



COMPARING COMPENSATION – No. 1 THE APPLICATION OF THE EQUAL AVERAGE METHOD

Interpretations, Policies and Guidelines

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1. Purpose

This Interpretation, Policy and Guideline (IPG) provides guidance on the application of the equal average method prescribed in section 49 of the Pay Equity Act (the Act) through the following steps:

- [Step 1](#): Create bands of comparable values of work and identify all of the predominantly female and predominantly male job classes that are in the same band.
- [Step 2](#): Calculate and compare the female and male average total compensation for each band.
- [Step 3](#): Determine whether an increase in compensation is owed for each female job class.
- [Step 4](#): Calculate the increase in compensation owed to female job classes in each band, as applicable.

Note: For all mentions of total compensation within example calculations provided throughout this document, this refers to the total hourly compensation before pay equity. Also, all mentions of female job classes and male job classes refer to predominantly female job classes and predominantly male job classes, respectively.

This IPG is the first in a series that addresses the comparison of compensation. The other IPGs in this series are:

- No. 2: The Application of the Equal Line Method.
- No. 3: What to Do When the Regression Lines Cross: The Modified Version of the Equal Line Method.
- No. 4: What to Do When the Regression Lines Cross: The Equal Average, Segmented Line and Sum of Differences Methods.
- No. 5: Guidance on the Use of Other Methods to Compare Compensation.

This document does not replace expert legal and/or compensation advice. This document is technical in nature and should not be used as a plain language resource. Plain language resources are available at <https://www.payequitychrc.ca/en>.

The term employer in this document can also refer to a group of employers that has been recognized by the Pay Equity Commissioner.ⁱ

A note on data validation and verification

The collection or use of incorrect or inaccurate data can have a negative impact on organizations. This is especially true when dealing with employee pay equity data (e.g., data used to determine job classes, gender predominance, total hourly compensation, total job value, etc.). For example, when using a pay equity method for the comparison of compensation, inaccurate data can create extreme pay differences within similar job classes.

Since these methods are used to make pay adjustments, data validation and verification procedures for employee data should be a priority. Instances of large disparities of compensation within pay bands, for example, can produce unclear or confusing results. Should situations of this nature occur, they should be investigated and scrutinized before proceeding with the use of any pay equity method.

When comparing compensation for pay equity and performing calculations, it is a best practice to use numbers with four or five decimal places and then round to two decimal places at the end. If rounding is done before, it increases the risk of carrying through calculation errors, which may have an impact on your final results and the determination of whether a specific method has worked.

2. Equal average method

Under the Pay Equity Act (the Act), the employer or the pay equity committee must compare the total compensation of predominantly female job classes with the total compensation of predominantly male job classes of equal value to determine whether there are differences in total compensation.ⁱⁱ The employer or pay equity committee is required to do this to identify and address any pay equity gaps in the workplace.

The Act prescribes two methods that employers and pay equity committees can use to compare total compensation: the equal average method and the equal line method.ⁱⁱⁱ

For information on the equal line method, see Comparing Compensation – No. 2: The Application of the Equal Line Method on the Publications page of the Canadian Human Rights Commission Pay Equity website: <https://www.payequitychrc.ca/en/publications>.

3. Step 1: Create bands of comparable values of work and identify all of the predominantly female and predominantly male job classes that are in the same band

If an employer or pay equity committee chooses to use the equal average method, it first needs to create value-of-work bands. As defined in section 49(2) of the Pay Equity Act (the Act), a band refers to a range of values of work that the employer or pay equity committee considers comparable.

The employer or pay equity committee decides the width of the bands. However, the bands cannot overlap and must not be so wide as to include job classes that do not have a similar value of work.

Once the bands have been created, the employer or pay equity committee must then identify the predominantly female and predominantly male job classes that fall into each band. This means that those job classes that demonstrate equal or comparable values of work are grouped together in the appropriate band. Job classes that are gender-neutral are not considered for this purpose.

For guidance on creating value-of-work bands, see the Promising Practices series on the Publications page of the Canadian Human Rights Commission Pay Equity website: <https://www.payequitychrc.ca/en/publications>.

4. Step 2: Calculate and compare the female and male average total compensation for each band

The equal average method aims to compare the average total compensation of all predominantly female job classes with that of all predominantly male job classes within a particular value-of-work band. This step differs depending on the availability of male job classes in each band.

The Pay Equity Act does not provide a definition of average. Employers and pay equity committees may consider measures of central tendency, such as average mean, average mode and average median, for this methodology.

