests that minimum wages do not induce youths to leave school to queue for the now higher paying minimum wage jobs (although a weak effect in this direction is found for older youths). This is in contrast to U.S. evidence where many (but not all) studies find that minimum wages induce school leaving.
- Limited evidence in Canada also suggests that minimum wages tend to inhibit youths from accepting lower wages in return for training, although this direct effect is small and the more likely indirect effect is through the adverse employment effect that precludes those youths from accumulating on-the-job training and experience.
- While these generalizations tend to emerge from the Canadian studies and international evidence, it is important to emphasise that zero employment effects are sometimes found in some of the econometric specifications, including those in Canada. As such, we should be modest in our l8rG2001 Tc -0.0001 Tw cTf0uemplu20Tc 2iizatio6nr0001 Tw 18.4usgudi

direction. This may induce employers to make adjustments away from using low-wage labour that are even greater than the adjustments from that minimum wage increase itself.

This is some limited Canadian evidence[8] on the differential effect of a large one-time minimum wage increase based on the experience in British Columbia in 1994-95 where two $0.50 increases occurred for a large cumulative increase of the minimum wage of $1.00. The adverse employment effects were approximately twice as large as those based on a series of smaller cumulative minimum wage increases of the same magnitude.

That same study examined the differential impact of pre-announced and regular scheduled minimum wage increases as occurred in Quebec every October 1 for much of the late 1980s and 1990s. The results were similar to the normal results that occurred from more ad hoc and irregular increases. If anything, the adverse employment effects were slightly larger if the minimum wage increases were pre-announced and scheduled regularly, perhaps because this provides employers with greater certainty of the increases and hence an incentive to adjust.

This limited evidence therefore suggests that:

- ü minimum wage increases that are pre-announced and regularly scheduled have either no differential effect or a slightly larger adverse employment effect, but that
- ü a large one-time minimum wage increase has an averse employment effect approximately twice as large.

These are both compared to the normal ad hoc periodic minimum wage increases of the same magnitude.

This evidence can be used to predict the effect of a large one-time increase of 25% in the Ontario minimum wage, for example, from $8.00 per hour to $10.00 per hour. Based on the previously discussed range of Canadian elasticity estimates where a 10% increase in the minimum wage gives rise to a 3% to 6 % reduction in teen employment, such a 25% increase in the minimum wage should give rise to a 7.5% to 15 % reduction in teen employment, assuming no differential impact of a large one-time increase compared to a series of irregular ad hoc increases of the same magnitude. If the eff

In essence, at least from the perspective of an adverse employment effect, there seems little rationale for moving away from ad hoc irregular minimum wage increases and towards minimum wage increases that are pre-announced and regularly scheduled and especially large one-time periodic minimum wage increases of the same magnitude.

Impact of Ontario Having a Higher Minimum Wage Than in Other Provinces

The existing literature does not provide evidence on the extent to which an unusually high minimum wage in one jurisdiction would have a differential impact over and above the effect associated with the minimum wage itself. The existing literature generally relates the minimum wage in a jurisdiction to *its own average wage* rate to obtain a relative wage measure and thereby control for such factors as cost of living differences and general economic conditions.

However, there are reasons as to why Ontario having a higher minimum wage relative to the minimum wage in other provinces may have an effect *over and above* the effect from the higher minimum wage itself. First, employers may substitute their low-wage production away from Ontario with its high relative minimum wage and into provinces with lower relative minimum wages. Second, and in a related vein, employers may be more likely to make their investments (and hence the job creation associated with those investments) in jurisdictions with fewer regulatory constraints. A high minimum wage in Ontario relative to other provinces may be taken as a signal of such regulatory constraints and hence deter investment. These effects can lead to adverse employment effects that are larger than those that arise from the higher minimum wage itself.

