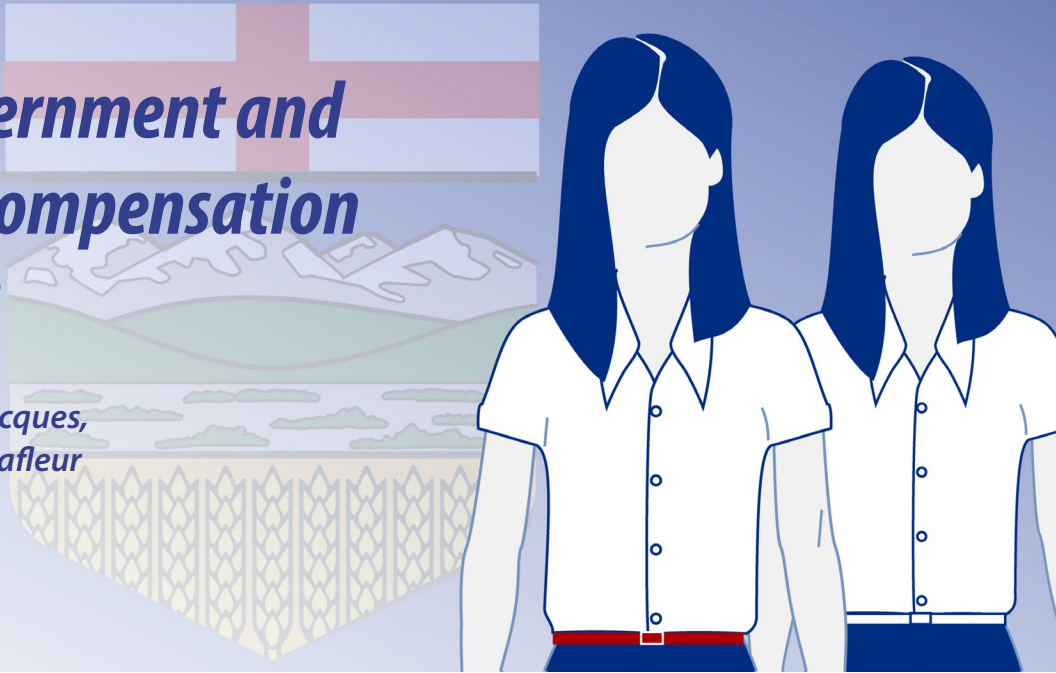


Comparing Government and Private Sector Compensation in Alberta, 2018

by Milagros Palacios, David Jacques, Charles Lammam, and Steve Lafleur



MAIN CONCLUSIONS

Using data on individual workers from January to December 2017, this report estimates the wage differential between the government and private sectors in Alberta. It also evaluates four non-wage benefits for which data are available to quantify compensation differences between the two sectors.

After controlling for factors like gender, age, marital status, education, tenure, size of firm, job permanence, industry, occupation, and full- or part-time status, the authors found that Alberta's government-sector workers (federal, provincial, and local) enjoyed a 9.6% wage premium, on average, over their private-sector counterparts in 2017. When unionization status is factored into the analysis, the wage premium for the government sector declines to 6.1%.

The data that are available on non-wage benefits suggest that the government sector

enjoys an advantage over the private sector. For example, 72% of government workers in Alberta are covered by a registered pension plan, compared to 24.2% of private-sector workers. Of those covered by a registered pension plan, 95.3% of government workers enjoyed a defined benefit pension compared to 29.3% of private-sector workers.

In addition, government workers retire earlier than their private-sector counterparts—about 1.7 years on average—and are much less likely to lose their jobs (4.2% in the private sector compared to 0.7% in the public sector).

Moreover, full-time workers in the government sector lost more work time in 2017 for personal reasons (11.8 days on average) than their private sector counterparts (6.5 days).

Introduction

The Alberta government is set to run its tenth operating-budget deficit in 11 years and will continue to dig deeper into debt in the foreseeable future. This ongoing and marked deterioration in the state of public finances is the result of successive governments rapidly increasing spending to unaffordable levels. One step towards bringing spending back in line with revenue would be a close scrutiny of the compensation of government employees, which consumes a sizeable portion of the government's annual program spending (Alberta Finance, 2018).