4.1. Comparing when there are predominantly male job classes in the same band

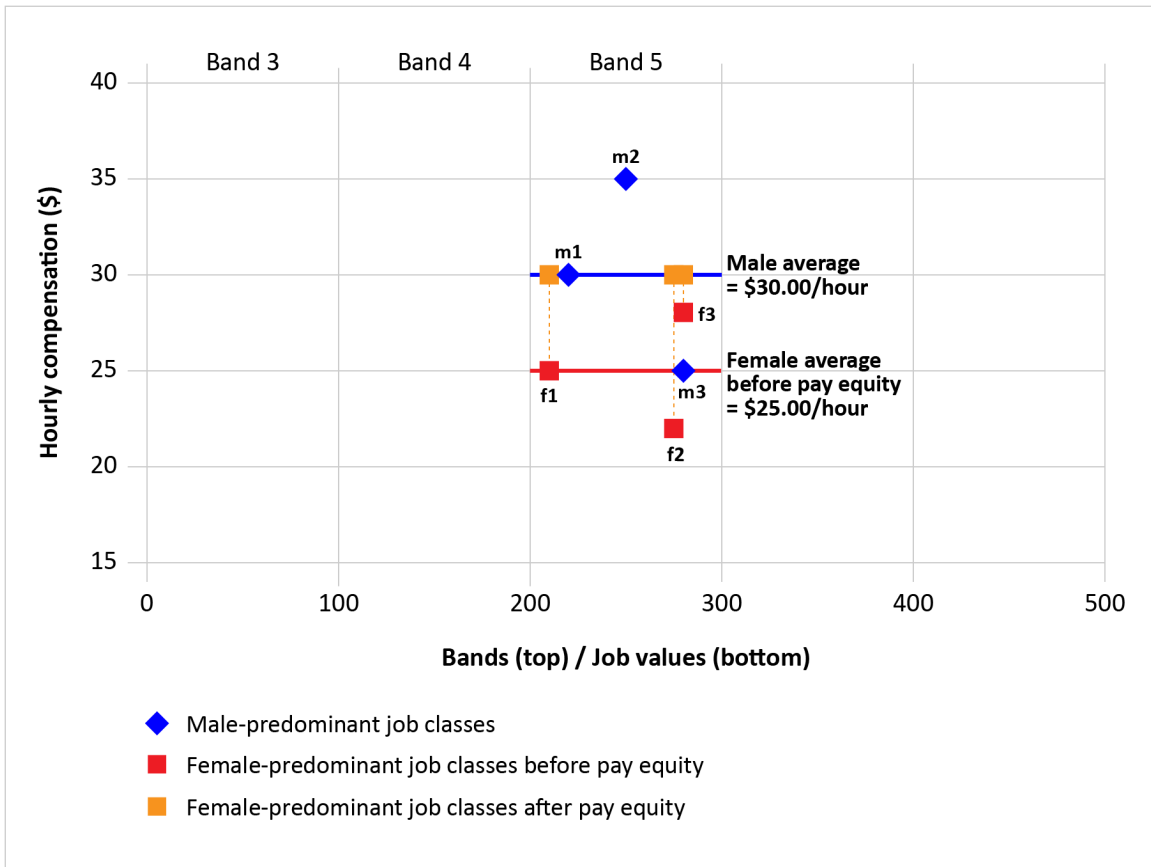
When there are predominantly male job classes in the same band as predominantly female job classes, they can be compared with each other due to their similar values. To do this, the averages of both the female total compensation and the male total compensation need to be calculated. The female average total compensation is calculated by adding the total compensation of each female job class in the band and dividing it by the total number of female job classes in the band. Similarly, the male average total compensation is calculated by adding the total compensation of each male job class in the band and dividing it by the total number of male job classes in the band.^{iv}

There may be times when there is only one female or male job class within a particular band. In that case, the total compensation associated with that job class will represent the female or male average total compensation of the band, as applicable.^v

Example: Comparing with male job classes in the same band

Company A's pay equity committee finds that Band 5 includes both female job classes and male job classes. See Figure 1.

Figure 1: Comparing with male job classes in the same band



Data for Figure 1

Job class	Band (x-axis)	Total hourly compensation before pay equity (y-axis)	Total hourly compensation after pay equity (y-axis)
f1	5	\$25.00	\$30.00
f2	5	\$22.00	\$30.00
f3	5	\$28.00	\$30.00
m1	5	\$30.00	\$30.00
m2	5	\$35.00	\$35.00
m3	5	\$25.00	\$25.00

The pay equity committee then calculates the average total compensation in the following way:

Female average total compensation = (f1 total compensation + f2 total compensation + f3 total compensation) ÷ total number of female job classes

$$= (\$25.00/\text{hour} + \$22.00/\text{hour} + \$28.00/\text{hour}) \div 3$$

$$= \$25.00/\text{hour}$$

Male average total compensation = (m1 total compensation + m2 total compensation + m3 total compensation) ÷ total number of male job classes
= (\$30.00/hour + \$35.00/hour + \$25.00/hour) ÷ 3
= \$30.00/hour

The committee calculates that the female average in this band is \$25.00/hour (represented in Figure 1 by the red line).

It calculates the male average to be \$30.00/hour (represented in Figure 1 by the blue line).

Through this calculation, the committee finds that the female average total compensation in Band 5 is below the male average total compensation in the band.

