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## INSIGHT: Calculating RAB Shares Following Additional Platform Contributions



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The author discusses different approaches to calculating the reasonably anticipated benefits (RAB shares) of related multinational entities that share the costs of developing an intangible under the U.S. cost sharing regulations.

### 1. Introduction

In the context of a Cost Sharing Arrangement (CSA), Treas. Reg. § 1.482-7(c)(1) defines a platform contribution to be “any resource, capability, or right that a controlled participant has developed, maintained, or acquired externally to the intangible development activity (whether prior to or during the course of the CSA) that is reasonably anticipated to contribute to developing cost shared intangibles.”

Treas. Reg. § 1.482-7(g)(2)(viii) defines subsequent PCTs as those whose date occurs subsequent to the inception of the CSA. Treas. Reg. § 1.482-7(c)(1) also notes that “a resource, capability, or right reasonably determined not to be a platform contribution as of an earlier point in time, may be reasonably determined to be a platform contribution at a later point in time.”

These statements indicate that a platform contribution can be added to an existing CSA during the life of a CSA. Treas. Reg. § 1.482-7(g)(1) explains that “a value for the compensation obligation of each PCT Payor” has to be “consistent with the product of the combined pre-tax value to all controlled participants of the platform contribution that is the subject of the PCT and the PCT Payor’s RAB share.” Treas. Reg. § 1.482-7(e)(1)(i) notes further that “RAB shares must be updated to account for changes in economic conditions, the business operations and practices of the partici-

pants, and the ongoing development of intangibles under the CSA. For purposes of determining RAB shares at any given time, reasonably anticipated benefits must be estimated over the entire period, past and future, of exploitation of the cost shared intangibles, and must reflect appropriate updates to take into account the most reliable data regarding past and projected future results available at such time.”

While requiring that the RAB shares be updated, the regulations provide little guidance as to how this is to be accomplished. Treas. Reg. § 1.482-7(e)(1)(i) acknowledges that the same RAB share is not required for IDCs and PCTs. For the most recent discussion on the issue of prior and subsequent RAB shares, see CCA AM 2018-003 (July 26, 2018).

Treas. Reg. § 1.482-7(g)(2)(viii)(B) states that “[i]n cases where PCTs occur on different dates, the determination of the arm’s length amount charged, respectively, in the prior and subsequent PCTs must be coordinated in a manner that provides the most reliable measure of an arm’s length result. In some circumstances, a subsequent PCT may be reliably evaluated independently of other PCTs, as may be possible for example, under the acquisition price method. In other circumstances, the results of prior and subsequent PCTs may be interrelated and so a subsequent PCT may be most reliably evaluated under the residual profit split method of paragraph (g)(7) of this section.” The regulations, however, do not spell out how to calculate the obligations of each PCT Payor with regard to such subsequent PCT – and, for that matter, whether the ongoing obligations of each PCT Payor would need to change following subsequent PCTs.

More specifically, if a subsequent PCT is added to an existing CSA (which had a PCT at inception), and the subsequent PCT changes the projections of the selected

measures of benefit serving as the basis for calculating the RAB shares, the PCT Payors need to know how to calculate the RAB shares and, therefore, their PCT obligations. One approach would be to combine the measures of benefit for calculating the RAB shares (whether they are units, sales, or operating profit) into one flow, and calculate the Payors' obligations with regard to the prior PCT and the subsequent PCT on a combined basis, using the "revised RAB shares." Another approach would be to treat the measures of benefit for calculating the RAB shares separately for the prior PCT and the subsequent PCT, and calculate the Payors' subsequent PCT obligations using the subsequent RAB shares while retaining the prior RAB shares for the prior PCT obligations (the "separate RAB shares" approach). In a third approach, the RAB shares that were calculated for the prior PCT are also applied to the subsequent PCT.

The purpose of this note is to demonstrate that the subsequent PCT can produce materially different RAB shares under the three approaches thereby potentially understating or overstating the parties' PCT obligations. In particular, the only instance where all three approaches produce the same PCT obligations (i.e., the PCT obligations calculated using prior RAB shares are equal to the PCT obligations calculated using the revised RAB shares and are also equal to the PCT obligations calculated using the separate RAB shares) is where the ratio of the selected measure of benefits from the subsequent PCT to the measure of benefits from the prior PCT is the same for all parties to the CSA. If this condition does not hold, PCT obligations calculated using the three approaches will be different. The parties' PCT obligations will be overstated or understated in varying degrees that depend not only on the ratios of the subsequent benefits to the prior benefits, but also on the ratio of the value of subsequent PCT to the value of prior PCT.

