

Is your software giving you the correct SSAG calculations?

Part II

Barry W. McMullan

February 10, 2018

In Part I discussed how to correctly gross up child support in the SSAG Custodial Payor Formula to obtain the correct quantum results under that formula.

In this article I will discuss how to correctly calculate benefits to obtain a correct quantum calculation under the SSAG With Children 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.

As we did in Part I we will revisit the idea of assumptions incorporated into software and how the wrong assumptions can lead to wrong calculations.

SSAG With Children Formula

The SSAG With Children Formula is the most utilized formula under the SSAG, and without question it is also the most complicated formula to implement, and finally it's the most computationally intensive formula as well.

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

The Basic *With Child Support* Formula for Amount

(1) Determine the **individual net disposable income (INDI)** of each spouse:

- Guidelines Income *minus* Child Support *minus* Taxes and Deductions = Payor's INDI
- Guidelines Income *minus* Notional Child Support *minus* Taxes and Deductions *plus* Government Benefits and Credits = Recipient's INDI

(2) Add together the individual net disposable incomes. By iteration, determine the range of spousal support amounts that would be required to leave the lower income recipient spouse with between 40 and 46 per cent of the combined INDI.

A key aspect in step 2 is that spousal support amounts under the formula are calculated by "iteration", which in the English Oxford Dictionary is defined as follows:

Repetition of a mathematical or computational procedure applied to the result of a previous application, typically as a means of obtaining successively closer approximations to the solution of a problem

So the formula requires repeating a process that will obtain the correct amount of spousal support which will result in the recipient of spousal support having 40%-46% of the combined INDI.

Simplified Code to Calculate the Spousal Support

To provide a better explanation of how the “iteration” process works, we will look at the type of computer code (albeit simplified) required to implement the With Children Formula.

Let’s start by looking at a simplified version of the computer code to calculate the Recipient’s INDI:

```
-(double)calculateAndReturnINDIForRecipientWithSpousalSupport: spousalSupport
{
    // Calculate and return the Recipient’s INDI with the proposed “spousalSupport”
    // Call our sub-routines to calculate and return the “childSupport”
    // the “taxes”, and the “benefits”
    childSupport = calculateAndReturnChildSupportForRecipientWithSpousalSupport: spousalSupport
    taxes = calculateAndReturnTaxesForRecipientWithSpousalSupport: spousalSupport
    benefits = calculateAndReturnBenefitsForRecipientWithSpousalSupport: spousalSupport
    // Now calculate the INDI using those values and ADDING the “spousalSupport”
    INDI = guidelineIncome - childSupport - taxes + benefits + spousalSupport;
    return INDI; // Return the Recipient’s INDI.
}
```

In the routine depicted above the “spousalSupport” is passed into the routine and then separate sub-routines are called to calculate and return the different values that are used in the calculation of the INDI. The “INDI” is then calculated and returned.

Now let’s look at a simplified version of the computer code to calculate the Payor’s INDI:

```
-(double)calculateAndReturnINDIForPayorWithSpousalSupport: spousalSupport
{
    // Calculate and return the Payor’s INDI with proposed “spousalSupport”
    // Call our sub-routines to calculate and return the “childSupport” and the “taxes”
    childSupport = calculateAndReturnNCSForPayorWithSpousalSupport: spousalSupport
    taxes = calculateAndReturnTaxesForPayorWithSpousalSupport: spousalSupport
    // Now calculate the INDI using those values and SUBTRACTING the “spousalSupport”
    INDI = guidelineIncome - childSupport - taxes - spousalSupport;
    return INDI; // Return the Payor’s INDI.
}
```

Again, the “spousalSupport” is passed into the routine and separate sub-routines are called to calculate and return the different values that are used in the calculation of the INDI, and the “INDI” is calculated and returned.