4.2. Comparing when there are no predominantly male job classes in the same band

If, after placing each predominantly female and predominantly male job class in the appropriate band, there is a band that contains at least one female job class but no male job classes (a no-comparator band), the employer or pay equity committee needs to assign that band a male average total compensation amount that can be used for comparison.^{vi} The female average total compensation for the band is calculated as normal (see [Section 4.1](#) of this document). The formula to use to calculate the male average total compensation depends on the proximity of male job classes in other value-of-work bands. Two possible scenarios are described below.

4.2.1. Using the closest band

The male average total compensation for comparison in a band where there are no male job classes can be determined using the closest band and the following formula:

$$(A \times B) \div C$$

For this formula:^{vii}

- A is the average compensation associated with the male job classes—or if there is only one such job class, the compensation associated with that job class—that are within the band that is closest to the band within which the female job class or classes are located.
- B is the average value of the work performed in the female job classes within the band—or, if there is only one such job class, the value of the work performed in that job class.
- C is the average value of the work performed in the male job classes within the band referred to in the description of A—or, if there is only one such job class, the value of the work performed in that job class.

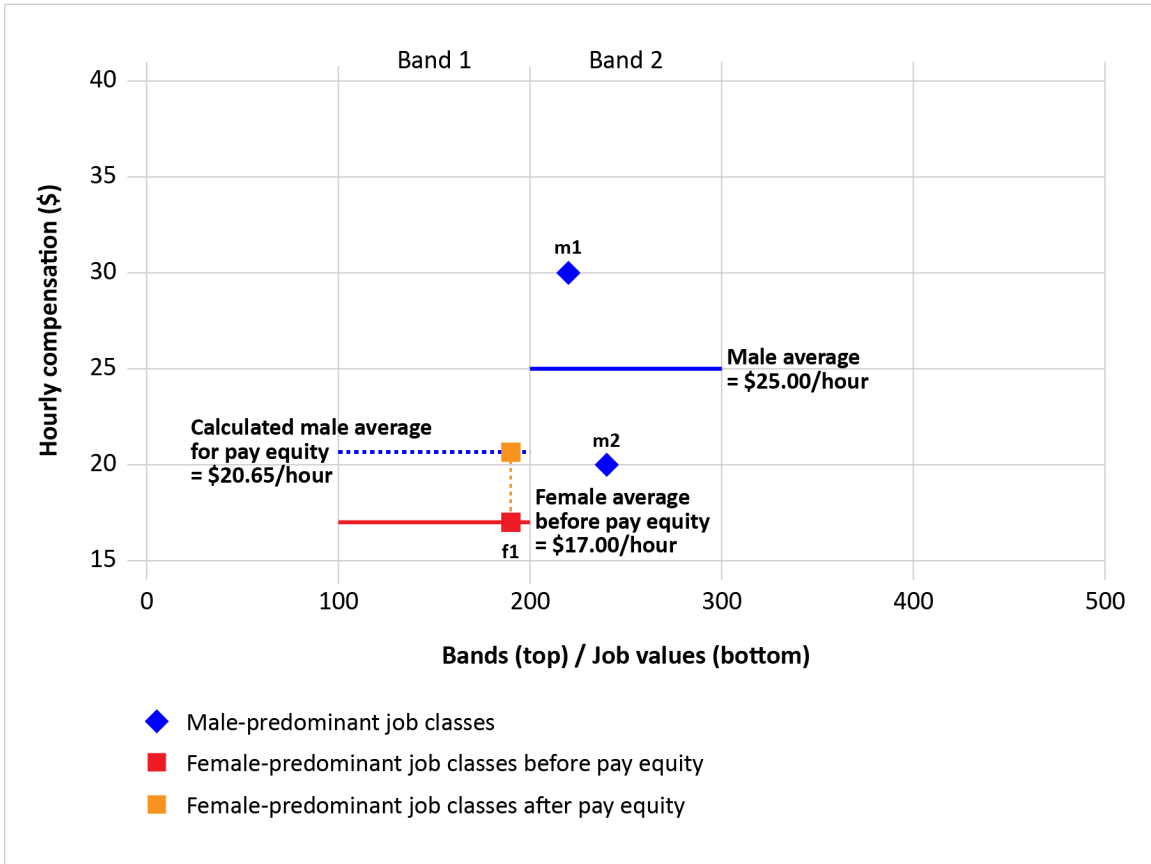
See the example below for more information.

Example: Comparing with the closest band

While comparing total compensation using the equal average method, Company B’s pay equity committee finds that there is one female job class in Band 1 (f1, represented in Figure 2 as a red box) but no male job classes in that band. See Figure 2.

The pay equity committee determines that Band 2 is the closest band containing male job classes (m1 and m2, represented in Figure 2 as blue diamonds).

