

## **Technical Annex to the *Economic Note***

### **“Would a \$15 Minimum Wage Accelerate the Rural Exodus?”**

**published by the MEI on December 8<sup>th</sup>, 2016**

**Mathieu Bédard and Alexandre Moreau**

To look into the impact of a substantial increase of the minimum wage in 2017 or in 2021, we estimate the proportion of workers in different RCMs whose salaries will be below the \$15/hour mark. This estimate rests on hypotheses that are detailed in this Annex.

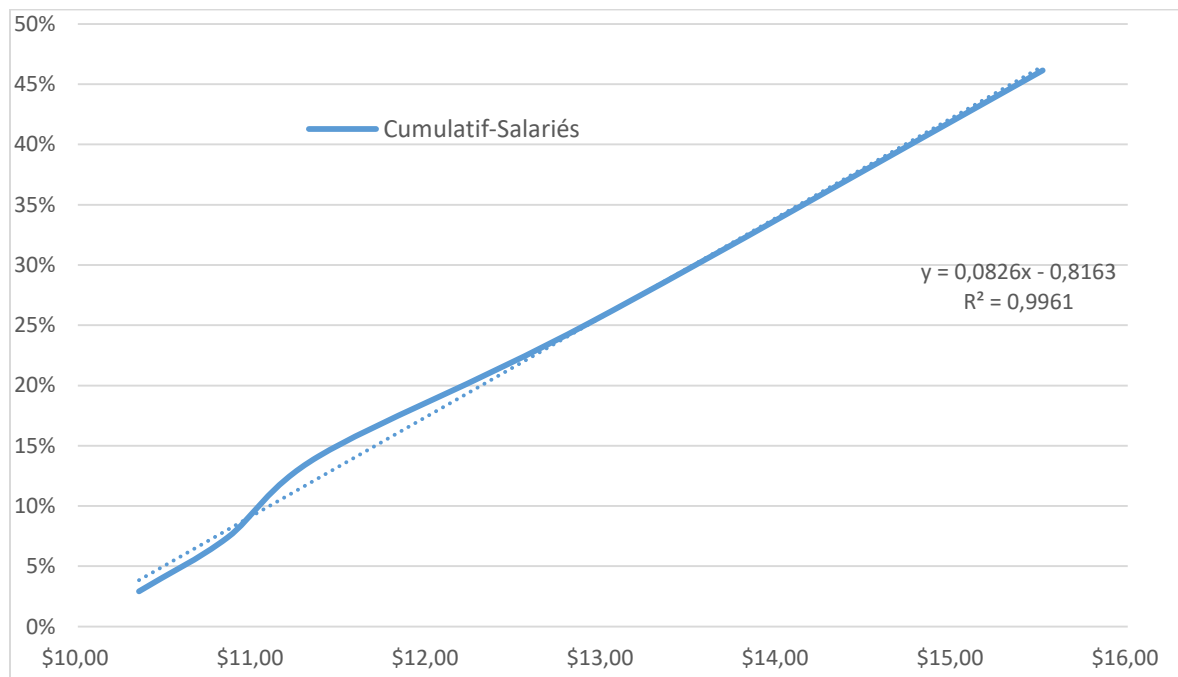
The first step in the reasoning is to establish a distribution of salaries, from the current minimum wage up to \$15 and slightly higher. This work is greatly simplified by the fact that in the RCMs of interest, those where jobs would be most endangered by such a minimum wage increase, the median wage hovers around \$15. This means that, since half of workers earn an hourly wage below the median wage, it is around half of workers who earn \$15 an hour or less. We therefore only have to establish a hypothesis for half of the distribution.

According to a study from the Institut de la statistique du Québec, there was a nearly uniform distribution of workers earning wages between \$10.35 and \$15.51 in 2014 for those aged 25 and older (see Figure 1). In other words, there are around the same number of workers with hourly wages between \$11 and \$12 as the number with wages between \$14 and \$15, for example.

Our sample of workers is limited to the median annual incomes for the age bracket between 25 and 64 years of age. Workers aged between 15 and 24, as well as those aged 65 and over, generally have below-average annual incomes, and are more likely to work part time or for short periods. (Those aged 15 to 24 represent only 14% of all jobs,

whereas they represent 38% of part-time jobs.)<sup>1</sup> By restricting our analysis to workers aged from 25 to 64, the results are particularly prudent and in all likelihood underestimate the number and the proportion of jobs put at risk.

**Figure 1**  
**Distribution of incomes by hourly wage for workers aged 25 and over, 2014**



Source: Institut de la statistique du Québec, “Plus de 450 000 Québécois et Québécoises sont rémunérés au salaire minimum... ou Presque,” April 2015, p. 3.

The Institut de la statistique du Québec (ISQ) provides data for median annual incomes for each of Quebec’s RCMs. By studying the effects of a \$15 minimum wage by RCM, we obtain more detailed results that do a better job of taking into account the variability of local situations than if our results concerned just Quebec’s 17 regions.