With heightened interest in how wages and non-wage benefits in the government sector compare with those in the private sector, this report builds on previous research by the Fraser Institute comparing government- and private-sector compensation in Alberta (Lammam, Palacios, Ren, and Clemens, 2015a; Lammam, Palacios, and Ren, 2017). Using data on individual workers from January to December of 2017, the report updates past estimates of the wage differential between government-sector workers in Alberta (including federal, provincial, and local government workers) and their private-sector counterparts. It also evaluates four non-wage benefits for which data are available in an attempt to quantify compensation differences between the two sectors.

At the outset, it is important to emphasize that wages are only one component of overall compensation. Various non-wage benefits such as pensions, health and dental insurance, vacation time, life and disability insurance, and so forth affect overall compensation levels. In this report, we are unable to estimate the overall total compensation premium in the government sector because of a lack of data on non-wage benefits. However, we do present the data that

are available on non-wage benefits to shed some light on the differences between the benefits received in the government and private sectors.

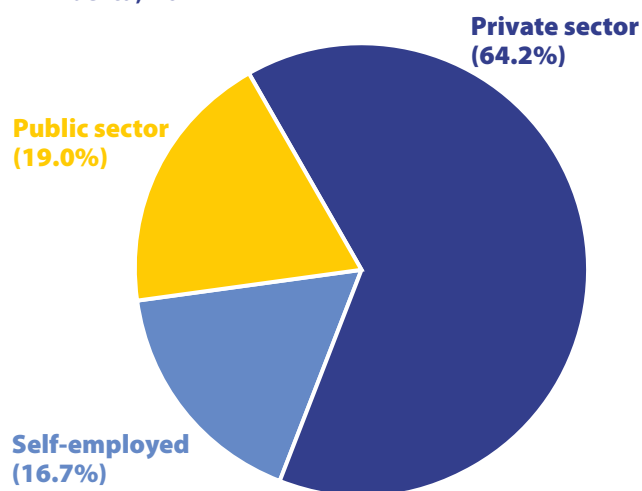
The first section of this report provides some basic statistics on government- and private sector employment in Alberta. The second section presents the results of calculations used to determine the wage premium in the government sector. The third section assesses the data available on non-wage benefits to ascertain the likelihood that there is a premium for non-wage benefits in the government sector compared to the private sector.¹

Comparing the size of the government and private sectors

Before analyzing compensation in the government and private sectors, it is useful to compare the two sectors in a more general way. [Figure 1](#) displays the composition of total employment in Alberta in 2017. In that year, about 0.43 million Alberta workers, representing 19.0% of total employment, were employed in the public sector. This includes the federal, provincial, and local governments, as well as government agencies, crown corporations, and government-funded establishments such as schools (including universities) and hospitals (Statistics

¹ Lammam, Palacios, Ren, and Clemens (2015b) provide possible solutions to the disparities in compensation between the government and private sectors. The options they propose include: (1) gathering better data on wage and non-wage benefits for government and private-sector workers; (2) recognizing that total compensation is what matters, not wages alone; (3) ensuring that the information about government-sector wages and benefits is transparent, accessible, and disclosed regularly; and (4) instituting mechanisms, such as wage boards, for setting compensation. For more details, see Lammam, Palacios, Ren, and Clemens, 2015b.

Figure 1: Components (%) of total employment in Alberta, 2017



Sources: Statistics Canada, 2018a; calculations by the authors.

Canada, 2017a).² In contrast, there were 1.5 million workers employed in the private sector in 2017, representing 64.2% of total employment (Statistics Canada, 2018a). The remaining 16.7% were self-employed.

Comparing wages in Alberta's government and private sectors

A number of studies have empirically quantified wage differences between similar occupations

² Unless otherwise stated, data used in this section come from Statistics Canada's Labour Force Survey. This is a household survey completed by a representative sample of the civilian population 15 years of age or older. Excluded from the survey's coverage are persons living on reserves and other Aboriginal settlements in the provinces, full-time members of the Canadian Forces, and the institutionalized population (for example, inmates of penal institutions and patients in hospitals or nursing homes who have resided in the institution for more than six months). These groups together represent an exclusion of approximately 2.0% of the population aged 15 and over (Statistics Canada, 2017a).