Figure 2: Comparing with the closest band



Data for Figure 2

Job class	Job value (x-axis)	Total hourly compensation before pay equity (y-axis)	Total hourly compensation after pay equity (y-axis)
f1	190	\$17.00	\$20.65
m1	220	\$30.00	\$30.00
m2	240	\$20.00	\$20.00

The pay equity committee calculates the male average total compensation in Band 2 as \$25.00/hour (represented in Figure 2 as a solid blue line). It uses this average to assign a male average total compensation for Band 1 to be used for comparison with the average total compensation of the female job class in Band 1.

The calculation for this example is as follows:

$$\begin{aligned} \text{Male average total compensation} &= (A \times B) \div C \\ &= (\$25.00/\text{hour} \times 190) \div 230 \\ &= \$20.65/\text{hour} \end{aligned}$$

The pay equity committee then compares this with the female average total compensation in the band to determine whether the female job class in Band 1 is eligible for an increase.

4.2.2. Using two bands at an equal distance

In situations where there are two bands with male job classes at an equal distance from the no-comparator band and there is no other band containing at least one male job class that is closer, the average of both bands must be used for comparison.

The employer or pay equity committee must use the following formula to calculate the male average total compensation:

$$(A + B) \div 2$$

For this formula:^{viii}

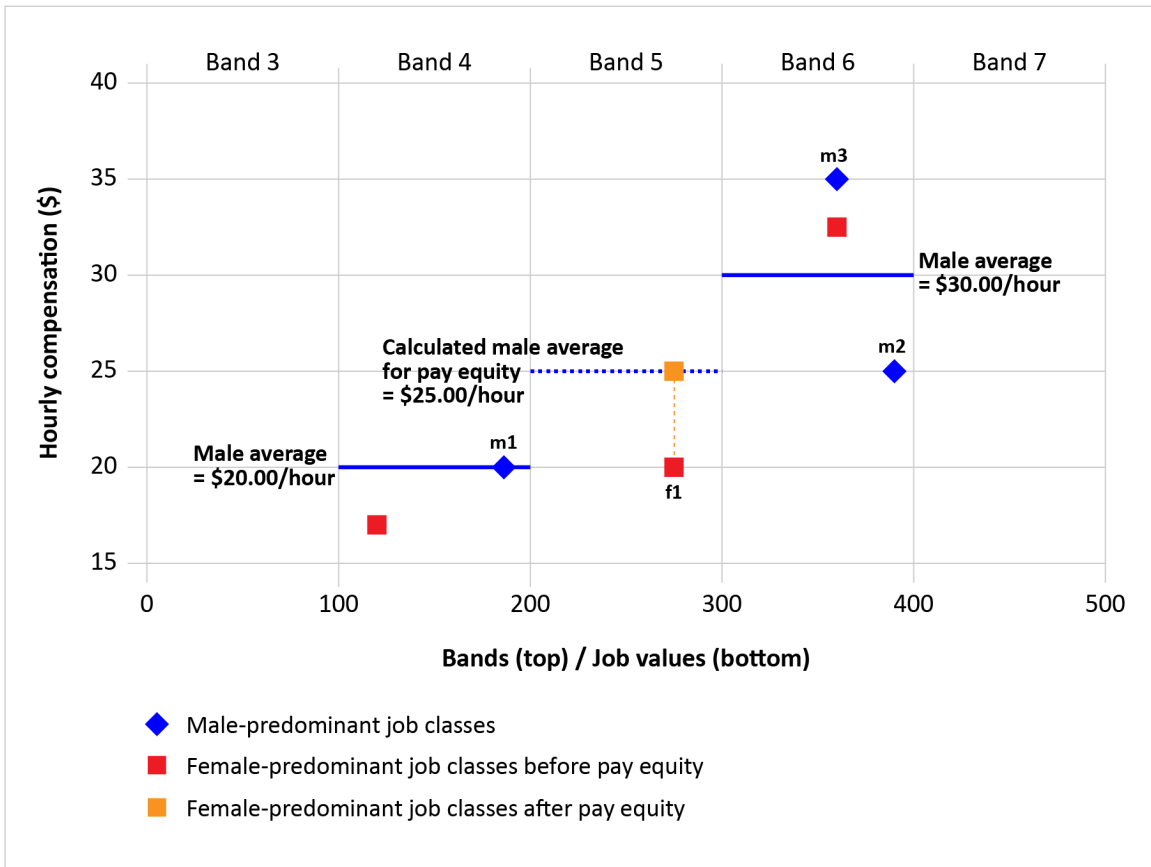
- A is the average compensation associated with the male job classes within one of the two bands—or, if there is only one such job class, the compensation associated with that job class.
- B is the average compensation associated with the male job classes within the other band—or, if there is only one such job class, the compensation associated with that job class.

Example: Comparing with two bands at an equal distance

Company C's pay equity committee decides to use the equal average method to compare total compensation and finds that Band 5 includes one female job class (f1, represented in Figure 3 as a red box) but no male job classes. See Figure 3.

It determines that there are two bands containing male job classes (m1, m2 and m3, represented in Figure 3 as blue diamonds) that are equally close to Band 5: Bands 4 and 6.