## 2. The Setup

In Year 0, Companies A and B (controlled parties) enter into a CSA to develop a computer source code. The parties' RAB shares are determined on the basis of reasonably anticipated present values of their respective operating profits,  $I_{A0}$  and  $I_{B0}$ , as follows:  $RAB_{A0} = I_{A0} / (I_{A0} + I_{B0})$  and  $RAB_{B0} = I_{B0} / (I_{A0} + I_{B0})$ . Total system-wide operating profit is  $I_0 = I_{A0} + I_{B0}$ . Company A makes a platform contribution  $PCT_0$  to the CSA, and Company B makes a PCT payment to Company A in accordance with B's RAB share:  $PCT_{B0} = PCT_0 * RAB_{B0}$ .

In Year 1, Company A acquires company C and contributes Company C's assets to the CSA. Assume that the value of contributed assets is determined on the basis of the acquisition price method and is equal to  $PCT^C$ . Assume also that the value of  $PCT_0$  did not change between Year 0 and Year 1. This assumption vastly simplifies the calculation, but the overall conclusion reached in this example will remain valid even if this assumption is removed.

As such, the value of PCT in year 1,  $PCT_1$ , is the sum of  $PCT_0$  and  $PCT^C$ .

Assume further, that the acquired assets generate a stream of incremental operating profit,  $I^C$ , which is expected to accrue in the amounts of and to Companies A and B, respectively. The parties' RAB shares associated with this subsequent  $PCT^C$  are as follows:  $RAB^C_A = I^C_A / (I^C_A + I^C_B)$  and  $RAB^C_B = I^C_B / (I^C_A + I^C_B)$ .

Finally, assume that the parties' incremental profits from  $PCT^C$  relate to the operating profits from  $PCT_0$  through company-specific multiples "x" as follows:  $I^C_A = x_A I_{A0}$ ,  $I^C_B = x_B I_{B0}$ , and  $I^C = x I_0$ .

## 3. Post-Acquisition RAB Shares

The relationship between the various RAB shares, including (1) old RAB shares,  $RAB_{A0}$  and  $RAB_{B0}$ , (2) separate RAB shares for the prior ( $RAB_{A0}$ ,  $RAB_{B0}$ ) and subsequent ( $RAB^C_A$ ,  $RAB^C_B$ ) profit streams, and (3) the revised RAB shares that are based on the combined prior and subsequent profits,  $RAB_{A1}$  and  $RAB_{B1}$  are discussed below.

As previously indicated, the prior RAB shares for Companies A and B are, respectively, as follows:

$$RAB_{A0} = I_{A0} / (I_{A0} + I_{B0}), \text{ and}$$

$$RAB_{B0} = I_{B0} / (I_{A0} + I_{B0}).$$

Subsequent RAB shares are:

$$RAB^C_A = I^C_A / (I^C_A + I^C_B) \text{ and}$$

$$RAB^C_B = I^C_B / (I^C_A + I^C_B),$$

which can be re-written with the help of  $I^C_A = x_A I_{A0}$  and  $I^C_B = x_B I_{B0}$  as follows:

$$RAB^C_A = x_A I_{A0} / (x_A I_{A0} + x_B I_{B0}), \text{ and}$$

$$RAB^C_B = x_B I_{B0} / (x_A I_{A0} + x_B I_{B0}).$$

Revised RAB shares are:

$$RAB_{A1} = I_{A1} / (I_{A1} + I_{B1}), \text{ and}$$

$$RAB_{B1} = I_{B1} / (I_{A1} + I_{B1}).$$

It is obvious that  $RAB_{A0} = RAB^C_A = RAB_{A1}$  and  $RAB_{B0} = RAB_{B1}$  only if  $x_A = x_B$ .

If  $x_B < x_A$ , the following relationships between the various RAB shares will be observed:

$$RAB_{A0} < RAB_{A1} < RAB^C_A, \text{ and}$$

$$RAB^C_B < RAB_{B1} < RAB_{B0}.$$

The relationship is reverse if  $x_A < x_B$ :

$$RAB^C_A < RAB_{A1} < RAB_{A0}, \text{ and}$$

$$RAB_{B0} < RAB_{B1} < RAB^C_B.$$

The above relationships are intuitive: The party which benefits more from the subsequent PCT relative to the prior PCT will have the revised RAB share,  $RAB_{i1}$ , greater than the prior RAB share,  $RAB_{i0}$ , but smaller than the subsequent RAB share,  $RAB^C_i$ . However, this relationship between the RAB shares does not translate neatly into the relationship between the PCT obligations. Rather, the parties' PCT obligations depend on one additional variable: the ratio of the value of subsequent  $PCT^C$  to the value of prior  $PCT_0$ .