in the private and public sectors. Nearly all of these studies measure just the wage differences between the public and private sectors; this is because there is a lack of data on non-wage benefits. The Canadian research examining wage differences between the two sectors over the past three decades consistently indicates a premium for government-sector workers.³ The wage premiums vary depending on the data source and time period. What is clear, however, is that a premium exists.⁴

Methodology and data sources

This report provides new calculations for the government-sector wage premium in Alberta. It uses aggregated monthly data on individual workers from the Labour Force Survey from January to December of 2017 (Statistics Canada, 2017b; 2018b).⁵ The major advantage of data from the Labour Force Survey is that public-sector workers are explicitly identified, whereas they

³ For a thorough review on wage differentials in the public and private sector in Canada, see Lammam, Palacios, Ren, and Clemens, 2015b.

⁴ The reason for the premium in the government sector is twofold. The process of determining wages in the public sector is markedly different from that in the private sector. The process of setting wages in the government sector is largely determined by political factors, while in the private sector it is largely guided by market forces and profit constraints. These differences are amplified by the monopoly environment in which the government sector operates while the private sector faces a competitive environment. For a more detailed explanation of the causes for the compensation premium observed in the public sector, see Lammam, Palacios, Ren, and Clemens, 2015b.

⁵ The Labour Force Survey is a monthly survey. However, the data used for the empirical analysis in this report is aggregated data over the 12-month period from January to December 2017.

are not in the National Household Survey data.⁶ The Labour Force Survey sample for Alberta consists of 70,497 individuals for whom their hourly wage rate, age, gender, education, marital status, type of work, and other characteristics are available. The analysis covers paid government- and private-sector employees only (persons 15 years of age and over with employment income). It excludes the self-employed, unemployed persons, and persons not in the labour force. The Labour Force Survey breaks down the data by sector (public and private) but does not provide data for different levels of government. Therefore, the public-sector wage premium in this section contains workers from the federal, provincial, and local governments in Alberta.⁷

The public-sector wage premium— results from empirical analysis

The analysis in this section updates the analysis done Lammam, Palacios, and Ren (2017) and follows earlier academic work by Gunderson, Hyatt, and Riddell (2000).⁸ For details on the method-

⁶ The Labour Force Survey has a “class of worker” variable that designates whether the employer is a government or privately owned enterprise, whereas the National Household Survey does not have a variable to distinguish government from private employers.

⁷ Specifically, the Labour Force Survey considers the public sector as those working for federal general government (i.e., federal public administration); federal government business enterprises; provincial general government; provincial health and social service institutions; universities, colleges, vocational, and trade institutions; provincial government business enterprises; local general government; local school boards; and local government business enterprises. Those in the armed forces are excluded from the survey.

⁸ Lammam, Palacios, and Ren (2017) used aggregated data from the monthly Labour Force Survey over the 12-month period from January to December 2015 and

ology used to compute the public sector wage premium in this section, please see the first study in this series (Lammam, Palacios, Ren, and Clemens, 2015a).

Table 1 summarizes the results of the analysis of the comparison of public and private wage sectors in Alberta. The column labelled “Model 1” provides the public-sector wage premium calculation without controlling for any factors. In other words, Model 1 represents a calculation that does not account for variables like age, experience, education, and so forth, which we know influence wages. The Model 1 estimate indicates that wages in Alberta’s public sector (including federal, provincial, and local public-sector workers) are 25.8% higher, on average, than in the private sector.

A more appropriate way to determine if there is a wage premium in the public sector is to control for different factors such as gender, age, level of education, tenure, type of employment (seasonal, contractual), part-time or full-time work, establishment size, industry, and occupation, which affect individual wage levels. Model 2 in table 1 controls for these personal characteristics.

calculate a public-sector wage premium of 23.9%, without controlling for other independent variables, and 7.9% after accounting for gender, age, marital status, level of education, job status, tenure, province of employment, size of firm, full-time/part-time work, city, occupation, and industry. When unionization is accounted for, the public-sector wage premium was 5.4%. Although the methodology in the current report and the previous one (Lammam, Palacios, and Ren, 2017) is the same, data from the 2017 Labour Force Survey had different categories of occupations than the 2015 survey. For the previous analysis, we controlled for 25 categories of occupations while in the current analysis we control for 40. Thus, the results presented in the earlier study are not directly comparable with those in the current one.