Figure 3: Comparing with two bands at an equal distance



Data for Figure 3

Job class	Band (x-axis)	Total hourly compensation before pay equity (y-axis)	Total hourly compensation after pay equity (y-axis)
f1	5	\$20.00	\$25.00
m1	4	\$20.00	\$20.00
m2	6	\$25.00	\$25.00
m3	6	\$35.00	\$35.00

In Band 5, there is only one female job class, which earns \$20.00/hour.

The closest bands with male comparators are in equidistant Bands 4 and 6. Apply the rule to estimate the male average total compensation for Band 5, where:

- A is the average total compensation of the male job classes in Band 4.
- B is the average total compensation of the male job classes in Band 6.

The calculation for this example is as follows:

$$\begin{aligned}\text{Male average total compensation} &= (A + B) \div 2 \\ &= (\$20.00/\text{hour} + \$30.00/\text{hour}) \div 2 \\ &= \$25.00/\text{hour}\end{aligned}$$

The pay equity committee then compares this with the female average total compensation in the band, as in the previous examples, to determine whether the female job class in Band 5 is eligible for an increase.

5. Step 3: Determine whether an increase in compensation is owed for each predominantly female job class

With the female average total compensation and the male average total compensation calculated and compared, the next step is to identify the predominantly female job classes in each band that are owed an increase in compensation.

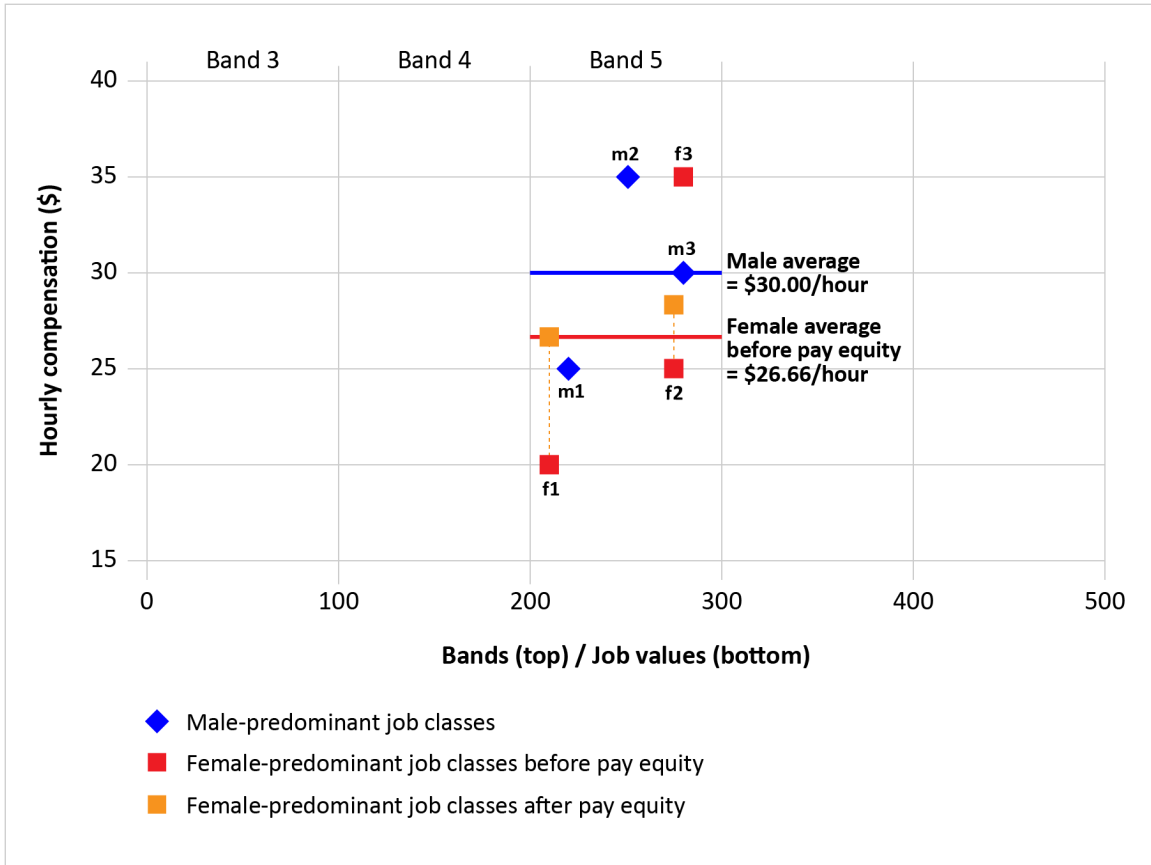
Under the equal average method, two conditions must be met for a female job class in a given band to be eligible for an increase in compensation:^{ix}

1. The average total compensation of all female job classes in the band must fall below the male average total compensation used for comparison; and,
2. The total compensation of the female job class must also fall below the male average total compensation.

