



Economic evaluation of proposed changes to the minimum wage

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Executive summary

Proposed changes to the minimum wage

- The Yukon Employment Standards Board recommended in late 2018 that Yukon's minimum wage be increased from \$11.51 per hour in 2018 to over \$15 per hour in three steps by April 2021.
- Cabinet approved the first recommended hike bringing the minimum wage in Yukon to \$12.71 as of April 2019.
- Approval of the other two increases was postponed until an economic evaluation of the potential impact could be conducted.

Economists are divided on the economic impact of minimum wages

- Despite an extensive body of literature, there is little in the way of a consensus among economists about the impacts of minimum wages on employment.
- Both proponents and opponents of minimum-wage increases can point to a multitude of peer-reviewed studies to support their case.
- The lack of evidence cuts both ways, with little clear and convincing evidence that minimum wages harm labour market outcomes for low-wage workers, nor much evidence that they reduce poverty.

Modest minimum wage hikes unlikely to lead to adverse job outcomes

- Though the impact of minimum wages on employment is contentious, most economists agree that the short-run effect on employment of modest increases in the minimum wage is likely to be minimal.
- The proposed increases, however, are not modest. If fully enacted, they would represent the largest three-year increase in Yukon's minimum wage in fifty years.
- Nevertheless, Yukon's growing economy and strong labour market should be able to accommodate some additional increase in the minimum wage.

Proposed increases bring the minimum wage into the "danger zone"

- Assuming no employment losses from higher minimum wages, low-wage workers in Yukon would see monthly earnings increase by \$165, which falls to \$117 after tax.



- If, on the other hand, employers reduce hiring in response to minimum wages, the after-tax benefit is halved to \$54 per month.
- In this second scenario, job losses amongst the lowest-paid workers (those earning the old minimum wage) cause net benefits from higher minimum wages to fall from almost \$200 per month to \$30 per month.
- The existing empirical literature cannot say definitively which of these two scenarios is more likely, however, the higher the minimum wage the more likely the second scenario.
- Research suggests this transition between Scenario 1 and Scenario 2 happens when the minimum wage exceeds 45% of average wages and that minimum wages above 50% of average wages are harmful for low-wage workers.
- For Yukon in 2021, this danger zone 45-50% range is expected to lie between \$14 and \$15.50 per hour.

The minimum wage is at best a crude anti-poverty measure

- Even those economists who support minimum wage increases would acknowledge that it is an exceptionally crude policy tool.
- The greatest defect with minimum wages is that they are poorly targeted towards poor households. Most minimum-wage earners aren't poor (e.g., students and youths living with their parents), and many poor don't earn minimum wage.
- Even assuming no job losses due to the higher minimum wage, only a fraction of the increased payroll costs ends up in the hands of the poor.
- One-third goes to payroll deductions and 70% of the remainder is paid to minimum-wage earners in non-poor households. This leaves just 20 cents on the dollar for the poor.

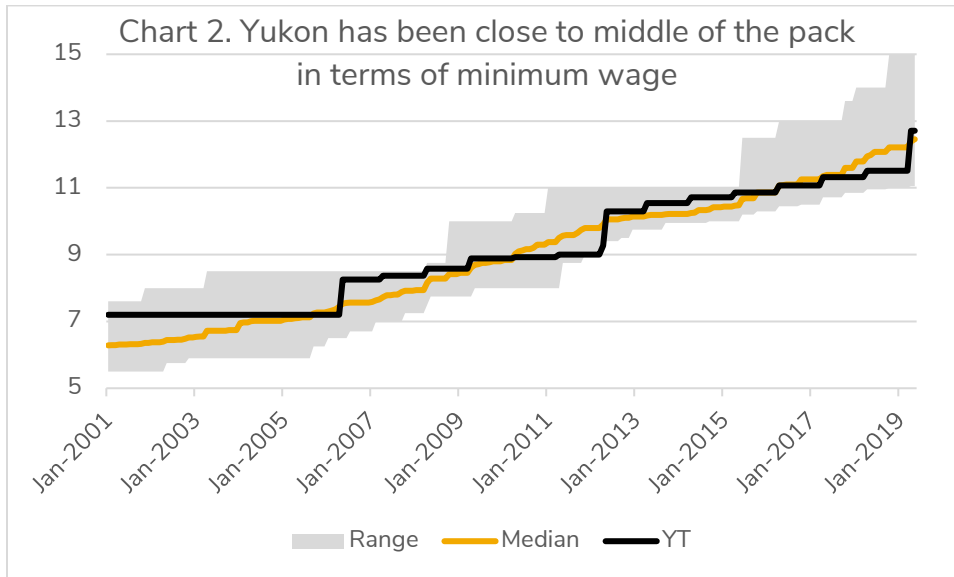
Summary of proposed changes and national and historical comparisons

