

# Is your software giving you the correct SSAG calculations?

## Part I

Barry W. McMullan

February 9, 2018

As lawyers we often rely upon software to help us assist clients, and this is certainly the case when it comes to doing calculations under the Spousal Support Advisory Guidelines. Being reliant on software means we sometimes fall into a mode of complacency where we assume that our software works correctly and that it incorporates the right assumptions that will result in correct calculations. Calculations that we rely upon, we ask the Courts to rely on, and ultimately our clients rely on because they rely upon us to “get it right”.

Unfortunately not all software works correctly, or incorporates the right assumptions.

Within this article I will discuss how to correctly gross up child support to obtain a correct quantum calculation under the SSAG Custodial Payor Formula, and I will do a calculation using iGuideline, an App I created and coded.

You can then perform the same calculation using your software to determine whether the software you are using is giving you and your clients the correct or different calculations.

### SSAG Custodial Payor Formula

Let's start by looking at the SSAG Custodial Payor Formula, which is specified as follows:

#### **Formula for Spousal Support Paid by Custodial Parent (The *Custodial Payor* Formula)**

- (1) Reduce the payor spouse's Guidelines income by the **grossed-up notional table amount** for child support (plus a gross-up of any contributions to s. 7 expenses).
- (2) If the recipient spouse is paying child support, reduce the recipient's Guidelines income by the **grossed-up amount of child support paid** (table amount plus any s. 7 contributions).
- (3) Determine the **adjusted gross income difference** between the spouses and then quantum ranges from 1.5 percent to 2 percent for each year of marriage, up to a maximum of 50.
- (4) **Duration** ranges from .5 to 1 year of support for each year of marriage, with the same rules for indefinite (duration not specified) support as under the *without child support* formula.

In reducing gross incomes by grossed-up amounts for child support, this formula does the same thing conceptually as the basic *with child support* formula—it establishes the spouses' available incomes after their child support obligations are fulfilled. To gross up the child support will require a calculation of the gross value of the non-taxable child support, using the appropriate marginal tax rate for the payor or recipient spouse.

The formula specifies that the grossing up of the child support (notional and actual) should be done using “the appropriate marginal tax rate”, but what is that rate? Also, how does one do a basic gross up of income and is that method appropriate for grossing up child support?

## **Basic Gross Up Method (for Income)**

To properly gross up income one needs to use the proper method, which involves taking the amount to gross up and dividing it by the inverse of the marginal tax rate.

For instance, if the combined Federal and Provincial marginal tax rate is 35% and the amount to be grossed up is \$10,000, the correct method and calculation would be as follows:

$$\$10,000 \div .65 = \$15,384.62$$

The correctness of this calculation can be demonstrated by now doing the calculation in reverse by taking income of \$15,384.62 and applying the marginal tax rate of 35% to it to determine that the taxes payable would be \$5,384.62:

$$\$15,384.62 \times .35 = \$5,384.62$$

The Honourable Justice Doug Campbell of the Nova Scotia Supreme Court has authored several Family Law Practice Tips, articles and this methodology is fully explained in [Issue #11](#).

## **Multiple Tax Brackets**

In Canada we have both Federal and Provincial taxes which are based on multiple tax rates and multiple tax brackets. For Ontario this means that in 2018 there are 11 combined Federal and Ontario Tax Brackets, which are as follows:

| Combined Federal & Ontario Tax Brackets and Tax Rates Including Surtaxes |                         |               |                    |              |
|--|-------------------------|---------------|--------------------|--------------|
| 2018 Taxable Income  | 2018 Marginal Tax Rates |               |                    |              |
|  | Other Income            | Capital Gains | Canadian Dividends |              |
|  |                         |               | Eligible           | Non-Eligible |
| first \$42,960   | 20.05%                  | 10.03%        | -6.86%             | 8.00%        |
| over \$42,960 up to \$46,605   | 24.15%                  | 12.08%        | -1.20%             | 12.76%       |
| over \$46,605 up to \$75,657   | 29.65%                  | 14.83%        | 6.39%              | 19.14%       |
| over \$75,657 up to \$85,923   | 31.48%                  | 15.74%        | 8.92%              | 21.26%       |
| over \$85,923 up to \$89,131   | 33.89%                  | 16.95%        | 12.24%             | 24.06%       |
| over \$89,131 up to \$93,208   | 37.91%                  | 18.95%        | 17.79%             | 28.72%       |
| over \$93,208 up to \$144,489  | 43.41%                  | 21.70%        | 25.38%             | 35.10%       |
| over \$144,489 up to \$150,000   | 46.41%                  | 23.20%        | 29.52%             | 38.58%       |
| over \$150,000 up to \$205,842   | 47.97%                  | 23.98%        | 31.67%             | 40.39%       |
| over \$205,842 up to \$220,000   | 51.97%                  | 25.98%        | 37.19%             | 45.03%       |
| over \$220,000   | 53.53%                  | 26.76%        | 39.34%             | 46.84%       |

These rates were obtained from the [Tax Tips](#) web site, which is a great source for all of the tax rates and brackets for all the Provinces and Territories.

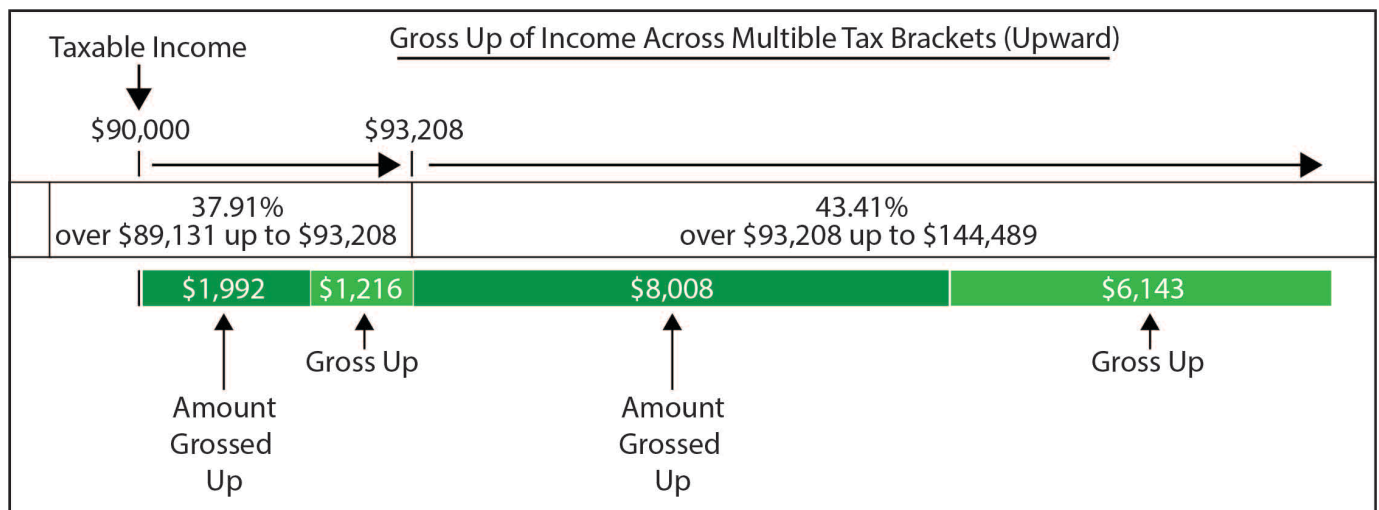
## Grossing Up Income With Multiple Tax Brackets

For our discussion about how to gross up income over multiple tax brackets we will use \$10,000 as being the amount that needs to be grossed up, that it's for 2018, and we will assume that the person resides in Ontario and has a Taxable Income of \$90,000.