These responses on the part of employers will be muted somewhat if the high minimum wage in Ontario relative to other provinces simply reflects compensating wages for a higher cost of living or other factors that affect general wage levels. In that vein, a higher relative minimum wage in Ontario would be a minimum wage in Ontario that is higher relative to the average wage in Ontario compared to the minimum wage in other provinces relative to their average wages.

Macro-economic Effects

The limited Canadian evidence on the macroeconomic effects of minimum wages suggests that minimum wages:

- Increase the overall unemployment rate and especially for groups like teens and youths who are most likely to be affected by minimum wages
- Reduce the labour force participation rate since some who cannot find jobs leave the labour force altogether, and this also mutes the increase in the unemployment rate
- Increase the aggregate wage level
- Increase inflation

- Increases the structural or natural rate of unemployment (i.e., the unemployment rate that is consistent in the long run with no change in the inflation rate) and thereby worsens the trade-between inflation and unemployment. Such structural unemployment cannot be reduced through monetary or fiscal stimulus except in the short-run and with inflationary consequences.
- Reduces GDP.

These effects are not likely to be substantial, however, given the small numbers that are likely affected by minimum wage increases, especially if they are of a reasonable magnitude.

Advocates of minimum wage increases sometimes argue that minimum wages could increase the purchasing power of recipients of minimum wage increases and this could increase consumption and hence aggregate demand, possibly with multiplier effects through the system. This would be the case especially if such groups had a higher propensity to consume out of their low income. This could offset some of the adverse employment effect of the minimum wage increase.

Economists tend not to give much credence to

There is some evidence that a student sub-minimum may be a "non-issue" since employers tend not to pay the lower sub-minimum even when it exists. Whether this reflects concern over morale problems if students were paid a lower wage compared to non-students doing the same work is an open question. This is not likely to be a concern with the sub-minimums for those who receive substantial tips since it is well-known that is why they get such a sub-minimum. When employers do pay the sub-minimum, most (but not all) of the evidence suggest that it is effective in reducing the adverse employment effects for such groups. In the case of students, since they are a prominent group affected by minimum wages, this can also reduce the cost of minimum wages for employers.

This, however, highlights three important trade-offs. First, from an equity point of view, inducing a substitution away from low-wage youths who are not students towards students may not be desirable since the non-students are likely the most vulnerable and disadvantaged, in need of employment and work experience. It is true that they would have a higher wage from the higher minimum, but a small wage gain is likely to matter less than the risk of not having a job at all, especially for dropouts. Second, morale problems may arise when students doing the exact same job as non-students are paid a lower wage simply because they are students (albeit, employers can offset this by not paying the sub-minimum). Third, fostering student employment by having a lower student minimum wage may not be desirable given the (limited) Canadian evidence that working while in school has a strong negative effect on the probability of graduating and a weaker long-run negative effect on subsequent wages. This does not imply that students should be "protected from themselves" by pricing them out of the market through the regular minimum wage. It does, however, raise the issue of whether their employment should be encouraged relative to the employment of low-wage non-students.

Trade-offs from Raising the Minimum Wage

The previous discussion has highlighted a number of employment related trade-offs that must be considered in any decision to raise the minimum wage. The main ones identified include:

- Higher minimum wages will raise the wages of recipients (mainly teens and youths) but have negative effects on
  - Reducing their employment and hours of work
  - Reducing their opportunities to receive training in return for lower wages, albeit this effect is likely to be small especially if student sub-minimums exist
- Student sub-minimums will reduce these negative effects, but can have other negative effects by

- A one-time large increase in the minimum wage has appeal especially if it moves

The $8.00 minimum wage that prevails throughout most of 2007 when multiplied by a 40 hour week for 52 weeks yields an annual income of $16,640 or 75.6% of the poverty line of $22,000. Based on an approximation of 30 hours per week since most minimum wage workers work part-time, would yield an annual income of $12,480 or 56.7% of the poverty line. Raising the minimum wage to $10 would therefore yield an annual income of $20,800 or 94.5% of the poverty line assuming a 40 hour week and $15,600 or 70.9% of the poverty line assuming a 30 hour week.