Example: Only some of the female job classes are owed an increase in compensation

Company D's pay equity committee finds that Band 5 includes six job classes. Three of these are predominantly female (f1, f2 and f3, represented in Figure 4 as red boxes) and three are predominantly male (m1, m2 and m3, represented in Figure 4 as blue diamonds). See Figure 4.

Figure 4: Only some female job classes are owed an increase in compensation



Data for Figure 4

Job class	Band (x-axis)	Total hourly compensation before pay equity (y-axis)	Total hourly compensation after pay equity (y-axis)
f1	5	\$20.00	\$26.66
f2	5	\$25.00	\$28.33
f3	5	\$35.00	\$35.00
m1	5	\$25.00	\$25.00
m2	5	\$35.00	\$35.00
m3	5	\$30.00	\$30.00

The pay equity committee calculates the female average total compensation in this band as \$26.66/hour (represented in Figure 4 by the red line). It then calculates the male average total compensation as \$30.00/hour (represented in Figure 4 by the blue line).

The pay equity committee recognizes that the female average total compensation in Band 5 is below the male average total compensation in the band. Job classes f1 and f2 are eligible to receive an increase in Band 5 because their total compensation falls below the male average total compensation.

Since the total compensation of job class f3 is above the male average total compensation, this job class will not receive an increase in compensation.

6. Step 4: Calculate the increase in compensation owed to predominantly female job classes in each band, as applicable

The employer or pay equity committee must determine any increases in compensation owed to predominantly female job classes. With the equal average method, the compensation of eligible female job classes must be increased so that the average compensation of all female job classes within a band is equal to the male total compensation or male average total compensation, as applicable, used for comparison.^x

This is done by multiplying an amount equal to the difference between the total compensation of the female job class and the male average total compensation used for comparison by a factor calculated in accordance with subsection 11(1) of the Pay Equity Regulations (the Regulations), as shown below.^{xi}

6.1. Calculate the factor

A mathematical factor is used to calculate the increase in compensation owed to each eligible predominantly female job class.

The factor is necessary when using the equal average method for comparing compensation, as it ensures that the average total compensation of female and male job classes in each band end up being equal.

The factor cannot be negative, as the compensation of a job class cannot be decreased to achieve pay equity.

The factor is calculated using the following formula:

$$\text{Factor} = [(A \times B) - C] \div D$$

For this formula:^{xii}

- A is the number of female job classes within the band.
- B is calculated as follows:
 - If there is more than one male job class within the band, B is the average total compensation associated with the male job classes within the band.
 - If there is only one male job class within the band, B is the total compensation associated with that job class.
 - If there are no male job classes within the band, B is the compensation calculated under section 49(1)(b) of the Pay Equity Act or section 28(b) of the Regulations, depending on the circumstances (see [Section 4.2](#) of this IPG).

- C is the sum of the total compensation associated with the female job classes within the band.
- D is the sum of the differences between the value of B and the total compensation associated with each female job class within the band whose compensation is less than the value determined for B.

This formula will produce a factor with a value between 0 and 1. The factor will be equal to 1 when all of the female job classes in a band fall below the male average total compensation. However, if there are any female job classes that fall above the male average total compensation, the factor will be less than 1.

Example: Calculate the factor

Company A’s pay equity committee calculated and compared the female and male average total compensation in Band 5 (see Figure 1). To calculate the increase in compensation needed for each female job class in Band 5, the factor is calculated as follows:

Factor = $[(A \times B) - C] \div D$, where:

- A = the total number of female job classes = 3.
- B = the male average total compensation = \$30.00/hour.
- C = the sum of the female job classes’ total compensation = \$25.00/hour + \$28.00/hour + \$22.00/hour = \$75.00/hour.
- D = the sum of the differences between the male average total compensation and each eligible female job class’s total compensation = $(\$30.00/\text{hour} - \$25.00/\text{hour}) + (\$30.00/\text{hour} - \$22.00/\text{hour}) + (\$30.00/\text{hour} - \$28.00/\text{hour}) = \$15.00/\text{hour}$.

Therefore, the factor = $[(A \times B) - C] \div D = [(3 \times \$30.00/\text{hour}) - \$75.00/\text{hour}] \div \$15.00/\text{hour} = 1$.

6.2. Calculate the increases owed

Once the factor is calculated, calculate the increase in compensation for each eligible predominantly female job class as follows:

Increase in compensation = (male average total compensation – the female job class’s total compensation) × the factor

For any increases in compensation associated with a female job class, the female average total compensation in the band must be the same as the male average total compensation used for the comparison.^{xiii}

When none of the female job classes’ total compensations are above the male average, all the female job classes’ total compensations have to be adjusted up to the male average total compensation. This ensures that the female and male average total compensations within a band coincide.