Table 1: Summary of the public-sector wage premium in Alberta, 2017

Dependant variable = log of hourly wage.

	Model 1	Model 2	Model 2 (controlling for unionization)
	<i>Coefficient</i>	<i>Coefficient</i>	<i>Coefficient</i>
(Private)			
Public	25.8	9.6	6.1
N	70,497	70,497	70,497
Adjusted R ²	0.05	0.58	0.58

Notes: [a] The control variables used in the regressions include sex, age, marital status, education, tenure, type of employment (seasonal, contractual), part-time or full-time work, establishment size, industry, and occupation. [b] Self-employment is not included. [c] Estimates are significant at 99%.

Sources: Statistics Canada, 2017b, 2018b; calculations by the authors.

Controlling for these factors reduces the public-sector wage premium in Alberta to 9.6%, on average.⁹ When unionization is included in Model 2, the premium falls to 6.1%, which is nevertheless a significant gap.

⁹ Model 2 also provides details on the differences in wages across various personal and job characteristics (not shown on table 1). For instance, after controlling for other wage-determining factors, men, on average, earn 11.2% more than women. As expected, higher education levels lead to higher wages. In fact, those who graduate from high school earn 9.3% more than those with elementary education or less. A university graduate earns 15.4% more than those with only elementary schooling, on average, whereas those with a graduate degree earn 17.1% more. Moreover, those with full-time, permanent jobs, and longer tenure, earn, on average, higher wages than those with temporary, part-time jobs, and shorter tenure. On average, those with seasonal, contract, and casual work earn between 4.7% and 9.3% less than those with permanent jobs. Those who work full time earn 7.5% more than those with part-time jobs.

Comparing non-wage benefits in Alberta's public and private sectors

Although public-sector workers in Alberta enjoy a wage premium, this does not tell us whether their overall compensation is higher than, comparable to, or lower than that of workers in the private sector. That is because wages are only a part of total employee compensation.

Unfortunately, individual-level data on non-wage benefits, such as pensions, vacation time, and health benefits, are not readily available in Canada, which explains the lack of research on this aspect of employee compensation. It is critical that Canada's statistical agency, Statistics Canada, augment its current survey in order to begin collecting and analyzing data on non-wage benefits.

Fortunately, there are some aggregated data about non-wage benefits that can be examined to roughly compare how Alberta's public-sector non-wage benefits compare to those of the province's private sector. Four types of non-wage benefits data are examined: registered pensions, average age of retirement, job loss (as a proxy of job security), and the absence rate of full-time employees.

Registered pensions

The pension benefit is the first non-wage benefit to consider. The benefit has two important dimensions. The first is the percentage of workers in both sectors who have a registered pension. Table 2 summarizes the pension data for Alberta and Canada.

There is a dramatic difference between the registered pension coverage in the public and private sectors. In 2016, the latest data available at the time of writing, 24.2% of private-sector workers in Alberta were covered by a registered pension

Table 2: Registered pension plan (RPP) members in Alberta and Canada, by type of plan and sector, January 1, 2016

	ALBERTA			CANADA		
	Total (public and private)	Private sector	Public sector	Total (public and private)	Private sector	Public sector
Total number of members who have:	709,779	407,107	302,672	6,261,820	3,032,410	3,229,410
<i>Defined benefit plans</i>	407,651	119,236	288,415	4,203,840	1,264,381	2,939,459
<i>Defined contribution plans</i>	n/a	n/a	n/a	1,128,397	982,276	146,121
<i>Other pension plans</i>	n/a	n/a	n/a	929,583	785,753	143,830
Total Employment, 2016	2,102,200	1,681,600	420,600	16,528,700	12,908,300	3,620,400
% of employees covered by pension plans	33.8	24.2	72.0	37.9	23.5	89.2
As a % of total number of members						
<i>Defined benefit plans</i>	57.4	29.3	95.3	67.1	41.7	91.0
<i>Defined contribution plans</i>	n/a	n/a	n/a	18.0	32.4	4.5
<i>Other pension plans</i>	n/a	n/a	n/a	14.8	25.9	4.5