That gets us to the code to do the “iterations” which in a simplified form might look something like this:

```
-(double)calculateAndReturnSpousalSupportForPercentage: targetPercentOfINDI
{
    // Calculate and return the "spousalSupport" needed to reach the percent
    // of the combined INDI that is passed into this routine
    [ Set initial "spousalSupport" value here]

    // Call our sub-routines to calculate and return the Recipient and Payor's INDI
    // and then calculate the Recipient's Percent of the combined INDI.
    recipientINDI = calculateAndReturnINDIForRecipientWithSpousalSupport: spousalSupport
    payorINDI = calculateAndReturnINDIForPayorWithSpousalSupport: spousalSupport
    combinedINDI = recipientINDI + payorINDI;
    recipientPercentOfCombinedINDI = recipientINDI ÷ combinedINDI ;
    // If the "recipientPercentOfCombinedINDI" is NOT equal to the "targetPercentOfINDI" run our While loop
    While (recipientPercentOfCombinedINDI <> targetPercentOfINDI)
    {
        // Call our sub-routines to calculate and return the Recipient and Payor's INDI
        // and then calculate the Recipient's Percent of the combined INDI.
        recipientINDI = calculateAndReturnINDIForRecipientWithSpousalSupport: spousalSupport
        payorINDI = calculateAndReturnINDIForPayorWithSpousalSupport: spousalSupport
        combinedINDI = recipientINDI + payorINDI;
        recipientPercentOfCombinedINDI = recipientINDI ÷ combinedINDI ;

        // Adjust the "spousalSupport"
        [ Code to adjust the "spousalSupport" goes here]

        // If the "recipientShareOfCombinedINDI" = "targetPercentOfINDI" we drop out of While loop
    }
    return spousalSupport; // Return the "spousalSupport"
}
```

There's a little bit more going on here in this routine, so let's go through it step by step.

Firstly, you will notice that a "targetPercentOfINDI" is passed into the routine. This is the recipient's percentage of the combined INDI that we will try to reach by "iterating" using different spousal support values until we reach the desired percentage.

That percent might be the low end (40%) the mid range (43%) or the high end (46%). We don't need to look at the code to generate the percents, but suffice to say we start with the desired percentages and from those values we calculate the spousal support amounts.

Now within the routine an initial value is set for the "spousalSupport". The code to set that amount is not specified here, but that value would typically start at ½ the difference between the Payor and Recipient's Guideline Income.

The two routines to calculate and return the INDI for the Recipient and Payor are then called, which return the INDI values, and then the Recipient's percentage of the combined INDI is calculated.

That value is then compared against the "targetPercentOfINDI" to see if they are the same, and if they are not the same the **While** loop is entered, and the "spousalSupport" is adjusted and the two routines to calculate and return the INDI for the Recipient and Payor are then called again, and then the Recipient's percentage of the combined INDI is calculated. If that value is the same

as the “targetPercentOfINDI” the condition is met and the **While** loop ends as the correct Spousal Support amount has been calculated. If those values are different the “spousalSupport” is adjusted again and the same process is repeated until the values equal one another and the **While** loop ends as the correct spousal support amount has been calculated.

As you can see from this simplified code the “spousalSupport” figures prominently in the calculations, but understanding what aspects of the INDI the “spousalSupport” impacts is important.

The Calculation of Taxes

As the spousal support amounts calculated under the SSAG are periodic, they are tax deductible for the Payor and taxable for the Recipient, so the spousal support affects both the Payor and Recipient’s Taxable Income, which affects the Federal and Provincial Taxes each spouse will pay.

Another important thing to remember is that if the spousal support will only be paid for a part of the year, the Taxable Income of the parties will only be affected by the spousal support paid for the part of the year, which in turn will have a lessor affect on the Federal and Provincial Taxes payable by the spouses.

The Calculation of Child Support

The spousal support will not affect the calculation of the Table Amount child support payable (or the “notional” child support for the Recipient), but it will affect the calculation of each parent’s share of child support under Section 7 because under s.3.1 of Schedule III of the Child Support Guidelines spousal support paid by one Spouse to another is deducted from a Spouse’s income for determining section 7 amounts:

3.1 To calculate income for the purpose of determining an amount under section 7 of these Guidelines, deduct the spousal support paid to the other spouse ...

