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# Thinking about Minimum Wage Increases in Alberta: Theoretically, Empirically, and Regionally

*Alberta's move to increase its minimum wage to \$15 an hour by 2018 could lead to the loss of roughly 25,000 jobs. Alberta, being a boom and bust economy, would be better off taking current and future economic conditions into account when considering any future increases to its minimum wage.*

Joseph Marchand

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## THE STUDY IN BRIEF

In 2015, Alberta became the first province in Canada to commit to a \$15 minimum wage, and will be the first state or province in North America to reach it, rising from an initial rate of \$10.20 in 2014 to \$15.00 by 2018 through four annual increases. This *Commentary* offers ways to more broadly think about the effects of these minimum wage increases, with an emphasis on potential changes to employment in the particular case of Alberta.

Alberta shares its recent \$15 minimum wage goal with the province of Ontario, as well as with the states of California and New York, which also began at similar minimum wage levels. However, Alberta's time horizon of 2018 is much shorter than that of 2022 for California and New York. Its policy also does not contain the unique policy parameters of those states, and Alberta did not implement the tax credit that it was initially paired with.

According to theory, an employment loss is expected from imposing a higher minimum wage in a competitive labor market, although no change or even an employment gain could happen if employers are few. Although, empirically, there is evidence to support both models, it favors a slightly negative effect. That said, the existing Canadian evidence highlights a larger negative effect on employment compared to that of the US.

Proper measurement of the effects from Alberta's policy can take place only after the policy has been fully implemented. In the meantime, several rough calculations for Alberta indicate a potential loss of roughly 25,000 jobs, assuming competitive markets in the industries employing workers at the minimum wage. A similar number of affected workers have already lost their jobs since the policy was first implemented.

The boom and bust nature of Alberta's energy resource economy could potentially mitigate or exacerbate the employment effects of such a large minimum wage increase. While the influence of energy prices on labor demand is largest in energy extraction, these effects have been shown to spill over into other local industries as well. The largest spillovers happen to take place in the industry employing the most low-wage workers.

Given the boom and bust nature of the regional economy, Alberta should have timed its minimum wage increases with upward movements in energy prices, and/or followed through with its initial job creation tax credit or some other instrument allowing for greater economic flexibility. Instead, by ignoring economic conditions, the province mistakenly prioritized higher wages during a time when employment was a problem.

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## On April 19, 2015, Alberta's New Democratic Party (NDP) released their 2015 provincial election platform, which put forward their "agenda for the next five years" (Alberta NDP 2015).

This platform contained a commitment to raise the minimum wage in Alberta, from \$10.20 to \$15.00 an hour by 2018, as well as eliminate the liquor server differential, in order to "ensure the benefits of better economic policies are more widely shared." A job creation tax credit to "effectively help Alberta businesses who invest to create new jobs" was also included as a part of this platform. On May 5, 2015, the NDP won the provincial election with a majority government. At that time, no \$15.00 minimum wage proposal had yet been approved at the Canadian province or US state level.

Following this platform, the first increase of the minimum wage, from \$10.20 to \$11.20, was announced on June 29, 2015, which would take place on October 1 of that year. The next set of successive increases to Alberta's minimum wage was announced on June 30, 2016, from \$11.20 to \$12.20 in 2016, from \$12.20 to \$13.60 in 2017, and from \$13.60 to \$15.00 in 2018, all taking place on October 1 of their respective years. These proposed changes officially became law on September 13, 2016. This *Commentary* considers the basic parameters of this policy: an initial \$10.20 minimum wage, a target of a \$15.00 minimum wage, a four-year time horizon to the fourth quarter

of 2018, and its initial pairing with a job creation tax credit.

The magnitude of these proposed increases to Alberta's minimum wage is quite large in both nominal and percentage terms. The proposed overall increase from the rate set in 2014 to \$15.00 in 2018 would be a nominal increase of \$4.80, a 47 percent increase over four years, and a 10.1 percent annual increase.<sup>1</sup> In contrast, during the previous four years from 2010 to 2014, the provincial minimum wage was \$8.80 and rose to \$10.20, which is a nominal increase of \$1.40, a 15.9 percent increase, and a 3.8 percent annual increase. That said, the recent commitment of Ontario in June 2017 to a \$15 minimum wage by 2019 contains a much larger one-year increase of \$2.60, from \$11.40 in 2017 to \$14.00 in 2018, which is a 22.8 percent increase in that year alone.

The overall policy would take Alberta from having a minimum wage similar to other provinces, to having one substantially above the others, with the exception of Ontario which recently adopted the similar target of \$15. With no federal minimum wage policy in Canada since 1996, three provinces had the lowest minimum wage of \$10.20 in 2014 (Alberta, Prince Edward Island, and Saskatchewan),

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The author thanks Benjamin Dachis, Michele Campolieti and Morley Gunderson for comments on an earlier draft. He retains responsibility for any errors and the views expressed. This *Commentary* initially began as a write-up of the talk, "Thinking about Minimum Wages: Theoretically, Empirically, and Regionally," which was given to the Economic Society of Northern Alberta on September 30th, 2015, the day before the first of the four increases to Alberta's minimum wage was to take effect. While the original draft of the working paper was released in April 2016, several subsequent revisions took place in June 2016, January 2017, and June 2017, based on the on-going policy implementation (Marchand 2017).