Minimum Wages as a Blunt Instrument to Curb Poverty

There tends to be general agreement amongst economists that minimum wages are an exceedingly blunt instrument for curbing poverty. This is so for a variety of reasons:

- Many of the poor do not work so it would only help the working poor
- Many of the working poor only work few hours so that a minimum wage increase when multiplied by their hours of work would not increase their income by much.
- Even for the working poor, minimum wages would be poorly targeted since they also affect the wages of youths and multiple earners in non-poor families (i.e., there are extensive spillovers to workers who are not poor). In Canada[11], the probability of working at the minimum wage, for example, is only 3% for those 25-64, the age group for which working poverty is likely to be of greatest concern. Conversely, almost half (47%) of minimum wage workers are teenagers and a further 16% are youths age 20-24. Approximately, 60% of minimum wage workers are teens or youths who live with their parents, 25% are couples (of which 75% have a spouse employed at a job above the minimum wage), 11% are unattached individuals and 4% are single heads of families.
- Many minimum wage jobs are temporary stepping-stones held by youths who will not be in a state of long-run poverty, stuck in such minimum wage jobs. For example, more than half of all minimum wage workers had been in their current job for no more than one year. Only slightly more than 1% of persons who had been in their job for more than five years were working at the minimum wage.
- Poverty is related to *family* income relative to family *need*, while minimum wages are paid to individuals irrespective of their family situation or need.
- Minimum wages affect only small portions of the population.
- Even if the minimum wage worker were in poverty and remained employed, the earnings increase would not likely do much to close the poverty gap. A typical minimum wage increase of $0.25 per hour when multiplied by a full-year, full-time work-year of 2,000 hours would increase annual income by $500. The impact would be less for most since almost 60% of minimum wage workers work part-time.
- While curbing poverty is a legitimate social goal, using minimum wages to curb poverty places the onus on employers to deal with a social issue the costs of which should be shared by society in general. If a person is paid $6.00 per hour and society deems that they should be paid $8.00 per hour for social reasons, then it would seem appropriate for

[11] Figures for Canada as used in this section are from Battle (2003).

that difference to be paid out of general tax revenues perhaps in the form of a wage subsidy, rather than imposed on a particular employer – especially particular employers in specific industries.

The potential harmful effects of minimum wages that could exacerbate poverty include:

- The adverse employment effects mean a loss of jobs that can exacerbate poverty, especially if those who are not employed are likely to be the least skilled and most vulnerable.
- Any reduction in hours of work can also reduce earnings and contribute to poverty.
- To the extent that minimum wage inhibit less skilled workers from accepting a low wage in return for training or experience this could inhibit them from moving out of poverty in the longer-run.
- Pricing such jobs out of the market because they cannot be done at a low wage for the experience or training, can lead to their being done at a zero wage as in the case of volunteer work or unpaid internships that are often done for the value of the experience. Ironically, jobs that pay below the minimum wage are illegal, but jobs at zero wages can be encouraged for social reasons.

While minimum wages are a blunt instrument

The empirical evidence generally confirms that minimum wages tend to reduce wage inequality. This does not necessarily mean, however, that they will also reduce poverty or even income inequality. Their effect on reducing employment and hours can exacerbate income inequality and poverty, and the connection between wages and income distribution and poverty is complicated by the fact that poverty relates to *family*

Training and skills upgrading of persons whose skills are such that they would otherwise earn below a minimum wage is an attractive possibility. It facilitates recipients earning their income and does not require employers to make up the difference between what they are paid for their low skills and what society deems they should earn. Unfortunately, the empirical evidence does not generally suggest high returns for the training and upgrading of disadvantaged workers. Public support for such training would have to be justified on equity grounds and not efficiency grounds, albeit the equity rationale can be very strong,

Although we have little confirmatory evidence, *apprenticeship training* can be a particularly appealing option for youths who otherwise do not benefit from the more conventional academic education. Policies to remove the barriers that inhibit such training could be useful including: better information on careers in apprenticeships; overcoming the stigmas that are often associated with vocational training like apprenticeships; fostering better links with the education system; fostering flexibility in prior learning and experience recognition and in allowing "testing out" of the classroom requirements; and fostering a more rapid completion rate.