Two decades of minimum wage hikes in Yukon and other jurisdictions. Minimum-wage rates in Canada have risen substantially over the last two decades and outpaced growth in both average wages overall as well as consumer prices. The average minimum wage in Canada has doubled since 2000 rising from around \$6.25 to \$12.50 as of May 2019. Adjusting for inflation, real minimum wages have increased on average by 40% or 1.7% annually. This is substantially faster than real wages for the country as a whole, which increased at an annual rate of 0.5%. As a result, the minimum wage has now risen to just under 50% of average wages from just under 40% in 2000.

Yukon's minimum-wage rate has tended to be in the middle of the pack compared with other Canadian jurisdictions (Chart 2). With the increase on April 1, Yukon had the fifth-highest



minimum wage among provinces and territories. Unlike in the rest of Canada, overall wages have grown at about the same rate as the minimum wage over the last two decades. Adjusted for inflation both the minimum-wage rate and average hourly earnings have increased by just under one-third. Minimum-wage workers earn 44% of average earnings in Yukon. Historically, Yukon's minimum-wage rate has tended to be close to 40%, so the current setting is somewhat higher, compared with average wages than it has been for much of the past two decades.



Proposal would make Yukon's minimum wage highest in Canada

The Yukon Employment Standards Board (YESB) is responsible for setting the minimum-wage rate in Yukon subject to approval from Cabinet. In December, YESB recommended increasing the minimum wage in three annual increments to \$15.12 by April 2021¹. Cabinet adopted the first of these increases in April 2019 increasing the minimum wage by \$0.90 plus a cost of living adjustment based on growth in the Consumer Price Index for Whitehorse. This brought the minimum wage to \$12.71 from \$11.51 effective April 2019. YESB also proposed further annual increments of \$1.00 in 2020 and \$1.10 in 2021 again with cost-of-living adjustments in both years.