Notes: [a] Total employment includes workers in the public and private sector as well as self-employed workers in incorporated businesses (with and without paid help). Self-employed incorporated businesses are included in the private sector because, like their public- and private-sector counterparts, they are able to have a registered pension plan (RPP). [b] The registered pension plan data comes from the annual Pension Plans in Canada Survey (PPIC). Meanwhile, total employment data comes from Statistics Canada's Labour Force Survey (LFS). Although these two data sets (PPIC and LFS) are comparable, there are some conceptual differences that should be pointed out. First, members of Canadian Registered Pension Plans (RPP) living on Indian reserves (in any province or territory) as well as those working outside Canada (less than 1% of total RPP membership) are included in the pension plan membership but these groups are excluded from Labour Force Survey estimates. Second, labour force estimates are annual averages while pension plan membership refers to the number of active, employed participants as of January 1, 2016. Finally, the Labour Force Survey does not cover full-time members of the Armed Forces. [c] Because of some conceptual differences between the PPIC and LFS, the percentage of employees covered by pension plan might be lower than the numbers shown in this table. [d] Data on defined contribution plans and other pension plans for Alberta were suppressed by Statistics Canada for confidentiality ("n/a" in table). For this reason, the authors were not able to calculate some of the metrics presented on this table. [e] Numbers may not add up to the total because of rounding.

Sources: Statistics Canada, 2017c, 2018a, 2018c; calculations by the authors.

plan, compared to 72.0% of public-sector workers; that is, while a little over two of every 10 private-sector workers have a registered pension plan, more than seven of every 10 public-sector workers do. This gap grows when we consider the second dimension, the type of pension plan in each sector.

A defined benefit plan provides workers with a guaranteed benefit in retirement. A defined contribution plan, on the other hand, provides employees with a benefit that is based on their contributions, their employer's contributions, and earnings on the pension savings over time. A defined benefit plan is increasingly scarce in

the private sector because of its high costs and risks for employers. Specifically, in a defined benefit pension plan, the employer bears all the financial risk since the employee is guaranteed the benefit. If returns on the pension's investment fund do not match expectations, the employer must increase the contributions to the plan to fully fund the guaranteed benefit. The comparative data presented in table 2 illustrate the increasing scarcity of defined benefit pensions in the private sector compared to the prevalence of these pension plans in the public sector. In 2016, of the workers in Alberta who were covered by a pension plan, 95.3% of those in the public sector enjoyed a defined benefit pension compared to 29.3% of those in the private sector. While almost one third of private-sector workers with a pension have a pension with a guaranteed benefit in retirement, a guaranteed benefit is the norm in the public sector. Public-sector workers in Alberta are much more likely to be in a registered pension plan, and are much more likely to receive a defined benefit pension, than their private sector counterparts.

Average age of retirement

Public-sector employees in Alberta not only earn more and are more likely to be covered by pension plans, but they also tend to retire earlier. Table 3 presents data on the average age of retirement for public- and private-sector workers between 2013 and 2017, for Canada as a whole and for individual provinces.¹⁰ On average, Alberta's public-sector employees tend to retire 1.7 years earlier than their private-sector peers.¹¹

¹⁰ Statistics Canada notes that the data on age of retirement should be used with caution because of small sample sizes, especially for the provinces. Five-year averages were used (2013–2017) in an attempt to mitigate this problem

¹¹ The authors also examined median retirement age. Regardless of whether the average or median age of

Table 3: Average retirement age (years), 2013–2017

	Total	Public-sector employees	Private-sector employees	Difference (years)
Canada	63.3	61.4	63.8	2.4
NL	62.1	59.7	63.5	3.8
PEI	64.1	62.2	65.5	3.3
NS	62.8	60.9	63.9	3.0
NB	63.0	61.2	63.7	2.5
QC	62.5	60.2	63.2	3.0
ON	63.4	61.9	63.7	1.8
MB	63.4	61.5	64.6	3.1
SK	63.9	61.9	64.0	2.1
AB	64.1	62.5	64.2	1.7
BC	64.0	62.1	64.0	1.9

Notes: [a] Total includes workers in the public and private sector, and self-employed individuals (including unpaid family workers). [b] The difference in years may not equal the difference as displayed by the data because the retirement age years for both the public and private sectors are rounded.

Sources: Statistics Canada, 2018d; calculations by the authors.