## 4. Post-Acquisition PCT Obligations

Define post-acquisition PCT obligations using prior RAB shares ( $RAB_{i0}$ ) as  $PCT^{\text{PRIOR}}_{i1}$ :

$$PCT^{\text{PRIOR}}_{A1} = (PCT_0 + PCT^C) * RAB_{A0}$$

$$PCT^{\text{PRIOR}}_{B1} = (PCT_0 + PCT^C) * RAB_{B0}$$

Define PCT obligations calculated using separate RAB shares ( $RAB_{i0}$  and  $RAB^C_i$ )  $PCT^{\text{SEP}}_{i1}$ :

$$PCT^{\text{SEP}}_{A1} = PCT_0 * RAB_{A0} + PCT^C * RAB^C_A$$

$$PCT^{\text{SEP}}_{B1} = PCT_0 * RAB_{B0} + PCT^C * RAB^C_B$$

Define PCT payments using revised RAB shares ( $RAB_{i1}$ ) as  $PCT^{\text{REVISED}}_{i1}$ :

$$PCT^{\text{REVISED}}_{A1} = PCT_1 * RAB_{A1} = (PCT_0 + PCT^C) * RAB_{A1}$$

$$PCT^{\text{REVISED}}_{B1} = PCT_1 * RAB_{B1} = (PCT_0 + PCT^C) * RAB_{B1}$$

Following the above notation, if  $x_A = x = x_B$ , then the RAB shares and PCT obligations under all three approaches are the same:

$$\begin{aligned} RAB_{A0} &= RAB_A^C = RAB_{A1}, \\ RAB_{B0} &= RAB_B^C = RAB_{B1}, \\ PCT_{A1}^{PRIOR} &= PCT_{A1}^{SEP} = PCT_{A1}^{REVISED}, \text{ and} \\ PCT_{B1}^{PRIOR} &= PCT_{B1}^{SEP} = PCT_{B1}^{REVISED}. \end{aligned}$$

If  $x_A \neq x_B$ , then the relationship between the PCT payments depends on whether  $PCT^C \gg xPCT_0$  – i.e., whether the ratio of the value of subsequent  $PCT^C$  to the value of prior PCT is higher or lower than the ratio of subsequent benefit relative to the prior benefit. The discrepancy between the value of benefit and the value of platform contribution can, for example, arise from the use of the acquisition method to value platform contributions to the extent that the value of synergies or control are not fully reflected in the acquisition price. Conversely, the acquisition price can exceed the value of the expected benefit to the extent that the company or asset were acquired for strategic purposes of limiting the market competition and, therefore, include goodwill in the value of the PCT.

In either case, it can be shown that the PCT payments would have the following relationships:

$$\begin{aligned} \text{If } x_B < x < x_A \text{ and } xPCT_0 < PCT^C, \text{ then} \\ PCT_{A1}^{PRIOR} &< PCT_{A1}^{REVISED} < PCT_{A1}^{SEP} \\ PCT_{B1}^{SEP} &< PCT_{B1}^{REVISED} < PCT_{B1}^{PRIOR} \end{aligned}$$

$$\begin{aligned} \text{If } x_B < x < x_A \text{ and } PCT^C < xPCT_0, \text{ then} \\ PCT_{A1}^{PRIOR} &< PCT_{A1}^{SEP} < PCT_{A1}^{REVISED} \\ PCT_{B1}^{REVISED} &< PCT_{B1}^{SEP} < PCT_{B1}^{PRIOR} \end{aligned}$$

$$\begin{aligned} \text{If } x_A < x < x_B \text{ and } xPCT_0 < PCT^C, \text{ then} \\ PCT_{A1}^{SEP} &< PCT_{A1}^{REVISED} < PCT_{A1}^{PRIOR} \\ PCT_{B1}^{PRIOR} &< PCT_{B1}^{REVISED} < PCT_{B1}^{SEP} \end{aligned}$$

$$\begin{aligned} \text{If } x_A < x < x_B \text{ and } PCT^C < xPCT_0, \text{ then} \\ PCT_{A1}^{REVISED} &< PCT_{A1}^{SEP} < PCT_{A1}^{PRIOR} \\ PCT_{B1}^{PRIOR} &< PCT_{B1}^{SEP} < PCT_{B1}^{REVISED} \end{aligned}$$

The above relationships show that the PCT obligations computed using the three sets of RAB shares will depend not only on which RAB shares are used, but also on the relative value of the subsequent  $PCT^C$  to the prior PCT. Therefore, when subsequent PCTs are incorporated into an existing CSA, the parties to the CSA need to carefully review the interaction between the subsequent PCTs and the prior PCT in order to correctly allocate the PCT obligations to the PCT Payors.