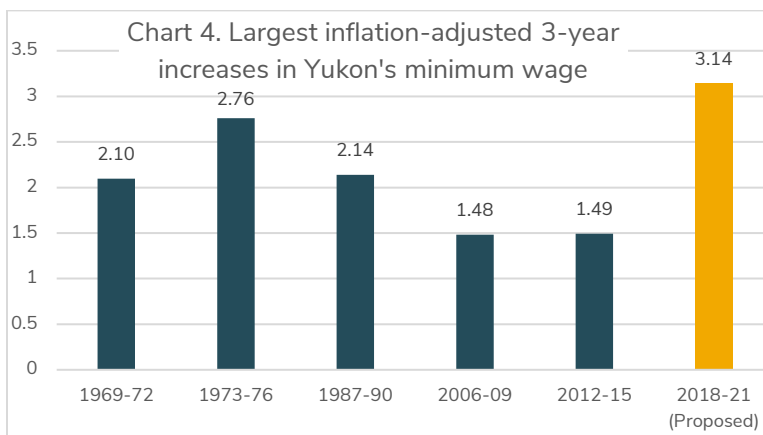
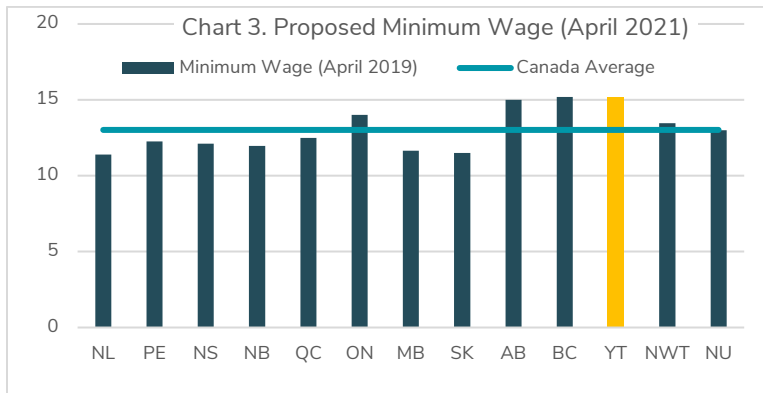
The proposed increases are large and would lead Yukon to have the highest minimum wage among Canadian jurisdictions (Chart 3)². The size of the increase is unprecedented. Adjusted for inflation this would be the largest three-year increase in the 50+ year history of the minimum wage in Yukon (Chart 4) and more than double any three-year increase from the last

¹ Depending on changes in consumer prices, the estimate of \$15.12 assumes average annual inflation of 1.5%.

² Based on inflation forecasts from the October 2019 Interim Fiscal and Economic Update



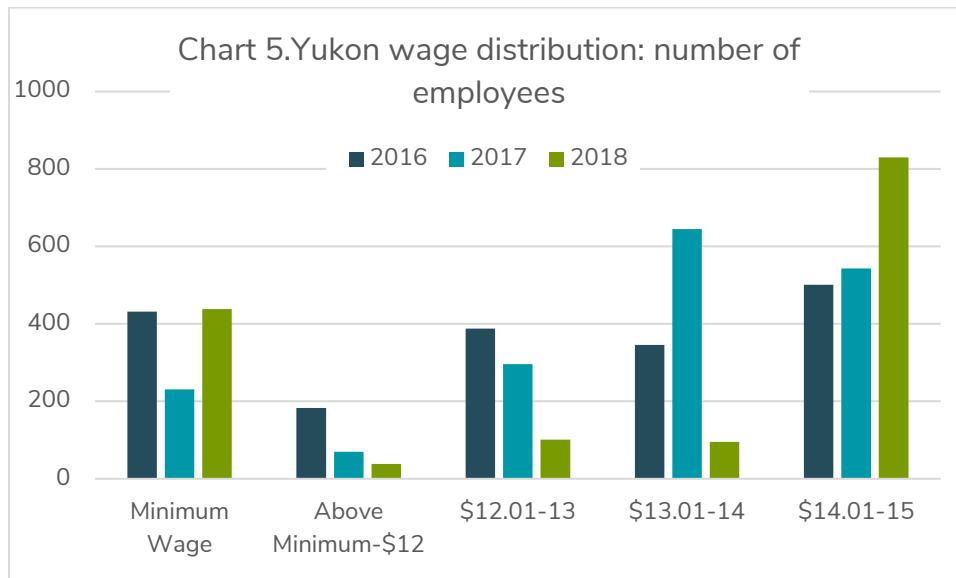
30 years. The rate of increase in the minimum wage is substantially more than the increase expected for average hourly earnings in Yukon. As a result, minimum wage would rise to 50% of average wages, the highest ratio on record going back to 1990.



Characteristics of minimum-wage workers

The number of low-wage workers in Yukon has been declining. Yukon's tight labour market over the last several years has lifted wages, leading to fewer workers earning less than \$15 per hour (Chart 4). Those that did earn less than \$15 per hour in 2018 were much more likely to be at the top end of this range (\$14.01-15 per hour).