To do a proper gross up across tax brackets one must determine the “room in the bracket”, but that is not the amount that gets grossed up in that bracket. The amount that gets grossed up in that bracket rate is the amount that when grossed up equals the “room in the bracket”. Sometimes the entire amount can be grossed up in the bracket because there is sufficient room, and in other cases only a portion of the income to be grossed up within a bracket because grossing up more would exceed the “room in the bracket”.

Below is an illustration of how this works. The marginal tax rate in the starting bracket is 37.91%, and the “room in the bracket” is \$3,208, which is reached by subtracting the existing Taxable Income of \$90,000 from the high end of the bracket, \$93,208 ( $\$93,208 - \$90,000 = \$3,208$ ). In this instance it is clear that the entire \$10,000 cannot be grossed up in this tax bracket, so the next step is determining the correct amount that when grossed up at the 37.91% rate equals the “room in the bracket”, \$3,208. In this example that amount is \$1,992, with the “gross up” amount being \$1,216.

The next step after that is subtracting the \$1,992 from the original \$10,000 to get the remaining amount that needs to be grossed up, which is \$8,008. Again, one must determine the “room in the bracket”, and then determine whether all of this amount, or a portion of it, can be grossed up in the next tax bracket. In this example there is more than enough room in the next tax bracket so the entire remaining amount of \$8,008 to be grossed up is grossed up in that bracket, with the “gross up” amount being a further \$6,143.



So the entire “gross up” in this example is \$7,359 ( $\$1,216 + \$6,143 = \$7,359$ ), and the entire amount with the gross up is \$17,359. ( $\$10,000 + \$7,359 = \$17,359$ )

Pretty easy eh?

## Grossing Up Child Support With Multiple Tax Brackets

Let's get back to the SSAG Custodial Payor Formula and the idea that we need to gross up child support and not income.

At this point it's worth again reviewing the objective of grossing up the child support, which is stated as follows:

*In reducing gross incomes by grossed-up amounts for child support, this formula does the same thing conceptually as the basic with child support formula - it establishes the spouses' available incomes after their child support obligations are fulfilled.*

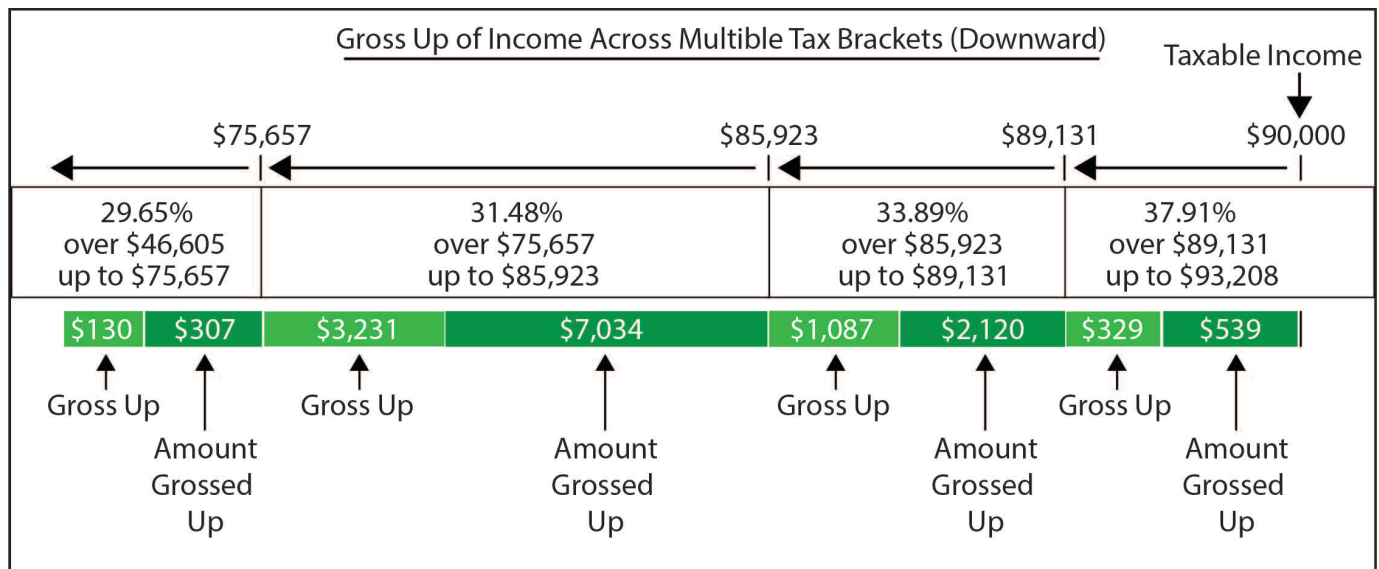
That's another way of saying "We need to figure out how much of the spouse's income had to be earned to allow the spouse to allocate the after tax amount of child support for the support of the children, and then subtract that amount from the spouse's income, which establishes the spouse's available income after their child support obligations."