Labour market information and mobility programs are other active labour market adjustment programs that could enable people to move from low-wage jobs into higher paying jobs, perhaps in other regions. This is in contrast to passive income maintenance programs like employment insurance, which discourage such mobility and encourage people to stay in higher unemployment, low-wage regions, often mixing periods of low-wage seasonal work with unemployment insurance.

Improving the education of young people can be an important policy to raise their skills to enable them to command more than a minimum wage. The empirical evidence clearly indicates that education yields high returns in terms of improved wages and employment prospects, especially given the shift to an information economy. The private returns are in the neighbourhood of 10 percent or more from every additional year of educati

Overall, *active labour market programs* (e.g., training, apprenticeships, education, labour market information, mobility and credential recognition) that would raise or recognize the skills of otherwise low-wage workers are likely to do much more to move them out of poverty than are the exceedingly blunt instrument of minimum wages. Focussing on minimum wages means that most of the benefit of such wage increases would go to teens and youths many of whom are students and living at home. And the benefits of the wage increase would only go to those who had a job after the increase. In contrast, active labour market programs can be better targeted towards the low-wage workers who are likely most in need of having their wages enhanced. This would include adults or young adults who are more permanent low-wage workers, especially without other family resources.

The one income support measure that has appeal in this area is some form *earnings subsidy* such as exists in the Earned-Income Tax Credit in the US. Such a policy basically involves a wage subsidy that is targeted to low-income individuals, and especially those with children, with no further subsidy after a certain threshold of income, and the subsidy being reduced after a higher threshold level of income and ultimately phased-out so that it does not go to persons with higher income. In effect, if society deems that low-income persons should not have to work for a low-wage, then society is providing the subsidy to increase their wage, but phasing out the subsidy as income increases. It is an "income tested" refundable tax credit administered through the income tax system and is paid irrespective of other income taxes paid by individuals.

In the U.S. the Earned Income Tax Credit has bypassed welfare as the largest income-support program for working-age individuals. It has been consistently increased, with bipartisan support, since its inception in 1975. Similar tax-based wage subsidies exist in other countries, in various forms. All have features that low-wages are effectively raised through refundable tax credits. They have the virtue of "making work pay" by increasing wages (as can minimum wages); however, by not increasing wages paid by employers they do not have an adverse effect on employment or hours worked (as do minimum wages). By being targeted to low-income individuals or families through the tax system they are better targeted towards the working poor and child poverty, unlike minimum wages which are poorly targeted as discussed previously.

Wage subsidy programs can also be a component of the Employment Benefit and Support Measures administered under Part II of the EI program and part of Labour Market Development Agreements. Such programs are targeted to EI recipients, however, and designed to encourage employers to hire persons who are otherwise unemployed (perhaps because of minimum wages). They are not general wage supplementation programs designed to help the working poor.

Overall, minimum wages are at best an exceedingly blunt instrument for reducing poverty and essentially have no effect on reducing overall poverty and only a very small effect on reducing poverty amongst the working poor. As such, active labour market policies to improve the earnings potential of the working poor are likely to be better targeted and more effective. As well, policies to alleviate dropping out of school are potentially very important so

that such dropouts do not become "career" minimum wage workers. With respect to transfer programs, more attention is merited on earnings subsidy programs like the Earned Income Tax Credit in the US.