<sup>1</sup> Statistics Canada, CANSIM Table 202-0407: Income of individuals, by sex, age group and income source, 2011 constant dollars, 2011; Institut de la statistique du Québec, *Annuaire québécois des statistiques du travail : Portrait des principaux indicateurs du marché et des conditions de travail, 2003-2013—Volume 10*, March 2014, p. 78.

However, the ISQ does not provide data for the number of hours worked per year for each RCM. Estimates based on data for administrative regions are used, and transposed to their component RCMs. In this case, on the contrary, the level of detail of the results is reduced. To obtain the annual number of hours worked, the median weekly salary for each region is divided by its median hourly wage.<sup>2</sup> This number is multiplied by 52 to obtain an annual estimate, illustrated for each region in Table 2.

The ISQ uses a similar methodology to determine the usual working time according to different age groups. These hours were collected on a weekly basis and then annualized by multiplying them by a factor of 52.18. In 2014, usual working time was 1,925.9 hours for those aged 25 to 44 and 1,950.4 for those aged 45 to 54, including remunerated overtime hours.<sup>3</sup> This corresponds closely with our estimates based on the age bracket from 25 to 64 years. We use usual working time and not actual working time since vacation days and sick days are generally remunerated at the hourly rate, but we add in overtime since it is remunerated.

This measure therefore represents the number of hours worked on an annual basis while taking into account part-time jobs and atypical schedules since these are included in the weekly data. We did not use the number of hours for the province as a whole in order to capture regional differences.

Our estimates could underestimate the hourly wage, however, and as a result, overestimate the percentage of jobs at risk, because of a higher proportion of seasonal work in the administrative regions of the Gaspé Peninsula and Magdalen Islands (10.7%) and the Lower St. Lawrence (4.3%) compared to the Quebec average of 2.8% (see

---

<sup>2</sup> Data for 2014 are used since our scenario is based on RCM wages in 2014, the most recent available. These data are at any rate relatively stable over time.

<sup>3</sup> Institut de la statistique du Québec, Heures habituelles annuelles, heures d'absence du travail et heures supplémentaires pour l'ensemble des employés, résultats selon le groupe d'âge, Québec, Ontario et Canada, 2014.

Table 1).<sup>4</sup> There do not seem to be any better hypotheses in this regard to take this phenomenon into account.

It is important to point out that a portion of these seasonal jobs can offer hourly wages between the minimum wage and the median wage in their respective RCM, which would place them in the category of at-risk jobs. The proportion of seasonal workers who hold at-risk jobs (remunerated at less than \$15 an hour) is not available, however.

**Table 1**  
**Estimate of the number of seasonal jobs by administrative region, 2014**

Administrative region	Unemployment rate (2014)	Seasonal E.I. recipients (2011)	Estimate of the seasonal employment rate
Lower St. Lawrence	9.0%	48.0%	4.3%
Saguenay–Lac-Saint-Jean	9.9%	43.0%	4.3%
Quebec City	5.5%	32.0%	1.8%
Mauricie	8.6%	35.0%	3.0%
Eastern Townships	6.8%	27.0%	1.8%
Montreal	9.8%	14.0%	1.4%
Outaouais	7.4%	26.0%	1.9%
Abitibi-Témiscamingue	7.2%	37.0%	2.7%
North Shore and Northern Quebec	8.8%	34.5%	3.0%
Gaspé Peninsula and Magdalen Islands	16.4%	65.0%	10.7%
Chaudière-Appalaches	5.3%	31.0%	1.6%
Laval	7.1%	18.0%	1.3%
Lanaudière	7.8%	26.5%	2.1%
Laurentians	7.1%	28.0%	2.0%
Montérégie	6.5%	25.0%	1.6%
Central Quebec	6.9%	30.0%	2.1%
Province of Quebec	7.7%	32.5%	2.8%

Sources: André Grenier, “Emploi saisonnier et perspectives du marché du travail québécois,” Présentation au colloque sur la saisonnalité Pour un développement durable de l’emploi, Emploi Québec, 8 novembre 2012; Institut de la statistique du Québec, Taux de chômage, par région administrative, par région métropolitaine de recensement et ensemble du Québec, 2014.

<sup>4</sup> Our estimate seems reasonable since the rate for Quebec approaches the average of 2% based on the data from the Labour force survey. The difference is due mainly to the fact that not all unemployed workers are also Employment Insurance recipients. Statistics Canada, CANSIM Table 282-0800: Labour force survey estimates (LFS), employees by job permanency, North American Industry Classification System (NAICS), sex and age group, 2014.

The final step in obtaining an estimate of the median hourly wage for each RCM consists of dividing the median annual salary in each case by the number of hours worked per year for the corresponding administrative region (see Table 2).