Is the method we used above for grossing up income the correct method for grossing up child support?

The answer is clearly "No" because in this instance if the \$10,000 was child support, the \$8,008 amount would have been grossed up at the marginal tax rate of 43.91% when the Parent never reaches that tax bracket and never pays taxes at that marginal tax rate.

So what's the correct method?

The correct method is the same insofar as we determine the "room in the bracket", and then gross up the amount that when grossed up equals the "room in the bracket"; however, instead of working "upward" from the taxable income point you work "downward" from the taxable income point. This is what the same calculation looks like doing the gross up "downward" using the combined Federal/Ontario marginal tax brackets for 2018, and starting point Taxable Income of \$90,000.



The room in the starting tax bracket in this example is \$868, which is calculated by subtracting the existing Taxable Income of \$90,000 from the low end of the starting bracket, \$89,132 ( $\$90,000 - \$89,132 = \$868$ ). Again, it's clear that the entire \$10,000 cannot be grossed up in this tax bracket, so the next step is determining the correct amount that when grossed up at the applicable rate (in this example 37.91%) equals the "room in the bracket", \$868. In this example that amount is \$539, and the "gross up" amount is \$329.

The next step after that is subtracting the \$539 from the original \$10,000 to get the remaining amount that needs to be grossed up, which is \$9,461. Again, one must determine the "room in the bracket", and then determine whether all of this amount, or a portion of it, can be grossed up in this next tax bracket. Again, there isn't enough room in the next lower bracket, which is \$3,207 ( $\$89,131 - \$85,924 = \$3,207$ ) to gross up the remaining amount, so one must calculate the amount that when grossed up at the bracket rate (33.89%) fits the "room in the bracket". That amount is \$2,110, with the gross up amount being \$1,087.

You use the same method for the next lower bracket and finally gross up the remaining amount in the bracket after that, at which point the full \$10,000 in child support has been grossed up.

The total amount of the gross up using this "downward" method is \$4,777 ( $\$329 + \$1,087 + \$3,231 + \$130 = \$4,777$ ), which is significantly lower than the \$7,359 figure we calculated when we did a gross up using the "upward" method.

The reason for this is obvious. Using the "downward" method we were grossing up amounts using the 29.65%, 31.48%, 33.89% and 37.91% tax bracket rates, and not the 37.91% and 43.41% tax bracket rates involved when using the "upward" method.

### Example Calculation / Data

So lets do a calculation with iGuideline using the following data for the year 2018:

| <u>Father</u> |                            | <u>Mother</u> |                            |
|---------------|----------------------------|---------------|----------------------------|
| Name:         | Oliver Twist               | Name:         | Wendy Twist                |
| Age:          | 30                         | Age:          | 30                         |
| Resides In:   | ON                         | Resides In:   | ON                         |
| Income:       | \$90,000 (from Employment) | Income:       | \$35,000 (from Employment) |

Years of cohabitation: 16

| <u>Children</u> |              |
|-----------------|--------------|
| Name:           | Kenny Twist  |
| DOB:            | July 1, 2003 |
| Resides With:   | Father       |