While these other policies are likely to be more effective, and to do less harm, than minimum wages, it should also be emphasised that low wages are likely to be very resilient to policy initiatives. This is not an easy policy problem to solve. As indicated, facilitating full employment and growth is easier said that done. Active labour market programs are costly, and many (like training the disadvantaged) may not be cost-effective from a narrow cost-benefit calculation (albeit they may be rationalized for distributional or equity reasons). Credential recognition is important not only in this area but in others, but it is not a simple task. Earnings subsidies through the tax system merit more attention but they can be costly in terms of forgone revenues and they can imply clawbacks that can reduce the work incentives of higher wage individuals.

While there are issues associated with each of these other policy initiatives to reduce poverty amongst the working poor, they are very likely to be better targeted and more effective than minimum wages. As such, an *"arsenal of weapons" approach* that uses a range of these programs is likely to be most effective. Minimum wages, however (and unfortunately), have considerable political appeal and appeal to the general public. If wages are "too low" the solution seems simple – legislate them to a higher level. The adverse effects on employment and hours worked and the possible adverse effect on training are much more subtle and do not appear on the surface or likely in the short-run.

Focusing on minimum wages highlights an important policy issue. Wages, more than any other "price" are called upon to serve a variety of functions. They are called upon to serve an allocative function with respect to allocating labour to its most efficient uses: to curb labour and skill shortages; to reallocate labour from declining sectors and regions to expanding ones; to create the appropriate incentives with respect to labour supply (participation, hours and effort); and to motivate workers and to encourage skill and human capital formation. They are also called upon, however, to serve a distributional role to curb poverty, reduce income inequality, provide a 'living" wage and impart social status. As well, they influence macroeconomic factors such as inflation and unemployment, as well as competitiveness and growth. Not surprisingly, when burdened with so many "masters", wages may serve none well. In such circumstances, it may be best to allow wages to focus on their primary allocative functions and to use other policy mechanisms that are better targeted and more effective in achieving the other objectives.

It is also the case, however, that *moderate* increases in minimum wages, to sustain their value relative to average wages are not likely to have disastrous consequences, especially if introduced in expansionary periods. As long as the floor is not raised too much, the roof is not likely to fall in.

EVIDENCE OF THE IMPACT OF THE MINIMUM WAGE ON BUSINESS COSTS

Since the proportion of workers affected by a minimum wage increase varies by industry and firm size, minimum wage increases will have a differential impact by industry and firm size. They will also have a differential impact on payroll costs, and hence competitiveness, given that wages vary by industry and firm size.

Differential Effect by Industry and Firm Size

As indicated in the previous profile analysis, 88% of workers most likely to be affected by a minimum wage increase to $10 are in the service sector. Within that broad sector, 38% are in wholesale or retail trade, 20.2% in accommodation and food services, 7% in business building and other support services, and 5.5% in information, culture and recreation. The extent to which they will be affected depends as well on the incidence of minimum wage workers in their sectors. All of these industries have an above average incidence of minimum wage workers: 26.4% in wholesale or retail trade, 37.2% in accommodation and food services, 18.5% in business building and other support services, and 12.6% in information, culture and recreation, all relative to the average of 11.2%. The only other specific industry with an above average incidence of minimum wage workers is agriculture with 27.6% of its workforce being minimum wage, but because it is so small, only 2.2% of minimum wage workers are in agriculture. Its high incidence of minimum wage workers, however, means that it will be substantially affected. In essence, the rank order of industries most affected as reflected in the incidence figures is:

- accommodation and food services,
- agriculture
- wholesale or retail trade,
- business building and other support services, and
- information, culture and recreation

Because accommodation and food services and wholesale and retail trade are such large sectors, they also account for the majority (58.1%) of minimum wage workers.

With respect to firm size, the proportion of workers who would be affected by a minimum wage increase to $10 is (perhaps surprisingly) not that different across firm sizes, although it generally falls as firm size increases. As indicated in the previous profile analysis, the proportions affected are:

- 15.6% for small firms of fewer than 20 employees
- 11.8% for firms of 20-99 employees
- 9.7% for firms of100-500 employees
- 9.9% for firms of more than 500 employees.