According to the Yukon Employment and Skills Survey there were 1,500 employees earning less than \$15 per hour in 2018, or about 7% of employees. The number of wage earners making less than \$15 per hour has declined by almost 20% since 2016. While the overall number of low-wage earners has fallen, the number of high-wage low-wage earners has increased substantially. Over half of the workers earning less than \$15 per hour earned more than \$14 per hour, up from about a quarter of low-wage workers in 2016.



Despite the improvement in earnings, the minimum wage is still relevant for at least some employees. There were 408 workers who earned the minimum wage in 2018, little different than 2016. The fact that the number of minimum-wage workers has been stable would seem to be at odds with the clear improvement in the rest of the distribution. It could be that some workers are willing to work for minimum wage because of non-wage income in the form of sales commissions or gratuities. This is particularly true for food and beverage servers and bartenders of whom there were 360 employed in Yukon in 2018.

Teens and students represent the bulk of minimum-wage workers in Canada. Detailed data on the household characteristics of minimum-wage workers are not available for Yukon, but there are data at the provincial level. Last year, Statistics Canada published a report on the composition of minimum-wage workers. In the first quarter of 2018, 10.1% of employees in the ten provinces earned minimum wage (1.5 million workers). Of these, roughly half were students or youths living with their parents.

The report compared the household characteristics of three different categories of minimum-wage workers: those under 25 who were in school or living with their parents, those between the ages of 15 and 65 who were in single-earner households and those in dual-earner households.

The minimum-wage earners under-25 who were in school or living with their parents were much more likely to work part-time (~83% vs ~33% for over 25), in temporary jobs (~33% vs ~14%) and in retail or food and accommodation services (~72% vs ~45%). These workers tended to live in larger households that had the highest incomes of the three groups.



Work patterns for minimum-wage workers were similar in both single-earner and double-earner households, with workers in both groups averaging about the same number of hours worked, with similar shares of full-time workers. Where they differed was in their income profile. Adjusting for family size, two-earner families earned 2.4 times as much as single-earner families and only 10% less than the under-25s. Two-earner families were less likely to live in rental accommodation (38% vs 62% for single-earners). Half of minimum-wage earners in two-earner households were immigrants, compared with 35.2% in single-earner households and 17.9% in the under-25 group.

Most minimum-wage earners are employed in the retail sales and food and accommodation services. These two industries together account for 60% of minimum-wage workers. These industries are competitive with low profit margins.

Assessing the evidence

There is a substantial body of literature on the various economic impacts of minimum wages around the world, spanning decades. Despite extensive research, there is very little consensus on the impacts of minimum wages, and the topic remains one of the most contentious in economics. Both opponents and proponents of minimum-wage hikes can single out particular studies that back their case.

The lack of agreement mostly stems from the fact that minimum-wage changes are an especially difficult empirical problem. Employment losses generally don't take the form of outright job losses, but rather a reduction in the rate of job growth. Thus, to get the impact employment must be compared not to what it was prior to the minimum-wage increase, but what it would have been.

Impacts usually take place across several dimensions and over an extended period of time. Employers can respond to minimum-wage changes in a myriad of different and subtle ways that are unique to their particular circumstances. For example, a restaurant may raise the prices of some menu items, use cheaper ingredients, reduce business hours, or use more temporary or part-time staff to better match peak business-times. Even if staff still see the same hours they may have less flexibility in scheduling, have to work split-shifts, or take on tasks that otherwise would have been done by less skilled workers (e.g. serving staff may have to take on the duties of bussers and hosts).

Impacts are spread out over several years. Employers might start changing practices in anticipation of minimum-wage hikes, or they may wait until they have some data on how it impacts their business. Even if individual employers do not change behaviour, market forces could shift an industry to use less labour as more labour-intensive businesses fail.