1 The increase in the minimum wage for liquor servers is even larger, given that it was historically set lower and has now been made equal by the fourth quarter of 2016.



and Ontario had the highest minimum wage of \$11.00: a nominal difference of C\$0.80.<sup>2</sup> In contrast, during that same year, many states were at the US federal minimum wage floor of \$7.25, while the highest minimum wage of \$9.50 was found in the District of Columbia: a nominal difference of US\$2.25.<sup>3</sup> The dispersion in minimum wages across Canadian provinces was therefore much smaller than the dispersion across US states.

The time horizon for these proposed increases to Alberta's minimum wage is also quite short relative to other \$15.00 minimum wage policies that were recently adopted in the US. City-level movements toward the \$15.00 minimum wage, such as in New York City and Seattle, began to be implemented at the state-level by California and New York as of April 2016 (Wallace-Wells 2016). These state-level policies of California and New York also began with similar initial minimum wages to Alberta, at \$10.00 and \$9.00 respectively, meaning that the overall percentage changes are roughly the same. However, California and New York will be gradually rising up to \$15.00 by 2022, four years after Alberta is to achieve its \$15.00 goal by October 2018. Ontario, meanwhile, will achieve its \$15 minimum wage goal by January 2019, only three months after Alberta does.

There are other notable differences between the minimum wage policies of Alberta, California, and New York. The trait that makes California's policy unique is that it allows for a one-year postponement of its end date due to a state-wide recession. New York's policy is unique in that it will happen geographically, beginning in New York City by 2019, then in Nassau, Suffolk, and Westchester counties by 2021, and moving outward to the rest of the state from there. What would have made

Alberta's policy unique is that it was initially paired with an additional tax credit to help create jobs. However, this job creation tax credit was never fully implemented and was discontinued in April 2016 (Cotter 2016), several months before the second incremental increase to the minimum wage took place.

In summary, Alberta's minimum wage is moving from \$10.20 in 2014 to \$15 by 2018, through four annual increases. The parameters of Alberta's policy have both similarities and differences from several of the other \$15 minimum wage policies that are also currently underway in Canada and the US. Although the magnitude of these changes to a \$15.00 minimum wage is similarly large, Alberta's time horizon is particularly short, in that it is basically half that of California and New York. In addition, Alberta does not have the recession-postponement clause or the geographic roll-out of the California and New York plans, while a proposed tax credit to help create jobs was not carried out.

### Minimum Wage Theory and Previous Empirical Evidence

In the theoretical neo-classical model of the competitive labour market, wages are represented on the y-axis and employment is represented on the x-axis, as seen in Figure 1. Within this framework, workers who supply their labour to the market provide less labour at lower wages and more labour at higher wages, which is represented by an upward sloping labour supply curve. Employers, who demand labour as one particular input to production, will demand less labour at higher wages and more labour at lower wages, which

2 Among the territories, the Northwest Territories went from having the lowest minimum wage of \$10.00 in 2014 to the highest at \$12.50 in 2015. In 2016, Nunavut became the highest at \$13.00.

3 Washington state was not too far behind the District of Columbia, with a minimum wage of \$9.32.

is represented by a downward sloping labour demand curve.<sup>4</sup> The intersection of these two curves determines the equilibrium wage rate and employment level for this labour market.

Under the competitive neo-classical model, where there are many employers, there is an expectation of an employment loss due to a minimum wage. When a binding minimum wage is set, it acts as a price floor in this market, preventing the wage from returning to its equilibrium level, which can also be seen in Figure 1. At this higher than equilibrium wage, more workers are willing to work, but fewer employers are willing to hire, thereby resulting in a loss of employment. The size of this gap between the supply of work by individuals and the demand for work by employers depends on the relative responsiveness of employers and workers, as shown by the relative slopes of the labour demand and supply curves, as well as the size of the minimum wage increase itself.<sup>5</sup>

However, in the presence of what economists call “monopsony power” (sometimes termed a “buyer’s monopoly”), where there is only one or a handful of employers rather than many, raising the minimum wage would not lead to a reduction in employment and might even increase it. When there is monopsony power in a labour market, the monopsony wage and employment level are set below the competitive equilibrium, which results in a wage rate below the value of marginal product for each worker. In this case, a minimum wage could help to raise both wages and employment, as

long as the minimum wage being set is higher than the monopsony wage, but below or equal to the competitive equilibrium wage.