## 5. Numerical Examples

**Example 1.** Consider a CSA entered into in Year=0.  $PCT_0 = 175$  is contributed by Company A. Based on  $RAB_{i0}$  shares, Company B's payment at the inception of the CSA is  $PCT_{B0} = 70$ . In Year 1, Company A acquires Company C and contributes  $PCT^C = 60$  to the CSA. The total PCT value contributed to the CSA in Years 0 and 1 is  $(PCT_0 + PCT^C) = 235$ . If the RAB shares from the  $PCT^C$  ( $RAB_{i1}^C$ ) are the same as the RAB shares at inception ( $RAB_{i0}$ ), Company B's PCT obligation under the CSA is not affected by the RAB shares ( $RAB_0$ ,  $RAB^C$ , or  $RAB_1$ ) that are used in the calculation. Company B's PCT obligation will be the same 94 (Case 1). If Company B is expected to receive a greater benefit from  $PCT^C$  relative to its benefit from  $PCT_0$  ( $RAB_B^C = 56\% > RAB_{B0} = 40\%$ ) and  $PCT^C < xPCT_0$ , Company B's PCT obligation under the CSA will be undervalued using the RAB shares used at inception ( $RAB_{i0}$ ) and overvalued using revised RAB shares ( $RAB_{i1}$ ), see Case 2 below. If Company B is expected to receive a smaller benefit from  $PCT^C$  relative to its benefit from  $PCT_0$  ( $RAB_B^C = 28\% < RAB_{B0} = 40\%$ ) and  $PCT^C < xPCT_0$ , Company B's PCT obligation under the CSA will be overvalued

using the RAB shares used at inception ( $RAB_{i0}$ ) and undervalued using revised RAB shares ( $RAB_{i1}$ ), see Case 3 below.

**Example 2.** The facts are the same as in Example 1 (i.e., the CSA is entered into in Year=0.  $PCT_0 = 175$  is contributed by Company A. Based on  $RAB_{i0}$  shares, Company B's payment at the inception of the CSA is  $PCT_{B0} = 70$ . In Year 1, company A acquires Company C and contributes  $PCT^C$  to the CSA.) However, in this case, the additional PCT value is  $PCT^C = 120$ . The total PCT value contributed to the CSA in Years 0 and 1 is  $(PCT_0 + PCT^C) = 295$ . If the RAB shares from the  $PCT^C$  ( $RAB_{i1}^C$ ) are the same as the RAB shares at inception ( $RAB_{i0}$ ), the PCT obligation of Company B under the CSA is not affected by the RAB shares ( $RAB_0$ ,  $RAB^C$ , or  $RAB_1$ ) that are used in the calculation. Company B's PCT obligation under the CSA will be the same at 118 (Case 4). If Company B is expected to receive a greater benefit from  $PCT^C$  relative to its benefit from  $PCT_0$  ( $RAB_B^C = 56\% > RAB_{B0} = 40\%$ ) and  $xPCT_0 < PCT^C$ , Company B's PCT obligation under the CSA will be undervalued using the RAB shares at inception ( $RAB_{i0}$ ) or the revised RAB shares ( $RAB_{i1}$ ), see Case 5 below. If Company B is expected to receive a smaller benefit from  $PCT^C$  relative to its benefit from  $PCT_0$  ( $RAB_B^C = 28\% < RAB_{B0} = 40\%$ ) and  $xPCT_0 < PCT^C$ , Company B's PCT obligation under the CSA will be overvalued using the RAB shares at inception ( $RAB_{i0}$ ) or the revised RAB shares ( $RAB_{i1}$ ), see Case 6 below.