Example: Calculate the increases owed

As shown in the previous example, Company A's pay equity committee calculated a factor of 1 for Band 5. This factor allows the committee to determine the increase in compensation owed to each female job class in the band:

- Increase in compensation for f1 = (male average total compensation – the female job class's total compensation) × the factor = (\$30.00/hour – \$25.00/hour) × 1 = \$5.00/hour.
- Increase in compensation for f2 = (male average total compensation – the female job class's total compensation) × the factor = (\$30.00/hour – \$22.00/hour) × 1 = \$8.00/hour.
- Increase in compensation for f3 = (male average total compensation – the female job class's total compensation) × the factor = (\$30.00/hour – \$28.00/hour) × 1 = \$2.00/hour.

As illustrated above, each female job class would receive an increase in compensation of a different amount. In this case, the job class furthest from the male average total compensation (f2) receives the largest increase. This ensures that the overall female average total compensation is made equal to the male average total compensation.

7. Referenced Pay Equity Act provisions

Group of Employers

4 (1) Two or more employers described in any of paragraphs 3(2)(e) to (i) that are subject to this Act may form a group and apply to the Pay Equity Commissioner to have the group of employers recognized as a single employer.

Comparison

47 An employer — or, if a pay equity committee has been established, that committee — that has calculated under section 44 the compensation associated with each job class must, using the compensation so calculated, compare, in accordance with sections 48 to 50, the compensation associated with the predominantly female job classes with the compensation associated with the predominantly male job classes, for the purpose of determining whether there is any difference in compensation between those job classes.

Compensation comparison methods

48 (1) The comparison of compensation must be made in accordance with the equal average method set out in section 49 or the equal line method set out in section 50.

Equal average method

49 (1) An employer or pay equity committee, as the case may be, that uses the equal average method of comparison of compensation must apply the following rules:

- (a) the average compensation associated with the predominantly female job classes within a band — or, if there is only one such job class within a band, the compensation associated with that job class — is to be compared to

(i) if there is more than one predominantly male job class within the band, the average compensation associated with the predominantly male job classes within the band,

(ii) if there is only one predominantly male job class within the band, the compensation associated with that job class, or

(iii) if there are no predominantly male job classes within the band, the compensation calculated under paragraph (b);

(b) the compensation for the purpose of subparagraph (a)(iii) is the following:

(i) the amount determined by the formula

$$(A \times B)/C$$

where

A

is the average compensation associated with the predominantly male job classes — or if there is only one such job class, the compensation associated with that job class — that are within the band that is closest to the band within which the predominantly female job class or classes are located,

B

is the average value of the work performed in the predominantly female job classes within the band or, if there is only one such job class, the value of the work performed in that job class, and

C

is the average value of the work performed in the predominantly male job classes within the band referred to in the description of A or, if there is only one such job class, the value of the work performed in that job class, or

(ii) despite subparagraph (i), if there is at least one predominantly male job class within each of two bands that are equidistant from the band within which the predominantly female job class or classes are located, and there is no other band containing at least one predominantly male job class that is closer to that band, the amount determined by the formula

$$(A + B)/2$$

where

A

is the average compensation associated with the predominantly male job classes within one of the two bands or, if there is only one such job class, the compensation associated with that job class, and

B

is the average compensation associated with the predominantly male job classes within the other band or, if there is only one such job class, the compensation associated with that job class;

(c) the compensation associated with a predominantly female job class within a band is to be increased only if

(i) that compensation is lower than the compensation or average compensation referred to subparagraph (a)(i), (ii) or (iii), as the case may be, and

(ii) the average compensation associated with the predominantly female job classes within the band — or, if there is only one such job class, the compensation associated with that job class — is lower than the compensation or average compensation referred to subparagraph (a)(i), (ii) or (iii), as the case may be;

(d) if the compensation associated with a predominantly female job class within a band is to be increased, the increase is to be determined by multiplying the factor calculated in accordance with the regulations by an amount equal to the difference between the compensation associated with the job class and the compensation or average compensation referred to subparagraph (a)(i), (ii) or (iii), as the case may be; and

(e) an increase in compensation associated with the predominantly female job class or classes within a band is to be made in such a way that, after the increase, the average compensation associated with the predominantly female job classes within the band — or, if there is only one such job class, the compensation associated with that job class — is equal to the compensation or average compensation referred to subparagraph (a)(i), (ii) or (iii), as the case may be.

Definition of band

49 (2) In this section, band means a range, as determined by an employer or pay equity committee, as the case may be, of values of work that the employer or committee considers comparable.