Just as the two theoretical models offer competing predictions as to the employment effects of minimum wages, the empirical evidence seems to currently be viewed through either a classical or revisionist lens, with the classical view supporting the negative prediction and the revisionist view supporting the zero to positive prediction. In order to give weight to both sides, the classical literature reviews of Brown et al. (1982), Brown (1999), and Neumark and Wascher (2007), as well as the revisionist reviews of Card and Krueger (1995), Doucouliagos and Stanley (2009), and Krueger (2015a), should be read.<sup>6</sup>

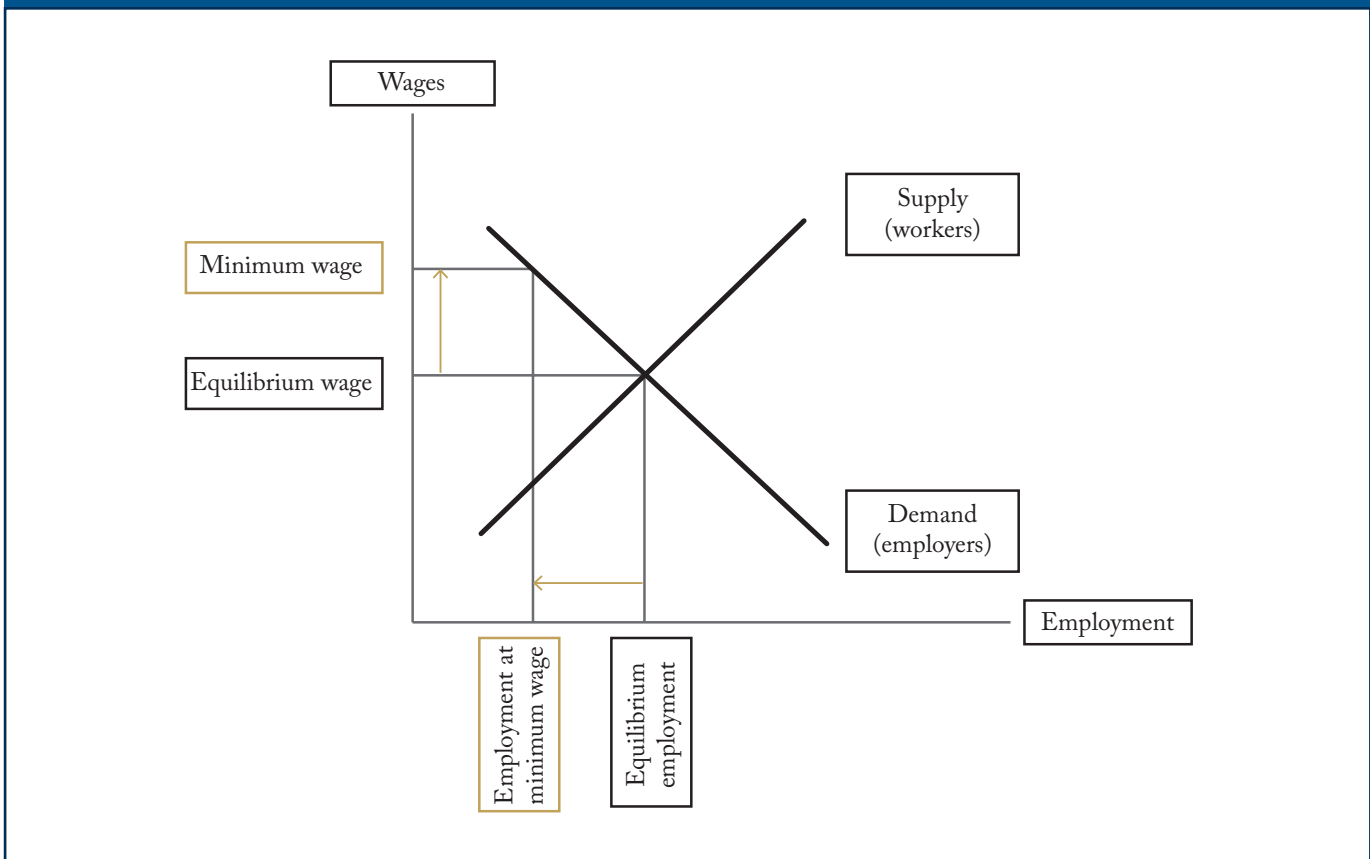
This empirical literature on the effects of minimum wages on employment can be summarized through three stylized facts. First, since the earliest estimate of this kind was calculated by Stigler (1946), many empirical estimates of the employment effects of minimum wages now exist and should not be ignored, although it can be argued that changes in empirical techniques over time now favor certain types of estimates over others. The often-quoted US elasticity estimates imply that a 10 percent increase in the minimum wage reduces the affected employment, typically of teenagers and young adults in this literature, by 1 to 3 percent (Brown et al. 1982). In an update to that review, Brown (1999) put the number closer to the lower bound of 1 percent.

4 Unlike the market for goods and services, the demand for labour comes from firms, while the supply comes from individuals, rather than the other way around.

5 This policy additionally redistributes economic surplus from firms to workers, but also creates inefficiency, as some surplus is gone from the market entirely, which is known as dead-weight loss. Although employers unambiguously lose surplus under this policy, workers do not unambiguously gain, as some workers will get the higher wage being paid, while others will no longer be employed.

6 For a self-proclaimed agnostic, Figure 2 of Doucouliagos and Stanley (2009), which plots the magnitude, sign, and significance of over 1,400 employment elasticities of minimum wages, may act as a Rorschach test.

Figure 1: Minimum Wage in a Labour Market



Source: Author's compilation.