The lack of evidence cuts both ways with little clear and convincing evidence that minimum wages harm labour market outcomes for low-wage workers nor much evidence that they reduce poverty. At best, minimum wages can be said to be a crude anti-poverty measure that provides scattershot benefits to the working poor, but carries substantial risk of unintended consequences, especially for the most vulnerable. Despite the disagreement, certain propositions have more supporting evidence than others, for example that minimum wages are more likely to impact youth employment, or that they reduce wage inequality.

Minimum wages and employment

The textbook view of how minimum wages affect the market for low-skilled work is fairly straightforward. If it is illegal for employers to hire low-skilled labour below a certain wage, only those workers skilled enough to be worth hiring at the higher wage will find work. This benefits the high-skilled, low-wage workers who remain employed at a higher wage at the expense of low-skilled workers who are priced out of the labour market.

This was the consensus view until the 1990s when it was challenged by Card and Krueger (1994). This groundbreaking study found that employment in New Jersey fast-food restaurants increased compared to those in neighbouring Pennsylvania after New Jersey increased its minimum wage from \$4.25 per hour to \$5.05 per hour. The study led economists to begin questioning whether price floors behaved differently than in other labour markets.

Usually price floors and ceilings cause obvious effects consistent with the textbook model as, for example, when long lines appeared at gas stations following fuel price caps during the 1970s. So the failure of Card and Krueger to find supportive evidence of disemployment effects caused a major shift of opinion on minimum wages within the economics community. In contrast to other price ceilings or floors, such as rent controls that are roundly opposed by economists, experts are split as to whether minimum-wage increases cause substantial disemployment effects, with the balance of opinion slightly in favour of the textbook view.

Though the study remains controversial, it is generally well-regarded by both sides of the minimum-wage debate. Though other studies have disputed Card and Krueger's findings, there has emerged a "tentative empirical consensus that the short-run employment effects of temporary, modest minimum-wage increases...are probably negative, but small. (Fernández-Villaverde 2018)" This consensus, however, is a narrow one, only applying to modest increases over the short run.

The impact of large changes: how big is too big?

As already stated, the proposed 30% increase in the minimum wage to \$15 per hour would be the largest three-year increase in Yukon's history. Such a large increase could have more adverse employment outcomes than those under study in Card and Krueger. In 2015, Krueger



himself acknowledged that: “a \$15-an-hour national minimum wage would put us in uncharted waters, and risk undesirable and unintended consequences (Krueger, 2015).” It should be noted that, in that same article where Krueger cautioned against a \$15 minimum wage, he advocated a US\$12 per hour Federal minimum.

Even if some increase in the minimum wage can be beneficial, eventually there must be diminishing returns. Clearly, a \$50 minimum wage would leave vast swaths of the population unemployable. There is only limited information on where these cutoffs might lay. L'Université du Québec à Montréal professor Pierre Fortin conjectured that threshold effects might explain why “old” minimum-wage research in the US consistently found evidence of adverse employment impacts, while many of those following the publication of Card and Krueger did not. Minimum wages in the US fell from around 47% of the average hourly wage to about 34% in the early 1990s. Fortin speculated that minimum wages started to cause negative outcomes when they rose towards 45–50% of average earnings:

The actual state of knowledge of the impact that the minimum wage has on employment in North America, and especially in Québec, leads to the conclusion that a minimum wage that is greater than 50% of the average wage is harmful to small wage earners and that a minimum wage that is less than 45% has very little risk for this group of workers. Between these limits, the area of 45% to 50% would represent an increasing danger to employment. (Fortin, 2010)

The proposed increases in Yukon are projected to result in a minimum wage that is near the top end of the danger zone, with 45-50% of 2021 average hourly earnings translating to \$14-15.50/hour.

Evidence from the Fight for \$15

The Fight for \$15 is an American labour movement that began advocating for a \$15 per hour federal minimum wage in the US in 2012. It has succeeded in boosting minimum wages in several states and cities in the US and some Canadian provinces. Since these increases are notable it has the potential to shine new light on the economic impacts of the minimum wage.