**Table 2**  
**Employment picture by administrative region, 2014**

Administrative region	AR code	Median hourly wage	Median weekly wage	Hours worked per week	Hours worked per year
Laurentians	15	\$18.00	\$675	37.5	1,950.0
Montréal	16	\$20.00	\$737	36.9	1,916.2
Gaspé Peninsula and Magdalen Islands	11	\$21.00	\$762	36.3	1,887.6
Lower St. Lawrence	01	\$18.50	\$675	36.5	1,897.3
Mauricie	04	\$19.00	\$683	35.9	1,867.9
Lanaudière	14	\$20.00	\$720	36.0	1,872.0
Outaouais	07	\$23.79	\$876	36.8	1,914.8
Eastern Townships	05	\$20.83	\$782	37.5	1,952.2
Central Quebec	17	\$20.59	\$747	36.3	1,887.1
North Shore and Northern Quebec	09 & 10	\$18.00	\$683	37.9	1,971.7
Saguenay–Lac-Saint-Jean	02	\$19.85	\$726	36.6	1,900.8
Quebec City	03	\$20.00	\$726	36.3	1,887.6
Montreal	06	\$20.24	\$760	37.5	1,952.6
Abitibi-Témiscamingue	08	\$20.33	\$760	37.4	1,943.9
Chaudière-Appalaches	16	\$21.00	\$769	36.6	1,904.7
Laval	13	\$19.00	\$720	37.9	1,970.5
Province of Quebec		\$20.00	\$744	37.2	1,933.9

Note: Data exclude self-employed workers and are for the primary job, namely the one to which workers devote the most hours of work in cases in which they have more than one job.

Sources: Authors' calculations for hours worked per week and for hours worked per year, Institut de la Statistique du Québec, Rémunération hebdomadaire et horaire des employés, régions administratives et ensemble du Québec, 2014.

Projections for median hourly wages for 2017 and 2021 were then calculated, based on the observed trend for each RCM using the ten most recent years available.

The \$15 minimum wage is then divided by the projected median hourly wage for 2017 and for 2021. Since the distribution is nearly uniform, the \$15 minimum wage over the estimated median hourly wage for 2017 and for 2021 indicates the percentage of

workers under the median that would be put at risk by such an increase of the minimum wage in these two years. Dividing by two gives the percentage of the entire labour force. For the purposes of this study, we have focused on the 25 out of 104 RCMs most affected in 2017 (see Table 3).<sup>5</sup>

**Table 3**  
**Percentage of the labour force put at risk by an increase of the minimum wage to \$15, for workers aged 25 to 64, 2017 and 2021**

Rank	RCM code	RCM name	Percentage of jobs at risk in 2017	Percentage of jobs at risk in 2021
1	02	Le Rocher-Percé	56%	46%
2	04	La Haute-Gaspésie	52%	45%
3	83	La Vallée-de-la-Gatineau	48%	43%
4	01	Les Îles-de-la-Madeleine	47%	39%
5	79	Antoine-Labelle	47%	42%
6	35	Mékinac	47%	42%
7	11	Les Basques	46%	40%
8	062	Matawinie	46%	41%
9	78	Les Laurentides	46%	41%
10	982	Le Golfe-du-Saint-Laurent	46%	37%
11	013	Témiscouata	45%	39%
12	06	Avignon	45%	38%
13	69	Le Haut-Saint-Laurent	44%	40%
14	07	La Matapédia	44%	38%
15	05	Bonaventure	44%	37%
16	080	Papineau	43%	39%
17	40	Les Sources	42%	37%
18	76	Argenteuil	42%	38%
19	68	Les Jardins-de-Napierville	42%	39%
20	014	Kamouraska	42%	38%
21	09	La Mitis	42%	37%
22	36	Shawinigan	42%	37%
23	84	Pontiac	41%	37%
24	41	Le Haut-Saint-François	41%	37%
25	32	L'Érable	41%	36%

Source: authors' calculations.

<sup>5</sup> From 2017 to 2021, there is very little change in the ranking. Notably, the RCMs of the Kativik Regional Government, of Acton, and of the Pays-d'en-Haut are included among the most affected RCMs in 2021, and the RCMs of la Mitis, Pontiac, and the Golfe-du-Saint-Laurent are not. Table 3 retains the 2017 order for purposes of clarity and simplicity.

It is more difficult to provide a percentage of the labour force affected in the RCMs not included in Table 3, especially those at the very bottom of this ranking, namely those located around big urban centres. Unlike the RCMs presented in Table 3, the distribution of wages under the median in and around large cities is very likely not uniform. In these places, it seems reasonable to believe that there are few instances of wages near the minimum wage and that most are much closer to the median wage, which is itself generally much higher than \$15/hour.

Despite these caveats, the same calculation can be carried out using the same methodology for some of the RCMs with the highest salaries. For example, we estimate that 28% of the labour force between 25 and 64 years of age would be at risk in the RCM of Gatineau in 2017, and 26% for cities located in the suburbs of the Collines-de-l'Outaouais RCM. Once again, these percentages are probably far above the actual figures. The difference between the effect on the labour force in rural regions and around urban centres is thus probably far greater than these calculations suggest.