Second, the amount of negative estimates in the literature vastly outnumber the amount of positive estimates, although this may reflect some degree of publication bias (Doucouliagos and Stanley 2009). And third, the magnitude and statistical significance of the negative estimates are greater than that of the positive estimates overall, but most of the statistically significant estimates are at, or just below, zero. These three stylized facts, along with their stated caveats listed above, may be interpreted as leaning towards “a relatively consistent (although

not always statistically significant) indication of negative employment effects of minimum wages” (Neumark and Wascher 2007).

With regard to the Canada-specific evidence, the elasticity estimates of the minimum wage effects on the employment rate are larger and have bounds that are wider than that of the consensus US estimates. These estimates imply that a 10 percent increase in the minimum wage would lead to a 1.7 to 7.5 percent reduction in the affected employment in Canada.<sup>7</sup> Although

7 This elasticity range of -0.17 to -0.75 takes the second-highest and second-lowest values from the combination of the -0.17 from Swidinsky (1980), with the -0.25 from Baker et al. (1999), -0.75 to -0.84 from Yuen (2003), -0.14 to -0.44 from Campolieti et al. (2006), -0.30 to -0.50 from Sen et al. (2011), and -0.17 to -0.25 from Brochu and Green (2013).

it remains unclear as to why the elasticities are larger and the range is wider for Canada than for the US, this could be related to differences in the real value of the minimum wage over time due to price differences across the two countries, as well as the dispersion of minimum wages being different among provinces than among states.

The distributional effects of minimum wages also need to be addressed, as minimum wages are typically offered as a means to further equalize the income distribution and reduce poverty. Theoretically speaking, a minimum wage compresses the wage distribution by cutting off a portion of its lower end, which should then reduce wage inequality. In a recent assessment of the empirical evidence for the US, Autor et al. (2016) found that “the minimum wage reduces inequality in the lower tail of the wage distribution, though by substantially less than previous estimates,” with impacts up through the 10th percentile for men and the 25th percentile for women. For Canada, Campolieti (2015) finds that the distributional reach of the minimum wage is lower, however, only reaching the 5th percentile for men and the 10th percentile for women. This lower distributional reach for Canada, as compared with the US, could reflect differences in their overall wage distributions and therefore different situations regarding the impacts of minimum wages on inequality.

With regard to poverty, the effect of a minimum wage is theoretically ambiguous, as lower-wage workers could only gain in earnings with a higher wage rate if they remained employed and working similar hours as before. This may then be enough to lift them above the poverty line if they were previously below it. MaCurdy (2015) provided evidence that the minimum wage did not reduce poverty for the US using a general equilibrium framework, while assuming no employment effects, full price pass-through, and no change in quantities purchased. For Canada, Mascella et al. (2009) showed a similar lack of a poverty reduction from the minimum wage when assuming no employment effects, while Sen et al. (2011) found that the

minimum wage was associated with an increase in poverty due to the loss in employment.

In summary, the effects of a minimum wage should be thought of in both theoretical and empirical terms. Theoretically, a neo-classical model of a competitive labour market predicts an employment loss induced by the implementation of a minimum wage. However, if monopsonistic power is present, i.e., where there is only one or a handful of employers, then an employment gain is instead possible. While the interpretation of the empirical evidence is divided into classical and revisionist, it favors a slightly negative employment effect or no effect at all, over a strongly negative effect or a positive one. That said, the existing Canadian evidence points to a larger employment loss from a minimum wage increase than in the US. Lastly, while a minimum wage increase should help to reduce wage inequality, it is not likely to reduce poverty and may even increase it.

### **Applying the Theory and Evidence to Alberta's Policy**

The true impacts of these minimum wage increases in Alberta can only be identified with proper measurement well after the changes take place, so that outcomes can be compared before, during, and after the policy. The real challenge at that time will be to disentangle and isolate how much of the changes in outcomes are attributable to the minimum wage policy and how much are attributable to the workings of the provincial economy or other policies being simultaneously implemented, such as the new carbon tax as of January 1, 2017. Even once this evidence does become available, it will also take additional time to closely examine these estimates and their methods, in order to identify which are most reliable to represent the effects of this policy.

At present, any prediction regarding the potential impacts of this policy must rely upon the established theoretical framework and previous empirical evidence. Based on the existing theory,



the prediction is that employment could be reduced, unaffected, or increased under a minimum wage policy. The relevant question to begin with for Alberta is whether the affected workers are under a competitive labour market or are instead under the presence of monopsony power, with a limited number of firms available to employ their skill set. Unless it is shown that monopsony power is indeed a reality in Alberta, specifically within the industries that employ the majority of minimum wage workers, both at the onset of this policy change and at its end, then perfect competition remains the most applicable case. This would then suggest that there will be some loss of employment associated with this new minimum wage policy.<sup>8</sup>

How large will the potential employment loss be from Alberta's new minimum wage? To answer this, several back-of-the-envelope calculations of the employment impacts can be performed using the elasticities found in the empirical literature. Multiplying the Canadian elasticity bounds (-0.17 to -0.75) by the 47 percent increase associated with Alberta's \$15.00 minimum wage results in an 8.0 to 35.3 percent reduction in the affected employment ( $0.47 \times 0.17$  to  $0.47 \times 0.75$ ). Even if the responsiveness were at the lowest end of this scale, this would still be a substantial employment loss of 8 percent among the affected workers.