Small firms will be disproportionately adversely affected, but the differences are not that great. The adverse effect on small firms may be more severe, however, because they are more likely to be at the margin of surviving.

Effect on Payroll Costs

The impact on payroll costs will depend upon the proportion of workers affected by a minimum wage increase and the extent to which wages increase as a result of the minimum wage increase. When that cost is expressed as a percent of payroll it will also depend upon the size of the payroll not affected by the minimum wage increase. Other things equal, the effect on payroll costs will be large if:

- a high proportion of the industries workers are affected by a minimum wage increase
- their wages increase substantially as a result of the minimum wage increase
- the remaining payroll is low (i.e., it is generally a low-wage industry) so that the cost increase as a result of the minimum wage increase is a high proportion of total payroll costs.

Table 3 provides estimates of the impact of increasing the Ontario minimum wage to $10 per hour by firm size and by industry. Two sets of calculations are provided for two sets of workforces. The first set of calculations is based on increasing the wages of all those between the old general minimum wage ($7.45 in January 2006, and $7.75 from February to December 2006) up to a new minimum wage of $10.00. The second set of calculations is based on increasing all wages below $10 up to $10. The first calculation is a lower-bound estimate in that it assumes that the wages of those below the old minimum wage will not change. Some, however, may increase, such as those at a sub-minimum (albeit likely up to a new sub-minimum and not to the full $10.00). Others below the old minimum would likely still be below the new minimum, such as those who illegally worked below the old minimum or who were ineligible or whose wage was below the old minimum because of measurement error in the survey. The second calculation is an upper bound because it is not likely that

APPROACHES AND MECHANISMS TO DETERMINE FUTURE MINIMUM WAGE INCREASES IN ONTARIO

There are a variety of mechanisms and criteria for determining future minimum wage increases. Each has their pros and cons.

One criteria, and a common one raised in the media and used by advocates of minimum wage increases, is that minimum wages should provide a full-year, full-time worker with adequate income to provide at least a "*poverty" level of income.* While intuitively appealing, this criteria suffers from a number of serious problems.

- Poverty is a *family* income concept and relates to family *needs* as well as income and earnings of other family members. Minimum wages are related to *individual* income irrespective of their family situation or need. Paying a young person who lives at home in a middle or upper income family that is well beyond the poverty line because both parents work (now the norm) is unnecessary to curb their non-existent poverty, and paying such a minimum wage to an unskilled adult in a family of four with no other workers will be insufficient to curb their poverty. Obviously, it also does nothing to the non-working poor.
-

- ü It assumes that the established real minimum wage is "correct" and therefore its real value should be maintained.
- ü There may be times when both the inflation rate and unemployment rate are high, and it may not be appropriate to raise the minimum wage in a period of high unemployment.
- ü Even if a high inflation rate is generally accompanied by a low aggregate unemployment rate, the unemployment rate for particular groups who are likely adversely affected by a minimum wage increase may be particularly high and it may not be appropriate to *automatically* raise minimum wages at that time.
- ü Linking to inflation may considerably alter the relationship to wage measures such as average wages since the relationship between average wages and inflation is not static.
- ü Taking the debate out of the political arena seems inappropriate. The trade-offs involved in minimum wages are exactly the sorts of items that are the legitimate subject of informed political debate.

Index to Average Wages or Other Benchmarks in the Wage Distribution

Indexing the minimum wage to a measure like average hourly earnings also has intuitive appeal so as to maintain the value of the minimum wage relative to that standard. This criteria also has problems:

- ü It assumes that there is some appropriate ratio that should be maintained. But such a ratio is not obvious.
- ü The average wage is less meaningful in current times when multiple-earner families are the norm, compared to earlier times when single-earner families were dominant, and male, blue-collar wages in manufacturing were a common norm.

wage increases did not have any less of an adverse employment effect than did a series of ad hoc minimum wage increases of the same magnitude; if anything, the pre-announced wage increases had a slightly larger adverse employment effect. That is, the ranking from best to worst in terms of minimizing adverse employment effects appear to be: ad hoc periodic wage increases; then pre-announced series of small and certain minimum wage increases of the same magnitude (albeit this is close to the ad hoc procedure); then considerable worsening for infrequent large wage increases.