The Calculation of Benefits

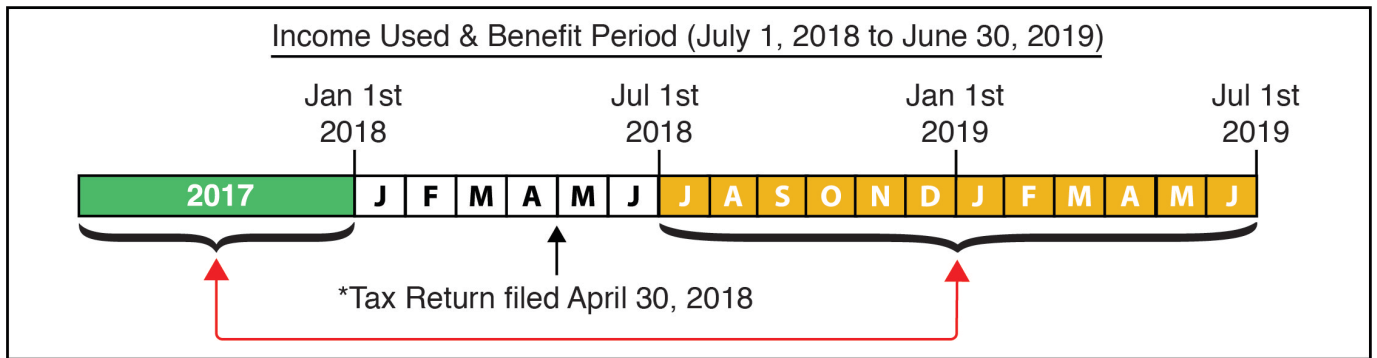
This is where things get a little complicated, and certain assumptions come into play.

An understanding of whether spousal support for the calculation year will affect the calculation of benefits must start with an understanding of how benefits are calculated and how they are paid.

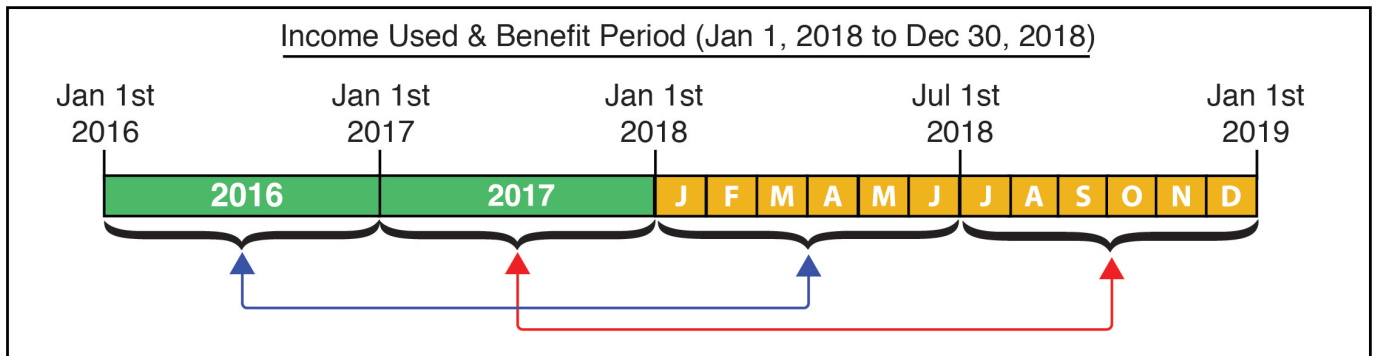
Except for the WITB (the “Working Income Tax Benefit”) all benefits in Canada are paid in a “Benefit Year” that starts from July 1st of one year until June 30th of the following year, and the amount of benefits a person will receive takes into account the following factors:

- (a) The person’s income for the year preceding the start of the Benefit Year; and
- (b) The age of children in the month the benefits are paid.