In order to translate this percentage into counts of individual workers, this lower bound number can then be further multiplied by different types of workers who are most likely to be affected by this policy. The number of workers who were employed at or below the goal of \$15.00 just prior to the on-

set of this policy was 321,300 (Alberta Government 2016), which would mean a loss of 25,704 of these workers ( $0.08 \times 321,300$ ). Alternatively, the amount of teenagers and young adults, aged 15 to 24, that were employed in Alberta was 326,300 in April 2015 (Statistics Canada 2017), resulting in a possible loss of 26,104 jobs among that group ( $0.08 \times 326,300$ ). These implied losses are very similar in size.

Now that two of the minimum wage increases have already taken place, a quick look at the present and previous job numbers can be quite illuminating. From April 2015 to April 2017, the number of employed individuals aged 15-24 in Alberta has dropped from 326,300 to 298,600, meaning that 27,700 of these individuals have already lost their jobs. This exceeds their implied employment loss from the \$15 minimum wage by more than 1,500 workers ( $27,700 - 26,104 = 1,596$ ), with the two largest minimum wage increases yet to come. This may be an indication that the job losses for this group, by the time the policy is fully implemented, will be larger than those implied by the lower bound estimate.

The magnitude of this potential job loss is, of course, open to interpretation. In a province that employed 2,289,100 workers in April 2017, a loss of roughly 25,000 workers would perhaps not seem like much. If, however, Alberta were instead considering a policy that potentially resulted in over 25,000 jobs being created, this would most likely be touted as a large number. In addition, the potential employment loss of roughly 25,000 workers came from applying the second-lowest employment

8 This prediction has been supported by one of the key contributors to the revisionist literature. Regarding the effects of having a \$15.00 minimum wage in place across the US, Alan Krueger (2015b) stated that: "A \$12 per hour minimum wage in the United States phased in over several years would be in the same ballpark as Britain's minimum wage today. But \$15.00 an hour is beyond international experience, and could well be counterproductive. Although some high wage cities and states could probably absorb a \$15.00 an hour minimum wage with little or no job loss, it is far from clear that the same could be said for every state, city and town in the United States."

elasticity to the policy change and is, therefore, much more conservative than having applied the second-highest or highest elasticity.<sup>9</sup>

In summary, the effects of Alberta's \$15.00 minimum wage can only be determined through proper measurement conducted after the policy is fully implemented. In the meantime, any prediction needs to rely on the existing theory and previous evidence. With regards to the theory, Alberta's labour markets would seem to be best described by the competitive case, implying that some loss of employment is likely due to this policy. Using the elasticity estimates from the Canadian evidence, together with the magnitude of Alberta's minimum wage increases, yields an expected employment loss of roughly 25,000 workers. A similar number of affected workers have already lost their jobs since this policy was first implemented, despite being only halfway toward its \$15 goal.

### **The Boom and Bust Cycle of the Regional Economy**

When a change in labour market policy is being considered, the current and future state of the economy should be taken into account. In the case of increases to the minimum wage, the potential employment loss from the policy could prove to be larger among affected workers during an economic downturn than during a period of moderate growth or economic expansion. Sabia (2015) provides evidence (from Addison et al. 2013, and Sabia 2014) that the employment loss for low-skilled teenagers and young adults was indeed larger during recessions in the US, especially for those

without high-school diplomas. The size of this employment loss was also shown to be larger even when comparing times of moderate growth to times of expansion.