While pre-committed, pre-announced minimum wage increases has this appeal especially relative to infrequent large wage increases, the disadvantages are:

- They appear to be no better and may have a slightly more adverse employment effect than periodic ad hoc increases, perhaps because employers see the cost increases with more certainty and make the adjustments.
- The pre-committed amounts may be inappropriate if future circumstances change. There is likely to be an asymmetry in this regard. That is, if the economy is booming and other wages and inflation are increasing, it is politically easier to "top-up" the pre-announced amount. If the economy worsens, however, it is likely to be politically impossible to reduce the pre-committed amount in spite of potentially larger adverse effects on employment and hours.
-

evidence suggested that the adverse effect on employment and hours worked was lessened in periods of economic expansion. Certainly, the adverse employment effects would be more masked because they would occur in the form of reduced employment relative to the employment growth that otherwise may occur, and that is likely to be more politically acceptable than employment losses for existing workers as may occur if minimum wages are increased in periods of economic decline.

Ad Hoc Increases Subject to Political Debate

The previous discussion suggests that the normal procedure of periodic ad hoc minimum wage increases subject to political debate has a number of positive attributes. It appears to have the smallest adverse employment effect, especially when compared to a large infrequent minimum wage increase of the same magnitude. Furthermore, the political debate in this arena seems appropriate given the trade-offs that are involved. In that vein, it can even be said that the political decision to raise minimum wages in the U.S. based in part on the evidence of Card and Krueger that it would have no substantial adverse employment effect was an appropriate decision in response to *that evidence at that time,* given their credibility as researchers. As indicated in this discussion, that evidence is certainly questionable today and especially for Canada. As such, minimum wage increases should be exercised with more caution, and large infrequent increases avoided. The ad hoc increases, however, are also subject to certain concerns:

- If they are done too infrequently, then they raise the possibility of a large infrequent adjustment and that is likely the most damaging in terms of hours and employment. That issue, however, can be brought out in the political debate, with pressure to have small periodic increases (even from governments that oppose such increases) to avoid the risk of the large infrequent increases.
- Frequent political debates over issues consumes resources (we don't have elections every month) and in the area of minimum wages there is a temptation to be politically opportunistic since the political benefits of raising it are fairly immediate, while the economic costs are more subtle and long-run.

In spite of these concerns, ad hoc increases have the virtue of being more flexibly applied than do rigid schedules set in advance or set by Commissions, and they therefore can be more selectively applied depending upon economic conditions. Subjecting the issues to political debate also has the virtue of highlighting the difficult trade-offs that are involved in this important area.

REFERENCES

Baker, M. “Minimum Wages and Human Capital Investments of Young Workers: Work Related Training and School Enrolment,” HRSDC/IC/SSHRC Skills Research Initiative Working Paper 2005 B-04, 2005.

Baker, M., D. Benjamin and S. Stanger. "The Highs and Lows of the Minimum Wage Effect: A Time-Series Cross-Section Study of the Canadian Law," Journal of Labor Economics 17 (April 1999) 318-350.

Battle, Ken. Minimum Wages in Canada: A Statistical Portrait with Policy Implications. Ottawa: Caledon Institute of Social Policy, 2003.

Brown, C. “Minimum Wages, Employment and the Distribution of Income,” In Handbook of Labor Economics, Vol. 3. Edited by O. Ashenfelter and D. Card. Elsevier Science, 1999

OECD. “Making the Most of the Minimum Wage: Statutory Minimum Wages, Employment and Poverty,” Chapter 2 in Employment Outlook. Paris: Organisation for Economic Co-Operation and Development, 1998.