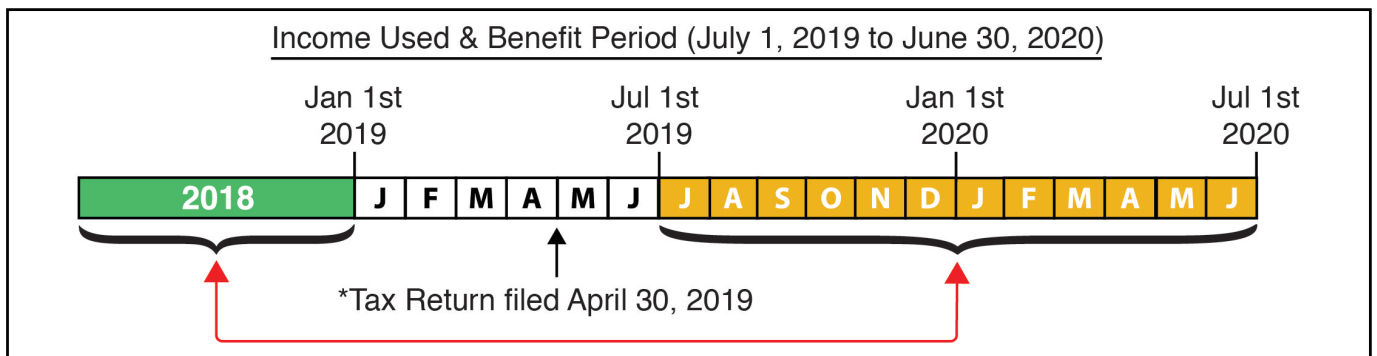
So for the Benefit Year running from July 1st, 2018, to June 30th, 2019, the person’s income from the year 2017, is used, as illustrated below:



If one were to look at the benefits a spouse receives in the calendar year 2018, the benefits that are received for the period January to June 2018, would be based on the person's income for the year 2016, and the benefits that are received for the period July to December 2018, would be based on the person's income for the year 2017, as illustrated below:



Finally, if one were to look at the benefits to be received for income from the calendar year 2018, it would be the benefits that are received in the future. Specifically, those received during the period July 1st, 2019, to June 30th, 2020, as illustrated below:



With this understanding of benefits behind us the first question that must be answered before starting to calculate benefits for the SSAG With Children Formula is what period should the benefits be calculated for?

Specifically, for SSAG calculations for the year 2018, should it be the benefits the person will receive based on their income for 2018 (i.e. the benefits they will receive from July 1st 2019, to June 30th, 2020), or should it be the "current" benefits they will receive in the year 2018?

Because "current" benefits gives a more accurate calculation of the moneys each spouse will have in 2018, and because the SSAG calculations can (and arguably should) be done every

year, the assumption incorporated into the SSAG With Children Formula calculations in iGuideline is that “current” benefits are used in the calculation of each spouse’s INDI.

iGuideline allows users to do the SSAG With Children Formula calculations using the benefits for the calculation year, but it’s not recommended as that method does not give an accurate calculation of the actual funds a spouse will have available to them in the calculation year.

With this understanding of how benefits are calculated and paid, and the incorporation of the assumption that the “current” benefits will be used in the calculation of each spouse’s INDI, it becomes clear that the SSAG spousal support amounts calculated for the year 2018, will not affect the calculation of “current” benefits in the year 2018, because those benefits are based on the spouse’s income for the years 2016 and 2017. The spousal support a spouse might receive for 2018, (if a SSAG amount is ordered) will have no impact on the “current” benefits they receive in 2018.

Accordingly, it is an error, and a wrong assumption (and flawed logic), to include the SSAG spousal support amount in the income amount used when calculating “current” benefits as part of the calculation of a spouse’s INDI under the SSAG With Children Formula.

iGuideline allows users to include the SSAG spousal support amount in the income amount used when calculating “current” benefits, as part of the calculation of a spouse’s INDI under the SSAG With Children Formula, but warns the user that this will lead to wrong calculations.

What Income Is Used For Benefit Calculations?

The answer depends on the benefit.

For most benefits the “Adjusted Family Net Income” (“AFNI”) is used to calculate a spouse’s benefits based on their marital status at the time they are receiving benefits (as determined by the Canada Revenue Agency). As the name suggests, the spouse’s Net Income (with some minor adjustments) as well as their current Spouse / Common Law’s Net Income (if they have one) is taken into account in calculating their Adjusted **Family** Net Income.

A spouse’s “Working Income” is also used for some benefits, most notably for the calculation of the WITB (the “Working Income Tax Benefit”), but there are other benefits for some of the Provinces that also take into account the spouse’s “Working Income”. A table is included at the end of this article which details all the Federal and Provincial benefits in 2018, and which income is used in the calculation of those benefits.

More information about how the AFNI and Working Income is calculated and paid can be found on the Canada Revenue Agency’s Web Site.