8. Referenced Pay Equity Regulations

Calculation — equal average method

11 (1) The factor referred to in paragraph 49(1)(d) of the Act and the factor referred to in paragraph 28(d) are determined by the formula

$$((A \times B) - C) \div D$$

where

A

is the number of predominantly female job classes within the band;

B

is,

(a) if there is more than one predominantly male job class within the band, the average compensation associated with the predominantly male job classes within the band,

(b) if there is only one predominantly male job class within the band, the compensation associated with that job class, or

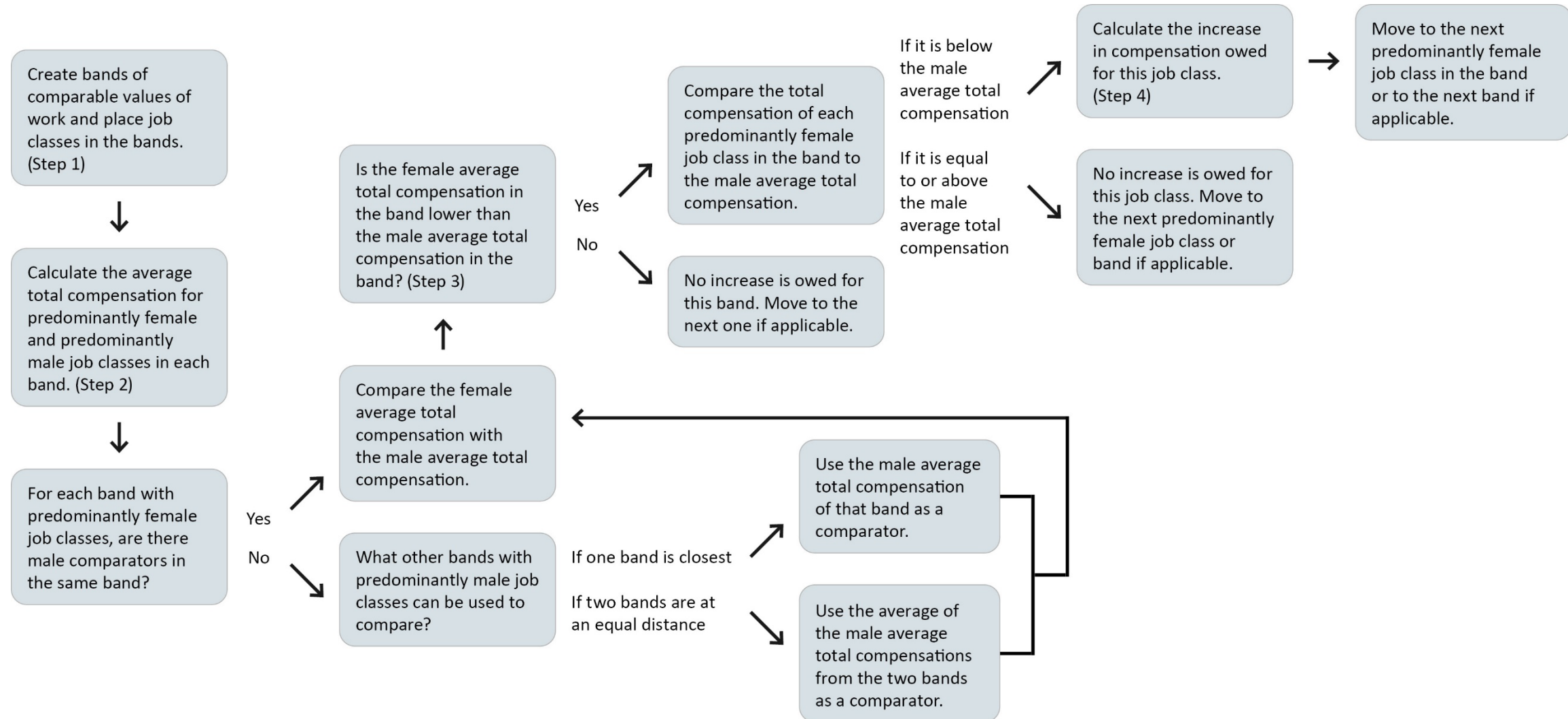
(c) if there are no predominantly male job classes within the band, the compensation calculated under paragraph 49(1)(b) of the Act or paragraph 28(b), as the case may be;

C is the sum of the compensation associated with the predominantly female job classes within the band; and

D is the sum of the differences, for each predominantly female job class within the band whose compensation is less than the value determined for B, between the value of B and the compensation associated with the job class

Appendix: Equal average method flow chart

The flow chart below is provided as a reference. It is up to the workplace parties to discuss how they wish to operate and to adopt an approach that works for them.



Notes

ⁱ See Pay Equity Act section 4(1).

ⁱⁱ See Pay Equity Act section 47.

ⁱⁱⁱ See Pay Equity Act section 48(1).

^{iv} See Pay Equity Act section 49(1)(a)(i).

^v See Pay Equity Act section 49(1)(a)(ii).

^{vi} See Pay Equity Act section 49(1)(a)(iii).

^{vii} See Pay Equity Act section 49(1)(b)(i).

^{viii} See Pay Equity Act section 49(1)(b)(ii).

^{ix} See Pay Equity Act section 49(1)(c).

^x See Pay Equity Act section 49(1)(e).

^{xi} See Pay Equity Act section 49(1)(d).

^{xii} See Pay Equity Regulations section 11.

^{xiii} See Pay Equity Act section 49(1)(e).