Job loss as a proxy for job security

Another way to compare government- and private-sector employees is to consider how likely each group is to experience job losses. Table 4 presents data on job losses in 2017 (excluding workers with temporary employment) for Canada as a whole and for the provinces. There are several reasons for job

retirement is used, public-sector workers in Alberta retire at an earlier age than their private-sector counterparts. If the median retirement age is used, the difference in years is slightly larger. For instance, Alberta's public-sector workers retire 1.9 years earlier than the private-sector employees if the median rather than the average is used.

Table 4: Job loss by sector, 2017

	JOB LOSSES (thousands)			JOB LOSSES (% of employment)			
	Total	Public sector	Private sector	Total	Public sector	Private sector	Difference (percentage points)
Canada	362.6	19.6	343.0	2.3	0.5	2.9	2.4
NL	12.6	0.6	12.1	6.2	1.0	8.6	7.6
PEI	1.5	0.0	1.4	2.4	0.0	3.2	3.2
NS	11.3	0.5	10.8	2.9	0.4	3.9	3.5
NB	9.6	0.0	9.1	3.1	0.0	4.0	4.0
QC	77.7	4.4	73.2	2.1	0.5	2.7	2.2
ON	124.6	6.9	117.7	2.1	0.5	2.5	2.0
MB	9.0	0.8	8.2	1.6	0.5	2.1	1.6
SK	12.9	1.0	11.8	2.8	0.7	3.6	2.9
AB	65.3	3.1	62.1	3.4	0.7	4.2	3.5
BC	38.2	1.7	36.5	1.9	0.4	2.3	1.9

Notes: [a] Total employment includes workers in the public and private sector. Self-employment is not included. [b] Reasons for losing a job include (1) company moved, (2) company went out of business, (3) business conditions and (4) dismissal by employer. Job losses as a result of an end of temporary, casual, and seasonal job are not included. [c] The difference in years may not equal the difference as displayed by the data because the job loss percentages for both the public and private sectors are rounded.

Sources: Statistics Canada, 2018a, 2018e; calculations by the authors.

loss, including firms moving location, firms going out of business, changing business conditions, and dismissal. In 2017, 4.2% of those employed in the private sector experienced job loss in Alberta, compared to only 0.7% of those employed in the public sector. That means the rate of job loss was six times higher in the private sector.

Absence rate of full-time employees

Table 5 presents a measure of the absence rate in the two sectors: total days lost per worker in 2017. Among full-time employees, an average of 6.5 days was lost for personal reasons in the private sector in Alberta, compared to 11.8 days in the public sector (5.3 days higher).

Table 5: Total days lost per worker, full-time employees, by sector, 2017

	Total	Public sector	Private sector	Difference (days)
Canada	9.6	13.5	8.4	5.1
NL	10.4	15.7	8.1	7.6
PEI	9.2	12.3	7.9	4.4
NS	10.7	13.8	9.4	4.4
NB	10.7	12.7	10.0	2.7
QC	11.7	15.9	10.3	5.6
ON	8.6	12.4	7.6	4.8
MB	10.1	13.5	8.8	4.7
SK	10.6	13.6	9.3	4.3
AB	7.6	11.8	6.5	5.3
BC	10.2	13.7	9.2	4.5

Notes: [a] Absence data are only for personal reasons: that is, illness or disability, and personal or family responsibility. [b] Days lost per worker are calculated by multiplying the inactivity rate (number of hours lost as a proportion of the usual weekly hours worked by full-time workers) by the estimated number of working days in the year (250). The estimated number of working days in the year (250) is in line with other research in the field. This number assumes that the typical full-time employee works a 5-day week and is entitled to all statutory holidays (around 10 days a year). Thus, the potential annual labour supply of a typical worker would be 52 weeks multiplied by 5, less 10 statutory holidays, or 250 days. This allows the days lost per worker in a year to be calculated.

Sources: Statistics Canada, 2018f; calculations by the authors.

Conclusion

In 2017, Alberta’s government-sector workers earned a wage premium of 9.6%, on average. When unionization is accounted for, the wage premium declines to 6.1%. These findings are in line with previous research investigating wage differences between the two sectors. While there is insufficient data to calculate or make a definitive statement about the differences in non-wage benefits between the public and private sectors in Alberta, the available data suggest that the public sector enjoys more generous non-wage benefits than the private sector, including higher rates of pension coverage, higher rates of defined benefit pensions, earlier ages of retirement, lower rates of job loss, and more days lost per worker.

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