Calculating A Spouse’s AFNI and Working Income For Prior Years

Getting back to the SSAG With Children Formula, and the issue of the AFNI and Working Income, once one realizes that it is not the current year’s AFNI and Working Income that is used to calculate “current” benefits, there is also the realization that those amounts for the prior years must be either calculated or entered in order to obtain correct calculations under the SSAG With Children Formula.

By default iGuideline sets the spouses' AFNI and the Working Income for the prior years to the AFNI and Working Income for the year of the calculation (which is automatically calculated by iGuideline based on user inputs); however, because those values may not be the same for prior years iGuideline also gives users the ability to override those default values so proper SSAG With Children Formula calculations can be obtained.

Those values are accessed and changed from within a Sheet that can be displayed using the "Income Details for Current Benefits" Button in the SSAG View:

\$18,103	\$1,509	\$51,992	46.00%
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Benefits Used: Current Benefits

Income Details For Current Benefits...

The values within the Sheet are changed by checking the applicable "Override" Button and entering the correct amount:

	Michael White	Jessica White
Parent's "Adjusted Family Net Income" for the current year (2018):	\$140,000	\$40,000
Spousal Support From Child Support Module Included:	\$0	\$0
Remove Spousal Support Entered in CS Module**		
	Override <input type="checkbox"/>	Override <input type="checkbox"/>
Parent's "Adjusted Family Net Income" for 2017:	\$140,000	\$40,000
	Override <input type="checkbox"/>	Override <input type="checkbox"/>
Parent's "Adjusted Family Net Income" for 2016:	\$140,000	\$40,000
Parent's "Working Income" for the current year (2018):	\$140,000	\$40,000
	Override <input type="checkbox"/>	Override <input type="checkbox"/>
Parent's "Working Income" for 2017:	\$140,000	\$40,000
	Override <input type="checkbox"/>	Override <input type="checkbox"/>
Parent's "Working Income" for 2016:	\$140,000	\$40,000
Include SSAG Spousal Support when calculating "Current" Benefits for SSAG:	No	

By using "current" benefits, and overriding the AFNI and Working Incomes for the two prior years to enter the correct amounts, users can obtain the most accurate calculation of the benefits a spouse will receive in the year of the calculation, and accordingly the most accurate calculation of spousal support amounts under the SSAG With Children Formula.

Example Calculation / Data

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

Father

Name: Michael White
Age: 30
Resides In: ON
Income: \$140,000 (from Employment)

Mother

Name: Jessica White
Age: 30
Resides In: ON
Income: \$40,000 (from Employment)

Children

Name: Liam White
DOB: July 15, 2011
Resides With: Jessica

Name: Olivia White
DOB: October 30, 2009
Resides With: Jessica

When we do the calculations using the “current” benefits the Recipient receives for 2018, and we do not include the SSAG Spousal Support in the income used to calculate the benefits, we get the following **monthly** Low End, Mid Range, and High End SSAG spousal support calculations:

<u>Low End</u>	<u>Mid Range</u>	<u>High End</u>
\$562	\$1,049	\$1,509

A printout of this calculation is included at the end of this article, and a review of it shows that the amount of benefits do not change between the Low End, Mid Range, and High End SSAG spousal support calculations, which is expected because the variable SSAG Spousal Support is not included in the income used to calculate the benefits:

Parent Names	Annual SSAG Guideline Income	Annual Taxes And Deductions	Annual Benefits And Credits
Michael White	\$140,000	-\$42,275	\$0
Jessica White	\$40,000	-\$6,447	\$11,842
Michael White	\$140,000	-\$39,737	\$0
Jessica White	\$40,000	-\$8,866	\$11,842
Michael White	\$140,000	-\$37,342	\$0
Jessica White	\$40,000	-\$10,789	\$11,842

When we do the calculations using the “current” benefits the Recipient receives for 2018, and we include the SSAG Spousal Support in the income used to calculate the benefits, we get the following **monthly** Low End, Mid Range, and High End SSAG calculations:

<u>Low End</u>	<u>Mid Range</u>	<u>High End</u>
\$830	\$1,416	\$1,892

A printout of this calculation is also included at the end of this article, and a review of it shows that the amount of benefits do change between the Low End, Mid Range, and High End SSAG spousal support calculations, which again is expected because when the SSAG Spousal Support is included in the income used to calculate the benefits that income is different for the Low End, Mid Range, and High End calculation; however, as indicated previously in this article this is an error in logic because the spousal support for the year 2018, will have no effect on the

AFNI and Working Incomes for 2016, and 2017, which are used to calculate the “current” benefits in 2018:

Parent Names	Annual SSAG Guideline Income	Annual Taxes And Deductions	Annual Benefits And Credits
Michael White	\$140,000	-\$40,876	\$0
Jessica White	\$40,000	-\$7,848	\$8,804
Michael White	\$140,000	-\$37,824	\$0
Jessica White	\$40,000	-\$10,460	\$7,156
Michael White	\$140,000	-\$35,344	\$0
Jessica White	\$40,000	-\$12,154	\$6,385

In this example, using the wrong assumption (and flawed logic) of including the SSAG spousal support amounts in the income used to calculate benefits results in benefit numbers that are **lower** than the benefits the Recipient actually receives in 2018, and this results in SSAG spousal support amounts that are **higher** than they should be with the Payor paying between \$268/month (or \$3,216/year) at the Low End and \$383/month (or \$4,596/year) at the High End, more than they should be paying.

If you are representing a Payor this is something you will want to be very mindful of, particularly when receiving calculations prepared by counsel representing the Recipient.

To round out the calculations, when we do a final calculation using the benefits the Recipient will receive in the future based on their income in the year 2018, (which will be received from July 1st, 2019, to June 30th, 2020), we get the following **monthly** Low End, Mid Range, and High End SSAG calculations:

<u>Low End</u>	<u>Mid Range</u>	<u>High End</u>
\$818	\$1,416	\$1,892

A printout of this calculation is also included at the end of this article, and a review of it shows that the amount of benefits again change between the Low End, Mid Range, and High End SSAG spousal support calculations, which is expected because the SSAG Spousal Support is included in the income used to calculate the benefits, but these calculations do not give an accurate idea of the actual moneys a spouse will have in 2018, as the benefits included are paid well into the future.

Imagine that the calculation is being done in March 2018, with the incomes entered being what the spouses are expected to earn in 2018.






























By July 2019 (when those “future” benefits would start to be paid) the parties would likely have done updated SSAG calculations based on their expected incomes in 2019.

As the information in this article shows, the assumptions incorporated into the calculation of benefits under the SSAG With Children Formula can have a significant effect on the calculations.

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

Watch for additional articles which will showcase and explain other powerful features in iGuideline, or sign up to receive Orsa Software's Newsletter which will include information about updates to iGuideline, promotions, and articles to help users get the most out of iGuideline.

	<u>Benefit Name</u>	<u>Income Used</u>
	Canada Child Benefit	AFNI
	GST Tax Credit	AFNI
	Working Income Tax Benefit (WITB)	AFNI & Working Income
	BC Family Bonus	AFNI
	BC Early Childhood Tax Benefit	AFNI
	BC Low Income Climate Action Tax Credit	AFNI
	BC Sales Tax Credit	AFNI
	AB Child Benefit	AFNI
	AB Family Employment Tax Credit	AFNI & Working Income
	AB Climate Leadership Adjustment Rebate	AFNI
	SK Low Income Tax Credit	AFNI
	MB Child Benefit	AFNI
	ON Child Benefit	AFNI
	ON Trillium - Energy and Property Tax Credit	AFNI
	ON Trillium - Northern Ontario Energy Credit	AFNI
	ON Trillium – Sales Tax Credit	AFNI
	ON Senior Homeowners Property Tax Grant	AFNI
	NB Child Tax Benefit	AFNI & Working Income
	NB School Supplement	AFNI
	NB Harmonized Sales Tax Credit	AFNI
	NS Child Benefit	AFNI
	NS Affordable Living Tax Credit	AFNI
	PE Sales Tax Credit	AFNI
	NL Child Benefit	AFNI
	NL Income Supplement	AFNI
	NL Seniors Benefit	AFNI
	YT Child Benefit	AFNI
	NT Child Benefit	AFNI & Working Income
	NU Child Benefit	AFNI & Working Income