Seattle was one of the first US cities to institute a minimum wage, which has resulted in one of the most significant studies in recent decades. The Seattle Minimum Wage Study at the University of Washington was a well-funded effort to shine new light on the minimum-wage debate using unique administrative datasets unavailable to other researchers and in-depth interviews with minimum-wage workers. Seattle began phasing in minimum-wage increases in April 2015, bringing the minimum wage from \$9.47 to \$15 per hour in 2018. Their research showed that the initial phase in of the minimum wage to \$13 per hour caused average earnings



of low-wage workers to increase by 3%, while hours worked fell by 9% for a net loss of \$125 per month.

They also showed that this was unevenly distributed across low-income groups. More experienced workers who held jobs when the minimum-wage ordinance went into effect saw a net gain in income with higher wages more than offsetting a decline in hours. Unexperienced workers with jobs were no worse off, so most of the loss of income for low-wage workers fell on those who were not working at the time the ordinance was passed who were unable to get work following the minimum-wage hikes. This is consistent with research that shows higher minimum-wage rates reduce turnover and hiring as businesses find retaining experienced staff more cost-effective than training new hires at a higher rate.

These results do not necessarily fully extend to Yukon. As the rate only applied at the municipal level and businesses may have substituted for low-wage labour outside the city in a way that would not be possible in Yukon. Moreover, Seattle didn't have one minimum wage, but four depending on whether a firm was small or large, offered health insurance or if employees earned tips. Like Card and Krueger, the Seattle studies were not immune to criticism. A study by the UC Berkley Center on Wage and Employment Dynamics using public data and looking specifically at the food-service industry found that wages increased without causing offsetting disemployment effects. However, the University of Washington study does provide a good picture of the sorts of negating impacts that might take place. Those with experience see wage gains, but this is offset in aggregate by lower employment among those with little-to-no experience.

Minimum wages and poverty

Increasing the minimum wage enjoys widespread support among Yukoners. The 2018 Minimum Wage Public Engagement Survey showed that 86% of respondents thought that the then \$11.51 per hour minimum wage was too low. Minimum wages have an intuitive appeal to most people, many of whom earned minimum wage at some point in their youth and couldn't imagine trying to subsist on such low wages in adulthood.

Given the political appeal, it is not surprising that minimum wage regulations are found throughout the developed world, in every OECD country save for Sweden, Norway and Switzerland. Minimum wages can be a politically appealing anti-poverty measure, because they reward work. Meanwhile, the cost of higher minimum wages appears to be borne by minimum-wage employers, who are less sympathetic, especially if they are large corporations perceived by some as exploiting low-wage employees.

There is some evidence that minimum wages help to reduce wage inequality. Several studies have shown that the decline in the minimum wage in the US was an important contributor to



an increase in US wage inequality (Lee 1999; Autor Manning and Smith 2016; Kearney and Harris 2014). Similarly, for Canada, Fortin and Lemieux (2016) show that rising minimum wages in Canada helped to reduce wage inequality in the 2000s. There is much less evidence that minimum wages impact poverty rates. The general conclusion of the literature is that there is no statistically significant relationship between minimum wages and poverty (Card and Krueger 1995, Neumark and Wascher 2008, Campolieti, Gunderson and Lee 2012).

The weak link between minimum wages and poverty is due to the fact that minimum wages are poorly targeted towards the people the policy is meant to help. Minimum wages can only benefit a subset of poor households, those with minimum-wage earners. They do nothing to address poverty for non-working poor families, or those in poor families earning above minimum wage. Most of the benefit of minimum wages go to workers who aren't poor, including students and youths living at home, workers earning most of their money from tips and commissions and multiple-earners in non-poor families.

That minimum wages only benefit a subset of poor households and create large spillover benefits to the non-poor is a weakness, but could also be said of many other important anti-poverty measures, such as subsidies for higher education. One key difference, however, is that minimum wages redistribute income from a narrow subset of society, minimum wage employers, rather than spreading it across the tax base (Campolietti and Gunderson).

