

TOOL:

Regression Line Calculator Proxy Comparison Method

Calculate a Regression Line

This interactive page will work only if you have enabled JavaScript. Otherwise, you can use a [blank worksheet](#), print it, and follow directions to [perform manual calculations](#).

The interactive worksheet below is made up of tables. By entering data in designated cells of each table on this page, you will calculate Proportional Value (PV) job rates for your female job classes. You must complete the following steps to achieve PV rates.

Note: If you are using the Proportional Value comparison method for achieving pay equity, you can use the [regression line calculator](#) designed for that purpose.

PLEASE READ BEFORE YOU BEGIN:

1. **You MUST complete Step 1 before continuing on to Steps 2 and 3.**

At Step 1, you enter the number of female jobs from your organization and the number of female jobs from the proxy organization you'll be working with in this exercise - this will give you the number of rows per table you need for your calculation.

2. At Step 2, you enter the proxy job data (in Table # 1): the female job classes from the proxy organization are entered in the first column; job values in column A; and job rates in column B (**enter this data in descending order**). Each cell in columns A and B *must* contain data.

Click "Compute" at the bottom of the table to activate the regression formula. If you click "Reset", the data in each cell in this table will be erased.

The regression program will generate "output" numbers: Columns C - G will be filled in. The Constant and the Slope values will appear under their own headings below Table # 1. And the R-

squared numbers will appear in Table # 2.

3. At Step 3, you enter the female job data from your own organization (in Table # 3): your female job classes are entered in the first column; job values in column A; and job rates in column B. Each cell in columns A and B *must* contain data.

Click "Compute" at the bottom of the table to apply the formula to the female job data. If you click "Reset", the data in each cell in this table will be erased.

The PV job rate results for your female job classes will appear in Column C and the required pay equity adjustment in Column D.

4. **Printing:** You can't save your final results to your hard drive, but you can print your calculations by using the 'Print' icon on your browser menu bar. When you exit this page, the tables are automatically reset and all data is erased.
5. **Record-keeping:** For your convenience, we've provided space at the end of this exercise if you wish to record the name of a person inputting the data, a project title, and the date you created your calculation. When you exit the page, all information on this page will be lost.
6. To produce new PV results with new data, reset the tables and begin again from Step # 1.

Step 1 - Enter the number of female jobs you'll be working with (your own and the proxy organization's)

You cannot skip this step. You must enter the number of proxy jobs (for example, 3) and your female jobs (for example, 3) in the cells below, then click "Load the tables". This will give you the correct number of rows you need in each table for your calculation.

Number of proxy jobs:

Number of female jobs:

Step 2 - Enter the proxy job data

Enter the proxy job classes in the Proxy Job Classes column, and their job values and job rates in Columns A and B (**in descending order**). Click "Compute" at the bottom of the table to activate the regression formula, then move down the page to view your output results. Remember that if you click "Reset", all the data in the table will be erased. Go to Step 3.

Table # 1
Worksheet to Calculate the Regression Line

	A	B	C	D	E	F	G
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Proxy Job Classes	Job Value (X)	Job Rate \$ (Y)	Deviation from Average Job Value (X-XM)	Deviation from Average Job Rate \$ (Y-YM)	Square of (X-XM)	Square of (Y-YM)	Product of (X-XM)(Y-YM)
Sum							
Mean							

Slope:

Constant:

Regression equation

The values for the slope and constant are used to determine the pay equity job rate:

pay equity job rate = _____ + (_____ x job value)

R-squared

The table below (Table # 2) contains the calculation that measures how well the job rate line fits the given set of male job data. A higher value of R-squared indicates a better fit.

The R-squared calculation for the proxy job data is:

Table # 2
Worksheet to Calculate R-Squared

	A	B	C	D	E
Proxy Job Class	Job Value (X)	Job Rate \$ (Y)	Predicted Job Rate \$ (Pred. Y)	Error in Prediction \$ (E)	Square of error (SQE)
Sum					

The R-squared result:

Step 3 - Enter your female job data

The final step in this interactive exercise is to enter the female job data from your organization. Enter the female job classes in the Female Job Classes column, and their job values and job rates in Columns A and B. Click "Compute" and your PV Job Rate results will automatically appear in Column C and the

pay equity adjustment(if any) in Column D. Remember that if you click "Reset", all the data in the table will be erased.

Table # 3
PV Job Rate Results for Your Female Job Classes

	A	B	C	D
Your Female Job Classes	Job Value (X)	Job Rate \$ (Y)	PV Rate	Adjustment

You now have PV job rates for the female job classes that were unmatched under the Job-to-Job and Proportional Value approaches.

** **Optional:** Enter a person's name, project name and/or date for record-keeping.*

Name*:

Project*:

Date*:

Print your calculations by using the 'Print' icon on your browser menu bar.

More information

You can find more information on Proportional Value and regression analysis by viewing these publications or web pages:

- review the [steps](#) to achieving pay equity using the Proxy comparison method;
 - read about [regression analysis](#), what it is and what to watch out for;
 - read about drawing a [free-hand](#) regression line;
 - learn how to [calculate PV rates manually](#) (if you don't have JavaScript enabled on your computer).
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How do I get more help or information?

We are here to help. The Pay Equity Commission provides the publication *A Guide to the Proxy Comparison Method* which will guide you through the step by step process of preparing a proxy pay equity plan. We can answer your questions by e-mail at pecinfo@mol.gov.on.ca or by phone at (416) 314-1896, or toll-free at 1-800-387-8813. You can also register for a free [seminar](#).

All communications are confidential.

* To obtain copies of the *Pay Equity Act* or the *Territorial Divisions Act*, contact Publications Ontario at 1-800-668-9938 or in Toronto at 416-326-5300.

The Pay Equity Commission

This fact sheet is for information only, and is not intended to restrict Review Officers or the Pay Equity Hearings Tribunal in their determination of matters. Refer to the *Pay Equity Act* for exact interpretation.

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