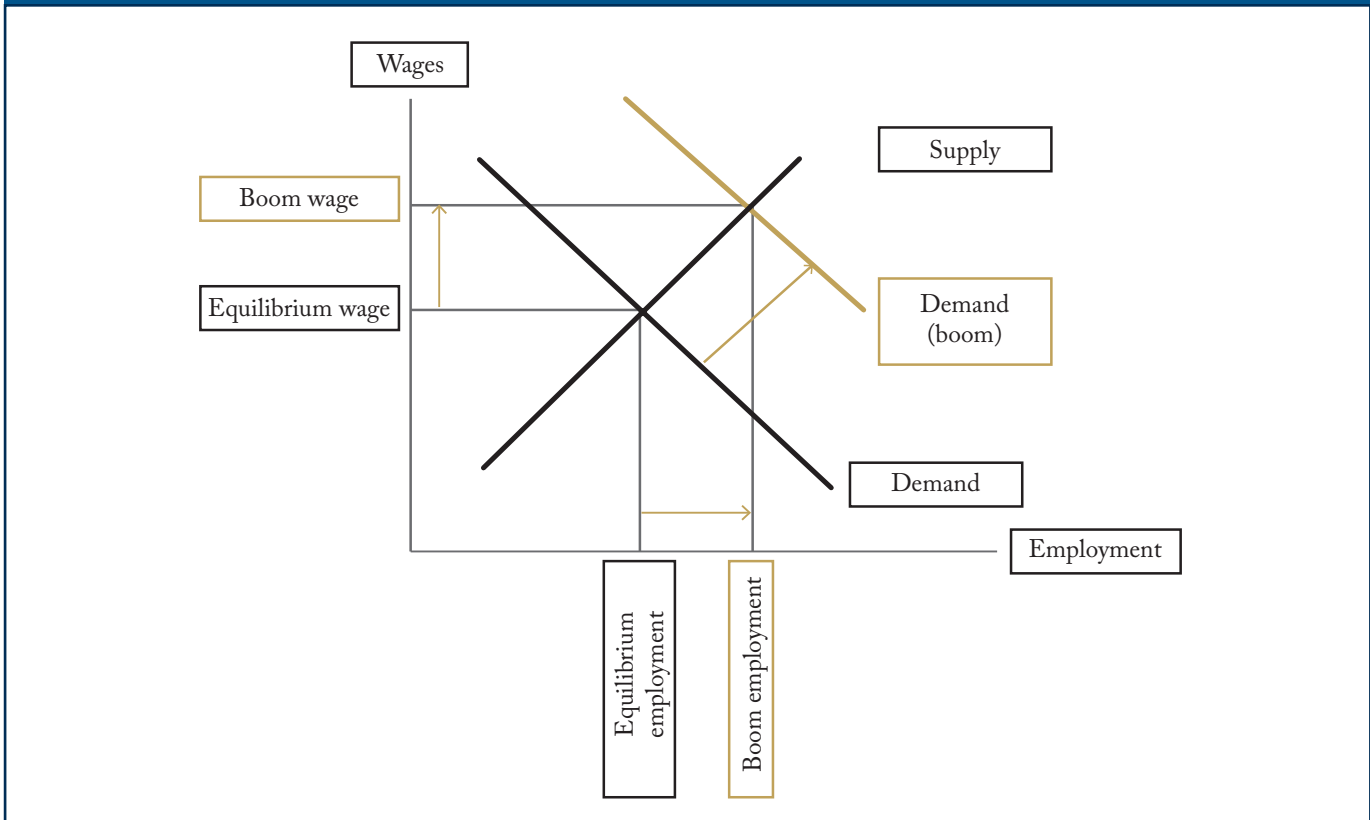
Given the natural resource endowments of Western Canada, the condition of the regional economy is highly correlated with the prices of crude oil and natural gas, which is especially true for Alberta and its labour market. For firms within the energy extraction industry, the prices of their output directly enter into their demand for labour.<sup>10</sup> For firms in other local industries, energy price movements would heavily influence their output prices as well, especially in the presence of large industry spillovers. Therefore, if energy prices drastically rise or decline in a boom and bust cycle, this would respectively shift aggregate labour demand outward (an increase) or inward (a decrease), in both energy extraction and other local industries, which is shown in Figure 2 for an energy boom. Wages and employment would then rise in a boom and fall in a bust accordingly with those price fluctuations.

The empirical evidence supports this theoretical argument, most notably for the western Canadian provinces of Alberta, British Columbia, Manitoba, and Saskatchewan. Within the extraction industry of Western Canada over the previous two energy booms of the 1970s and early 2000s, Marchand (2012) found a generalized boom impact of a 56.6 percent increase in total employment, an 83.7 percent increase in total earnings, and a 27.0 percent increase in earnings per worker. However, no significant losses were found to wages

9 It might also be the case that the previous employment elasticities no longer apply, given the large size of Alberta's minimum wage increases, meaning that this policy could yield either smaller or larger impacts for employment, as well as for inequality and poverty.

10 The labour demand equation is the output price multiplied by that industry's marginal product of labour.

Figure 2: Energy Boom in a Labour Market



Source: Author's compilation.