The increased payroll costs for minimum wage employers is far greater than the benefit to poor people. For every additional \$100 the average employer pays out in higher minimum wages ~\$70 will go to minimum-wage earners in non-poor families, \$30 in gross income go to poor households, which after taxes and benefit reductions is a net gain of \$22. This \$22 can be diminished further depending on the extent employers respond to higher costs reducing hours or raising prices.

Best estimate of minimum wage effects on Yukon's economy

The lack of consensus around minimum-wage impacts makes it difficult to evaluate the potential impacts on Yukon's economy. To reflect this difference of opinion, two illustrative scenarios have been prepared, one with no reduction in labour hours as a response to higher prices, and the other with an employment response.

The calculations are based on the Yukon Bureau of Statistics' estimate of 1,500 employees earning less than \$15 per hour. The estimates have been adjusted to reflect the new minimum wage as of April 2019. Hours worked per week for these 1,500 low-wage employees is 24.5,



based on average hours worked by minimum-wage workers in the provinces (Morissette and Dionne-Simard 2018).

Scenario 1: No employment response

With no employment change, gross earnings for low wage employees increases on average by \$165 per month. After taxes and other deductions, this falls to \$117 per month. Those workers who had been earning the old minimum wage see the biggest net-earnings gain of just under \$200 (\$275 gross), while those earning close to the new minimum wage have a net-earnings gain of \$60 per month. Reductions in benefits, such as the Yukon Child Benefit, are not included in this calculation and have the potential to further erode the benefit to some poor families. The C.D. Howe Institute estimates that the combined impact of taxes and benefit reductions mean that a family of four with household income of between \$40,000 and \$50,000 nets just 30 cents for every extra dollar earned.

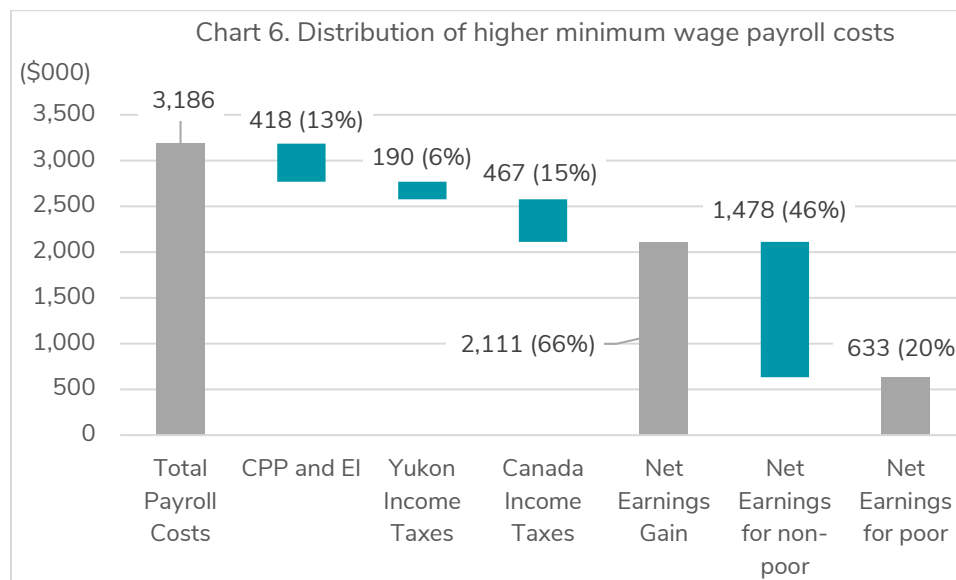


Chart 6 highlights one of the major downsides of minimum-wage policy: Its lack of targeting to the poor. The increase in minimum wages is estimated to increase payrolls of minimum-wage employers by \$3.2 million annually. Of this, one-third is deducted for income taxes, CPP and EI. The bulk of the benefits go to low-wage earners in non-poor households (youths living at home, dual-earner couples and those earning significant gratuities and commissions), who are estimated to represent around 70% of low-wage earners.