Yuen, T. “The Effect of Minimum Wages on Youth Employment in Canada: A Panel Study” Journal of Human Resources 38 (Summer 2003) 647-672.

TABLE 1. Profile of Low Wage Earners in Ontario, 2006

	Total Emp	General Minimum To $9.99			Everyone Under $10		
		Total	Inci-Dence	Share	Total	Inci-dence	Share
	(000s)	(000s)	(%)	(%)	(000s)	(%)	(%)
Total	5557.8	620.2	11.2	100.0	829.8	14.9	100.0
Gender							
Males	2807.3	236.7	8.4	38.2	322.3	11.5	38.8
Females	2750.5	383.5	13.9	61.8	507.5	18.5	61.2
Age Groups							
15-19	346.4	179.6	51.8	29.0	291.7	84.2	35.2
20-24	577.5	142.5	24.7	23.0	172.2	29.8	20.8
25-54	3958.2	242.3	6.1	39.1	298.3	7.5	35.9
55+	675.7	55.8	8.3	9.0	67.6	10.0	8.1
Education							
0-8 years	121.1	23.0	19.0	3.7	31.0	25.6	3.7
Some high school	565.2	148.0	26.2	23.9	241.7	42.8	29.1
High school graduate	1189.0	169.2	14.2	27.3	206.1	17.3	24.8
Some post-secondary	447.5	97.1	21.7	15.7	120.9	27.0	14.6

	Total Emp	General Minimum To $9.99			Everyone Under $10		
		Total	Inci-Dence	Share	Total	Inci-dence	Share

TABLE 2. Family Characteristics of Low Wage Earners in Ontario, 2006

	Total Emp	General Minimum to $9.99			Everyone Under $10
		Total	Inci-dence	Share	Total

TABLE 3. % Increase in 2006 Payroll Cost from Increasing Minimum Wage to $10

	On Workers Affected		On Total Workforce	
	General Minimum to $9.99	Everyone Under $10.00	General Minimum to $9.99	Everyone Under $10.00
Total	9.6	13.1	0.6	0.8
Firm Size (Employees)				
Less than 20	8.6	12.7	1.1	1.6
20-99	8.9	11.8	0.7	0.9
100-500	10.0	12.4	0.5	0.6
More than 500	10.3	14.2	0.4	0.6
Industry				
Goods Producing Sector	8.0	10.1	0.3	0.4
Agriculture	8.8	12.9	2.8	4.2
Forestry fishing mining oil gas extr.	8.2	9.3	0.2	0.2
Utilities	11.1	16.1	0.1	0.1
Construction	5.8	9.0	0.2	0.2
Manufacturing	8.2	9.5	0.3	0.3
Services Producing Sector	9.9	13.8	0.7	1.0
Trade, wholesale and retail	10.9	14.0	1.7	2.2
Transportation and warehousing	7.9	12.8	0.3	0.5
Finance insurance real estate leasing	8.1	13.8	0.2	0.3
Professional scientific technical	8.6	12.7	0.2	0.2
Business building support services	8.1	10.0	1.4	1.7
Educational services	6.1	12.8	0.1	0.2
Health care and social assistance	7.6	10.6	0.1	0.2
Information cultural and recreation	10.0	13.6	0.6	0.8
Accommodation and food services	10.7	15.8	4.2	6.3
Other services	8.9	13.9	1.0	1.7
Public administration	11.4	15.7	0.1	0.2

Note: The calculations are based on increasing the actual wages of individual workers up to $10 per hour for the two groups: those at or above the general minimum wage; and all those below $10, including those below the general minimum wage. The general minimum wage in Ontario was $7.45 in January 2006 and $7.75 from February to December 2006.

Source: Calculations based on wage and employment data from the 2006 Labour Force Survey.