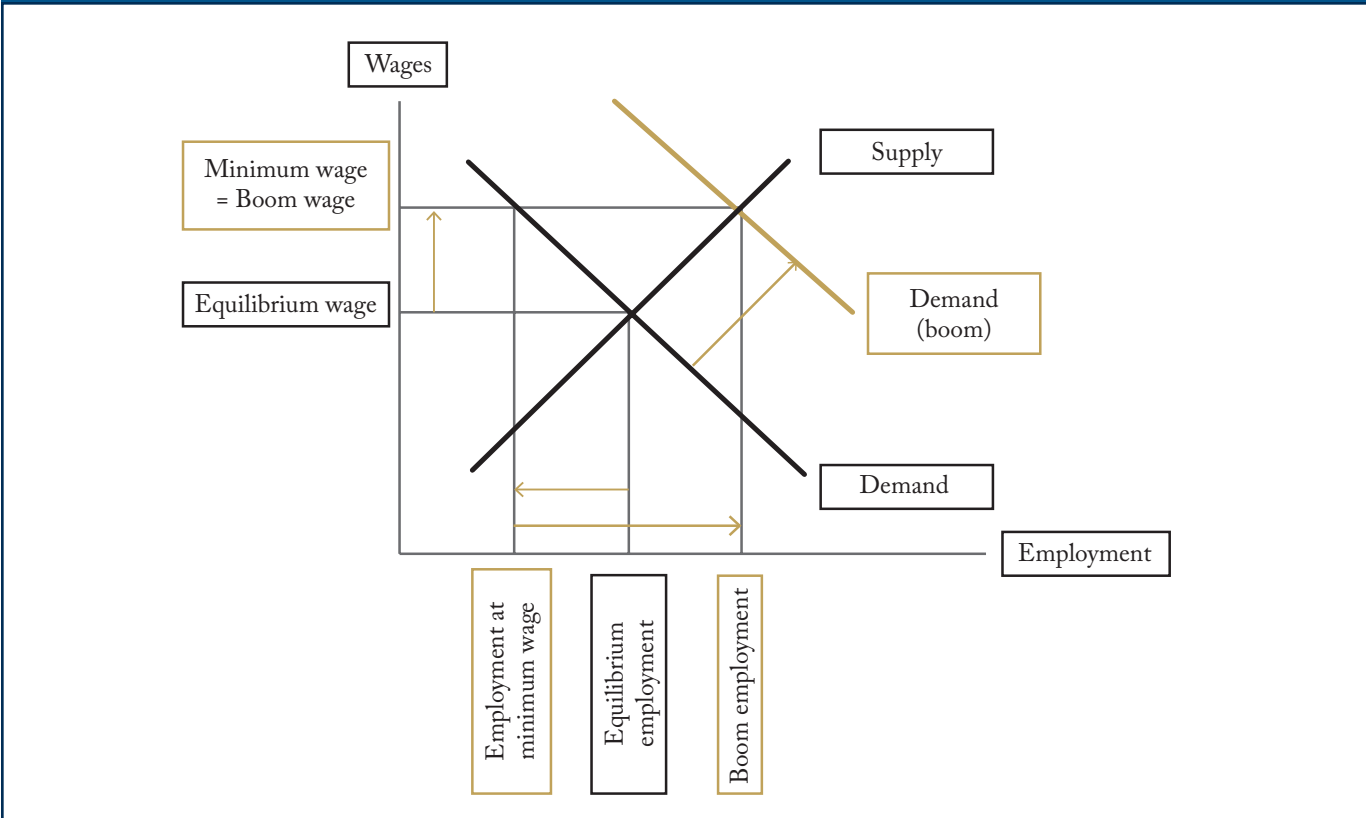
or employment during the energy bust of the 1980s, when there was instead a stagnation.<sup>11</sup>

Significant spillovers from the directly impacted resource extraction industry into other local industries, such as construction, retail trade, and services, were also found. For Western Canada, these spillover estimates imply that for every 10 energy extraction jobs created during the boom, 1 to 7 other local additional jobs were created, with services representing the upper bound

estimate (Marchand 2012). These large spillovers are important within this framework, because the affected workers from a minimum wage policy are more likely to be found in services or in retail trade than in the energy extraction sector. While this means that the magnitude of the energy boom impacts would be less than that documented for the energy extraction sector in terms of earnings and employment, they would still be fairly large based on these spillover estimates.

11 Similar evidence was previously found for the mining industry in the mid-western US states of Kentucky, Ohio, Pennsylvania, and West Virginia by Black et al. (2005). During the 1970s coal boom, they found that total employment rose by 54.4 percent, total earnings rose by 98.4 percent, and earnings per worker grew by 44.0 percent. That said, losses to total employment and total earnings during the 1980s coal bust were of similar magnitude to the gains in the boom.

Figure 3: Minimum Wage with an Energy Boom



Source: Author's compilation.

In order to fully consider what minimum wage increases might entail for Alberta under stimulated labour demand, the neo-classical theory of a minimum wage can be combined with that of a regional energy boom. For the simple case demonstrated in Figure 3, the new minimum wage is set exactly equal to the new equilibrium boom wage for affected workers. In this case, the positive shock to labour demand from an energy boom will have created double the jobs necessary to cover the potential employment loss from the minimum

wage, resulting in a net job gain equal to that potential loss. In the case of an energy boom of only half the magnitude of Figure 3, there would instead be no employment change from the minimum wage at all, resulting in the same employment level as the initial competitive equilibrium. Similarly, an energy boom of only a quarter of the magnitude shown in the figure would result in the potential job loss from the minimum wage increase being cut by half.<sup>12</sup>

With regards to inequality and poverty, Marchand (2015) showed that the most recent

12 The relative minimum wage differences between Alberta and its neighboring provinces may also matter, both at present and in the near future, if these differences are large enough to entice workers from neighboring provinces to come into Alberta. That said, geographic differences in the eligibility and generosity of employment insurance are likely to be more important for this type of mobility.



energy boom in Western Canada led to U-shaped growth across deciles of the earnings and income distributions, meaning that everyone shared in the gains, but the top and the bottom grew by more than the middle. In most cases, this led to increased local aggregates of inequality from an energy boom, with the exception of decreased inequality at the lower end of the distribution and in the service industry.<sup>13</sup> An energy boom also lifts a substantial amount of individuals out of absolute poverty, as high as 45 percent of the poor for the case of Western Canada according to Marchand (2015).<sup>14</sup> However, it also slightly increased the number of individuals in relative poverty.

In summary, the current and future conditions of the regional economy matter when considering the effects of minimum wage increases on employment. In resource-abundant Alberta, energy prices directly and indirectly influence labour demand, resulting in boom and busts cycles for wages and employment. While these effects are largest in the energy extraction industry, they have also been found to spill over into other local industries, with the largest spillovers happening in industries that employ the most minimum wage workers. If minimum wage increases were to occur when labour demand was otherwise shifting outward, due to upward movements in energy prices, this would mitigate or eliminate the impact of potential job losses by adding more employment into the region. Lastly, energy booms have their own distributional impacts of significantly lowering absolute poverty, but likely increasing inequality and relative poverty.