Higher minimum wages are able to provide an extra \$168 per month for some 450 poor workers, but those same workers could have received almost \$600 per month if most of the increased payroll costs didn't flow to government and non-poor households.



Higher payroll costs must be met out of lower profits for minimum-wage employers or higher prices. Minimum-wage employers tend to be concentrated in highly competitive industries with low profit margins. For example, according to Industry Canada just 78% of Yukon businesses in the food and accommodation industry earned a profit in 2017. This figure is even lower nationally, with just 69% of food and accommodation businesses that are profitable. As such, it is assumed that employers pass higher minimum-wage costs onto consumers.

Even with full pass through, consumer prices only increase by 0.2%. This works out to \$168 annually per household, or just \$14 per month. Food and drinks from restaurants see the biggest increase in prices at just over 1.1%, followed by the price of clothing and footwear, which increases by 0.6%.

Scenario 2: with employment impacts

Gains for the lowest earners are significantly reduced when the scenario allows for employers to respond to higher minimum wages by reducing hiring. Based on elasticity estimates from Brouillette et al (2016), the higher minimum wage is estimated to reduce low-wage employment by about 80 jobs. This reduces the average net-earnings gain for low-wage workers by slightly more than half, from \$117 to \$54 per month. Moreover, these jobs are disproportionately lost at the lowest end of the earnings distribution consistent with previous research that shows job losses tend to be concentrated among the lowest productivity workers (i.e. those with the least experience). As a result, the lowest-skilled workers, those earning the old minimum wage, are only slightly better off, on average earning only \$31 more per month on net.

It should be noted that these workers are disparately affected with most earning \$196 per month more as in Scenario 1 and those that aren't working earn nothing. Research shows that reduced employment occurs because of reduced hiring rather than layoffs. So it's not that those 82 workers lost their jobs in Scenario 2, but rather they were unable to get hired.

Were it not for Yukon's strong labour market, higher minimum wages would have been a net negative for the lowest-wage low-wage workers. What is important for determining job losses isn't the level of minimum wages but the level relative to average wages. The Economic Research Branch is projecting above-average wage growth of 4% and 3.6% in 2019 and 2020 respectively. If instead wages grew by 1.8%, annually as in 2017-18, estimated job losses would climb to 111. Were this the case the lost earnings from those who would otherwise be employed more than offsets the earnings gains from those who remain employed at the higher minimum wage.



What's more likely?

But this means that the current empirical work is next-to-useless in evaluating the employment and welfare effects of the current efforts by many cities and states to move to a \$15 minimum hourly wage (indexed, also, to inflation). A candid assessment of the literature can only reach the conclusion that those politicians and activists claiming that academic research supports their “fight for \$15” may not be considering all relevant factors. (Fernandez-Villaverde 2018)

Whether increasing the minimum wage above \$15 per hour in Yukon will impact the economy more like Scenario 1 or Scenario 2 is a question that is as yet unanswerable from the empirical literature. What is generally agreed upon is that moderate increases in the minimum wage are more likely to look like the first scenario where there is little adverse impact on low-wage employment. But the greater the increase in the minimum wage, the more likely we move from a Scenario 1 world to a Scenario 2 world, where adverse employment outcomes start to outweigh the benefits of higher earnings among low-wage workers.

As previously discussed, the proposed schedule of minimum-wage increases would represent the largest three-year increase in the minimum wage on record. It would result in record highs for the minimum wage both in terms of purchasing power (i.e. adjusted for inflation) and as a share of average earnings. Fortin 2010 argues that this transition between Scenario 1 and Scenario 2 happens when the minimum wage exceeds 45% of average wages and that minimum wages above 50% of average wages are harmful for low-wage workers. For Yukon in 2021 this 45-50% range is expected to lie between \$14 and \$15.50/hour.

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