## 6. Conclusion

If a subsequent PCT is added to the existing CSA which had a prior PCT, and the subsequent PCT changes the projections of the selected measures of benefit serving as the basis for calculating the RAB shares, the parties to the CSA need to know how to calculate the RAB shares and, therefore, their PCT obligations. The purpose of this note was to discuss three approaches to calculate the RAB shares: one approach is to combine the measures of benefit for calculating the RAB shares into one flow, and calculate the Payors' obligations with regard to the prior PCT and the subsequent PCT on a combined basis using the "revised RAB shares." Another approach is to treat the measures of benefit for calculating the RAB shares separate for the prior PCT and the subsequent PCT, and calculate the Payors' subsequent PCT obligations using the subsequent RAB shares while retaining the prior RAB shares for the prior PCT. In a third approach, the RAB shares that were calculated for the prior PCT are also applied to the subsequent PCT. This note demonstrated that if the subsequent PCT produces materially different RAB shares under the three approaches, the parties' PCT obligations can also be materially different. Therefore, when subsequent PCTs are incorporated into an existing CSA, the parties to the CSA should carefully review the interaction between the subsequent PCTs and the prior PCT (in terms of their values and their benefits to the CSA parties) in order to correctly allocate the PCT obligations of the PCT Payors.

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	Case 1			Case 2			Case 3		
	$x_A = x = x_B$ and $PCT^C < xPCT_0$			$x_A < x < x_B$ and $PCT^C < xPCT_0$			$x_B < x < x_A$ and $PCT^C < xPCT_0$		
	A	B	Total	A	B	Total	A	B	Total
$I_0$	60	40	100	60	40	100	60	40	100
$RAB_0$	60%	40%		60%	40%		60%	40%	
$PCT_0$	105	70	175	105	70	175	105	70	175
$x$	0.50	0.50	0.50	0.37	0.70	0.50	0.60	0.35	0.50
$I^C$	30	20	50	22	28	50	36	14	50
$RAB^C$	60%	40%		44%	56%		72%	28%	
$PCT^C$	36	24	60	26	34	60	43	17	60
$I_1$	90	60	150	82	68	150	96	54	150
$RAB_1$	60%	40%		55%	45%		64%	36%	
$PCT^{REVISED}$	141	94	235	128	107	235	150	85	235
$PCT^{SEP}$	141	94	235	131	104	235	148	87	235
$PCT^{PRIOR}$	141	94	235	141	94	235	141	94	235
	$PCT^{PRIOR}_{A1} = PCT^{SEP}_{A1} = PCT^{REVISED}_{A1}$			$PCT^{REVISED}_{A1} < PCT^{SEP}_{A1} < PCT^{PRIOR}_{A1}$			$PCT^{PRIOR}_{A1} < PCT^{SEP}_{A1} < PCT^{REVISED}_{A1}$		
	$PCT^{PRIOR}_{B1} = PCT^{SEP}_{B1} = PCT^{REVISED}_{B1}$			$PCT^{PRIOR}_{B1} < PCT^{SEP}_{B1} < PCT^{REVISED}_{B1}$			$PCT^{REVISED}_{B1} < PCT^{SEP}_{B1} < PCT^{PRIOR}_{B1}$		

	Case 4			Case 5			Case 6		
	$x_A = x = x_B$ and $PCT^C > xPCT_0$			$x_A < x < x_B$ and $xPCT_0 < PCT^C$			$x_B < x < x_A$ and $xPCT_0 < PCT^C$		
	A	B	Total	A	B	Total	A	B	Total
$I_0$	60	40	100	60	40	100	60	40	100
$RAB_0$	60%	40%		60%	40%		60%	40%	
$PCT_0$	105	70	175	105	70	175	105	70	175
$x$	0.50	0.50	0.50	0.37	0.70	0.50	0.60	0.35	0.50
$I^C$	30	20	50	22	28	50	36	14	50
$RAB^C$	60%	40%		44%	56%		72%	28%	
$PCT^C$	72	48	120	53	67	120	86	34	120
$I_1$	90	60	150	82	68	150	96	54	150
$RAB_1$	60%	40%		55%	45%		64%	36%	
$PCT^{REVISED}$	177	118	295	161	134	295	189	106	295
$PCT^{SEP}$	177	118	295	158	137	295	191	104	295
$PCT^{PRIOR}$	177	118	295	177	118	295	177	118	295
	$PCT^{PRIOR}_{A1} = PCT^{SEP}_{A1} = PCT^{REVISED}_{A1}$			$PCT^{SEP}_{A1} < PCT^{REVISED}_{A1} < PCT^{PRIOR}_{A1}$			$PCT^{PRIOR}_{A1} < PCT^{REVISED}_{A1} < PCT^{SEP}_{A1}$		
	$PCT^{PRIOR}_{B1} = PCT^{SEP}_{B1} = PCT^{REVISED}_{B1}$			$PCT^{PRIOR}_{B1} < PCT^{REVISED}_{B1} < PCT^{SEP}_{B1}$			$PCT^{SEP}_{B1} < PCT^{REVISED}_{B1} < PCT^{PRIOR}_{B1}$		