### **Prioritizing Wages when Employment Is a Problem**

Given the tradeoff between raising the minimum wage and potentially lowering employment, it would be best that increases to the minimum wage occur at a time when labour demand is expanding rather than contracting. Although this might not completely eliminate any adverse employment effects associated with the policy, it would certainly make the potential consequences more palatable, especially among the affected workers that the policy is intending to help. Without such a stimulation of labour demand, the potential employment loss is likely to be larger than it otherwise would be. This is as true for Alberta as it would be for any other province or state adopting such a large increase to their minimum wage.

In Alberta's case, it already has a built-in mechanism to stimulate labour demand through a positive spike in oil and gas prices. Therefore, it would make the most sense for the province to increase its minimum wage when these energy prices are moving upward, rather than downward. Unfortunately, Alberta committed to its \$15 minimum wage goal in the midst of an energy price bust, meaning that labour demand was either contracting or stagnant at the time, and a sudden rise in energy prices does not seem to be on the horizon. Given the associated loss of employment, Alberta should have temporarily postponed its minimum wage increases to a later date and over a longer time horizon. Instead, calls for this postponement went unanswered (Marchand, 2016).

13 Using provincial differences across Canada, Fortin and Lemieux (2015) showed that much of the decrease in inequality in the lower half of the distribution since the late 1990s is attributable to both increases in provincial minimum wages and a booming extraction sector, relative to Ontario.

14 For the case of the coal boom and bust in the mid-western US, this poverty reduction was around 25 percent according to Black et al. (2005).

That said, any future consideration of increases to the minimum wage in Alberta should take current and forecasted energy prices into account.

Going back to the inception of the policy, Alberta could have additionally followed through with pairing its \$15 minimum wage with a job creation tax credit, as was originally intended in the NDP platform (Alberta NDP 2015). The job creation tax credit for employers was actually the first economic policy put forward in this platform, with the \$15.00 minimum wage only appearing as the third economic policy. This government-funded job creation could have worked as a means to stimulate labour demand in Alberta over the short term, while the minimum wage increases were being carried out. Unfortunately again, these stimulation efforts have not gone forward, as the tax credit was never implemented and no replacement has been offered.

Alternatively, the provincial government could have adopted other policy traits, like the built-in recession postponement of California's policy, or the geographic roll-out of New York's, both of which add increased flexibility towards economic conditions in their own ways. A recession would be associated with a contraction in labour demand, so there would have been no need to call on the government to postpone their minimum wage increases if California's policy trait was built in. For New York state, the minimum wage increases are coming to the metropolitan area of New York City first, and then moving out to lower priced areas from there, minimizing the potential employment loss by targeting areas that can more easily absorb the effects. The Alberta equivalent would have been Calgary and Edmonton receiving the \$15 minimum wage before Red Deer or Lethbridge or any of the other less populated areas throughout the province.

Without an upward swing in energy prices, the job creation tax credit, or any other economic flexibility, Alberta mistakenly prioritized wages at a time when employment was a problem. From April 2015, one month before the Alberta NDP took office, to November 2016, one month after the

second minimum wage increase, the employment rate fell by 3.0 percentage points, and the unemployment rate rose by 3.4 percentage points in the province (Statistics Canada 2017). The Alberta NDP also clearly had employment in mind in their initial policy platform, with the term "job" or "jobs" appearing 15 times, and "employment" appearing five times, while the term "wage" was mentioned only once (Alberta NDP 2015). Once it became clear that employment was an issue, the Alberta government should have reprioritized its economic policy toward increasing employment, as it originally intended to do, rather than increasing wages.

With Alberta as the first jurisdiction with a \$15.00 minimum wage at the provincial or state level, followed by Ontario and then California and New York, future governments will be able to examine at least this handful of examples for the effects of such a policy. Thus far, the only evidence of the effects of a \$15 minimum wage is from two recent studies for the city of Seattle, with one showing negative employment effects (Jardim et al. 2017) and the other showing no employment effects (Reich et al. 2017). Only through the proper measurement of these employment effects, as well as those for inequality and poverty, can informed judgment be made. The economic condition of the state or province should also be documented for each case at the time those increases were implemented and beyond.

In summary, with the minimum wage potentially leading to the loss of employment, the pairing of labour demand stimulus with a large minimum wage increase is a more balanced way forward. While rapid increases in energy prices have been the proven way to effectively stimulate labour demand for Alberta in the past, this does not seem likely to happen in the near future. And, the tax credit intended for this purpose was scrapped with no replacement. Alternatively, other policy traits could have been adopted along with the minimum wage increases, in order to help keep the policy as flexible as possible to economic conditions. Alberta's prioritization of wages over employment

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was especially strange when the province was already experiencing an employment loss, with no immediate end in sight. Other provinces and states should closely examine the \$15 minimum wage cases of Alberta, California, New York, Ontario, and other jurisdictions, before adopting such large increases in their minimum wage, while at the same time considering their current and future economic situations.

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