When we do the gross up using the "downward" method, and include the SSAG Spousal Support amount in the Taxable Income which is the starting point for the gross up, we get the following correct **monthly** Low End, Mid Range, and High End SSAG spousal support calculations:

| <u>Low End</u> | <u>Mid Range</u> | <u>High End</u> |
|----------------|------------------|-----------------|
| <b>\$908</b>   | <b>\$1,065</b>   | <b>\$1,221</b>  |

In iGuideline's SSAG View (in Column mode) the full details of the Low End calculation are as follows:

| Values Shown:                                   | Annual | Low End SSAG Calculation |                  |
|---|--------|--------------------------|------------------|
|   |        | Oliver Twist             | Wendy Twist      |
| Percent in Range (P):                           |        | 1.50%                    | 1.50%            |
| Years of Cohabitation (Y):                      |        | 16                       | 16               |
| Applicable Percent (P x Y = AP):                |        | 24.00%                   | 24.00%           |
| Annual SSAG Guideline Income (I):               |        | \$90,000                 | \$35,000         |
| Annual Grossed Up Child Support (CS):           |        | \$14,315 <i>i</i>        | \$4,714 <i>i</i> |
| Annual Adjusted SSAG Guideline Income (I - CS): |        | \$75,685                 | \$30,286         |
| Annual Income Difference (ID):                  |        | \$45,399                 | \$45,399         |
| <b>Annual Spousal Support (ID x AP):</b>        |        | <b>-\$10,897</b>         | <b>\$10,897</b>  |
| <b>Monthly Spousal Support (ID x AP):</b>       |        | <b>-\$908</b>            | <b>\$908</b>     |

Because iGuideline allows users to view the details of the grossed up child support amount in a Popover Window, we can look at those details for the Low End calculation for Oliver Twist:

| Grossed Up Child Support Details                                  |                 |  |                |
|---|-----------------|--|----------------|
| Description   |                 |  |                |
|   | Oliver Twist    |  | Wendy Twist    |
| Annual Taxable Income Used for Child Support Gross Up             | \$79,103        |  | \$45,897       |
| Taxable Income Adjusted With Spousal Support For Gross Up         | Yes             |  | Yes            |
| Gross Up From Taxable Income With Tax Brackets Downward or Upward | Downward        |  | Downward       |
| Annual Section 3 Child Support (Paid or Notional)                 | \$10,008        |  | \$3,648        |
| Annual Section 7 Child Support Paid                               | \$0             |  | \$0            |
| Annual Section 7 Child Support (Notional)                         | \$0             |  | \$0            |
| Annual Section 3 and 7 Child Support                              | \$10,008        |  | \$3,648        |
| Gross Up Amount   | \$4,307         |  | \$1,066        |
| Annual Total Grossed Up Child Support                             | <b>\$14,315</b> |  | <b>\$4,714</b> |

Using iGuideline's Table Look Up tool we can verify that the "Notional" Child Support amount for Oliver Twist (who is the "Custodial Payor" of Spousal Support) is correct:



Table Look Up

Tables: 2017 (Current)

Province: Ontario

Guideline Income: \$90,000

Number of Children: 1


Table Amount: \$834

Apply Defaults OK

$$(\$834 \times 12 = \$1,008)$$

We can also use iGuideline's powerful Gross Up Calculator to verify that the Gross Up Amount is correct, and by showing the "Details" within that sheet we can also see the actual details of the gross up in each tax bracket:

Year: 2018

 Province: Ontario

Existing Income: Other Amount \$79,103

Gross Up From Existing Income: Downward

Income to Gross Up: \$10,008

Gross Up: \$4,308

Income With Gross Up: \$14,316

Hide Details

| Tax Bracket                  | Marginal Rate | Amount In Bracket | Gross Up | Grossed Up Amount |
|------------------------------|---------------|-------------------|----------|-------------------|
| over \$75,657 up to \$85,923 | 31.48%        | \$2,361           | \$1,084  | \$3,445           |
| over \$46,605 up to \$75,657 | 29.65%        | \$7,647           | \$3,224  | \$10,871          |

(the difference of \$1 [\$4,307 vs. \$4,308] represents a rounding error)

A printout for this SSAG calculation is included at the end of this article, along with the related child support calculation.

You can then perform the same calculation using your software to determine whether the software you are using is giving you and your clients the correct calculations.

### **I Get Different Results – Why?**

It's impossible for me to know exactly why you are getting different results, but it may come down to the "assumptions" incorporated into the software you are using.

The assumptions incorporated into iGuideline's Custodial Payor Formula calculations are as follows:

1. That a Parent's Taxable Income is used as a starting point for the grossing up of child support;
2. That the SSAG Spousal Support for any given calculation is included in the calculation of the Taxable Income (so the starting point Taxable Income will be different for the Low End, Mid Range, and High End calculations); and
3. That the gross up is done using the "downward" method.

### **Wrong Assumptions**

Assumptions play an important role in software and the assumptions incorporated into software are not always the correct ones. The case of [Kelly v. Kelly, 1998 ABQB 220](#) is a good example of where this was determined.

Because of the complexity of software, in particular where calculations under the SSAG is concerned, there is also lots of room for simple errors in the software that can account for different results, as opposed to the incorporation of wrong assumptions.

The current version of iGuideline allows users to incorporate the wrong assumptions in the SSAG Custodial Payor Formula calculations as it is believed that this may help users determine whether the different results they are getting with other software (if that is the case) is the result of errors (in either iGuideline or the other software) or if it is the result of different assumptions being used.

In iGuideline the different assumptions can be set in a Sheet displayed by clicking on the "Details For Child Support Gross Up.." Button:

The screenshot shows a grey rectangular button with the following text:  
**Annual Spousal Support (ID x AP):**  
**Monthly Spousal Support (ID x AP):**  
Annual Cash Flow:  
Percent of Cash Flow:  
Details For Child Support Gross Up...

By default iGuideline uses the correct assumptions:

The screenshot shows two settings in iGuideline:  
1. "Include SSAG Spousal Support in Taxable Income for Child Support Gross Up:" with a dropdown menu set to "Yes" and a green "(Recommended)" label below it.  
2. "Gross Up From Taxable Income With Tax Brackets Downward or Upward:" with a dropdown menu set to "Downward" and a green "(Recommended)" label below it.

with the alternate assumptions being easily chosen from within the Sheet:



Include SSAG Spousal Support in Taxable Income for Child Support Gross Up: Yes

Gross Up From Taxable Income With Tax Brackets Downward or Upward

Downward

✓ Upward

(Not Recommended)

A printout for this SSAG calculation using the wrong assumptions is also included at the end of this article.

As you can see from that calculation when we do the gross up using the “upward” method, and SSAG Spousal Support amount is not included in the Taxable Income, we get the following incorrect **monthly** Low End, Mid Range, and High End SSAG calculations:

| <u>Low End</u> | <u>Mid Range</u> | <u>High End</u> |
|----------------|------------------|-----------------|
| <b>\$844</b>   | <b>\$984</b>     | <b>\$1,125</b>  |

Using those wrong assumptions results in calculations under the SSAG Custodial Payor Formula that are **lower** than they should be; the correct **monthly** amounts being:

| <u>Low End</u> | <u>Mid Range</u> | <u>High End</u> |
|----------------|------------------|-----------------|
| <b>\$908</b>   | <b>\$1,065</b>   | <b>\$1,221</b>  |

I hope you have found this article of interest. If you have any questions or comments please send me an email as I would welcome your feedback.

Barry W. McMullan  
[contact@iguideline.ca](mailto:contact@iguideline.ca)

*Watch for Part II where I will discuss the issue of wrong assumptions used in the SSAG With Children Formula, which can lead to dramatically different results, and annual Spousal Support amounts that are thousands of dollars **higher** than what they should be.*